PUBLIC HEARING DRAFT
EXPANDED INITIAL STUDY/
MITIGATED NEGATIVE DECLARATION

For
City of Paso Robles
Huer Huero Bridge and Roundabout



Prepared for

City of Paso Robles
Department of Public Works
1000 Spring Street
Paso Robles, CA 93446

Prepared by

Kovesdi Consulting
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May 10, 2022

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Appendix F. Althouse and Meade Biological Report November 2021
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Appendix I. CRMS Cultural Resources Inventory, October 2020
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REFERENCES

A. *City of Paso Robles General Plan Elements*
    1. *Circulation Element (2019)*
    2. *Conservation Element (2003)*
    3. *Housing Element (2020)*
    4. *Land Use Element (2020)*
    5. *Noise Element (2019)*
    6. *Parks and Recreation Element (2020)*
    7. *Open Space Element (2003)*
    8. *Safety Element (2020)*

B. *City of Paso Robles Bicycle & Pedestrian Master Plan (2018)*

C. *City of Paso Robles Gateway Design Plan (2008)*

D. *Paso Robles Subbasin Groundwater Sustainability Plan, November 2019*

E. *City of Paso Robles Recycled Water Master Plan (2014)*

F. *Paso Basin Cooperative Committee Paso Robles Subbasin First Annual Report (2017-2019), November 2020*

G. *San Luis Obispo Air Pollution Control District Greenhouse Gas Threshold and Supporting Evidence, March 2012*

H. *Fehr and Peers, Final State Route (SR 46E) Parallel Routes Study, 2008*

I. *City of El Paso de Robles, Ordinance No. 835 N.S., an Ordinance of the City of El Paso de Robles Amending Section 10.01 et seq. and related Provision of the Municipal Code (Municipal Code Amendment 2001-001 – Oak Trees), 2002*

J. *California Department of Fish and Wildlife, Natural Diversity Database. Special vascular plants, bryophytes, and lichens list, January 2021*

K. *California Department of Fish and Wildlife, Guidelines for assessing the effects of proposed projects on rare, threatened, and endangered plants and natural communities. 2nd ed. Revised May 8, 2000*

L. *California Geological Survey Updated Mineral Land Classification Map for Concrete-Grade Aggregates in the San Luis Obispo-Santa Barbara Production-Consumption Region (SMGB Designation Report 15) 2017*

M. *California Department of Transportation "List of Eligible and Officially Designated Scenic Highways" 2019*

N. *California Department of Industrial Relations "Protection from Valley Fever" 2019*

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I. *CRMS Cultural Resources Inventory, October 2020*
J. *Kovesdi Consulting Visual Assessment, July 2021*

1.0 PROJECT INFORMATION AND DESCRIPTIONS

1.1 PROJECT INFORMATION

1. **Project Title:** City of Paso Robles Huer Huero Bridge and Roundabout

2. **Lead Agency Name and Address:**

   City of Paso Robles
   Community Development Department
   1000 Spring Street
   Paso Robles, CA 93446

3. **Contact Person and Phone Number:**

   Warren Frace
   Wfrace@prcity.com
   (805) 237-3970

4. **Project Location:**

   Huer Huero Creek section and surrounding land, bounded by Golden Hills Road to the West, existing Airport Road to the East, Dry Creek Road to the North, and Union Road to the South. (Figures 1- 1 and 1-2).
   Complete APN list is attached as **Appendix A**

5. **Project Sponsor/Applicant Name and Address:**

   City of Paso Robles Department of Public Works
   1000 Spring Street
   Paso Robles, CA 93446
   Contact: Ditas Esperanza
   DEsperanza@prcity.com
   (805) 227-7560

6. **General Plan Designation**: The proposed project area contains land designated as Commercial Service, Business Park, Parks and Open Space, and Agriculture (Figure 1-3).

7. **Zoning**: The proposed project area contains land zoned Commercial-Highway (C2), Commercial/Light Industrial (C3), Residential Agriculture (RA) and Planned Industrial (PM), all with PD overlay, as well as Parks and Open Space and Agriculture (Figure 1-4).

8. **Surrounding Land Uses**: Land uses surrounding the Huer Huero Bridge and Roundabout Project area include commercial service, business park, agriculture, parks and open space, and public facilities.

9. **Other Public Agency Approval Required:**

- U.S. Army Corps of Engineers (USACE), Section 404 Clean Water Act
- California Regional Water Quality Control Board, Section 401 Clean Water Act Water Quality Certification
- California Department of Fish and Wildlife, Lake and Streambed Alteration Agreement

Figure 1-1. Vicinity Map



Legend

★ Project Location

N

0 5 10 Miles

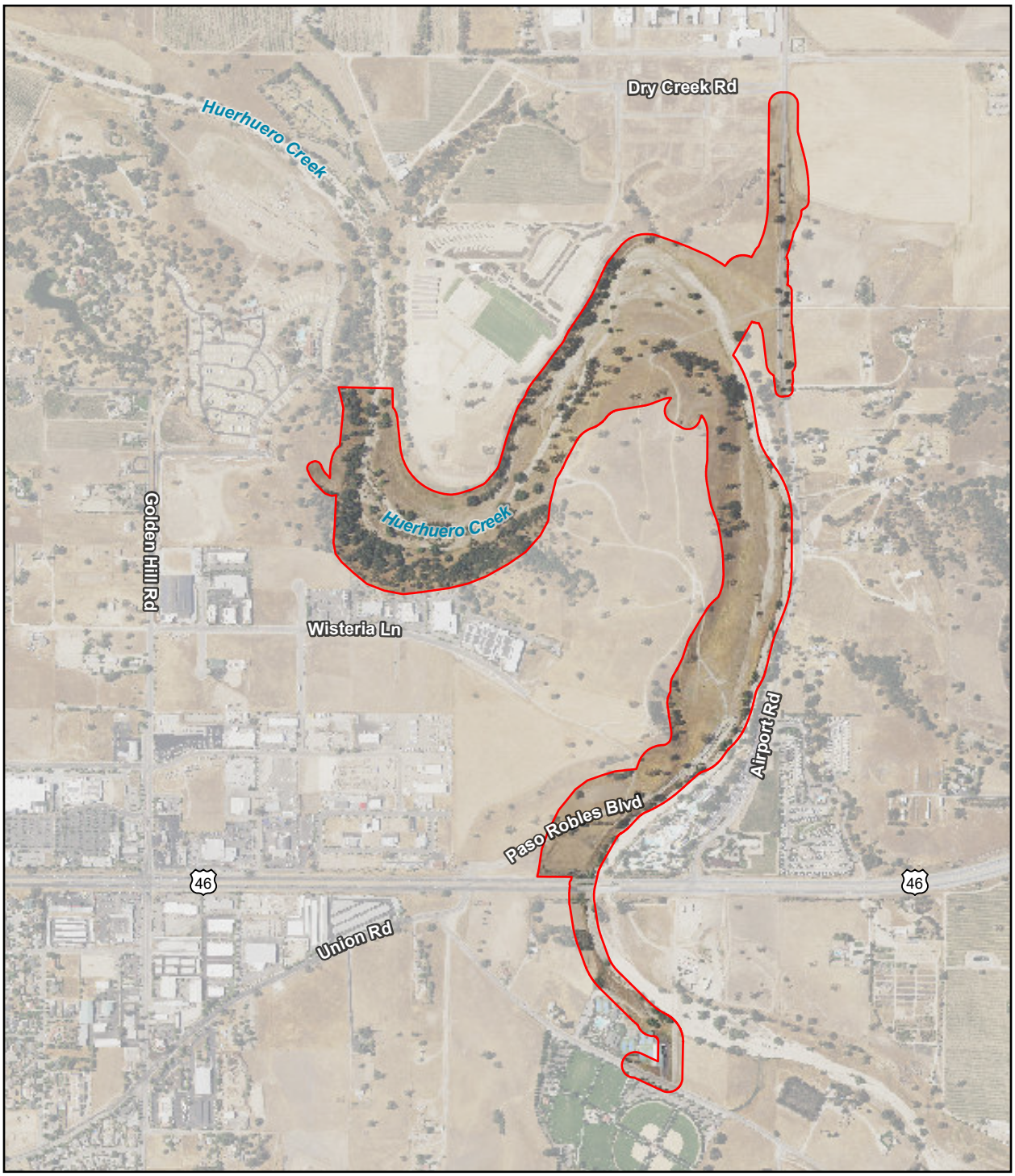
Huer Huero Bridge and Roundabout
Map Center: 120.62676°W 35.66472°N
Paso Robles, San Luis Obispo County

USGS Quadrangle: Paso Robles

ALTHOUSE AND MEADE, INC.
BIOLOGICAL AND ENVIRONMENTAL SERVICES

Map Updated:
September 09, 2021 03:23 PM by JBB

Figure 1-2. Project Location and Area



Legend

Study Area (169.1 acres)

N

0 1,000 2,000 Feet

Huer Huero Bridge and Roundabout
Map Center: 120.64835°W 35.6511°N
Paso Robles, San Luis Obispo County

Imagery Source: USDA NAIP, 07/14/2018

ALTHOUSE AND MEADE, INC.
BIOLOGICAL AND ENVIRONMENTAL SERVICES

Map Updated:
September 09, 2021 03:24 PM by JBB

Figure 1-3. City of Paso Robles General Plan Designations

Project Area

City of El Paso de Robles
General Plan
Land Use Diagram
Circulation Diagram

September 13, 2018

0 550 1,100 2,200 3,300 4,400
Feet

Legend

Circulation Element Intersections Improvements

Circulation Element

Street Classification

- Freeway - 4 Lane Existing
- Expressway - 4 Lane Existing
- Arterial - 4 Lane Existing
- Divided Arterial - 2 Lane Existing
- Undivided Arterial - 2 Lane Existing
- Undivided Arterial - 4 Lane Proposed
- Divided Arterial - 2 Lane Proposed
- Undivided Arterial - 2 Lane Proposed
- City Parks
- 7.5 min USGS Blue Line Creek

USGS Blueline Creeks

- Major Blue Line Creek
- Salinas River

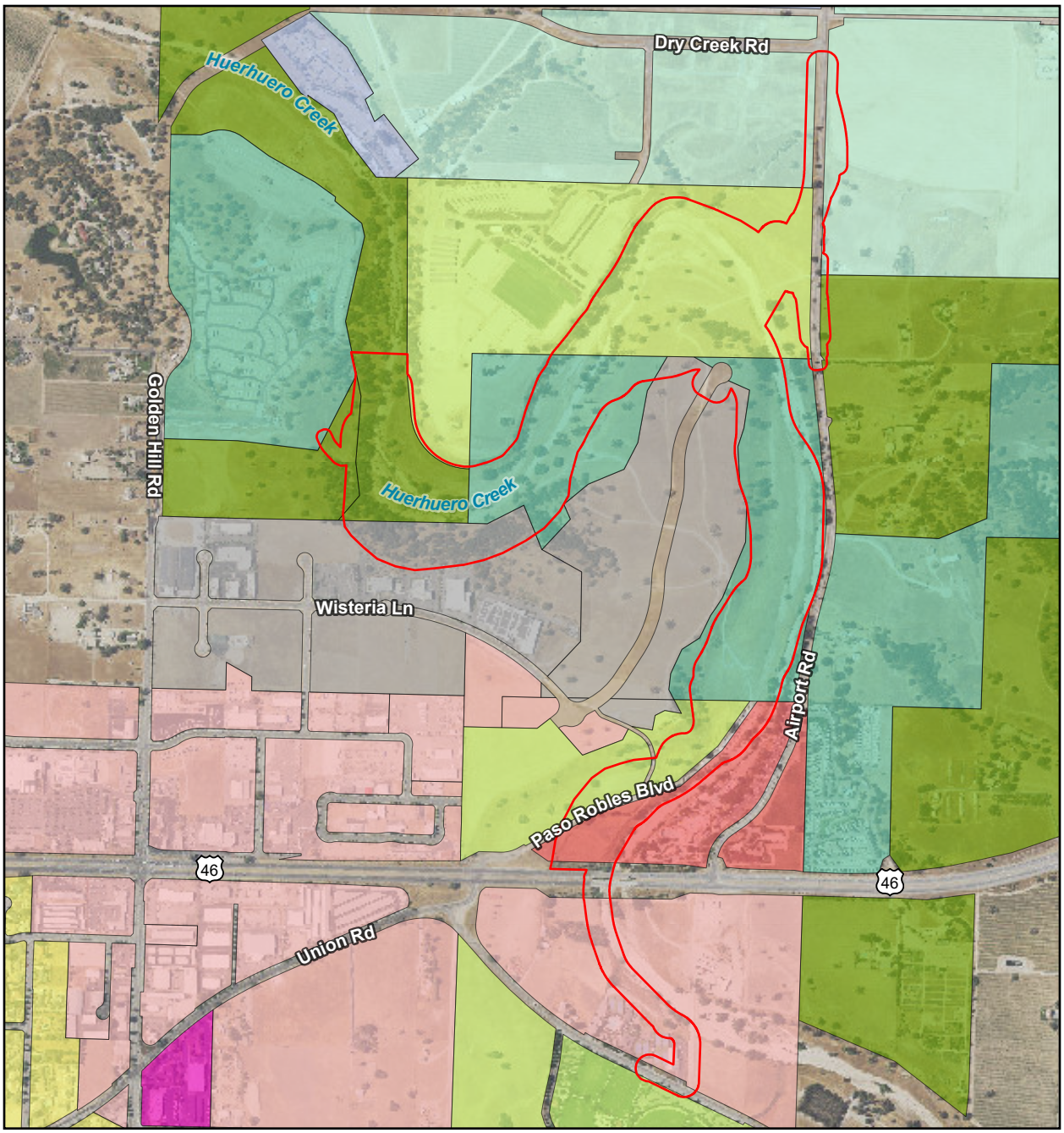
Airport Land Use Plan (2007)

- Runway Exclusion - no structures
- 1 Runway Protection
- 2 Inner Approach / Departure
- 3 Turning / Sideline
- 4 Outer Approach / Departure
- 5 Traffic Pattern
- 6 Outer Airport Influence
- Specific Plan Area Boundary
- Housing Element Affordable Site - 20 du/ac min.
- Sphere of Influence
- City Limit

GP Land Use Designations

- AG - Agriculture
- POS - Parks and Open Space
- RS - Residential Suburban
- RSF - Residential Single Family
- MHP - Mobile Home Park
- RMF - Residential Multiple Family
- PF - Public Facilities
- MU - Mixed Use
- OP - Office Professional
- NC - Neighborhood Commercial
- DC - Downtown Commercial
- CC - Community Commercial
- RC - Regional Commercial
- CS - Commercial Service
- BP - Business Park
- IND - Industrial

Figure 1-4. City of Paso Robles Zoning Map



Legend

- Study Area (169.1 acres)
- AG, Agriculture
- AP, Airport
- C2, Commercial-Highway
- C3, Commercial/Light Industry
- CP, Commercial-Neighborhood
- PF, Public Facilities
- PM, Planned Industrial
- POS, Parks & Open Space
- R1, Residential Single Family
- RA, Residential Agriculture

N

0 500 1,000 Feet

Huer Huero Bridge and Roundabout
Map Center: 120.64815°W 35.65109°N
Paso Robles, San Luis Obispo County

Imagery Source: USDA NAIP, 07/14/2018

1.2 PROJECT SYNOPSIS

The City of el Paso de Robles proposes to construct vehicular routes and multi-use paths that reduce traffic on Highway 46 near Airport Road. The New Airport Road extension and bridge over Huer Huero Creek will connect businesses and residences south and west of the creek with the Paso Robles Airport, businesses, and residences north and east of the creek. The Project consists of three main components located within a Project area of approximately 13.3 acres: (1) the New Airport Road extension and bridge across Huer Huero Creek, (2) realignment of a portion of Airport Road and a new roundabout intersection with New Airport Road, and (3) a Class I trail extending from Union Road in front of Barney Schwartz Park to the Cava Robles RV Resort.

1.2.1 New Airport Road Extension and Bridge over Huer Huero Creek

This project proposes to extend New Airport Road from the planned industrial park terminus, bridge over Huer Huero Creek, and connect with Airport Road northeast of the creek. The extension will include construction of an approximately 575’ long by 44’ wide prestressed cast-in-place (PS/CIP) concrete box girder bridge over Huer Huero Creek. The cross section of the New Airport Road on the bridge will be two 12’ vehicular travel lanes, two 5’ bike lanes, one 6’ sidewalk (on the west side), and two 2’ bridge barrier rails (one on either side). The bridge, abutments, and roadway will be designed to be above the 100-year flood elevation. The bridge is anticipated to have an approximately 7’ deep superstructure, with four spans and three approximately 6' x 9' oblong support piers within the floodplain. One of piers will likely be in the low flow channel.

1.2.2 Airport Road Realignment and Roundabout Intersection

Airport Road is to be realigned to the west to connect to the New Airport Road extension just north of the northerly bridge abutment. The road will include 12’ travel lanes and 5’ shoulders in each direction. A new single-lane roundabout is proposed at the three-leg intersection of Airport Road and New Airport Road. The roundabout will be constructed mostly on fill with a 140’ inscribed circle diameter (ICD). The roundabout influence area will extend to the ends of the splitter islands that appropriately align and moderate the speed of traffic approaching and departing the roundabout.

The central island in the roundabout will include a wide truck apron designed to accommodate off-tracking of back tires of trailers of large trucks. The truck apron will be separated from the circulatory roadway using a fully mountable and traversable curb. The center of the central island will be mounded and landscaped to increase the visibility and aesthetic appeal of the roundabout. A ten-foot wide shared-use path will be constructed around the roundabout with a detectable buffer separation from the vehicular areas. On both the approach and departure legs of the roundabout, bike ramps connecting the shoulders and shared use paths will accommodate cyclists who prefer to ride separated from vehicular traffic through the roundabout. Crosswalks will be 10’ wide and set back from the circulatory roadway with pedestrian refuge areas in the splitter islands.

1.2.3 Class I Trail

The project will construct an approximate 2.5-mile meandering, multi-use path that generally parallels Huer Huero Creek and typically consists of a 10' wide paved section with 2' unpaved shoulders on each side. A southern trailhead is proposed at Union Road near Barney Schwartz Park, and path construction will end near the Cava Robles motorcoach resort where a final connection to Golden Hill Road is to be constructed by others as part of another development. The trail will also connect to the New Airport Road extension and roundabout. This multi-use path is a critical part of the City's 2018 adopted Bicycle and Pedestrian Master Plan.

In this reach of Huer Huero Creek water flow is typically subterranean. The trail will be located both within and above the floodplain and generally be constructed at grade to not obstruct significant flood flows. Between the Union Road trailhead and the New Airport Road bridge the trail will be located west of Huer Huero Creek and cross under State Route 46 East (SR 46E) and the New Airport Road bridge. After crossing under the new bridge, the trail will head north across the creek, and run along the northeast side of the creek until it again crosses the creek to the southwest bank east of the Cava Robles resort. The creek crossings will be low-height crossings with supports, to emulate the at-grade nature of the trail and minimize footprint area. The creek crossing will allow water to overflow during flood events.

South of SR 46E, the alignment will utilize an existing berm as much as possible. Concrete box culverts and embankment construction are anticipated to cross an existing development and roadside drainages on both the north and south sides of SR 46E. A combination of excavation and retaining wall is expected to be constructed on the westerly slope under the SR 46E bridges above the existing rock slope protection (RSP) limits at the abutments. North of SR 46E the trail will continue on the west side of the creek, and the alignment will climb the existing embankment fill to the north to rise out of the 100-year floodplain. Alternative trail alignments were considered. The proposed trail alignment will use the general Paso Robles Boulevard alignment to head north. The alignment remains on the west side of the creek and continues north and then westerly as the creek meanders towards and under the New Airport Road bridge.

The trail is to cross underneath the New Airport Road bridge, then cross the creek to the north, where a connection to the shared use path at the roundabout intersection will be constructed. The trail will tie into the roundabout on the northwest side, then follow along the realigned roadway until it reaches the existing Airport Road alignment. At this point it will follow the existing road until it intercepts the realigned road again, where it follows along at an even offset once again, north to Dry Creek Road. West of the bike trail connection to the roundabout, the trail alignment will be centered on an existing dirt ranch road in the upper area of the floodplain, at the base of a hillside that generally parallels the creek. The trail alignment continues on the northeast side of the creek until it reaches another crossing to the southwest bank (approximately 3,400' downstream of the new bridge). The trail alignment then climbs the hillside and terminates at the Cava Robles Resort property line. A connection to Golden Hill Road from this project's trail terminus point is to be constructed by others.

1.3 PRIMARY PURPOSE AND OBJECTIVE

The primary purposes of this Project are to re-route arterial traffic from northeast of the City to Golden Hill Road, extend multi-modal connections that avoid Highway 46 crossings, and reduce Vehicle Miles Traveled. The northeast part of the City is a growth area for jobs/businesses as well as tourism and airport use. State Route 46 East (SR 46E) bisects this NE portion of the City from the residential and downtown areas.

The City, in conjunction with the San Luis Obispo Council of Governments (SLOCOG) and the California Department of Transportation (Caltrans), has worked to find ways to reduce congestion at the at-grade crossings that characterize this segment of SR 46E, and allow multimodal access from the NE portion of the City to residential and downtown areas. The "Parallel Routes" concept was born of this work, which seeks to construct alternate means to connect the NE section of the City to the rest of the City while bypassing use of SR 46E. New Airport Road is a backbone element of this plan. The Huer Huero Bridge and Roundabout project allows motorized and non-motorized commuters and visitors to use roadway and trail elements to safely and efficiently bypass SR 46E.

1.4 LOCATION AND BACKGROUND

1.4.1 Location and Project Background

Paso Robles is situated on the Central Coast of California, approximately halfway between San Francisco and Los Angeles (Figure 1-1). The City is located in northern San Luis Obispo County and is bordered on all sides by the unincorporated areas of the County. Paso Robles encompasses 12,740 acres and supports a population of approximately 32,000 residents.

State Route 46 East (SR 46E) within the City Limits is currently a four-lane highway. This section of the highway passes over grazing lands, vineyards and wineries located in the hills of Paso Robles. It serves as a major goods movement route for produce and other products coming out of the Salinas Valley to other areas throughout California.

Demand on SR 46E comes from interregional mobility and goods movement, travel within the region, as well as locally generated trips. The demand for goods movement is evidenced by relatively heavy truck traffic that accounts for a higher percentage compared to other routes. While travel demands continue to increase throughout the corridor, infrastructure improvements have not kept pace for the facility to operate at an acceptable level of service.

In addition to existing and projected regional growth, there have been numerous development proposals in and around the Municipal Airport. The City has collaborated with Caltrans, the San Luis Obispo Council of Governments (SLOCOG), and the County of San Luis Obispo on numerous studies and programs to address traffic and circulation issues on SR 46 East. These include:

- 1964 – 46 East Freeway Agreement
- 2001 – 46 East Corridor Study
- 2003 – Route 46 Corridor Improvements Project
- 2007 – Caltrans Freeway Requirement Letter

- 2008 – 46E Parallel Route Study
- 2009 – SR 46 Corridor System Management Plan
- 2009 – 46E Comprehensive Corridor Study (CCS)
- 2010 – 46E / Union Road PID
- 2011 – Circulation Element Update
- 2014 – 46E / Union Road PSR
- 2015 – 46E / Union Road PAED (initiated)
- 2017 – 46 Concept Plan (TCR)
- 2019 – Circulation Element Update, Transportation Impact Fee Needs List Update

The most recent outcome of these studies, agreed to by the City, Caltrans, SLOCOG, and the County of San Luis Obispo, is for the City to improve the "parallel routes" to State Route 46 East (SR 46E) in order to provide local traffic alternative connections and relieve SR 46E congestion pressure. The proposed project includes Alternative 1 and a portion of Alternative 3, as shown on the "Map of Alternatives" exhibit of backbone facilities for these "parallel routes" (Fehr & Peers, 2008).

The City is currently finalizing the second step of planning for an overcrossing of Union Road over SR 46E in the PA&ED phase. Final design is anticipated to start in late 2021. Roundabouts at Tractor Street and Wisteria Lane are envisioned to be constructed by future development, along with the construction of "New Airport Road". The City is now initiating its share of these "parallel routes" for the construction of the Huer Huero Creek Bridge, the roundabout north of the bridge and the roadway connection to "Old" Airport Road.

1.4.2 City of Paso Robles Regulatory Framework

The City of Paso Robles updated its Circulation Element in 2019 to better reflect current City goals and objectives, recognizing that in order to provide safe and efficient mobility, both within the City and between the City and surrounding areas, a master system of transportation facilities is needed to serve residential, commercial, industrial, and visitor needs. The purpose of the City's circulation system is to maintain and enhance safe and efficient mobility in the City (per Goal CE- 1). To support this goal, the 2019 Circulation Element Update continues policies implemented in 2011: de-emphasizing an auto-centric measure of road segment and intersection function (level of service or LOS) in favor of measures that represent a more efficient use of resources and support the mobility of people, quality of life, and small-town feel desired by residents (vehicle miles traveled or VMT). In addition, measures supporting mobility will offer more travel choices, support public health goals by encouraging more walking and biking, and reduce greenhouse gas emissions.

The City of Paso Robles Circulation Element Update of 2019 included specific goals, policies and action items to facilitate enhanced mobility throughout the City which are directly addressed by the proposed Project. These include:

GOAL CE-1: Establish a safe, balanced, efficient, and multimodal circulation system, focusing on the mobility of people, and preserving the City's small-town character and quality of life.

POLICY CE-1A: Circulation Master Plan. Revise/update the City's Circulation Master Plan to address the mobility needs of all users of the streets, roads and highways including motorists, movers of commercial goods, seniors, children, pedestrians, disabled persons, users of public transportation, and bicyclists as follows:

a) Improve the circulation network on a prioritized basis;
b) Provide adequate access for emergency vehicles and evacuation;
c) Improve mobility through and access to Downtown Paso Robles by implementing the City Council adopted Uptown/Town Centre Specific Plan;
d) Establish safe pedestrian and bicycle paths for children and their parents to schools and other major destinations such as Downtown, retail, and job centers;
e) Maintain mobility for all modes by encouraging flexible and off-set working hours; car and vanpooling; transit improvements; pedestrian and bikeway improvements; and public outreach as to the availability and benefit of alternative modes of travel;
f) Require new development to mitigate its impact on the transportation network.

Importantly, Action Item 8 under CE-1A synopsizes the specific goals of the proposed Project:

> *"Construct roundabouts in lieu of traffic signals where appropriate conditions exist to maximize the efficiency of streets, maintain continuous but moderate traffic flow, reduce collision severity, and enhance pedestrian and cyclist activity."*

POLICY CE-1B: Reduce Vehicle Miles Traveled (VMT). The City shall strive to reduce VMT generated per household per weekday by making efficient use of existing transportation facilities and by providing direct routes for pedestrians and bicyclists through the implementation of sustainable planning principles.

The proposed roundabout is designed for continuous flow at moderate speeds and provides for all modes of travel. The proposed Project also includes multimodal trail facilities designed to maximize pedestrian and bicycle trips and reduce longer vehicle commutes. The proposed bridge, roundabout, and trail enhance bicycle, pedestrian, and transit access to allow employees and passengers to use non-automobile modes of travel to and from the Airport and the Cuesta College North County Campus.

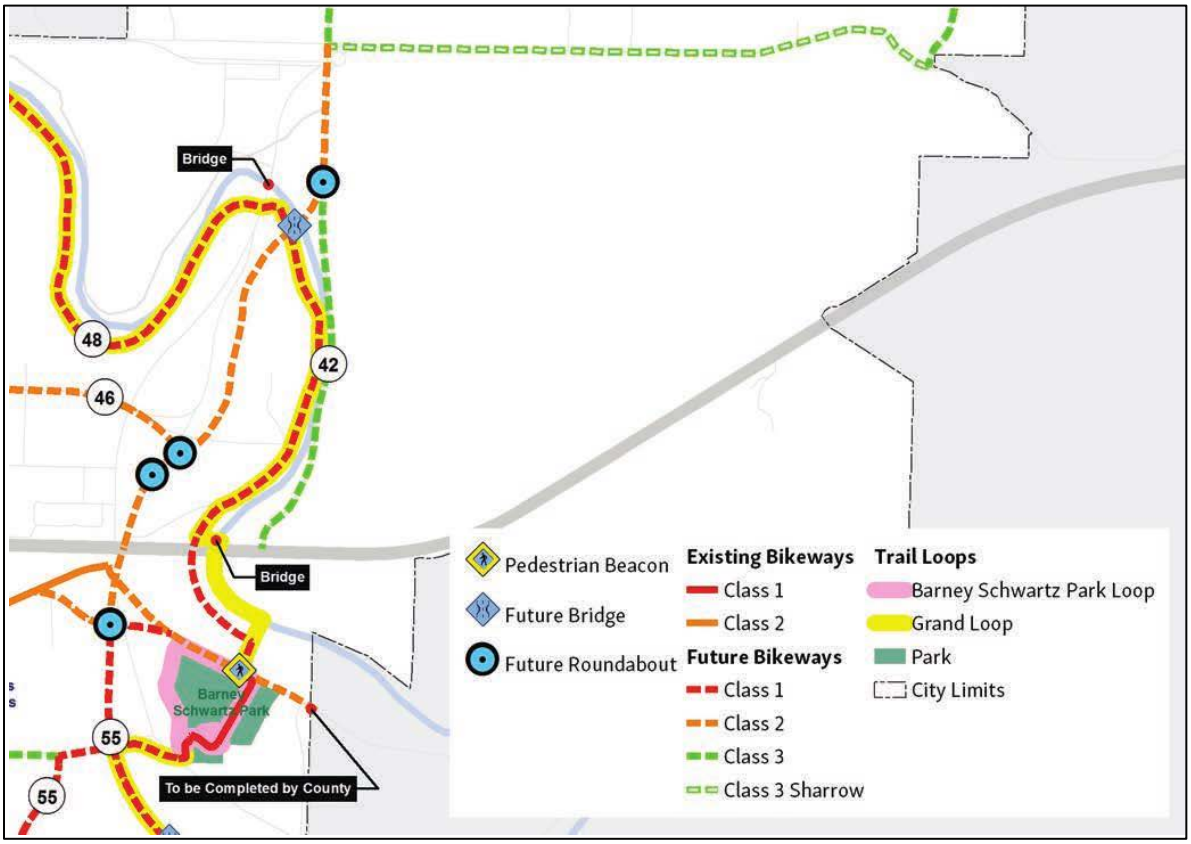


FIGURE 1-5. EXCERPT FROM MASTER PLAN, PROPOSED BICYCLE PROJECTS, MAP 2.

The Paso Robles Bicycle and Pedestrian Master Plan (BPMP) is a comprehensive plan that addresses the needs of both recreational and commuter bicyclists and walkers of all ages and abilities. The Plan is intended to provide measures to help make commuting by foot or by bike accessible, safer, comfortable, and more enjoyable. An increase in walking and biking facilities supports public health (physical and mental), reduces air pollution and vehicle miles traveled by automobiles, and provides for more recreational opportunities The trail facilities component of the Project will form the backbone of a connection from Barney Schwartz Park to the South, to the Airport to the North, and businesses and the Cuesta College North County to the West.

1.5 PROJECT CONSTRUCTION DETAILS AND SCHEDULE

The proposed Project includes a new bridge, roundabout, roadway alignment, and Class I trail, encompassing approximately 13.3 acres between Airport Road to the east, Golden Hill Road to the west, Dry Creek Road to the north, and Union Road to the south.

Project construction schedule will be determined upon selection of a construction Contractor but is envisioned to likely take place in five phases over a period of approximately 24 months. The bridge construction will likely enter a winter shutdown from November to May. It is anticipated that construction work will take place during regular working days (Monday through Friday) of each week, resulting in approximately 22 working days per month. Construction phasing will be conducted so that the existing Airport Road remains open during construction except for potentially limited traffic handling periods. Construction phases may overlap and are not limited to sequential phasing.

Phase 1 includes constructing the new bridge over two construction seasons. The first would be from May to October and would concentrate on the construction of the substructure (abutments, piers and foundation elements). The next construction season (May to October) would begin with the placement of falsework in the creek and the construction of the concrete superstructure.

Phase 2 includes construction of the north leg of New Airport Road including earthwork and stockpile at roundabout site would occur over a 3-month timeframe in May through June.

Phase 3A includes construction of New Airport Road from the southern terminus to the beginning of the bridge over approximately 6 months. Phase 3B includes construction of the roundabout over approximately 5 months.

Phase 4 includes construction of the approach roadways to the roundabout and connection to the existing Airport Road over approximately 3 months.

Phase 5, including construction of a new Class 1 trail from Union Road to Cava Robles RV Park is planned to be constructed separately at a later date. It is estimated that this work will take approximately 8 to 12 months.

1.6 PROGRAM ENTITLEMENTS

<u>Other Public Agency Approval Required:</u>

- U.S. Army Corps of Engineers (USACE) Section 404 Clean Water Act
- California Regional Water Quality Control Board Section 401 Clean Water Act Water Quality Certification
- California Department of Fish and Wildlife Lake and Streambed Alteration Agreement

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2.0 ENVIRONMENTAL ANALYSIS AND DETERMINATION

2.1 ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

X	Aesthetics		Greenhouse Gas Emissions		Public Services
	Agriculture & Forestry Resources		Hazards & Hazardous Materials		Recreation
X	Air Quality	X	Hydrology / Water Quality		Transportation & Traffic
X	Biological Resources		Land Use / Planning	X	Tribal Resources
X	Cultural Resources		Mineral Resources		Utilities & Service Systems
	Energy		Noise		Mandatory Findings of Significance
	Geology & Soils		Population & Housing		

FISH AND GAME FEES

	There is no evidence before the Department that the project will have any potential adverse effects on fish and wildlife resources or the habitat upon which the wildlife depends. As such, the project qualifies for a no effect determination from Fish and Game.
X	The project has potential to impact fish and wildlife resources and shall be subject to the payment of Fish and Game fees pursuant to Section 711.4 of the California Fish and Game Code. This initial study has been circulated to the California Department of Fish and Game for review and comment.

STATE CLEARINGHOUSE

X	This environmental document must be submitted to the State Clearinghouse for review by one or more State agencies (e.g., Cal Trans, California Department of Fish and Game, Department of Housing and Community Development). The public review period shall not be less than 30 days (CEQA Guidelines 15073(a)).

2.2 BASIS FOR EVALUATION OF ENVIRONMENTAL IMPACTS

1. A brief explanation is required for all answers except “No Impact” answers that are adequately supported by the information sources a lead agency cites in the analysis in each section. A “No Impact” answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A “No Impact” answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).

2. All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts. The explanation of each issue should identify the significance criteria or threshold, if any, used to evaluate each question.

3. "Potentially Significant Impact' is appropriate if there is substantial evidence that an effect is significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.

4. "Potentially Significant Unless Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less than Significant Impact." The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level (mitigation measures from Section 17, "Earlier Analysis," may be cross-referenced).

5. Earlier analysis may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. Section 15063 (c) (3) (D) of the California Code of Regulations. Earlier analyses are discussed in Section 17 at the end of the checklist.

6. Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.

7. Supporting Information Sources: A source list should be attached, and other sources used, or individuals contacted should be cited in the discussion. In this case, a brief discussion should identify the following:

   a) Earlier Analysis Used. Identify and state where they are available for review.
   b) Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on earlier analysis.
   c) Mitigation Measures. For effects that are “Less than Significant with Mitigation Measures Incorporated,” describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project

2.3 ENVIRONMENTAL DETERMINATION

On the basis of this initial evaluation:

I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.	
I find that although the proposed project could have a significant effect on the environment, the project will not be a significant effect in this case because revisions in the project have been made, or the mitigation measures described on an attached sheet(s) have been added and agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.	X
I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.	
I find that the proposed project MAY have a "potentially significant" impact(s) or "potentially significant unless mitigated" impact(s) on the environment, but at least one effect (1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and (2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed	
I find that the proposed project will not have a significant effect on the environment, because all potentially significant effects have been analyzed adequately in an earlier NEGATIVE DECLARATION pursuant to applicable standards, nothing further is required.	

Warren Frace, Community Development Director — Date

Signature — Date

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3.0 CEQA ENVIRONMENTAL CHECKLIST

3.1 AESTHETICS

Would the project:	Potentially Significant Issues	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect on a scenic vista?				X
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, open space, and historic buildings within a local or state scenic highway?		X		
c) In nonurbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage points.) If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?		X		
d) Create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area?			X	

Setting

Both Airport Road and Highway 46 East (between Jardine and Airport Roads) are identified as Gateways to the City, as well as Visual Corridors in the City of Paso Robles' General Plan Conservation Element (2014). The area between Golden Hill Road and Airport Road north of Highway 46 East is designated as a Natural Landmark and Open Space Viewshed. City of Paso Robles Gateways, Visual Corridors and Natural Landmark and Open Space Viewsheds have similar visual requirements. The City requires development in these areas to be "designed to make a positive visual impression" and preserve views of natural features within the viewshed. Additionally, Highway 46 is eligible for state designation as a scenic highway (CA Department of Transportation, 2019).

The Paso Robles Municipal Code defines a viewshed as "the geographical area typically visible from a location beyond a project site. The viewshed includes all surrounding points that are in line of sight with that location and excludes points that are beyond the horizon or obstructed by terrain and other features (e.g., buildings, trees)." The City's Conservation Element includes one goal and one related policy and action item concerning Visual Gateways:

GOAL C-5: Visual Resources. Enhance/upgrade the City's appearance.
POLICY C-5A: Visual Gateways and Landmarks. Identify important visual resources: gateways, corridors, major arterials, natural/open space areas, as shown on Table C-1 and Figure C-3.
Action Item 2. Coordinated/Complementary Design Standards: Establish and implement site design, landscaping, architecture, and sign design standards in order to ensure that gateways, corridors, major arterials, and natural areas are identifiable.

The City of Paso Robles has an adopted Oak Tree Preservation Ordinance (2002), which governs the maintenance, trimming and removal of oak trees by private property owners, tree maintenance services and arborists. The intended purpose of the ordinance is the "preservation of oak trees in order to maintain the heritage and character of the City of El Paso de Robles ("The Pass of the Oaks") as well as preserve the beauty and identity of the community".

The policies and procedures contained in the Oak Tree Preservation Ordinance apply equally to private property and to projects being pursued by public agencies, including the City. Preservation of existing oak trees and opportunities to promote the establishment of new oak trees is prescribed as a focus of the planning commission and/or city council in conjunction with consideration of any development project or development related entitlement.

Pursuant to the City's Oak Tree Preservation Ordinance oak tree protection measures are for trees measured at six inches or greater in diameter at breast height (DBH), which is 4.5 feet above ground level. Any oak tree slated for removal requires a permit which are processed by the City's Community Development Department, subject to City Council approval. Permits for pruning oak trees are in the purview of the City's Public Works Department. Oak trees marked for removal require mitigation at 25 percent of the total DBH, or an impact to mitigation ratio of 1-inch of small-caliper replacement trees to 0.25-inch DBH of tree removed.

Trees not marked for removal or completely avoided are assessed according to their Critical Root Zone (CRZ). The City of Paso Robles defines the CRZ as the area circumscribed around the tree's trunk using a radius of one foot per one-inch DBH. For this document, CRZ is defined as either the width of the measured canopy, or the area using a radius of one foot per one-inch DBH, whichever is larger. Although not specified in the ordinance, mitigation of CRZ impacts are often assessed according to the percent of CRZ impact (i.e., less than 50 percent or greater than 50 percent).

Evaluation

The project consists of the construction of the New Airport Road extension and bridge across Huer Huero Creek, realignment of a portion of Airport Road and a new roundabout intersection with New Airport Road, and a Class I trail extending from Union Road in front of Barney Schwartz Park to the Cava Robles RV Resort. The extension will include construction of an approximately 575' long by 44' wide concrete box girder bridge over Huer Huero Creek. Airport Road is to be realigned to the west to connect to the New Airport Road extension just north of the northerly bridge abutment. The realigned Airport Road section will be approximately 34 feet in width. A new single-lane roundabout is proposed at the three-leg intersection of Airport Road and New Airport Road. The roundabout will be constructed within a 140' inscribed circle diameter (ICD). The project will construct an approximately 2.5-mile meandering, multi-use path that generally parallels Huer Huero Creek and typically consists of a 10' wide paved section with 2' unpaved shoulders. A southern trailhead is proposed at Union Road near Barney Schwartz Park and path construction will end near the Cava Robles RV resort.

The project site is in an area of undulating hills dotted with oaks and other trees. The visual character east of the project site is rural in nature, with vineyards and ranchlands dominant. Immediately west of the site, visual character transitions to urban vistas of commercial, light industrial and residential uses. North and south of the site, views are dominated by rolling, vegetated hillsides. Construction of the proposed improvements will involve grading, and the placement of fill material, aggregate base, hot mix asphalt pavement, concrete bridge abutments, guard rails and street lights. Potentially sensitive receptors include drivers traveling north- and southbound on Airport Road.

A. Existing topographic features and terrain obscure views of the proposed project from Highway 46. The proposed roadway, bridge and trail improvements will be visible from public viewpoints along Airport Road. Airport Road is utilized by residents of the City and surrounding County areas, as well as winery and airport visitors. During AM and PM peak periods, the roadway accommodates approximately 500 peak hour trips (Central Coast Transportation Consulting, 2020). The proposed project will introduce a new roadway, bridge and street lighting to the Airport Road viewshed. The roadway improvements will be constructed approximately at existing contours, with very limited

areas of fill. The bridge will be elevated approximately 30 feet, at its highest point, over the existing Huer Huero creek bed elevation. Streetlights will be required to comply with the City's requirements for light shielding and will be downcast to not shed light on adjacent properties.

Implementation of the proposed project would result in permanent impacts to the visual character of the project area. Tree removal and removal of other vegetation along the slopes adjacent to the bridge will be necessary for the project. Of the hundreds of oak trees within the project area, 18 will be removed during project implementation in order to accommodate the new bridge alignment. An additional 65 oak trees may incur impacts within the Critical Root Zone (CRZ). Thirty-nine oak trees in proximity to ground disturbance will be protected in place, with impacts avoided. No non-oak trees will be removed with the Project. The 18 removed oak trees represent approximately fifteen percent of the impacted oaks, which may result in a noticeable change in visual resources. Because views from Airport Road are protected, removal of 18 oak trees could adversely affect this "Designated Scenic Resource" as defined by CEQA statutes and the Paso Robles General Plan.

In order to mitigate this potential impact, mitigation measures including planting of replacement oak trees are proposed. Mitigation tree planting shall comply with the City's 2002 Ordinance 835. Replacement oaks for removed trees shall be equivalent to 25 percent of the diameter of the removed tree(s). For example, if a 16-inch DBH tree is removed, 4-inches total caliper of replacement trees is required. A one-inch caliper trees is generally in a 15-gallon container, and approximately 8 to 10 feet tall—4 of these would be required. If replacement caliper trees of appropriate size are not available as specified in the mitigation measure, smaller replacement trees/seedlings in higher quantities that are deemed acceptable by the City may be planted. Smaller caliper trees may be planted at a ratio of 5:1 for each tree removed, because smaller size trees in long skinny pots (about 12 to 14 inches tall) often perform better overall when transplanted than older trees in larger pots.

The approximately 183 replacement native oak trees, along with right-of-way and median landscaping, will soften the visual character within and surrounding the project site. This mitigation measure brings the project into compliance with Policy C-5 of the City's Conservation Element by ensuring that natural areas within the City remain identifiable.

Construction activities will temporarily alter some public views, including from public roadways. During construction, equipment may block some views west of the existing Airport Road. These impacts would be temporary and would not permanently affect the scenic resources of the project area, nor the surrounding area. These temporary visual changes are therefore considered minor.

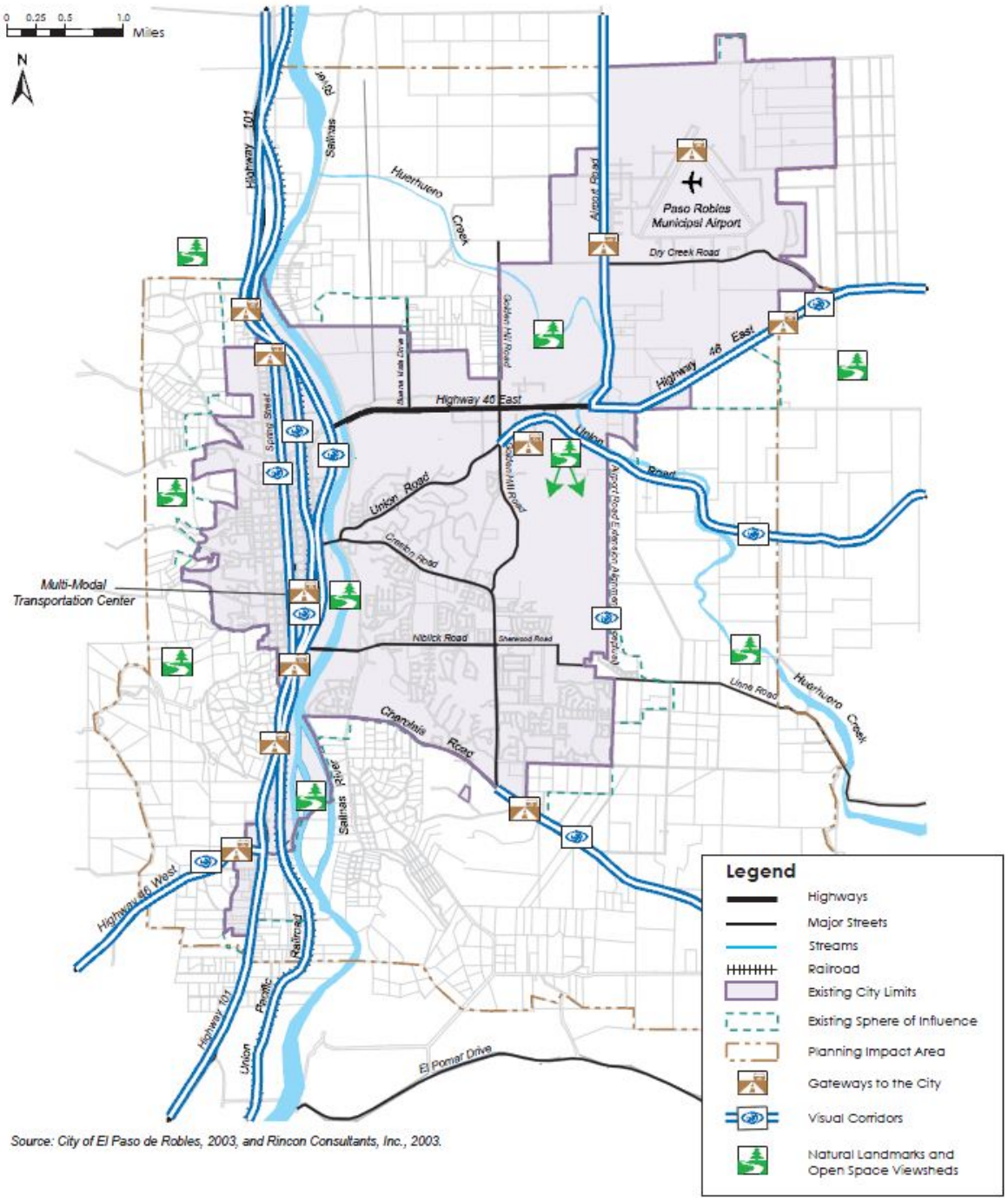
The following mitigation measures are proposed for Aesthetic Resources:

AES - 1. Replacement oaks for removed trees shall be equivalent to 25 percent of the diameter of the removed tree(s) unless an alternative size is approved by the Project Biologist and City Community Development Director. For example, if a 16-inch DBH tree is removed, 4-inches total caliper of replacement trees is required. A one-inch caliper tree is generally in a 15-gallon container, and approximately 8 to 10 feet tall - 4 of these would be required. Smaller caliper trees may be planted at a ratio of 5:1 for each tree removed.

AES - 2. Impacted trees (not removed) will be mitigated at a 1:1 ratio for impacts less than 50 percent and 2:1 ratio for impacts to more than 50 percent of the CRZ.

Conclusion: Less than significant impact with mitigations.

Figure 3-1. City of Paso Robles General Plan Visual Resources



Source: City of El Paso de Robles, 2003, and Rincon Consultants, Inc., 2003.

City Gateways, Visual Corridors, Natural Landmarks, and Open Space Viewsheds

Figure C-3

3.2 AGRICULTURE AND FORESTRY RESOURCES

Would the project:	Potentially Significant Issues	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?				X
b) Conflict with existing zoning for agricultural use or a Williamson Act contract?				X
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined in Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined in Government Code Section 51104 (g))?				X
d) Result in the loss of forest land or conversion of forest land to non-forest use?				X
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?				X

Setting

The California Department of Conservation Division of Land Resource Protection implements the Farmland Mapping and Monitoring (FMMP) program, which recognizes the suitability of land for agricultural production through an evaluation of physical and chemical characteristics of the soil. The FMMP program designates Important Farmland, including Prime Farmland, Unique Farmland, and Farmland of Statewide Importance. Limited areas of Prime Farmland, Unique Farmland, and Farmland of Statewide Importance are identified within the Salinas River in the City's Open Space Element (2003).

The City of Paso Robles, maintaining a compact, urban form, contains limited areas zoned for agriculture, most of which are located outside of the Project area. Although agricultural lands within the City are limited, the City is encircled by lands in active agricultural development, which benefit residents of and visitors to Paso Robles. The City of Paso Robles supports a "Purple Belt" of agricultural, open space and conservation areas surrounding the City. These areas are protected in order to maintain the rural, open space and agricultural character of the City. Additionally, land use areas impacted by airport operations may be designated as agricultural.

Development surrounding the project site consists of a mixture of land uses including Residential Agriculture (RA) located north and south of the Project extent (Paso Robles Horse Park and Barney Schwartz Park), and Agriculture (AG) northeast of the Project. A portion of the project site was rezoned in 2016 from Residential Agriculture (RA) to Commercial/Light Industrial with a Planned Development overlay (C3-PD).

Evaluation

No Project activities are proposed on properties used for agricultural purposes, or which contain Prime Farmland, Unique Farmland, and Farmland of Statewide Importance. The proposed Project would not conflict with any existing zoning for agricultural uses. No Williamson Act contracted lands occur within the Project area. The proposed Project involves no changes to the existing environment that could result in the conversion of Farmland to non-agricultural uses.

The proposed Project is within an urbanized portion of Paso Robles. No land in the vicinity of the Project area is designated as forest resources or zoned as forest land or timberland. Therefore, the Project will not conflict with these uses or result in any loss or conversion of forest land or timberland.

Conclusion: No impact.

3.3 AIR QUALITY

Would the project:	Potentially Significant Issues	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Conflict with or obstruct implementation of the applicable air quality plan?				X
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?		X		
c) Expose sensitive receptors to substantial pollutant concentrations?			X	
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?			X	

Setting

The proposed Huer Huero Bridge and Roundabout Project will occur within the San Luis Obispo County Air Pollution Control District (APCD). The SLO County APCD is responsible for establishing and enforcing local, state, and federal air quality regulations, and has adopted both a Strategic Action Plan and a Clean Air Plan (CAP) for jurisdictions within San Luis Obispo County, which outline strategies to reduce air pollution emissions in the region. The 2001 Clean Air Plan (CAP) for San Luis Obispo County details APCD's strategies to reduce ozone precursor emissions from a wide variety of stationary and mobile sources and includes transportation control measures related to a campus trip reduction project, local transit system improvements, commute options, bicycling enhancements, and other trip reduction programs.

The CAP describes the air quality setting for the County in detail, including the local climate and meteorology, current and projected air quality, and the regulatory framework for the management of air quality. Additionally, the SLO County APCD adopted a Particulate Matter Report and associated control measures in 2005, in order to reduce public exposure to particulate matter. The SLO County APCD's CEQA Air Quality Handbook (2017) allows practitioners to evaluate project specific impacts and help determine if air quality mitigation measures are needed, or if potentially significant project-specific or cumulative impacts could result. If a proposed project is consistent with the land use, transportation control measures, and strategies outlined in the Clean Air Plan, then the Project is considered consistent with the Clean Air Plan.

The SLO County APCD is part of the South-Central Coast Air Basin (SCCAB), which includes San Luis Obispo, Santa Barbara and Ventura counties. San Luis Obispo County covers approximately 3,300 square miles within the SCCAB and is divided into three general regions: (1) coastal plateau, (2) upper Salinas River Valley, and (3) East County plain. The proposed Project will occur in the upper Salinas River Valley portion of the Air Basin. Ambient air quality standards for ozone (O_3), carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), particulate matter less than 10 microns in diameter (PM_{10}), particulate matter less than 2.5 microns in diameter ($PM_{2.5}$), and lead are set by both the California Air Resources Board (CARB) and the U.S. Environmental Protection Agency. (State regulations are generally more restrictive than federal standards for most pollutants.) The SLO County APCD is currently under State nonattainment status for ozone and PM_{10} standards. The SLO County air

basin is classified as nonattainment for the federal ozone 8-hour standard, as well as the State 1-hour and 8-hour ozone standard, and 24-hour and annual PM_{10} standard (eastern San Luis Obispo County only).

Additionally, the City of Paso Robles General Plan Conservation Element (2014) includes strategies, goals, and policies to preserve air quality, including programs to reduce the number of vehicle miles traveled (VMT), especially by single occupant vehicles, and requirements for construction activities to minimize air pollution.

Construction-related emissions are generally short-term in duration but may still cause adverse air quality impacts. Fine particulate matter (PM_{10}) is the pollutant of greatest concern with respect to construction activities. PM_{10} emissions can result from a variety of construction activities, including excavation, grading, demolition, vehicle travel on paved and unpaved surfaces, and vehicle and equipment exhaust. Construction-related emissions can cause substantial increases in localized concentrations of PM_{10}. Particulate emissions from construction activities can lead to adverse health effects as well as nuisance concerns such as reduced visibility and soiling of exposed surfaces.

Valley fever is an infection caused by a fungus that lives in soil. The fungus that causes Valley fever, *Coccidioides*, is found in soil in the southwestern United States and similar areas with hot, dry climates. People can get Valley fever by breathing in the microscopic fungus spores from the air in these areas. Valley fever does not spread from person to person. The symptoms of Valley fever can be similar to those of other respiratory illnesses. For many people, symptoms go away within weeks or months without any treatment. Healthcare providers may prescribe antifungal medicine for people at higher risk of severe disease, to reduce symptoms or prevent the infection from getting worse. Valley fever can be serious and even fatal. In areas where Valley fever is common, it's difficult to completely avoid exposure to the fungus because it is in the environment. There is no vaccine to prevent infection.

Construction workers and others who work outdoor are at risk for Valley fever, especially if they dig or disturb soil, operate heavy machinery, or work under windy conditions. California Assembly Bill 203 (2019) requires construction employers who work in counties with high rates of Valley fever to train their employees annually on methods of minimizing the risk of Valley fever. These methods include watering open areas of dirt to minimize fugitive dust, avoiding construction during dust storms or high winds, and utilizing construction equipment with enclosed, air-conditioned cabs. (CA Department of Public Health, 2019). While measures to mitigate the risk of Valley fever are regulated by the California Department of Industrial Relations (CalOSHA), many of those protections overlap with fugitive dust control measures to mitigate Air Quality impacts under CEQA.

Construction emissions of PM_{10} can vary greatly depending on the level of activity, the specific operations taking place, the equipment being operated, local soils, weather conditions and other factors. Despite this variability in emissions, experience has shown that there are a number of feasible control measures that can be reasonably implemented to significantly reduce PM_{10} emissions from construction. Additionally, construction equipment emits carbon monoxide and ozone precursors. However, these emissions are included in the emission inventory that is the basis for regional air quality plans and subject to state standards and are not expected to impede attainment or maintenance of ozone and carbon monoxide standards.

The San Luis Obispo Air Pollution Control District has identified a set of feasible PM_{10} control measures for construction activities. These control measures are listed in Table 2. As noted in the table, some measures ("Basic Measures") should be implemented at all construction sites, regardless of size. Additional measures ("Enhanced Measures") should be implemented at larger construction sites (greater than 4 acres) where PM_{10} emissions generally will be higher. Table 2 also lists other PM_{10} controls ("Optional Measures") that may be implemented if further emission reductions are deemed necessary by the Lead Agency.

The determination of significance with respect to construction emissions should be based on a consideration of the control measures to be implemented. From the District's perspective, quantification of construction emissions is not necessary (although a Lead Agency may elect to do so - see Section 3.3 of the APCD Guidelines, "Calculating Construction Emissions," for guidance). The Lead Agency should review Table 2. If all of the control measures indicated in Table 2 (as appropriate, depending on the size of the project area) will be implemented, then air pollutant emissions from construction activities would be considered a less than significant impact. If all of the appropriate measures in Table 2 will not be implemented, then construction impacts would be considered to be significant (unless the Lead Agency provides a detailed explanation as to why a specific measure is unnecessary or not feasible).

Evaluation

The proposed Project will implement the City's "Parallel Routes" plan, which is designed to redirect existing traffic to reduce vehicle miles traveled, thereby reducing pollutant emissions after completion. The traffic analysis performed for the Project (Huer Huero Creek Bridge Vehicle Miles Traveled, Central Coast Transportation Consulting, 5/11/2020) concluded that the proposed improvements are expected to result in a reduction of vehicle miles traveled annually by providing a more direct route. The County's Clean Air Plan states that "…reducing vehicle use through transportation controls will reduce the generation of suspended dust caused by vehicle travel on paved and unpaved roads, a major source of PM_{10}. Thus, measures which reduce vehicle trips and miles traveled will also provide a reduction in direct PM_{10} emissions."

Roundabouts generally improve air quality operationally, because vehicles do not idle as they do at signalized intersections. The California Air Resources Board has made a finding specific to speed reduction mechanisms, particularly roundabouts:

"FINDING: *Vehicle speed reduction mechanisms change the design and operating speed of the road by altering the physical characteristics of the road. These features can reduce stop-and-go driving and hard accelerations and thereby reduce emissions rates. Some of these features, like the roundabout intersection, can be used as an alternative to stop-controlled and signalized intersections. Studies show that roundabouts can reduce localized pollutant concentrations compared to intersections with stop and signal control by 20 percent or more (depending on context and site-specific conditions).*

Speed reductions mechanisms, such as roundabouts, can be implemented to smooth traffic flow. Roundabouts can be used in lieu of stop signs or signal controls in order to decrease hard accelerations and decelerations and encourage driving speeds that fall within the optimal range for minimizing emissions rates and fuel consumption. A roundabout is an example of an intersection-specific speed reduction mechanism that can be implemented to reduce pollution concentrations, and produce other transportation system benefits."

Because the proposed Project will result in a decrease in Vehicle Miles Traveled (VMT) and includes a roundabout which will reduce local pollutant concentrations, no long-term adverse air quality impacts will result. Therefore, the proposed Project will not conflict with implementation of the Clean Air Plan.

The project region is not under a nonattainment status for CO, SO_2, ozone (O_3), NO_x, ROGs, or $PM_{2.5}$ and net increases in PM_{10} would not be cumulatively considerable, as these emissions would be temporary in nature and limited to the immediate area surrounding the construction site. Therefore, the proposed Project will not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard.

Construction-related effects on air quality from the proposed Project would occur primarily during site preparation and grading, when soils are disturbed. Without appropriate mitigations, these activities would temporarily generate particulate emission – "fugitive dust" –and would result in an increase in PM_{10} emissions for which the SLO County APCD is currently classified under nonattainment status under State standards. Without mitigation, fine particulate emissions could travel a significant distance from the Project site. Additionally, construction vehicles leaving the site would deposit dirt and mud on local streets, which could become an additional source of particulate emissions. Levels of PM_{10} emissions associated with construction depend on equipment used, soil moisture and silt content, as well as local weather conditions including temperature, humidity and wind speed. In addition to "fugitive dust" PM_{10} emissions, construction equipment powered by gasoline and diesel engines would generate CO, SO_2, NO_x, ROGs, as well as $PM_{2.5}$ and PM_{10} emissions. Construction activities could also increase traffic congestion in the area, increasing emissions from passenger vehicles while they idle in traffic.

Without mitigation, Project construction may result in a cumulatively considerable net increase of criteria pollutants for which the project region is under nonattainment, and may generate fugitive dust, which could be a nuisance to residents and businesses in close proximity to the proposed construction site. The SLO County APCD requires implementation of standard mitigation measures for construction equipment in order to limit fugitive dust. All projects with grading areas greater than 4 acres must manage fugitive dust sources to ensure that dust emissions are controlled to below the 20 percent visible emission opacity limit identified in SLO County APCD Rule 401, Visible Emissions, and to ensure fugitive dust is not carried off-site. Therefore, Mitigation Measures AQ-1 and AQ-2 are included to ensure implementation of SLO APCD standard mitigation measures for construction equipment and fugitive dust.

Ambient air quality standards have been established to represent the levels of air quality considered sufficient, with an adequate margin of safety, to protect public health and welfare. Standards are designed to protect that segment of the public most susceptible to respiratory distress, such as children under 14; the elderly over 65; persons engaged in strenuous work or exercise; and people with cardiovascular and chronic respiratory diseases. Sensitive receptors are defined as residential uses, schools, daycare centers, nursing homes, and medical centers. Approximately ten residences occur within one-half mile of the Project site, with seven of those within 1,000 feet. No other sensitive resources occur within one mile of the Project site. Kermit King Elementary School is located approximately 1.5 miles away from the site. In order to ensure that construction of the proposed Project does not expose surrounding sensitive receptors to airborne particulates, or construction equipment pollutants (i.e., diesel-fueled), Mitigation Measure AQ-1 is included to reduce dust and exhaust emissions generated during construction activities. With implementation of this mitigation measure, Project construction emissions would be below the SLO County APCD significance thresholds. Therefore, sensitive receptors would not be exposed to substantial pollutant concentrations during Project construction or operation. Potential impacts would be considered less than significant with mitigation incorporated. The following measures are required to mitigate adverse impacts to Air Quality:

AQ - 1. Fugitive Dust Mitigation Measures

a. Reduce the amount of disturbed area where possible;
b. Use of water trucks or sprinkler systems in sufficient quantities to prevent airborne dust from leaving the site and from exceeding the APCD's limit of 20% opacity for greater than 3 minutes in any 60-minute period. Increased watering frequency is required whenever wind speeds exceed 15 mph. Reclaimed (non- potable) water shall be used whenever possible. When drought conditions exist and water use is a concern, the contractor or builder should consider use of a dust suppressant that is effective for the specific site conditions to reduce the amount of water used for dust control;
c. All dirt stockpile areas shall be sprayed daily and/or covered with tarps or other dust barriers as needed;

d. All roadways, trails, sidewalks, etc. to be paved shall be completed as soon as possible after grading unless seeding, soil binders or other dust controls are used;
e. All trucks hauling dirt, sand, soil, or other loose materials are to be covered or shall maintain at least two feet of freeboard (minimum vertical distance between top of load and top of trailer) or otherwise comply with California Vehicle Code (CVC) Section 23114;
f. "Track-Out" is defined as sand or soil that adheres to and/or agglomerates on the exterior surfaces of motor vehicles and/or equipment (including tires) that may then fall onto any highway or street as described in CVC Section 23113 and California Water Code 13304. To prevent 'track out', the contractor shall designate access points and require all employees, subcontractors, and others to use them. The contractor shall install and operate a 'track-out prevention device' where vehicles enter and exit unpaved roads onto paved streets. The 'track-out prevention device' can be any device or combination of devices that are effective at preventing track out, located at the point of intersection of an unpaved area and a paved road. Rumble strips or steel plate devices need periodic cleaning to be effective. If paved roadways accumulate tracked out soils, the track-out prevention device may need to be modified;
g. All fugitive dust mitigation measures shall be shown on plans and/or other project documents such as specifications;
h. The contractor or builder shall designate a person or persons whose responsibility is to ensure any fugitive dust emissions do not result in a nuisance and to enhance the implementation of the mitigation measures as necessary to minimize dust complaints and reduce visible emissions below the APCD's limit of 20% opacity for greater than 3 minutes in any 60-minute period. Their duties shall include holidays and weekend periods when work may not be in progress (for example, wind-blown dust could be generated on an open dirt portion of the project). The name and telephone number of such persons shall be provided to the APCD Compliance Division prior to the start of any grading, earthwork or demolition.
i. Permanent dust control measures identified in the approved project revegetation and landscape plans shall be implemented as soon as possible, following completion of any soil disturbing activities;
j. Exposed ground areas that are planned to be reworked at dates greater than one month after initial grading shall be sown with a fast germinating, non-invasive grass seed and watered until vegetation is established;
k. All disturbed soil areas not subject to revegetation shall be stabilized using approved chemical soil binders, jute netting, or other methods approved in advance by the APCD;
l. Vehicle speed for all construction vehicles shall not exceed 15 mph on any unpaved surface at the construction site;
m. Contractor shall sweep streets at the end of each day if visible soil material is carried onto adjacent paved roads. Water sweepers shall be used with reclaimed water where feasible. Roads shall be pre-wetted prior to sweeping when feasible;
n. Contractor shall take additional measures as needed to ensure dust from the project site is not impacting areas outside the project boundary.

AQ - 2. Construction Equipment Mitigation Measures

a. Contractor shall maintain all construction equipment in proper tune according to manufacturer's specifications;
b. Contractor shall fuel all off-road and portable diesel-powered equipment with arb certified motor vehicle diesel fuel (nontaxed version suitable for use off-road);
c. Contractor shall use diesel construction equipment meeting arb's tier 2 certified engines or cleaner off-road heavy-duty diesel engines, and comply with the state off-road regulation;

d. Contractor shall use on-road heavy-duty trucks that meet the arb's 2007 or cleaner certification standard for on-road heavy-duty diesel engines, and comply with the state on-road regulation;
e. Construction or trucking companies with fleets that do not have engines in their fleet that meet the engine standards identified in the above two measures (e.g., captive or nox exempt area fleets) may be eligible by proving alternative compliance;
f. All on and off-road diesel equipment shall not idle for more than 5 minutes. Signs shall be posted in the designated queuing areas and or job sites to remind drivers and operators of the 5-minute idling limit;
g. Diesel idling within 1,000 feet of sensitive receptors is not permitted;
h. Staging and queuing areas shall not be located within 1,000 feet of sensitive receptors;
i. Contractor shall electrify equipment when feasible;
j. Contractor shall substitute gasoline-powered in place of diesel-powered equipment, where feasible; and,
k. use alternatively fueled construction equipment on-site where feasible, such as compressed natural gas (cng), liquefied natural gas (lng), propane or biodiesel.

With implementation of Mitigation Measures AQ-1 and AQ-2, the proposed Project would not expose sensitive receptors to substantial pollutant concentrations or result in other emissions (such as those leading to odors) adversely affecting a substantial number of people. Therefore, this impact is less than significant with mitigation incorporated.

Conclusion: Less than significant impact with mitigations incorporated.

3.4 BIOLOGICAL RESOURCES

Would the project:	Potentially Significant Issues	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect, either directly or indirectly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?		X		
b) Have a substantial adverse effect, on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?		X		
c) Have a substantial adverse effect on state or Federally protected wetlands (including, but not limited to, marshes, vernal pools, etc.) through direct removal, filling, hydrological interruption, or other means?		X		
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of wildlife nursery sites?		X		
e) Conflict with any local policies or ordinances protecting biological resources, such as tree preservation policy or ordinance?		X		
f) Conflict with the provisions of an adopted habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?				X

Setting

Standards for environmental protection and restoration, in the form of laws and regulations, are created within three different organizational levels of government: Federal, State, and Local. The U.S. Clean Water Act (CWA) establishes the basic structure for regulating discharges of pollutants into the waters of the United States and regulating quality standards for surface waters. The Regional Water Quality Control Board (RWQCB) regulates impacts to water quality in federal waters of the U.S. under Section 401 of the Clean Water Act. The U.S. Environmental Protection Agency (EPA) and the U.S. Department of the Army Corps of Engineers (USACE) administer the Navigable Waters Protection Rule, which regulates activities within jurisdictional waters. The Federal Endangered Species Act (FESA) provides the legal framework for the listing and protection of species (and their habitats) identified as being endangered or threatened with extinction. The U.S. Fish and Wildlife Service (USFWS) maintains a special-status species list, along with regulations governing activities within and around potential habitats for those species. The Bald and Golden Eagle Protection Act specifically safeguards those

species from harm. The Federal Migratory Bird Treaty protects migratory, non-game bird species that are native to the United States and its territories.

The California Endangered Species Act (CESA), similar to FESA, contains a process for listing of species and regulating potential impacts to listed species. The California Fish and Game Code (CFGC) contains a legal framework to protect biological resources, including animals, plants, and habitats in California. Section 1602 of the CFGC requires any person, state, or local governmental agency to provide advance written notification to the California Department of Fish and Wildlife (CDFW) prior to initiating any activity that would: 1) divert or obstruct the natural flow of, or substantially change or remove material from the bed, channel, or bank of any river, stream, or lake; or 2) result in the disposal or deposition of debris, waste, or other material into any river, stream, or lake. The state definition of "lakes, rivers, and streams" includes all rivers or streams that flow at least periodically or permanently through a well-defined bed or channel with banks that support fish or other aquatic life, and watercourses with surface or subsurface flows that support or have supported riparian vegetation. Sections 3503, 3503.5 and 3513 of CFGC states that it is "unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto," and "unlawful to take, possess, or destroy any birds of prey or to take, possess, or destroy the nest or eggs of any such bird" unless authorized.

The California Oak Woodland Conservation Act offers landowners, conservation groups, and local jurisdictions an opportunity to obtain funding for projects designed to conserve and restore California's oak woodlands. The California Natural Diversity Database (CNDDB) and the California Native Plant Society (CNPS) also maintain lists of special-status species and their habitats. The California Environmental Quality Act (CEQA) identifies the environmental review process for all Projects, defined as actions taken by public or private entities requiring discretionary (non-ministerial) permitting. CEQA requires an assessment of existing "baseline" conditions, potential impacts on biological resources by the proposed Project, and appropriate avoidance and mitigation measures to prevent significant impacts to biological resources.

The City of Paso Robles has an adopted Oak Tree Preservation Ordinance (2002), which governs the maintenance, trimming and removal of oak trees by private property owners, tree maintenance services and arborists, and to new development, redevelopment and any discretionary considerations by the City that result in development that may impact existing oak trees or their critical root zones. The Oak Tree Preservation Ordinance applies to trees which measure six inches or greater in diameter at breast height (DBH), which is defined as 4.5 feet above ground level. Oak trees proposed for removal require a director's approval permit for dead or diseased trees beyond repair, per a qualified arborist. Removal of healthy trees require City Council approval, with a finding that there are no feasible alternatives to avoid impacts to oak trees. Trees not marked for removal or complete avoidance are assessed according to their Critical Root Zone (CRZ), defined as the area circumscribed around the tree's trunk using a radius of one foot per one-inch DBH. For this document, CRZ is defined as either the width of the measured canopy, or the area using a radius of one foot per one-inch DBH, whichever is larger. Although not specified in the ordinance, mitigation of CRZ impacts is often assessed according to the percent of CRZ impact (i.e., less than 50 percent or greater than 50 percent).

Evaluation

Based on an analysis of known ecological requirements for the special status plant species reported from the region, and habitat conditions observed in the Project area, it was determined that 13 special status plant species either occur or potentially occur within the Project area. One species, elegant wild buckwheat, was confirmed during spring and summer 2020 botanical surveys. Analysis determined that one additional species has a high potential to occur (shining navarretia*)*; two species have a moderate potential to occur: (Lemmon's jewelflower), and Davidson's bush-mallow); and nine species have a low potential to occur (Hoover's bent grass, dwarf calycadenia,

San Luis Obispo owl's clover, Douglas' spineflower, umbrella larkspur, San Benito poppy, Santa Lucia dwarf rush, Jones' bush-mallow, and woodland woolythreads.

No federal or state listed plants were observed onsite during appropriately timed surveys, nor are any federal or state listed plants expected to occur. One California Rare Plant Rank (CRPR) 4.3 special status plant species was observed in the riparian habitat (elegant wild buckwheat). Based on the Project footprint and the location and abundance of this species within the riparian habitat it was determined that impacts will likely occur to this species. Since this species was observed throughout the riparian habitat within the Study Area, a conservative estimate of 0.8-acre out of 34.3 acres of occupied riparian habitat will be impacted. Therefore, this Project could potentially impact 2.3 percent of this species population within the Project area. According to CEQA Guidelines Section 15380 (CDFW 2021), impacts to CRPR 4 plants may warrant consideration under CEQA if cumulative impacts to such plants are significant enough to affect their overall rarity (CDFW 2018). In this case a conservative impact estimate of 2.3 percent of elegant wild buckwheat onsite population is less than significant because it will not impact rarity of this species overall. No mitigation measures are recommended; however, species avoidance will be incorporated into BIO-1 and BIO-2.

Additionally, based on an analysis of known ecological requirements for the special-status wildlife species reported or known from the region, and the habitat conditions that were observed in the area of the proposed Project, it was determined that 18 special status animal species either occur or potentially occur within the proposed Project area. Six special status species were detected in the Project area (oak titmouse, golden eagle, northern harrier, yellow-billed magpie, loggerhead shrike, and Lawrence's goldfinch). Two species have a high potential to occur (pallid bat, and Lewis's woodpecker). Six species have a moderate potential to occur (northern California legless lizard, Crotch bumble bee, ferruginous hawk, hoary bat, coast horned lizard, American badger); and four species have a low potential to occur (burrowing owl, California horned lark, Monterey dusky-footed woodrat, and San Joaquin kit fox). Impacts to or take of nesting birds could occur if nests are destroyed by ground or vegetation disturbance activities, or if adults abandon nests due to disruption from construction noise levels or human activity.

Huer Huero Creek is a significant regional corridor that provides a major thoroughfare for unobstructed terrestrial wildlife movement that connects to the Salinas River 3.5 miles northwest of the Study Area. As evidenced by the abundance of birds and terrestrial mammals using the site, wildlife corridors occur both locally and regionally in and around the Project vicinity. However, the proposed bridge is designed to avoid impacts to Huer Huero Creek and will not result in impacts that would impede or block wildlife from utilizing the creek for movement. In addition, the proposed Class I trail would not physically obstruct wildlife from utilizing Huer Huero Creek for passage, but increased human presence during construction and operationally could potentially affect wildlife usage of the area.

Approximately 169 acres surrounding the Project site were studied. Eight habitat types were identified within the study area: riparian (34.3 acres), oak woodland (24.5 acres), oak savannah (40.9 acres), upland forbs (4.3 acres), annual grassland (40.7 acres), ruderal (5.2 acres), yellow-star thistle fields (6.6 acres) and anthropogenic areas of roads and trails (12.6 acres). The proposed Project would permanently impact approximately 14.5 acres total.

A total of 0.8-acre of riparian habitat will be permanently impacted from the Class I trail crossing located in the north portion of the Study Area (at two locations). Huer Huero Creek vehicular bridge will avoid impacts to riparian habitat. Bridge abutments will impact oak savanna and annual grassland habitat, while the Airport Road realignment and roundabout will impact annual grassland and ruderal. All other impacts will be from development of the Class I trail (1.5 acres of oak woodland, oak savanna, 0.5-acre of upland forbs, annual grassland, ruderal, 0.8-acre yellow-star thistle fields, and 2.6 acres of anthropogenic). Impacts to 1.9 acres of oak savanna, 0.5-acre of upland forbs, 4.6 acres of annual grassland, 1.3 acres of ruderal, and 0.8-acre of yellow-star thistle fields are not

considered significant except where these habitat impacts affect other sensitive biological resources such as sensitive plants, animals, oak trees, or nesting birds.

The Class I trail is anticipated to permanently disturb 0.8-acre of riparian habitat. Permanent impacts to riparian habitat will be mitigated at a minimum 3:1 ratio. Permanent impacts to riparian habitat will be mitigated through habitat creation and enhancement of approximately 2.4 acres of City-owned property located along Huer Huero Creek that is currently disturbed in quality, and identified in mitigation measure BIO-1 (Habitat Mitigation and Monitoring Plan; HMMP). Any temporary impacts from construction of the Class I trail to riparian habitat will be mitigated by habitat re-establishment at a 1:1 ratio through weed abatement and application of seed approved by the Project Biologist (BIO-1). Mitigation measures BIO-1 and BIO-2 are included to address impacts to riparian habitat.

Impacts to Huer Huero Creek and its associated riparian zone are anticipated to require permits from U.S. Army Corps of Engineers, Regional Water Quality Control Board, and California Department of Fish and Wildlife. The Owner/Applicant shall comply with all state and federal permitting requirements. The Owner/Applicant shall obtain and produce for the City correspondence from applicable state and federal agencies regarding compliance of the proposed development with state and federal laws.

Oak woodlands are considered a sensitive natural community because they provide important native habitat for plants and wildlife. Oak woodlands are afforded some level of protection through the California Oak Woodland Conservation Act as implemented through the City's Oak Tree Preservation Ordinance (City 2002). Since proposed Project impacts are from construction of the Class I trail only, mitigation for impacts to 1.5 acres of oak woodland will be implemented through a combination of best management practices (BMPs) to protect the retained oaks surrounding the Project footprint as well as individual tree protection measures. Mitigation for individual trees that are proposed for removal and/or Critical Root Zone (CRZ) impacts will also be implemented through oak tree replanting. Mitigation measures are included to address impacts to oak woodlands and individual oak trees.

The proposed Project has potential to affect other sensitive biological resources, including nesting birds, special status mammals, reptiles, and fish, and special status plants. Mitigation measures are recommended to reduce potential impacts to sensitive biological resources. This section provides mitigation recommendations (BIO) designed to reduce impacts to biological resources onsite, as summarized by Table 3-1.

TABLE 3-1. IMPACT AND MITIGATION SUMMARY

Biological Resource	Level of Significance	Recommended Mitigation Measures
Riparian	Less than significant with mitigation incorporated	BIO - 1, BIO - 2
Oak woodland and oak trees	Less than Significant with Mitigation Incorporated	BIO - 2, BIO - 3
Oak savanna, upland forbs, annual grassland, cropland, yellow-star thistle fields	Less than significant	None
Anthropogenic	No Impact	None

Biological Resource	Level of Significance	Recommended Mitigation Measures
Elegant wild buckwheat (*Eriogonum elegans*)	Less than significant	None
Crotch bumble bee	Less than significant	None
Sensitive lizards	Less than significant with mitigation incorporated	BIO - 4
Special status birds and nesting birds	Less than significant with mitigation incorporated	BIO - 5
Wintering birds	Less than significant	None
Golden eagle	Less than significant with mitigation incorporated	BIO - 2, BIO-5
Special status bats	Less than significant with mitigation incorporated	BIO - 6
Monterey dusky footed woodrat	Less than significant with mitigation incorporated	BIO - 7
American badger	Less than significant with mitigation incorporated	BIO - 8
San Joaquin kit fox	Less than significant with mitigation incorporated	BIO - 9 to BIO-17
Federally-listed plant species	No Effect	None
California red-legged frog	No Effect	None
Vernal pool fairy shrimp	No Effect	None
Wildlife corridors	Less than significant with mitigation incorporated	BIO-2, BIO-4 to BIO-8, BIO-10 to BIO-18

The following measures are required to mitigate adverse impacts to Biological Resources:

BIO - 1. Habitat Mitigation and Monitoring Plan

To minimize impacts on riparian habitat, prior to commencement of construction activities, prepare and implement a Habitat Mitigation and Monitoring Plan (HMMP). Temporary impacts typically require a minimum 1 to 1 ratio restoration (area of restored habitat to impacted habitat). and Permanent impacts to riparian areas typically require a minimum 3 to 1 ratio creation and enhancement (area of created or enhanced habitat to impacted habitat). Habitat enhancement can include improvements to the riparian buffer by expanding, restoring, and enhancing adjacent oak woodland. Improvements to buffer/protect riparian habitat include weed reduction (and associated increase in relative cover of native species),

habitat expansion (increase native tree and shrub cover), and addition of cavity nesting boxes for owls, songbirds, and bats. The plan shall include mitigation for trail impacts (0.8 acre of riparian habitat).

BIO - 2. Biological Monitor/Worker Education Training

Prior to obtaining a grading permit or prior to any brush clearance or land disturbance, the permittee shall retain a City-approved biologist to monitor grading/ground disturbing activities located within and directly adjacent to Huer Huero Creek and oak woodlands. Work within oak critical root zone, riparian areas, and/or sandy streambed will require daily monitoring. During active construction the biological monitor shall inspect the work area(s) weekly to verify that mitigation measures and best-management practices are properly implemented. The biological monitor will actively communicate observations and information with the construction supervisor as necessary for maintenance of mitigation and best management practices. The construction supervisor will keep the biological monitor apprised of the project schedule. The biological monitor shall prepare a post construction report that documents completion of ground-disturbing activities adjacent to natural resources that are to be retained onsite, and progress of mitigation measures implemented. Reports shall be furnished to the construction supervisor and the City. The biological monitor will provide a Worker Education Training Program to all personnel associated with the project within 30 days prior to initiation of site disturbance and/or construction, to avoid or reduce impacts on biological resources. At a minimum, the training shall include information on protection of riparian and oak woodland habitats and Huer Huero Creek, all mitigation measures specified by the City, as well as any related biological report(s) prepared for the project. The permittee shall notify the City one week prior to this meeting. A fact sheet shall also be developed prior to the training program, and distributed at the training program to all contractors, employers, and other personnel involved with the construction of the project.

BIO - 3. Tree Protection Plan and Mitigation Planting

An oak tree protection plan shall be prepared and approved by the City of Paso Robles. The trees to be protected shall be shown with a plan to avoid any construction activities within their critical root zone (CRZ).

- Map oaks. Tree canopies and trunks within 25 feet of proposed disturbance zones shall be mapped and numbered by a qualified biologist and a licensed land surveyor. Data for each tree shall include date, species, number of stems, diameter at breast height (DBH) of each stem, critical root zone (CRZ), canopy diameter, tree height, health, habitat notes, and nests observed.

- Avoid CRZ. Impacts to the oak canopy or CRZ shall be avoided where practicable. Impacts include pruning, any ground disturbance within the dripline or CRZ of the tree (whichever distance is greater), and trunk damage.

- Replace impacted oaks. An arborist will evaluate the health and value of potentially impacted oak trees. When applicable, replacement oaks for impacted trees shall be at a 1:1 ratio for impacts less than 50 percent and 2:1 ratio for impacts to more than 50 percent of the CRZ.

- Replace removed oaks. Mitigation tree planting shall comply with the City's 2002 Ordinance 835. Replacement oaks for removed trees shall be equivalent to 25 percent of the diameter of the removed tree(s). For example, if a 16-inch DBH tree is removed, 4-inches total caliper of replacement trees is required. A one-inch caliper trees is generally in a 15-gallon container, and approximately 8 to 10 feet tall—4 of these would be required. Smaller caliper trees may be planted at a ratio of 5:1 for each tree removed.

- Maintain replacement oaks. Replacement trees shall be seasonally maintained (browse protection, weed reduction and irrigation, as needed) and monitored annually for at least 7 years.

- Location of oak tree mitigation planting. Oaks shall be planted on City of Paso Robles property in the vicinity of the Project per the direction of the arborist.

- Implement Tree Protection Plan (TPP). Upon issuance of Oak Tree Removal permit the owner or project manager shall provide a copy of the Tree Protection Plan (TPP) to contractors and subcontractors that will work within the critical root zone of any native tree and confirm they are trained in maintaining fencing, protecting root zones and conforming to all tree protection goals. It is highly recommended that each contractor sign and acknowledge the TPP. Any future impact changes (within the CRZ) will need a Project arborist review and implementation of potential mitigation measures before proceeding.

- Fencing: Temporary exclusion fencing shall be placed where activities might be likely to encroach into unintended areas that would impact oak trees. The proposed fencing shall be shown on the plans. It must be a minimum of 4 feet high orange plastic high visibility fence staked (with t-posts 8 feet on center, and a minimum of four zip ties shall be used on each stake) and/or t-posts every 10 to 12 feet with minimum 5/16-inch rope. Fencing shall be located at the edge of the critical root zone or line of encroachment for each tree or group of trees. The fence shall be up before the issuance of a grading permit. Fencing shall be labeled with durable signs every 75 to 100 feet that state: "Environmentally Sensitive Habitat: No personnel, equipment, materials, or vehicles allowed." Spacing of signs will be dependent of visibility and extent of construction activities planned in that zone. The Contractor shall be responsible for maintaining an erect fence throughout the construction period. The arborist(s), upon notification, will inspect the fence placement once it is erected. After this time, fencing shall not be moved without arborist inspection/approval. All efforts shall be made to maximize the distance from each protected tree.)

- Soil Aeration Methods: Soils within the CRZ that have been compacted by heavy equipment and/or construction activities shall be returned to closely match their original state before all work is completed. Methods may include, but are not limited to, water jetting, adding organic matter, and boring small holes with an auger (18 inches deep, 2-3 feet apart with a 2–4-inch auger) and the application of moderate amounts of nitrogen fertilizer. The arborist(s) shall advise.

- Grading Within the Critical Root Zone: A Mandatory meeting between the arborists and grading contractor(s) shall take place prior to work starts in the CRZ of affected trees. Grading shall not encroach within the critical root zone unless authorized by an arborist. Grading shall not disrupt the normal drainage pattern around the trees. Fills shall not create a ponding condition and excavations shall not leave the tree on a rapidly draining mound. Any exposed roots shall be covered the same day they were exposed or wetted daily if possible. If they cannot, roots must be covered with burlap or another suitable material and wetted down 2 times per day until reburied. All exposed roots larger than 1-inch in diameter shall be clean cut with sharp pruning tools and not left ragged. Root treatment by the arborist will be determined on a case-by-case basis using best practices such as clean cuts accompanied by application of appropriate fungicides and insecticides by a licensed pest control applicator.

- Equipment Operation: Vehicles and all heavy equipment shall not be driven under the trees, as this will contribute to soil compaction. Also, there shall be no parking of equipment or personal vehicles in these areas. All areas behind fencing are off limits unless pre-approved by the arborist.

- Existing Surfaces: The existing ground surface within the critical root zone of all oak trees shall not be cut, filled, compacted or pared, unless shown on the grading plans and approved by the arborist.

- Construction Materials and Waste: No liquid or solid construction waste shall be dumped on the ground within the critical root zone of any native tree. The critical root zone areas are not for storage of materials either.
- Arborist Monitoring: An arborist shall be present for soil disturbance work within the critical root zone of oak trees. Monitoring does not necessarily have to be continuous but observational at times during these activities. All monitoring shall be documented on the field report form which will be forwarded to the project manager and the City of Paso Robles Planning Department.
- Pre-Construction Meeting: An on-site pre-construction meeting with the Arborist(s), Contractor, City Staff, and the earth moving team shall be required for this project.
- Pruning: Class 1 branch pruning emphasizes aesthetics, removal of dead, dying, decaying weak branches and selective thinning to lesson wind resistance. Class 2 pruning is recommended where aesthetic conditions are secondary to structural integrity and tree health concerns. It shall consist of removal of dead, dying, decaying, interfering, obstructing and weak branches as well as selective thinning to lesson wind resistance. Class 3 pruning includes removal of dead, diseased, decayed, and weak branches where safety considerations and hazardous conditions are the highest priority. Class 4 pruning, including crown reduction pruning, shall consist of reduction of tops, sides or individual limbs. A certified arborist shall direct all pruning. No pruning shall take more than 25 percent of the live crown of any native tree. Any trees that may need pruning for clearance shall be pruned prior to any grading activities to avoid any branch tearing.

BIO - 4. Special Status Reptiles Protection and Relocation

A focused preconstruction survey for coast horned lizards and legless lizards shall be conducted in proposed work areas immediately prior to ground-breaking activities that would affect potentially suitable habitat, as determined by the project biologist. The preconstruction survey shall be conducted by a qualified biologist familiar with coast horned lizard and legless lizard ecology and survey methods, and with approval from California Department of Fish and Wildlife to relocate special status lizards out of harm's way. The scope of the survey shall be determined by a qualified biologist and shall be sufficient to determine presence or absence in the project areas. If the focused survey results are negative, a letter report shall be submitted to the City, and no further action shall be required. If coast horned lizards or legless lizards are found to be present in the proposed work areas the following steps shall be taken:

- Legless lizards and/or coast horned lizards shall be captured by hand by the project biologist and relocated to an appropriate location well outside the project areas.
- Construction monitoring shall be required for all new ground-breaking activities located within legless lizard and coast horned lizard habitat. Construction monitors shall capture and relocate lizards as specified above.
- A letter report shall be submitted to the City and CDFW within 30 days of legless lizard or coast horned lizard relocation, or as directed by CDFW.

BIO - 5. Nesting Bird Avoidance

No more than one week prior to ground disturbance activities**,** if work occurs between February 1 and August 15, protected status species nesting bird surveys shall be conducted by a qualified biologist. If surveys do not locate these nesting birds, construction activities may be conducted. If these nesting birds are located, no construction activities shall occur within 100 feet of nests (or other setback distance determined by a qualified biologist)**.** Occupied nests of special status bird species within Project work

areas shall be mapped using GPS or survey equipment. Work shall not be allowed within a 300-foot buffer (for special status non-raptors) or 500-foot buffer (for raptors) while the nest is in use, unless otherwise approved by Project Biologist and, if for eagle, the USFWS. The buffer zone shall be delineated on the ground with highly visible fencing or rope barriers where it overlaps work areas. The Project biologist conducting the nesting survey shall have the authority to reduce or increase the recommended buffer depending upon site conditions and the species. Occupied nests of special status bird species shall be monitored at least every two weeks through the nesting season to document nest success and check for Project compliance with buffer zones. Once nests are deemed inactive and/or chicks have fledged and are no longer dependent on the nest, work may commence in these areas. A pre-construction survey report shall be submitted to the City of Paso Robles immediately upon completion of the survey. The report shall detail appropriate fencing or flagging of the buffer zone and make recommendations on additional monitoring requirements, where applicable. A map of the Project site and nest locations shall be included with the report.

BIO - 6. Bat Pre-Construction Survey and Passive Relocation

No more than 30 days before construction between April and September, the Project biologist shall inspect structures, and trees or snags to be removed or pruned that are greater than 20 inches diameter-at-breast-height for bats. If a bat roost is found, the qualified biologist shall implement passive relocation measures such as installation of one-way valves. For each occupied roost removed, one bat box shall be installed in similar habitat to those which are removed. Bat maternity colonies shall not be disturbed. If a bat roost is detected during the maternal season (April through September), a minimum 50-foot no-disturbance buffer shall be maintained.

BIO - 7. Monterey Dusky-Footed Woodrat Pre-Construction Survey

A pre-activity survey shall be conducted within proposed work areas to locate woodrat nests. The survey shall be conducted shall be more than 30 days before starting any vegetation removal. If a woodrat nest is in a proposed work area, the project biologist may dismantle the nest using hand tools in such a manner as to allow any inhabitants to escape into adjacent open space areas. Alternatively, if the nest is in a location where it may be safely left in place, protective fencing shall be installed under the direction of a project biologist in a manner sufficient to protect the nest from construction equipment.

BIO - 8. American Badger Pre-Construction Survey

An American Badgers Pre-Construction Survey shall be conducted by a qualified biologist no more than thirty days before beginning work on the site to identify if badgers are present. The results of the survey shall be sent to the project manager at the City of Paso Robles. If the pre-construction survey finds potential badger dens, they shall be inspected to determine whether they are occupied. The survey shall cover the entire impact area and shall examine both old and new dens. If potential badger dens are too long to completely inspect from the entrance, a fiber optic scope shall be used to examine the den to the end. Inactive dens may be excavated by hand with a shovel to prevent re-use of dens during construction. If badgers are found in dens on the property between February and July, nursing young may be present. To avoid disturbance and the possibility of direct take of adults and nursing young, and to prevent badgers from becoming trapped in burrows during construction activity, no grading shall occur within 100 feet of active badger dens between February and July. Between July 1st and February 1st all potential badger dens shall be inspected to determine if badgers are present. During the winter badgers do not truly hibernate but are inactive and asleep in their dens for several days at a time. Because they can be torpid during the winter, they are vulnerable to disturbances that may collapse their dens before they rouse and emerge. Therefore, surveys shall be conducted for badger dens

throughout the year. Exclusion of badgers from dens may only be done during the non-breeding season by a qualified biologist experienced in den exclusions. Dens must be fully excavated and backfilled after eviction is complete.

BIO - 9. San Joaquin Kit Fox Habitat Conservation and Compensation

The proposed project occurs within a 3:1 San Joaquin kit fox mitigation zone. Prior to issuance of grading and/or construction permits, the applicant shall submit evidence to the City of Paso Robles Department of Planning and Building, Environmental and Resource Management Division (City) that states that one or a combination of the following three San Joaquin kit fox mitigation measures has been implemented. Items in bold brackets indicate placeholders for numbers to be provided by the City. These standard County of San Luis Obispo mitigation measures are accepted by the City of Paso Robles and approved by CDFW. Items in bold brackets indicate placeholders for numbers to be provided by the City.

a. Habitat Set Aside: Provide for the protection in perpetuity, through acquisition of fee or a conservation easement, the number of acres of required mitigation of suitable habitat in the kit fox corridor area, as determined by CDFW (e.g., within the San Luis Obispo County kit fox habitat area), either on-site or off-site, and provide for a non-wasting endowment to provide for management and monitoring of the property in perpetuity. Lands conserved shall be subject to review and approval by CDFW (Department) and the City.

   This mitigation alternative (a) requires that all aspects if this program must be in place before City permit issuance or initiation of any ground disturbing activities.

b. In-Lieu Fee: Deposit funds into an approved in-lieu fee program, which would provide for the protection in perpetuity of suitable habitat in the kit fox corridor area within San Luis Obispo County, and provide for a non-wasting endowment for management and monitoring of the property in perpetuity.

   Mitigation alternative (b) above, can be completed by providing funds to The Nature Conservancy (TNC) pursuant to the Voluntary Fee-Based Compensatory Mitigation Program (Program). The Program was established in agreement between the Department and TNC to preserve San Joaquin kit fox habitat, and to provide a voluntary mitigation alternative to project proponents who must mitigate the impacts of projects in accordance with the California Environmental Quality Act (CEQA). This fee is calculated based on the current cost-per-unit of $2500 per acre of mitigation, which is scheduled to be adjusted to address the increasing cost of property in San Luis Obispo County; your actual cost may increase depending on the timing of payment. This fee must be paid after the Department provides written notification about your mitigation options but prior to City permit issuance and initiation of any ground disturbing activities.

c. Conservation Bank Credit: Purchase the number of credits required by CDFW in a CDFW-approved conservation bank, which would provide for the protection in perpetuity of suitable habitat within the kit fox corridor area and provide for a non-wasting endowment for management and monitoring of the property in perpetuity.

   Mitigation alternative (c) above, can be completed by purchasing credits from the Palo Prieto Conservation Bank (see contact information below). The Palo Prieto Conservation Bank was established to preserve San Joaquin kit fox habitat, and to provide a voluntary mitigation alternative to project proponents who must mitigate the impacts of projects in accordance with CEQA. This fee is calculated based on the current cost-per-credit of $2500 per acre of mitigation. The fee is

established by the conservation bank owner and may change at any time. Your actual cost may increase depending on the timing of payment. Purchase of credits must be completed prior to City permit issuance and initiation of any ground disturbing activities.

BIO - 10. San Joaquin Kit Fox Pre-Construction Surveys and Monitoring Activities

Prior to issuance of grading and/or construction permits, the City shall retain a qualified biologist to perform the following monitoring activities:

a. Prior to issuance of grading and/or construction permits and within 30 days prior to initiation of site disturbance and/or construction, the biologist shall conduct a pre-activity (i.e., pre-construction) survey for known or potential kit fox dens and submit a letter to the City reporting the date the survey was conducted, the survey protocol, survey results, and what measures were necessary (and completed), as applicable, to address any kit fox activity within the project limits.

b. The qualified biologist shall conduct weekly site visits during site-disturbance activities (i.e., grading, disking, excavation, stock piling of dirt or gravel, etc.) that proceed longer than 14 days, for the purpose of monitoring compliance with required Mitigation Measures BIO - 11 to BIO-17. Site disturbance activities lasting up to 14 days do not require weekly monitoring by the biologist unless observations of kit fox or their dens are made on-site, or the qualified biologist recommends monitoring for some other reason. When weekly monitoring is required, the biologist shall submit weekly monitoring reports to the City.

c. Prior to or during project activities, if any observations are made of San Joaquin Kit fox, or any known or potential San Joaquin kit fox dens are discovered within the project limits, the qualified biologist shall re-assess the probability of incidental take (e.g., harm or death) to kit fox. At the time a den is discovered, the qualified biologist shall contact USFWS and CDFW for guidance on possible additional kit fox protection measures to implement and whether or not a Federal and/or State incidental take permit is needed. If a potential den is encountered during construction, work shall stop until such time the USFWS determines it is appropriate to resume work. If incidental take of kit fox during project activities is possible, before project activities commence, the applicant must consult with the USFWS. The results of this consultation may require the applicant to obtain a Federal and/or State permit for incidental take during project activities. The applicant should be aware that the presence of kit foxes or known or potential kit fox dens at the project site could result in further delays of project activities.

d. In addition, the qualified biologist shall implement the following measures:

1. Within 30 days prior to initiation of site disturbance and/or construction, fenced exclusion zones shall be established around all known and potential kit fox dens. Exclusion zone fencing shall consist of either large, flagged stakes connected by rope or cord, or survey laths or wooden stakes prominently flagged with survey ribbon. Each exclusion zone shall be roughly circular in configuration with a radius of the following distance measured outward from the den or burrow entrances:
    - Potential kit fox den: 50 feet
    - Known or active kit fox den: 100 feet
    - Kit fox pupping den: 150 feet
2. All foot and vehicle traffic, as well as all construction activities, including storage of supplies and equipment, shall remain outside of exclusion zones. Exclusion zones shall be maintained until all project-related disturbances have been terminated, and then shall be removed.

3. If kit foxes or known or potential kit fox dens are found on site, daily monitoring by a qualified biologist shall be required during ground disturbing activities.

4. Prior to issuance of grading and/or construction permits, the applicant shall clearly delineate the following as a note on the project plans: "Speed signs of 25 mph (or lower) shall be posted for all construction traffic to minimize the probability of road mortality of the San Joaquin kit fox". Speed limit signs shall be installed on the project site within 30 days prior to initiation of site disturbance and/or construction.

BIO - 11. Kit Fox Night Construction Limitations

During the site disturbance and/or construction phase, grading and construction activities after dusk shall be prohibited unless coordinated through the City, during which additional kit fox mitigation measures may be required.

BIO - 12. Worker Education Training Program

Prior to issuance of grading and/or construction permit and within 30 days prior to initiation of site disturbance and/or construction, all personnel associated with the project shall attend a worker education training program, conducted by a qualified biologist, to avoid or reduce impacts on sensitive biological resources (i.e., San Joaquin kit fox). At a minimum, as the program relates to the kit fox, the training shall include the kit fox's life history, all mitigation measures specified by the City, as well as any related biological report(s) prepared for the project. The applicant shall notify the City shortly prior to this meeting. A kit fox fact sheet shall also be developed prior to the training program, and distributed at the training program to all contractors, employers and other personnel involved with the construction of the project.

BIO - 13. Kit Fox Entrapment Avoidance

During the site-disturbance and/or construction phase, to prevent entrapment of the San Joaquin kit fox, all excavations, steep-walled holes and trenches in excess of two feet in depth shall be covered at the close of each working day by plywood or similar materials or provided with one or more escape ramps constructed of earth fill or wooden planks. Trenches shall also be inspected for entrapped kit fox each morning prior to onset of field activities and immediately prior to covering with plywood at the end of each working day. Before such holes or trenches are filled, they shall be thoroughly inspected for entrapped kit fox. Any kit fox so discovered shall be allowed to escape before field activities resume or removed from the trench or hole by a qualified biologist and allowed to escape unimpeded.
In addition, during the site-disturbance and/or construction phase, any pipes, culverts, or similar structures with a diameter of four inches or greater, stored overnight at the project site shall be thoroughly inspected for trapped San Joaquin kit foxes before the subject pipe is subsequently buried, capped, or otherwise used or moved in any way. If during the construction phase a kit fox is discovered inside a pipe, that section of pipe will not be moved. If necessary, the pipe may be moved only once to remove it from the path of activity, until the kit fox has escaped.

BIO - 14. Site Inspections

During the site-disturbance and/or construction phase, any pipes, culverts, or similar structures with a diameter of four inches or greater, stored overnight at the project site shall be thoroughly inspected for trapped San Joaquin kit foxes before the subject pipe is subsequently buried, capped, or otherwise used or moved in any way. If during the construction phase a kit fox is discovered inside a pipe, that section of pipe will not be moved. If necessary, the pipe may be moved only once to remove it from the path of activity, until the kit fox has escaped.

BIO - 15. Kit Fox Trash Removal Procedures

During the site-disturbance and/or construction phase, all food-related trash items such as wrappers, cans, bottles, and food scraps shall be disposed of only in closed containers. These containers shall be regularly removed from the site. Food items may attract San Joaquin kit foxes onto the project site, consequently exposing such animals to increased risk of injury or mortality. No deliberate feeding of wildlife shall be allowed.

BIO - 16. Pesticide and Herbicide Minimization Procedures

Prior to, during and after the site-disturbance and/or construction phase, use of pesticides or herbicides shall be in compliance with all local, State and Federal regulations. This is necessary to minimize the probability of primary or secondary poisoning of endangered species utilizing adjacent habitats, and the depletion of prey upon which San Joaquin kit foxes depend.

BIO - 17. Kit Fox Mortality Procedures

During the site-disturbance and/or construction phase, any contractor or employee that inadvertently kills or injures a San Joaquin kit fox or who finds any such animal either dead, injured, or entrapped shall be required to report the incident immediately to the City. In the event that any observations are made of injured or dead kit fox, the applicant shall immediately notify the USFWS and CDFW by telephone. In addition, formal notification shall be provided in writing within three working days of the finding of any such animal(s). Notification shall include the date, time, location and circumstances of the incident. Any threatened or endangered species found dead or injured shall be turned over immediately to CDFW for care, analysis, or disposition.

BIO - 18. Permanent Trail Signs

Prior to final acceptance of the trail, permanent trail signs shall be installed.

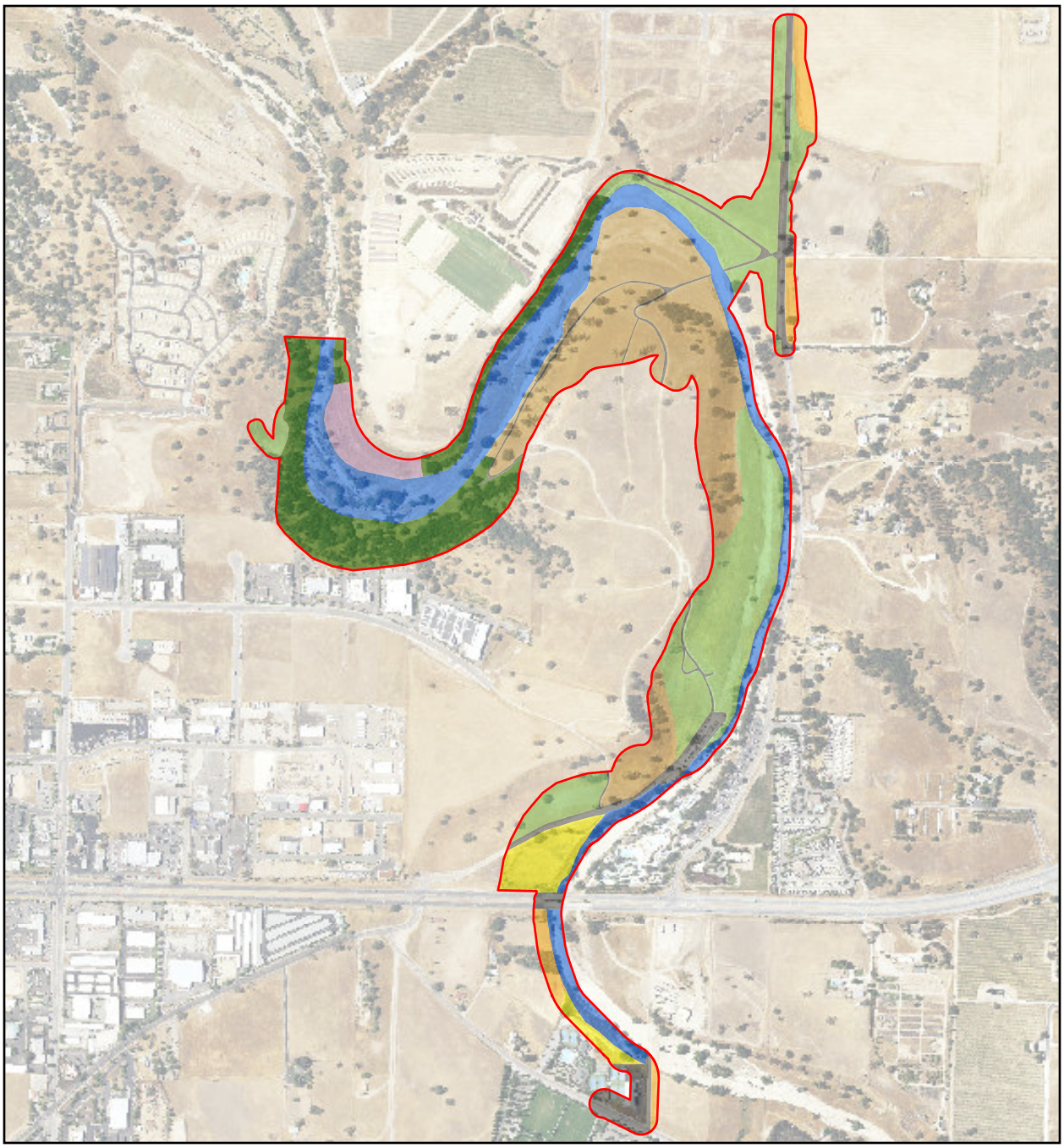
The applicant shall submit a statement from a California Registered Engineer, or licensed surveyor that all permanent trail signs are shown on grading, construction, or improvement plans. The signs must be corrosion resistant, a minimum of 6" x 9"in size, on posts not less than three (3) feet in height from the ground surface, and must state the following:

"Sensitive Environmental Resources"
Entry Beyond this Point is Prohibited

Information: Contact City of Paso Robles [insert QR code with details on sign]

Conclusion: Less than significant impact with mitigations incorporated.

Figure 3-2. Biological Resources



Legend

- Study Area (169.1 acres)
- Annual Grassland (40.7 acres)
- Anthropogenic (12.7 acres)
- Cropland (5.2 acres)
- Oak Savanna (40.9 acres)
- Oak Woodland (24.5 acres)
- Riparian (34.3 acres)
- Upland Forbs (4.3 acres)
- Yellow-Star Thistle (6.6 acres)

N

0 500 1,000 1,500 Feet

Huer Huero Bridge and Roundabout
Map Center: 120.64685°W 35.65098°N
Paso Robles, San Luis Obispo County

Imagery Source: USDA NAIP, 07/14/2018

3.5 CULTURAL RESOURCES

Would the project:	Potentially Significant Issues	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a historic resource pursuant to Section 15064.5?				X
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?		X		
c) Disturb any human remains, including those interred outside of formal cemeteries?		X		

Setting

An historic, architectural, archaeological, or cultural resource under CEQA is considered "historically significant" if it is eligible for designation as a California Historical Landmark or a California Point of Historic Interest or is eligible for listing in the California Register of Historical Resources (CRHR). Although they are related, each designation has slightly different criteria. The four criteria for listing on the California Register of Historical Resources are as follows:

1. Associated with 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.
2. Associated with the lives of persons important to local, California or national history.
3. 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.
4. Has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California or the nation.

Resources listed in National Register of Historic Places or as California Historical Landmarks or Points of Historical Interest are also listed in the California Register.

If an archaeological site is not considered a significant resource under the criteria of the California Register of Historical Resources, it may still meet the definition of a "unique archaeological resource" under CEQA and should be treated as significant. A unique archaeological resource is defined as an archaeological artifact, object, or site about which it can be clearly demonstrated that there is a high probability that it meets any of the following criteria:

1. Contains information needed to answer important scientific research questions, with a demonstrable public interest in that information.
2. Has a special and particular quality such as being the oldest or best available example of its type.
3. Is directly associated with a scientifically recognized important prehistoric or historic event or person.

Archaeological resources that do not meet any of the criteria of the CRHR, nor qualify as a "unique archaeological resource" under CEQA, are viewed as not significant. Under CEQA, "A non-unique archaeological resource need be given no further consideration, other than the simple recording of its existence by the lead agency if it so elects."

Tribal Consultation. In July 2015, the legislature added new requirements to the CEQA process regarding tribal cultural resources pursuant to Assembly Bill 52 (Gatto, 2014). By including tribal consultation and evaluation of cultural resources early in the CEQA process, the legislature intended to ensure that local and Tribal governments, public agencies, and project proponents would have information available, early in the project planning process, to identify and address potential adverse impacts to tribal cultural resources. By taking this proactive approach, the legislature also intended to reduce the potential for delay and conflicts in the environmental review process.

The Public Resources Code now establishes that "[a] project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment." (Pub. Resources Code, § 21084.2.) To help determine whether a project may have such an effect, the Public Resources Code requires a lead agency to consult with any California Native American tribe that requests consultation and is traditionally and culturally affiliated with the geographic area of a proposed project. That consultation must take place prior to the determination of whether a negative declaration, mitigated negative declaration, or environmental impact report is required for a project. (Pub. Resources Code, § 21080.3.1.) If a lead agency determines that a project may cause a substantial adverse change to tribal cultural resources, the lead agency must consider measures to mitigate that impact. Public Resources Code §20184.3 (b)(2).

The City of Paso Robles Historic Preservation Ordinance states that a building, structure, object or site may be designated as a Historic Landmark if it possesses sufficient character-defining features, integrity of location, design, setting, materials, workmanship, feeling or association and meets at least of the following criteria:

- It reflects special elements of the City's historical, archeological, cultural, social, economic, aesthetic, engineering or architectural development;
- It is identified with persons or events significant in local, state or national history;
- It embodies distinctive characteristics of a style, type, period or method of construction, or it is a valuable example of the use of indigenous materials or craftsmanship; or whether the building or structure represents an established and familiar visual feature of a neighborhood or community of the city; or
- It has yielded, or has the potential to yield, information important to the history or prehistory of Paso Robles, California or the nation.

Additionally, the City of Paso Robles Conservation Element (2003) contains goals, policies and action items to ensure the preservation and protection of cultural and archaeological resources:

GOAL C-6: Cultural Resources. Strive to preserve/protect important historic and archeological resources.

POLICY C-6B: Archaeological Resources: Strive to preserve/protect "unique archaeological resources" as defined by the California Environmental Quality Act (CEQA).

Action Item 1. Require the preparation of archaeological studies and/or preliminary evaluation reports for new developments that are subject to CEQA, and the site could potentially contain a "unique archaeological resource." Incorporate mitigation measures identified by such studies into the development.

Regional Setting

Archaeological evidence indicates that San Luis Obispo County was occupied as early as 9000 years ago, as indicated by radiocarbon dates from excavations at Diablo Canyon (Greenwood 1972), Edna Valley (Fitzgerald 2000), Cambria (Gibson 1979) and Paso Robles (Stevens et al. 2004). Because of the relatively small amount of archaeological excavation work that has occurred in the interior central coast ranges, the cultural history of this

region has until quite recently been placed within the sequence defined for the Santa Barbara region, where far more archaeological investigations had taken place.

The first regional chronology was proposed by D.B. Rogers (1929) and was based on his excavation of coastal sites around Santa Barbara. This three-part sequence of Early Oak Grove or Millingstone Culture, Intermediate or Hunting People and a late Canaliño Culture is still considered generally valid in terms of broad cultural patterns (Fitzgerald and Jones 1998). Researchers on the Central Coast have continued to refine the chronological framework and several alternative schemes have been proposed, primarily based on sites in the Central Valley, Central Coast and Channel Islands (cf. Moratto 1984: 125; King 1990; Erlandson and Jones 2002; Jones et al. 2007). The following chronology for the San Luis Obispo area builds on this work and incorporates extensive investigations carried out on the Pecho Coast, south of San Luis Obispo (Jones and Codding 2019). All dates are radiocarbon calibrated dates:

Paleoindian	10,000 BC - 8350 BC
Millingstone/ Lower Archaic Early	8350 BC - 3500 BC
Early	3500 BC - 600 BC
Middle	600 BC - AD1000
Middle/Late Transition	AD1000 - AD 1230
Late	AD 1230 - AD 1769
Mission Period	AD 1769 - AD 1830

These periods are based upon shifts in technology that relate to the type and variety of foods consumed, methods of procurement, and social structure. The earliest periods were a time of hunting and gathering, with an emphasis on seed collecting and processing. The tool kit for these periods shows an emphasis on milling equipment and crude cores yielding flaked stone tools. An increased reliance on fishing (evidenced by fishhooks), and on acorns as a dietary staple (mortars and pestles), was indicated later by the addition of new tools.

At the time of European contact, this region of Paso Robles was occupied by the Salinan of the Hokan linguistic group (Mason 1918, Greenwood 1978). The Salinan were bordered by the Esselen and Costanoan to the north the Chumash to the south and the Tulares to the east (Kroeber 1925). The exact boundaries of these groups have not been well established and is the subject of continuing research on the part of ethnohistorians, archaeologists, and some descendants of these groups (Gibson 1983). Unfortunately, relatively little of substance is known about Salinan culture because of the early influence of the missions and the remoteness of their territory. Their traditional lifeways were altered early on and few people outside of the mission system were present to record what remained after secularization (Mason 1912). The inadvertent introduction of European diseases, the consequent high mortality rate, and the pressures of overwhelming social change decimated the population. By 1805, most native villages had been abandoned and the populace had either fled or moved into the mission system (Gibson 1983). The natives who had survived the Spanish colonization period, went on to build and staff the ranchos of the Mexican and American periods that followed. By the beginning of the 20th Century, the Salinan had been integrated into American society (King 1984).

The City of Paso Robles was formally incorporated in 1889. The City's early development is closely associated with its connection to the missions and location along El Camino Real, the artesian hot springs, tourism, ranching, and agricultural activity (El Paso de Robles Historical Society 2020). Later development was driven by the completion of U.S. Highway 101 (U.S. 101) and the establishment of the nearby military base at Camp Roberts. Paso Robles' architectural heritage includes resources from several periods of the City's development.

Evaluation

A total of 40 previous cultural resource studies have been conducted within a one-mile radius of the project area. (Anastasio 2013; Conway 2001, 2006, 2008, 2015; Dills 1975, 1990a, 1990b; Farrell 1999, 2007; Gibson 1988, 2006, 2010; Glover et al. 1999; Gross and Bowen 2010; Haas et al. 2015; Hoover 1985, 1988; Laurie and Pulcheon 2013; Letter and Letter 2018; Lober and Hannahs 2011; Maki 2000; PAR Environmental 1992; Parker, B. 1995, 2000; Parker, J. 1999, 2006; Singer 1987, 1996, 1997, 1998a, 1998b, 2000, 2004, 2005a, 2005b; Singer and Atwood 1988; Smith 1979; Spanne 1977; Waldron 1985). Twelve of these investigations took place at least partially within the current project area.

A light scattering of historic debris within the Project study area was noted by Singer (1996) and also during the fieldwork for the nearby Wisteria project:

"Sparse historical archaeological debris (e.g., glass, ceramic, and various ferrous metals) was observed in very limited quantities within the project area. These materials are likely associated with the aforementioned historic-era structures visible on the 1948 Paso Robles 7.5-minute USGS quadrangle and are still present on the 1978 version.... The buildings are no longer present. The highly diffuse nature and low quantities of historic materials are likely the result of the demolition and removal of the structures. Due to the disturbed nature and lack of concentrated deposits/scatters, these materials are not considered a historical archaeological site and do not warrant formal recordation; they are given no further consideration in the report due to their lack of potential to qualify as historical or unique archaeological resources under CEQA." (Laurie and Pulcheon 2013)

Additionally, four archaeological sites or isolated artifacts have been identified within the one-mile study area radius, three of these are within the project area:

- Resource 40-038329 is an isolated cream colored Monterey chert leaf-shaped projectile point that was found within the project area during a survey for a previously proposed development (Laurie and Pulcheon 2013).
- Site CA-SLO-2826 is located on the flat overlooking Huer Huero Creek to the east. It is a low density lithic (stone) debitage and tool scatter about 24 by 40 meters. The artifacts are of locally available Monterey chert. When recorded in 2013, nine primary flakes, eight secondary flakes, one core and a single early stage biface fragment were seen.
- CA-SLO-2827 is another low density lithic scatter measuring 20 by 45 meters, located about 50 meters south of SLO-2826. Here, 15 primary flakes, 12 secondary flakes, three core fragments and a contracting-stemmed projectile point were seen. A shaped sandstone mano (handstone) was also found.

No subsurface investigations have been undertaken at either of these locations. Although in the project study area, these sites will be avoided and will not be impacted by any construction.

For the proposed Project, a number of site evaluations in the field were conducted in the winter, spring and summer of 2020. A series of transects spaced at approximately one meter apart were walked over a period of several days. Mineral soil visibility was variable, ranging from 10% to 90%. Bare areas of ground and rodent burrows were carefully inspected for the presence of cultural materials. The survey focused on the entire proposed footprint. No prehistoric cultural materials, such as ground stone or chipped stone tools, or shell or bone ecofacts were observed within the project area. As discussed above, occasional historic debris was encountered.

During the field surveys, no previously unknown archaeological sites were found. Two previously identified sites, CA-SLO-2826 and CA-SLO-2827, were re-located and plotted using GIS. Further cultural resources study such as

Phase II evaluative test excavations would be required to formally evaluate these resources for their eligibility for inclusion in the CRHR. Through a process of consultation with the project designers, these sites are no longer in the impact zone. The recreational trail will run in the vicinity of, but at the same time avoiding the artifact scatters. Therefore, excavation of the sites is not deemed necessary at this time. Due to the proximity of these sites, however, it is recommended that archaeological monitoring be required during trail construction within 100 feet of the recorded site boundaries. The monitoring should be guided by a Cultural Resource Monitoring Plan written by a qualified archaeologist and approved by the City.

Per the requirements of the City of El Paso de Robles Conservation Element, CEQA, and AB-52 (see Setting), letters were sent to Native American tribes, organizations and individuals. The list of recipients was provided by the Native American Heritage Commission (NAHC) and is comprised of those groups and individuals thought to have a cultural interest in this area, notifying them of the proposed project, inviting them to consult, and requesting information or concerns regarding the proposed project. Additionally, a Sacred Lands Search was conducted at the NAHC. There have been four responses to the letters written.

The following mitigation measures are included to ensure protection of Cultural Resources:

CR – 1. **Training.** Prior to any ground-disturbing activities, the field archaeologist shall conduct awareness training for the field crew and supervisors. This will include a description of the types of artifacts that may be encountered and a discussion of why these are of importance to the Native American community, as well as for an understanding of local history. Pertinent laws and regulations protecting archaeological sites will be briefly reviewed and any archaeologists monitoring methods will be explained.

CR – 2. **Monitoring.** All trail construction within 100 feet of the recorded site boundaries of CA-SLO-2826 and CA-SLO-2827 shall be monitored by a qualified archaeologist. The monitoring shall be guided by a Cultural Resource Monitoring Plan written by a qualified archaeologist and approved by the City.

CR – 3. Halt Work. In the event that cultural resources, such as prehistoric or historic artifacts, bone, or other cultural materials are encountered during project activities, the City Community Development Director shall be notified, and all work shall be halted within 50 feet of the discovery until a qualified archaeologist can visit the site of discovery and assess the significance of the resource. Project personnel shall not collect or move any archaeological materials or human remains and associated materials. Prehistoric materials can include flaked-stone tools (projectile points, knives, choppers); obsidian, chert, basalt, or quartzite tool-making debris; bone tools; culturally darkened (midden) soil (often containing fire-affected rock, ash and charcoal, shellfish remains, bones); and ground stone milling equipment. The archaeologist shall assess the situation, consult with agencies and tribal representatives as appropriate, and make recommendations regarding the treatment of the discovery. Upon completion of the assessment, the archaeologist shall prepare a report documenting the methods and results of the investigation and provide recommendations for the treatment of the archaeological materials discovered. If the resources are found to be significant, they shall be avoided during all future project activities.

Conclusion: Less than significant impact with mitigation incorporated.

3.6 ENERGY

Would the project:	Potentially Significant Issues	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation?				X
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?				X

Setting

Energy policy is governed by federal, state, and local policies. The U.S. Energy Policy Act of 2005 intends to reduce reliance on non-renewable energy resources and provide incentives to reduce current demand on these resources. For example, under this Act, consumers and businesses can obtain federal tax credits for purchasing fuel-efficient appliances and products (including hybrid vehicles), building energy-efficient buildings, and improving the energy efficiency of commercial buildings. Additionally, existing federal laws governing fuel efficiency standards for on-road motor vehicles are continuously evolving.

In 2002, the California Legislature passed Senate Bill 1389, which required the California Energy Commission (CEC) to develop an integrated energy plan every two years for electricity, natural gas, and transportation fuels. The plan calls for the State to assist in the transformation of the transportation system to improve air quality, reduce congestion, and increase the efficient use of fuel supplies with the least environmental and energy costs. The CEC adopted the 2017 Integrated Energy Policy Report, which provides the results of the CEC's assessments of a variety of energy issues facing California related to climate, energy, air quality, and other environmental goals. The 2017 Integrated Energy Policy Report covers a broad range of topics, including resource planning, distributed energy resources, energy efficiency, transportation electrification, barriers faced by disadvantaged communities, demand response, transmission and landscape-scale planning, renewable and natural gas, and climate adaptation and resiliency.

The City of Paso Robles General Plan Conservation Element includes one goal related to energy conservation:

GOAL C-7: Energy Conservation, Encourage the conservation of energy resources.

POLICY C-7A Investigate and implement as feasible, energy conservation measures."

Additionally, the City of Paso Robles' Climate Action Plan Measure E-5: Energy Efficient Public Realm Lighting Requirements states "require the use of high efficiency lights in parking lots, streets, and other public areas."

Evaluation

The proposed Project will implement the City's "Parallel Routes" plan, which is designed to redirect existing traffic to reduce vehicle miles traveled and provide improved trail facilities to promote multimodal, non-vehicular transportation. The traffic analysis performed for the Project (Huer Huero Creek Bridge Vehicle Miles Traveled, Central Coast Transportation Consulting, 5/11/2020) concluded that the proposed improvements is expected to result in a reduction of 391 vehicle miles traveled annually by providing a more direct route. Particularly as adoption

of electric vehicles increases throughout the area, this reduction in vehicle miles traveled will result in additional energy savings.

Energy use associated with Project activities will be minimal. The proposed project will introduce new roadway, bridge and street lighting to the realigned Airport Road. Street lights will be required to comply with the City's requirements for energy efficiency. Project activities will not result in a potentially significant adverse impact on energy use, nor will the Project conflict with or obstruct any state or local plan for renewable energy or energy efficiency.

Conclusion: No impact.

3.7 GEOLOGY AND SOILS

Would the project:	Potentially Significant Issues	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Directly or indirectly cause potential substantial adverse effects, including risk of loss, injury or death involving:				
i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area, or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.			X	
ii. Strong seismic ground shaking?		X		
iii. Seismic-related ground failure, including liquefaction?			X	
iv. Landslides?			X	
b) Result in substantial soil erosion or the loss of topsoil?		X		
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on or off-site landslides, lateral spreading, subsidence, liquefaction, or collapse?		X		
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?				X
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?				X
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?				X

Setting

The City of Paso Robles is located within a seismically active geological region. A number of geologic faults, including the Sur-Nacimiento, Rinconada, and San Andreas fault zones run generally northwest through the area. Regional faults are identified in the City's General Plan Safety Element (2014), as well as the County of San Luis Obispo's General Plan Safety Element (2014). Soil types vary throughout the City. Portions of the City of Paso Robles are susceptible to seismic ground shaking, ground failure, liquefaction, and landslides.

The Project is located within the Salinas River watershed, approximately 2.5 to 3.2 miles southeast of the confluence of Huer Huero Creek and the Salinas River. The closest fault to the Project site is the Rinconada Fault, located approximately 3.5 miles southwest of the Project site. The surface geology in the Project vicinity is mapped as Quaternary-aged surficial sediments, described as alluvial gravel and sand of the valley areas and stream channels, as well as older surficial sediments described as terraces of dissected alluvial gravel and sand. Hillsides in the

Project vicinity are mapped as Pleistocene (and possibly late Pilocene age) sedimentary Paso Robles Formation, which also underlies the alluvial sediments in the valley areas.

Evaluation

The site region is within the broad boundary between the Pacific and North American tectonic plates. The majority of relative motion between the plates is accommodated by the right-lateral strike-slip San Andreas Fault zone, located approximately 20 miles northeast of the Project site. Lesser rates of plate-boundary deformation are accommodated by faults and folds in the coastal and offshore areas around the project site. Existing slopes on the Project site vary from approximately 3:1 to nearly flat.

The San Ysidro loam soils that underlie a small portion of the Project site have high shrink-swell potential (expansive potential). Design of the proposed Project would be consistent with and comply with infrastructure development regulations of the City and Caltrans for development in areas with expansive soil conditions. Implementation of such design features would ensure that the proposed Project is not impacted by expansive soils. As such, impacts would be less than significant, and no mitigation measures would be necessary.

Liquefaction is the loss of soil strength due to an increase in soil porewater pressure resulting from seismic ground shaking. Liquefaction typically occurs in loose to medium dense granular soil lying below the water table. The extent and severity of liquefaction is dependent upon the intensity and duration of the strong ground motion. Evaluation of liquefaction potential is needed to assess the impact of adverse subsurface conditions on structures during earthquakes, including increased lateral loads on piles and abutments and negative skin friction on piles due to settlement. Subsurface soil was found to be sufficiently dense and cohesive, therefore there is a low potential for liquefaction to impact the Project site.

Stormwater detention basins are planned in the vicinity of the roundabout. Infiltration of stormwater at the Project site is expected to be favorable; however, introducing stormwater infiltration to slope areas will increase the potential for slope instability and could damage improvements. Infiltration of stormwater should not be done adjacent to structures, near foundations, or above slopes.

Most of the multi-use, Class I trail will follow the banks of the dry Huer Huero Creek, which is underlain by alluvium. Existing slopes in the area of the trail vary from ten to sixty percent. No evidence of slope instability was observed during field reconnaissance. A portion of the trail will run along the slope of an area of existing fill, which may be prone to erosion or instability. There is potential for creek bank erosion to impact the trail. Periodic maintenance of the trail to repair any impacts associated with erosion will be necessary.

The following measures are required to mitigate adverse impacts to Geology:

GEO – 1. Clearing and Grubbing

Clearing and grubbing shall be performed to remove existing vegetation and objectionable material from improvement areas that will be graded, receive fill, or serve as borrow sources. Grubbing in these areas shall include removing stumps, roots and buried vegetation. Care shall be taken not to injure trees, plants or existing improvements outside clearing limits. Clearing shall not occur in oak tree protection zones or other exclusion areas. (See Biological Resources section.) Soil containing organics, unsuitable, loose, or disturbed material shall be removed prior to placing fill. Depressions left from removal of these materials shall be replaced with compacted fill.

GEO – 2. Grading

Grading shall be performed in general accordance with the Caltrans Standard Specifications (Caltrans 2018). Fill shall not contain organic or other deleterious material. On-site soil removed from excavations may be used for general embankment fill and noon-critical areas of construction. Excavated on-site material should be considered suitable for use as select material for road base, aggregate, pipe bedding/pipe zone, structure backfill, or paving.

GEO – 3. Slopes and Embankments

Fill and cut slopes may be designed to a ratio of 2:1 or flatter and constructed in accordance with Caltrans Standard Specifications. Alternatively, slopes may be designed to a ratio of 1.5:1 or flatter if reinforced with geotextiles or buttressed with rock slope protection and constructed in accordance with Caltrans Standard Specifications. Where embankments will be widened, new fill shall be keyed into the existing slope such that, at minimum, the outer six feet of the existing embankment is removed, per Caltrans Standard Specifications. Graded slopes shall be stabilized with erosion control measures as soon as practicable.

GEO – 4. Erosion

Newly graded slopes and fills will be vulnerable to erosion. Fill Slopes shall be treated with suitable vegetation, erosion control mats and other Erosion Control Best Management Practices in order to reduce the potential for erosion. Slopes shall be maintained and areas where gullies or erosion occurs shall be repaired promptly. Lined ditches, down drains and other conveyances shall be provided to convey water to slope bases. Concentrated flows of runoff shall not be allowed to flow over slopes. Energy dissipation devices shall be utilized at the outlet of drainage devices or concentrated runoff flows to reduce the potential for scour and erosion.

GEO – 5. Temporary Slopes and Shoring

Temporary slopes shall be braced or sloped according to the requirements of the Occupational Safety and Health Administration (OSHA). Slopes steeper than 1.5:1 shall be shored in accordance with OSHA requirements. Slopes below groundwater or having seepage or groundwater daylighting on the slope should not be considered stable and shall be appropriately shored or dewatered. The contractor shall submit an excavation and shoring plan, detailing shoring system and methods, for review by the geotechnical professional prior to Project mobilization. The contractor shall be responsible for job site safety and for reviewing the soil conditions encountered during construction.

GEO – 6. Trail Construction on Existing Fill Slope

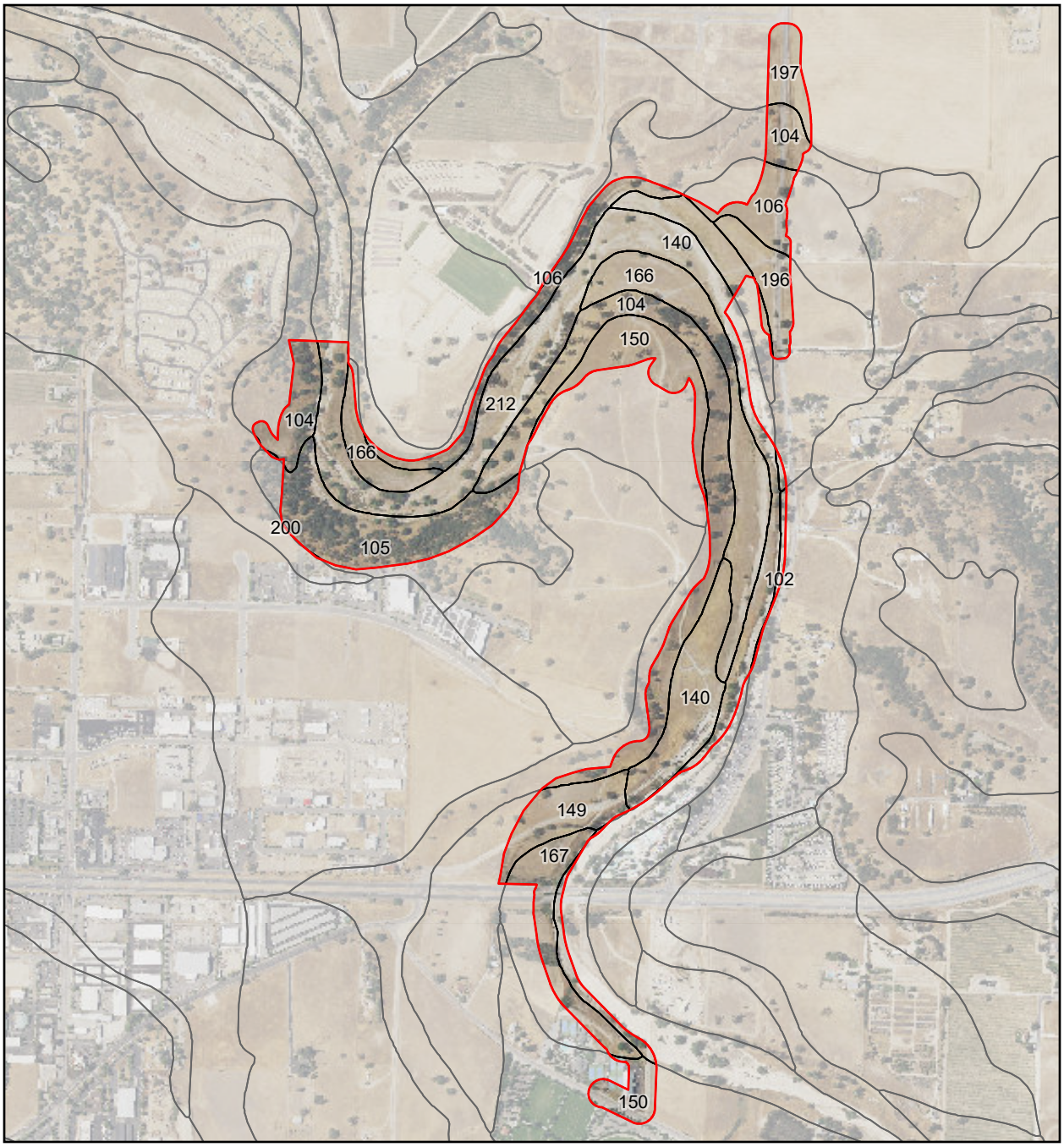
Prior to grading and construction of the multi-use Class I trail, the existing fill slopes, where present, shall be studied relative to slope stability. Once constructed, the trail shall be maintained in order to prevent slope erosion.

GEO – 7. Stormwater Infiltration

Infiltration of stormwater shall not be permitted adjacent to structures, near foundations, or immediately adjacent to areas above slopes.

Conclusion: Less than significant impact with mitigation incorporated.

Figure 3-3. USDA Soil Survey



Soil Type	Study Area
102 - Arbuckle-Positas complex, 9 to 15 percent slopes	<1%
104 - Arbuckle-Positas complex, 30 to 50 percent slopes	22%
105 - Arbuckle-Positas complex, 50 to 75 percent slopes	9%
106 - Arbuckle-San Ysidro complex, 2 to 9 percent slopes	2%
140 - Elder loam, 0 to 5 percent slopes, flooded	10%
149 - Hanford and Greenfield gravelly sandy loams, 0 to 2 percent	4%
150 - Hanford and Greenfield gravelly sandy loams, 2 to 9 percent	7%
166 - Metz loamy sand, 0 to 5 percent slopes	12%
167 - Metz-Tujunga complex, occasionally flooded, 0 to 5 percent	5%
196 - San Ysidro sandy loam, 2 to 9 percent slopes	3%
197 - San Ysidro loam, 0 to 2 percent slopes	2%
200 - Sesame sandy loam, 9 to 30 percent slopes	<1%
212 - Xerofluvents-Riverwash association	23%

Legend

Study Area (169.1 acres)

NRCS Soils

N

0 750 1,500 Feet

Huer Huero Bridge and Roundabout
Map Center: 120.64685°W 35.65098°N
Paso Robles, San Luis Obispo County

Source: USDA NRCS Soil Survey

3.8 GREENHOUSE GAS EMISSIONS

Would the project:	Potentially Significant Issues	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?			X	
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.			X	

Setting

Gases that absorb and re-emit infrared radiation in the atmosphere are called greenhouse gases (GHG). The gases widely seen as the principal contributors to human-induced climate change include carbon dioxide (CO_2), methane (CH_4), nitrous oxides (N_2O), fluorinated gases such as hydrofluorocarbons (HFCs) and perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6). Greenhouse Gas (GHG) emissions are naturally emitted into the atmosphere, but are also produced by human activity, and result in an increase in the earth's average surface temperature. The rise in global temperature is associated with long-term changes in precipitation, temperature, wind patterns, and other elements of the earth's climate system. These changes attributed to GHG emissions, particularly those emissions that result from the human production and use of fossil fuels.

The U.S. Supreme Court ruled in Massachusetts v. Environmental Protection Agency (2007) that CO_2 and other GHGs are pollutants under the federal Clean Air Act, which the USEPA must regulate if it determines they pose a danger to public health or welfare. In 2009, the USEPA issued a proposed finding that GHGs contribute to air pollution that may endanger public health or welfare. The finding stated that high atmospheric levels of GHGs "are the unambiguous result of human emissions and are very likely the cause of the observed increase in average temperatures and other climatic changes." The USEPA further found that "atmospheric concentrations of greenhouse gases endanger public health and welfare within the meaning of Section 202 of the Clean Air Act." The final findings were published in the Federal Register on December 15, 2009.

The passage of AB32, the California Global Warming Solutions Act (2006), recognized the need to reduce GHG emissions and set the greenhouse gas emissions reduction goal for the State of California into law. The law required that by 2020, State emissions must be reduced to 1990 levels. This was to be accomplished by reducing greenhouse gas emissions from significant sources via regulation, market mechanisms, and other actions. Subsequent legislation (e.g., SB97-Greenhouse Gas Emissions bill) directed the California Air Resources Board (CARB) to develop statewide thresholds. In 2008, CARB approved a *Climate Change Scoping Plan* as required by AB 32, which proposes a "comprehensive set of actions designed to reduce overall carbon GHG emissions in California, improve our environment, reduce our dependence on oil, diversify our energy sources, save energy, create new jobs, and enhance public health." Additional legislation, such as Senate Bill 375 (the Sustainable Communities and Climate Protection Act of 2008) has continued to develop a regulatory framework for addressing Greenhouse Gas Emissions. In 2018, the governor issued Executive Order (EO) B-55-18, which established a new statewide goal of achieving carbon neutrality by 2045 and maintaining net negative emissions thereafter. This goal is in addition to the existing statewide GHG reduction targets established by SB 375, SB 32, SB 1383, and SB 100.

In 2012, the San Luis Obispo County Air Pollution Control District (APCD) approved thresholds for GHG emission impacts, and these thresholds have been incorporated the APCD's CEQA Air Quality Handbook. APCD determined that a tiered process for residential and commercial land use projects was the most appropriate and effective approach for assessing the GHG emission impacts. The tiered approach includes three methods, any of which can be used for any given project:

1. Qualitative GHG Reduction Strategies (e.g., Climate Action Plans): A qualitative threshold that is consistent with AB 32 Scoping Plan measures and goals; or,
2. Bright-Line Threshold: Numerical value to determine the significance of a project's annual GHG emissions; or,
3. Efficiency-Based Threshold: Assesses the GHG impacts of a project on an emissions per capita basis.

In November 2017, CARB issued the Climate Change Scoping Plan, which identified new strategies to accomplish the State's climate goals in both the near and long term. The Scoping Plan incorporates existing and new commitments to reduce emissions from all sectors of the California economy.

In January 2021, the APCD released Interim CEQA Greenhouse Gas Guidance for the San Luis Obispo County Air Pollution Control District's 2012 CEQA Air Quality Handbook. This document further clarified thresholds of significance for GHG emissions. This document was prompted, in part, by the California Supreme Court's ruling in Center for Biological Diversity vs. California Department of Fish and Wildlife (Newhall Ranch), which determined that AB 32-based thresholds derived from a gap analysis are invalid for projects with a planning horizon beyond 2020. This ruling invalidated the Bright-Line threshold, leading the SLO APCD to release additional guidance.

It should be noted that projects that generate less than the above-mentioned thresholds will also participate in emission reductions because air emissions, including GHGs, are under the purview of the California Air Resources Board (and other regulatory agencies) and will be "regulated" either by CARB, the Federal Government, or other entities. For example, new vehicles will be subject to increased fuel economy standards and emission reductions, large and small appliances will be subject to more strict emissions standards, and energy delivered to consumers will increasingly come from renewable sources. Other programs that are intended to reduce the overall GHG emissions include Low Carbon Fuel Standards, Renewable Portfolio standards and the Clean Car standards. As a result, even the emissions that result from projects that produce fewer emissions than the threshold will be subject to emission reductions.

In 2013, the City of Paso Robles adopted its Climate Action Plan for reducing GHG emissions. The Climate Action Plan is a strategic document, prepared pursuant to AB 32. The Climate Action Plan outlines the City's approach to achieving its GHG reduction target of 15 percent below 2005 levels by 2020The City's GHG reduction target strategies include increased energy efficiency in public and private development, installation of photovoltaic systems and solar hot water heaters, solid waste diversion from landfills to recycling programs, plumbing retrofits, turf removal and other water conservation measures, replacement of hydrocarbon-based vehicles with zero and low-emission fleet vehicles, expanded transit services, and bicycle/pedestrian network improvements which promote non-vehicular travel.

Under CEQA, an individual project's GHG emissions will generally not result in direct significant impacts. This is because the climate change issue is global in nature. However, an individual project could be found to contribute to a potentially significant cumulative impact. Projects that have GHG emissions above the noted thresholds may be considered cumulatively considerable and require mitigation.

Evaluation

The proposed Project implements a portion of the City's "Parallel Routes" program, which was developed in order to reduce traffic congestion associated at-grade crossings of Highway 46, as well as vehicle miles traveled (VMT). The proposed Huer Huero bridge, roundabout and trail project allows motorized and non-motorized commuters and visitors to use roadway and trail elements to safely and efficiently bypass SR 46E. This proposed Project does not conflict with any state, regional or local plans or policies directed toward reducing GHG emissions.

Construction activities, such as site preparation, site grading, on-site construction vehicles, equipment hauling materials to and from the site, and motor vehicles transporting the construction crew would produce combustion emissions from various sources. During construction of the proposed Project, GHGs would be emitted through the transport of workers to the site and the use of construction equipment, which burn fossil fuels. Potential impacts would be limited to the duration of construction activities. Therefore, Project construction impacts associated with GHG emissions would be less than significant and mitigation measures would not be required.

Once completed, the proposed Project would not generate GHG emissions above and beyond those being generated under existing conditions, since no additional vehicle trips would be generated from Project implementation. As such, GHG emissions generated by operation of the proposed Project would be less than significant and mitigation measures would not be required.

Using the GHG threshold information described above, the proposed Project's potential direct and cumulative GHG emissions are found to be less than significant and less than a cumulatively considerable contribution to GHG emissions. Section 15064(h)(2) of the CEQA Guidelines provide guidance on how to evaluate cumulative impacts. If it is shown that an incremental contribution to a cumulative impact, such as global climate change, is not 'cumulatively considerable', no mitigation is required. Because this Project's emissions fall under the threshold, no mitigation is required. Additionally, the Project will provide a new multimodal trail segment, as well as a roundabout that will reduce vehicle miles traveled. Therefore, the Project is anticipated to positively contribute to meeting the City's overall GHG emissions reduction targets.

Conclusion: Less than significant impact.

3.9 HAZARDS AND HAZARDOUS MATERIALS

Would the project:	Potentially Significant Issues	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?		X		
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?		X		
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?				X
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?				X
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?			X	
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?				X
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?				X

Setting

Hazardous materials include chemicals that could potentially cause harm during an accidental release and are defined as being toxic, corrosive, flammable, reactive, an irritant, or a strong sensitizer. Hazardous substances include all chemicals regulated under the U.S. Department of Transportation's "hazardous materials" regulations and the U.S. Environmental Protection Agency's "hazardous waste" regulations, including the Federal Toxic Substances Control Act (1976).

Hazardous wastes require special handling and disposal because of their potential to damage public health and the environment. The severity of any such exposure is dependent upon the type, amount, and characteristics of the hazardous material involved; the time, location, and nature of the event; and the sensitivity of the individual or environment affected. The California Environmental Protection Agency (CAEPA) Department of Toxic Substances Control regulates hazardous waste handling in California, along with the California Division of Occupational Safety

and Health Administration (CAL-OSHA). The California Department of Water Resources Regional Water Control Board regulates water quality (see next section).

The City of Paso Robles General Plan Safety Element (SE) and associated Local Hazard Mitigation Plan (LHMP) address hazards posing risks to City infrastructure and residents, including dam failure inundation, drought, earthquake, expansive soils, extreme heat, flood, freeze/extreme cold, hazardous materials, land subsistence, landslide, and wildfire. The City of Paso Robles Fire Department issues and monitors Hazardous Waste Generator Permits. Several policies in the Safety Element pertain directly to hazards:

GOAL S-1: Minimize exposure to natural and manmade hazards.

POLICY S-1E: Hazardous Materials. The City shall comply with Government code requirements regarding the use, storage, and transportation of hazardous materials.

Action Item 1. The City shall continue to require applicant declarations pursuant to Government code section 65.820.2.

Action Item 2. The City shall provide required notices to the County Environmental Health Department.

Action Item 3. Continue implementation of existing programs; add new ones as required.

POLICY S-1G: Maintain the structural and operational integrity of essential public facilities during flooding by taking safe guards such as locating new facilities outside of flood zones or areas subject to localized flooding, and audit existing facilities in these areas to determine if building upgrades should be considered to reduce the potential for future flooding.

Evaluation

Project construction would involve the incidental transport and use of common hazardous materials, such as oils, lubricants, and fuels, as well as specific materials for building construction, such as concrete and asphalt. The incidental transport and use of these common hazardous materials during construction may present a temporary potential hazard to the public and the environment. Exposure to hazards may occur from the improper handling, use, or storage of hazardous materials or a transportation accident. Such transport and use would be subject to state and local regulations, which would reduce potential risk of hazard to the public or the environment.

Naturally occurring asbestos (NOA) is associated with serpentine rock formations in San Luis Obispo County. NOA is released into the air when broken or crushed and is considered a toxic contaminant that may result in lung cancer and other health hazards. There are no known serpentine rocks or materials present at the Project site, and the site is not in an area mapped to have NOA materials (SLO APCD 2020). There is low potential for NOA to be encountered during Project construction, and no mitigation is necessary.

Although the Project is located within the Paso Robles Municipal Airport Planning Area within two miles of the Airport, no structures or use areas are proposed that would subject people to a safety hazard or excessive noise, and no mitigation is necessary.

The following measure is required to mitigate adverse impacts involving Hazards and Hazardous Materials:

HAZ – 1. **Spill Prevention and Countermeasure Plan**
The contractor shall prepare a Spill Prevention and Countermeasure Plan (SPCP). The SPCP must be submitted to the City of Paso Robles (City) for review and approval prior to the issuance of a grading permit. The SPCP shall include information on the nature of all hazardous materials that would be used on site. The SPCP shall also include information regarding the proper handling of hazardous materials and cleanup procedures in the event of an accidental release. The phone number of the agency overseeing hazardous materials and toxic cleanup shall be provided in the SPCP.

Conclusion: Less than significant impact with mitigation incorporated.

3.10 HYDROLOGY AND WATER QUALITY

Would the project:	Potentially Significant Issues	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?		X		
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?				X
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:				
i. Result in substantial erosion or siltation on- or offsite; ii. Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite; iii. Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or iv. Impede or redirect flood flows?		X		X X X
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?			X	
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?		X		

Setting

Federal, state, and local agencies regulate surface and groundwater resources. Water quality regulations are designed to limit the discharge of pollutants into the environment, maintain surface water and groundwater quality, protect fish and wildlife and their habitats, and protect beneficial uses. Beneficial uses include public water supply, fish and wildlife, recreation, agricultural and industrial use.

Surface Water Resources: Water quality depends primarily on the hydrologic characteristics of the drainage basin, the makeup of the soils in the watershed, and source of pollution in the watershed. The quality of stormwater varies in the region depending on climatic and land use conditions. Urban and industrial runoff generally contains more pollutants than rural runoff. Water quality characteristics typically measured include pH, total dissolved solids, levels of herbicides and pesticides, sediment levels, vehicle-related oils, and chemicals such as chloride, sulfate, and nitrate. Water quality objectives are established based on the designated beneficial uses for a particular surface water or groundwater basin.

The Federal Clean Water Act (CWA, 1972) establishes the framework for regulating discharges of pollutants into waters of the United States, thereby regulating quality standards for surface waters. The purpose of the CWA is to restore and maintain the chemical, physical, and biological integrity of all "waters of the U.S.", as defined by the U.S. Environmental Protection Agency (USEPA) and interpreted by the U.S. Supreme Court. The Court most recently interpreted the term ''waters of the United States'' in *Rapanos v. United States* in 2006. A four-Justice plurality stated that ''waters of the United States'' ''include [ ] only those relatively permanent, standing or continuously flowing bodies of water 'forming geographic features' that are described in ordinary parlance as 'streams[,] . . . oceans, rivers, [and] lakes,'" and ''wetlands with a continuous surface connection'' to a ''relatively permanent body of water connected to traditional interstate navigable waters.'' Based on the U.S. District Court for the District of Arizona's August 30, 2021 order, which vacated the "Navigable Waters Protection Rule", the U.S. EPA and U.S. Army Corps of Engineers (USACE) are currently working to craft a durable definition of "waters of the United States". In general practice, "waters of the United States" may be characterized as a) seas and traditional navigable waters; b) perennial and intermittent tributaries that contribute surface water flow to such waters; c) certain lakes, ponds, and impoundments of jurisdictional waters; and d) wetlands adjacent to other jurisdictional waters.

The U.S. Army Corps of Engineers (USACE) authorizes and regulates various types of development projects taking place in waters of the U.S. Under Section 404 of the CWA, USACE has the authority to issue general permits for actions that have minimal individual and cumulative adverse environmental effects on jurisdictional waters, and individual permits for activities that may have more significant environmental effects. A nationwide permit is a general permit that authorizes activities across the country and regulate a wide range of activities, including residential developments, utility lines, road crossings, mining activities, wetland and stream restoration activities, and commercial shellfish aquaculture activities.

The California Department of Water Resources Regional Water Quality Control Board (CWQCB) regulates impacts to water quality in federal waters of the U.S. under Section 401 of the Clean Water Act, as well as isolated (non-federal jurisdictional) waters regulated under the state Porter Cologne Act (1969). "Waters of the State" are defined as any surface water or groundwater, including saline waters, within the boundaries of the state. Pursuant to Section 401 of the Clean Water Act, discharge of fill material into waters of the State not subject to the jurisdiction of the USACE may require authorization pursuant to the Porter Cologne Act through application for waste discharge requirements or through waiver of waste discharge requirements. The California State Water Resources Control Board regulates potential discharges associated with construction activities, such as ground clearing, grading, stockpiling and excavation through the National Pollutant Discharge Elimination System (NPDES).

The California Department of Fish and Wildlife (CDFW) also regulates impacts to water quality in watercourses throughout the state. Section 1602 of the California Fish and Game Code (CFGC) requires any person, state, or local governmental agency to provide advance written notification to CDFW prior to initiating any activity that would: 1) divert or obstruct the natural flow of, or substantially change or remove material from the bed, channel, or bank of any river, stream, or lake; or 2) result in the disposal or deposition of debris, waste, or other material into any river, stream, or lake. The state definition of "lakes, rivers, and streams" includes all rivers or streams that flow at least periodically or permanently through a well-defined bed or channel with banks that support fish or other aquatic life, and watercourses with surface or subsurface flows that support or have supported riparian vegetation.

The City of Paso Robles General Plan implements hydrology and water quality guidance through adopted General Plan policies and programs. These policies are found in the Land Use and Conservation Elements. The goals and policies from the existing General Plan relate to protecting water quality and managing stormwater. The Land Use Element contains the following policy and action item related to stormwater management:

POLICY LU-2K: Support environmental responsibility. Manage the natural landscape to preserve the natural beauty and rural identity of the community, which enhances ecological functions and maintains environmental and public health.

Action Item 1. Require new development, either on public or private property, to mitigate its share of impacts from storm water on the natural environment through implementation of LID storm water management features.

The City's Conservation Element contains the following policy and action item related to stormwater management:

POLICY C1-C: Storm Drainage. Provide storm drain systems that efficiently and safely mitigate flood risk, while effectively managing storm water through implementation of LID features, so that downstream run-off is limited to pre-development volumes and velocity before it is conveyed to the Salinas River, Huer Huero Creek, and their tributaries.

Action Item 1. Maintain and update the Storm Water Master Plan. Implement, as feasible, recommended actions and BMPs described in the Master Plan.

Action Item 2. Establish revised development standards as may be appropriate, that include, but are not limited to the following:

a. For large developments that feature substantial amounts of impervious surfaces, detain water flows to prevent overflow of waterways and inundation of developed areas.
b. Direct surface water runoff from developed areas to LID storm water features on the development site. The facilities should be designed to both mitigate flood flows while providing safe and efficient low-flow conveyance.
c. Maintain natural streams to provide, at minimum, flow capacity for 100-year storm conditions.
d. Conduct floodplain acquisition and promote groundwater recharge to preserve the floodway, protect riparian habitats and to enhance water resource, flood control projects and recharge programs to accommodate increased runoff from new development. These programs should be funded by developers, at rates proportional to the projected increase in runoff associated with their developments.

Additionally, the City has enrolled under the CWRCB Waste Discharge Requirements Program (Order No. 2013-0001-DWQ) and the NPDES General Permit (CAS000004). As required by this general permit, the City has adopted a Stormwater Control Ordinance which regulates the entry of pollutants and non-stormwater discharges into the City storm drain system. The requirements are set forth in Chapter 14.20 Storm Water Control, in the Paso Robles Municipal Code. The stormwater control ordinance contains a series of provisions to prohibit illicit discharges to the city storm drainage system, and to impose Best Management Practices (BMPs) for other discharges into the system. The provisions applicable to the project are summarized as follows:

- Construction activities must comply with the statewide general construction permit, which is applicable to construction sites of one acre or more.
- Any construction activity requiring a grading permit, regardless of size, must prepare and submit a site-specific erosion and sediment control plan.

- All new development must comply with the post-construction stormwater management requirements in Section V, design guidelines, of the city Public Works standard details and specifications. Those requirements reference the LID guidelines as developed by the Central Coast Regional Water Quality Control Board (RWQCB) or other performance standards that may supersede them.

These provisions facilitate compliance with applicable state and federal law and mitigate the potential water quality impacts from non-point source pollutants associated with development.

Groundwater Resources: The U.S. Environmental Protection Agency (USEPA) regulates groundwater quality primarily through the Safe Drinking Water Act (SDWA, 1996) and the National Primary Drinking Water Regulations (NPDWR). Under these regulations, the USEPA sets standards for drinking water quality and monitors the states, localities and water suppliers who implement those standards.

In 2014, California enacted the Sustainable Groundwater Management Act (SGMA), which established a statewide program to promote sustainable management of groundwater resources by local agencies. SGMA also established a process and timelines for local agencies to achieve sustainable groundwater management in basins designated as medium or high priority by the State Department of Water Resources (DWR). The Paso Robles Groundwater Basin has been designated as a high priority basin by the Department of Water Resources. Through the SGMA process, local groundwater basins are mapped and evaluated for sustainable yield. Programs are then designed, implemented, and monitored to manage groundwater resources sustainably.

The Paso Robles Subbasin lies in the northern portion of San Luis Obispo County. The Subbasin is the southernmost portion of the Salinas Valley Groundwater Basin. As originally defined by DWR (2003), the Subbasin was in both San Luis Obispo and Monterey counties. The 2019 DWR basin boundary modification process resulted in a revision of the northern boundary of the Paso Robles Subbasin to be coincident with the San Luis Obispo/Monterey County line, thereby placing the Subbasin entirely within San Luis Obispo County.

The Subbasin as defined in this GSP encompasses an area of approximately 436,240 acres, or 681 square miles. The majority of the Subbasin comprises gentle flatlands near the Salinas River Valley, ranging in elevation from approximately 450 to 2,400 feet (ft) above mean sea level (AMSL). The Subbasin is a structural trough trending to the northwest filled with terrestrially derived sediments sourced from the surrounding mountains, and is surrounded by relatively impermeable geologic formations, sediments with poor water quality, and structural faults. The Subbasin is drained by the Salinas River and its tributaries, including the Estrella River, Huer Huero Creek, and San Juan Creek. Communities in the Subbasin include the City of Paso Robles and the communities of Cholame, San Miguel, Creston, Whitley Gardens and Shandon.

The top of the Subbasin is defined by land surface. The bottom of the Subbasin is defined by the base of the Paso Robles Formation. Sediments below the base of the Paso Robles Formation are typically much less permeable than the overlying sediments. Although the bedrock sediments often produce usable quantities of groundwater, the water is generally of poor quality, so they are not considered part of the Subbasin. As described in the Groundwater Sustainability Plan (PRSGSP, 2020), the lateral boundaries of the Subbasin include the following:

- The western boundary is defined by the contact between the sediments in the Subbasin and the sediments of the Santa Lucia Range. A portion of the western boundary is defined by the Rinconada fault system which separates the Paso Robles Subbasin from the Atascadero Area Subbasin.
- The eastern boundary of the Subbasin is defined by the contact between the sediments in the Subbasin and the sediments of the Temblor Range. The San Andreas Fault generally forms the eastern Subbasin boundary.

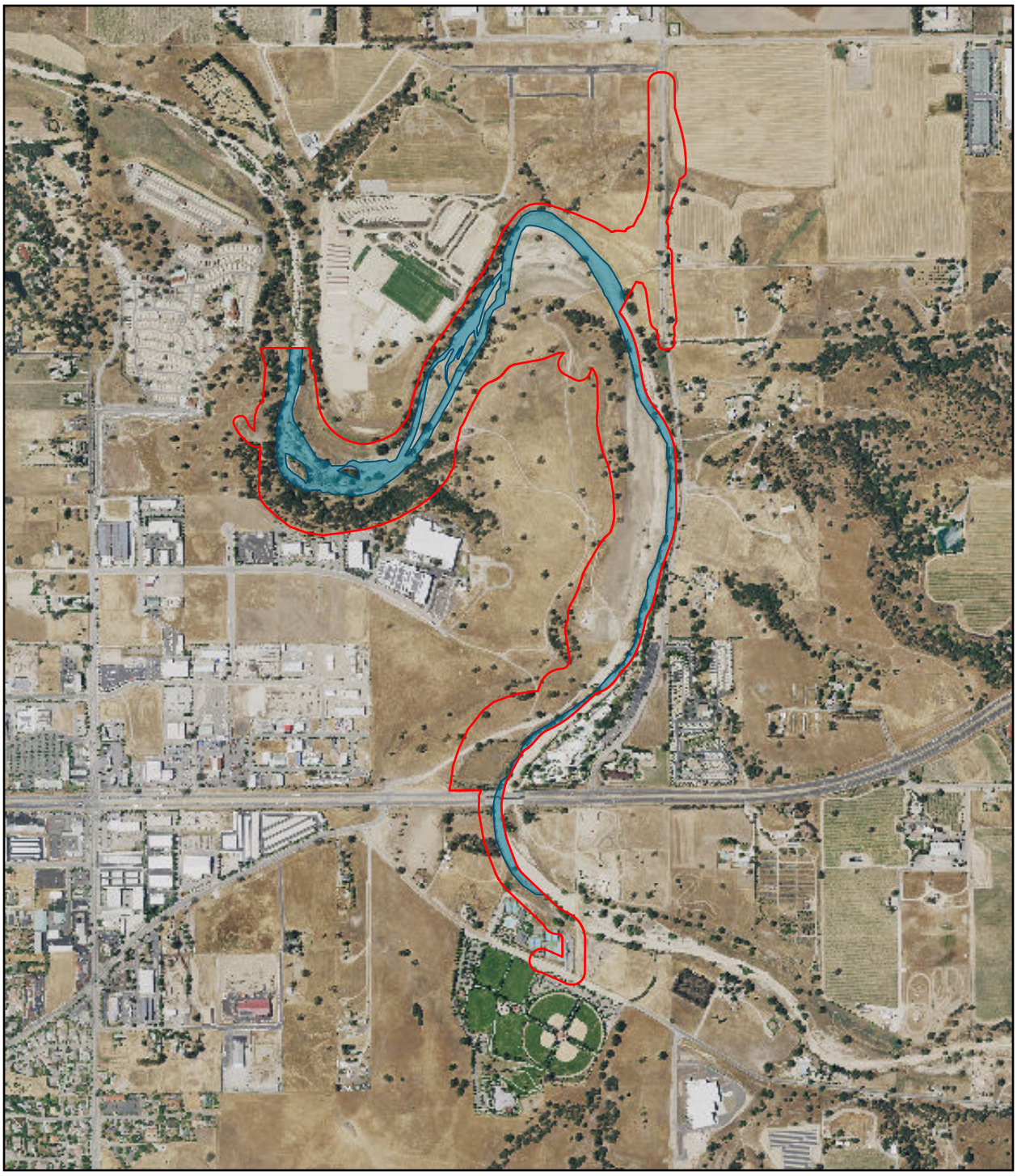
- The southern boundary of the Subbasin is defined by the contact between the sediments in the Subbasin and the sediments of the La Panza Range. To the southeast, a watershed and groundwater divide separates the Subbasin from the adjacent Carrizo Plain Basin; sedimentary layers are likely continuous across this divide.
- The northern boundary of the Subbasin is defined by the San Luis Obispo/Monterey County line.

Two principal aquifers exist in the Subbasin, including the Alluvial Aquifer and the Paso Robles Formation Aquifer. The Alluvial Aquifer is the youngest aquifer. It is unconfined and consists of predominantly coarse- grained sediments (sand and gravel) deposited along Huer Huero Creek, the Estrella River, and the Salinas River. The Alluvial Aquifer varies in thickness but may be up to 100 feet thick along the channels. Much of the Alluvial Aquifer is characterized by relatively high transmissivity that may exceed 100,000 gallons per day, per foot (gpd/ft). Wells screened in the Alluvial Aquifer can be very productive and may yield over 1,000 gallons per minute (gpm).

The primary components of recharge to the Subbasin aquifers are percolation of precipitation and infiltration of surface water from rivers and streams. Natural discharge from the Subbasin aquifers occurs through springs and seeps, evapotranspiration, and discharge to surface water bodies. The most significant component of discharge is pumping of groundwater from wells. Annual precipitation is recorded at the Paso Robles weather station (National Oceanic and Atmospheric Administration [NOAA] station 46730). The long-term average annual precipitation for the period 1925 through 2019 is 14.6 inches per water year, as recorded at the Paso Robles weather station.

Groundwater elevations in some portions of the Subbasin have been declining for many years, while groundwater elevations in other areas of the Subbasin have remained relatively stable. Historical and current groundwater budgets indicate a persistent groundwater storage decline in the Subbasin in the Paso Robles Formation Aquifer. Similarly, the future groundwater budget suggests continued groundwater storage decline if current water use practices continue. (PRSGSP 2020).

Figure 3-4. Surface Waters



Legend

Study Area

Potential CWA Section 404 Non-Wetland Waters

N

0 1,000 2,000 Feet

Huer Huero Creek Bridge and Roundabout
120.64566°W 35.64965°N
Paso Robles, San Luis Obispo County

Investigator: Katie Brown
Imagery Source: USDA NAIP, 05/21/2020

ALTHOUSE AND MEADE, INC.
BIOLOGICAL AND ENVIRONMENTAL SERVICES

Map Updated:
September 09, 2021 03:30 PM by JBB

Evaluation

The Project area includes the Huer Huero Creek channel and floodplain that flow to the Salinas River. Beneficial uses of surface waters of the Salinas River are identified by the DWR as municipal, domestic, agricultural, and industrial process supply; groundwater recharge; contact and non-contact water recreation; wildlife habitat; cold and warm freshwater habitat; migration, spawning, reproduction, and/or early development of aquatic organisms, rare, threatened, or endangered species; and commercial and sport fishing.

Huer Huero Creek is a sandy north-trending ephemeral underground stream that flows directly to the Salinas River, approximately 3.5 miles northwest of the Project site. Huer Huero Creek is predominantly dry year-round, typically conveying surface water following large rain events for short periods of time. Sub-lateral flow is a result of the highly porous sandy soils with fast infiltration rates. Huer Huero Creek flows infrequently (often not flowing for several years at a time), and vegetation remains sparse in the channel due to soil composition and lack of water retention. The Huer Huero Creek watershed includes approximately 100,000 acres.

A wetland delineation in and around Huer Huero Creek has been performed to delineate federal (USACE) and state (CDFW and RWQCB) jurisdictional boundaries (Althouse & Meade Wetland Delineation, 2020). No federal or state wetlands were identified in the Study Area; however, a total of 12,300 linear feet (approximately 28.3 acres) of federal and state non-wetland waters were encountered in the reach of Huer Huero Creek. Construction of the proposed Project will permanently impact approximately 0.8 acres of the riparian area. These impacts to non-wetland waters will require federal (USACE) and state (RWQCB and CDFW) permit approval and coordination.

Construction activities, including site preparation, site grading, and installation of roadway and bridge components may result in direct, temporary impacts to the Huer Huero Creek channel and floodplain. During construction, erosive soil material may be discharged to waters of the state, with the potential to impact water quality and beneficial uses. Improper use of mechanized equipment may result in a discharge of petroleum products into the channel. Discharge of disturbed sediment or hazardous materials resulting from Project activities constitutes a discharge of waste that could affect the quality of waters of the state. The proposed Project will not utilize groundwater.

The following measures are required to mitigate adverse impacts to Hydrology and Water Quality:

HYD-1. Stormwater Pollution Prevention Plan (SWPPP)
All grading and construction activities shall be implemented pursuant to the SWPPP prepared for grading. The SWPPP shall be prepared by a licensed professional and submitted to the City for review and approval prior to the commencement of grading.

HYD-2. Erosion and Sediment Control Plan
Final grading plans for the Project shall include an Erosion and Sediment Control Plan, to be reviewed and approved by the City prior to the commencement of grading. The plan shall be designed to minimize erosion and water quality impacts, to the extent feasible, and shall be consistent with the requirements of the Project's SWPPP. Contractor shall coordinate with City for nearby recycled water supply connections for dust mitigation watering. The plans shall be consistent with the following:

a. Graded areas shall be revegetated with native, non-invasive, drought-tolerant species approved by the Project biologist to minimize slope failure and erosion potential. Geotextile fabrics, fiber rolls

without microfilament, erosion control blankets, hydro-mulching, compost, straw with tackifiers and other erosion control BMPs shall be used as necessary to stabilize slopes until vegetation is established;

b. All staging and storage areas for vehicles and equipment shall be located 50 feet from the tops of channels and over drip pans. Temporary storage and refueling shall be confined to paved or well-compacted permanent roads and/or parking areas. All vehicles and equipment used on site shall be well maintained and checked daily for fuel, oil, and hydraulic fluid leaks or other problems that could result in spills of toxic materials;

c. Erosion control efforts shall be coordinated with habitat restoration efforts, including measures to minimize removal of riparian and wetland habitats and trees.

HYD-3. Erosion Control Materials. The contractor shall maintain appropriate types and sufficient quantities of materials onsite to contain any spill or inadvertent release of materials that may cause a condition of pollution or threaten water quality.

HYD-4. Dumping Prohibited. The dumping, deposition, or discharge of waste directly into waters of the state, or adjacent to such waters in any manner which may permit it being transported into the waters, is prohibited.

HYD-5. Minimize Crossing. Construction access routes shall minimize crossings of dry channels to the maximum extent practicable. Construction shall minimize disturbance which may cause water quality impacts:

a. Equipment shall not be driven through any wetted channel.

b. Care shall be exercised if heavy equipment crosses dry, high-flow channels to ensure that no sediment is pushed into the channel. If sediment is pushed into the channel, within 48 hours it shall be removed, the bank returned to its original contours, and effective erosion control best management practices installed.

HYD-6 Dewatering and Diversion Plan

A construction dewatering/diversion plan for bridge construction shall be required prior to issuance of waterway permits. The plan shall include requirements of the Construction General Permit. Dewatering discharges, where sediment and naturally occurring pollutants are the only substances, may be authorized under the Region 3 Water Quality Control Board low threat general permit. Those discharges not meeting the requirements of the Region 3 low threat general permit may seek coverage under the Construction General Permit (for discharges to a waterbody) or statewide low-threat discharge WDRs (for discharges to land, or a site-specific permit. A Best Management Plan shall address project timing and proposed actions to minimize work timing in waterway, control limited threat discharge to minimize impacts to water quality, prevent discharge of pollutants associated with construction activities to surface waters; retain spoils and sediment on site; permanently stabilize disturbed areas. Options may include but are not limited to: physical filter for solids or dissolved solids, stabilized conveyance systems, energy dissipation, flow diversion around disturbed areas or other pollutant sources using stabilized convinces, flow controls to prevent erosion and flooding.

Conclusion: Less than significant impact with mitigation incorporated.

3.11 LAND USE AND PLANNING

Would the project:	Potentially Significant Issues	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Physically divide an established community?				X
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?				X

Setting

The City of Paso Robles' General Plan is the City's fundamental land use policy document guiding land use and development decisions through the year 2025. The General Plan contains eight elements: Land Use (2020), Circulation (2011), Housing, (2020), Open Space (2003), Conservation (2003), Parks and Recreation (2020), Noise (2003), and Safety (2020). The physical changes envisioned by the General Plan are described primarily in the Land Use and Circulation Elements. The Housing, Open Space and Conservation, Parks and Recreation, Noise, and Safety Elements do not involve physical changes to the City, except to the extent that the policies of these elements are carried forward through the Land Use and Circulation Elements.

The City of Paso Robles updated its Circulation Element in 2019 to better reflect current City goals and objectives, recognizing that in order to provide safe and efficient mobility, both within the City and between the City and surrounding areas, a master system of transportation facilities is needed to serve residential, commercial, industrial, and visitor needs. The purpose of the City's circulation system is to maintain and enhance safe and efficient mobility in the City (per Goal CE-1). To support this goal, the 2019 Circulation Element Update continues policies implemented in 2011: de-emphasizing an auto-centric measure of functionality (level of service or LOS) in favor of measures that represent a more efficient use of resources and support the mobility of people, quality of life, and small-town feel desired by residents (vehicle miles traveled or VMT). In addition, measures supporting mobility will offer more travel choices, support public health goals by encouraging more walking and biking, and reduce greenhouse gas emissions.

The City of Paso Robles Circulation Element Update of 2019 included a number of specific goals, policies and action items to facilitate enhanced mobility throughout the City. These include:

GOAL CE-1: Establish a safe, balanced, efficient, and multimodal circulation system, focusing on the mobility of people, and preserving the City's small-town character and quality of life.

POLICY CE-1A: Circulation Master Plan. Revise/update the City's Circulation Master Plan to address the mobility needs of all users of the streets, roads and highways including motorists, movers of commercial goods, seniors, children, pedestrians, disabled persons, users of public transportation, and bicyclists as follows:

a) Improve the circulation network on a prioritized basis;
b) Provide adequate access for emergency vehicles and evacuation;
c) Improve mobility through and access to Downtown Paso Robles by implementing the City Council adopted Uptown/Town Centre Specific Plan;
d) Establish safe pedestrian and bicycle paths for children and their parents to schools and other major destinations such as Downtown, retail, and job centers;

e) Maintain mobility for all modes by encouraging flexible and off-set working hours; car and vanpooling; transit improvements; pedestrian and bikeway improvements; and public outreach as to the availability and benefit of alternative modes of travel;
f) Require new development to mitigate its impact on the transportation network.

Action Item 1. Maintain a multimodal Transportation Impact Fee (TIF) program (AB 1600) so that new development contributes to improvements that offset cumulative impacts to mobility. The impact fee program will list needed improvements to automobile, pedestrian, bicycle, and transit facilities. To encourage the reduction of City-wide VMT (Vehicle Miles Traveled), the mitigation fee program will recognize and support Transportation Demand Management (TDM) strategies associated with new development. Fees will be assessed in relation to cumulative impacts and will be proportional to the number of auto trips generated by the development.

Action Item 5. Maintain the Zoning, Subdivision, Streets and Sidewalk chapters of the Municipal Code, as well as the Standard Conditions of Approval and Standard Specifications and Details, for consistency with a "complete street" approach where all modes of travel are routinely accommodated.

Action Item 6. Implement the City's adopted Traffic Calming Program when designing new or modifying existing street improvements. Neighborhood preservation and context shall be a factor in the consideration of community mobility objectives.

Action Item 8. Construct roundabouts in lieu of traffic signals where appropriate conditions exist to maximize the efficiency of streets, maintain continuous but moderate traffic flow, reduce collision severity, and enhance pedestrian and cyclist activity.

Action Item 11. Evaluate new development projects and major roadway improvements in the context of the City's adopted transportation impact study guidelines that specify the process by which new development impacts are identified. Street widths and consideration of additional traffic lanes shall be evaluated in the context of potential impacts to community character, convenience for non-auto modes, safety, and cost/benefit.

Action Item 12. The City will coordinate with Caltrans on planning and implementation of congestion management strategies on SR 46 East, SR 46 West, and US 101. These strategies will include improved connectivity for all modes of transportation across these corridors and in areas on either side of these facilities. The City and Caltrans will work in concert with the most recent Regional Transportation Plan and Corridor Studies.

Action Item 12a. Implement Parallel Route plan and funding.

Action Item 16. View all transportation improvements, new or retrofit, as opportunities to improve safety, access, and mobility for all travelers and recognize bicycle, pedestrian, and transit modes as integral elements of the transportation system.

Action Item 18. Transportation systems and facilities should be planned, designed, and constructed so as not to serve as barriers to community resources.

Action Item 19. Transportation improvements shall improve accessibility and promote physical activity.

POLICY CE-1B: Reduce Vehicle Miles Traveled (VMT). The City shall strive to reduce VMT generated per household per weekday by making efficient use of existing transportation facilities and by providing direct routes for pedestrians and bicyclists through the implementation of sustainable planning principles.

Action Item 1. New developments or redeveloped areas shall conform to the following guidelines to the maximum extent possible:

a) New streets and intersections shall be designed for continuous flow at moderate speeds. Low volume residential streets should be designed for speeds of 25 miles per hour or less. Higher order roadways shall be designed for 35 mph or less with stable flows. Roundabouts shall be considered in lieu of traffic signals for intersection control as needed.

… [*(b) and (c) are not relevant to Project*]

d) Circulation systems shall provide for all modes of travel, and shall typically include sidewalks, bicycle lanes, and transit stop amenities. Continuous paths of travel shall be established and connected for walking and bicycling from and throughout the development area to Downtown and other key destinations. As appropriate and practical, all development shall conform to the most current Bicycle and Pedestrian Transportation Plan adopted by the City Council and the most current trail system plan. Impact fees shall be assessed to mitigate impacts and to contribute to updates to the Bicycle and Pedestrian Transportation Plan.

Action Item 2. Develop well connected routes for bicycles throughout the City in accordance with the most current City Council adopted BPTP [BPMP].

Action Item 4. To the extent feasible, maintain a general plan that provides for a reasonable, ongoing balance between jobs and housing units of various types to maximize the potential for residents to live in the community in which they work. This approach reduces the potential for longer vehicle commutes and reduces City-generated and Countywide VMT.

POLICY CE-1C: Airport. Improve/expand transportation to and from the Paso Robles Municipal Airport as set forth in the Airport Master Plan.

Action Item 1. Establish policy and standards consistent with the Paso Robles Airport Master Plan and Paso Robles Airport Land Use Plan.

Action Item 3. Enhance bicycle, pedestrian and transit access to allow employees and passengers to use non-automobile modes of travel to and from the Airport.

POLICY CE-1F: Pedestrian and Bicycle Access. Provide safe and convenient pedestrian and bicycle access to all areas of the City.

Action Item 1. Maintain and update as needed the Bicycle and Pedestrian Transportation Plan (BPTP) identifying and prioritizing improvements to the bicycle and pedestrian network to support biking and walking as viable primary modes of travel within Paso Robles. The BPTP shall provide bike facilities on or parallel to all major arterials (including bridges) and a network of off-street paths to facilitate commute and recreational bicycle travel. It shall provide pedestrian facilities connecting new developments to existing City amenities and seek to close gaps in the pedestrian network. The BPTP will identify bicycle priority streets and bicycle routes to create a fully connected network throughout the City.

Action Item 2. Provide safe and convenient pedestrian, bicycle, and transit access to the Cuesta College North County Campus, through the following means:

a) Incorporate access to and from the campus in City circulation, pedestrian, bicycle, and transit planning.

… [*(b) and (c) are not relevant*]

d) Work with Caltrans and SLOCOG to construct bicycle-pedestrian under-crossings of State Route 46E per the adopted BPTP and the Caltrans Corridor Study.

Action Item 3. Establish a formal Safe Routes to School Program and pursue grant funding to encourage children to safely walk and bike to school.

In addition to the adopted Circulation Plan, in 2018 the City adopted a Bicycle and Pedestrian Master Plan (BPMP), with the intent of facilitating continued growth as a bike and walk friendly City. The Paso Robles Bicycle and Pedestrian Master Plan is a comprehensive plan that addresses the needs of both recreational and commuter bicyclists and walkers of all ages and abilities. The Plan is intended to provide measures to help make commuting by foot or by bike accessible, safer, comfortable, and enjoyable. An increase in walking and biking facilities supports public health (physical and mental), reduces air pollution and vehicle miles traveled by automobiles, and provides for more recreational opportunities. The BPMP includes goals that establish what the City would like to achieve, policies to provide the guidance on how to achieve the goals, and actions to direct the City's efforts. Within the BPMP, a prioritized list of bicycle and pedestrian projects is provided that will direct future upgrades to the City's bicycle and pedestrian facilities, and funding strategies to achieve these goals. The Plan identifies specific objectives, including:

- Well connected, easy to access system of bikeways and walkways that are safe and comfortable for bicycling and walking.
- Easy-to-ride, off-the-street system of protected trails that provide quick connections across town with views into the picturesque natural areas along river and creek corridors and canyons.
- Bikeways and walkways that will extend to all neighborhoods, safely linking bicyclists and pedestrians to schools, shopping areas and other commonly traveled areas.
- Bikeways and walkways that will connect commercial and industrial employment areas so commuters will have alternative choices of travel to work.
- Bikeways and walkways that will help the City reduce vehicle miles traveled, traffic congestion and air pollution, and help residents become healthier.
- Create multi-modal facilities that emphasize mobility of people by bicycles, walking and transit rather than only by cars.
- Support bicycling and walking as a recreational activity for residents and tourists.

The Bicycle and Pedestrian Master Plan also defines specific goals to increase multi-modal connectivity throughout the City:

Goal 1. Develop a comprehensive system of bicycle and pedestrian facilities to provide a safe, fun, convenient, healthy and environmentally friendly mode of travel throughout the City for all ages and abilities.

Goal 2. Develop bicycle and pedestrian facilities that are accessible to commercial and employment centers, neighborhoods, parks and schools to provide a viable alternative for transportation to reduce vehicle miles traveled and traffic congestion.

Goal 3. Develop bicycle and walking safety program to encourage non-motorized travel within the City of Paso Robles.

Goal 4. Develop bicycle and pedestrian facilities that will meet both commuter and recreation needs, including bicycle support facilities once they meet their destinations.

Goal 5. Increase public awareness of the benefits of bicycling and walking and develop programs to encourage residents to ride bikes and walk to work, school, and for recreation.

Goal 6. Coordinate City bicycle and pedestrian improvement plans with interagency transportation plans and funding programs.

Goal 7. Promote inclusive and sustainable economic growth and tourism through the City by developing bicycle and pedestrian facilities and improving existing infrastructure.

Refer to Figure 1-5.

Additional details regarding the City's multimodal infrastructure plans may be found in the Bicycle and Pedestrian Master Plan.

The City's Conservation Element includes goals, policies and action items to protect biological resources, such as oak trees and sensitive habitats (Section 3.4), and cultural, tribal and archaeological resources (Sections 3.5 and 3.18), as well as aesthetic resources, such as visual corridors (Section 3.1).

Evaluation

The proposed Project, as a component of the City's "Parallel Routes" plan, implements many City goals and policies relative to circulation, specifically those related to reducing vehicle miles traveled and congestion at at-grade crossings that characterize this segment of SR 46E, and facilitating multimodal access from the NE portion of the City to residential and downtown areas.

The proposed Project will not physically divide an established community. The proposed Project will not modify any land uses, and will not conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.

Conclusion: No impact.

3.12 MINERAL RESOURCES

Would the project:	Potentially Significant Issues	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?				X
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?				X

Setting

Mineral resources in California are governed primarily by the Surface Mining and Reclamation Act of 1975 (SMARA, Public Resources Code Sections 2710–2719). This legislation was enacted in response to land use conflicts between urban growth and essential mineral production. SMARA provides for analysis of an area's mineral resources using the Mineral Resource Zone (MRZ) classification system, which identifies the known or inferred presence and significance of a given mineral resource. MRZ classifications are based on available geologic information, including geologic mapping and other information based on surface exposures, drilling records, and mine data. The classifications also consider socioeconomic factors such as market conditions and development patterns. The MRZ classifications are defined as follows:

- MRZ-1: Areas where adequate information indicates that no significant mineral deposits are present, or where it is judged that little likelihood exists for their presence.
- MRZ-2: Areas where adequate information indicates that significant mineral deposits are present, or where it is judged that a high likelihood exists for their presence.
- MRZ-3: Areas containing mineral deposits, the significance of which cannot be evaluated from available data.
- MRZ-4: Areas where available information is inadequate for assignment into any other MRZ.

Although the State of California is responsible for identifying areas containing mineral resources, local jurisdictions are responsible for SMARA implementation and enforcement by providing annual mining inspection reports and coordinating with the California Geological Survey.

Evaluation

Based upon review of California Geological Survey Updated Mineral Land Classification Map for Concrete-Grade Aggregates in the San Luis Obispo-Santa Barbara Production-Consumption Region (SMGB Designation Report 15) 2017, Plate 1A) the Project area is not within an MRZ-1 or MRZ-2 classification area. The proposed Project is not located in a State or locally designated area where an important mineral resource recovery site is identified, nor would the Project result in the loss of availability of a known mineral resource. No impact on mineral resources would occur with implementation of the proposed Project.

Conclusion: No impact.

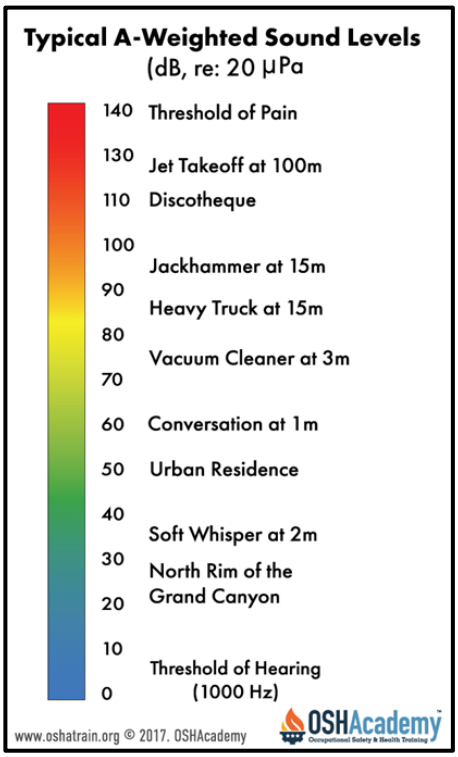
3.13 NOISE

Would the project:	Potentially Significant Issues	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Generation of "unacceptable" noise levels in the vicinity of the project as defined by the Paso Robles General Plan Noise Element, or general noise levels in excess of standards established in the Noise Ordinance?		X		
b) Generation of excessive ground-borne vibration or ground-borne noise levels?				X
c) For a project located within the vicinity of a private airstrip, an airport land use plan, or where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?			X	

Setting

The U.S. Department of Housing and Urban Development (HUD) guidelines for the acceptability of residential land use are set forth in the Code of Federal Regulations Title 24, Part 51, "Environmental Criteria and Standards." Noise units are measured in decibels (dBA, a weighted scale for judging loudness that corresponds to the human ear's hearing threshold) calculated on the day, evening, night sound level (Ldn) to establish Community Noise Equivalent Level (Lden). These guidelines suggest noise exposure of 65 dBA CNEL/Ldn, or less, is acceptable and between 65 and 75 dBA CNEL/Ldn noise exposure is considered normally acceptable, provided appropriate sound-reduction measures are provided. Above 75 dBA CNEL/Ldn noise exposure is generally considered unacceptable. The guidelines also identify the recommended interior noise levels of 45 dBA CNEL/Ldn.

The U.S. Environmental Protection Agency (EPA) also offers guidelines for community noise exposure in the publication "Information on the Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety". These guidelines consider occupational noise exposure as well as noise exposure in the home. This document recognizes an exterior noise level of 55 dBA Ldn as a goal to protect the public from hearing loss, activity interference, sleep disturbance and annoyance. The EPA notes, however, that this level is not a regulatory goal, but rather a level defined by a negotiated scientific consensus, without concern for economic and technological feasibility or the needs and desires of any particular community.



The EPA and other Federal agencies have suggested land use compatibility guidelines that indicate that residential noise exposures of 55 to 65 dBA Ldn are acceptable. The State Office of Planning and Research (OPR) Noise Element Guidelines include recommended exterior and interior noise level standards for local jurisdictions to identify and prevent the creation of incompatible land uses due to noise. The OPR guidelines contain a land use compatibility table which describes the compatibility of different land uses with a range of environmental noise levels in terms of Ldn. A noise environment of 60 dBA Ldn or less is considered to be normally acceptable for residential uses according to those guidelines.

The City of Paso Robles General Plan Noise Element (2019) regulates ambient sound levels within the City limits. The ambient noise environment in the City of Paso Robles is defined by many noise sources. The most prevalent source of near continuous noise in the City is traffic on Highways 46 and 101, as well as major surface streets. Intermittent noise sources that periodically affect the local noise environment consist primarily of aircraft operations associated with the Paso Robles Municipal Airport, railroad operations on the Union Pacific Railroad (UPRR) tracks, and concert activities at venues such as Vina Robles Amphitheater, the Mid-State Fairgrounds, and City Park. Commercial and industrial activities also affect the noise environment within the City of Paso Robles, but to a much more localized extent, as do activities at parks and schools. Noise sources associated with construction and property maintenance also contributed to the noise environment, typically on an intermittent and fairly temporary basis. Activities involved in typical construction would generate maximum noise levels, ranging from 55 to 90 dB at a distance of 50 feet.

The City of Paso Robles supports many active agricultural uses (primarily vineyards) both within the City and in the immediately surrounding areas. As a result, agricultural-related equipment and processes contribute to the existing ambient noise environment in the General Plan Area. Due to the wide array of equipment types and conditions under which that equipment is used in the agriculture industry, noise generated by agricultural processes can vary substantially. Maximum noise levels generated by farm-related tractors typically range from 77 to 85 dB at a distance of 50 feet from the tractor, depending on the horsepower of the tractor and the operating conditions. Due to the seasonal nature of the agricultural industry, there are often extended periods of time when no noise is generated on properties which are actively being farmed, followed by short-term periods of intensive mechanical equipment usage and corresponding noise generation. These uses generate short-term periods of elevated noise and possess the potential to generate adverse public reaction during intensive farm-related activities.

Sensitive noise receptors are defined as residential uses, schools, libraries, nursing homes, medical centers and health care facilities, and places of worship. These uses may experience impacts such as sleep disturbance,

disruption of conversations, lectures or sermons, or decreased usability of exterior use areas, such as patios, backyards, or parks. Of particular concern is exposure of sensitive receptors to long-term elevated interior noise levels and sleep disturbance, which can be associated with health concerns.

The Noise Element includes specific goals to "protect the citizens of Paso Robles and its economic base against land use incompatibilities":

1. To protect the existing and future citizens of Paso Robles from the harmful effects of exposure to excessive noise.
2. To protect existing noise-sensitive land uses from encroachment by new uses that would generate noise levels that are incompatible with those uses, and to discourage new noise-sensitive land uses from being developed near sources of high noise levels.
3. To recognize that noise is an inherent by-product of many land uses and to protect the economic base of Paso Robles by preventing the encroachment of noise- sensitive land uses into areas affected by existing noise-producing uses.
4. To provide sufficient information regarding the community noise environment so that existing and potential future noise impacts may be effectively addressed in the land use planning and project review processes.
5. To provide the City with flexibility in the development of infill and mixed-use properties or properties near the Uptown Town Center Specific Plan area, which may be located in elevated noise environments.
6. To develop strategies for abating excessive noise exposure through appropriate mitigation measures in combination with appropriate zoning to avoid incompatible land uses.
7. To recognize that concerts and tourism-related events contribute to the vitality and character of the City and to develop strategies for balancing the acoustical requirements of both residents and such businesses and events.
8. To recognize that the City of Paso Robles allows Short-Term Rentals (STR's) in residential areas and that the City applies the residential standards contained herein uniformly to all residential zones.

The City's Noise Element also includes policies to implement these goals, one of which has direct bearing on the proposed Project:

POLICY 24: The following sources of noise shall be exempt from the provisions of this Noise Element:

f. Construction and demolition activities located within 1,000 feet of noise- sensitive land uses provided they occur during normal daytime hours, excluding Sundays and Federal Holidays, subject to the conditions imposed by City permit. For construction activities, daytime hours are defined as 7 am to 7 pm. Construction activities occurring between the hours of 7 pm and 7 am must comply with the interior noise level standards identified in Table 1 unless an exception has been granted by the City Planning Department.

g. Construction and demolition activities located beyond 1,000 feet of noise- sensitive land uses, subject to the conditions imposed by City permit. For construction activities, daytime hours are defined as 7 am to 7 pm.

Evaluation

The Project site is located approximately 1,000 feet from the Paso Robles Municipal Airport at the nearest point, and is within the 55, 60, and 65 dBA Ldn Airport Noise Contours. The nearest noise-sensitive land uses to the Specific Plan area consist predominantly of residential dwellings. The nearest residential land uses to the Project site is located approximately 100 feet east of the Project. Approximately ten residences occur within one-half mile

of the Project site, with seven of those within 1,000 feet. Additionally, Paso Robles Bible Church and Covenant Presbyterian Church occur within one mile of the Project site. Kermit King Elementary School is located approximately 1.5 miles away from the site. As noted above, construction noise generated by mechanized equipment is associated with typical sound levels between 55 and 90 dB at a distance of 50 feet. As with agricultural activities, construction activities may generate short-term periods of elevated noise, potentially generating adverse impacts. In order to ensure that construction of the proposed Project does not expose surrounding sensitive receptors to unacceptable levels of noise, Mitigation Measures NOI-1 and NOI-2 are included. Potential impacts would be considered less than significant with mitigation incorporated.

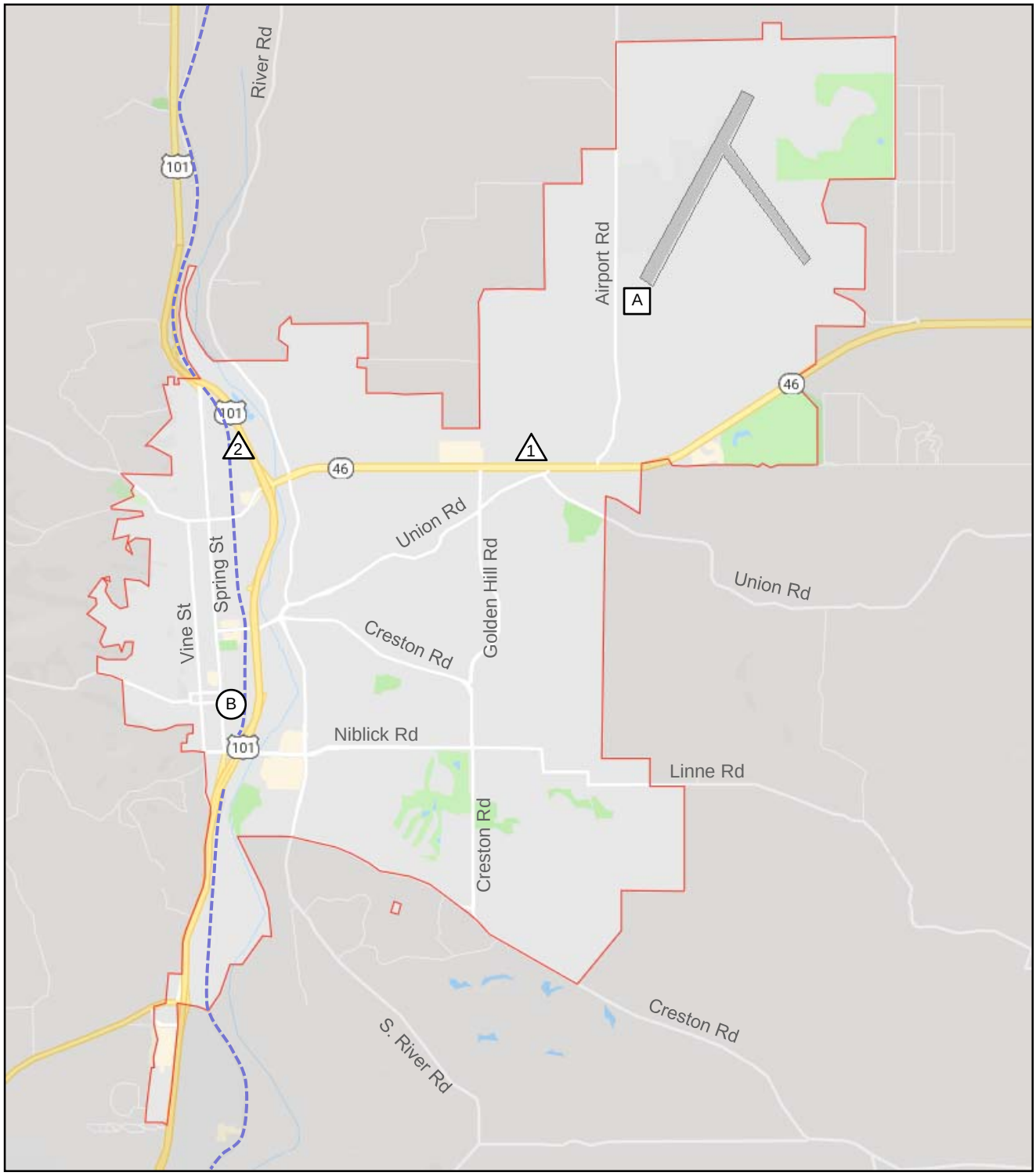
NOI – 1 **Construction Hours.** Contractor shall ensure that construction activities plainly audible at 50 feet do not occur outside the hours of 7:00 a.m. to 7:00 p.m., unless specifically approved by the City.

NOI - 2 Noise Reduction. During all construction activities, the contractor shall ensure that the following measures are implemented to reduce noise levels at nearby sensitive receptors:

a. Equipment shall be equipped with intake and exhaust mufflers that are in good condition and appropriate for equipment.
b. Stationary noise-generating equipment shall be located as far as possible from sensitive receptors.
c. "Quiet" air compressors and other stationary noise sources shall be utilized where technology exists.

Conclusion: Less than significant impact with mitigation incorporated.

Figure 3-5. Noise Sources & Noise Measurement Sites



: Airport

: Railroad

: Highways

: City Limit Boundary

Noise Monitoring Sites

(#) : Railroad

<#> : Highways

[#] : Aircraft

Scale (miles)

0 0.5 1

3.14 POPULATION AND HOUSING

Would the project	Potentially Significant Issues	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Induce substantial unplanned population growth in an area, either directly (for example by proposing new homes or businesses) or indirectly (for example, through extension of roads or other infrastructure)?				X
b) Displace substantial numbers of existing housing or people, necessitating the construction of replacement housing elsewhere?				X

Setting

Residential development and density in the City of Paso Robles is governed by the City's General Plan Elements, specifically the Land Use and Housing Elements. The Housing Element provides the City of El Paso de Robles ("Paso Robles") with a coordinated and comprehensive strategy for promoting the production of safe, decent, and affordable housing for all community residents. It identifies ways in which the housing needs of existing and future residents can be met. State law requires that all cities adopt a Housing Element and describes in detail the necessary contents of the Housing Element. California planning law provides more detailed requirements for the Housing Element than for any other General Plan element. The City's Housing Element responds to those requirements in a manner which specifically addresses conditions and policy directives unique to Paso Robles.

Paso Robles has a strong track record of successfully implementing a vision that embraces new opportunities, supports housing development, and provides diverse housing options. For the Housing Element 5th cycle, Paso Robles exceeded regional housing needs allocation (RHNA) targets, including construction of 299 units affordable to very low- and low-income households (representing 126 percent of the lower-income RHNA target). For its 6th cycle Housing Element, the City builds upon these successes and identifies additional opportunities and creative solutions to support housing development in the community.

The Housing Element is closely related to the Land Use, Circulation, Open Space, Conservation and Noise Elements. For residential land use, the Land Use Element assigns several designations for single-family homes, multifamily housing (apartments and condominiums), and mobile homes. Decisions on land use type and densities are based on factors such as access to the transportation system, proximity to noise sources (primarily traffic and airport-related), access and proximity to open space, commercial and industrial uses, and topography. Residential land use designations are also assigned in a manner that best matches the City's housing needs, as identified in the Housing Element, with these factors.

Evaluation

The proposed Project will construct vehicular and multi-use paths that reduce traffic on Highway 46 near Airport Road. The New Airport Road extension and bridge over Huer Huero Creek will connect businesses and residences west of the creek with the Paso Robles Airport, businesses, and residences east of the creek. The Project consists of three main components: (1) the New Airport Road extension and bridge across Huer Huero Creek, (2) realignment of a portion of Airport Road and a new roundabout intersection with New Airport Road, and (3) a Class I trail extending from Union Road in front of Barney Schwartz Park to the Cava Robles RV Resort. These

improvements are included in the City's 2018 Circulation Element and were considered in the 2020 Land Use Element and 2020 Housing Element, both of which analyzed housing and population needs in the City. No housing units are proposed with this development, and no housing or people will be displaced with the Project.

The proposed Project, as a component of the City's "Parallel Routes" plan, implements many City goals and policies relative to circulation, specifically those related to reducing vehicle miles traveled and congestion at at-grade crossings that characterize this segment of SR 46E, and facilitating multimodal access from the northeast portion of the City to residential and downtown areas. The proposed Project is intended to reduce vehicle miles traveled by existing residents, visitors, and other circulation facilities users, and will not induce population growth.

Conclusion: No Impact.

3.15 PUBLIC SERVICES

Would the project result in substantial adverse physical impacts associated with the provision, or need, of new or physically altered government facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:				
	Potentially Significant Issues	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Fire protection?				X
b) Police protection?				X
c) Schools?				X
d) Parks?				X
e) Other public facilities?				X

Setting

Fire Protection: The City of Paso Robles Fire Department (PRFD) provides fire protection services to the City of Paso Robles. The Fire Department has automatic and mutual aid contractual agreements with the CAL FIRE and the surrounding municipal departments for emergency response to nearby areas outside the city. The City's General Plan Land Use Element (2014) calls for a ratio of 0.8 to 1.3 firefighters per 1,000 residents.

Police Protection: Police protection in the City of Paso Robles is provided by the Paso Robles Police Department (PRPD). The PRPD service area consists of just under 20 square miles with a service population of approximately 32,000. The police station and Emergency Services are co-located at 900 Park Street, in downtown of Paso Robles.

Public Schools: Paso Robles Joint Unified School District (PRJUSD) provides public school facilities and services to the City of Paso Robles and nearby unincorporated areas. PRJUSD provides public education to over 6,900 students at 11 school sites, including six elementary schools, two middle schools, one comprehensive high school, and one alternative high school.

Parks and Recreation Facilities: The City of Paso Robles includes 13 parks: one regional park, a community park, three district parks, five neighborhood parks, and three mini parks, as well as four recreation centers. These facilities total approximately 105 acres of parkland in the city. The city owns and/or manages a total of approximately 1,630 acres combined of parks and open space within and adjacent to the city (General Plan Land Use Element, 2014).

Library and Other Facilities: In addition to the public services listed above, Paso Robles also enjoys a City Library, which provides reading materials, computer terminals, and an after-school study center for students, as well as community programs and events throughout the year. The Paso Robles Municipal Airport serves as a general aviation airport offering air charter, aircraft maintenance, fuel and line services, ground transportation, hot air balloon rides, and a restaurant.

The City of Paso Robles Land Use Element includes a goal specific to the support of public services and facilities:

GOAL LU-4: Public Services and Facilities. Maintain/improve the quality of life enjoyed by residents.
This goal is implemented through a number of policies and action items which direct the City to ensure that City services and facilities are maintained and enhanced.

Evaluation

The proposed Project will construct vehicular and multi-use paths that reduce traffic on Highway 46 near Airport Road. The New Airport Road extension and bridge over Huer Huero Creek will connect businesses and residences south and west of the creek with the Paso Robles Airport, businesses, and residences north and east of the creek. The Project consists of three main components: (1) the New Airport Road extension and bridge across Huer Huero Creek, (2) realignment of a portion of Airport Road and a new roundabout intersection with New Airport Road, and (3) a Class I trail extending from Union Road in front of Barney Schwartz Park to the Cava Robles RV Resort. No new land uses which would utilize public services are proposed with this development.

The proposed Project, as a component of the City's "Parallel Routes" plan, implements many City goals and policies relative to circulation, specifically those related to reducing vehicle miles traveled and congestion at at-grade crossings that characterize this segment of SR 46E, and facilitating multimodal access from the northeast portion of the City to residential and downtown areas. The proposed Project is intended to facilitate smoother and more expeditious travel across the northeast portion of the City, including by emergency services. The Class I trail extending from Union Road in front of Barney Schwartz Park to the Cava Robles RV Resort constitutes a public park improvement for the City.

The Project will have no adverse impact on Public Services.

Conclusion: No Impact.

3.16 RECREATION

Would the project:	Potentially Significant Issues	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Increase the use of existing neighborhood or regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?				X
b) Include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?				X

Setting

The City of Paso Robles Parks and Recreation Element (2020) includes goals, policies and action items to promote the use and development of public parks and recreation facilities.

GOAL PR-1: Optimize the use and development of parks and recreation facilities to serve the existing and projected population.

POLICY PR-1A: Park and Recreation Facilities. Strive to achieve a 7-acre per 1,000 population parkland standard.

Action Item 3. Allow activities and land uses near park areas that are compatible with the setting of a park.

POLICY PR-1B: Master Plan. Develop a Master Park, Recreational Facility, & Trails Plan addressing Citywide needs and financing for development, maintenance, and operation through the year 2025.

The document identifies "Bikeways as indicated in the City's Bikeway Plan" and "Trail connections between parks facilities citywide" as actionable improvements that will help the City reach its goal of optimizing parks and recreational facilities and their use.

Please see additional discussion of the City's Bikeway Plan under Section 3.11 - Land Use and Planning.

Evaluation

The proposed Project will construct vehicular and multi-use paths that reduce traffic on Highway 46 near Airport Road. The New Airport Road extension and bridge over Huer Huero Creek will connect businesses and residences west of the creek with the Paso Robles Airport, businesses, and residences east of the creek. The Class I trail extending from Union Road in front of Barney Schwartz Park to the Cava Robles RV Resort will provide City residents and visitors with additional recreational opportunities.

The proposed Project, as a component of the City's "Parallel Routes" plan, implements many City goals and policies relative to circulation, including facilitating multimodal access from the northeast portion of the City to residential and downtown areas. The Class I trail extending from Union Road in front of Barney Schwartz Park to the Cava Robles RV Resort constitutes a public recreational improvement for the City.

The Project will have no adverse impact on Recreation.

Conclusion: No Impact.

3.17 TRANSPORTATION

Would the project	Potentially Significant Issues	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Conflict with program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?				X
b) Be in conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)?				X
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?				X
d) Result in inadequate emergency access?				X

Setting

The roadway network through and around the City of Paso Robles is comprised of Highways 101 and 46, as well as a network of local and regional arterial, collector and local roads connecting points within the City, as well as locations throughout the Central Coast and the state. Roadways with bridges crossing the Salinas River within the City include 24th Street/Highway 46, 13th Street, and Niblick Road. Additionally, Paso Robles Street on the West, and North and South River Road on the east are located on either side of the Salinas River riparian corridor. Highway 101 is located immediately west of the river corridor at both the north and south ends of the City. The Union Pacific Railroad line runs north-south through the City, with an intermodal Transportation Center located downtown at Pine and 8th Streets.

The City of Paso Robles Circulation Element (2019) contains goals, policies and action items to support development of an efficient, multi-modal transportation system within the City.

GOAL CE-1: Establish a safe, balanced, efficient, and multimodal circulation system, focusing on the mobility of people, and preserving the City's small-town character and quality of life.

POLICY CE-1A: Circulation Master Plan. Revise/update the City's Circulation Master Plan to address the mobility needs of all users of the streets, roads and highways including motorists, movers of commercial goods, seniors, children, pedestrians, disabled persons, users of public transportation, and bicyclists as follows:

a) Improve the circulation network on a prioritized basis;

d) Establish safe pedestrian and bicycle paths for children and their parents to schools and other major destinations such as Downtown, retail, and job centers;

e) Maintain mobility for all modes by encouraging flexible and off-set working hours; car and vanpooling; transit improvements; pedestrian and bikeway improvements; and public outreach as to the availability and benefit of alternative modes of travel.

Action Item 5. Maintain the Zoning, Subdivision, Streets and Sidewalk chapters of the Municipal Code, as well as the Standard Conditions of Approval and Standard Specifications and Details, for consistency with a "complete street" approach where all modes of travel are routinely accommodated.

Action Item 6. Implement the City's adopted Traffic Calming Program when designing new or modifying existing street improvements. Neighborhood preservation and context shall be a factor in the consideration of community mobility objectives.

Action Item 8. Construct roundabouts in lieu of traffic signals where appropriate conditions exist to maximize the efficiency of streets, maintain continuous but moderate traffic flow, reduce collision severity, and enhance pedestrian and cyclist activity.

Action Item 9. Install all transportation improvements in accordance with current accessibility standards.

Action Item 11. Evaluate new development projects and major roadway improvements in the context of the City's adopted transportation impact study guidelines that specify the process by which new development impacts are identified. Street widths and consideration of additional traffic lanes shall be evaluated in the context of potential impacts to community character, convenience for non-auto modes, safety, and cost/benefit.

Action Item 12. The City will coordinate with Caltrans on planning and implementation of congestion management strategies on SR 46 East, SR 46 West, and US 101. These strategies will include improved connectivity for all modes of transportation across these corridors and in areas on either side of these facilities. The City and Caltrans will work in concert with the most recent Regional Transportation Plan and Corridor Studies.

Action Item 12a. Implement Parallel Route plan and funding.

Action Item 14. Maintain and/or improve emergency vehicle access on all existing streets. New development and redevelopment projects shall provide emergency vehicle access as required by all applicable codes and the Emergency Services Department.

Action Item 16. View all transportation improvements, new or retrofit, as opportunities to improve safety, access, and mobility for all travelers and recognize bicycle, pedestrian, and transit modes as integral elements of the transportation system.

Action Item 17. Transportation polices should link transportation planning and land use planning.

Action Item 18. Transportation systems and facilities should be planned, designed, and constructed so as not to serve as barriers to community resources.

Action Item 19. Transportation improvements shall improve accessibility and promote physical activity.

Action Item 20. The City shall adopt and implement a Bicycle and Pedestrian Transportation Plan (BPTP).

POLICY CE-1B: Reduce Vehicle Miles Traveled (VMT). The City shall strive to reduce VMT generated per household per weekday by making efficient use of existing transportation facilities and by providing direct routes for pedestrians and bicyclists through the implementation of sustainable planning principles.

Action Item 1. New developments or redeveloped areas shall conform to the following guidelines to the maximum extent possible:

a) New streets and intersections shall be designed for continuous flow at moderate speeds. Low volume residential streets should be designed for speeds of 25 miles per hour or less. Higher order roadways shall be designed for 35 mph or less with stable flows. Roundabouts shall be considered in lieu of traffic signals for intersection control as needed.

c) Lane configurations for new intersections shall be limited to provide for moderate speeds and pedestrian and cyclist safety. Congestion during certain time periods shall be accepted in exchange for shorter pedestrian and cyclist crossing distances, less overall paved area,

reduced costs, and preservation of small-town character. Corner curb extensions (bulb-outs) should be considered to improve and shorten pedestrian crossings.

d) Circulation systems shall provide for all modes of travel, and shall typically include sidewalks, bicycle lanes, and transit stop amenities. Continuous paths of travel shall be established and connected for walking and bicycling from and throughout the development area to Downtown and other key destinations. As appropriate and practical, all development shall conform to the most current Bicycle and Pedestrian Transportation Plan adopted by the City Council and the most current trail system plan. Impact fees shall be assessed to mitigate impacts and to contribute to updates to the Bicycle and Pedestrian Transportation Plan.

Action Item 2. Develop well connected routes for bicycles throughout the City in accordance with the most current City Council adopted BPTP.

POLICY CE-1C: Airport. Improve/expand transportation to and from the Paso Robles Municipal Airport as set forth in the Airport Master Plan.

Action Item 3. Enhance bicycle, pedestrian and transit access to allow employees and passengers to use non-automobile modes of travel to and from the Airport.

POLICY CE-1F: Pedestrian and Bicycle Access. Provide safe and convenient pedestrian and bicycle access to all areas of the City.

Action Item 1. Maintain and update as needed the Bicycle and Pedestrian Transportation Plan (BPTP) Identifying and prioritizing improvements to the bicycle and pedestrian network to support biking and walking as viable primary modes of travel within Paso Robles. The BPTP shall provide bike facilities on or parallel to all major arterials (including bridges) and a network of off-street paths to facilitate commute and recreational bicycle travel. It shall provide pedestrian facilities connecting new developments to existing City amenities and seek to close gaps in the pedestrian network. The BPTP will identify bicycle priority streets and bicycle routes to create a fully connected network throughout the City.

Action Item 2. Provide safe and convenient pedestrian, bicycle, and transit access to the Cuesta College North County Campus, through the following means:

a) Incorporate access to and from the campus in City circulation, pedestrian, bicycle, and transit planning.

d) Work with Caltrans and SLOCOG to construct bicycle-pedestrian under-crossings of State Route 46E per the adopted BPTP and the Caltrans Corridor Study.

Action Item 3. Establish a formal Safe Routes to School Program and pursue grant funding to encourage children to safely walk and bike to school.

Evaluation

The proposed Project is a public transportation improvement project, which will construct vehicular and multi-use paths that reduce traffic on Highway 46 near Airport Road. The New Airport Road extension and bridge over Huer Huero Creek will connect businesses and residences west of the creek with the Paso Robles Airport, businesses, and residences east of the creek. The Project consists of three main components: (1) the New Airport Road extension and bridge across Huer Huero Creek, (2) realignment of a portion of Airport Road and a new roundabout intersection with New Airport Road, and (3) a Class I trail extending from Union Road in front of Barney Schwartz

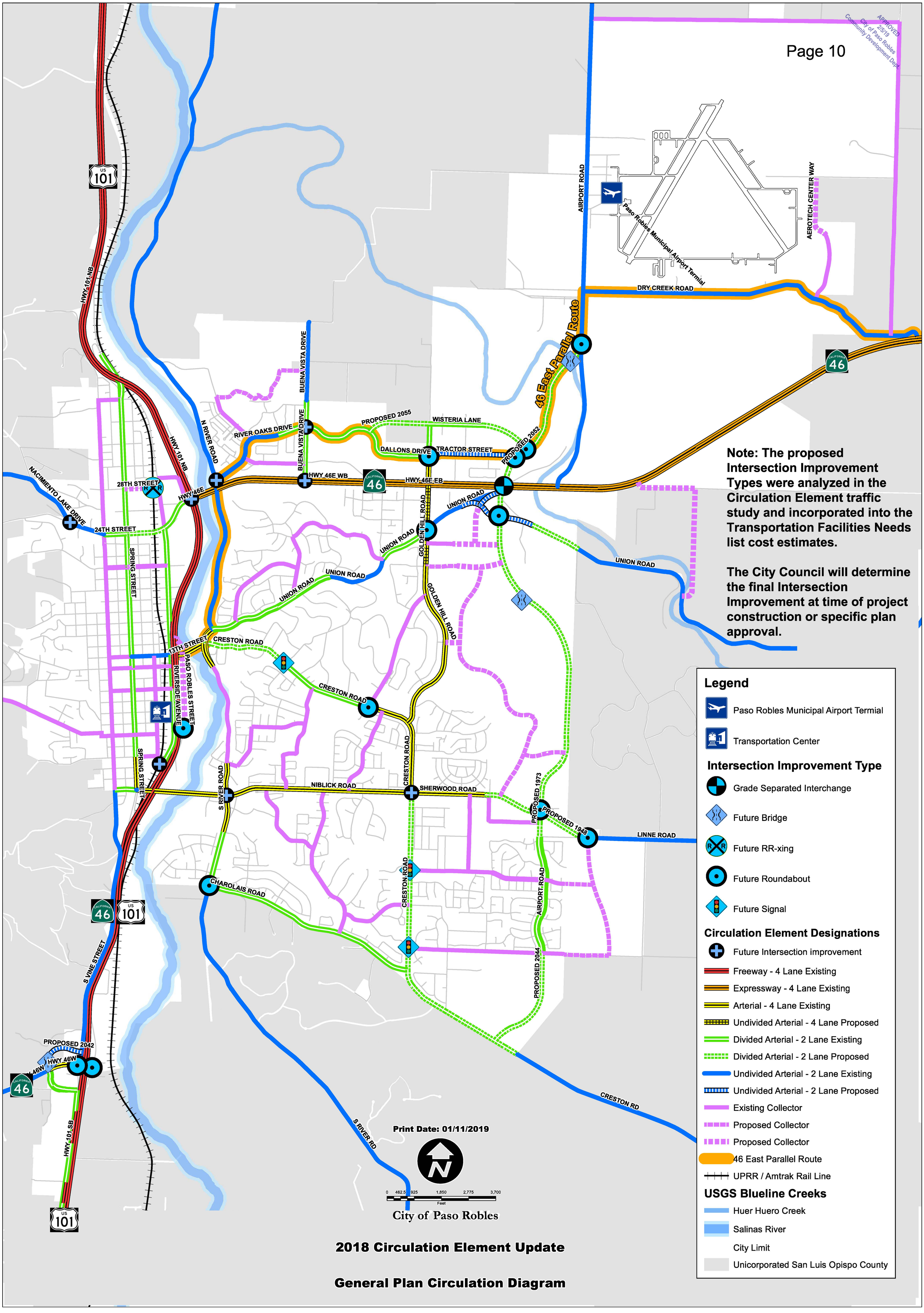
Park to the Cava Robles RV Resort. No new land uses which would utilize public services are proposed with this development.

The proposed Project, as a component of the City's "Parallel Routes" plan, implements many City goals and policies relative to circulation, specifically those related to reducing vehicle miles traveled and congestion at at-grade crossings that characterize this segment of SR 46E, and facilitating multimodal access from the northeast portion of the City to residential and downtown areas. The proposed Project is intended to facilitate safer, more expeditious travel across the northeast portion of the City for all users, vehicular, bicycle and pedestrian.

The Project will have no adverse impact on Transportation.

Conclusion: No Impact.

Figure 3-6. Circulation Element Master Plan Map



3.18 TRIBAL CULTURAL RESOURCES

Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe that is:				
Would the project:	Potentially Significant Issues	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k)?				X
b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.		X		

Setting

Archaeological evidence indicates that San Luis Obispo County was occupied as early as 9000 years ago, as indicated by radiocarbon dates from excavations at Diablo Canyon (Greenwood 1972), Edna Valley (Fitzgerald 2000), Cambria (Gibson 1979) and Paso Robles (Stevens et al. 2004). Because of the relatively small amount of archaeological excavation work that has occurred in the interior central coast ranges, the cultural history of this region has until quite recently been placed within the sequence defined for the Santa Barbara region, where far more archaeological investigations had taken place.

The first regional chronology was proposed by D.B. Rogers (1929) and was based on his excavation of coastal sites around Santa Barbara. This three-part sequence of Early Oak Grove or Millingstone Culture, Intermediate or Hunting People and a late Canaliño Culture is still considered generally valid in terms of broad cultural patterns (Fitzgerald and Jones 1998). Researchers on the Central Coast have continued to refine the chronological framework and several alternative schemes have been proposed, primarily based on sites in the Central Valley, Central Coast and Channel Islands (cf. Moratto 1984: 125; King 1990; Erlandson and Jones 2002; Jones et al. 2007). The following chronology for the San Luis Obispo area builds on this work and incorporates extensive investigations carried out on the Pecho Coast, south of San Luis Obispo (Jones and Codding 2019). All dates are radiocarbon calibrated dates:

Paleoindian	10,000 BC - 8350 BC
Millingstone/ Lower Archaic Early	8350 BC - 3500 BC
Early	3500 BC - 600 BC
Middle	600 BC - AD1000
Middle/Late Transition	AD1000 - AD 1230
Late	AD 1230 - AD 1769
Mission Period	AD 1769 - AD 1830

These periods are based upon shifts in technology that relate to the type and variety of foods consumed, methods of procurement, and social structure. The earliest periods were a time of hunting and gathering, with an emphasis on seed collecting and processing. The tool kit for these periods shows an emphasis on milling equipment and crude cores yielding flaked stone tools. An increased reliance on fishing (evidenced by fishhooks), and on acorns as a dietary staple (mortars and pestles), was indicated later by the addition of new tools.

At the time of European contact, this region of Paso Robles was occupied by the Salinan of the Hokan linguistic group (Mason 1918, Greenwood 1978). The Salinan were bordered by the Esselen and Costanoan to the north the Chumash to the south and the Tulares to the east (Kroeber 1925). The exact boundaries of these groups have not been well established and are the subject of continuing research on the part of ethnohistorians, archaeologists, and some descendants of these groups (Gibson 1983). Unfortunately, relatively little of substance is known about Salinan culture because of the early influence of the missions and the remoteness of their territory. Their traditional lifeways were altered early on and few people outside of the mission system were present to record what remained after secularization (Mason 1912). The inadvertent introduction of European diseases, the consequent high mortality rate, and the pressures of overwhelming social change decimated the population. By 1805, most native villages had been abandoned and the populace had either fled or moved into the mission system (Gibson 1983). The natives who had survived the Spanish colonization period, went on to build and staff the ranchos of the Mexican and American periods that followed. By the beginning of the 20th Century, the Salinan had been integrated into American society (King 1984).

The City of Paso Robles was formally incorporated in 1889. The City's early development is closely associated with its connection to the missions and location along El Camino Real, the artesian hot springs, tourism, ranching, and agricultural activity (El Paso de Robles Historical Society 2020). Later development was driven by the completion of U.S. Highway 101 (U.S. 101) and the establishment of the nearby military base at Camp Roberts. Paso Robles' architectural heritage includes resources from several periods of the city's development.

Tribal Consultation. In July 2015, the legislature added new requirements to the CEQA process regarding tribal cultural resources pursuant to Assembly Bill 52 (Gatto, 2014). By including tribal consultation and evaluation of cultural resources early in the CEQA process, the legislature intended to ensure that local and Tribal governments, public agencies, and project proponents would have information available, early in the project planning process, to identify and address potential adverse impacts to tribal cultural resources. By taking this proactive approach, the legislature also intended to reduce the potential for delay and conflicts in the environmental review process.

The Public Resources Code now establishes that "[a] project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment." (Pub. Resources Code, § 21084.2.) To help determine whether a project may have such an effect, the Public Resources Code requires a lead agency to consult with any California Native American tribe that requests consultation and is traditionally and culturally affiliated with the geographic area of a proposed project. That consultation must take place prior to the determination of whether a negative declaration, mitigated negative declaration, or environmental impact report is required for a project. (Pub. Resources Code, § 21080.3.1.) If a lead agency determines that a project may cause a substantial adverse change to tribal cultural resources, the lead agency must consider measures to mitigate that impact. Public Resources Code §20184.3 (b)(2).

The City of Paso Robles Conservation Element contains goals, policies and action items to ensure the preservation and protection of cultural and archaeological resources.

GOAL C-6: Cultural Resources. Strive to preserve/protect important historic and archeological resources.

POLICY C-6B: Archaeological Resources: Strive to preserve/protect "unique archaeological resources" as defined by the California Environmental Quality Act (CEQA).

Action Item 1. Require the preparation of archaeological studies and/or preliminary evaluation reports for new developments that are subject to CEQA, and the site could potentially contain a "unique archaeological resource." Incorporate mitigation measures identified by such studies into the development.

Evaluation

A total of 40 previous cultural resource studies have been conducted within a one-mile radius of the project area. (Anastasio 2013; Conway 2001, 2006, 2008, 2015; Dills 1975, 1990a, 1990b; Farrell 1999, 2007; Gibson 1988, 2006, 2010; Glover et al. 1999; Gross and Bowen 2010; Haas et al. 2015; Hoover 1985, 1988; Laurie and Pulcheon 2013; Letter and Letter 2018; Lober and Hannahs 2011; Maki 2000; PAR Environmental 1992; Parker, B. 1995, 2000; Parker, J. 1999, 2006; Singer 1987, 1996, 1997, 1998a, 1998b, 2000, 2004, 2005a, 2005b; Singer and Atwood 1988; Smith 1979; Spanne 1977; Waldron 1985). Twelve of these investigations took place at least partially within the current project area.

A light scattering of historic debris within the Project study area was noted by Singer (1996) and also during the fieldwork for the nearby Wisteria project:

"Sparse historical archaeological debris (e.g., glass, ceramic, and various ferrous metals) was observed in very limited quantities within the project area. These materials are likely associated with the aforementioned historic-era structures visible on the 1948 Paso Robles 7.5-minute USGS quadrangle and are still present on the 1978 version.... The buildings are no longer present. The highly diffuse nature and low quantities of historic materials are likely the result of the demolition and removal of the structures. Due to the disturbed nature and lack of concentrated deposits/scatters, these materials are not considered a historical archaeological site and do not warrant formal recordation; they are given no further consideration in the report due to their lack of potential to qualify as historical or unique archaeological resources under CEQA." (Laurie and Pulcheon 2013)

Additionally, four archaeological sites or isolated artifacts have been identified within the one-mile study area radius, three of these are within the project area:

- Resource 40-038329 is an isolated cream colored Monterey chert leaf-shaped projectile point that was found within the project area during a survey for a previously proposed development (Laurie and Pulcheon 2013).
- Site CA-SLO-2826 is located on the flat overlooking Huer Huero Creek to the east. It is a low density lithic (stone) debitage and tool scatter about 24 by 40 meters. The artifacts are of locally available Monterey chert. When recorded in 2013, nine primary flakes, eight secondary flakes, one core and a single early stage biface fragment were seen.
- CA-SLO-2827 is another low density lithic scatter measuring 20 by 45 meters, located about 50 meters south of SLO-2826. Here, 15 primary flakes, 12 secondary flakes, three core fragments and a contracting-stemmed projectile point were seen. A shaped sandstone mano (handstone) was also found.

No subsurface investigations have been undertaken at either of these locations. Although in the project study area, these sites will be avoided and should not be impacted by any construction.

For the proposed Project, a number of site evaluations in the field were conducted in the winter, spring and summer of 2020. A series of transects spaced at approximately one meter apart were walked over a period of several days. Mineral soil visibility was variable, ranging from 10% to 90%. Bare areas of ground and rodent burrows were carefully inspected for the presence of cultural materials. The survey focused on the entire proposed footprint. No prehistoric cultural materials, such as ground stone or chipped stone tools, or shell or bone ecofacts were observed within the project area. As discussed above, occasional historic debris was encountered.

During the field surveys, no previously unknown archaeological sites were found. Two previously identified sites, CA-SLO-2826 and CA-SLO-2827, were re-located and plotted using GIS. Further cultural resources study such as Phase II evaluative test excavations would be required to formally evaluate these resources for their eligibility for inclusion in the CRHR. Through a process of consultation with the project designers, these sites are no longer in the impact zone. The recreational trail will run in the vicinity of, but at the same time avoiding the artifact scatters. Therefore, excavation of the sites is not deemed necessary at this time. Due to the proximity of these sites, however, it is recommended that archaeological monitoring be required during trail construction within 100 feet of the recorded site boundaries. The monitoring should be guided by a Cultural Resource Monitoring Plan written by a qualified archaeologist and approved by the City.

Per the requirements of the City of El Paso de Robles Conservation Element, CEQA, and AB-52 (see Setting), letters were sent to Native American tribes, organizations and individuals. The list of recipients was provided by the Native American Heritage Commission (NAHC) and is comprised of those groups and individuals thought to have a cultural interest in this area, notifying them of the proposed project, inviting them to consult, and requesting information or concerns regarding the proposed project. Additionally, a Sacred Lands Search was conducted at the NAHC. There have been four responses to the letters written.

The following mitigation measures are included to ensure protection of Tribal Resources:

TR – 1. **Training.** The field archaeologist will conduct awareness training for the field crew and supervisors. This will include a description of the types of artifacts that may .be encountered and a discussion of why these are of importance to the Native American community, as well as for an understanding of our local history. Pertinent laws and regulations protecting archaeological sites will be briefly reviewed and any archaeologists monitoring methods will be explained.

TR – 2. **Monitoring.** All trail construction within 100 feet of the recorded site boundaries of CA-SLO-2826 and CA-SLO-2827 shall be monitored by a qualified archaeologist. The monitoring shall be guided by a Cultural Resource Monitoring Plan written by a qualified archaeologist and approved by the City.

TR – 3. Halt Work. In the event that cultural resources, such as prehistoric or historic artifacts, bone, or other cultural materials are encountered during project activities, the City Environmental Coordinator shall be notified, and all work shall be halted within 50 feet of the discovery until a qualified archaeologist can visit the site of discovery and assess the significance of the resource. Project personnel shall not collect or move any archaeological materials or human remains and associated materials. Prehistoric materials can include flaked-stone tools (projectile points, knives, choppers); obsidian, chert, basalt, or quartzite tool-making debris; bone tools; culturally darkened (midden) soil (often containing fire-affected rock, ash and charcoal, shellfish remains, bones); and ground stone milling equipment. The archaeologist will assess the situation, consult with agencies and tribal representatives as appropriate, and make recommendations regarding the treatment of the discovery. Upon completion of the assessment, the archaeologist shall prepare a report documenting the methods and results of the investigation and provide recommendations

for the treatment of the archaeological materials discovered. If the resources are found to be significant, they must be avoided during all future project activities.

Conclusion: Less than significant impact with mitigation incorporated.

3.19 UTILITIES AND SERVICE SYSTEMS

Would the project:	Potentially Significant Issues	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment, or storm water drainage, electric power, natural gas, or telecommunications facilities the construction or relocation of which could cause significant environmental effects?				X
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?				X
c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?				X
d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?				X
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?				X

Setting

The City of Paso Robles Water Division provides potable water to residential and non-residential service connections in the City of Paso Robles. The City's water service area is generally coterminous with the City's incorporated boundaries. The Water Division is responsible for water supply, treatment, distribution, and resource planning. The Paso Robles Groundwater Basin, the Salinas River, and Lake Nacimiento supply municipal water in the City of Paso Robles. The City is currently designing and reviewing a recycled water distribution system that will serve irrigation demands in the City and allow regional recycled water use. (See Section 3.10. Hydrology and Water Quality, for surface and groundwater regulatory setting.)

The City of Paso Robles owns and operates the Wastewater Treatment Plant (WWTP) and sewer collection infrastructure, which serves a population of approximately 32,000 people. Service is provided by a system of sewer mains that connect to the WWTP located at the north end of the city, near the Salinas River. The City Public Works Department also maintains storm drainage facilities in the City to accommodate stormwater runoff. These lines empty into storm drains or natural drainage courses.

Solid waste services for the City of Paso Robles are provided by contract with private service providers. Paso Robles Waste Disposal provides solid waste collection service to the city and Pacific Waste Services operates the city-owned Paso Robles Landfill. Electrical service within the City of Paso Robles is provided by Pacific Gas and Electric Company. Natural gas is supplied by Southern California Gas Company. Telephone service within the City is provided by a number of private carriers, including AT&T, Spectrum, Verizon and Frontier, who also offer internet service to the community.

The General Plan Conservation Element includes goals, policies, and action items for the provision and maintenance of public utilities, facilities and services in the City, including water, wastewater, storm water, and solid waste. Regulations governing solid waste include the California Integrated Waste Management Act (1989), the California Solid Waste Reuse and Recycling Act of 1991, The California Beverage Container Recycling and Litter Reduction Act (2019), and the California Recycling Market Development Act.

Evaluation

The proposed Project will construct vehicular and multi-use paths that reduce traffic on Highway 46 near Airport Road. The New Airport Road extension and bridge over Huer Huero Creek will connect businesses and residences south and west of the creek with the Paso Robles Airport, businesses, and residences north and east of the creek. The Project consists of three main components: (1) the New Airport Road extension and bridge across Huer Huero Creek, (2) realignment of a portion of Airport Road and a new roundabout intersection with New Airport Road, and (3) a Class I trail extending from Union Road in front of Barney Schwartz Park to the Cava Robles RV Resort. No new uses which would require new or relocated utility service, additional water or wastewater demand, or would generate solid waste are proposed with this public infrastructure project. Construction of the Project will comply with all applicable statutes and regulations related to temporary construction water, sanitation facilities, utilities, and waste.

The Project will have no adverse impact on Utilities.

Conclusion: No impact.

3.20 WILDFIRE

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:				
Would the project:	Potentially Significant Issues	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?				X
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project applicants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?				X
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines, or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?				X

Setting

The City of Paso Robles General Plan Safety Element (SE) and associated Local Hazard Mitigation Plan (LHMP) address hazards posing risks to City infrastructure and residents, including dam failure inundation, drought, earthquake, expansive soils, extreme heat, flood, freeze/extreme cold, hazardous materials, land subsistence, landslide, and wildfire.

The City, in collaboration with the San Luis Obispo County Fire Safe Council, has developed a Community Wildfire Protection Plan (CWPP, July 2019), which addresses fire protection planning efforts occurring in the City, in order to minimize wildfire risk to watershed lands, private and public assets, firefighters, and the public. The CWPP identifies and prioritizes pre-fire and post-fire management strategies and tactics meant to reduce the loss risk within the City of Paso Robles and recommends measures to reduce the ignitability of structures throughout the area addressed by the Plan. The CWPP describes the City's physical and social characteristics, as well as wildfire history; identifies and evaluates landscape-scale fire hazard variables; utilizes priority landscape datasets for evaluating wildfire risk; identifies strategic measures for reducing structural ignitability, increasing public education and outreach; and identifies strategic fuel reduction goals and techniques for minimizing wildfire risk.

The CWPP provides a citywide strategic planning framework for hazardous fuel assessment and reduction within the City of Paso Robles so that structures and assets are provided additional protection, reducing the potential of ignitions. With consistent goals of improving fire prevention and suppression efforts, reducing hazardous fuels, restoring fire-adapted ecosystems, and promoting community assistance. The goals of the CWPP include: improving the availability and use of information regarding hazard and risk assessment; providing guidance for land use planning efforts; promoting a shared vision among communities and multiple fire jurisdictions; establishing fire resistance in communities; prioritizing protection of communities and high-priority watersheds; promoting collaboration between government agencies and a broad representation of stakeholders; improving fire suppression and prevention capabilities; promoting post-fire recovery efforts; and maintaining accountability through

performance based monitoring. The CWPP serves as the foundational document to reduce the Community Wildfire Risk in Paso Robles.

The CWPP prioritizes protection of the community, natural resources, and the lives of the public and firefighters. This priority is shared among state and local government, and community stakeholders. Collaboration, establishing goals, priority setting, and accountability provide the framework for the guiding tactical principles of the CWPP, which include:

- Increasing the safety to residents and firefighters during wildland fires
- Reducing the costs and losses associated with wildland fires
- Supporting implementation of WUI building standards through coordination and cooperation with the City of Paso Robles Community Development Department
- Supporting the implementation and maintenance of defensible space around structures
- Supporting project work and planning efforts that encourage the development and/or maintenance of safe ingress and egress routes for emergency incidents
- Promoting cooperation between fire agencies in the County to minimize wildland fire damage through strategic fuel treatment, land use, and public outreach projects
- Utilizing fire prevention efforts to reduce ignitions within the City
- Conducting post-incident analysis to evaluate success in achieving the 95% threshold of keeping fires less than 10 acres in size
- Promoting public education efforts about wildland fire through the support of the San Luis Obispo County Community Fire Safe Council (SLO FSC).

Evaluation

The proposed Project is a public transportation improvement project, which will construct vehicular and multi-use paths that reduce traffic on Highway 46 near Airport Road. The New Airport Road extension and bridge over Huer Huero Creek will connect businesses and residences south and west of the creek with the Paso Robles Airport, businesses, and residences north and east of the creek. The Project consists of three main components: (1) the New Airport Road extension and bridge across Huer Huero Creek, (2) realignment of a portion of Airport Road and a new roundabout intersection with New Airport Road, and (3) a Class I trail extending from Union Road in front of Barney Schwartz Park to the Cava Robles RV Resort. No new land uses which would increase wildfire risk are proposed with this development.

The proposed Project, as a component of the City's "Parallel Routes" plan, implements many City goals and policies relative to circulation, specifically those related to reducing vehicle miles traveled and congestion at at-grade crossings that characterize this segment of SR 46E, and facilitating multimodal access from the northeast portion of the City to residential and downtown areas. The proposed Project is intended to facilitate safer, more expeditious travel across the northeast portion of the City for all users, vehicular, bicycle and pedestrian, including emergency vehicles. The proposed Project will not impair emergency response or evacuation plans, exacerbate wildfire risks, or require infrastructure that would increase fire risk.

The Project will have no adverse impact on risk of Wildfire.

Conclusion: No impact.

3.21 MANDATORY FINDINGS OF SIGNIFICANCE

Would the project:	Potentially Significant Issues	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?				X
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)				X
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?				X

The proposed Project is a public transportation improvement project, which will construct vehicular and multi-use paths that reduce traffic on Highway 46 near Airport Road. The New Airport Road extension and bridge over Huer Huero Creek will connect businesses and residences west of the creek with the Paso Robles Airport, businesses, and residences east of the creek. The Project consists of three main components: (1) the New Airport Road extension and bridge across Huer Huero Creek, (2) realignment of a portion of Airport Road and a new roundabout intersection with New Airport Road, and (3) a Class I trail extending from Union Road in front of Barney Schwartz Park to the Cava Robles RV Resort. The proposed Project, as a component of the City's "Parallel Routes" plan, implements many City goals and policies relative to circulation, specifically those related to reducing vehicle miles traveled and congestion at at-grade crossings that characterize this segment of SR 46E, and facilitating multimodal access from the NE portion of the City to residential and downtown areas. The proposed Project is intended to facilitate safer, more expeditious travel across the northeast portion of the City for all users, vehicular, bicycle and pedestrian.

As described in this Expanded Initial Study/Mitigated Negative Declaration, implementation of the proposed Project would have the potential to adversely impact aesthetics, air quality, biological resources including Special Status plants and wildlife, previously undiscovered cultural/tribal resources and/or human remains, geology and soils, hazards, hydrological/water quality resources, and noise. With implementation of the mitigation measures prescribed in this Expanded Initial Study/Mitigated Negative Declaration, including AES-1-2, AQ-1-2, BIO-1-16, CR-1-3, GEO-1-7, HAZ-1, HYD-1-5, NOI-1-2, and TR-1-3, as well as compliance with City of Paso Robles requirements, and application of standard practices, implementation of the proposed Project would not: (1) degrade the quality of the environment; (2) substantially reduce the habitat of fish or wildlife species; (3) cause a fish or wildlife population to drop below self-sustaining levels; (4) threaten to eliminate a plant or animal community; (5)

reduce the number or restrict the range of a rare or endangered plant or animal; or (6) eliminate important examples of the major periods of California history or prehistory. Project impacts would be less than significant with incorporation of all mitigation measures.

Section 15065(a)(3) of the CEQA Guidelines states that a project's cumulative impacts are the possible environmental effects that may be cumulatively considerable when considered with other reasonably foreseeable projects. Section 15355 of the CEQA Guidelines defines a cumulative impact as an impact which is created as a result of the combination of the project evaluated in the CEQA document together with other projects causing related impacts. The proposed Huer Huero Bridge and Roundabout Project will not result in cumulatively considerable environmental effects. The multimodal public transportation infrastructure improvements implemented with the project will allow reasonably foreseeable projects in the City to proceed with reduced traffic and associated air quality, energy, and greenhouse gas impacts, and increased connectivity and safety.

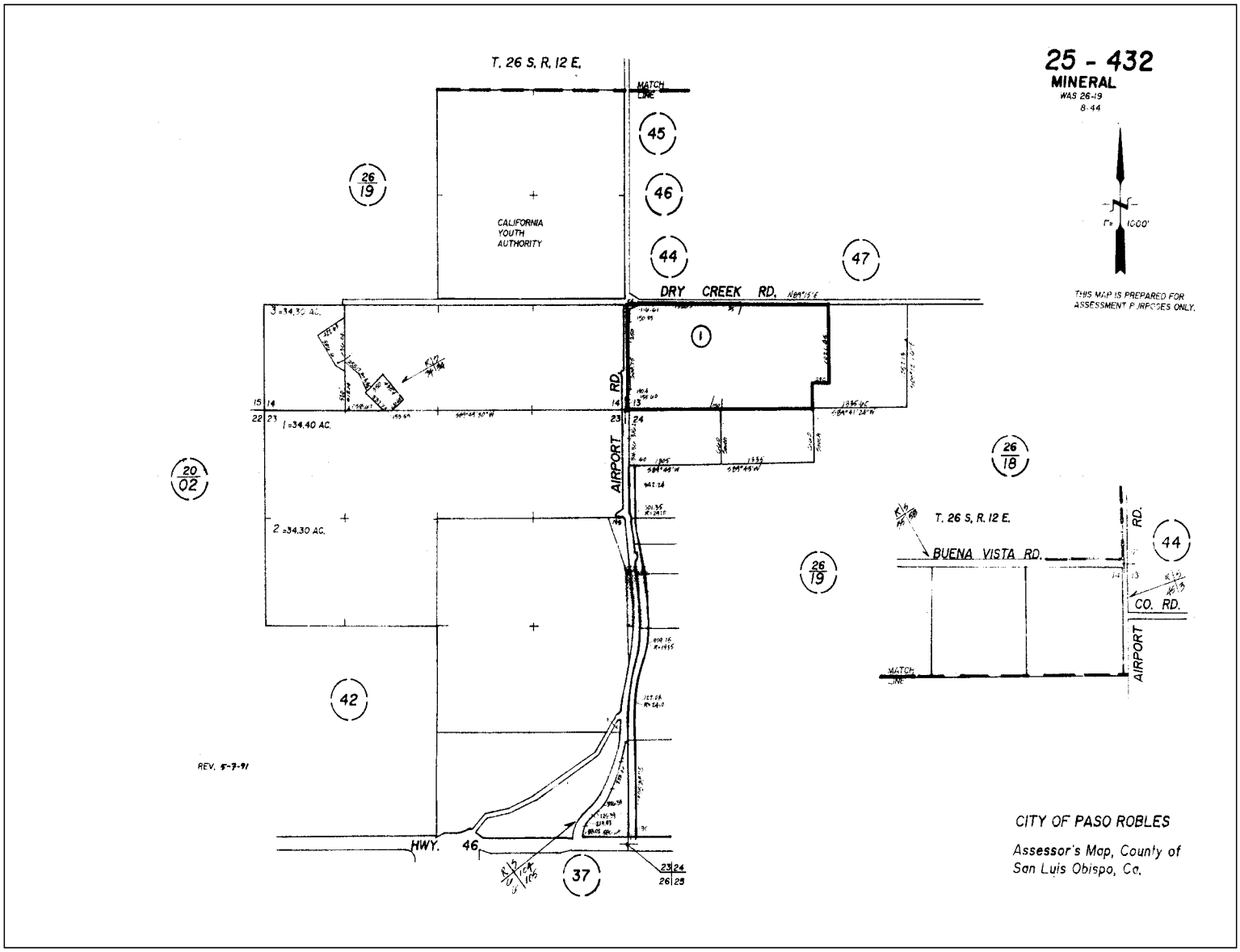
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- **Appendix B. Central Coast Transportation Consulting Vehicle Miles Traveled Report, 5/11/2020**
- **Appendix C. Yeh and Associates Preliminary Geotechnical Design Report, 3/9/2021**
- **Appendix D. Avila and Associates Preliminary Hydraulic Report, 11/10/2020**
- **Appendix E. Avila and Associates Hydraulic Analysis Technical Memorandum, 4/13/2021**
- **Appendix F. Althouse and Meade Biological Report November 2021**
- **Appendix G. Althouse and Meade Wetland Delineation November 2020**
- **Appendix H. Althouse and Meade Arborist Report November 2021**
- **Appendix I. CRMS Cultural Resources Inventory, October 2020**
- **Appendix J. Kovesdi Consulting Visual Assessment, July 2021**

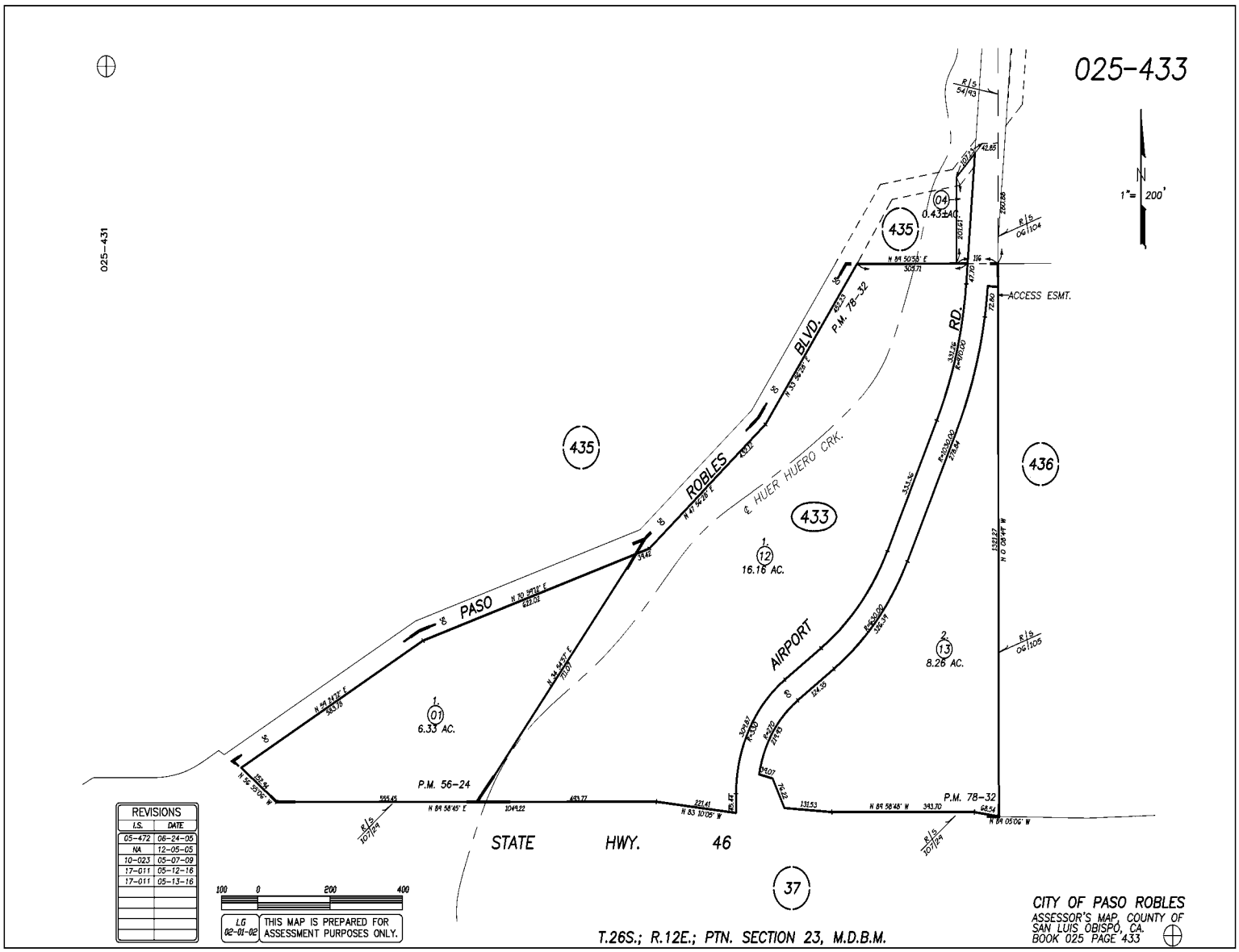
APPENDIX A. PROJECT ASSESSOR'S PARCEL NUMBER LIST

Project Area Assessor's Parcel Numbers List

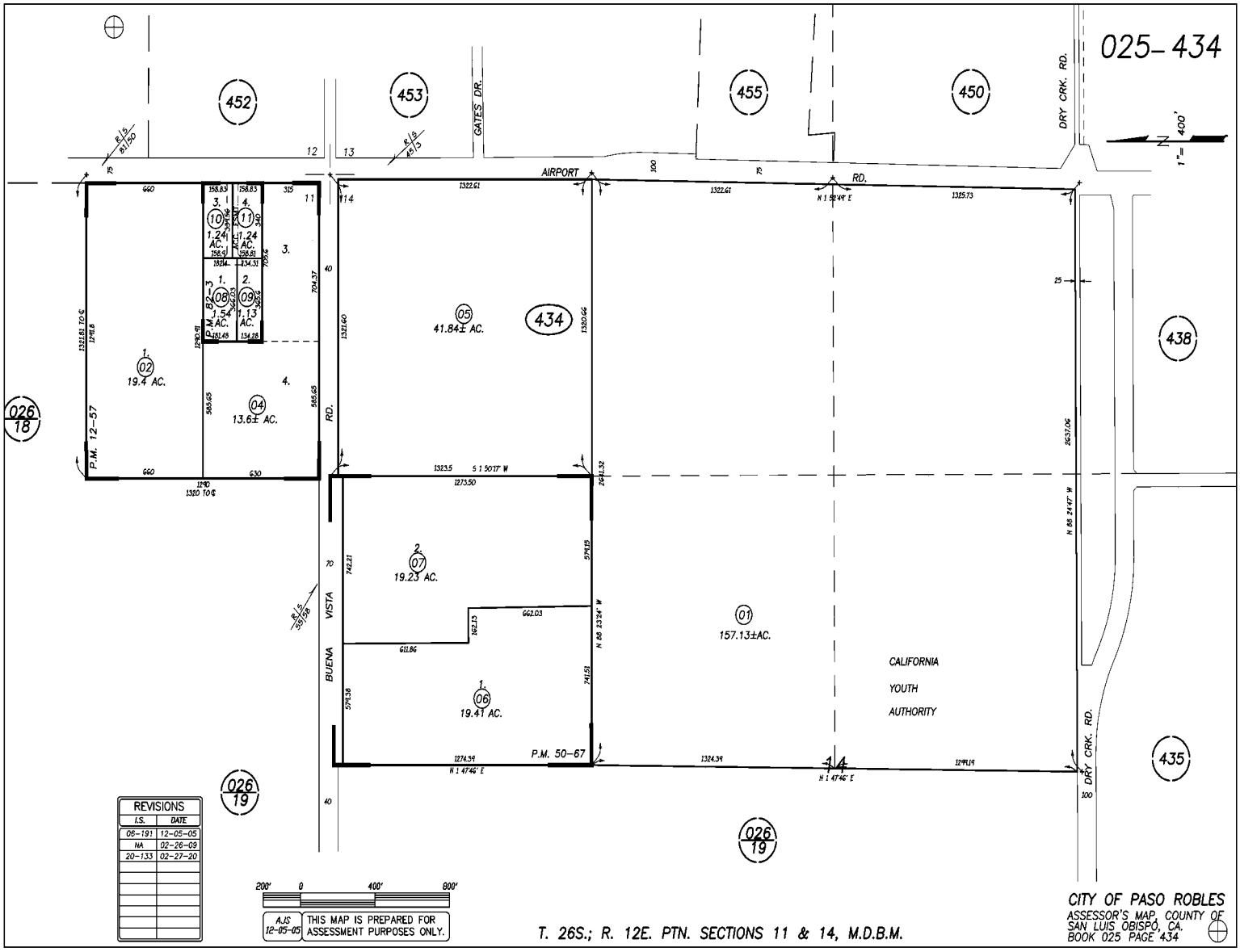
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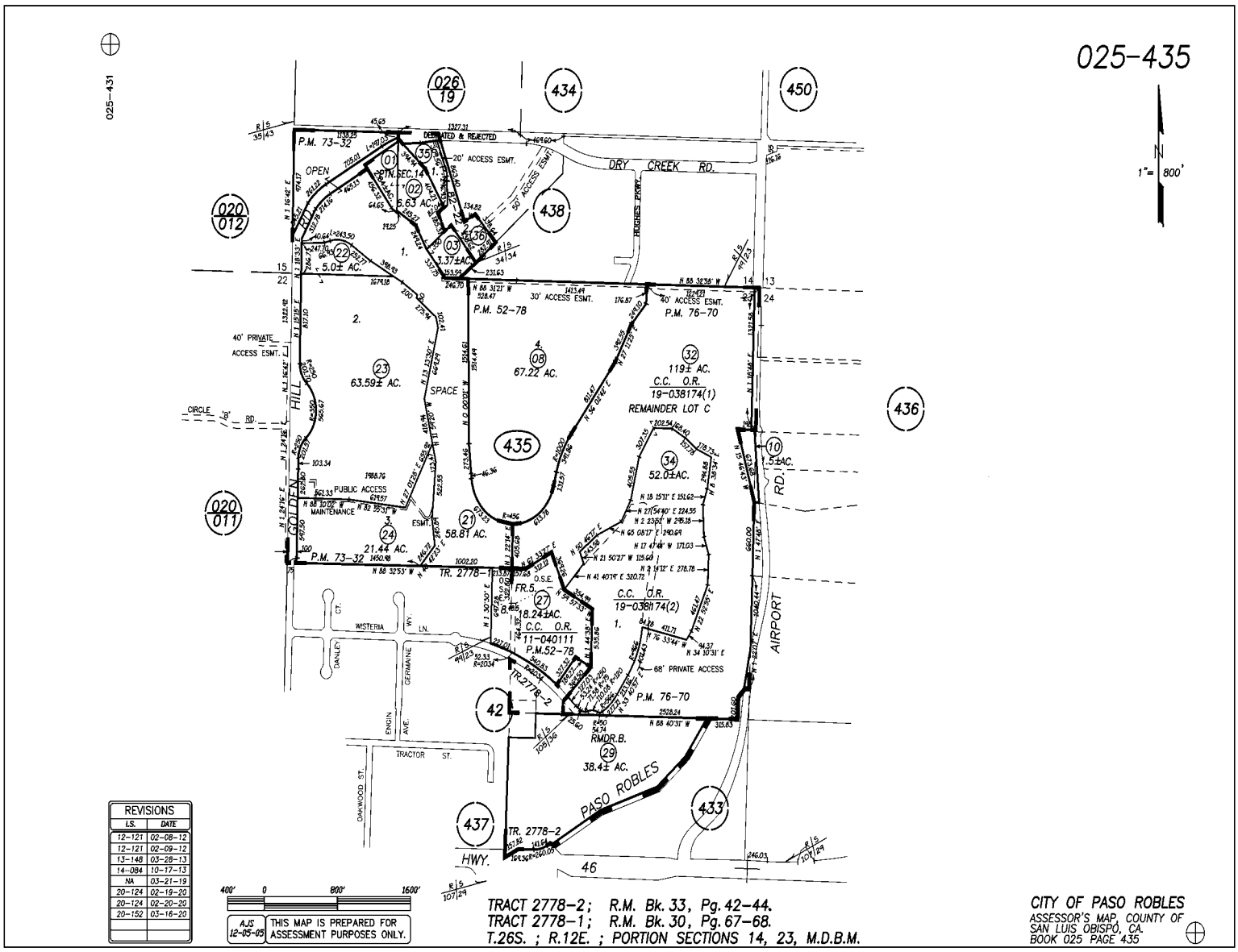
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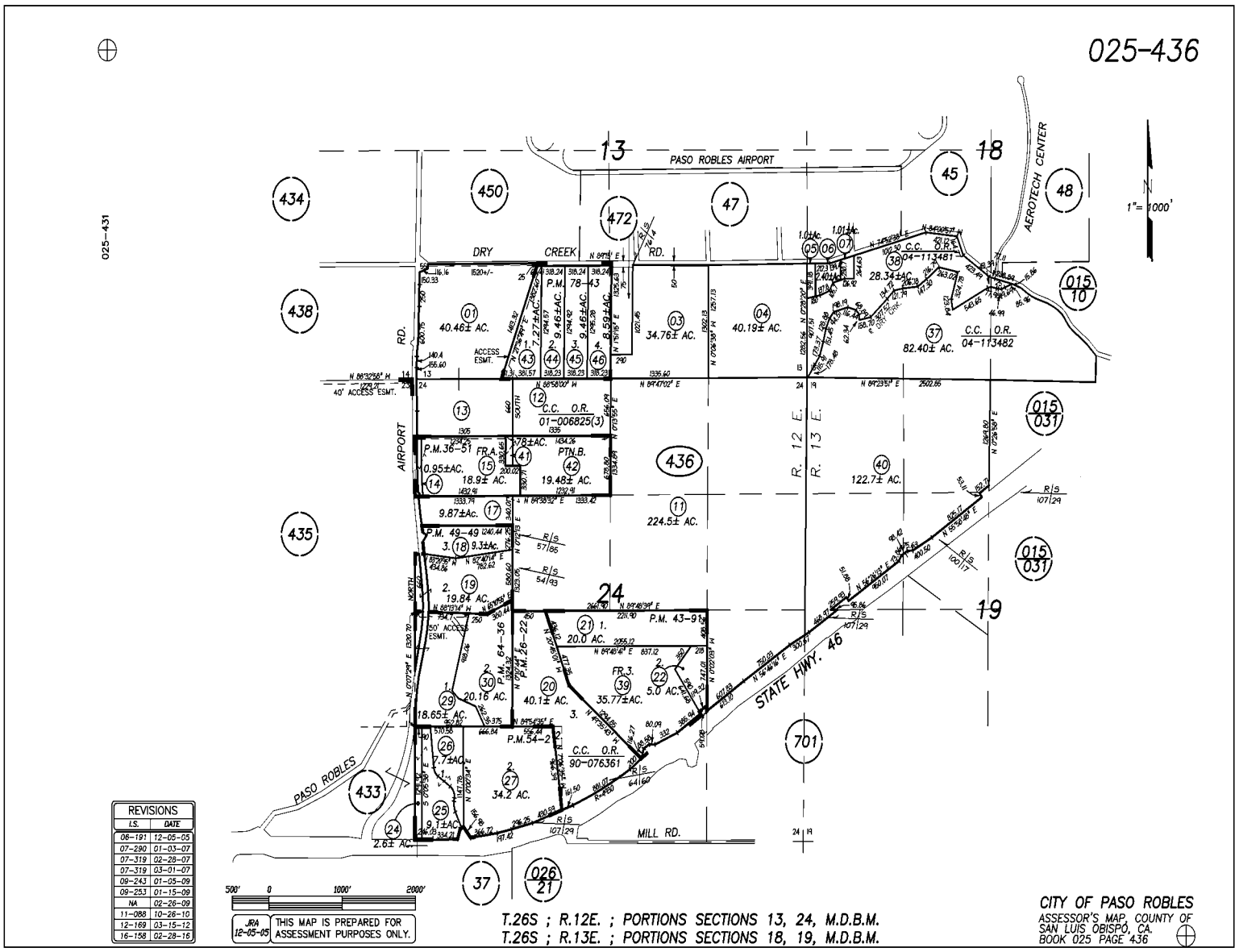
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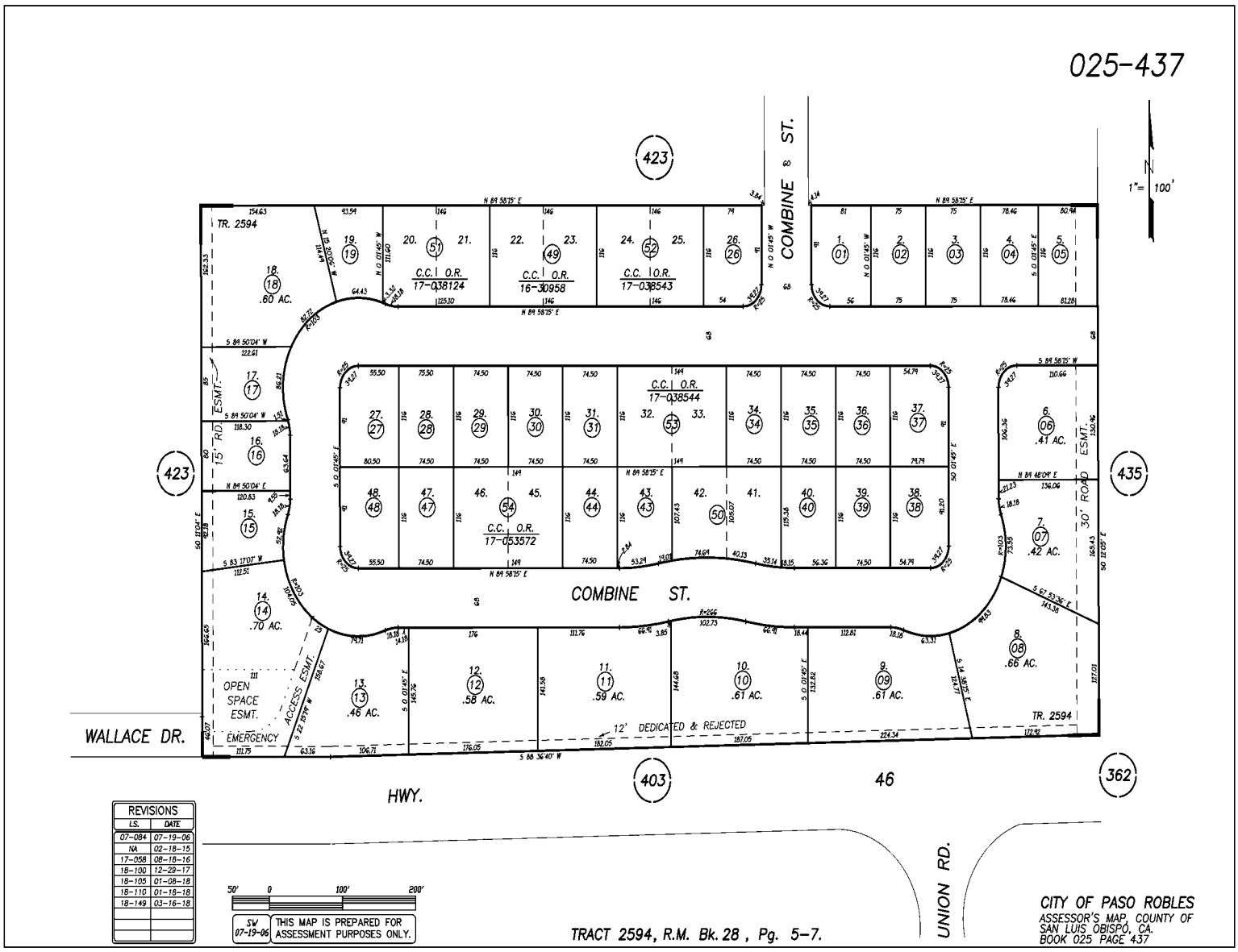
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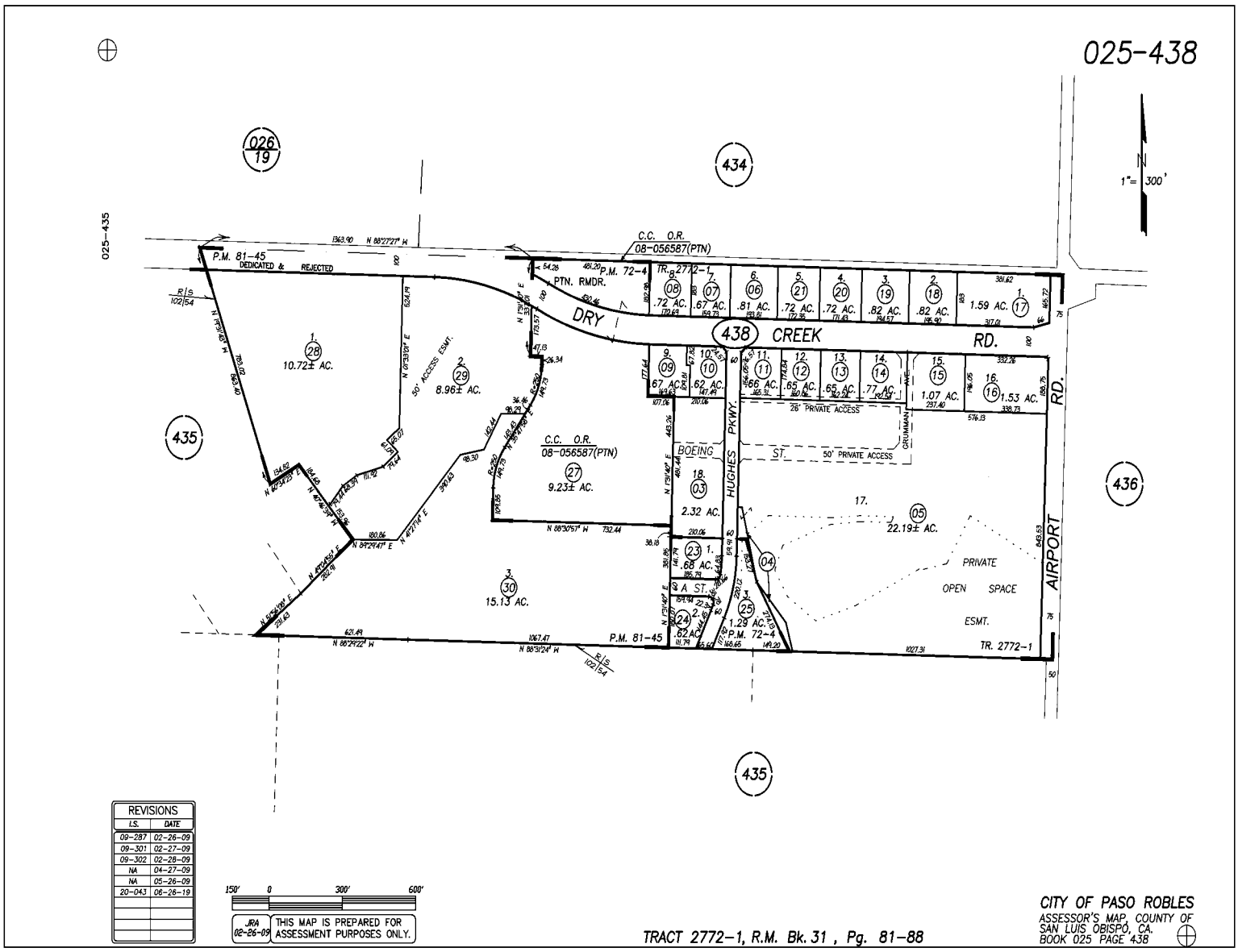
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APPENDIX B. CENTRAL COAST TRANSPORTATION CONSULTING VEHICLE MILES TRAVELED REPORT, 5/11/2020

Central Coast Transportation Consulting
Traffic Engineering & Transportation Planning

MEMORANDUM

Date: May 11, 2020

To: Jorge Aguilar, Wallace Group

From: Joe Fernandez, CCTC

Subject: Huer Huero Creek Bridge Vehicle Miles Traveled

This memorandum summarizes the vehicle miles traveled (VMT) analysis prepared in support of the Huer Huero Creek Bridge project environmental analysis. The bridge is a critical link in the City's parallel routes strategy reducing reliance on SR 46E for local trips. The parallel routes strategy has been endorsed by multiple stakeholders in the SR 46E Comprehensive Corridor Study and is expected to reduce VMT. The bridge will reduce VMT by providing a more direct route for drivers and improved conditions for pedestrians and cyclists.

The City of Paso Robles Travel Demand Model (TDM) was applied to calculate VMT with and without the bridge. Model runs with and without the bridge were conducted for baseline (2017) and cumulative (2045) conditions. Table 1 summarizes the resultant VMT within the region.

Table 1: Huer Huero Bridge VMT

Scenario	Total VMT
Baseline (2017)	9,596,012
Baseline With Bridge	9,595,621
Project Change	*-391*
Cumulative (2045)	11,710,256
Cumulative With Bridge	11,707,875
Project Change	*-2,381*

Source: City of Paso Robles Travel Demand Model, CCTC

The TDM shows that constructing the bridge will reduce regional VMT. This matches expectations since the bridge will provide a shorter connection between Wisteria Lane and Airport Road.

Senate Bill 743 requires a VMT analysis of transportation projects that may induce demand for travel. The Office of Planning and Research issued a Technical Advisory on Evaluating Transportation Impacts in CEQA ('Advisory', OPR, December 2018) which describes methods for estimating VMT for transportation projects. The Advisory identifies specific projects that would not likely lead to substantial VMT increases, including the *"Addition of roadway capacity on local or collector streets provided the project also substantially improves conditions for pedestrians, cyclists, and, if applicable, transit."* The bridge project improves conditions for pedestrian and bicycle travel.

The Advisory describes a method to calculate induced demand using elasticities, but notes that this method *"may not be suitable for a new road that provides new connectivity across a barrier (e.g., a bridge across a river) if it would be expected to substantially shorten existing trips."* The bridge will shorten travel distances between Wisteria Lane and Airport Road.

OPR guidance therefore suggests, and the analysis above confirms, that the bridge project will reduce VMT and will not induce travel. Please let me know if you have any questions.

(805) 316-0101
895 Napa Avenue, Suite A-6, Morro Bay, CA 93442

APPENDIX C. YEH AND ASSOCIATES PRELIMINARY GEOTECHNICAL DESIGN REPORT, 3/9/2021

PRELIMINARY GEOTECHNICAL DESIGN REPORT

Huer Huero Creek Bridge and Roundabout

Paso Robles, California

Yeh Project No.: 219-260

March 9, 2021



Prepared for:
Wallace Group, Inc.
612 Clarion Ct.
San Luis Obispo, California 93401
Attn: Mr. Jorge Aguilar, P.E.

Prepared by:
Yeh and Associates, Inc.
391 Front Street, Suite D
Grover Beach, California 93433
Phone: 805-481-9590

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(805) 481-9590
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March 9, 2021

Project No. 219-260

Wallace Group, Inc.
612 Clarion Court
San Luis Obispo, California 93401

Attn: Mr. Jorge Aguilar, P.E.

Subject: **Preliminary Geotechnical Design Report, Huer Huero Creek Bridge and Roundabout-PA/ED Phase, DPW 19-05, Airport Road, Paso Robles, San Luis Obispo County, California**

Dear Mr. Aguilar:

Yeh and Associates, Inc. is pleased to submit this *Preliminary Geotechnical Design Report* for the Project Approvals and Environmental Documents (PA&ED) phase of the Huer Huero Creek Bridge and Roundabout project in Paso Robles California. This report was prepared in accordance with the terms of agreement between Yeh and Associates and Wallace Group dated March 27, 2020. The project will generally consist of the realignment of Airport Road and design of a multi-span bridge and a roundabout in Paso Robles, California. A regional multi-use trail along Huer Huero Creek is also under consideration for future design phases. This report presents the results of our preliminary geotechnical evaluation of the site as input to the Project Approval/Environmental Documentation (PAED) phase of the project.

This report was prepared in general accordance with Caltrans guidelines for District Preliminary Geotechnical Reports (Caltrans 2013a) and provides a discussion of the project alternatives, site conditions, geologic conditions, seismicity and faulting and geotechnical considerations regarding the road realignment, roundabout, bridge foundation alternatives, earthwork, and preliminary pavement design. Preliminary recommendations are based on Advanced Planning Study sheets and preliminary design information provided by Wallace Group and Quincy Engineering, the designer of the bridge that will cross Huer Huero Creek.

We appreciate the opportunity to be of service. Please contact Judd King at 805-481-9590 x285 or jking@yeh-eng.com if you have questions or require additional information.

Sincerely,
YEH AND ASSOCIATES, INC.



Judd J. King, PE, GE
Sr. Geotechnical Engineer

Reed Hooke, EIT
Staff Engineer



Jamie L. Cravens, PE
Project Engineer

Reviewed by:

Michael S. Finegan, PE
Sr. Project Manager

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1. INTRODUCTION

Wallace Group retained Yeh and Associates to provide geotechnical services for the design of the Huer Huero Creek Bridge and Roundabout Project along Airport Road in Paso Robles, California. The project generally consists of the realignment of Airport Road as well as a new bridge and roundabout in order to relieve congestion from the intersection of Airport Road and California Highway 46. The location of the project site is shown on Figure 1.

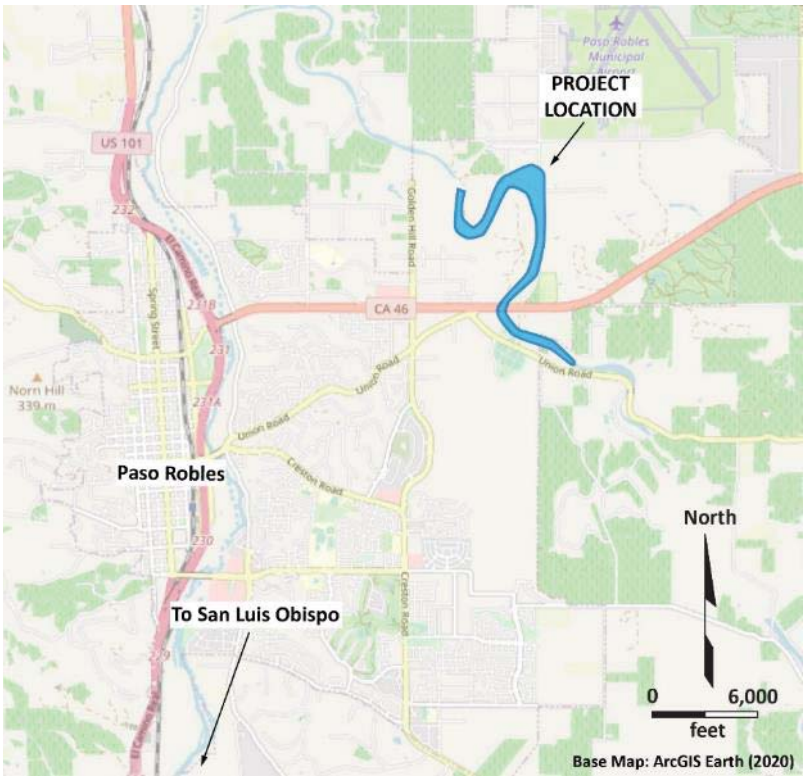


Figure 1: Project Location Map

This report provides geotechnical considerations as input to the Project Approval/ Environmental Document (PAED) phase of the project. The preliminary geotechnical evaluation for this report has consisted of a program of project coordination, review of existing geotechnical data, site reconnaissance and field exploration, and preliminary analyses. Preliminary geotechnical recommendations are provided for the design of the abutments and piers for the bridge and pavement for the roundabout and Airport Road realignment. This report is intended for preliminary planning purposes only. Further study and preparation of a project *Geotechnical Design Report* will be completed for final design and preparation of project Plans, Specifications, and Estimates (PS&E).

1.1 PROJECT DESCRIPTION

The project includes a new bridge at Huer Huero Creek and a roundabout intersection north of the bridge to connect existing Airport Road with a new alignment of Airport Road. Interregional traffic demands on Highway 46 in the eastern portion of Paso Robles has increased and is impacting local traffic patterns and safety. Several traffic studies initiated by Caltrans, the City of Paso Robles, San Luis Obispo Council of Governments, and San Luis Obispo County concluded that improving parallel routes within the City of Paso Robles is needed to provide local traffic alternative connections and relieve traffic pressure on the interregional Highway 46 route (Paso

2019). The City of Paso Robles (City) is planning the New Airport Road realignment as one of these new parallel routes. A northern portion of the road will also be realigned to improve sight distance. Auxiliary roadway connections beyond the limits of this project will likely be addressed in future project phases or as a part of proposed development projects.

The Huer Huero Creek Bridge will be a multi-span, 587.5-foot long cast-in-place, prestressed concrete box girder structure with a width of 44 feet that will include two travel lanes, two shoulders, and a sidewalk (Wallace 2020a). Abutments for the bridge will be located outside of the 100-year flood plain, however, bents will be located within the flood plain. The bridge approaches will consist of cuts and fills up to approximately 20 feet in height. Earthwork for the roadways beyond the bridge approaches will include cut and fill heights up to 10 feet. We anticipate that utilities will be routed through the new roadway and bridge and that the road will be paved with hot-mix asphalt.

A regional trail is also planned along Huer Huero Creek. The trail will have a length of approximately 13,600 feet and will connect areas north and west of the bridge to areas south of Highway 46. The trail is discussed in this report; however, we understand that the design of the trail will be undertaken at a later date.

1.2 Existing Facilities

The existing alignment of Airport Road runs north to south and connects to the Paso Robles Airport, industrial complexes, farms, wineries, and rural residences to Highway 46 to the south. Highway 46 crosses over Huer Huero Creek approximately 1 mile upstream of the project site via two existing bridges (49C-0034 R/L). Barney Schwartz Park is located at the southerly terminus of the project area. The Ravine Waterpark as well as agricultural and industrial properties also border the project area along Huer Huero Creek.

1.3 Pertinent Reports and Explorations

The following reports, maps, plans, and documents were reviewed for this project in addition to our site reconnaissance and field exploration program. Pertinent data used to supplement this report are included in Appendix C.

- Technical Memorandum prepared by Todd Groundwater for the Groundwater Recharge Evaluation along Huer Huero Creek (Todd 2017). Four hollow stem auger borings (SB1 through SB4) and 5 cone penetration tests (CPT1 through CPT4b) were performed within the project area;
- Log of Test Borings Prepared by the California Department of Transportation for the Huer Huero Creek Bridge (Caltrans 1990). Two rotary borings (B-1 and B-2) were performed in the project area;

- Geotechnical report for the Paso Robles Recycles Water Distribution System by Yeh and Associates (Yeh 2019). Two hollow stem auger borings (18P-10 MW and 18P-11) were performed in the project area; and
- Preliminary Geotechnical Memo for this project by Yeh and Associates (Yeh 2020). Five Streambed samples (A through E) were collected from the project area.

2. Site Conditions

2.1 Terrain and Vegetation

Elevations in the project vicinity range from approximately 705 feet to elevation 810 feet. The terrain is primarily flat within the Huer Huero Creek flood zone with adjacent hillsides that range in grade up to approximately 60 percent (CalTopo 2020). Huer Huero Creek flows north adjacent to the existing Airport Road alignment before meandering west near the location of the proposed bridge and roundabout. Vegetation primarily consists of grassland with stands of oak, sycamore, cottonwood, and willow trees. Huer Huero Creek is ephemeral and actively flows during periods of prolonged heavy precipitation.

2.2 Climate

The climate data (www.usclimatedata.com) for Paso Robles, California near the project site reports an average annual rainfall at of 12.8 inches. The majority of the rainfall is reported to occur from October through April. The reported monthly average temperature ranges from a low of 34 degrees in December to a high of 93 degrees in July and August. Construction in the region typically occurs year-round and there is no potential for frost heave to affect the project site.

2.3 Prior Land Use

Land-use within the project area generally consists of undeveloped grassland used for cattle grazing.

2.4 Artificial and Natural Features of Engineering and Construction Significance

The following features could impact the design of the project:

- The bridge will traverse land with varied surface elevations. The type of bridge construction will need to consider the surface elevation below the bridge. Falsework for cast-in-place construction will need to account for the varied ground elevations.
- Airport Road will be realigned and will cut through a hillside. Cut slope angles will impact the amount of land that will need to be acquired for the realignment. Existing cut slopes along Airport Road are approximately 1h:1v (horizontal to vertical) or flatter.

- The proposed multi-use trail follows the ephemeral creek where flows typically occur during or shortly after heavy precipitation events. Design of the trail alignment should consider the impacts of flooding on trail use and long-term maintenance that could include periodic reconstruction of trail segments impacted by flooding.



Figure 2: Existing Levee Area Between Approximately Stations 210+00 to 220+00

- An existing levee is present south of Highway 46 from approximately station 210+00 to 220+00 (see Plate 1 and Figure 2). The levee prism is approximately 10 feet wide at the top, 6 to 10 feet in height, with slopes of approximately 1.5h:1v to 1h:1v. The levee consists of fill of unknown origin, consistency, and density. The existing levee appears to have been constructed by adjacent landowners and likely does not meet typical engineering design standards for flood protection nor for support of the proposed multi-use trail, and may be prone to erosion, slope instability, and settlement.



Figure 3: Existing Fill Zone Between Approximately Stations 220+00 to 228+00

- A large fill zone is located adjacent to Highway 46 between approximately stations 222+00 to 228+00 (see Plate 1 and Figure 3). Approximately 20 to 30 feet of fill of unknown origin, consistency, and density was placed at this location.

3. Field Exploration and Testing

The field exploration program consisted of collecting streambed samples, drilling, and laboratory testing. The locations of the field explorations are shown on Plates 1 and 2. Boring logs and laboratory test results are presented in Appendices A and B.

3.1 Site Reconnaissance and Creek Bed Sampling

Site reconnaissance was performed by Yeh and Associates in March 2020 to observe the proposed project layout and alternatives as they relate to the existing topography and vegetation. Five samples of the surficial sediments in the creek bed were collected at this time, and a *Level Logger* groundwater measuring device was also installed on-site in boring 18P-10 from Yeh's (2019) previous field exploration to automatically record groundwater levels once per day. The *Level Logger* is still currently installed within the boring and is recording water levels on a daily basis as of the date of this report.

3.2 Drilling

Drilling services were provided by Britton Exploration of Los Gatos, California during the period of November 9 to 12, 2020 and S/G Drilling Co. of Lompoc, California on December 8, 2020. Britton used a track-mounted CME55 drill rig equipped with 6-inch diameter solid stem augers and 4-inch diameter mud rotary equipment to advance borings 20E-01 to 20E-03, and 20E-05 to 20E-08. S/G used a truck-mounted CME85 equipped with 8-inch diameter hollow stem augers to advance boring 20E-04. Borings 20E-01 to 20E-05 were drilled to depths of approximately 21.5 to 121.5 feet below the ground surface on the current property. Borings 20E-06 to 20E-08 were drilled to a depth of approximately 16.5 feet below the ground surface along Airport Road.

Yeh personnel logged the subsurface conditions encountered during the drilling, secured soil sampled for subsequent laboratory testing, and prepared the logs for the borings presented in Appendix A. Drive samples, a description of the subsurface conditions encountered, pocket penetrometer test results, and blow counts (N-Values) recorded during drive sampling are presented on the logs in Appendix A.

Drive Samples. Soil samples were collected at typical 5-foot intervals by driving either a modified California or standard penetration test (SPT) split spoon sampler. The SPT sampler has a 2-inch outside diameter, a 1-3/8-inch inside diameter and is equipped for but was used without liners. The modified California sampler has a 3-inch outside diameter, a 2-3/8-inch inside diameter and was used with 1-inch-high brass liners. The samplers were driven using a 140-pound automatic trip hammer and collected using ASTM D-1586 procedures (the Standard Penetration Test). Bulk samples of the subgrade soil were collected from the augers at the depth intervals noted on the logs.

Pocket Penetrometer Tests. Pocket penetrometer tests were performed in the field on the trimmed end of selected samples to help estimate the undrained shear strength of cohesive

materials. The undrained shear strength results from the pocket penetrometer tests are noted on the logs in Appendix A (noted as "pp").

Backfill and grouting. Borings 20E-01 through 20E-03 were backfilled with a mixture of Portland cement and bentonite grout. Borings 20E-04 through 20E-06 were backfilled with native soil. Borings 20E-07 and 20E-08 that were drilled within the roadway were backfilled with native soil and the upper 6 inches patched with rapid set concrete dyed black.

3.3 Laboratory Testing

Tests for moisture content, unit weight, particle size distribution by sieve analysis, Atterberg limits, pH, resistivity, and unit weight versus moisture content relation by the modified Proctor test were performed at our office and laboratory in Grover Beach, California. Tests for R-value as well as soluble sulfates and soluble chlorides were performed by Cooper Testing Labs in Palo Alto, California. Tests for consolidation and triaxial compressive strength using consolidated undrained (CU) and unconsolidated undrained (UU) loading were performed at the Geo-E lab at the Cal Poly Civil Engineering Department in San Luis Obispo, California. The tests were performed in accordance with applicable ASTM or Caltrans standards. Selected laboratory test results for completed moisture content, unit weight, and classification are presented on the logs in Appendix A. The results of laboratory tests are reported in Appendix B.

4. Geology

4.1 Geologic Setting

The project is located in the Coast Ranges geomorphic province, which extends from the Transverse Ranges in southern California to the Klamath Mountains in northern California and into Oregon. The province is characterized by north-northwest trending mountain ranges composed of sedimentary, volcanic, and metamorphic rocks. The basal units are predominantly composed of Jurassic and Cretaceous age rocks with Tertiary age rocks commonly overlying the older formations along the flanks and foothills of those ranges. Quaternary sediments are found within intervening drainages, valleys, and coastal areas. The project is located within the Salinas River watershed, approximately 2.5 to 3.2 miles southeast of the confluence of Huer Huero Creek and the Salinas River.

The predominant geologic structure within the Coast Ranges is a series of northwest-southeast trending faults of various styles, activity, and orientation. Figure 4 shows a portion of Dibblee's (2004) regional geologic map that includes the project vicinity. Geologic structure within the project vicinity includes an unnamed anticline mapped by Dibblee (2004) approximately 0.8 to 2

miles southwest of the project area. The closest fault to the project site is the Rinconada Fault, mapped by Dibblee (2004) as approximately 3.5 miles southwest of the project area.

The surface geology in the project vicinity is mapped as Quaternary-aged surficial sediments (Qa/Qg) described as alluvial gravel and sand of the valley areas and stream channels, as well as older surficial sediments (Qoa) described as terraces of dissected alluvial gravel and sand. Hillsides in the project vicinity are mapped as Pleistocene (and possibly late Pliocene age) sedimentary Paso Robles Formation (QTp), which also underlies the alluvial sediments in the valley areas.

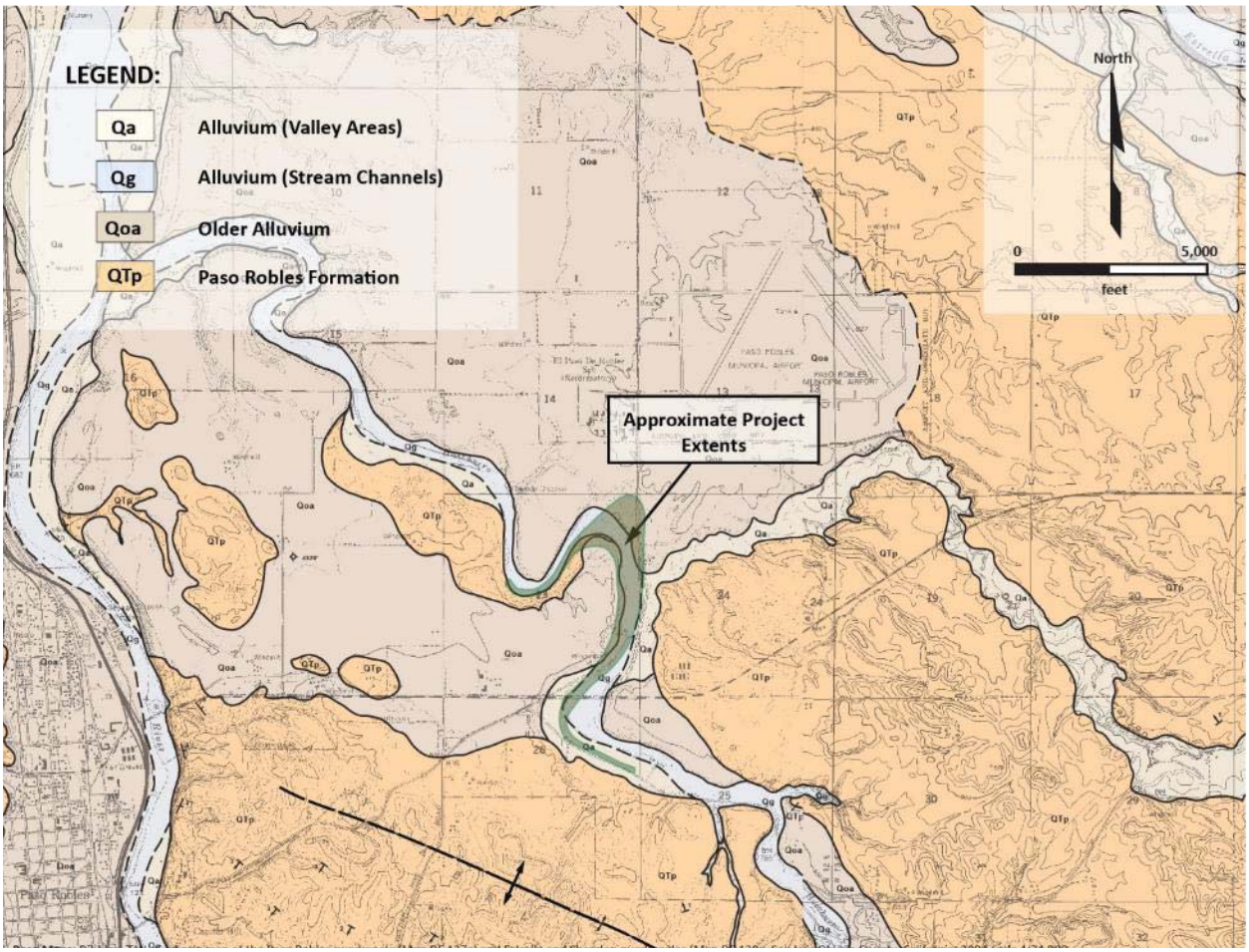


Figure 4: Geologic Map (Dibblee 2004)

4.2 Subsurface Conditions

4.2.1 Geotechnical Conditions

Plate 3 presents an interpreted subsurface profile for the new bridge location. The approximate locations of the borings are shown on Plates 1 and 2 and noted on the logs in Appendix A.

Subsurface conditions at the project site consisted of alluvium (Stream Channels, Qg), alluvium (Valley Areas, Qa), older alluvium (Qoa), and Paso Robles Formation (QTp).

Alluvium (Stream Channels, Qg). Alluvium (Stream Channels) was encountered from the ground surface to a depth of approximately 20 feet below the ground surface (elevation 698) in Yeh's boring 20E-03. The unit consisted of loose to medium dense well-graded sand with gravel (SW). Alluvium (Valley Areas, Qa) was encountered below the alluvium (Stream Channels, Qg) in boring 20E-03.

Alluvium (Valley Areas, Qa). Alluvium (Valley Areas, Qa) was encountered from the ground surface or below the stream channel alluvium to depths of approximately 20 to 40 feet below the ground surface (to elevations 678 to 720 feet) in Yeh's 2020 borings 20E-01 through 20E-04. Alluvium was also encountered in borings 20E-05 through 20E-08 from the ground surface to the maximum depths explored, approximately 16.5 to 21.5 feet below the ground surface (to elevations 729.5 to 787.5 feet). The unit consisted of medium dense to very dense well-graded sand with gravel (SW), very dense poorly graded sand with silt (SP-SM), medium dense to very dense silty to clayey sand with varying amounts of gravel (SC, SM), and very stiff lean clay (CL) with varying amounts of sand. Older alluvium was encountered below the alluvium in Yeh's 2020 borings 20E-01 through 20E-04.

Older Alluvium (Qoa). Older alluvium was encountered below the alluvium in Yeh borings 20E-01 through 20E-04 from approximately 20 to 40 feet below the ground surface (elevations 678 to 720 feet) to approximately 60 to 95 feet below the ground surface (elevations 623 to 689 feet). It was also encountered in Yeh's 2019 borings to the maximum depths explored of approximately 46.5 feet below the ground surface (elevation 674 feet). The unit consisted of poorly graded gravel (GP), dense to very dense poorly graded sand with silt (SP-SM), medium dense to very dense silty to clayey sand (SM, SC, SC-SM), and very stiff to hard lean to fat clay (CL, CH) with varying amounts of sand and gravel. Older alluvium was not encountered in Yeh borings 20E-05 to -08. The Paso Robles Formation was encountered below the older alluvium in Yeh's 2020 borings 20E-01 through 20E-04.

Paso Robles Formation (QTp). Paso Robles formation was encountered below the older alluvium in Yeh borings 20E-01 through 20E-04from approximately 60 to 95 feet below the ground surface (elevations 623 to 689 feet) to the maximum depths explored of 81.5 to 121.5 feet (elevation 596.5 to 667.5 feet). The unit consisted of very stiff to hard fat clay with varying amounts of sand (CH) and very dense clayey sand (SC).

4.3 Groundwater Conditions

Groundwater has been encountered on site during multiple field exploration programs. A summary of this groundwater data can be found in Table 1. Yeh installed a *Level Logger* groundwater measuring device into the monitoring well in boring 18P-10 during the March 2020 field reconnaissance to automatically record groundwater levels once per day. Data will continue to be collected from that monitoring well through March 2021 and possibly longer to obtain groundwater depths for at least a calendar year. Groundwater and soil moisture conditions will vary seasonally and with changes in storm runoff, irrigation, groundwater pumping, and stream flow. Yeh did not observe any springs in the project site during our site visits.

Table 1: Groundwater Data

Boring No. (Company)	Depth Below Ground Surface (feet)	Elevation (feet)	Date Recorded	Notes
20E-04 (Yeh)	40.5	685.4	12/08/2020	
18P-10 (Yeh)	35	685	06/12/2018	Monitoring Well/Level Logger
	25	695	06/19/2018	
	23	697	03/26/2020	
	27	693	11/09/2020	
18P-11 (Yeh)	33	687	06/12/2018	
B-2 (Caltrans)	23.1	708.1	10/18/1988	
SB3 (Todd)	35	695	12/06/2016	
SB4 (Todd)	35	700	12/06/2016	

4.4 Mapped Soils

Table 2 summarizes the soil types, hydrologic soil group, and infiltration characteristics mapped within the project limits by the US Natural Resources Conservation Service (NRCS 2017).

Table 2: Summary of NRCS Soil Properties

Soil Unit No.	Soil Unit Name	Hydrologic Soil Group
104	Arbuckle-Positas Complex	C
106	Arbuckle-San Ysidro Complex	C
140	Elder Loam	B
150	Hanford and Greenfield gravelly sandy loams	A

Soil Unit No.	Soil Unit Name	Hydrologic Soil Group
166	Metz loamy sand	A
196	San Ysidro sandy loam	D
300	Corducci and Typic Xerofluvents	A

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

4.5 Geologic Hazards

The following provides a discussion of faulting and seismicity, liquefaction, scour, slope instability, and naturally occurring asbestos relative to the project. Other geologic and geotechnical hazards such as avalanches, tsunamis, seiches, or geothermal activity are not a consideration for this project.

4.5.1 Faulting and Seismicity

The site region is within the broad boundary between the Pacific and North American tectonic plates. The majority of relative motion between the plates is accommodated by the right-lateral strike-slip San Andreas Fault zone located approximately 20 miles northeast of the project site. Lesser rates of plate-boundary deformation are accommodated by faults and folds in the coastal and offshore areas around the project site (PG&E 2015). Seismic data defined by Caltrans ARS Online for the project site are discussed in Section 5.1.

4.5.2 Liquefaction

Liquefaction is the loss of soil strength due to an increase in soil porewater pressure resulting from seismic ground shaking. Liquefaction typically occurs in loose to medium dense granular soil that is below the water table. The extent and severity of liquefaction is dependent upon the intensity and duration of the strong ground motion. Evaluation of liquefaction potential is

needed to assess the impact of adverse subsurface conditions on structures during earthquakes. These include increased lateral loads on piles and abutments due to lateral spreading along slopes and negative skin friction on piles due to settlement. The liquefaction potential of the alluvium, older alluvium, and Paso Robles Formation was evaluated using NCEER (Youd and Idriss 2001) and Seed et al. (2003) guidelines in consideration of Caltrans (2020) guidelines for liquefaction evaluation. Subsurface soil was found to be sufficiently dense and cohesive and therefore there is a low potential for liquefaction to impact the site. No special recommendations are needed for design to address liquefaction or seismic related hazards for such structures or improvements.

4.5.3 SCOUR

Avila and Associates (2020) prepared a Preliminary Hydraulic Report for the proposed bridge. Pier scour values of up to 14 feet were provided. Contraction scour for the bridge is expected to be negligible. Values for abutment scour and total scour as well as updated pier scour values will be provided in the final Hydraulic Report. Evidence of local scour was observed on the piers of the Highway 46 overcrossing. Evidence of creek bank erosion consisting of near-vertical slopes up to approximately 2 to 3 feet in height was also observed at multiple locations along Huer Huero Creek. Design of bridge foundations will need to consider the impact of scour.

4.5.4 SLOPE INSTABILITY

Most of the multi-use trail will follow the banks of the dry creek that is underlain by alluvium and older alluvium. Existing slope grades vary from approximately 10- to 60- percent. Yeh did not observe evidence of slope instability during our March 2020 field reconnaissance. Surface erosional features were observed on steeper slopes.

Design of the multi-use trail along the existing levee (see Section 2.4) will need to consider evaluation of the levee stability and possibly reconstructing the levee to provide flood protection and support the multi-use trail. Subsurface exploration, laboratory testing, and analyses of the existing levee should be performed to assess the levee stability and develop recommendations to improve the levee for support of the proposed multi-use trail, if needed. Additionally, the proposed trail alignment runs along the slope of the existing fill zone (see Section 2.4). The fill may be prone to erosion or slope instability. The final *Geotechnical Design Report* or a future study should evaluate the stability of the fill slopes relative to support of the proposed multi-use trail.

4.5.5 Naturally Occurring Asbestos

Naturally occurring asbestos (NOA) is associated with serpentinite in San Luis Obispo County. There are no known serpentinite rocks or materials present at this site, and the site is not in an area mapped to have NOA materials (SLOCO APCD 2020). There is low potential for NOA to be encountered during the project, and no special mitigation to address NOA is necessary.

5. Preliminary Geotechnical Recommendations and Considerations

5.1 Preliminary Seismic Data

The following presents preliminary seismic data that can be used to evaluate the project area. Figure 5 presents the preliminary design acceleration response spectrum (ARS) for the site estimated using ARS Online and guidelines set forth in Appendix B of the Caltrans Seismic Design Criteria. The site coordinates were estimated as 35.6565 degrees latitude and -120.6426 degrees longitude. Subsurface data from borings drilled in November and December 2020 by Yeh were used to estimate an average shear wave velocity of 895 feet per second (273 meters

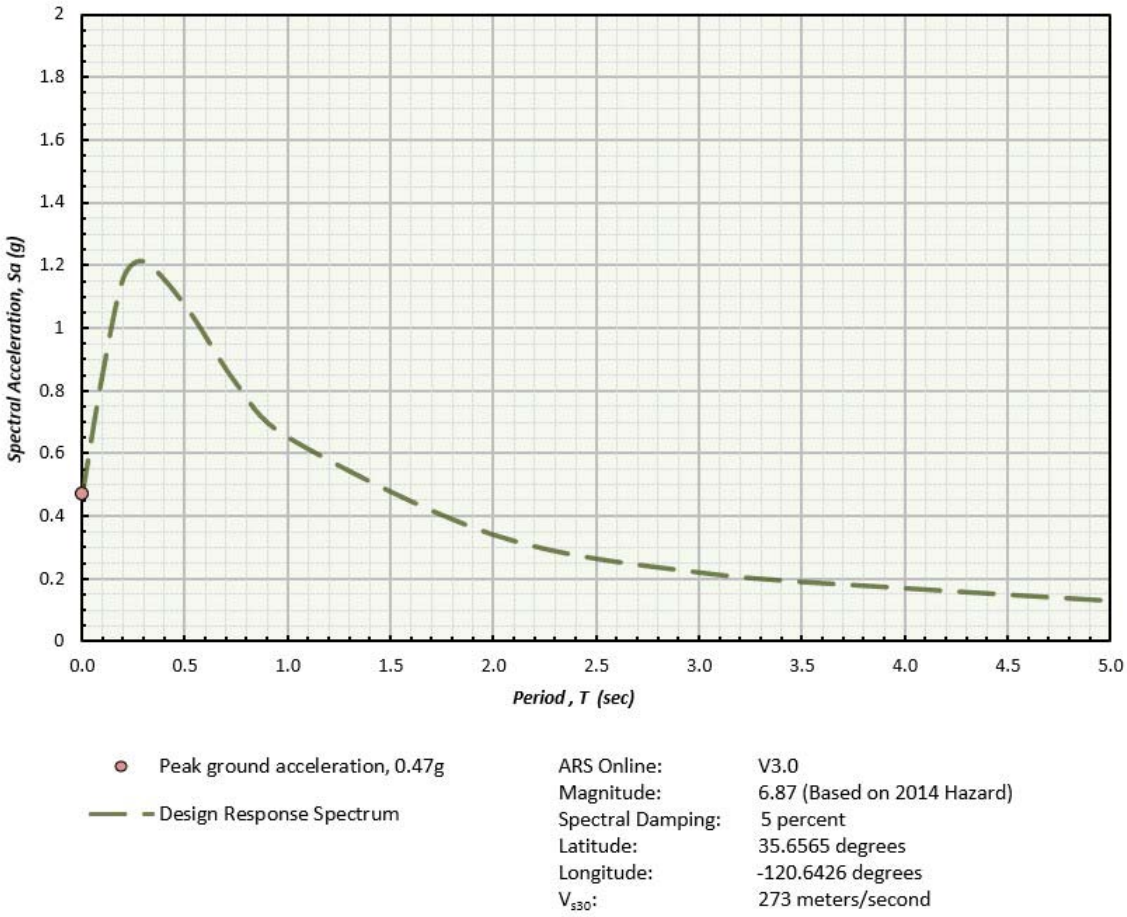


Figure 5: Preliminary Caltrans ARS Curve

per second) for the upper 100 feet of soil at the site, corresponding to Site Class D, stiff soil conditions. The shear wave velocity estimate is based on field blow counts from previous studies and classifications in conjunction with Caltrans' *Seismic Design Criteria* (Caltrans 2019b) and Caltrans' *Methodology for Developing Design Response Spectrum for use in Seismic Design Recommendations* (Caltrans 2012) for estimation of shear wave velocity. The design response spectrum from ARS Online is a unified hazard spectrum, with a mean magnitude of M6.87 based on a hazard deaggregation at the peak ground acceleration of 0.47g.

5.2 Earthwork Design

5.2.1 General Grading

Grading should be performed in general accordance with the Caltrans *Standard Specifications* (Caltrans 2018). Fill materials should not contain organic matter or other deleterious material. On-site soil removed from excavations can likely be reused as borrow for general embankment fill and non-critical areas of construction. Excavated on-site material should be considered suitable for use as select material for road base, aggregate, pipe bedding or pipe zone material, structure backfill, or paving.

Contractor submittals for structure backfill materials and other specified materials should be addressed at the time of construction. Excess fill or cut material should be hauled offsite for proper disposal, unless an onsite location has been specifically identified for placement of excess fill on the project plans.

5.2.2 Clearing and Grubbing

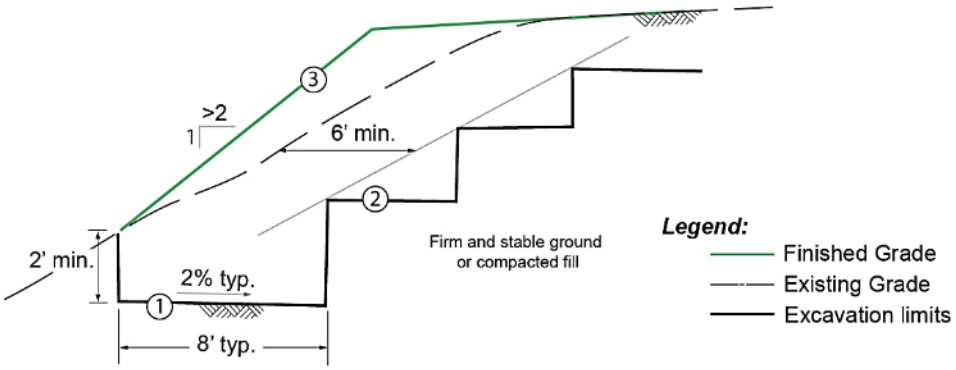
Clearing and grubbing should be performed to remove existing vegetation and objectionable material from improvement areas that will be graded, receive fill, or serve as borrow sources. Grubbing should include removing stumps, roots, and buried vegetation. Care should be taken not to injure trees, plants, or existing improvements outside of the clearing limits. Soil containing pavement, debris, organics, unsuitable, loose, or disturbed material should be removed prior to placing fill. Depressions left from the removal or demolition of materials should be replaced with Compacted Fill.

5.2.3 Embankments

New and widened embankments with estimated heights of up to 20 feet may be needed for the abutments of the Huer Huero Creek Bridge. Yeh's 2020 field exploration encountered approximately 20 to 30 feet of alluvium and 30 to 60 feet of older alluvium in the locations of the abutments, which consists mainly of medium dense to very dense sand with varying amounts of silt, clay, and gravel, as well as very stiff to hard fat clay with varying amounts of

sand. The design of the new embankments will need to consider settlement or fill delay periods depending on the location and configuration of the embankments selected for design.

A detail for a typical embankment widening is shown on Figure 6. Slopes can likely be designed to a ratio of 2:1 or flatter and constructed in accordance with the *Standard Specifications*. Alternatively, slopes can likely be designed to a ratio of 1.5:1 or flatter if reinforced with geotextiles or buttressed with rock slope protection and constructed in accordance with the *Standard Specifications.* Graded slopes should be stabilized with erosion control measures as discussed in this report. Where embankments will be widened, the new fill should be keyed into the existing slope such that at least the outer 6-feet of the existing embankment is removed per *Standard Specifications*. The extent of removal is shown in Figure 6 and potential impacts to the travelled way should be considered in the traffic staging plans.



Notes:

1. When placing fill on slopes 20 percent or steeper, excavate approximately 8-foot wide base key at toe of proposed fill. Excavate bottom of the key to at least 2 feet below existing grade or to firm material and slope bottom at 2 percent into existing slope. When placing fill on slopes 20 percent or flatter, excavate approximately 8-foot wide bench at toe of proposed fill and slope bottom at 2 percent into existing slope.

2. Compact and place fill per *Standard Specifications*. Remove at least the outer 6 feet of the existing slope while the fill is placed. Excavated material can be worked into the fill as the work progresss.

3. Place compacted fill to beyond finished grade line and cut back to finished grade to expose compact fill on the slope face.

Figure 6: Embankment Grading

5.2.4 EROSION

Existing slopes at the site vary from about 3h:1v to nearly flat. Evidence of creek bank erosion consisting of near-vertical slopes up to approximately 2 to 3 feet in height was observed at multiple locations along Huer Huero Creek. Newly graded slopes and fills will be vulnerable to erosion. We recommend fill slopes should have design inclinations of 2h:1v (horizontal to

vertical) or flatter, and if steeper slopes are needed they should be retained or constructed with geotextile reinforcement. Cut slopes could be cut at 1.5h:1v or flatter; however, provisions for catchment should be provided at the bottom of the slope. Providing suitable vegetation, erosion control mats, and proper surface drainage can help to reduce the potential for erosion to impact slopes. Areas where gullies or erosion occurs should be repaired promptly and slopes should be maintained. Concentrated flows of runoff should not be allowed to run uncontrolled over slopes. Lined ditches, down drains, and culverts should be provided to convey drainage water to slope bases. Energy dissipation devices should be provided at the outlet of drainage devices or concentrated flows of runoff to reduce the potential for scour and erosion.

5.3 Excavations and Groundwater

The soil encountered at the site can be excavated with excavators, backhoes, and other conventional earth moving equipment. It is not anticipated that conditions would be encountered at the project site that would require blasting or special measures to remove soil and rock.

5.3.1 Temporary Slopes and Shoring

Temporary slopes should be braced or sloped according to the requirements of the Occupational Safety and Health Administration (OSHA). In accordance with OSHA requirements, the contractor should be responsible for job site safety, for reviewing the soil conditions encountered during construction, and for the design of temporary slopes and shoring systems. The subsurface conditions within the expected depth of temporary excavations are likely to consist of predominantly medium dense to dense sandy material with varying amounts of clay and gravel. These materials would be classified as Type C soil conditions per OSHA guidelines. As input to design, OSHA guidelines suggest that temporary slopes within Type C soil conditions should be excavated to 1.5h:1v. Vertical or slopes steeper than 1.5h:1v should be shored in accordance with OSHA requirements. Slopes below groundwater, or having seepage or groundwater daylighting on the slope, should not be considered stable and should be shored and/or dewatered accordingly.

Shoring systems, if used, should consider the use of sheet piles, soldier piles placed in drilled holes, lateral supports, or other methods that are suitable for the unsaturated to saturated, loose to dense soil conditions encountered. The contractor should submit an excavation and shoring plan for the abutments for review by the geotechnical professional, before mobilizing materials and equipment to the site, detailing shoring system and methods that will be used to support the excavation during construction.

5.3.2 GROUNDWATER

Groundwater is expected to be encountered for excavations deeper than approximately 23 feet below the ground surface (elevation 697 feet) based on the reviewed geotechnical data. Yeh did not observe any springs or seepage on slopes during site visits. The *Level Logger* Yeh placed in the monitoring well in boring 18P-10 (see Section 4.3) has recorded groundwater at approximate elevation 693 feet. Recommendations for groundwater considerations for the selected foundation type will be presented in the *Geotechnical Design Report.*

5.4 PAVEMENT DESIGN

The exposed pavement surface consisted of asphalt concrete and was in poor to fair condition. Preliminary structural section recommendations were calculated based on Caltrans design procedures in Chapter 600 of the *Highway Design Manual* (HDM) (Caltrans 2017) considering the following assumptions and values provided by Wallace (2020d):

- 20-year design life;
- Minimum Traffic Index (TI) of 7 to 9.5 for the road and roundabout per Table 613.5A of the Caltrans *Highway Design Manual*;
- Subgrade R-value of 10.

Table 3 presents the estimated thicknesses for 1- and 2-layer structural sections. The estimated thicknesses assume that the structural section will be placed on compacted subgrade prepared in accordance with Caltrans *Standard Specifications*.

Table 3: Preliminary Pavement Design Sections

Traffic Index (TI)	Section[1]	Pavement Thicknesses	
		Hot Mix Asphalt (HMA) Thickness (feet)	Aggregate Base (AB) Thickness (feet)
7	1-layer	0.85	---
	2-layer	0.30	1.25
8	1-layer	1.00	---
	2-layer	0.40	1.35
9.5	1-layer	1.20	---

[1] 1-Layer: Full depth Hot Mix Asphalt (HMA)
2-Layer: HMA over aggregate base (AB)

Traffic Index (TI)	Section[1]	Pavement Thicknesses	
		Hot Mix Asphalt (HMA) Thickness (feet)	Aggregate Base (AB) Thickness (feet)
	2-layer	0.50	1.65

Base course materials should consist of Class 2 aggregate base per the Caltrans *Standard Specifications*. The design sections in Table 3 should be adjusted and recalculated as the design progresses based on any adjusted Traffic Indices (TI's).

5.5 Corrosion

Selected samples from the field exploration programs were tested for pH and resistivity in accordance with the relevant Caltrans methods. Results are presented in Appendix B. Six of the tested samples had resistivities of less than 1,100 ohm-cm and were subsequently tested for soluble sulfates and chlorides. Corrosion test results are presented in Appendix B and summarized in Table 4 below.

Table 4: Corrosion Test Summary

Boring No. and Sample Depth	Elevation (ft)	Minimum Resistivity (Ohm-cm)	pH	Chloride Content (ppm)	Sulfate Content (ppm)
20E-01 at 2.5 ft.	746	555	7.90	87	48
20E-01 at 50 ft.	699	727	9.46	16	85
20E-02 at 10 ft.	715	2,222	9.22	--	--
20E-02 at 50 ft.	675	388	9.01	5	89
20E-03 at 2.5 ft.	715	7,842	8.73	--	--
20E-04 at 2.5 ft.	723	8,269	9.38	--	--
20E-04 at 45 ft.	681	2,067	9.26	--	--
20E-05 at 2.5 ft.	748.5	535	9.56	< 2	53
20E-06 at 2.5 ft.	748.5	869	9.16	3	33
20E-07 at 2.5 ft.	769.5	588	8.70	7	183
20E-08 at 2.5 ft.	801.5	4,469	8.96	--	--

Caltrans *Amendments* (Caltrans 2019a) states that "a site is considered to be corrosive if one or more of the following conditions exist for the representative soil and/or water samples taken at the site: chloride concentration is 500 ppm or greater, sulfate concentration is 1,500 ppm or greater, or the pH is 5.5 or less." The soil samples tested are not considered corrosive based on

Caltrans test methods and standards, and no special considerations are needed to address corrosion based on those results.

The minimum cement contents and types required by the Caltrans *Standard Specifications* can be considered suitable with respect to the corrosion potential of the soil tested. Concrete substructures can therefore be designed in accordance with the minimum cement contents and using either "Type IP (MS) Modified" or "Type II Modified" cement, in accordance with the Caltrans *Standard Specifications*.

Per the American Water Works Association the soil could be considered corrosive to pipelines and other buried utilities associated with the project. Guidance from the AWWA (2014) *External Corrosion Control manual* was used evaluate the severity of corrosion potential of the encountered soil. Measured resistivity values between 388 to 8,269 Ohm-cm indicate bad, fair, and excellent soils (groups I, III, and IV) based on AWWA (2014) Table 3-2 and the soil should be considered corrosive. Measured pH values (7.90 to 9.56) are considered neutral. The designer should refer to AWWA guidelines and consider installing sacrificial anodes on pipelines or taking other corrosion protection measures depending on the chosen pipe material type.

5.6 Stormwater Infiltration

Stormwater detention basins are planned in the vicinity of the roundabout. Infiltration of stormwater at this site is expected to be favorable; however, introducing stormwater infiltration to slope areas will increase the potential for slope instability and could damage improvements. Infiltration of stormwater should not be done adjacent to structures, near foundations, or above slopes.

5.7 Hazardous Waste Potential

We are unaware of any previous documented land use in the project vicinity or hazardous waste contamination based on the information reviewed.

5.8 Preliminary Multi-Use Trail Considerations

Preliminary geotechnical considerations for the proposed multi-use trail include:

- The bike path follows an ephemeral creek where flows typically occur during or shortly after heavy precipitation events. Design of the alignment should consider the impacts of flooding on trail use and long-term maintenance that could include periodic reconstruction of trail segments impacted by flooding.
- There is a potential for creek bank erosion to impact the bike trail. Periodic maintenance of the trail to repair impacts associated with erosion should be considered by the City for long-term capital planning.

- Some segments of the trail may require retaining walls. Geotechnical recommendations for the design of the retaining walls can be provided in the *Final Geotechnical Design Report* based on provided wall layouts and design heights.
- The planned low water crossings could impact the creek environment if they are broken free of their foundations and float downstream during a flood event. Planning for annual removal of the low water crossing structures could be considered as a method of preventive maintenance and reducing the risk of flood impacts. The structures could also be designed for flood events to resist loads associated with flooding and be designed with low profiles and/or sacrificial sections designed to break free to reduce potential flood impacts. The design should reduce the surface area exposed to loads associated with flooding. Foundations for the low water crossing structures should penetrate below the scour depth. Use of helical piles should be considered to support the low water structures and resist the vertical and horizontal loads. That foundation type has successfully been used for similar projects on trails throughout the country. An example is presented in Figure 7. Helical piles should only be used for resisting loads along the axis of the pile. They can be installed vertically and battered to provide axial and lateral resistance. Piles should also be galvanized and sized for the vertical loads. Powder-coated piles are not considered suitable as the powder coating cracks during installation rendering the protection measure useless.



Figure 7: Helical Pile Supported Boardwalk

5.9 Preliminary Foundation Recommendations

Considerations that can impact the design of bridge foundations are cost; ground conditions; environmental constraints associated with noise, wildlife, or fisheries; construction considerations associated with site constraints, utilities, staging areas, or schedule; scour; and loading conditions. Both driven concrete piles and cast-in-drilled hole (CIDH) piles are being

considered to support the new bridge across Huer Huero Creek (Quincy 2020, 2021). Preliminary recommendations and considerations for each pile type are presented below.

5.9.1 Driven Piles

Driven steel pipe piles are being considered by Wallace Group and Quincy to support the abutments and piers for the new bridge. Driven piles typically consist of Caltrans standard steel pipe or precast concrete piles, or non-standard H-piles. Piles need to be embedded sufficiently to extend below the anticipated scour depth and resist vertical and lateral load demands. Low displacement piles, such as open-end steel pipe or H-piles, help to provide greater embedment than would be achieved using full displacement piles (such as precast concrete or closed-end pipe piles).

Driven concrete piles were used for the Highway 46 bridges upstream of the site. Hard driving conditions were noted at the abutments for the original Highway 46 bridge (Caltrans 1960) and predrilling of the piles was performed for the widening for the Highway 46 bridges upstream of the site (Caltrans 1991). The soil conditions encountered at the project site consisted of medium dense to very dense sand with varying amounts of silt, clay, and gravel as well as very stiff to hard clay with varying amounts of sand and gravel. Driven steel pipe piles are the preferred alternative for the driven piles. Displacement type piles are not preferred because of the potential that hard driving conditions may result in difficulty for the piles to reach design tip elevations and the potential need for predrilling.

Standard plan Class 200 Alternative "W" steel pipe piles were considered, based on requests from Wallace Group and Quincy (2021a, b), in estimating the preliminary factored nominal axial resistance for the strength limit state (resistance factor of 0.7). Factored nominal axial resistance was estimated according to Caltrans amendments (Caltrans 2019b) to the AASHTO *Bridge Design Specifications*. Based on our preliminary analysis, a Standard Plan Class 200 Alternative "W" pile (200 kip factored nominal axial resistance) can likely be provided by 60-foot-long piles at the abutments and 55-foot-long piles at the piers.

5.9.2 Cast-In-Drilled-Hole (CIDH) Piles

Cast-in-drilled-hole (CIDH) piles are being considered by Wallace Group and Quincy to support the abutments and piers for the new bridge. CIDH piles, consisting of a reinforced concrete pile cast in a drilled hole, bearing in dense alluvial material and Paso Robles Formation could provide support for the new bridge. Drilling rigs used to construct CIDH piles can be equipped with coring buckets, temporary casings, and other tooling as-needed to help advance the hole through dense soil and gravel.

Groundwater was encountered at approximately elevation 685 to 709 feet within the borings and monitoring well. CIDH piles below the groundwater table will likely need to be constructed in the wet and with the use of drilling fluids and wet placement methods. CIDH piles should be at least 24 inches in diameter to help allow for removal of gravel, and for tremie placement of concrete and inspection tube placement if groundwater cannot be adequately removed from the hole. Larger diameter CIDH piles, such as a single column bridge pier, can be used if needed to provide additional vertical or lateral resistance for the new bridge, or to help reduce the need to construct a pile cap or footing below groundwater. Temporary casing may be needed to stabilize the alluvial soil during construction. Foundation construction within the limits of the creek should be planned considering the time of year (winter vs summer) and dewatering may be required for excavations that extend below the creek bed.

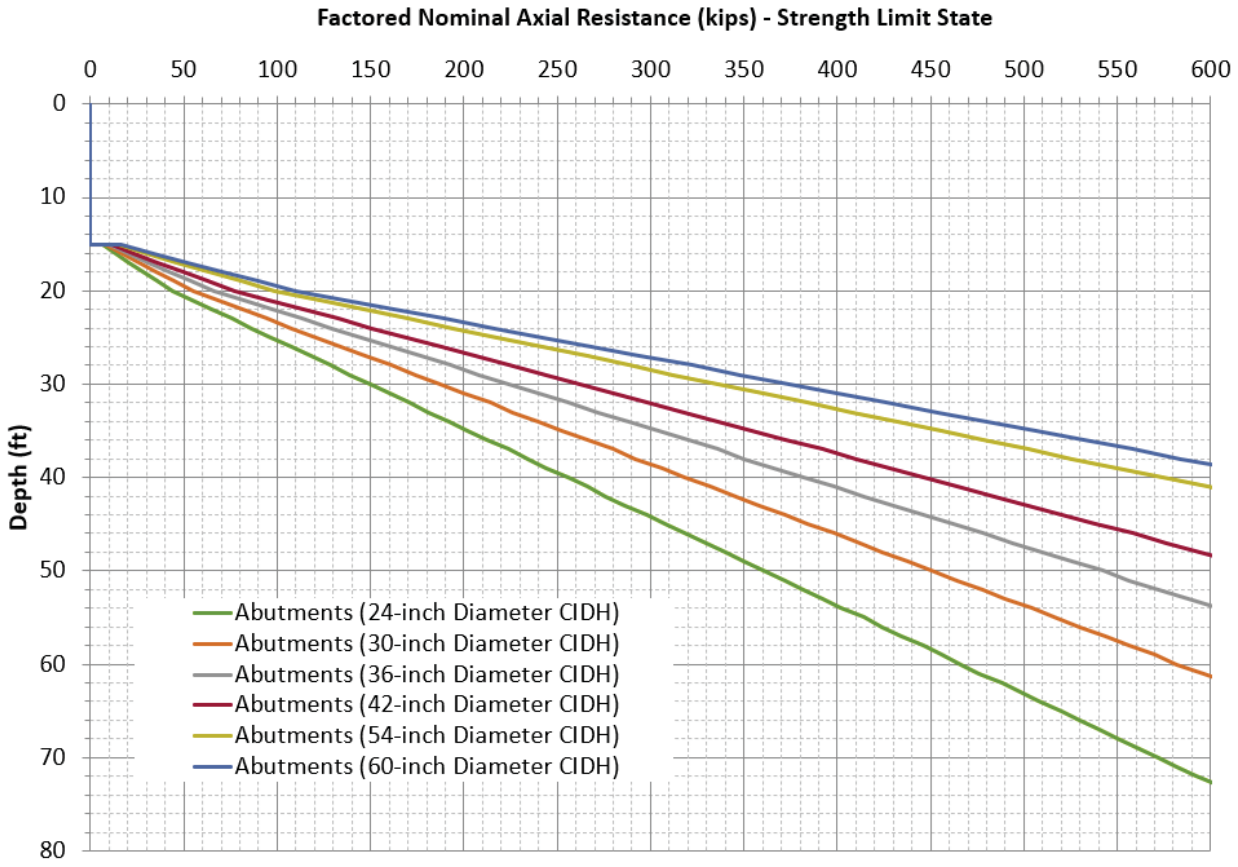


Figure 8: Preliminary Factored Nominal Axial Resistance for the Strength Limit States at the Abutments

Various pile diameters were considered in estimating the preliminary factored nominal axial resistance for the strength limit state (resistance factor of 0.7) based on discussions with Quincy (Quincy 2020).

Factored nominal axial resistance was estimated according to the latest Caltrans amendments (Caltrans 2019b) to the AASHTO *Bridge Design Specifications*. The preliminary estimation of factored nominal axial resistance assumed pile cutoff elevations at the existing ground surface, approximately 14 feet of scour, and *does not include reductions for group effects or considerations for lateral capacity*. Preliminary plots of factored nominal axial resistance versus depth for CIDH piles at the abutments and piers are provided in Figures 7 and 8.

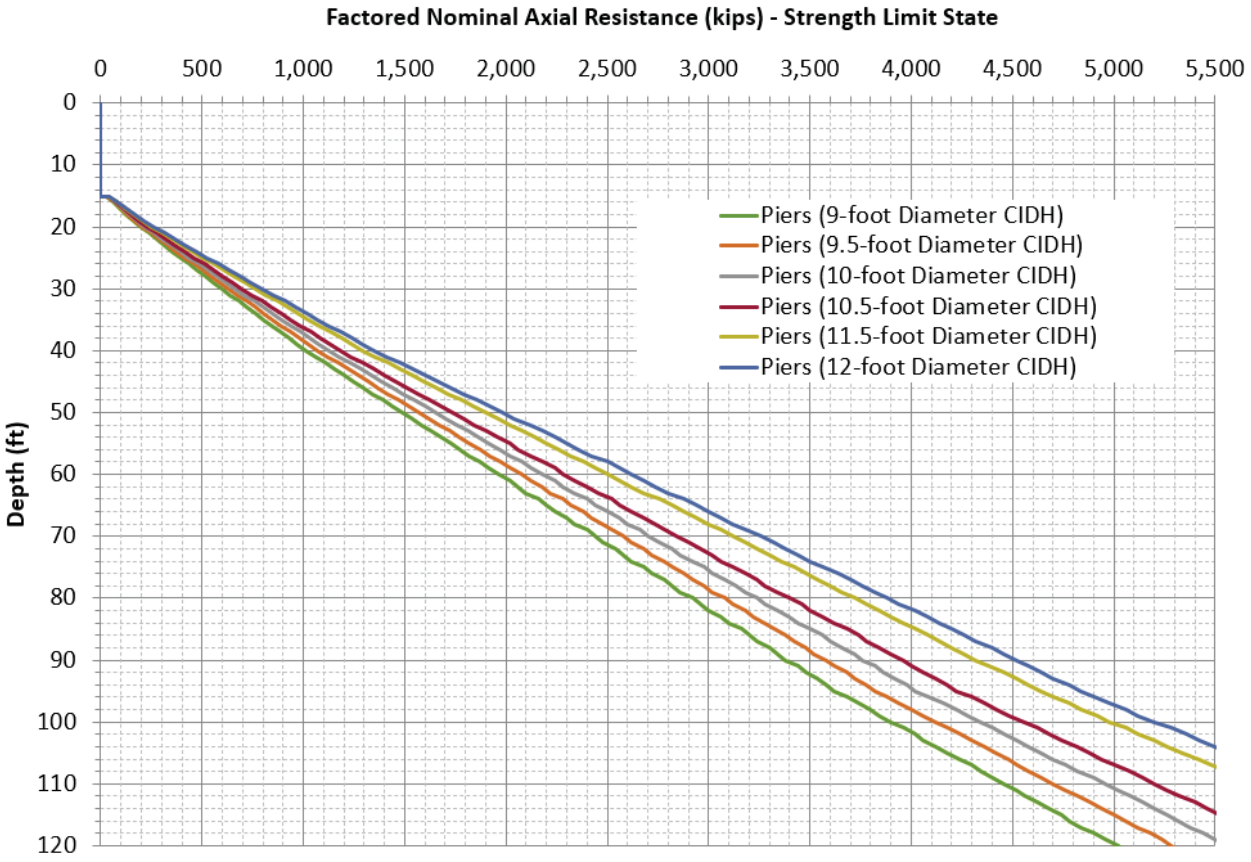


Figure 9: Preliminary Factored Nominal Axial Resistance for the Strength Limit State at the Piers

5.10 Future Exploration and Investigations

Subsurface exploration, laboratory testing, and analyses for the multi-use trail should be performed in preparation of the final *Geotechnical Design Report*. Borings for the general trail alignment, proposed retaining wall locations for the trail, the undocumented levee, and undocumented fill zone should be performed. Borings and infiltration tests should also be performed where basins are planned. The number and depths of borings, as well as number and type of lab tests will vary based on the final design.

6. LIMITATIONS

This study has been conducted in general accordance with currently accepted geotechnical practices in this area for use by Wallace Group for preliminary design purposes. The conclusions and recommendations submitted in this report are based upon the data obtained from field reconnaissance, existing reports and data, and our understanding of the proposed project and type of construction described in this report. If there are any changes in the project or site conditions, Yeh should review those changes and provide additional recommendations, if needed. Any modifications to the recommendations of this report or approval of changes made to the project should not be considered valid unless they are made in writing. The report and drawings contained in this report are intended for preliminary design input; and are not intended to act as design level recommendations or construction drawings or specifications.

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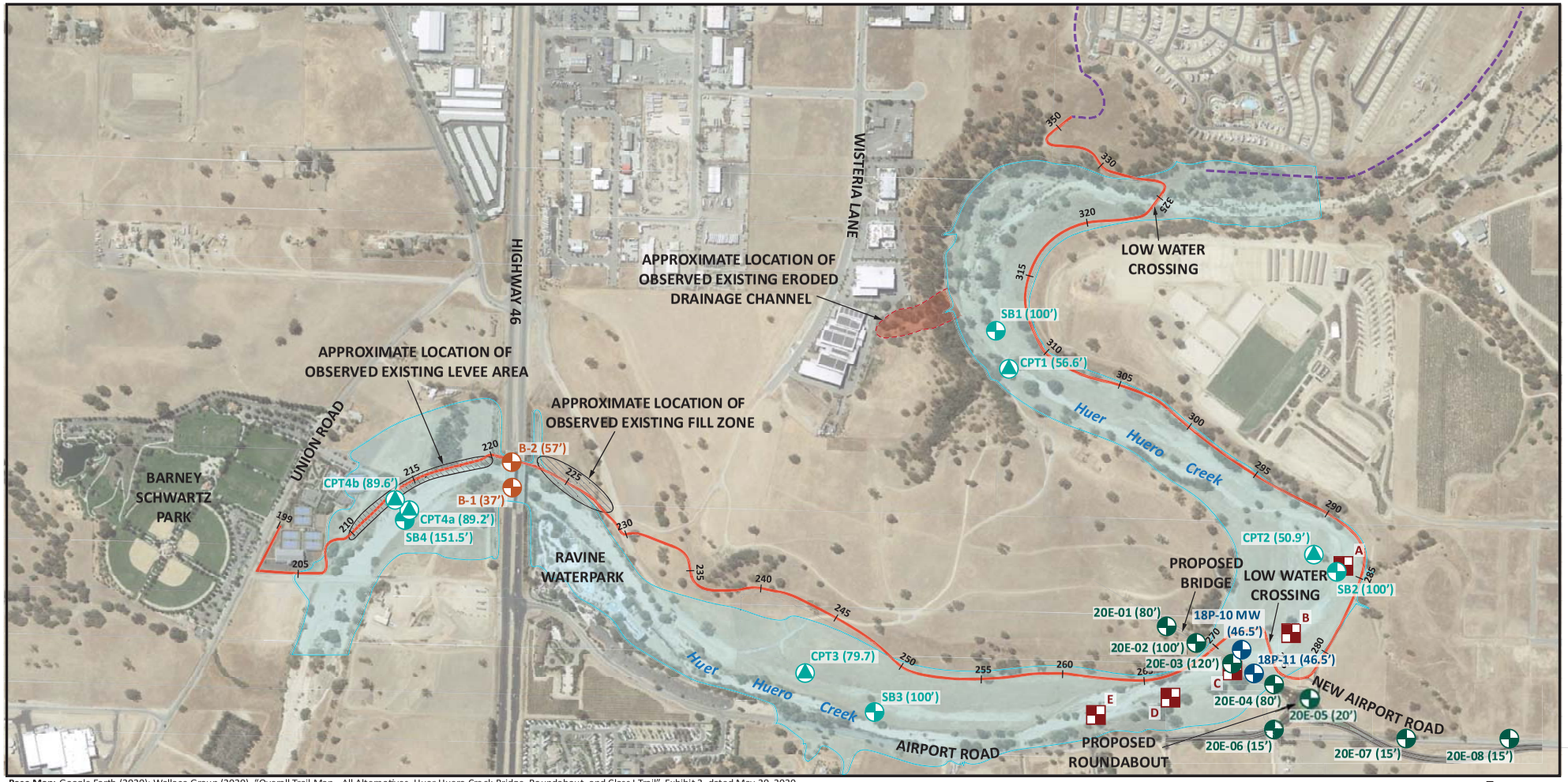
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Base Map: Google Earth (2020); Wallace Group (2020), "Overall Trail Map - All Alternatives, Huer Huero Creek Bridge, Roundabout, and Class I Trail", Exhibit 2, dated May 20, 2020

LEGEND:

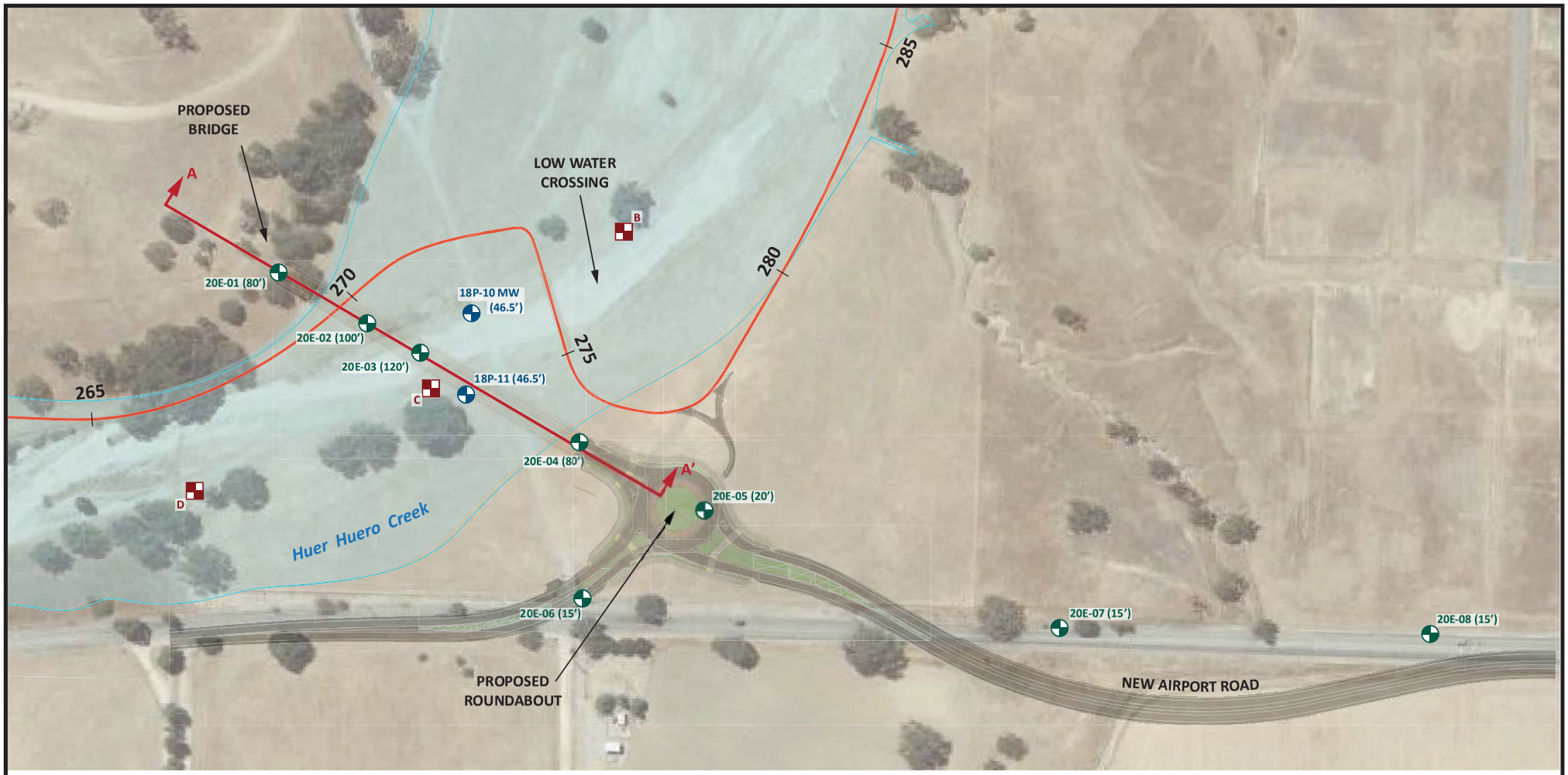
- No. (Depth) — Rotary boring location per Caltrans (1989)
- No. (Depth) — Hollow stem auger boring location per Todd Groundwater (2017)
- No. (Depth) — Cone penetration test (CPT) location per Todd Groundwater (2017)
- No. (Depth) — Hollow stem auger boring location per Yeh and Associates (2019)
- No. — Sample location per Yeh and Associates (2020)
- No. (Depth) — Boring location (current study)
- Multi-Use Trail Alignment
- Trail by others (Cava COA/City of Paso Robles)
- Limits of 100-year floodplain

Note: *Trail segments and limits of 100-year flood plain are approximate and are based on the Plans by Wallace Group (September 2020). Boring locations are also approximate.*

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PROJECT LAYOUT AND SUBSURFACE DATA MAP

PROJECT NAME:	PLATE
HUER HUERO CREEK BRIDGE Airport Road Paso Robles, California	1
PROJECT NUMBER: 219-260	REVISION DATE: 11/25/2020



Base Map: Google Earth (2020); Wallace Group (2020), "Overall Trail Map - All Alternatives, Huer Huero Creek Bridge, Roundabout, and Class I Trail", Exhibit 2, dated September 2020

LEGEND:

- No. (Depth) — Hollow stem auger boring location per Yeh and Associates (2019)
- No. — Streambed sample location per Yeh and Associates (2020)
- No. (Depth) — Boring location (current study)
- Trail Alternative A
- Limits of 100-year floodplain
- Cross Section A-A'

Note: *Trail segments and limits of 100-year flood plain are approximate and are based on the Plans by Wallace Group (September 2020). Boring locations are also approximate.*

North

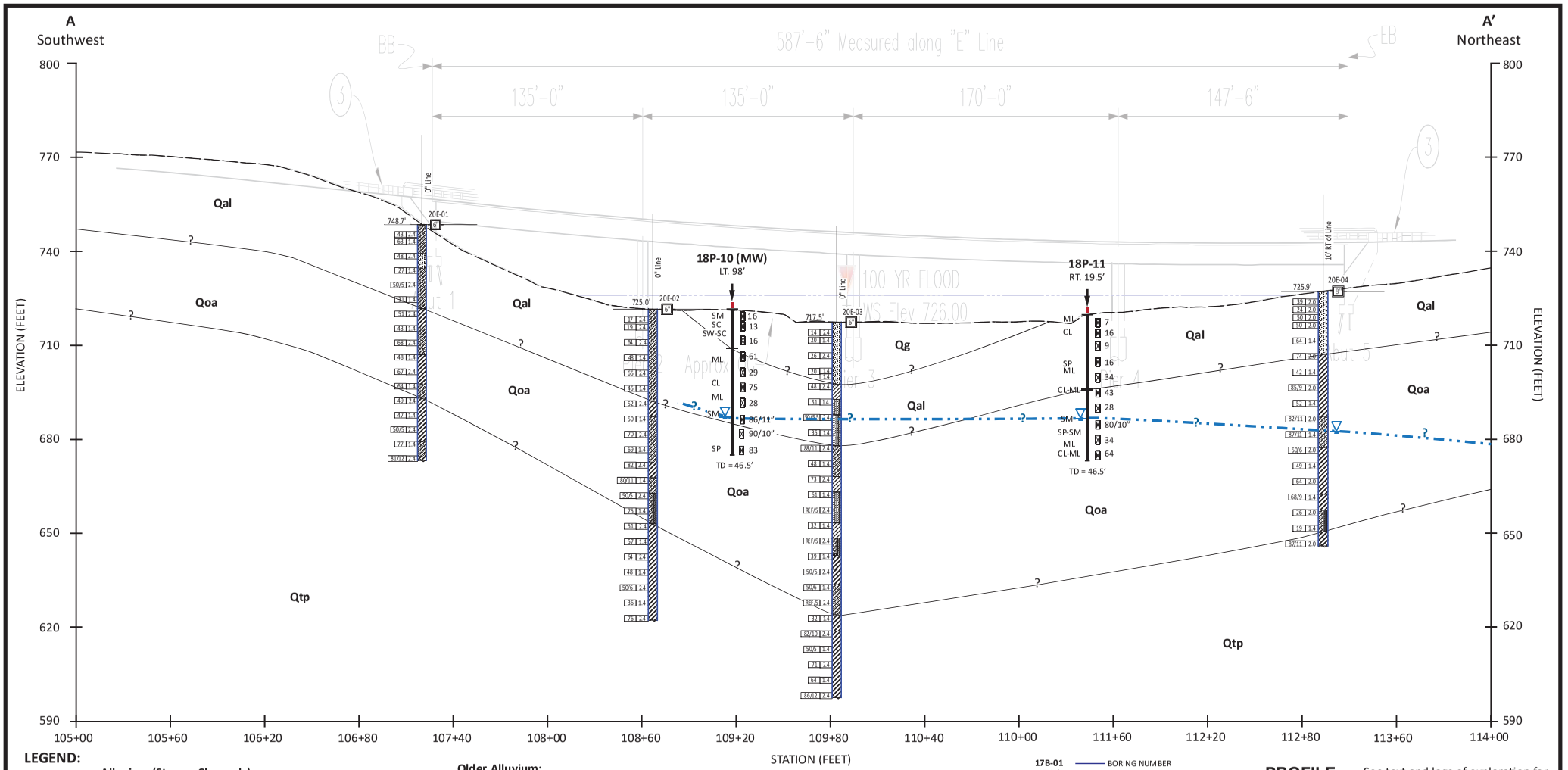
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feet

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BRIDGE LAYOUT AND SUBSURFACE DATA MAP

PROJECT NAME:	PLATE
HUER HUERO CREEK BRIDGE Airport Road Paso Robles, California	2
PROJECT NUMBER: 219-260	REVISION DATE: 11/25/2020



LEGEND:

Qg — **Alluvium (Stream Channels):** Loose to medium dense well-graded SAND with GRAVEL (SW)

Qa — **Alluvium (Valley Areas):** Medium dense to very dense clayey SAND (SC) with varying amounts of GRAVEL, medium dense to very dense well-graded SAND with GRAVEL (SW), very stiff lean CLAY (CL), dense silty SAND (SM), and very dense poorly graded sand with SILT (SP-SM)

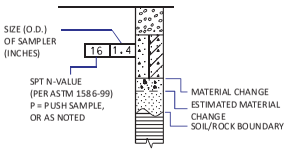
Qtp — **Paso Robles Formation:** Very stiff to hard fat CLAY (CH) with varying amounts of sand, very dense clayey SAND (SC)

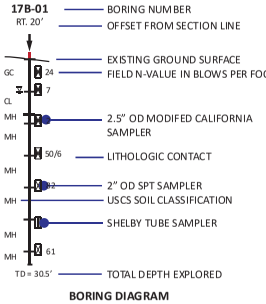
Qoa — **Older Alluvium:** Very stiff to hard fat CLAY (CH) with varying amounts of SAND and GRAVEL, dense to very dense clayey SAND (SC), medium dense to very dense silty, clayey SAND (SC-SM) with, hard lean CLAY (CL) with varying amounts of SAND, dense to very dense silty SAND (SM), dense to very dense poorly-graded SAND with SILT (SP-SM), and poorly-graded GRAVEL (GP)

Geologic contact, queried where uncertain

Interpreted groundwater surface during drilling, queried where uncertain

Groundwater level encountered during drilling





PROFILE

1 in. = 30 ft. vertical
1 in. = 60 ft. horizontal

See text and logs of exploration for description of subsurface conditions. All boundaries and locations are approximate.

Base Map: Wallace Group, Advance Planning Study -2, Huer Huero Creek Bridge on Erskine Parkway, December 2020.

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INTERPRETED SUBSURFACE PROFILE A-A'

PROJECT NAME:	PLATE
HUER HUERO CREEK BRIDGE Airport Road Paso Robles, CA	3
PROJECT NUMBER: 219-260	REVISION DATE: 1/19/2021

APPENDIX A - FIELD EXPLORATION

GROUP SYMBOLS AND NAMES

Graphic / Symbol	Group Names
GW	Well-graded GRAVEL Well-graded GRAVEL with SAND
GP	Poorly graded GRAVEL Poorly graded GRAVEL with SAND
GW-GM	Well-graded GRAVEL with SILT Well-graded GRAVEL with SILT and SAND
GW-GC	Well-graded GRAVEL with CLAY (or SILTY CLAY) Well-graded GRAVEL with CLAY and SAND (or SILTY CLAY and SAND)
GP-GM	Poorly graded GRAVEL with SILT Poorly graded GRAVEL with SILT and SAND
GP-GC	Poorly graded GRAVEL with CLAY (or SILTY CLAY) Poorly graded GRAVEL with CLAY and SAND (or SILTY CLAY and SAND)
GM	SILTY GRAVEL SILTY GRAVEL with SAND
GC	CLAYEY GRAVEL CLAYEY GRAVEL with SAND
GC-GM	SILTY, CLAYEY GRAVEL SILTY, CLAYEY GRAVEL with SAND
SW	Well-graded SAND Well-graded SAND with GRAVEL
SP	Poorly graded SAND Poorly graded SAND with GRAVEL
SW-SM	Well-graded SAND with SILT Well-graded SAND with SILT and GRAVEL
SW-SC	Well-graded SAND with CLAY (or SILTY CLAY) Well-graded SAND with CLAY and GRAVEL (or SILTY CLAY and GRAVEL)
SP-SM	Poorly graded SAND with SILT Poorly graded SAND with SILT and GRAVEL
SP-SC	Poorly graded SAND with CLAY (or SILTY CLAY) Poorly graded SAND with CLAY and GRAVEL (or SILTY CLAY and GRAVEL)
SM	SILTY SAND SILTY SAND with GRAVEL
SC	CLAYEY SAND CLAYEY SAND with GRAVEL
SC-SM	SILTY, CLAYEY SAND SILTY, CLAYEY SAND with GRAVEL
PT	PEAT
	COBBLES COBBLES and BOULDERS BOULDERS

Graphic / Symbol	Group Names
CL	Lean CLAY Lean CLAY with SAND Lean CLAY with GRAVEL SANDY lean CLAY SANDY lean CLAY with GRAVEL GRAVELLY lean CLAY GRAVELLY lean CLAY with SAND
CL-ML	SILTY CLAY SILTY CLAY with SAND SILTY CLAY with GRAVEL SANDY SILTY CLAY SANDY SILTY CLAY with GRAVEL GRAVELLY SILTY CLAY GRAVELLY SILTY CLAY with SAND
ML	SILT SILT with SAND SILT with GRAVEL SANDY SILT SANDY SILT with GRAVEL GRAVELLY SILT GRAVELLY SILT with SAND
OL	ORGANIC lean CLAY ORGANIC lean CLAY with SAND ORGANIC lean CLAY with GRAVEL SANDY ORGANIC lean CLAY SANDY ORGANIC lean CLAY with GRAVEL GRAVELLY ORGANIC lean CLAY GRAVELLY ORGANIC lean CLAY with SAND
OL	ORGANIC SILT ORGANIC SILT with SAND ORGANIC SILT with GRAVEL SANDY ORGANIC SILT SANDY ORGANIC SILT with GRAVEL GRAVELLY ORGANIC SILT GRAVELLY ORGANIC SILT with SAND
CH	Fat CLAY Fat CLAY with SAND Fat CLAY with GRAVEL SANDY fat CLAY SANDY fat CLAY with GRAVEL GRAVELLY fat CLAY GRAVELLY fat CLAY with SAND
MH	Elastic SILT Elastic SILT with SAND Elastic SILT with GRAVEL SANDY elastic SILT SANDY elastic SILT with GRAVEL GRAVELLY elastic SILT GRAVELLY elastic SILT with SAND
OH	ORGANIC fat CLAY ORGANIC fat CLAY with SAND ORGANIC fat CLAY with GRAVEL SANDY ORGANIC fat CLAY SANDY ORGANIC fat CLAY with GRAVEL GRAVELLY ORGANIC fat CLAY GRAVELLY ORGANIC fat CLAY with SAND
OH	ORGANIC elastic SILT ORGANIC elastic SILT with SAND ORGANIC elastic SILT with GRAVEL SANDY elastic ELASTIC SILT SANDY ORGANIC elastic SILT with GRAVEL GRAVELLY ORGANIC elastic SILT GRAVELLY ORGANIC elastic SILT with SAND
OL/OH	ORGANIC SOIL ORGANIC SOIL with SAND ORGANIC SOIL with GRAVEL SANDY ORGANIC SOIL SANDY ORGANIC SOIL with GRAVEL GRAVELLY ORGANIC SOIL GRAVELLY ORGANIC SOIL with SAND

FIELD AND LABORATORY TESTS

C	Consolidation (ASTM D2435)
CL	Collapse Potential (ASTM D5333)
CP	Compaction Curve (ASTM D1557)
CR	Corrosion, Sulfates, Chlorides (CTM 643; ASTM D4972, ASTM G187, ASTM D4327)
CU	Consolidated Undrained Triaxial (ASTM D4767)
DS	Direct Shear (ASTM D3080)
EI	Expansion Index (ASTM D4829)
M	Moisture Content (ASTM D2216)
OC	Organic Content (ASTM D2974)
P	Permeability (ASTM 5084)
PA	Particle Size Analysis (ASTM D422-63 [2007])
PI	Liquid Limit, Plastic Limit, Plasticity Index (ASTM D4318)
PL	Point Load Index (ASTM D5731)
PM	Pressure Meter
PP	Pocket Penetrometer
R	R-Value (CTM 301)
RS	Torsional Ring Shear (ASTM D6467)
SE	Sand Equivalent (CTM 217)
SG	Specific Gravity (AASHTO T 100)
SL	Shrinkage Limit (ASTM D427)
SW	Swell Potential (ASTM D4546)
TV	Pocket Torvane
UC	Unconfined Compression - Soil (ASTM D2166) Unconfined Compression - Rock (ASTM D7012)
UU	Unconsolidated Undrained Triaxial (ASTM D2850)
UW	Unit Weight (ASTM D4767, ASTM D7263)
VS	Vane Shear (AASHTO T 223-96 [2004])
-200	200 Wash (ASTM D1140)

SAMPLER GRAPHIC SYMBOLS

- Standard Penetration Test (SPT) (2" O.D.)
- Standard California Sampler (2.5" O.D.)
- Modified California Sampler (3" O.D.)
- Shelby Tube
- Piston Sampler
- Rock Core
- Grab Sample
- Bulk Sample
- Other (see remarks)

DRILLING METHOD SYMBOLS

- Auger Drilling
- Rotary Drilling
- Dynamic Cone or Hand Driven
- Diamond Core

WATER LEVEL SYMBOLS

- First Water Level Reading (during drilling)
- Static Water Level Reading (short-term)
- Static Water Level Reading (long-term)

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REPORT TITLE
BORING RECORD LEGEND

PROJECT NAME
Huer Huero Creek Bridge

DATE
1/15/2021

SHEET
1 of 1

LOGGED BY	BEGIN DATE	COMPLETION DATE	HAMMER TYPE	BORING NUMBER
R. Hooke	11-12-20	11-12-20	140-lb Autotrip	20E-01
FINAL BY			BOREHOLE LOCATION (Lat/Long or North/East and Datum)	SURFACE ELEVATION
J. King			--/--	748.7 ft
DRILLING METHOD			BOREHOLE LOCATION (Offset, Station, Line)	WEATHER NOTES
6" Solid Stem Auger/4" Mud Rotary			Sta. 107+20.2, "Bridge Line" Line	Sunny, Cool to Warm
DRILLER			LOCATION DESCRIPTION	BACKFILLED WITH
Britton Exploration			As mapped. 5' north of barbed wire fence	Neat Cement Grout
DRILL RIG			GROUNDWATER READINGS DURING DRILLING / AFTER DRILLING (DATE)	TOTAL DEPTH OF BORING
CME 55			Not Encountered	81.5 ft

ELEVATION (ft)	DEPTH (ft)	Material Graphics	DESCRIPTION	Sample Location	Sample Number	Blows per 6 in.	Blows per foot	Recovery (%)	RQD (%)	Moisture Content (%)	Dry Unit Weight (pcf)	Shear Strength (ksf)	Drilling Method	Casing Depth	Remarks
	0														
	1		CLAYEY SAND with GRAVEL (SC); medium dense; reddish brown to brown; dry to moist; fine to medium GRAVEL; roots; (ALLUVIUM).		D										CP ($\gamma_{D,MAX}$ = 123 pcf, w_{OPT} = 11%)
747	2														
	3				64	5 20 23	43	67		14	107				CR (pH = 7.90, r = 555 ohm-cm, SO_4^{2-} = 48 mg/kg, Cl^- = 87 mg/kg)
745	4														
	5		Dense; moist; fine to coarse, subrounded to subangular GRAVEL.		65	29 30 33	63	100		7	98				
743	6														
	7														
741	8														
	9														
739	10		Well-graded SAND with GRAVEL (SW); medium dense; brown; moist; fine to coarse, subrounded to subangular GRAVEL.		66	12 15 33	35	94		4	111				switched to mud rotary drilling
	11														
737	12														
	13														
735	14														
	15		CLAYEY SAND with GRAVEL (SC); medium dense; brown; fine to coarse, subrounded to subangular GRAVEL.		67	7 12 15	27	67							-200 (31% G, 57% S, 12% F)
733	16														
	17														
731	18														
	19														
729	20		Very dense.		68	22 50/5"	50/5"	39							
	21														
727	22														
	23														
725	24		Some rig chatter.												
	25														

(continued)

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PROJECT NAME	
Huer Huero Creek Bridge	
PROJECT NUMBER	
219-260	
BORING NUMBER	
20E-01	
REVISION DATE	SHEET
1/15/2021	1 of 3

5 BR - STANDARD 219-260 BORING LOGS.GPJ CALIFORNIA YEH LIBRARY (YEH V3 APRIL 2020).GLB 2/8/21

ELEVATION (ft)	DEPTH (ft)	Material Graphics	DESCRIPTION	Sample Location	Sample Number	Blows per 6 in.	Blows per foot	Recovery (%)	RQD (%)	Moisture Content (%)	Dry Unit Weight (pcf)	Shear Strength (ksf)	Drilling Method / Casing Depth	Remarks
	25		Dense.		69	9	31	50						switched to rock bit
723	26		CLAYEY SAND with GRAVEL (SC) *(continued)*.			18								
	27					13								
721	28													
	29		SANDY fat CLAY (CH); hard; brown; moist; (OLDER ALLUVIUM).											
719	30				70	13	51	100		19	113	>4.5PP		C
	31					21								
717	32					30								
	33													
715	34													switching back to tri-cone bit
	35		CLAYEY SAND (SC); dense; brown.		71	13	43	61						
713	36					15								
	37					28								
711	38													
	39													
709	40		Fine to coarse, subangular GRAVEL.		72	16	68	83		21	104			
	41					23								
707	42					45								
	43													
705	44													
	45		Lean CLAY with SAND (CL); very stiff; brown; moist to wet.		73	7	48	94				4.0PP		-200 (0% G, 27% S, 73% F) PI (40 LL, 23 PL, 17 PI)
703	46					14								
	47					34								
701	48													
	49													
699	50		Hard.		74	17	67	100		21	105	>4.5PP		CR (pH = 9.46, r = 727 ohm-cm, SO_4^{2-} = 85 mg/kg, Cl^- = 16 mg/kg)
	51					30								
697	52					37								
	53													
695	54													
	55													

(continued)

Yeh and Associates, Inc.
Geotechnical • Geological • Construction Services

PROJECT NAME	**Huer Huero Creek Bridge**
PROJECT NUMBER	**219-260**
BORING NUMBER	**20E-01**
REVISION DATE	**1/15/2021**
SHEET	**2 of 3**

5 BR - STANDARD 219-260 BORING LOGS.GPJ CALIFORNIA YEH LIBRARY (YEH V3 APRIL 2020).GLB 2/8/21

ELEVATION (ft)	DEPTH (ft)	Material Graphics	DESCRIPTION	Sample Location	Sample Number	Blows per 6 in.	Blows per foot	Recovery (%)	RQD (%)	Moisture Content (%)	Dry Unit Weight (pcf)	Shear Strength (ksf)	Drilling Method	Casing Depth	Remarks
	55														
693	56		CLAYEY SAND (SC); very dense; brown; moist to wet.		75	13 27 37	64	94							
	57														
691	58														
	59														
689	60		SANDY fat CLAY (CH); hard; brown; moist; (PASO ROBLES FORMATION).		76	22 21 28	49	94		31	92	>4.5PP			UU
	61														
687	62														
	63														
685	64														
	65		Dark brown.		77	17 20 27	47	94				4.0PP			
683	66														
	67														
681	68														
	69														
679	70		Mottled with gray and brown.		78	25 50/5"	50/5"			28	100	>4.5PP			
	71														
677	72														
	73														
675	74														
	75		CLAYEY SAND (SC); very dense; brown.		79	12 31 46	77	89							
673	76														
	77														
671	78														
	79														
669	80		SANDY fat CLAY (CH); hard; brown; moist.		80	20 31 50/6"	81/12"	89		21	108	>4.5PP			
	81														
667	82		Bottom of borehole at 81.5 ft bgs												
	83														
665	84		This Boring Record was developed in accordance with the Caltrans Soil & Rock Logging, Classification, and Presentation Manual (2010) except as noted on the Soil or Rock Legend or below.												
	85														

5 BR - STANDARD 219-260 BORING LOGS.GPJ CALIFORNIA YEH LIBRARY (YEH V3 APRIL 2020).GLB 2/8/21

Yeh and Associates, Inc.
Geotechnical • Geological • Construction Services

PROJECT NAME	**Huer Huero Creek Bridge**
PROJECT NUMBER	**219-260**
BORING NUMBER	**20E-01**
REVISION DATE	**1/15/2021**
SHEET	**3 of 3**

LOGGED BY	BEGIN DATE	COMPLETION DATE	HAMMER TYPE	BORING NUMBER
R. Hooke	**11-11-20**	**11-11-20**	**140-lb Autotrip**	**20E-02**
FINAL BY			BOREHOLE LOCATION (Lat/Long or North/East and Datum)	SURFACE ELEVATION
J. King			**--/--**	**725.0 ft**
DRILLING METHOD			BOREHOLE LOCATION (Offset, Station, Line)	WEATHER NOTES
6" Solid Stem Auger/4" Mud Rotary			**Sta. 108+67.8, "Bridge Line" Line**	**Sunny, Cold**
DRILLER			LOCATION DESCRIPTION	BACKFILLED WITH
Britton Exploration			**As mapped, as base of hill**	**Neat Cement Grout**
DRILL RIG			GROUNDWATER READINGS DURING DRILLING AFTER DRILLING (DATE)	TOTAL DEPTH OF BORING
CME 55			**Not Encountered**	**101.5 ft**

ELEVATION (ft)	DEPTH (ft)	Material Graphics	DESCRIPTION	Sample Location	Sample Number	Blows per 6 in.	Blows per foot	Recovery (%)	RQD (%)	Moisture Content (%)	Dry Unit Weight (pcf)	Shear Strength (ksf)	Drilling Method / Casing Depth	Remarks
	0		CLAYEY SAND (SC); medium dense; dark brown; moist; fine GRAVEL; (ALLUVIUM).											
723	2													
	3				43	9 10 7	17	67		8	107			-200 (0% G, 59% S, 41% F) PI (31 LL, 12 PL, 19 PI)
721	4													
	5		Trace fine to coarse, subangular GRAVEL.		44	5 7 12	19	100						
719	6													
	7													
717	8													
	9													
715	10		Dense; black; trace subangular to subrounded GRAVEL.		45	17 30 34	64	94		4	117			switched to mud rotary CR (pH = 9.22, r = 2,222 ohm-cm)
	11													
713	12													
	13		SANDY lean CLAY (CL); hard; grayish brown; moist.											
711	14													
	15				46	12 20 28	48	83						-200 (0% G, 49% S, 51% F)
709	16													
	17													
707	18													
	19													
705	20		Brown.		47	14 30 35	65	94		31	93			CU
	21													
703	22													
	23													
701	24													
	25													

(continued)

5 BR - STANDARD 219-260 BORING LOGS.GPJ CALIFORNIA YEH LIBRARY (YEH V3 APRIL 2020).GLB 2/8/21

Yeh and Associates, Inc.
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PROJECT NAME	**Huer Huero Creek Bridge**
PROJECT NUMBER	**219-260**
BORING NUMBER	**20E-02**
REVISION DATE	**1/15/2021**
SHEET	**1 of 4**

ELEVATION (ft)	DEPTH (ft)	Material Graphics	DESCRIPTION	Sample Location	Sample Number	Blows per 6 in.	Blows per foot	Recovery (%)	RQD (%)	Moisture Content (%)	Dry Unit Weight (pcf)	Shear Strength (ksf)	Drilling Method / Casing Depth	Remarks
	25		No GRAVEL.											
699	26		SANDY lean CLAY (CL) *(continued)*.		48	10 19 26	45	78						
	27													
697	28													
	29													
695	30		SANDY fat CLAY (CH); hard; greenish gray; moist; (OLDER ALLUVIUM).		49	16 22 30	52	100		28	97	>4.5PP		
	31													
693	32													
	33													
691	34													
	35		CLAYEY SAND (SC); dense; brown.		50	13 24 26	50	94				2.75PP		
689	36													
	37													
687	38													
	39													
685	40				51	15 28 42	70	89		22	108			
	41													
683	42													
	43													
681	44													
	45		Very dense.		52	19 32 37	69	94						
679	46													
	47													
677	48													
	49													
675	50		Fat CLAY with SAND (CH); hard; grayish brown; moist to wet.		53	19 35 47	82	100		22	105	>4.5PP		-200 (0% G, 23% S, 77% F) PI (63 LL, 23 PL, 40 PI) CR (pH = 9.01, r = 388 ohm-cm, SO_4^{2-} = 89 mg/kg, Cl^- = 5 mg/kg)
	51													
673	52													
	53													
671	54													
	55													

(continued)

5 BR - STANDARD 219-260 BORING LOGS.GPJ CALIFORNIA YEH LIBRARY (YEH V3 APRIL 2020).GLB 2/8/21

Yeh and Associates, Inc.
Geotechnical • Geological • Construction Services

PROJECT NAME	**Huer Huero Creek Bridge**
PROJECT NUMBER	**219-260**
BORING NUMBER	**20E-02**
REVISION DATE	**1/15/2021**
SHEET	**2 of 4**

ELEVATION (ft)	DEPTH (ft)	Material Graphics	DESCRIPTION	Sample Location	Sample Number	Blows per 6 in.	Blows per foot	Recovery (%)	RQD (%)	Moisture Content (%)	Dry Unit Weight (pcf)	Shear Strength (ksf)	Drilling Method / Casing Depth	Remarks
	55		CLAYEY SAND (SC); very dense; brown.		54	16 30 50/5"	80/11"	89						
669	56													
	57													
667	58													
	59													
665	60		SILTY, CLAYEY SAND with GRAVEL (SC-SM); very dense; brown; fine to medium, subrounded to subangular GRAVEL.		55	33 50/5"	50/5"	61		20	109			CU
	61													
663	62													
	63													
661	64													
	65		Fine GRAVEL.		56	13 30 45	75	89						
659	66													
	67													
657	68													
	69													
655	70		Fat CLAY (CH); hard; greenish black; moist; some oxidation; (PASO ROBLES FORMATION).		57	17 23 28	51	100		31	93	>4.5PP		-200 (0% G, 12% S, 88% F) PI (62 LL, 24 PL, 38 PI)
	71													
653	72													
	73													
651	74													
	75				58	10 27 30	57	100				>4.5PP		
649	76													
	77													
647	78													
	79													
645	80		Brown.		59	20 27 37	64	100		24	103	>4.5PP		UU
	81													
643	82													
	83													
641	84													
	85													

(continued)

5 BR - STANDARD 219-260 BORING LOGS.GPJ CALIFORNIA YEH LIBRARY (YEH V3 APRIL 2020).GLB 2/8/21

Yeh and Associates, Inc.
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PROJECT NAME	**Huer Huero Creek Bridge**
PROJECT NUMBER	**219-260**
BORING NUMBER	**20E-02**
REVISION DATE	**1/15/2021**
SHEET	**3 of 4**

ELEVATION (ft)	DEPTH (ft)	Material Graphics	DESCRIPTION	Sample Location	Sample Number	Blows per 6 in.	Blows per foot	Recovery (%)	RQD (%)	Moisture Content (%)	Dry Unit Weight (pcf)	Shear Strength (ksf)	Drilling Method	Casing Depth	Remarks
	85		Fat CLAY (CH) *(continued)*.		60	13 20 28	48					4.25PP			
639	86														
	87														
637	88														
	89														
635	90				61	26 50/6"	50/6"	67		24	102	>4.5PP			
	91														
633	92														
	93														
631	94														
	95				62	11 15 21	36	100							
629	96		Dark reddish brown/gray.												
	97														
627	98														
	99														
625	100		Blueish gray.		63	21 31 45	76			27	100				
	101														
623	102		Bottom of borehole at 101.5 ft bgs												
	103														
621	104		This Boring Record was developed in accordance with the Caltrans Soil & Rock Logging, Classification, and Presentation Manual (2010) except as noted on the Soil or Rock Legend or below.												
	105														
619	106														
	107														
617	108														
	109														
615	110														
	111														
613	112														
	113														
611	114														
	115														

5 BR - STANDARD 219-260 BORING LOGS.GPJ CALIFORNIA YEH LIBRARY (YEH V3 APRIL 2020).GLB 2/8/21

Yeh and Associates, Inc.
Geotechnical • Geological • Construction Services

PROJECT NAME
Huer Huero Creek Bridge

PROJECT NUMBER
219-260

BORING NUMBER
20E-02

REVISION DATE
1/15/2021

SHEET
4 of 4

LOGGED BY	BEGIN DATE	COMPLETION DATE	HAMMER TYPE	BORING NUMBER
R. Hooke	11-9-20	11-10-20	140-lb Autotrip	20E-03
FINAL BY			BOREHOLE LOCATION (Lat/Long or North/East and Datum)	SURFACE ELEVATION
J. King			--/--	717.5 ft
DRILLING METHOD			BOREHOLE LOCATION (Offset, Station, Line)	WEATHER NOTES
6" Solid Stem Auger/4" Mud Rotary			Sta. 109+84.2, "Bridge Line" Line	Sunny, Warm, Breezy
DRILLER			LOCATION DESCRIPTION	BACKFILLED WITH
Britton Exploration			As mapped, center of creekbed	Neat Cement Grout
DRILL RIG			GROUNDWATER READINGS DURING DRILLING AFTER DRILLING (DATE)	TOTAL DEPTH OF BORING
CME 55			Not Encountered	121.5 ft

ELEVATION (ft)	DEPTH (ft)	Material Graphics	DESCRIPTION	Sample Location	Sample Number	Blows per 6 in.	Blows per foot	Recovery (%)	RQD (%)	Moisture Content (%)	Dry Unit Weight (pcf)	Shear Strength (ksf)	Drilling Method	Casing Depth	Remarks
	0		Well-graded SAND with GRAVEL (SW); loose; light brown; moist; fine to coarse, subrounded to subangular GRAVEL; (ALLUVIUM - STREAM CHANNELS).												
716	2														
	3				18	3 5 9	14	89		3	99				CR (pH = 8.73, r = 7,842 ohm-cm)
714	4														
	5		Medium dense; wet; water added to hole.		19	13 10 10	20	89		5	110				
712	6														
	7														
710	8														
	9														
708	10		Well-graded SAND with CLAY and GRAVEL (SW-SC); medium dense; gray; switched to mud rotary.		20	10 12 14	26	56		12					PA (40% G, 50% S, 10% F)
706	12														
	13														
704	14														
	15				21	8 9 11	20	39							no recovery
702	16														
	17														
700	18														
	19														
698	20		Lean CLAY (CL); very stiff; brown; moist; (ALLUVIUM).		22	16 22 26	48	100		28	94	3.5PP			PI (31 LL, 16 PL, 15 PI)
	21														
696	22														
	23														
694	24														
	25														

(continued)

5 BR - STANDARD 219-260 BORING LOGS.GPJ CALIFORNIA YEH LIBRARY (YEH V3 APRIL 2020).GLB 2/8/21

Yeh and Associates, Inc.
Geotechnical • Geological • Construction Services

PROJECT NAME	
Huer Huero Creek Bridge	
PROJECT NUMBER	
219-260	
BORING NUMBER	
20E-03	
REVISION DATE	SHEET
1/15/2021	1 of 5

ELEVATION (ft)	DEPTH (ft)	Material Graphics	DESCRIPTION	Sample Location	Sample Number	Blows per 6 in.	Blows per foot	Recovery (%)	RQD (%)	Moisture Content (%)	Dry Unit Weight (pcf)	Shear Strength (ksf)	Drilling Method / Casing Depth	Remarks
	25		SILTY SAND (SM); very dense; brown.		23	12 24 27	51	72						
692	26													
	27													
690	28													
	29													
688	30		Poorly graded SAND with SILT (SP-SM); very dense; brown.		24	30 50/5.5" 50/5.5"	50/5.5"	61		24	100			CU
	31													
686	32													
	33													
684	34													
	35		Dense; dark brown.		25	10 17 18	35	83						-200 (0% G, 90% S, 10% F)
682	36													
	37													
680	38													
	39													
678	40		CLAYEY SAND (SC); very dense; brown; (OLDER ALLUVIUM).		26	16 38 50/5"	88/11"	83		16	116			
	41													
676	42													
	43													
674	44													
	45		Dense.		27	21 21 27	48	94						
672	46													
	47													
670	48													
	49													
668	50		SANDY lean CLAY (CL); hard; brown.		28	20 28 45	73	100		20	107	>4.5PP		
	51													
666	52													
	53													
664	54													
	55													

(continued)

5 BR - STANDARD 219-260 BORING LOGS.GPJ CALIFORNIA YEH LIBRARY (YEH V3 APRIL 2020).GLB 2/8/21

Yeh and Associates, Inc.
Geotechnical • Geological • Construction Services

PROJECT NAME	**Huer Huero Creek Bridge**
PROJECT NUMBER	**219-260**
BORING NUMBER	**20E-03**
REVISION DATE	**1/15/2021**
SHEET	**2 of 5**

ELEVATION (ft)	DEPTH (ft)	Material Graphics	DESCRIPTION	Sample Location	Sample Number	Blows per 6 in.	Blows per foot	Recovery (%)	RQD (%)	Moisture Content (%)	Dry Unit Weight (pcf)	Shear Strength (ksf)	Drilling Method	Casing Depth	Remarks
	55		SILTY SAND (SM); very dense; brown.		29	21 26 35	61	72							
662	56														
	57														
660	58														
	59														
658	60				30	50/5"	50/5"	22		23	105				
	61														
656	62														
	63														
654	64														
	65		Lean CLAY with SAND (CL); hard; gray; moist to wet.		31	9 13 19	32	94				>4.5PP			
652	66														
	67														
650	68														
	69														
648	70		SILTY, CLAYEY SAND (SC-SM); very dense; brown.		32	50/5"	50/5"	33		27	101				
	71														
646	72														
	73														
644	74														
	75		Poorly graded GRAVEL (GP); dense; brown; fine to medium GRAVEL.		33	20 17 22	39	100				>4.5PP			
642	76		SANDY fat CLAY (CH); hard; brown; moist.												
	77														
640	78														
	79														
638	80		SANDY fat CLAY with GRAVEL (CH); hard; brown; moist; fine to medium, subangular to subrounded GRAVEL.		34	28 50/5"	50/5"	67		17	114	>4.5PP			UU
	81														
636	82														
	83														
634	84														
	85														

(continued)

Yeh and Associates, Inc.
Geotechnical • Geological • Construction Services

PROJECT NAME	**Huer Huero Creek Bridge**
PROJECT NUMBER	**219-260**
BORING NUMBER	**20E-03**
REVISION DATE	**1/15/2021**
SHEET	**3 of 5**

5 BR - STANDARD 219-260 BORING LOGS.GPJ CALIFORNIA YEH LIBRARY (YEH V3 APRIL 2020).GLB 2/8/21

ELEVATION (ft)	DEPTH (ft)	Material Graphics	DESCRIPTION	Sample Location	Sample Number	Blows per 6 in.	Blows per foot	Recovery (%)	RQD (%)	Moisture Content (%)	Dry Unit Weight (pcf)	Shear Strength (ksf)	Drilling Method / Casing Depth	Remarks
	85		CLAYEY SAND (SC); very dense; brown.		35	29 50/6"	50/6"	56						
632	86													
	87													
630	88													
	89													
628	90				36	50/5"	50/5"	28		24	99			
	91													
626	92													
	93													
624	94													
	95		Fat CLAY (CH); very stiff; brown; wet; (PASO ROBLES FORMATION).		37	7 14 18	32	100				3.5PP		-200 (0% G, 14% S, 86% F) PI (56 LL, 21 PL, 35 PI)
622	96													
	97													
620	98													
	99													
618	100		Hard; gray; moist.		38	19 32 50/4"	82/10"	100		24	102	>4.5PP		UU
	101													
616	102													
	103													
614	104													
	105		Dark brownish gray.		39	18 50/5"	50/5"	33				>4.5PP		
612	106													
	107													
610	108													
	109													
608	110		Gray.		40	24 30 41	71	100		29	93			
	111													
606	112													
	113													
604	114													
	115													

(continued)

Yeh and Associates, Inc.
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PROJECT NAME	**Huer Huero Creek Bridge**
PROJECT NUMBER	**219-260**
BORING NUMBER	**20E-03**
REVISION DATE	**1/15/2021**
SHEET	**4 of 5**

5 BR - STANDARD 219-260 BORING LOGS.GPJ CALIFORNIA YEH LIBRARY (YEH V3 APRIL 2020).GLB 2/8/21

ELEVATION (ft)	DEPTH (ft)	Material Graphics	DESCRIPTION	Sample Location	Sample Number	Blows per 6 in.	Blows per foot	Recovery (%)	RQD (%)	Moisture Content (%)	Dry Unit Weight (pcf)	Shear Strength (ksf)	Drilling Method	Casing Depth	Remarks
	115		Dark brown/black mottling. Fat CLAY (CH) *(continued)*.		41	18 27 37	64	56							
602	116														
	117														
600	118														
	119														
598	120		Gray.		42	32 36 50/6"	86/12"	100		16	102	>4.5PP			
	121														
596	122		Bottom of borehole at 121.5 ft bgs												
	123														
594	124		This Boring Record was developed in accordance with the Caltrans Soil & Rock Logging, Classification, and Presentation Manual (2010) except as noted on the Soil or Rock Legend or below.												
	125														
592	126														
	127														
590	128														
	129														
588	130														
	131														
586	132														
	133														
584	134														
	135														
582	136														
	137														
580	138														
	139														
578	140														
	141														
576	142														
	143														
574	144														
	145														

Yeh and Associates, Inc.
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PROJECT NAME	**Huer Huero Creek Bridge**
PROJECT NUMBER	**219-260**
BORING NUMBER	**20E-03**
REVISION DATE	**1/15/2021**
SHEET	**5 of 5**

5 BR - STANDARD 219-260 BORING LOGS.GPJ CALIFORNIA YEH LIBRARY (YEH V3 APRIL 2020).GLB 2/8/21

LOGGED BY	BEGIN DATE	COMPLETION DATE	HAMMER TYPE	BORING NUMBER
R. Hooke	**12-8-20**	**12-8-20**	**140-lb Autotrip**	**20E-04**
FINAL BY			BOREHOLE LOCATION (Lat/Long or North/East and Datum)	SURFACE ELEVATION
J. King			**--/--**	**725.9 ft**
DRILLING METHOD			BOREHOLE LOCATION (Offset, Station, Line)	WEATHER NOTES
8" Hollow Stem Auger			**10.00' Lt. Sta. 112+95, "Bridge Line" Line**	**Cold, Sunny**
DRILLER			LOCATION DESCRIPTION	BACKFILLED WITH
S/G Drilling			**310' northeast of 20E-03**	**Native**
DRILL RIG			GROUNDWATER READINGS DURING DRILLING **40.5 ft** AFTER DRILLING (DATE)	TOTAL DEPTH OF BORING
CME 85				**81.5 ft**

ELEVATION (ft)	DEPTH (ft)	Material Graphics	DESCRIPTION	Sample Location	Sample Number	Blows per 6 in.	Blows per foot	Recovery (%)	RQD (%)	Moisture Content (%)	Dry Unit Weight (pcf)	Shear Strength (ksf)	Drilling Method	Casing Depth	Remarks
	0		Poorly graded SAND (SP); medium dense; light brown; moist; trace fine to medium, subangular GRAVEL; (ALLUVIUM).												
724	2														
	3				81	7 19 20	39	94		3	96				CR (pH = 9.38, r = 8,269 ohm-cm)
722	4														
	5		Reddish brown.		82	8 10 14	24	83		2	101				
720	6														
	7														
718	8		Dense; trace fine to coarse, subangular GRAVEL.		83	20 25 25	50	100		9	101				
	9														
716	10				84	9 26 24	50	100		3	97				PA (5% G, 91% S, 3% F)
	11														
714	12														
	13														
712	14														
	15		Very dense; light brown; trace fine to medium GRAVEL; some oxidation.		85	17 32 32	64	63							
710	16														
	17														
708	18														
	19														
706	20		SANDY fat CLAY (CH); hard; greenish gray; moist; mica flecks, oxidation; (OLDER ALLUVIUM).		86	17 24 50	74	89		23	102	>4.5PP			C
	21														
704	22														
	23														
702	24														
	25														

(continued)

5 BR - STANDARD 219-260 BORING LOGS.GPJ CALIFORNIA YEH LIBRARY (YEH V3 APRIL 2020).GLB 2/8/21

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PROJECT NAME	**Huer Huero Creek Bridge**
PROJECT NUMBER	**219-260**
BORING NUMBER	**20E-04**
REVISION DATE	**1/15/2021**
SHEET	**1 of 3**

ELEVATION (ft)	DEPTH (ft)	Material Graphics	DESCRIPTION	Sample Location	Sample Number	Blows per 6 in.	Blows per foot	Recovery (%)	RQD (%)	Moisture Content (%)	Dry Unit Weight (pcf)	Shear Strength (ksf)	Drilling Method	Casing Depth	Remarks
	25		SANDY fat CLAY (CH) *(continued)*.		87	16 18 24	42	79				>4.5PP			
700	26														
	27														
698	28														
	29														
696	30		Very stiff.		88	14 35 50/3"	85/9"	89				2.9PP			
	31														
694	32														
	33														
692	34														
	35		Hard; brown.		89	19 26 26	52	88				4.0PP			
690	36														
	37														
688	38														
	39														
686	40		CLAYEY SAND (SC); very dense; brown; moist.		90	24 32 50/5"	82/11"	94		24	100				CU
	41														
684	42														
	43														
682	44														
	45		Wet.		91	28 37 50/5"	87/11"	100							CR (pH = 9.26, r = 2,067 ohm-cm)
680	46														
	47														
678	48														
	49														
676	50		SANDY lean CLAY (CL); very stiff; brown/gray; wet.		92	19 50/6"	50/6"	94		24	101	3.0PP			
	51														
674	52														
	53														
672	54														
	55														

(continued)

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PROJECT NAME	**Huer Huero Creek Bridge**
PROJECT NUMBER	**219-260**
BORING NUMBER	**20E-04**
REVISION DATE	**1/15/2021**
SHEET	**2 of 3**

5 BR - STANDARD 219-260 BORING LOGS.GPJ CALIFORNIA YEH LIBRARY (YEH V3 APRIL 2020).GLB 2/8/21

ELEVATION (ft)	DEPTH (ft)	Material Graphics	DESCRIPTION	Sample Location	Sample Number	Blows per 6 in.	Blows per foot	Recovery (%)	RQD (%)	Moisture Content (%)	Dry Unit Weight (pcf)	Shear Strength (ksf)	Drilling Method	Casing Depth	Remarks
	55		Moist.		93	12	49	92							
670	56		SANDY lean CLAY (CL) *(continued)*.			19									
	57					30									
668	58														
	59														
666	60		Lean CLAY (CL); hard; greenish gray; moist; some oxidation.		94	17	64	100		26	98	>4.5PP			UU
	61					22									
664	62					42									
	63														
662	64														
	65		SANDY lean CLAY (CL); hard; reddish brown; wet.		95	10	68/9"	63							
660	66					18									
	67					50/3"									
658	68														
	69														
656	70		Poorly graded SAND with CLAY (SP-SC); medium dense; reddish brown; wet.		96	8	26	67		29	101				-200 (0% G, 93% S, 7% F)
	71					10									
654	72					16									
	73														
652	74														
	75		Brown/gray.		97	5	19	75							
650	76					4									
	77					15									
			Fat CLAY (CH); hard; greenish gray; moist; (PASO ROBLES FORMATION).												
648	78														
	79														
646	80				98	26	87/11"	100							
	81					37									
						50/5"									
644	82		Bottom of borehole at 81.5 ft bgs												
	83														
642	84		This Boring Record was developed in accordance with the Caltrans Soil & Rock Logging, Classification, and Presentation Manual (2010) except as noted on the Soil or Rock Legend or below.												
	85														

5 BR - STANDARD 219-260 BORING LOGS.GPJ CALIFORNIA YEH LIBRARY (YEH V3 APRIL 2020).GLB 2/8/21

Yeh and Associates, Inc.
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PROJECT NAME	**Huer Huero Creek Bridge**
PROJECT NUMBER	**219-260**
BORING NUMBER	**20E-04**
REVISION DATE	**1/15/2021**
SHEET	**3 of 3**

LOGGED BY	BEGIN DATE	COMPLETION DATE	HAMMER TYPE	BORING NUMBER
R. Hooke	11-9-20	11-9-20	140-lb Autotrip	20E-05
FINAL BY			BOREHOLE LOCATION (Lat/Long or North/East and Datum)	SURFACE ELEVATION
J. King			--/--	751.0 ft
DRILLING METHOD			BOREHOLE LOCATION (Offset, Station, Line)	WEATHER NOTES
6" Solid Stem Auger			27.00' Lt. Sta. 115+32.5, "New APRT" Line	Sunny, Warm
DRILLER			LOCATION DESCRIPTION	BACKFILLED WITH
Britton Exploration			As mapped	Native
DRILL RIG			GROUNDWATER READINGS DURING DRILLING / AFTER DRILLING (DATE)	TOTAL DEPTH OF BORING
CME 55			Not Encountered	21.5 ft

ELEVATION (ft)	DEPTH (ft)	Material Graphics	DESCRIPTION	Sample Location	Sample Number	Blows per 6 in.	Blows per foot	Recovery (%)	RQD (%)	Moisture Content (%)	Dry Unit Weight (pcf)	Shear Strength (ksf)	Drilling Method	Casing Depth	Remarks
	0		SANDY lean CLAY (CL); hard; brown; moist; (ALLUVIUM).		C					17	110				R (R-Value = 10)
749	2				13	11 10 11	21	94		12	99	>4.5PP			CR (pH = 9.56, r = 535 ohm-cm, SO_4^{2-} = 53 mg/kg, Cl^- = <2 mg/kg)
747	4														
	5		White rootlets.		14	10 12 14	26	94		10	101				-200 (0% G, 30% S, 70% F) PI (35 LL, 17 PL, 18 PI)
745	6														
743	8														
741	10				15	14 16 20	36	89		10	100	>4.5PP			
739	12														
737	14														
	15		Brown to dark brown.		16	6 8 10	18	83				>4.5PP			
735	16														
733	18														
731	20		Well-graded SAND with GRAVEL (SW); medium dense; light brown; moist; fine to coarse, subrounded to subangular GRAVEL.		17	12 19 21	40	78		6					
729	22		Bottom of borehole at 21.5 ft bgs												
727	24		This Boring Record was developed in accordance with the Caltrans Soil & Rock Logging, Classification, and Presentation Manual (2010) except as noted on the Soil or Rock Legend or below.												
	25														

5 BR - STANDARD 219-260 BORING LOGS.GPJ CALIFORNIA YEH LIBRARY (YEH V3 APRIL 2020).GLB 2/8/21

Yeh and Associates, Inc.
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PROJECT NAME	
Huer Huero Creek Bridge	
PROJECT NUMBER	
219-260	
BORING NUMBER	
20E-05	
REVISION DATE	SHEET
1/15/2021	1 of 1

LOGGED BY	BEGIN DATE	COMPLETION DATE	HAMMER TYPE	BORING NUMBER
R. Hooke	**11-9-20**	**11-9-20**	**140-lb Autotrip**	**20E-06**
FINAL BY			BOREHOLE LOCATION (Lat/Long or North/East and Datum)	SURFACE ELEVATION
J. King			**--/--**	**751.0 ft**
DRILLING METHOD			BOREHOLE LOCATION (Offset, Station, Line)	WEATHER NOTES
6" Solid Stem Auger			**13.50' Rt. Sta. 209+80.86, "APRT" Line**	**Sunny, Warm**
DRILLER			LOCATION DESCRIPTION	BACKFILLED WITH
Britton Exploration			**17.5' north of entrance gate, 5' east of fence**	**Native**
DRILL RIG			GROUNDWATER READINGS DURING DRILLING AFTER DRILLING (DATE)	TOTAL DEPTH OF BORING
CME 55			**Not Encountered**	**16.5 ft**

ELEVATION (ft)	DEPTH (ft)	Material Graphics	DESCRIPTION	Sample Location	Sample Number	Blows per 6 in.	Blows per foot	Recovery (%)	RQD (%)	Moisture Content (%)	Dry Unit Weight (pcf)	Shear Strength (ksf)	Drilling Method	Casing Depth	Remarks
	0		SANDY fat CLAY (CH); stiff; brown; moist; roots and rootlets.												
749	2														
	3				9	8 8 9	17	89		9	96				CR (pH = 9.16, r = 869 ohm-cm, SO_4^{2-} = 33 mg/kg, Cl^- = 3 mg/kg)
747	4														
	5		Brown to dark brown.		10	9 9 10	19	100		9	97				-200 (0% G, 35% S, 65% F) PI (51 LL, 26 PL, 25 PI)
745	6														
	7														
743	8														
	9														
741	10		Hard.		11	8 8 11	19	100		10	98	4.25PP			Adding water to hole
	11														
739	12														
	13														
737	14														
	15		Well-graded SAND (SW); medium dense; brown; moist.		12	3 6 6	12	89							
735	16														
	17		Bottom of borehole at 16.5 ft bgs												
733	18														
	19		This Boring Record was developed in accordance with the Caltrans Soil & Rock Logging, Classification, and Presentation Manual (2010) except as noted on the Soil or Rock Legend or below.												
731	20														
	21														
729	22														
	23														
727	24														
	25														

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PROJECT NAME	**Huer Huero Creek Bridge**
PROJECT NUMBER	**219-260**
BORING NUMBER	**20E-06**
REVISION DATE	**1/15/2021**
SHEET	**1 of 1**

5 BR - STANDARD 219-260 BORING LOGS.GPJ CALIFORNIA YEH LIBRARY (YEH V3 APRIL 2020).GLB 2/8/21

LOGGED BY	BEGIN DATE	COMPLETION DATE	HAMMER TYPE	BORING NUMBER
R. Hooke	11-9-20	11-9-20	140-lb Autotrip	20E-07
FINAL BY			BOREHOLE LOCATION (Lat/Long or North/East and Datum)	SURFACE ELEVATION
J. King			--/--	772.0 ft
DRILLING METHOD			BOREHOLE LOCATION (Offset, Station, Line)	WEATHER NOTES
6" Solid Stem Auger			97.50' Lt. Sta. 121+00, "New APRT" Line	Sunny, Cool
DRILLER			LOCATION DESCRIPTION	BACKFILLED WITH
Britton Exploration			6' south of centerline, 140' west of property fence	Native topped with asphalt patch
DRILL RIG			GROUNDWATER READINGS DURING DRILLING AFTER DRILLING (DATE)	TOTAL DEPTH OF BORING
CME 55			Not Encountered	16.5 ft

ELEVATION (ft)	DEPTH (ft)	Material Graphics	DESCRIPTION	Sample Location	Sample Number	Blows per 6 in.	Blows per foot	Recovery (%)	RQD (%)	Moisture Content (%)	Dry Unit Weight (pcf)	Shear Strength (ksf)	Drilling Method	Casing Depth	Remarks
	0		6" ASPHALT CONCRETE.		B										CP ($\gamma_{D,MAX}$ = 123 pcf, w_{OPT} = 11%)
	1		7" AGGREGATE BASE.												
770	2		CLAYEY SAND with GRAVEL (SC); medium dense; brown; moist; fine to medium GRAVEL.												
	3				5	7 10 10	20	100		9	101				CR (pH = 8.70, r = 588 ohm-cm, SO_4^{2-} = 183 mg/kg, Cl^- = 7 mg/kg)
768	4														
	5														
766	6		SANDY lean CLAY (CL); very stiff; dark brown; moist; trace fine to medium, subrounded to subangular GRAVEL.		6	9 18 19	29	94		10	109				-200 (0% G, 45% S, 55% F)
	7														
764	8														
	9														
762	10				7	17 19 21	40	100		7	107				
	11														
760	12														
	13														
758	14														
	15				8	10 12 17	29	83		10					
756	16														
	17		Bottom of borehole at 16.5 ft bgs												
754	18														
	19		This Boring Record was developed in accordance with the Caltrans Soil & Rock Logging, Classification, and Presentation Manual (2010) except as noted on the Soil or Rock Legend or below.												
752	20														
	21														
750	22														
	23														
748	24														
	25														

5 BR - STANDARD 219-260 BORING LOGS.GPJ CALIFORNIA YEH LIBRARY (YEH V3 APRIL 2020).GLB 2/8/21

Yeh and Associates, Inc.
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PROJECT NAME	Huer Huero Creek Bridge
PROJECT NUMBER	219-260
BORING NUMBER	20E-07
REVISION DATE	1/15/2021
SHEET	1 of 1

LOGGED BY	BEGIN DATE	COMPLETION DATE	HAMMER TYPE	BORING NUMBER
R. Hooke	11-9-20	11-9-20	140-lb Autotrip	20E-08
FINAL BY			BOREHOLE LOCATION (Lat/Long or North/East and Datum)	SURFACE ELEVATION
J. King			--/--	804.0 ft
DRILLING METHOD			BOREHOLE LOCATION (Offset, Station, Line)	WEATHER NOTES
6" Solid Stem Auger			63.00' Lt. Sta. 128+27.5, "New APRT" Line	Sunny, Cold
DRILLER			LOCATION DESCRIPTION	BACKFILLED WITH
Britton Exploration			6.4' south of centerline, 256' east of Dry Creek Road	Native topped with asphalt patch
DRILL RIG			GROUNDWATER READINGS DURING DRILLING AFTER DRILLING (DATE)	TOTAL DEPTH OF BORING
CME 55			Not Encountered	16.5 ft

ELEVATION (ft)	DEPTH (ft)	Material Graphics	DESCRIPTION	Sample Location	Sample Number	Blows per 6 in.	Blows per foot	Recovery (%)	RQD (%)	Moisture Content (%)	Dry Unit Weight (pcf)	Shear Strength (ksf)	Drilling Method	Casing Depth	Remarks
	0		6" ASPHALT CONCRETE.		A					10	139				R (R-Value = 19)
	1		5" AGGREGATE BASE.												
802	2		CLAYEY SAND (SC); loose; brown; moist.												
	3				1	3 3 5	8	94		11	118	.75PP			-200 (4% G, 51% S, 45% F) CR (pH = 8.96, r = 4,469 ohm-cm)
800	4														
	5		Medium dense; trace fine to coarse, subrounded to subangular GRAVEL.		2	7 8 8	16	89		6	108				
798	6														
	7														
796	8														
	9														
794	10		Fine to coarse SAND.		3	11 14 11	25	100		14	103				
	11														
792	12														
	13														
790	14														
	15		SANDY lean CLAY (CL); very stiff; brown; moist.		4	12 12 21	33	67		15	118	2.75PP			
788	16														
	17		Bottom of borehole at 16.5 ft bgs												
786	18														
	19		This Boring Record was developed in accordance with the Caltrans Soil & Rock Logging, Classification, and Presentation Manual (2010) except as noted on the Soil or Rock Legend or below.												
784	20														
	21														
782	22														
	23														
780	24														
	25														

5 BR - STANDARD 219-260 BORING LOGS.GPJ CALIFORNIA YEH LIBRARY (YEH V3 APRIL 2020).GLB 2/8/21

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PROJECT NAME	
Huer Huero Creek Bridge	
PROJECT NUMBER	
219-260	
BORING NUMBER	
20E-08	
REVISION DATE	SHEET
1/15/2021	1 of 1

APPENDIX B - RESULTS OF LABORATORY TESTING

SUMMARY OF LABORATORY TEST RESULTS

Sample Information				Total Unit Weight, γ_t (pcf)	Dry Unit Weight, γ_d (pcf)	Moisture Content (%)	Gradation			Atterberg		Corrosion				Compaction		R-Value	Expansion Index	Additional Testing	USCS Classification
Boring No.	Sample No.	Depth (ft)	Sample Type				Gravel (%)	Sand (%)	Fines (%)	Plasticity Index (PI)	Liquid Limit (LL)	pH	Resistivity (Ω - cm)	SO_4^{2-} (mg/kg)	Cl^- (mg/kg)	Max. Dry Unit Weight, $\gamma_{d,MAX}$ (pcf)	Optimum Moisture Content (%)				
20E-01	D	0.0	BULK	--	--	--	--	--	--	--	--	--	--	--	--	123	11	--	--	--	CLAYEY SAND with GRAVEL (SC)
20E-01	64	2.5	MCAL	122	107	14	--	--	--	--	--	7.90	555	48	87	--	--	--	--	--	CLAYEY SAND with GRAVEL (SC)
20E-01	65	5.0	MCAL	105	98	7	--	--	--	--	--	--	--	--	--	--	--	--	--	--	CLAYEY SAND with GRAVEL (SC)
20E-01	66	10.0	MCAL	116	111	4	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Well-graded SAND with GRAVEL (SW)
20E-01	67	15.0	SPT	--	--	--	31	57	12	--	--	--	--	--	--	--	--	--	--	--	CLAYEY SAND with GRAVEL (SC)
20E-01	70	30.0	MCAL	134	113	19	--	--	--	--	--	--	--	--	--	--	--	--	--	C	SANDY fat CLAY (CH)
20E-01	72	40.0	MCAL	126	104	21	--	--	--	--	--	--	--	--	--	--	--	--	--	--	CLAYEY SAND (SC)
20E-01	73	45.0	SPT	--	--	--	0	27	73	17	40	--	--	--	--	--	--	--	--	--	Lean CLAY with SAND (CL)
20E-01	74	50.0	MCAL	126	105	21	--	--	--	--	--	9.46	727	85	16	--	--	--	--	--	Lean CLAY with SAND (CL)
20E-01	76	60.0	MCAL	120	92	31	--	--	--	--	--	--	--	--	--	--	--	--	--	UU	SANDY fat CLAY (CH)
20E-01	78	70.0	MCAL	128	100	28	--	--	--	--	--	--	--	--	--	--	--	--	--	--	SANDY fat CLAY (CH)
20E-01	80	80.0	MCAL	130	108	21	--	--	--	--	--	--	--	--	--	--	--	--	--	--	SANDY fat CLAY (CH)
20E-02	43	2.5	MCAL	116	107	8	0	59	41	19	31	--	--	--	--	--	--	--	--	--	CLAYEY SAND (SC)
20E-02	45	10.0	MCAL	122	117	4	--	--	--	--	--	9.22	2,222	--	--	--	--	--	--	--	CLAYEY SAND (SC)
20E-02	46	15.0	SPT	--	--	--	0	49	51	--	--	--	--	--	--	--	--	--	--	--	SANDY lean CLAY (CL)
20E-02	47	20.0	MCAL	121	93	31	--	--	--	--	--	--	--	--	--	--	--	--	--	CU	SANDY lean CLAY (CL)
20E-02	49	30.0	MCAL	125	97	28	--	--	--	--	--	--	--	--	--	--	--	--	--	--	SANDY fat CLAY (CH)
20E-02	51	40.0	MCAL	131	108	22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	CLAYEY SAND (SC)
20E-02	53	50.0	MCAL	128	105	22	0	23	77	40	63	9.01	388	89	5	--	--	--	--	--	Fat CLAY with SAND (CH)
20E-02	55	60.0	MCAL	131	109	20	--	--	--	--	--	--	--	--	--	--	--	--	--	CU	SILTY, CLAYEY SAND with GRAVEL (SC-SM)

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PROJECT NAME: **Huer Huero Creek Bridge**

PROJECT NO. **219-260**	REVISION DATE **1-15-21**
PROJECT MANAGER **J. King**	PREPARED BY **R. Hooke**
CHECKED BY **J. King**	SHEET **1 of 4**

SUMMARY OF LABORATORY TEST RESULTS

Sample Information				Total Unit Weight, γ_t (pcf)	Dry Unit Weight, γ_d (pcf)	Moisture Content (%)	Gradation			Atterberg		Corrosion				Compaction		R-Value	Expansion Index	Additional Testing	USCS Classification
Boring No.	Sample No.	Depth (ft)	Sample Type				Gravel (%)	Sand (%)	Fines (%)	Plasticity Index (PI)	Liquid Limit (LL)	pH	Resistivity (Ω - cm)	SO_4^{2-} (mg/kg)	Cl^- (mg/kg)	Max. Dry Unit Weight, $\gamma_{d,MAX}$ (pcf)	Optimum Moisture Content (%)				
20E-02	57	70.0	MCAL	122	93	31	0	12	88	38	62	--	--	--	--	--	--	--	--	--	Fat CLAY (CH)
20E-02	59	80.0	MCAL	127	103	24	--	--	--	--	--	--	--	--	--	--	--	--	--	UU	Fat CLAY (CH)
20E-02	61	90.0	MCAL	127	102	24	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Fat CLAY (CH)
20E-02	63	100.0	MCAL	127	100	27	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Fat CLAY (CH)
20E-03	18	2.5	MCAL	103	99	3	--	--	--	--	--	8.73	7,842	--	--	--	--	--	--	--	Well-graded SAND with GRAVEL (SW)
20E-03	19	5.0	MCAL	116	110	5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Well-graded SAND with GRAVEL (SW)
20E-03	20	10.0	MCAL	--	--	12	40	50	10	--	--	--	--	--	--	--	--	--	--	--	Well-graded SAND with CLAY and GRAVEL (SW-SC)
20E-03	22	20.0	MCAL	120	94	28	--	--	--	15	31	--	--	--	--	--	--	--	--	--	Lean CLAY (CL)
20E-03	24	30.0	MCAL	124	100	24	--	--	--	--	--	--	--	--	--	--	--	--	--	CU	Poorly graded SAND with SILT (SP-SM)
20E-03	25	35.0	SPT	--	--	--	0	90	10	--	--	--	--	--	--	--	--	--	--	--	Poorly graded SAND with SILT (SP-SM)
20E-03	26	40.0	MCAL	135	116	16	--	--	--	--	--	--	--	--	--	--	--	--	--	--	CLAYEY SAND (SC)
20E-03	28	50.0	MCAL	129	107	20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	SANDY lean CLAY (CL)
20E-03	30	60.0	MCAL	129	105	23	--	--	--	--	--	--	--	--	--	--	--	--	--	--	SILTY SAND (SM)
20E-03	32	70.0	MCAL	128	101	27	--	--	--	--	--	--	--	--	--	--	--	--	--	--	SILTY, CLAYEY SAND (SC-SM)
20E-03	34	80.0	MCAL	134	114	17	--	--	--	--	--	--	--	--	--	--	--	--	--	UU	SANDY fat CLAY with GRAVEL (CH)
20E-03	36	90.0	MCAL	123	99	24	--	--	--	--	--	--	--	--	--	--	--	--	--	--	CLAYEY SAND (SC)
20E-03	37	95.0	SPT	--	--	--	0	14	86	35	56	--	--	--	--	--	--	--	--	--	Fat CLAY (CH)
20E-03	38	100.0	MCAL	127	102	24	--	--	--	--	--	--	--	--	--	--	--	--	--	UU	Fat CLAY (CH)
20E-03	40	110.0	MCAL	121	93	29	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Fat CLAY (CH)
20E-03	42	120.0	MCAL	117	102	16	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Fat CLAY (CH)

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PROJECT NAME: Huer Huero Creek Bridge	
PROJECT NO.: 219-260	REVISION DATE: 1-15-21
PROJECT MANAGER: J. King	PREPARED BY: R. Hooke
CHECKED BY: J. King	SHEET: 2 of 4

SUMMARY OF LABORATORY TEST RESULTS

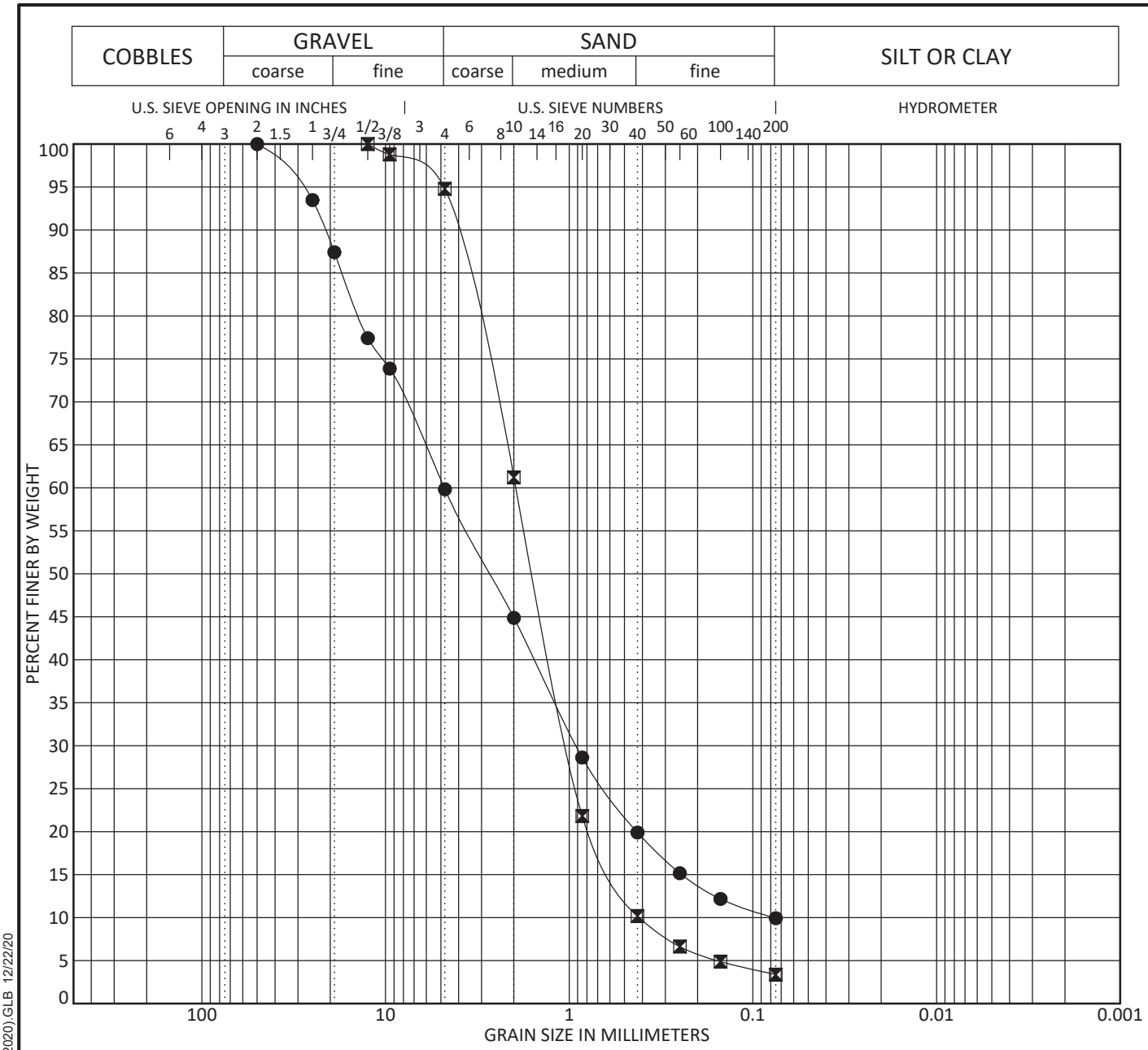
Sample Information				Total Unit Weight, γ_t (pcf)	Dry Unit Weight, γ_d (pcf)	Moisture Content (%)	Gradation			Atterberg		Corrosion				Compaction		R-Value	Expansion Index	Additional Testing	USCS Classification
Boring No.	Sample No.	Depth (ft)	Sample Type				Gravel (%)	Sand (%)	Fines (%)	Plasticity Index (PI)	Liquid Limit (LL)	pH	Resistivity (Ω - cm)	SO_4^{2-} (mg/kg)	Cl^- (mg/kg)	Max. Dry Unit Weight, $\gamma_{d,MAX}$ (pcf)	Optimum Moisture Content (%)				
20E-04	81	2.5	MCAL	99	96	3	--	--	--	--	--	9.38	8,269	--	--	--	--	--	--	--	Poorly graded SAND (SP)
20E-04	82	5.0	MCAL	102	101	2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Poorly graded SAND (SP)
20E-04	83	7.5	MCAL	110	101	9	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Poorly graded SAND (SP)
20E-04	84	10.0	MCAL	100	97	3	5	91	3	--	--	--	--	--	--	--	--	--	--	--	POORLY GRADED SAND (SP)
20E-04	86	20.0	MCAL	126	102	23	--	--	--	--	--	--	--	--	--	--	--	--	--	C	SANDY fat CLAY (CH)
20E-04	88	30.0	MCAL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	SANDY fat CLAY (CH)
20E-04	89	35.0	SPT	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	SANDY fat CLAY (CH)
20E-04	90	40.0	MCAL	124	100	24	--	--	--	--	--	--	--	--	--	--	--	--	--	CU	CLAYEY SAND (SC)
20E-04	91	45.0	SPT	--	--	--	--	--	--	--	--	9.26	2,067	--	--	--	--	--	--	--	CLAYEY SAND (SC)
20E-04	92	50.0	MCAL	126	101	24	--	--	--	--	--	--	--	--	--	--	--	--	--	--	SANDY lean CLAY (CL)
20E-04	94	60.0	MCAL	124	98	26	--	--	--	--	--	--	--	--	--	--	--	--	--	UU	Lean CLAY (CL)
20E-04	96	70.0	MCAL	130	101	29	0	93	7	--	--	--	--	--	--	--	--	--	--	--	Poorly graded SAND with CLAY (SP-SC)
20E-05	C	0.0	BULK	128	110	17	--	--	--	--	--	--	--	--	--	--	--	10	--	--	SANDY lean CLAY (CL)
20E-05	13	2.5	MCAL	112	99	12	--	--	--	--	--	9.56	535	53	<2	--	--	--	--	--	SANDY lean CLAY (CL)
20E-05	14	5.0	MCAL	110	101	10	0	30	70	18	35	--	--	--	--	--	--	--	--	--	SANDY lean CLAY (CL)
20E-05	15	10.0	MCAL	109	100	10	--	--	--	--	--	--	--	--	--	--	--	--	--	--	SANDY lean CLAY (CL)
20E-05	17	20.0	MCAL	--	--	6	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Well-graded SAND with GRAVEL (SW)
20E-06	9	2.5	MCAL	104	96	9	--	--	--	--	--	9.16	869	33	3	--	--	--	--	--	SANDY fat CLAY (CH)
20E-06	10	5.0	MCAL	106	97	9	0	35	65	25	51	--	--	--	--	--	--	--	--	--	SANDY fat CLAY (CH)
20E-06	11	10.0	MCAL	107	98	10	--	--	--	--	--	--	--	--	--	--	--	--	--	--	SANDY fat CLAY (CH)

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PROJECT NAME: Huer Huero Creek Bridge	
PROJECT NO.: 219-260	REVISION DATE: 1-15-21
PROJECT MANAGER: J. King	PREPARED BY: R. Hooke
CHECKED BY: J. King	SHEET: 3 of 4

SUMMARY OF LABORATORY TEST RESULTS

Sample Information				Total Unit Weight, γ_t (pcf)	Dry Unit Weight, γ_d (pcf)	Moisture Content (%)	Gradation			Atterberg		Corrosion				Compaction		R-Value	Expansion Index	Additional Testing	USCS Classification
Boring No.	Sample No.	Depth (ft)	Sample Type				Gravel (%)	Sand (%)	Fines (%)	Plasticity Index (PI)	Liquid Limit (LL)	pH	Resistivity (Ω - cm)	SO_4^{2-} (mg/kg)	Cl^- (mg/kg)	Max. Dry Unit Weight, $\gamma_{d,MAX}$ (pcf)	Optimum Moisture Content (%)				
20E-07	B	0.0	BULK	--	--	--	--	--	--	--	--	--	--	--	--	123	11	--	--	--	CLAYEY SAND with GRAVEL (SC)
20E-07	5	2.5	MCAL	110	101	9	--	--	--	--	--	8.70	588	183	7	--	--	--	--	--	CLAYEY SAND with GRAVEL (SC)
20E-07	6	5.0	MCAL	121	109	10	0	45	55	--	--	--	--	--	--	--	--	--	--	--	SANDY lean CLAY (CL)
20E-07	7	10.0	MCAL	115	107	7	--	--	--	--	--	--	--	--	--	--	--	--	--	--	SANDY lean CLAY (CL)
20E-07	8	15.0	SPT	--	--	10	--	--	--	--	--	--	--	--	--	--	--	--	--	--	SANDY lean CLAY (CL)
20E-08	A	0.0	BULK	152	139	10	--	--	--	--	--	--	--	--	--	--	--	19	--	--	CLAYEY SAND (SC)
20E-08	1	2.5	MCAL	131	118	11	4	51	45	--	--	8.96	4,469	--	--	--	--	--	--	--	CLAYEY SAND (SC)
20E-08	2	5.0	MCAL	115	108	6	--	--	--	--	--	--	--	--	--	--	--	--	--	--	CLAYEY SAND (SC)
20E-08	3	10.0	MCAL	117	103	14	--	--	--	--	--	--	--	--	--	--	--	--	--	--	CLAYEY SAND (SC)
20E-08	4	15.0	MCAL	135	118	15	--	--	--	--	--	--	--	--	--	--	--	--	--	--	SANDY lean CLAY (CL)
A	A	1.0	BULK	--	--	--	41	59	0	--	--	--	--	--	--	--	--	--	--	--	POORLY GRADED SAND with GRAVEL (SP)
B	B	1.0	BULK	--	--	--	9	91	0	--	--	--	--	--	--	--	--	--	--	--	POORLY GRADED SAND (SP)
C	C	1.0	BULK	--	--	--	10	63	28	--	--	--	--	--	--	--	--	--	--	--	CLAYEY SAND with GRAVEL (SC)
D	D	1.0	BULK	--	--	--	10	90	0	--	--	--	--	--	--	--	--	--	--	--	POORLY GRADED SAND (SP)
E	E	1.0	BULK	--	--	--	3	96	0	--	--	--	--	--	--	--	--	--	--	--	POORLY GRADED SAND (SP)



Specimen Identification		Classification	LL	PL	PI	Cc	Cu
● 20E-03	10.0 ft	Well-graded SAND with CLAY and GRAVEL (SW-SC)	--	--	--	--	62.64
⊠ 20E-04	10.0 ft	POORLY GRADED SAND (SP)	--	--	--	--	4.70

Specimen Identification		D100	D60	D50	D30	D10	%Gravel	%Sand	%Silt	%Clay
● 20E-03	10.0 ft	50	4.789	2.69	0.914	0.076	40.2	49.9	9.9	
⊠ 20E-04	10.0 ft	12.5	1.948	1.568	1.015	0.414	5.2	91.4	3.4	

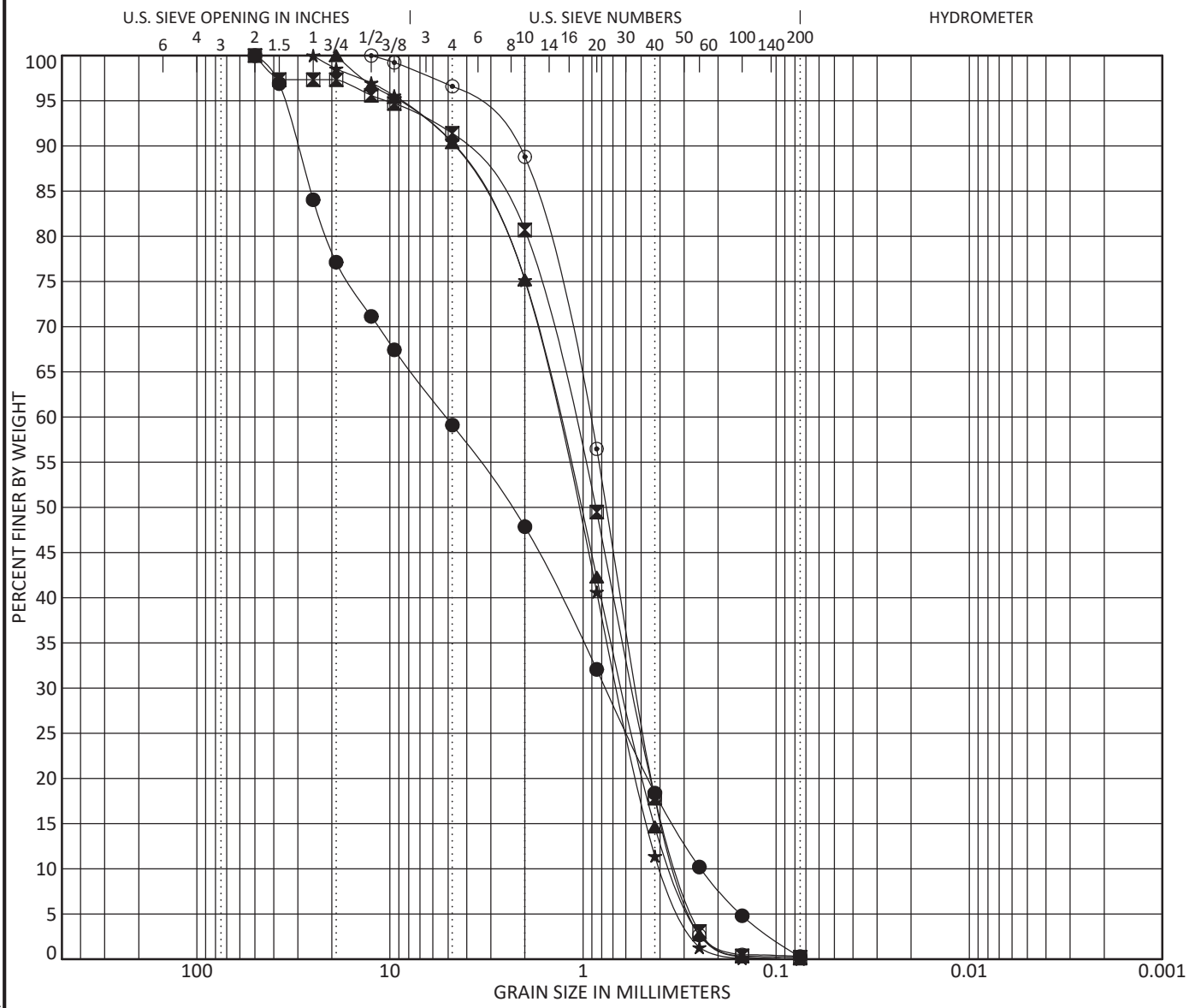
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GRAIN SIZE DISTRIBUTION

PROJECT NAME	PROJECT NO.	
Huer Huero Creek Bridge	219-260	
REVISION DATE	PROJECT MANAGER	
11-13-20	J. King	
PREPARED BY	CHECKED BY	SHEET
R. Hooke	J. King	1 of 1

YEH SIEVE 219-260 BORING LOGS.GPJ CALIFORNIA YEH LIBRARY (YEH V3 APRIL 2020).GLB 12/22/20

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	



Specimen Identification			Classification	LL	PL	PI	Cc	Cu
●	A	1.0 ft	POORLY GRADED SAND with GRAVEL (SP)	--	--	--	0.47	20.85
⊠	B	1.0 ft	POORLY GRADED SAND (SP)	--	--	--	0.85	3.54
▲	C	1.0 ft	POORLY GRADED SAND (SP)	--	--	--	0.84	3.89
★	D	1.0 ft	POORLY GRADED SAND (SP)	--	--	--	0.80	3.48
⊙	E	1.0 ft	POORLY GRADED SAND (SP)	--	--	--	0.93	2.89

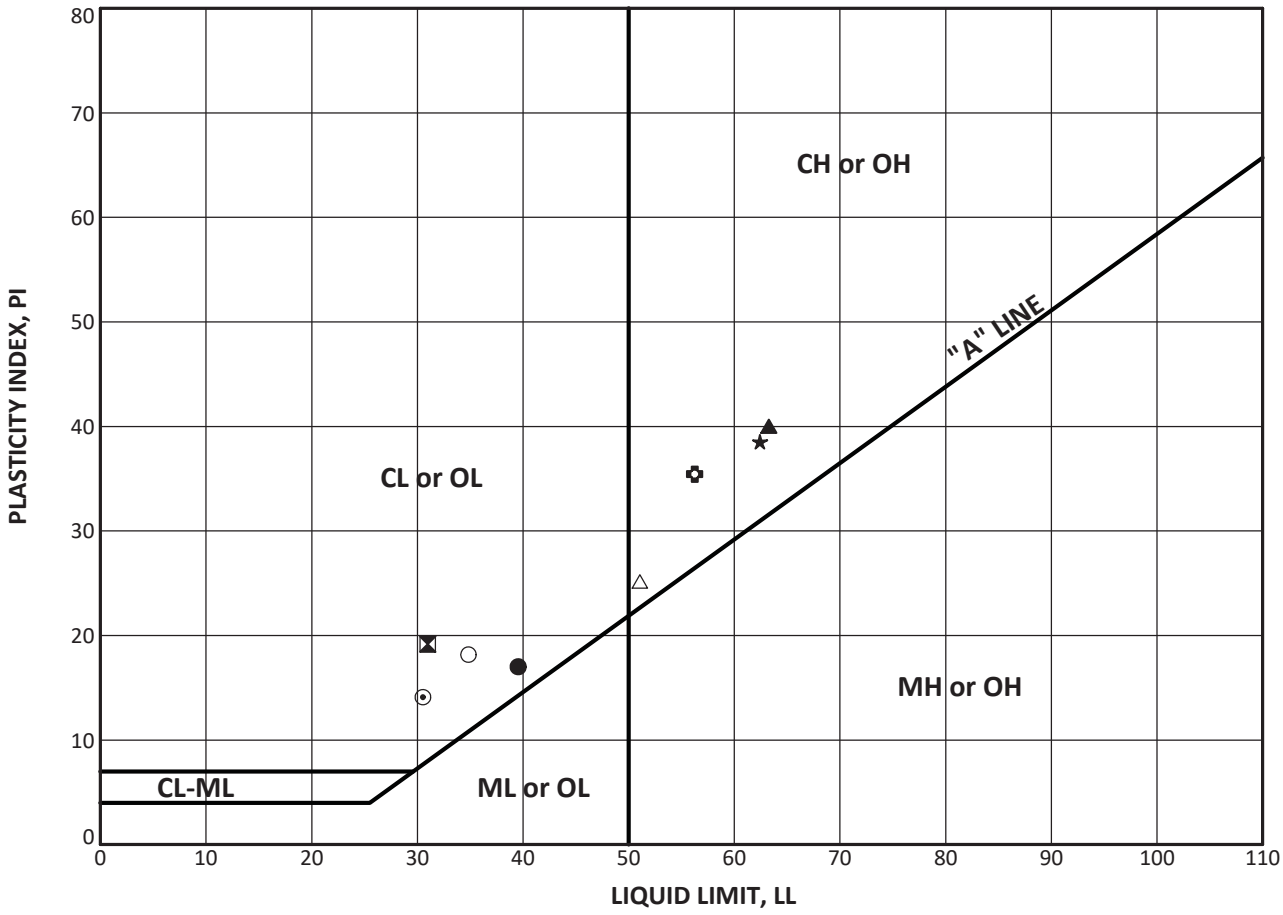
Specimen Identification			D100	D60	D50	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	A	1.0 ft	50	5.114	2.357	0.765	0.245	40.9	58.9	0.2	
⊠	B	1.0 ft	50	1.134	0.862	0.555	0.321	8.6	91.2	0.2	
▲	C	1.0 ft	19	1.347	1.039	0.625	0.346	9.7	90.3	0.0	
★	D	1.0 ft	25	1.374	1.072	0.661	0.395	9.6	90.4	0.0	
⊙	E	1.0 ft	12.5	0.933	0.757	0.529	0.323	3.4	96.3	0.3	

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GRAIN SIZE DISTRIBUTION

PROJECT NAME	PROJECT NO.
Huer Huero Creek Bridge and Roundabaout	219-260
REVISION DATE: 3-31-20	PROJECT MANAGER: J. King
PREPARED BY: N.Simon	CHECKED BY: J.Cravens
	SHEET: 1 of 1

YEH SIEVE 219-260_LAB DATA.GPJ CALIFORNIA YEH LIBRARY (YEH V3 APRIL 2020).GLB 7/31/20



Boring Number	Sample ID	Depth (ft)	Test Symbol	MC (%)	Fines (%)	LL	PL	PI	Classification
20E-01	73	45.0	●	--	73	40	23	17	Lean CLAY with SAND (CL)
20E-02	43	2.5	⊠	8	41	31	12	19	CLAYEY SAND (SC)
20E-02	53	50.0	▲	22	77	63	23	40	Fat CLAY with SAND (CH)
20E-02	57	70.0	★	31	88	62	24	38	Fat CLAY (CH)
20E-03	22	20.0	⊙	28	--	31	16	15	Lean CLAY (CL)
20E-03	37	95.0	✿	--	86	56	21	35	Fat CLAY (CH)
20E-05	14	5.0	○	10	70	35	17	18	SANDY lean CLAY (CL)
20E-06	10	5.0	△	9	65	51	26	25	SANDY fat CLAY (CH)

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ATTERBERG LIMITS

PROJECT NAME: Huer Huero Creek Bridge		PROJECT NO.: 219-260
REVISION DATE: 1-8-21	PROJECT MANAGER: J. King	
PREPARED BY: R. Hooke	CHECKED BY: J. King	SHEET: 1 of 1

YEH ATTERBERG 219-260 BORING LOGS.GPJ CALIFORNIA YEH LIBRARY (YEH V3 APRIL 2020).GLB 1/15/21

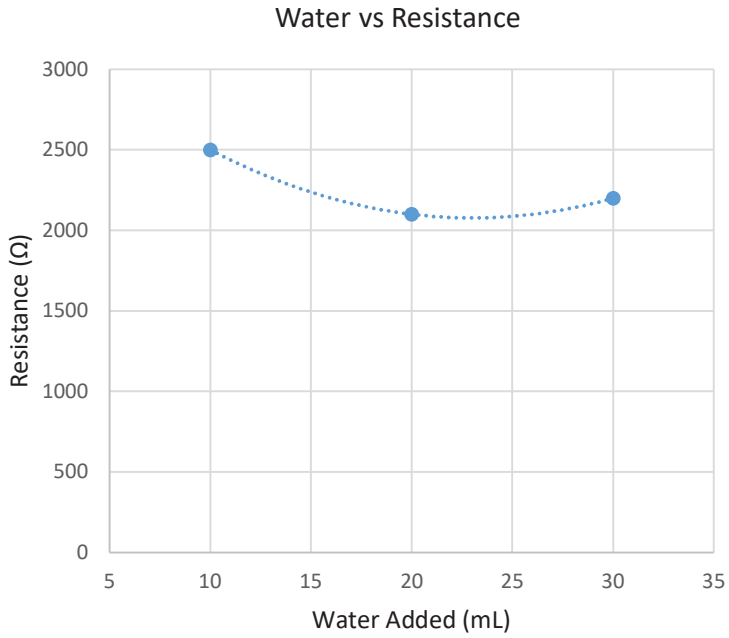
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pH and Resistivity
California Test 643

Project Name	Huer Heuro Creek Bridge				
Project No.	219-260		**Project Manager**	J. King	
Tested By	J. Garcia	**Checked By**	R. Hooke	**Testing Date**	12/14/2020

SPECIMEN ID AND CLASSIFICATION					
Boring No.	20E-01	**Sample No.**	64	**Depth (ft)**	2.5
Soil Description	Clayey SAND with GRAVEL (SC)				

RESISTIVITY MEASUREMENTS			
Water Added (mL)	**Cumulative Water Added (mL)**	**Resistance (Ω)**	**Soil Temperature, T (°C)**
10	10	2500	
10	20	2100	
10	30	2200	
			19.5



RESULTS	
pH:	7.90
Minimum Resistance (@ T, in Ω):	2100
Corrected Minimum Resistance (Ω):	2310
Minimum Soil Resistivity (Ω-cm):	555

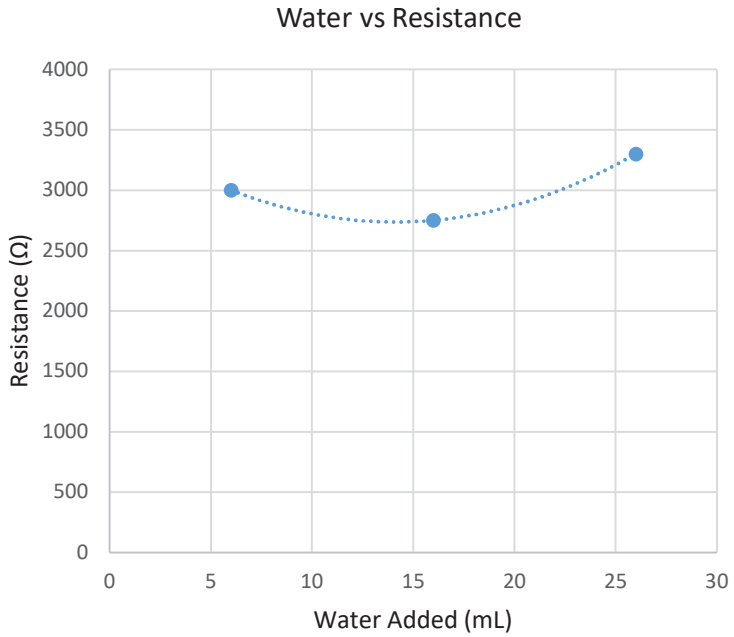
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pH and Resistivity
California Test 643

Project Name	Huer Heuro Creek Bridge				
Project No.	219-260		**Project Manager**	J. King	
Tested By	J. Garcia	**Checked By**	R. Hooke	**Testing Date**	12/14/2020

SPECIMEN ID AND CLASSIFICATION					
Boring No.	20E-01	**Sample No.**	74	**Depth (ft)**	50
Soil Description	Lean CLAY with SAND (CL)				

RESISTIVITY MEASUREMENTS			
Water Added (mL)	**Cumulative Water Added (mL)**	**Resistance (Ω)**	**Soil Temperature, T (°C)**
6	6	3000	
10	16	2750	
10	26	3300	19.5



RESULTS	
pH:	9.46
Minimum Resistance (@ T, in Ω):	2750
Corrected Minimum Resistance (Ω):	3025
Minimum Soil Resistivity (Ω-cm):	727

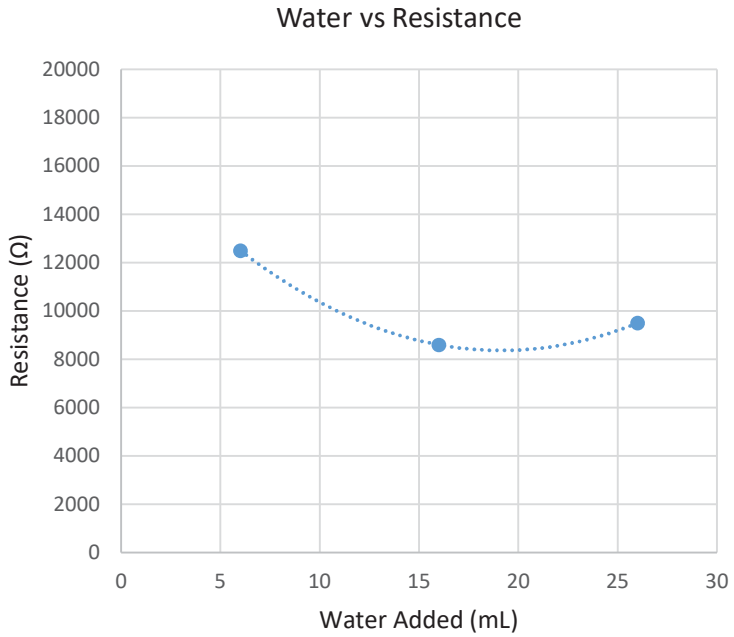
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pH and Resistivity
California Test 643

Project Name	Huer Heuro Creek Bridge				
Project No.	219-260		**Project Manager**	J. King	
Tested By	J. Garcia	**Checked By**	R. Hooke	**Testing Date**	12/14/2020

SPECIMEN ID AND CLASSIFICATION					
Boring No.	20E-02	**Sample No.**	45	**Depth (ft)**	10
Soil Description	Clayey SAND (SC)				

RESISTIVITY MEASUREMENTS			
Water Added (mL)	**Cumulative Water Added (mL)**	**Resistance (Ω)**	**Soil Temperature, T (°C)**
10	10	12500	
10	20	8600	
10	30	9500	
			18.5



RESULTS	
pH:	9.22
Minimum Resistance (@ T, in Ω):	8600
Corrected Minimum Resistance (Ω):	9245
Minimum Soil Resistivity (Ω-cm):	2222

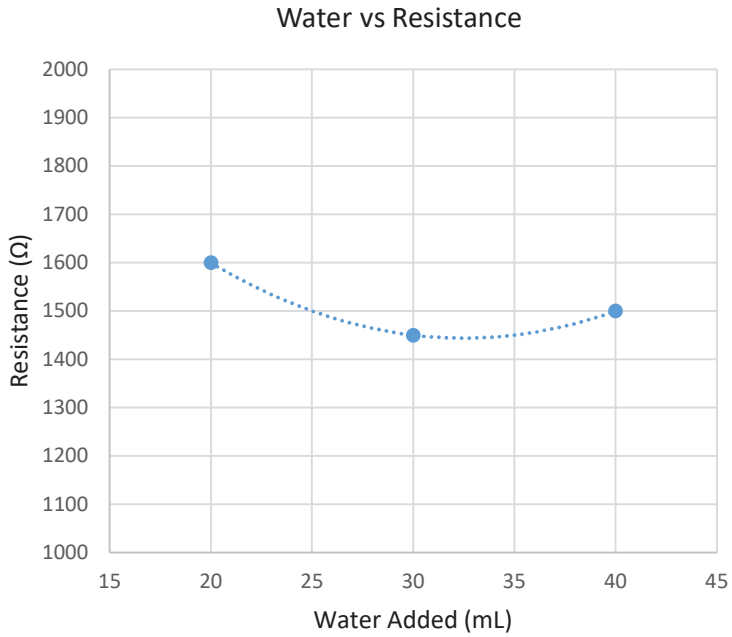
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pH and Resistivity
California Test 643

Project Name	Huer Heuro Creek Bridge				
Project No.	219-260		**Project Manager**	J. King	
Tested By	J. Garcia	**Checked By**	R. Hooke	**Testing Date**	12/14/2020

SPECIMEN ID AND CLASSIFICATION					
Boring No.	20E-02	**Sample No.**	53	**Depth (ft)**	50
Soil Description	Fat CLAY with SAND (CH)				

RESISTIVITY MEASUREMENTS			
Water Added (mL)	**Cumulative Water Added (mL)**	**Resistance (Ω)**	**Soil Temperature, T (°C)**
20	20	1600	
10	30	1450	
10	40	1500	20



RESULTS	
pH:	9.01
Minimum Resistance (@ T, in Ω):	1450
Corrected Minimum Resistance (Ω):	1613.125
Minimum Soil Resistivity (Ω-cm):	388

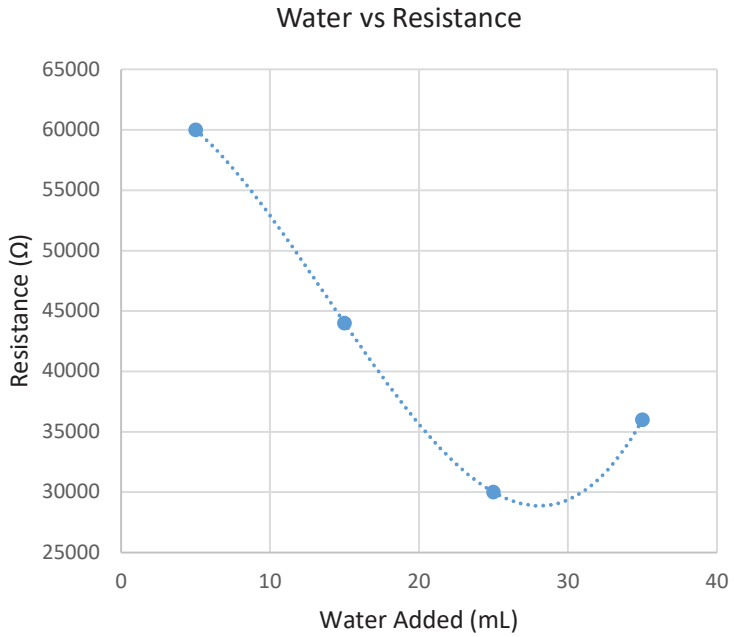
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pH and Resistivity
California Test 643

Project Name	Huer Heuro Creek Bridge				
Project No.	219-260		**Project Manager**	J. King	
Tested By	J. Garcia	**Checked By**	R. Hooke	**Testing Date**	12/14/2020

SPECIMEN ID AND CLASSIFICATION					
Boring No.	20E-03	**Sample No.**	18	**Depth (ft)**	2.5
Soil Description	Well-Graded SAND with GRAVEL (SW)				

RESISTIVITY MEASUREMENTS			
Water Added (mL)	**Cumulative Water Added (mL)**	**Resistance (Ω)**	**Soil Temperature, T (°C)**
5	5	60000	
10	15	44000	
10	25	30000	19
10	35	36000	



RESULTS	
pH:	8.73
Minimum Resistance (@ T, in Ω):	30000
Corrected Minimum Resistance (Ω):	32625
Minimum Soil Resistivity (Ω-cm):	7842

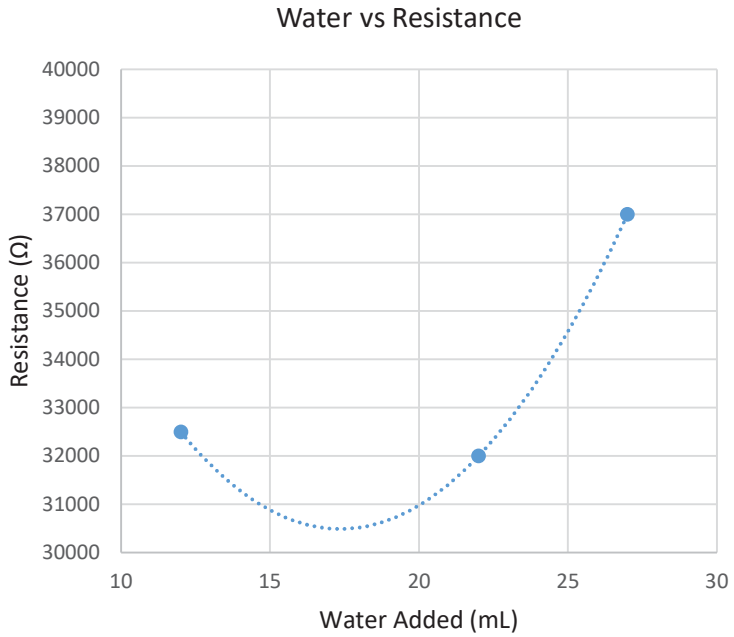
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pH and Resistivity
California Test 643

Project Name	Huer Heuro Creek Bridge				
Project No.	219-260		**Project Manager**	J. King	
Tested By	J. Garcia	**Checked By**	R. Hooke	**Testing Date**	12/14/2020

SPECIMEN ID AND CLASSIFICATION					
Boring No.	20E-04	**Sample No.**	81	**Depth (ft)**	2.5
Soil Description	Poorly-Graded SAND (SP)				

RESISTIVITY MEASUREMENTS			
Water Added (mL)	**Cumulative Water Added (mL)**	**Resistance (Ω)**	**Soil Temperature, T (°C)**
12	12	32500	
10	22	32000	
5	27	37000	18.5



RESULTS	
pH:	9.38
Minimum Resistance (@ T, in Ω):	32000
Corrected Minimum Resistance (Ω):	34400
Minimum Soil Resistivity (Ω-cm):	8269

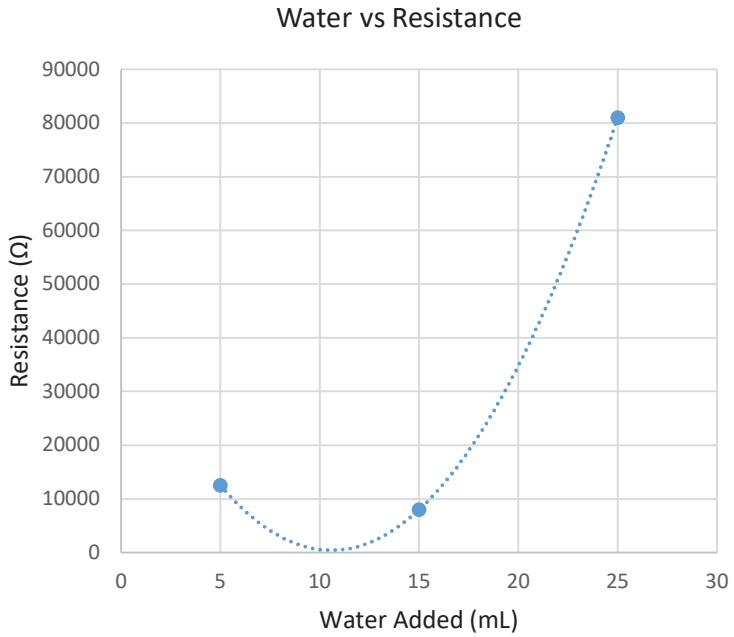
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pH and Resistivity
California Test 643

Project Name	Huer Heuro Creek Bridge				
Project No.	219-260		**Project Manager**	J. King	
Tested By	J. Garcia	**Checked By**	R. Hooke	**Testing Date**	12/14/2020

SPECIMEN ID AND CLASSIFICATION					
Boring No.	20E-04	**Sample No.**	91	**Depth (ft)**	45
Soil Description	Clayey SAND (SC)				

RESISTIVITY MEASUREMENTS			
Water Added (mL)	**Cumulative Water Added (mL)**	**Resistance (Ω)**	**Soil Temperature, T (°C)**
5	5	12500	
10	15	8000	
10	25	81000	18.5



RESULTS	
pH:	9.26
Minimum Resistance (@ T, in Ω):	8000
Corrected Minimum Resistance (Ω):	8600
Minimum Soil Resistivity (Ω-cm):	2067

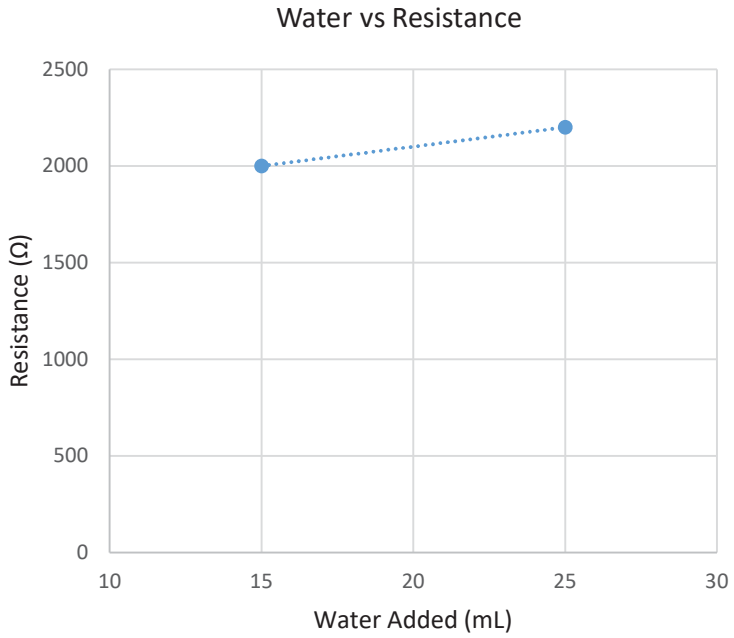
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pH and Resistivity
California Test 643

Project Name	Huer Heuro Creek Bridge				
Project No.	219-260		**Project Manager**	J. King	
Tested By	J. Garcia	**Checked By**	R. Hooke	**Testing Date**	12/14/2020

SPECIMEN ID AND CLASSIFICATION					
Boring No.	20E-05	**Sample No.**	13	**Depth (ft)**	2.5
Soil Description	Sandy Lean CLAY (CL)				

RESISTIVITY MEASUREMENTS			
Water Added (mL)	**Cumulative Water Added (mL)**	**Resistance (Ω)**	**Soil Temperature, T (°C)**
15	15	2000	
10	25	2200	
			20



RESULTS	
pH:	9.56
Minimum Resistance (@ T, in Ω):	2000
Corrected Minimum Resistance (Ω):	2225
Minimum Soil Resistivity (Ω-cm):	535

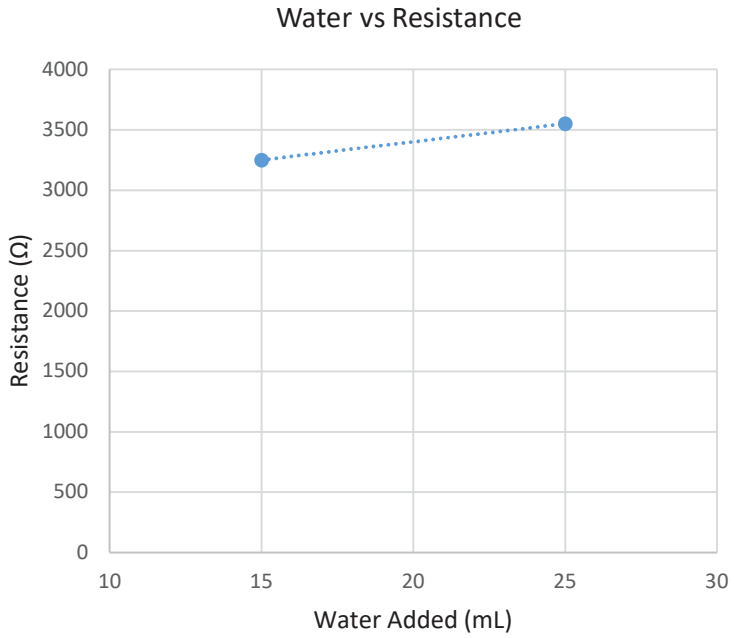
Yeh and Associates, Inc.
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pH and Resistivity
California Test 643

Project Name	Huer Heuro Creek Bridge				
Project No.	219-260		**Project Manager**	J. King	
Tested By	J. Garcia	**Checked By**	R. Hooke	**Testing Date**	12/14/2020

SPECIMEN ID AND CLASSIFICATION					
Boring No.	20E-06	**Sample No.**	9	**Depth (ft)**	2.5
Soil Description	Sandy Fat CLAY (CH)				

RESISTIVITY MEASUREMENTS			
Water Added (mL)	**Cumulative Water Added (mL)**	**Resistance (Ω)**	**Soil Temperature, T (°C)**
15	15	3250	
10	25	3550	
			20



RESULTS	
pH:	9.16
Minimum Resistance (@ T, in Ω):	3250
Corrected Minimum Resistance (Ω):	3615.625
Minimum Soil Resistivity (Ω-cm):	869

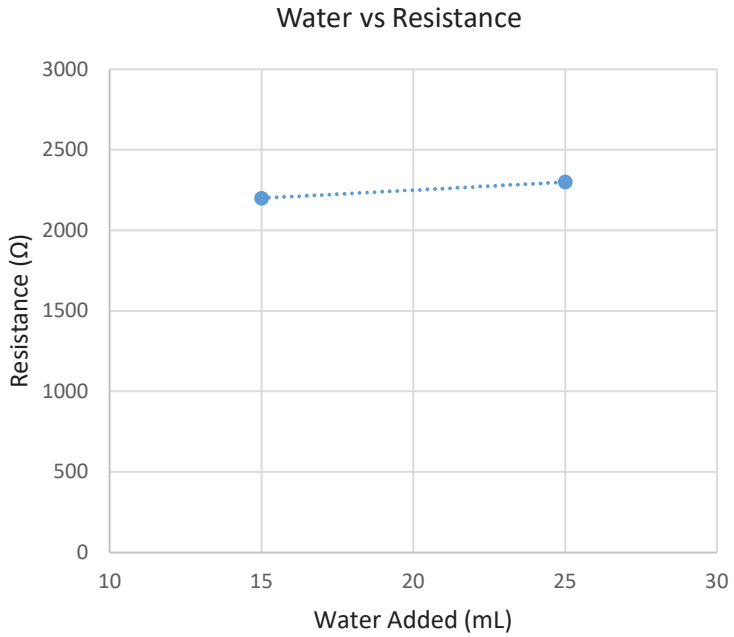
Yeh and Associates, Inc.
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pH and Resistivity
California Test 643

Project Name	Huer Heuro Creek Bridge				
Project No.	219-260		**Project Manager**	J. King	
Tested By	J. Garcia	**Checked By**	R. Hooke	**Testing Date**	12/14/2020

SPECIMEN ID AND CLASSIFICATION					
Boring No.	20E-07	**Sample No.**	5	**Depth (ft)**	2.5
Soil Description	Clayey SAND with GRAVEL (SC)				

RESISTIVITY MEASUREMENTS			
Water Added (mL)	**Cumulative Water Added (mL)**	**Resistance (Ω)**	**Soil Temperature, T (°C)**
15	15	2200	20
10	25	2300	



RESULTS	
pH:	8.7
Minimum Resistance (@ T, in Ω):	2200
Corrected Minimum Resistance (Ω):	2447.5
Minimum Soil Resistivity (Ω-cm):	588

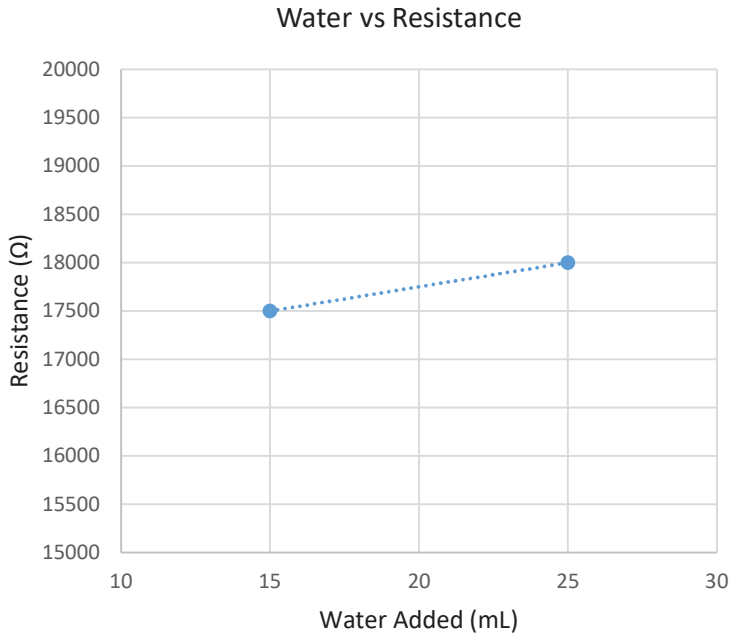
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pH and Resistivity
California Test 643

Project Name	Huer Heuro Creek Bridge				
Project No.	219-260		**Project Manager**	J. King	
Tested By	J. Garcia	**Checked By**	R. Hooke	**Testing Date**	12/14/2020

SPECIMEN ID AND CLASSIFICATION					
Boring No.	20E-08	**Sample No.**	1	**Depth (ft)**	2.5
Soil Description	Clayey SAND (SC)				

RESISTIVITY MEASUREMENTS			
Water Added (mL)	**Cumulative Water Added (mL)**	**Resistance (Ω)**	**Soil Temperature, T (°C)**
15	15	17500	
10	25	18000	
			18



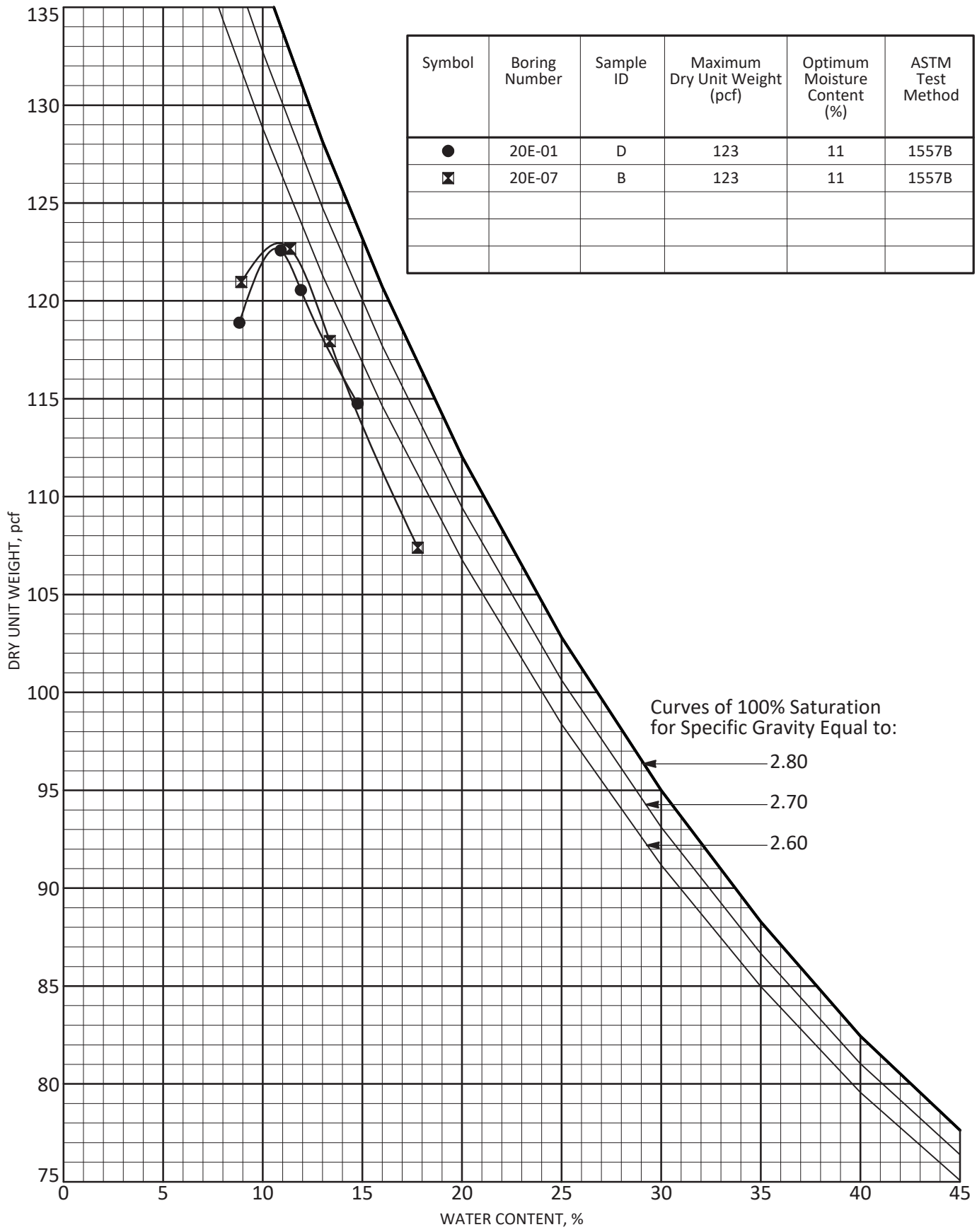
RESULTS	
pH:	8.96
Minimum Resistance (@ T, in Ω):	17500
Corrected Minimum Resistance (Ω):	18593.75
Minimum Soil Resistivity (Ω-cm):	4469

Corrosivity Tests Summary

CTL # 687-112 | Date: 12/22/2020 | Tested By: PJ | Checked: PJ
Client: Yeh & Associates | Project: Huer Huero | Proj. No: 219-260
Remarks:

Sample Location or ID			Resistivity @ 15.5 °C (Ohm-cm)			Chloride	Sulfate		pH	ORP (Redox)		Sulfide	Moisture	Soil Visual Description
			As Rec.	Min	Sat.	mg/kg	mg/kg	%				Qualitative	At Test	
						Dry Wt.	Dry Wt.	Dry Wt.		E_H (mv)	At Test	by Lead	%	
Boring	Sample, No.	Depth, ft.	ASTM G57	Cal 643	ASTM G57	ASTM D4327	ASTM D4327	ASTM D4327	ASTM G51	ASTM G200	Temp °C	Acetate Paper	ASTM D2216	
20E-1	64	2.5	-	-	-	87	48	0.0048	-	-	-	-	10.5	Light Brown Clayey SAND
20E-1	74	50	-	-	-	16	85	0.0085	-	-	-	-	21.5	Olive Gray Silty SAND
20E-2	53	50	-	-	-	5	89	0.0089	-	-	-	-	24.1	Olive Gray Sandy CLAY
20E-5	13	2.5	-	-	-	<2	53	0.0053	-	-	-	-	12.2	Dark Yellowish Brown Sandy CLAY
20E-6	9	2.5	-	-	-	3	33	0.0033	-	-	-	-	9.1	Dark Yellowish Brown Sandy CLAY
20E-7	5	2.5	-	-	-	7	183	0.0183	-	-	-	-	10.1	Strong Brown Sandy CLAY

Symbol	Boring Number	Sample ID	Maximum Dry Unit Weight (pcf)	Optimum Moisture Content (%)	ASTM Test Method
●	20E-01	D	123	11	1557B
⊠	20E-07	B	123	11	1557B



YEH COMPACTION 5-CURVE 219-260 BORING LOGS.GPJ CALIFORNIA YEH LIBRARY (YEH V3 APRIL 2020).GLB 12/22/20

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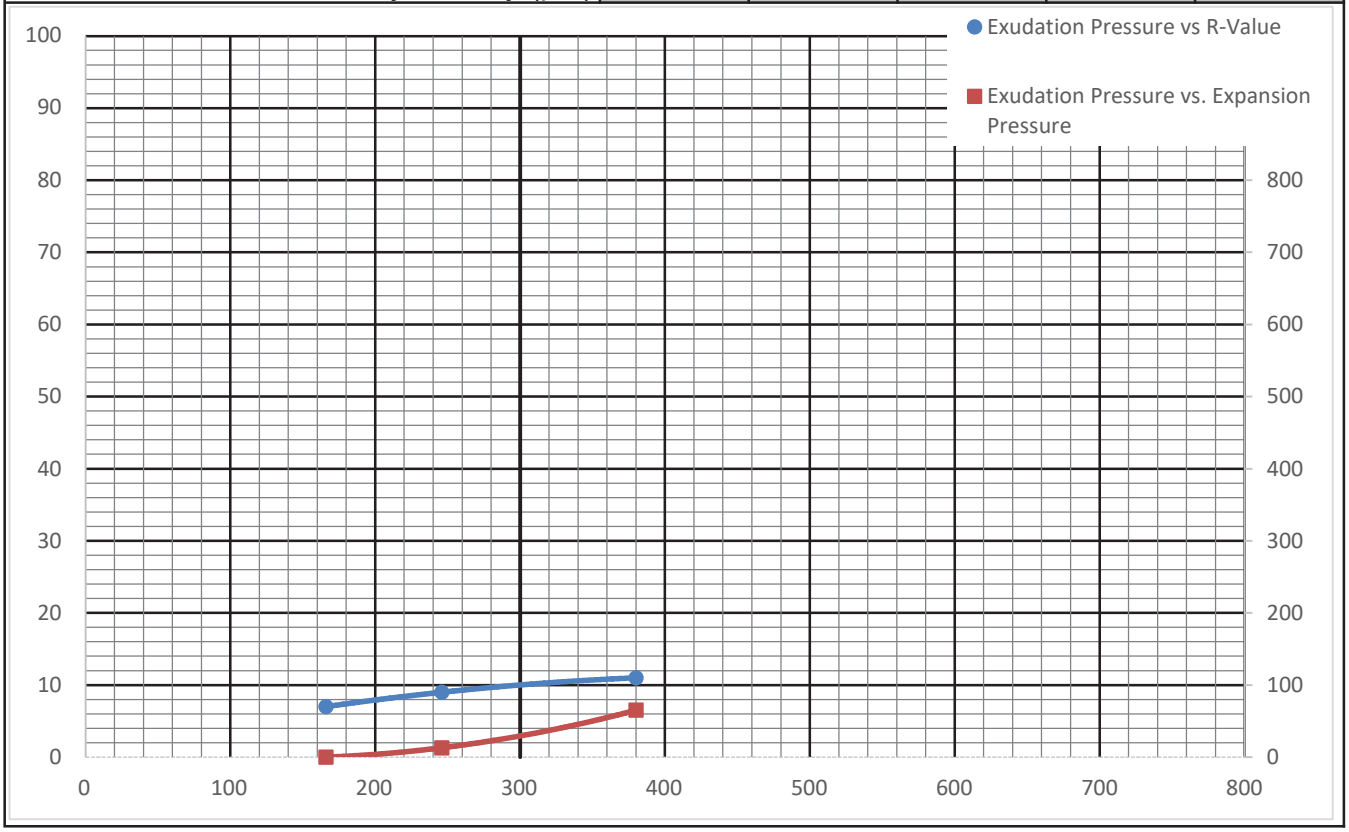
MOISTURE-DENSITY RELATIONSHIP

PROJECT NAME: **Huer Huero Creek Bridge**		PROJECT NO.: **219-260**
REVISION DATE: **11-13-20**	PROJECT MANAGER: **J. King**	
PREPARED BY: **R. Hooke**	CHECKED BY: **J. King**	SHEET: **1 of 1**

R-Value
CTM 301

CTL Job No.:	687-112	Boring:	20E-05	Reduced By:	RU
Client:	Yeh & Associates	Sample:	C	Checked By:	PJ
Project Number:	219-260	Depth:	0-5	Date:	1/13/2021
Project Name:	Huer Huero		**R-Value**		**10**
Soil Description:	Yellowish Brown Sandy CLAY				
Remarks:			**Expansion Pressure**		**30**

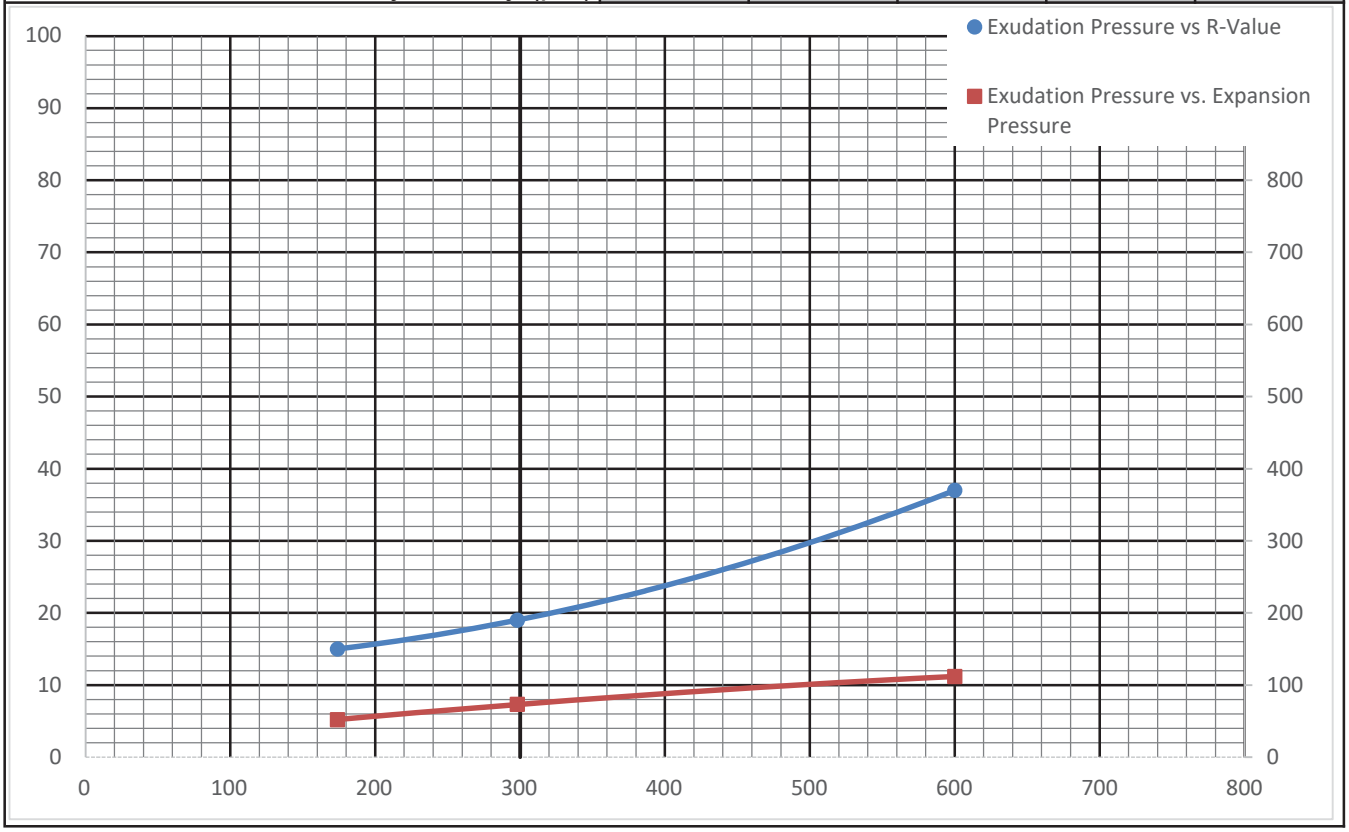
Specimen Designation	A	B	C	D	E
Compactor Foot Pressure (psi)	120	80	60		
Exudation Pressure (psi)	380	246	166		
Exudation Load (lbf)	4775	3091	2086		
Height After Compaction (in)	2.51	2.55	2.45		
Expansion Pressure (psf)	65	13	0		
Stabilometer @ 2000	128	138	142		
Turns Displacement	4.96	4.14	4.26		
R-value	11	9	7		
Corrected R-Value	11	9	7		
Moisture Content (%)	15.8	16.7	17.4		
Wet Density (pcf)	129.5	126.1	128.6		
Dry Density (pcf)	111.8	108.1	109.5		

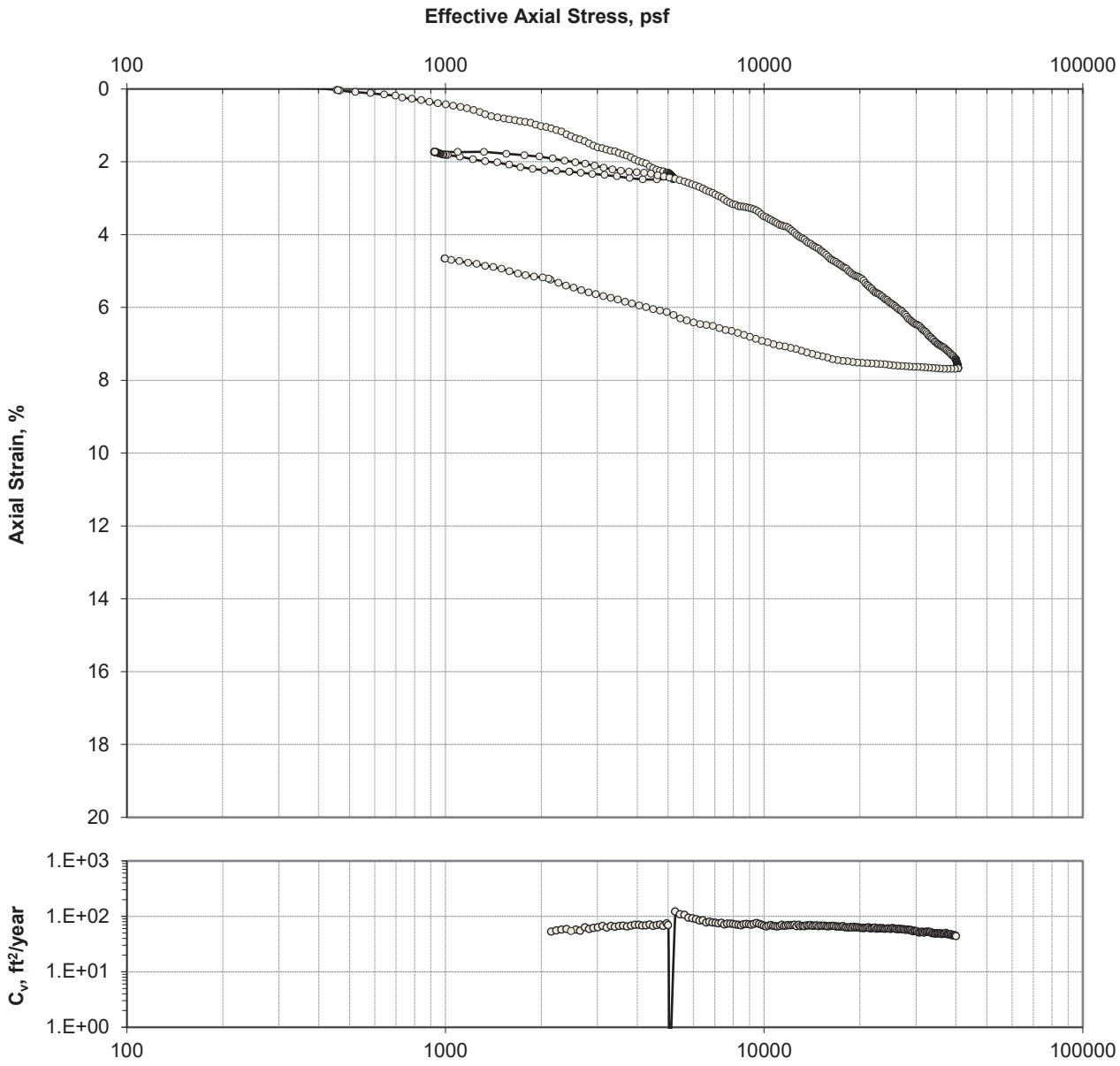


R-Value
CTM 301

CTL Job No.:	687-112	Boring:	20E-08	Reduced By:	RU
Client:	Yeh & Associates	Sample:	A	Checked By:	PJ
Project Number:	219-260	Depth:	0-5	Date:	1/13/2021
Project Name:	Huer Huero		**R-Value**		**19**
Soil Description:	Reddish Brown Clayey SAND w/ Gravel				
Remarks:			**Expansion Pressure**		**75**

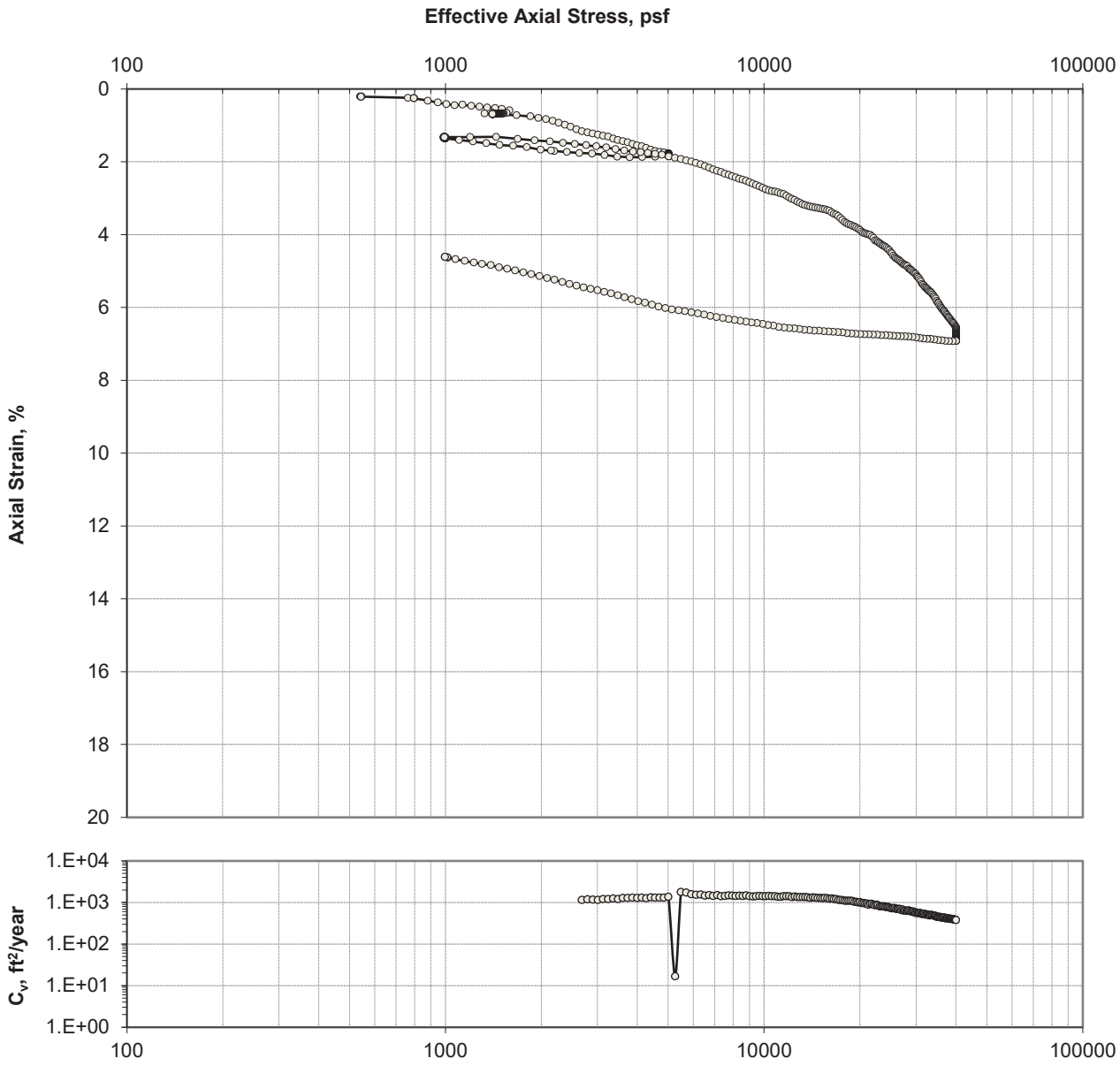
Specimen Designation	A	B	C	D	E
Compactor Foot Pressure (psi)	350	140	70		
Exudation Pressure (psi)	600	298	174		
Exudation Load (lbf)	7540	3745	2187		
Height After Compaction (in)	2.55	2.41	2.44		
Expansion Pressure (psf)	112	73	52		
Stabilometer @ 2000	78	110	120		
Turns Displacement	4.52	4.46	4.72		
R-value	37	20	15		
Corrected R-Value	37	19	15		
Moisture Content (%)	9.1	9.9	10.4		
Wet Density (pcf)	138.6	140.5	136.8		
Dry Density (pcf)	127.1	127.8	123.9		





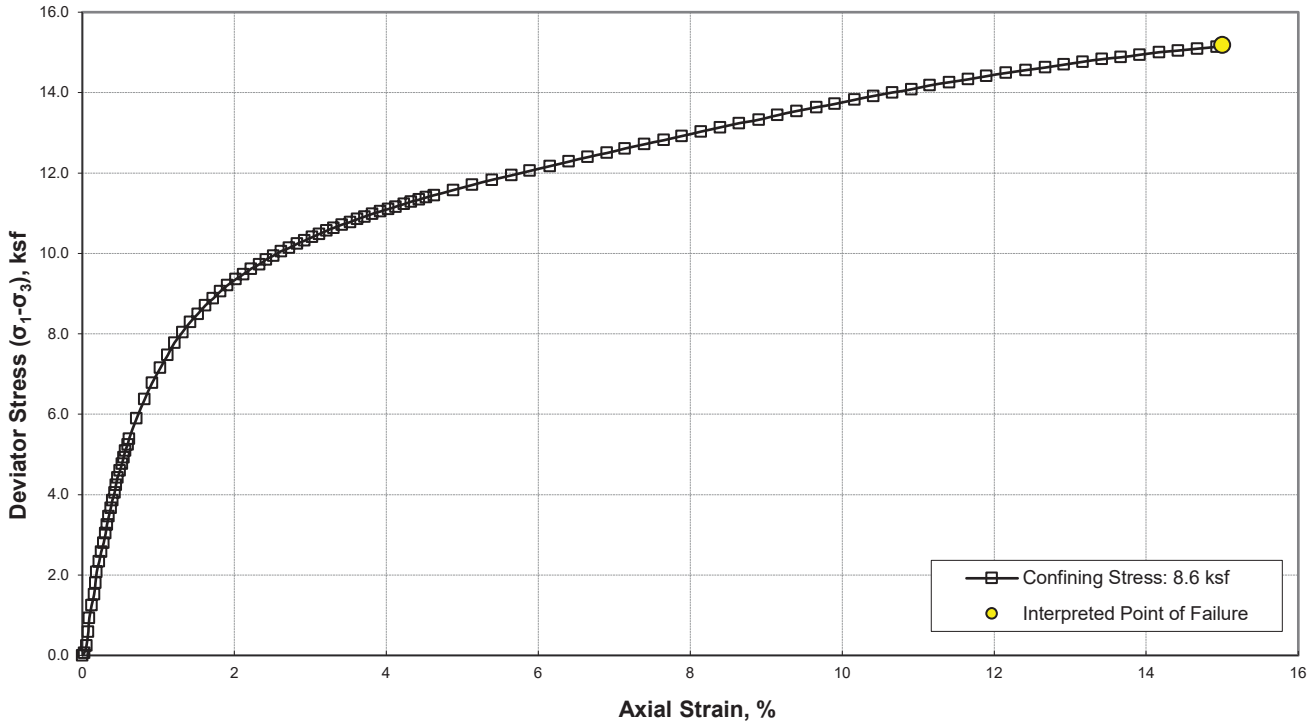
SAMPLE ID	Boring, Sample #, Depth	20E-01 , #70 , 30.0 ft		SUMMARY	Strain Rate, %/hr 1.0
	USCS Classification:	Sandy fat CLAY (CH): light brown, moist			Liquid Limit, % --
					Plastic Limit, % --
					Plasticity Index, % --
PROPERTIES		Initial	Final		Passing #200 --
	Water Content, %	18.5%	17.2%		Estimated Gs 2.725
	Dry Unit Weight, pcf	110.3	115.7		
	Saturation, %	93%	100%	REMARKS	Test Method: D4186
	Void Ratio	0.54	0.47		Project: Huero Huero Creek Bridge
	Diameter, in	2.42	2.42		Tested By: N. Derbidge, Cal Poly GeoE Lab
	Height, in	0.82	0.78		Checked By: J. Cravens, Yeh and Associates

CONSOLIDATION TEST



SAMPLE ID	Boring, Sample #, Depth	20E-04 , #86 , 20.0 ft	SUMMARY	Strain Rate, %/hr	1.0
	USCS Classification:	Sandy fat CLAY (CH): olive, moist		Liquid Limit, %	--
				Plastic Limit, %	--
				Plasticity Index, %	--
				Passing #200	--
				Estimated Gs	2.725
PROPERTIES		Initial	Final		
	Water Content, %	28.4%	27.0%		
	Dry Unit Weight, pcf	95.3	98.0		
	Saturation, %	98%	100%	REMARKS	Test Method: D4186
	Void Ratio	0.79	0.74		Project: Huero Huero Creek Bridge
	Diameter, in	2.42	2.42		Tested By: N. Derbidge, Cal Poly GeoE Lab
	Height, in	0.82	0.80		Checked By: J. Cravens, Yeh and Associates

CONSOLIDATION TEST



SAMPLE ID

Boring Number:	20E-02
Sample Number:	59
Sample Depth:	80.0 ft
USCS Classification:	Fat CLAY (CH): brown, moist

PROPERTIES

Water Content, %	23.6%
Dry Unit Weight, pcf	102.9
Saturation, %	97%
Void Ratio	0.67
Diameter, in	2.42
Height, in	5.00

SAMPLE IMAGES



CLASSIFICATION

Sieve Size	% Passing	Other Parameters	
3/8-in. (9.5mm)	---	Liquid Limit	---
#4 (4.75mm)	---	Plastic Limit	---
#16 (1.18mm)	---	Plasticity Index	---
#30 (0.6mm)	---	Estimated Gs	2.75
#100 (0.150mm)	---	S_u from T_v, ksf	---
#200 (0.075mm)	---	S_u from PP, ksf	---

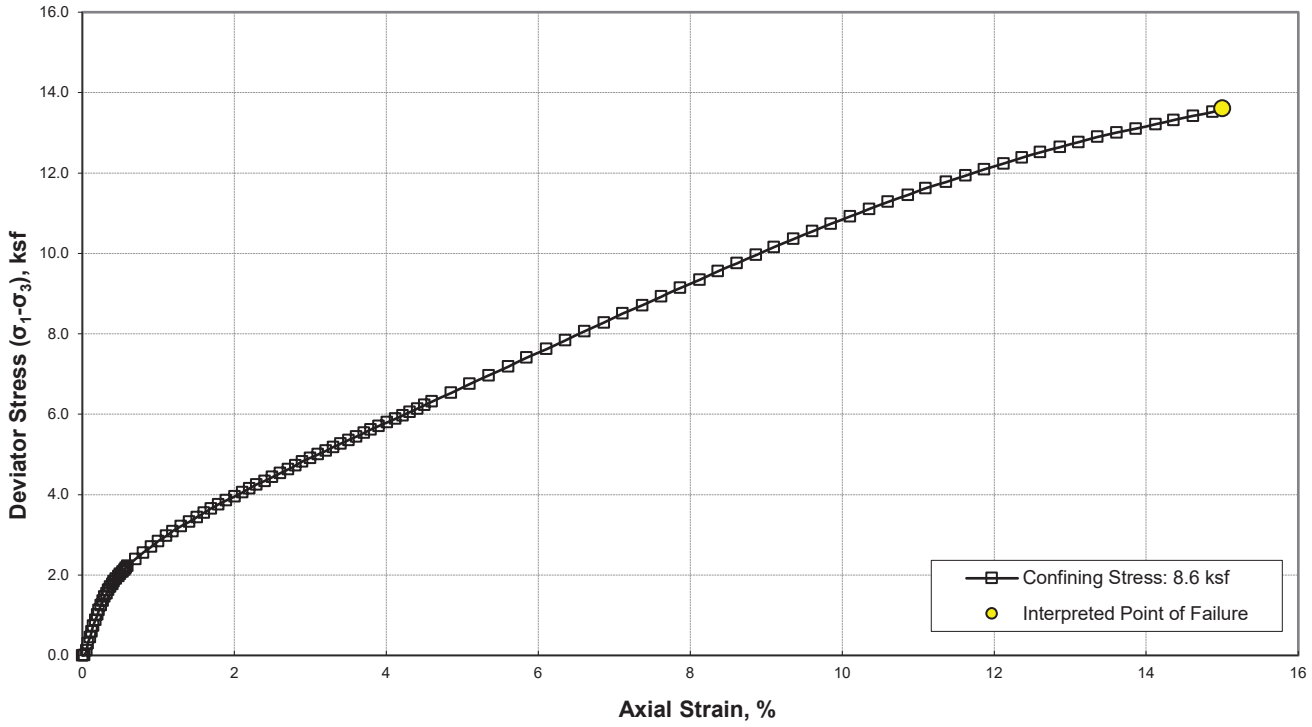
TEST SUMMARY

Maximum Deviator Stress, ksf	15.2
Undrained Shear Strength, ksf	7.6
Axial Strain at Failure, %	15.0
Strain Rate, %/min	1.0
Cell Pressure, ksf	8.6
Tested By:	ND
Date Tested:	1/5/21

REMARKS

Test Method: ASTM 2850
Project: Huero Huero Creek Bridge
Tested By: N. Derbidge, Cal Poly GeoE Lab
Checked By: J. Cravens, Yeh and Associates

UNCONSOLIDATED UNDRAINED TRIAXIAL TEST



SAMPLE ID

Boring Number:	20E-03
Sample Number:	34
Sample Depth:	80.0 ft
USCS Classification:	Sandy fat CLAY with GRAVEL (CH): brown, moist

PROPERTIES

Water Content, %	17.1%
Dry Unit Weight, pcf	114.4
Saturation, %	94%
Void Ratio	0.50
Diameter, in	2.42
Height, in	5.00

SAMPLE IMAGES



CLASSIFICATION

Sieve Size	% Passing	Other Parameters	
3/8-in. (9.5mm)	---	Liquid Limit	---
#4 (4.75mm)	---	Plastic Limit	---
#16 (1.18mm)	---	Plasticity Index	---
#30 (0.6mm)	---	Estimated Gs	2.75
#100 (0.150mm)	---	S_u from T_v, ksf	---
#200 (0.075mm)	---	S_u from PP, ksf	---

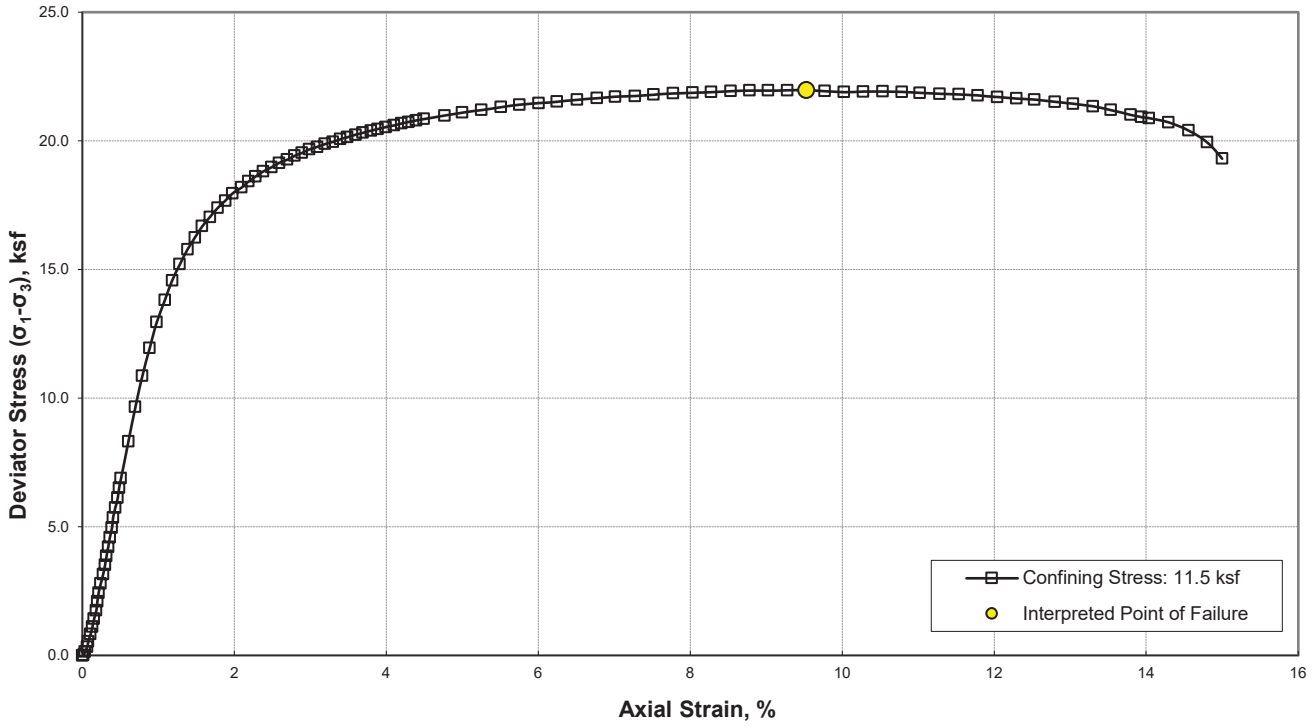
TEST SUMMARY

Maximum Deviator Stress, ksf	13.6
Undrained Shear Strength, ksf	6.8
Axial Strain at Failure, %	15.0
Strain Rate, %/min	1.0
Cell Pressure, ksf	8.6
Tested By:	ND
Date Tested:	1/5/21

REMARKS

Test Method: ASTM 2850
Project: Huero Huero Creek Bridge
Tested By: N. Derbidge, Cal Poly GeoE Lab
Checked By: J. Cravens, Yeh and Associates

UNCONSOLIDATED UNDRAINED TRIAXIAL TEST



SAMPLE ID

Boring Number:	20E-03
Sample Number:	38
Sample Depth:	100.0 ft
USCS Classification:	Fat CLAY (CH): dark gray, moist

PROPERTIES

Water Content, %	24.4%
Dry Unit Weight, pcf	101.7
Saturation, %	98%
Void Ratio	0.69
Diameter, in	2.42
Height, in	5.00

SAMPLE IMAGES



CLASSIFICATION

Sieve Size	% Passing	Other Parameters	
3/8-in. (9.5mm)	---	Liquid Limit	---
#4 (4.75mm)	---	Plastic Limit	---
#16 (1.18mm)	---	Plasticity Index	---
#30 (0.6mm)	---	Estimated Gs	2.75
#100 (0.150mm)	---	S_u from T_v, ksf	---
#200 (0.075mm)	---	S_u from PP, ksf	---

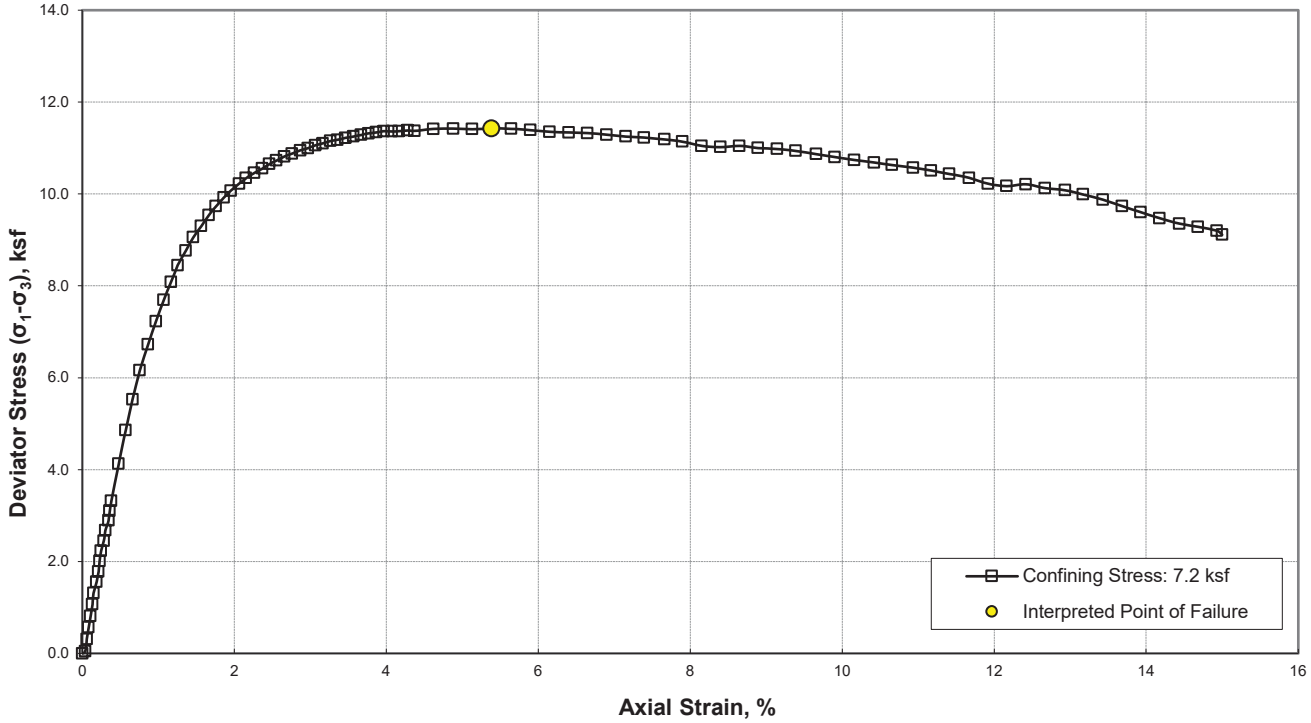
TEST SUMMARY

Maximum Deviator Stress, ksf	22.0
Undrained Shear Strength, ksf	11.0
Axial Strain at Failure, %	9.5
Strain Rate, %/min	1.0
Cell Pressure, ksf	11.5
Tested By:	ND
Date Tested:	1/5/21

REMARKS

Test Method: ASTM 2850
Project: Huero Huero Creek Bridge
Tested By: N. Derbidge, Cal Poly GeoE Lab
Checked By: J. Cravens, Yeh and Associates

UNCONSOLIDATED UNDRAINED TRIAXIAL TEST



SAMPLE ID

Boring Number:	20E-04
Sample Number:	94
Sample Depth:	60.0 ft
USCS Classification:	Lean CLAY (CL): greenish gray, moist

PROPERTIES

Water Content, %	26.3%
Dry Unit Weight, pcf	98.3
Saturation, %	97%
Void Ratio	0.75
Diameter, in	2.42
Height, in	5.00

SAMPLE IMAGES



CLASSIFICATION

Sieve Size	% Passing	Other Parameters	
3/8-in. (9.5mm)	---	Liquid Limit	---
#4 (4.75mm)	---	Plastic Limit	---
#16 (1.18mm)	---	Plasticity Index	---
#30 (0.6mm)	---	Estimated Gs	2.75
#100 (0.150mm)	---	S_u from T_v, ksf	---
#200 (0.075mm)	---	S_u from PP, ksf	---

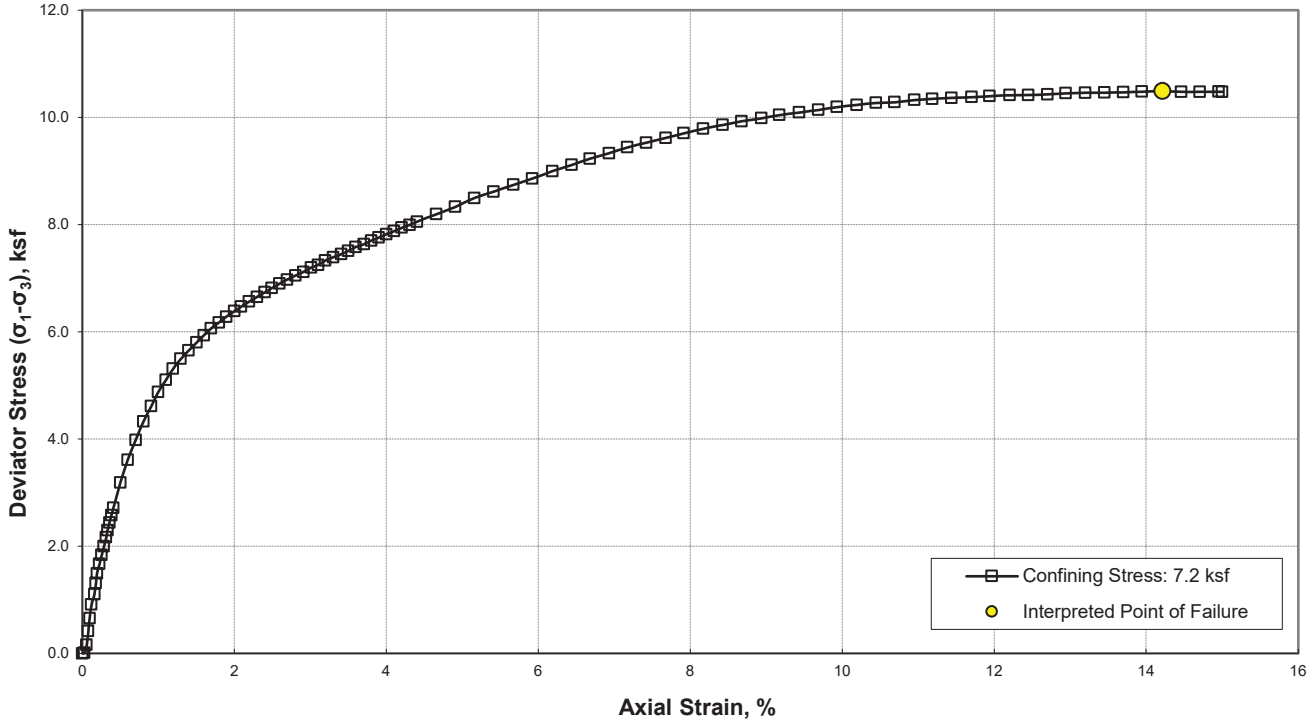
TEST SUMMARY

Maximum Deviator Stress, ksf	11.4
Undrained Shear Strength, ksf	5.7
Axial Strain at Failure, %	5.4
Strain Rate, %/min	1.0
Cell Pressure, ksf	7.2
Tested By:	ND
Date Tested:	1/5/21

REMARKS

Test Method: ASTM 2850
Project: Huero Huero Creek Bridge
Tested By: N. Derbidge, Cal Poly GeoE Lab
Checked By: J. Cravens, Yeh and Associates

UNCONSOLIDATED UNDRAINED TRIAXIAL TEST



SAMPLE ID

Boring Number:	20E-01
Sample Number:	76
Sample Depth:	60.0 ft
USCS Classification:	Sandy fat CLAY (CH): brown, moist

PROPERTIES

Water Content, %	30.8%
Dry Unit Weight, pcf	92.1
Saturation, %	98%
Void Ratio	0.86
Diameter, in	2.42
Height, in	5.00

SAMPLE IMAGES



CLASSIFICATION

Sieve Size	% Passing
3/8-in. (9.5mm)	---
#4 (4.75mm)	---
#16 (1.18mm)	---
#30 (0.6mm)	---
#100 (0.150mm)	---
#200 (0.075mm)	---

Other Parameters	
Liquid Limit	---
Plastic Limit	---
Plasticity Index	---
Estimated Gs	2.75
S_u from T_v, ksf	---
S_u from PP, ksf	---

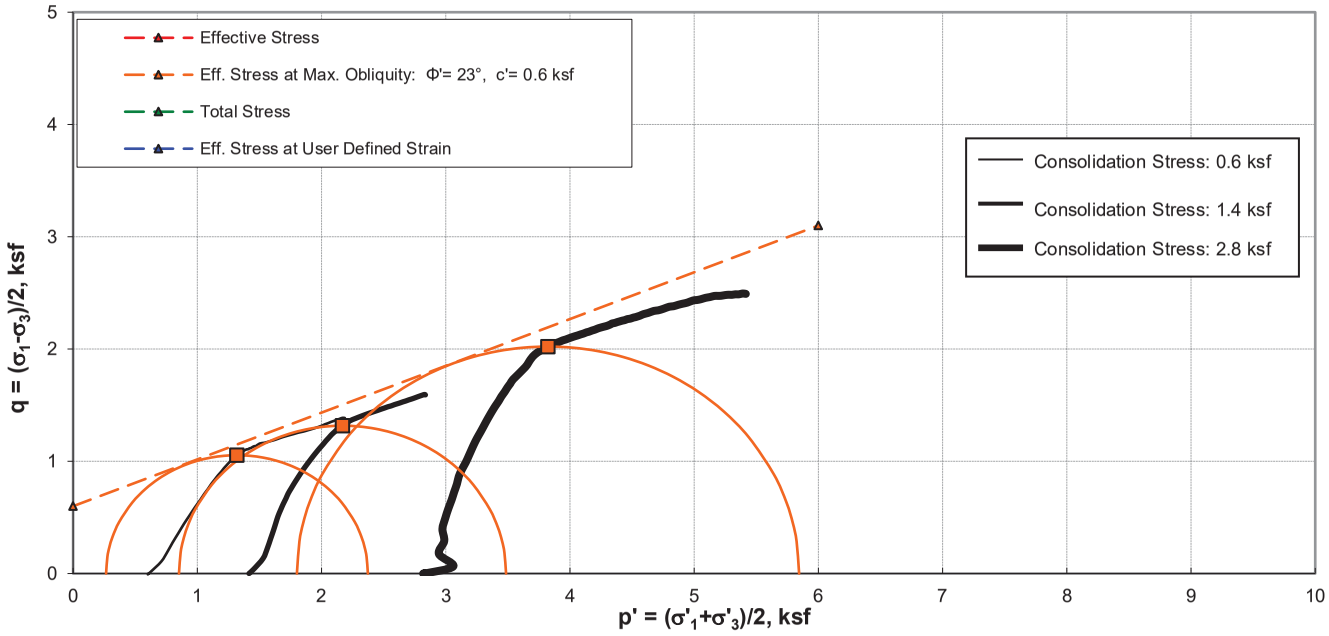
TEST SUMMARY

Maximum Deviator Stress, ksf	10.5
Undrained Shear Strength, ksf	5.2
Axial Strain at Failure, %	14.2
Strain Rate, %/min	1.0
Cell Pressure, ksf	7.2
Tested By:	ND
Date Tested:	1/5/21

REMARKS

Test Method: ASTM 2850
Project: Huero Huero Creek Bridge
Tested By: N. Derbidge, Cal Poly GeoE Lab
Checked By: J. Cravens, Yeh and Associates

UNCONSOLIDATED UNDRAINED TRIAXIAL TEST



SAMPLE ID

Boring Number	20E-02
Sample Number	47
Specimen Depth	20.0 ft
USCS Classification	Sandy lean CLAY (CL): dark gray, moist

INITIAL

Trial ID	A	B	C
Water Content, %	27.8%	32.1%	31.8%
Dry Unit Weight, pcf	96.6	90.3	90.7
Saturation, %	101%	100%	100%
Void Ratio	0.74	0.87	0.86
Diameter, in	2.42	2.53	2.56
Height, in	5.00	4.89	4.76

PRE-SHEAR

Water Content, %	32.1%	31.8%	31.1%
Dry Unit Weight, pcf	90.3	90.7	91.6
Saturation, %	100%	100%	100%
Void Ratio	0.87	0.86	0.84

REMARKS

Test Method: ASTM 4767 (modified for staged testing)
Project: Huero Huero Creek Bridge
Tested by: N. Derbidge, Cal Poly GeoE Lab
Checked by: J. Cravens, Yeh and Associates

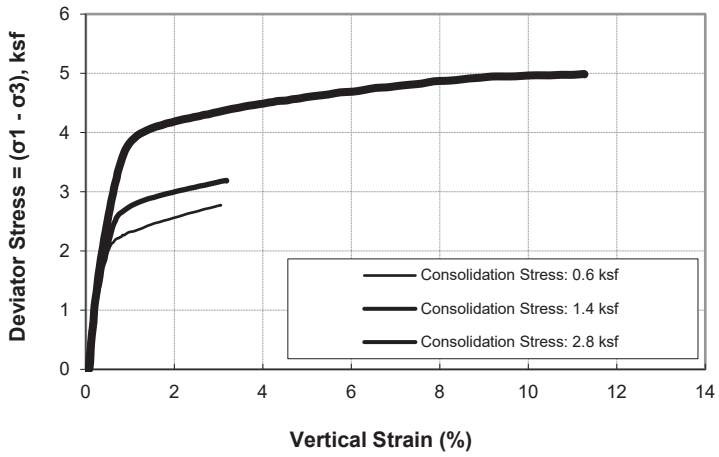
CLASSIFICATION

Trial ID	A	B	C
Liquid Limit	---	---	---
Plastic Limit	---	---	---
Plastic Index	---	---	---
Passing #4 (4.75 mm)	---	---	---
Passing #200 (0.075 mm)	---	---	---
Estimated Gs	2.70	2.70	2.70

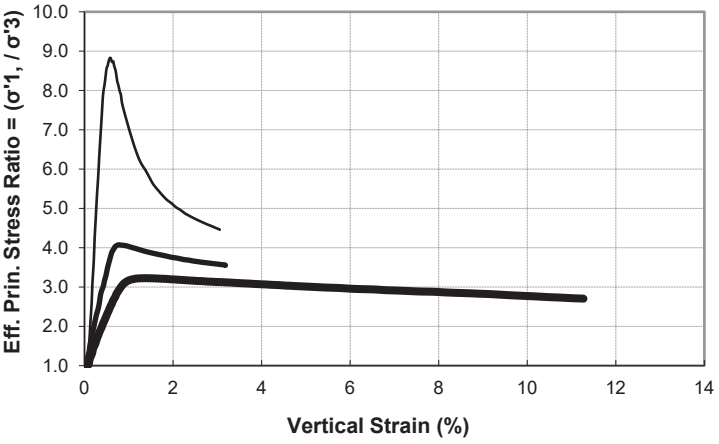
TEST SUMMARY

Trial ID	A	B	C
B-Parameter	0.98	0.98	0.98
t_{50}, minutes	N/A	N/A	N/A
Strain Rate, %/min	0.02	0.02	0.02
Cell Pressure, ksf	9.4	10.2	11.6
Back Pressure, ksf	8.8	8.8	8.8
Consolidation Stress, ksf	0.6	1.4	2.8
Deviator Stress @ Failure, ksf	2.1	2.6	4.0
Axial Strain @ Failure, %	0.6	0.8	1.4
σ'_{1F}, ksf	2.3	3.5	5.8
σ'_{3F}, ksf	0.3	0.9	1.8
Tested By:	ND	ND	ND
Date Tested:	12/29/20	12/31/20	1/2/21

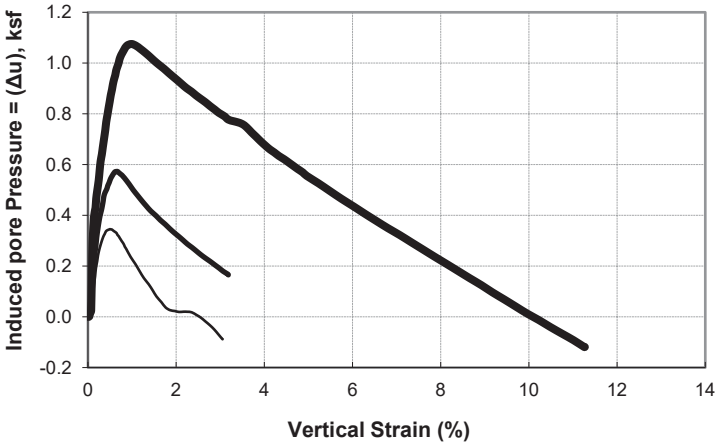
CONSOLIDATED UNDRAINED TRIAXIAL TEST





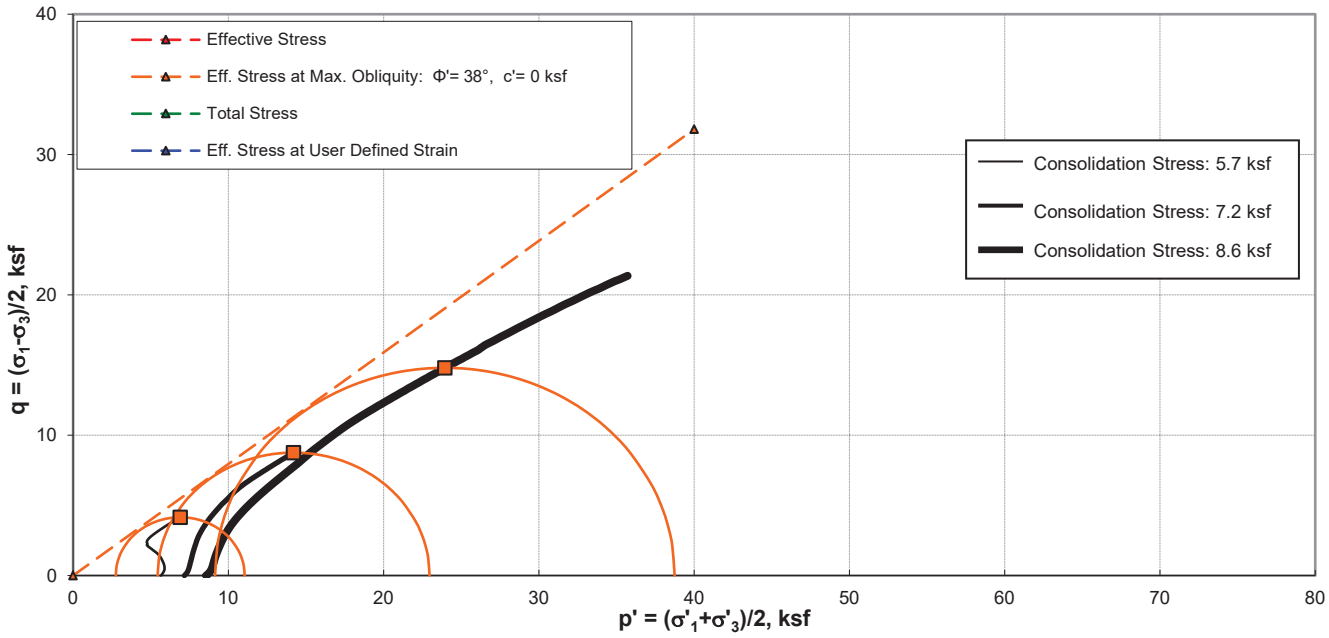






A	20E-02	#47	20.0 ft	Sandy lean CLAY (CL): dark gray, moist
B	20E-02	#47	20.0 ft	
C	Derbidge, Cal I	#47	20.0 ft	

CONSOLIDATED UNDRAINED TRIAXIAL TEST



SAMPLE ID

Boring Number	20E-02
Sample Number	55
Specimen Depth	60.0 ft
USCS Classification	Silty, Clayey SAND with GRAVEL (SC-SM): gray brown, moist

INITIAL

Trial ID	A	B	C
Water Content, %	20.0%	19.8%	19.4%
Dry Unit Weight, pcf	107.4	109.8	110.6
Saturation, %	95%	100%	100%
Void Ratio	0.57	0.53	0.52
Diameter, in	2.42	2.43	2.45
Height, in	5.00	4.84	4.73

PRE-SHEAR

Water Content, %	19.8%	19.4%	19.0%
Dry Unit Weight, pcf	109.8	110.6	111.4
Saturation, %	100%	100%	100%
Void Ratio	0.53	0.52	0.51

REMARKS

Test Method: ASTM 4767 (modified for staged testing)
Project: Huero Huero Creek Bridge
Tested By: N. Derbidge, Cal Poly GeoE Lab
Checked By: J. Cravens, Yeh and Associates

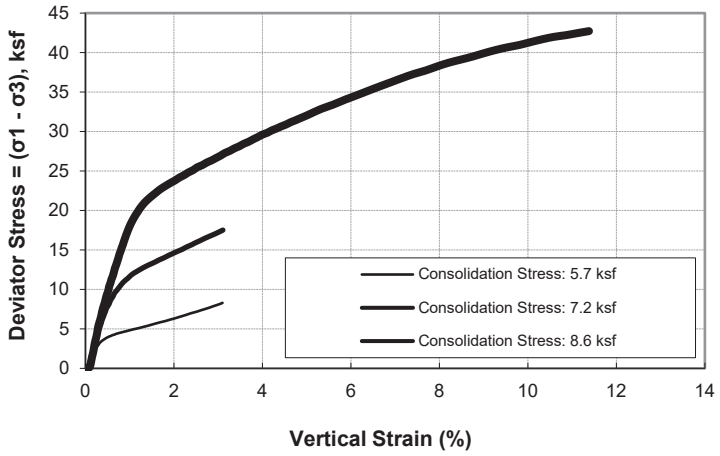
CLASSIFICATION

Trial ID	A	B	C
Liquid Limit	---	---	---
Plastic Limit	---	---	---
Plastic Index	---	---	---
Passing #4 (4.75 mm)	---	---	---
Passing #200 (0.075 mm)	---	---	---
Estimated Gs	2.70	2.70	2.70

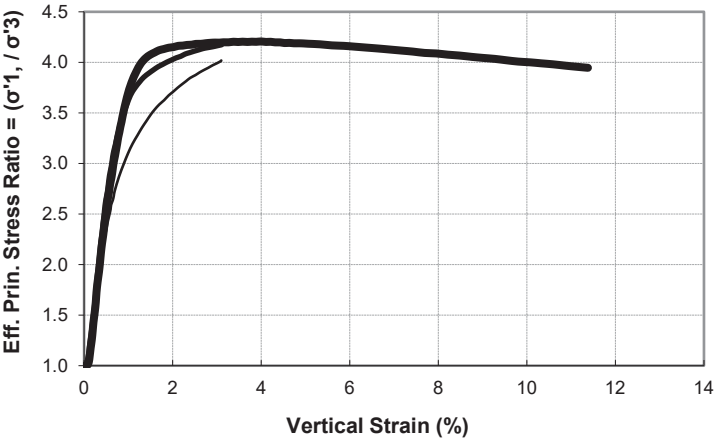
TEST SUMMARY

Trial ID	A	B	C
B-Parameter	0.98	0.98	0.98
t_{50}, minutes	N/A	N/A	N/A
Strain Rate, %/min	0.02	0.02	0.02
Cell Pressure, ksf	12.3	13.8	15.2
Back Pressure, ksf	6.6	6.6	6.6
Consolidation Stress, ksf	5.7	7.2	8.6
Deviator Stress @ Failure, ksf	8.2	17.3	29.2
Axial Strain @ Failure, %	3.1	3.1	4.0
σ'_{1F}, ksf	10.9	22.7	38.4
σ'_{3F}, ksf	2.7	5.4	9.1
Tested By:	ND	ND	ND
Date Tested:	12/29/20	12/31/20	1/2/21

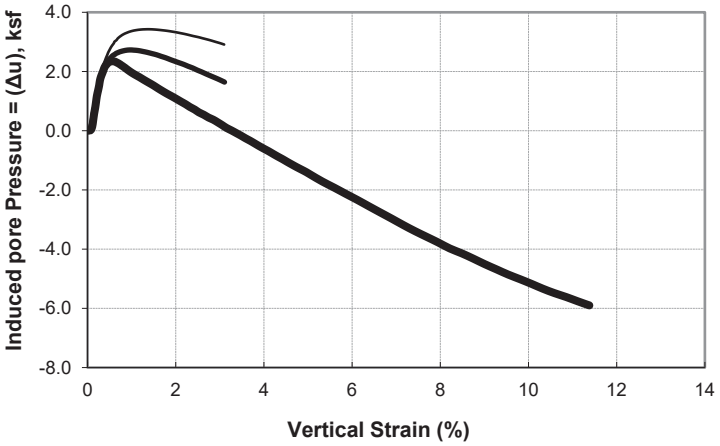
CONSOLIDATED UNDRAINED TRIAXIAL TEST





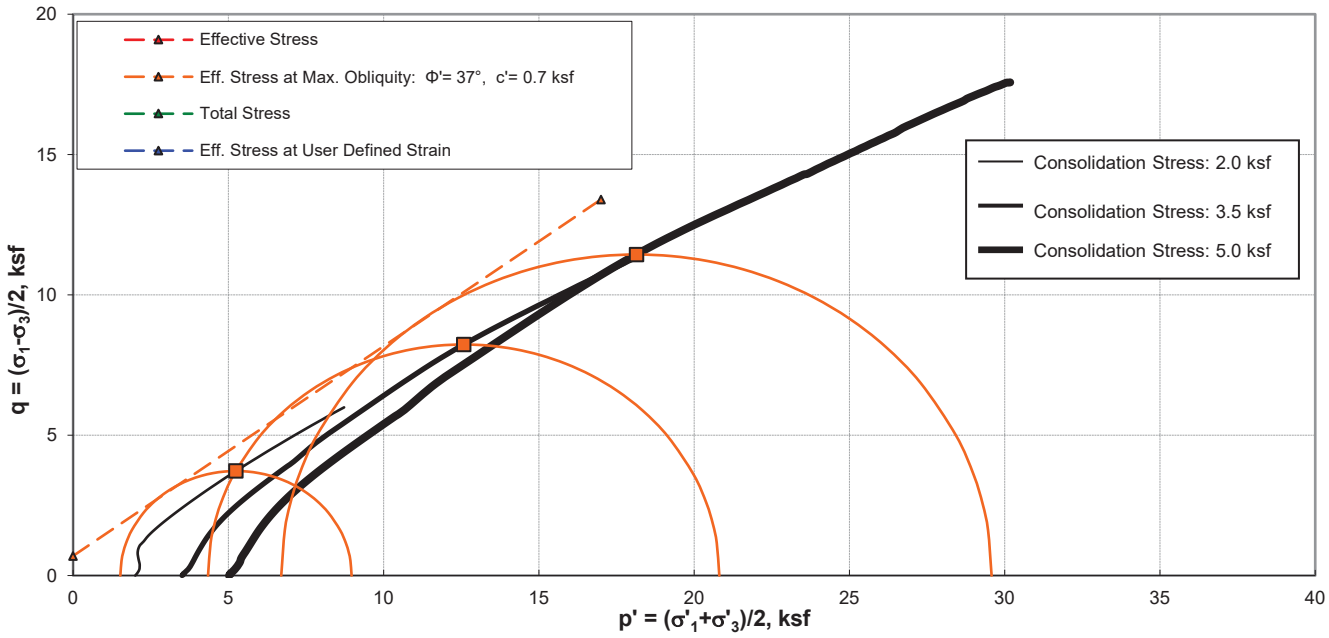






A	20E-02	#55	60.0 ft	Silty, Clayey SAND with GRAVEL (SC-SM): gray brown, moist
B	20E-02	#55	60.0 ft	
C	20E-02	#55	60.0 ft	

CONSOLIDATED UNDRAINED TRIAXIAL TEST



SAMPLE ID

Boring Number	20E-03
Sample Number	24
Specimen Depth	30.0 ft
USCS Classification	Poorly-graded SAND with SILT (SP-SM): gray brown, moist

INITIAL

Trial ID	A	B	C
Water Content, %	19.8%	25.5%	25.2%
Dry Unit Weight, pcf	101.1	99.7	100.3
Saturation, %	80%	100%	100%
Void Ratio	0.67	0.69	0.68
Diameter, in	2.42	2.47	2.49
Height, in	5.00	4.86	4.76

PRE-SHEAR

Water Content, %	25.5%	25.2%	25.0%
Dry Unit Weight, pcf	99.7	100.3	100.6
Saturation, %	100%	100%	100%
Void Ratio	0.69	0.68	0.67

REMARKS

Test Method: ASTM 4767 (modified for staged testing)
Project: Huero Huero Creek Bridge
Tested By: N. Derbidge, Cal Poly GeoE Lab
Checked By: J. Cravens, Yeh and Associates

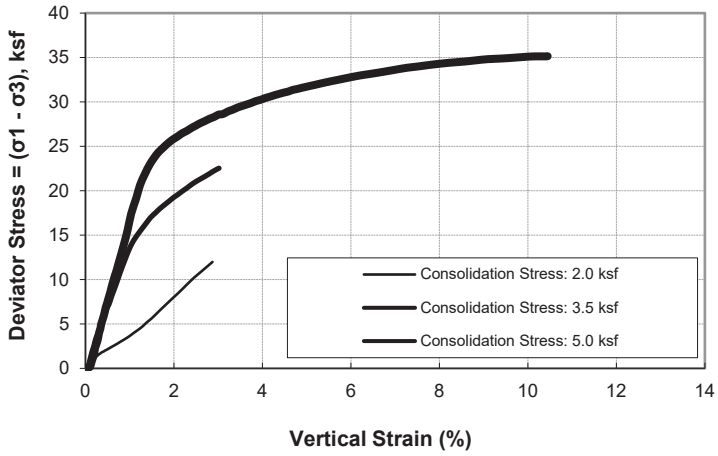
CLASSIFICATION

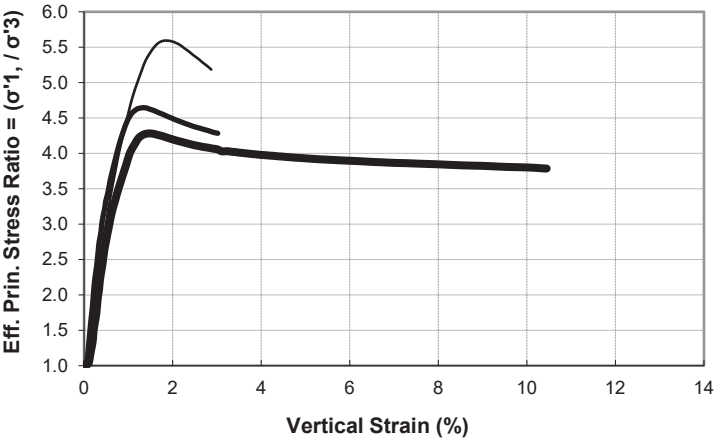
Trial ID	A	B	C
Liquid Limit	---	---	---
Plastic Limit	---	---	---
Plastic Index	---	---	---
Passing #4 (4.75 mm)	---	---	---
Passing #200 (0.075 mm)	---	---	---
Estimated Gs	2.70	2.70	2.70

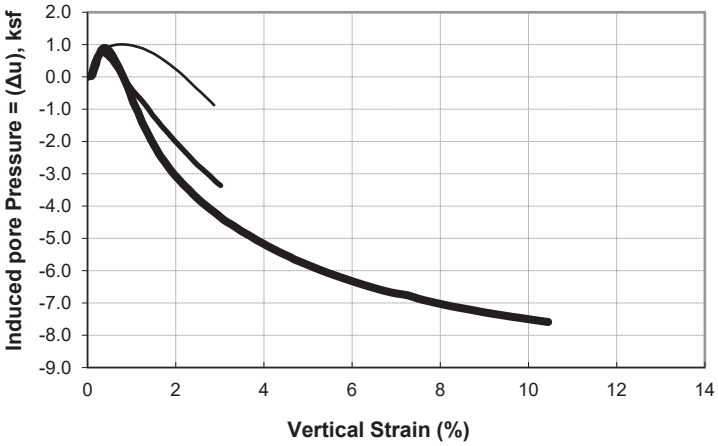
TEST SUMMARY

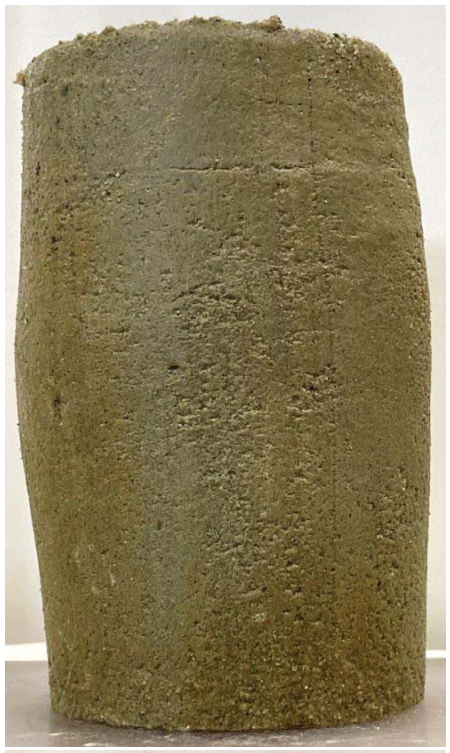
Trial ID	A	B	C
B-Parameter	0.98	0.98	0.98
t_{50}, minutes	N/A	N/A	N/A
Strain Rate, %/min	0.02	0.02	0.02
Cell Pressure, ksf	10.7	12.2	13.7
Back Pressure, ksf	8.7	8.7	8.7
Consolidation Stress, ksf	2.0	3.5	5.0
Deviator Stress @ Failure, ksf	7.4	16.3	22.6
Axial Strain @ Failure, %	1.9	1.4	1.4
σ'_{1F}, ksf	8.9	20.6	29.3
σ'_{3F}, ksf	1.5	4.3	6.7
Tested By:	ND	ND	ND
Date Tested:	12/23/20	12/26/20	12/28/20

CONSOLIDATED UNDRAINED TRIAXIAL TEST





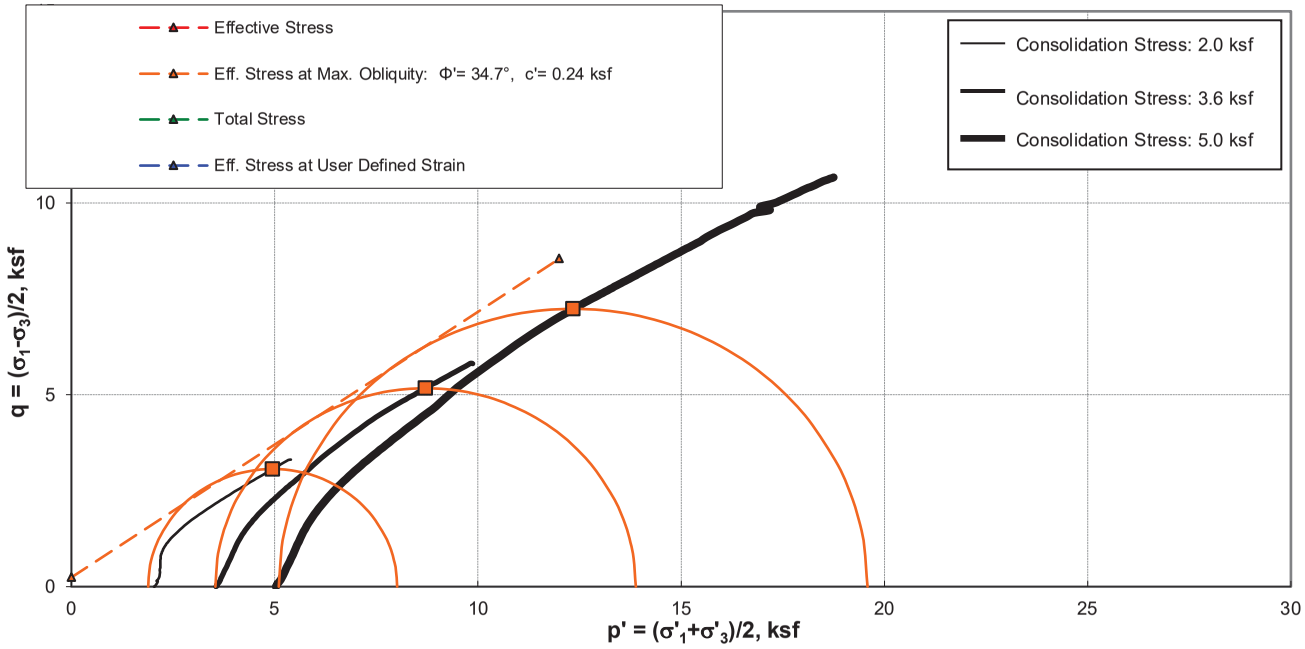






A	20E-03	#24	30.0 ft	Poorly-graded SAND with SILT (SP-SM): gray brown, moist
B	20E-03	#24	30.0 ft	
C	20E-03	#24	30.0 ft	

CONSOLIDATED UNDRAINED TRIAXIAL TEST



SAMPLE ID

Boring Number	20E-04
Sample Number	90
Specimen Depth	40.0 ft
USCS Classification	Clayey SAND (SC): brown, moist

INITIAL

Trial ID	A	B	C
Water Content, %	21.4%	25.3%	24.9%
Dry Unit Weight, pcf	100.4	100.1	100.8
Saturation, %	85%	100%	100%
Void Ratio	0.68	0.68	0.67
Diameter, in	2.42	2.46	2.48
Height, in	5.00	4.85	4.76

PRE-SHEAR

Water Content, %	25.3%	24.9%	24.5%
Dry Unit Weight, pcf	100.1	100.8	101.4
Saturation, %	100%	100%	100%
Void Ratio	0.68	0.67	0.66

REMARKS

Test Method: ASTM 4767 (modified for staged testing)
Project: Huero Huero Creek Bridge
Tested By: N. Derbidge, Cal Poly GeoE Lab
Checked By: J. Cravens, Yeh and Associates

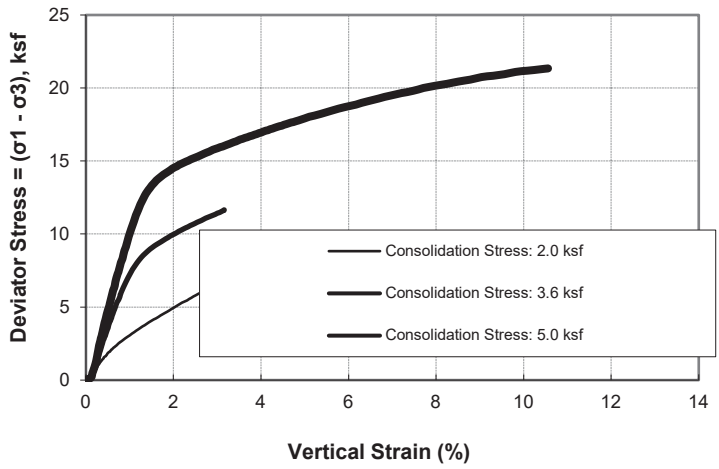
CLASSIFICATION

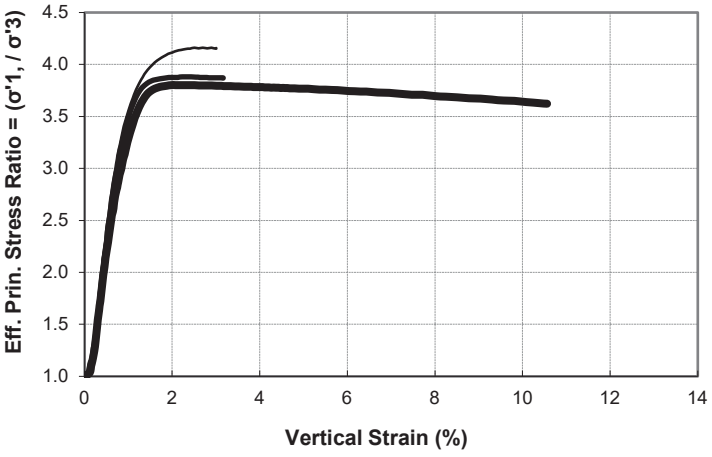
Trial ID	A	B	C
Liquid Limit	---	---	---
Plastic Limit	---	---	---
Plastic Index	---	---	---
Passing #4 (4.75 mm)	---	---	---
Passing #200 (0.075 mm)	---	---	---
Estimated Gs	2.70	2.70	2.70

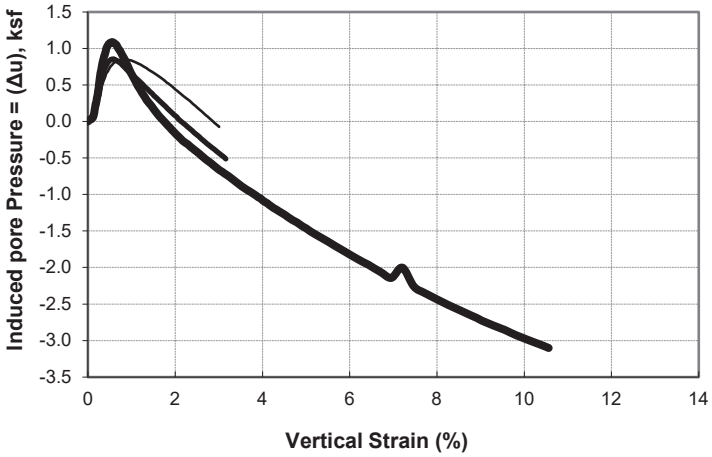
TEST SUMMARY

Trial ID	A	B	C
B-Parameter	0.98	0.98	0.98
t_{50}, minutes	N/A	N/A	N/A
Strain Rate, %/min	0.02	0.02	0.02
Cell Pressure, ksf	10.7	12.3	13.7
Back Pressure, ksf	8.7	8.7	8.7
Consolidation Stress, ksf	2.0	3.6	5.0
Deviator Stress @ Failure, ksf	6.1	10.2	14.3
Axial Strain @ Failure, %	2.7	2.2	2.0
σ'_{1F}, ksf	7.9	13.8	19.4
σ'_{3F}, ksf	1.9	3.5	5.1
Tested By:	ND	ND	ND
Date Tested:	12/23/20	12/26/20	12/28/20

CONSOLIDATED UNDRAINED TRIAXIAL TEST











A	20E-04	#90	40.0 ft	Clayey SAND (SC): brown, moist
B	20E-04	#90	40.0 ft	
C	20E-04	#90	40.0 ft	

CONSOLIDATED UNDRAINED TRIAXIAL TEST

APPENDIX C - PREVIOUS STUDIES

TRIM LINE TRIM LINE TRIM LINE

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO	TOTAL SHEETS
05	SLO	46			

REGISTERED CERTIFIED ENGINEERING GEOLOGIST

PLANS APPROVAL DATE

REGISTERED GEOLOGIST — R.C. WILHELMS — No. 1719 — Exp. 6-30-90 — STATE OF CALIFORNIA

LEGEND OF BORING OPERATIONS

LEGEND OF EARTH MATERIALS

CONSISTENCY CLASSIFICATION FOR SOILS According to the Standard Penetration Test

NOTE: Classification of earth material as shown on this sheet is based upon field inspection and is not to be construed as implying subsurface conditions.

UNIFIED SOIL CLASSIFICATION SYSTEM

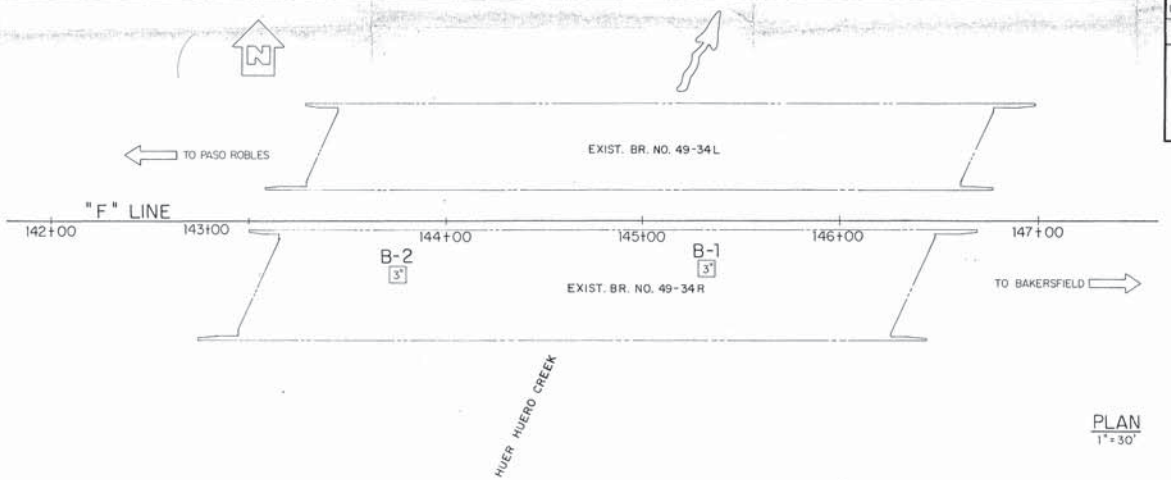
ELECTRONIC CONE PENETROMETER TEST

Cone Penetrometer dimensions and testing procedures are in accordance with ASTM standard D 3441-79, or as noted

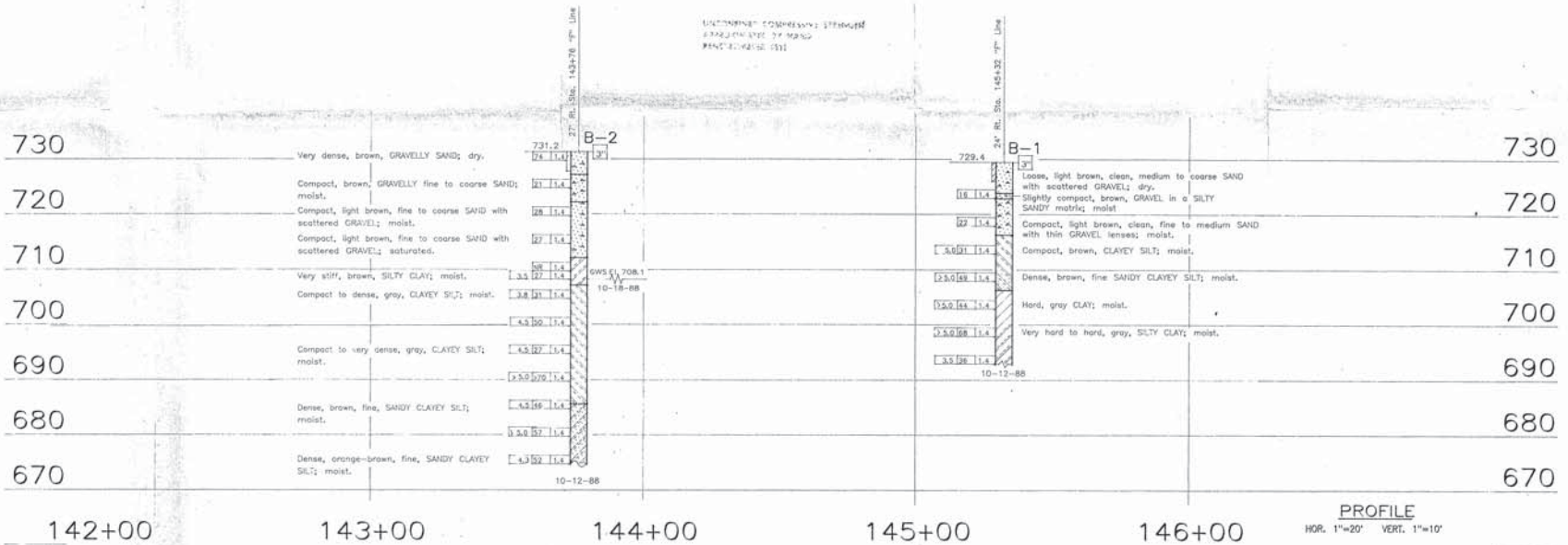
BENCH MARK

BM : V 31-97 ELEVATION 762.37

BY DISTRICT 05



PLAN 1"=30'



PROFILE HOR. 1"=20' VERT. 1"=10'

ENGINEERING GEOLOGY BRANCH - TRANSPORTATION LABORATORY					
DRAWN BY	LEONY L. LOPEZ	2/89			
CHECKED BY			39499 PROJECT ENGINEER R.G.E. NO.		

State of CALIFORNIA DEPARTMENT OF TRANSPORTATION

STRUCTURES - DESIGN

PROJECT ENGINEER REGISTERED CIVIL ENGINEER NO.

BRIDGE NO. 49-34R/L

POST MILE

HUER HUERO CREEK BRIDGE

LOG OF TEST BORINGS 1 OF 2

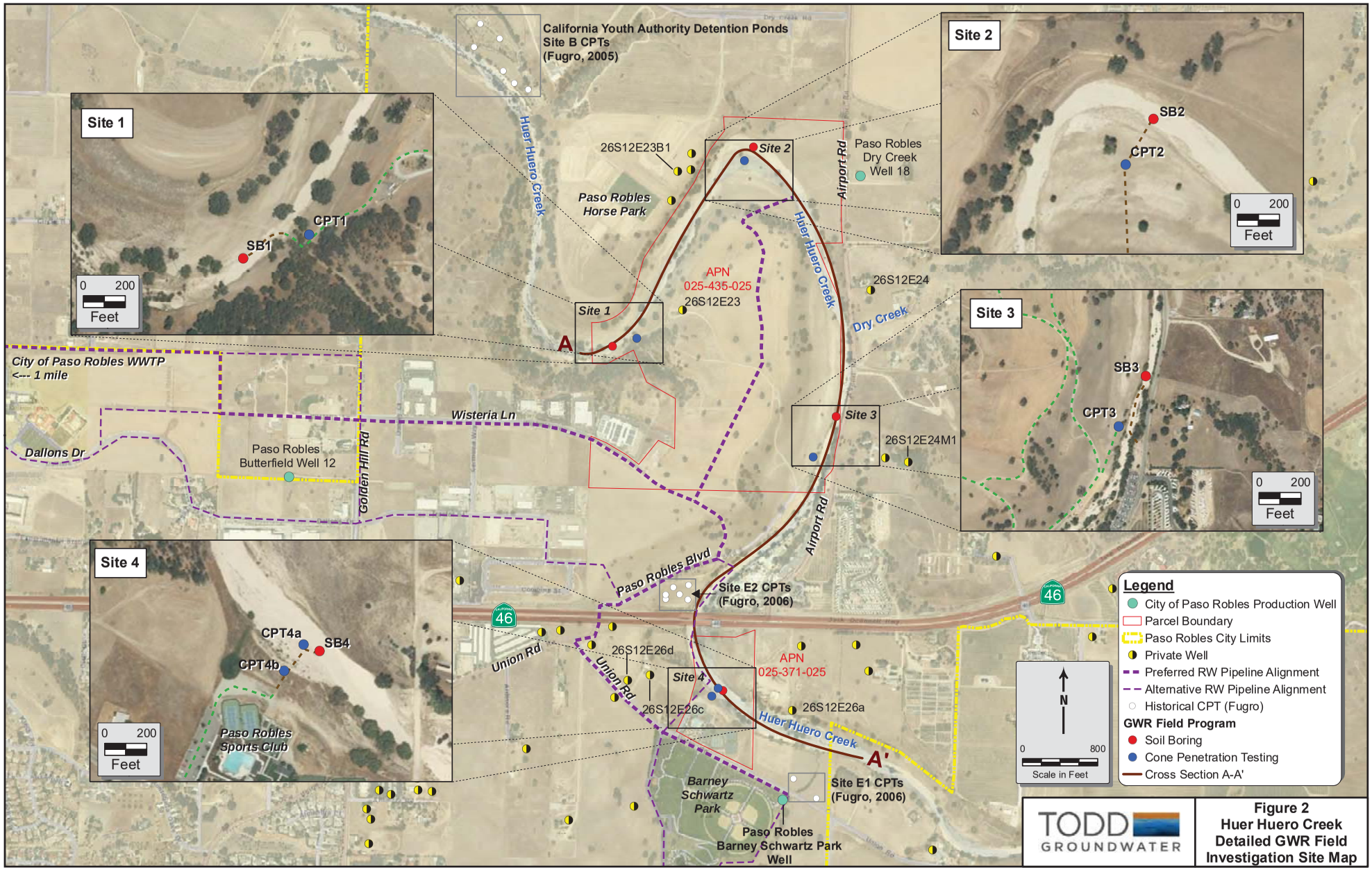
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

CU 05 EA 317001

Divergent prints bearing earlier revision dates

REVISION DATES (PRELIMINARY STAGE ONLY)

SHEET OF



TODD GROUNDWATER

Figure 2
Huer Huero Creek
Detailed GWR Field
Investigation Site Map

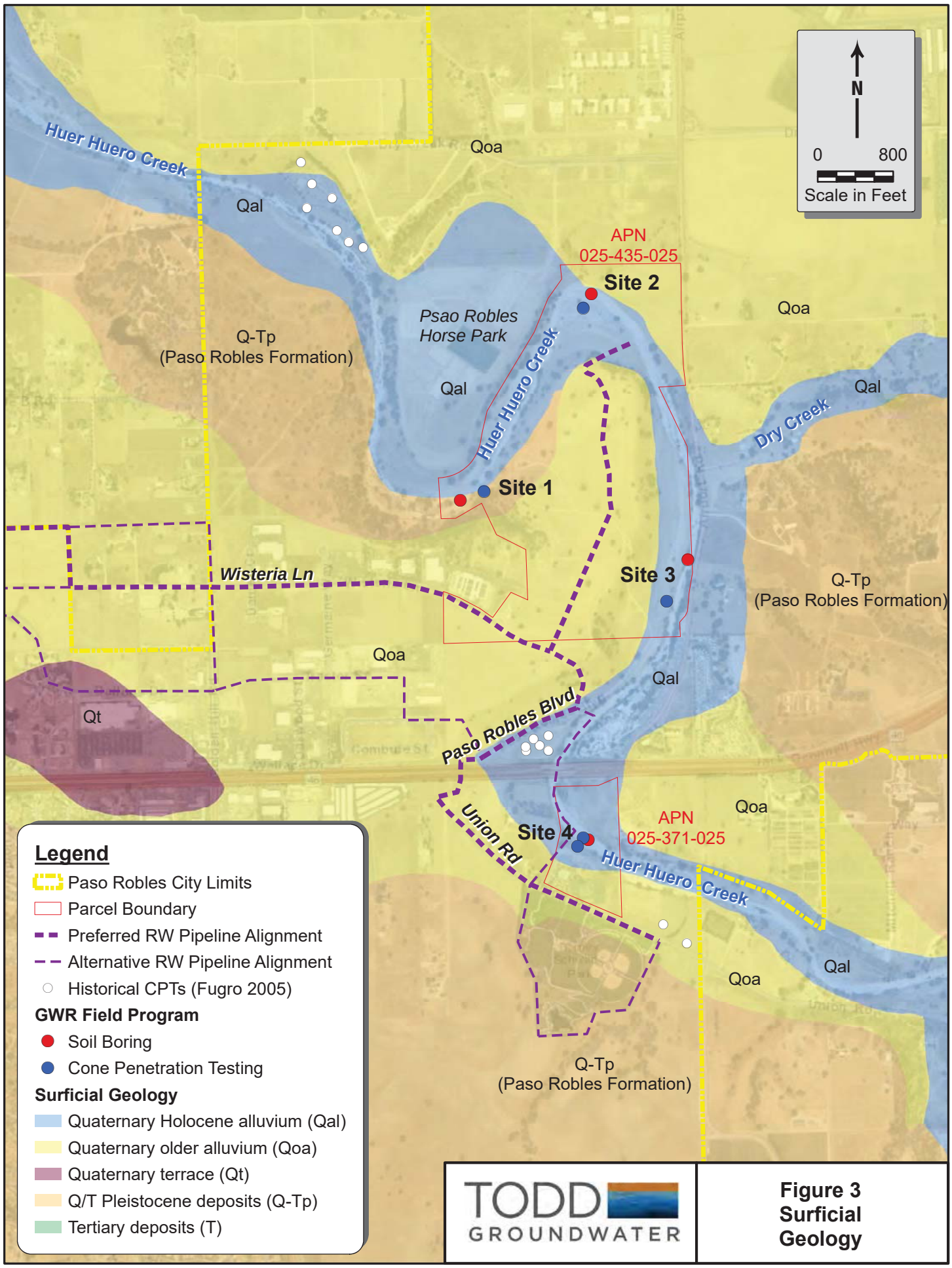
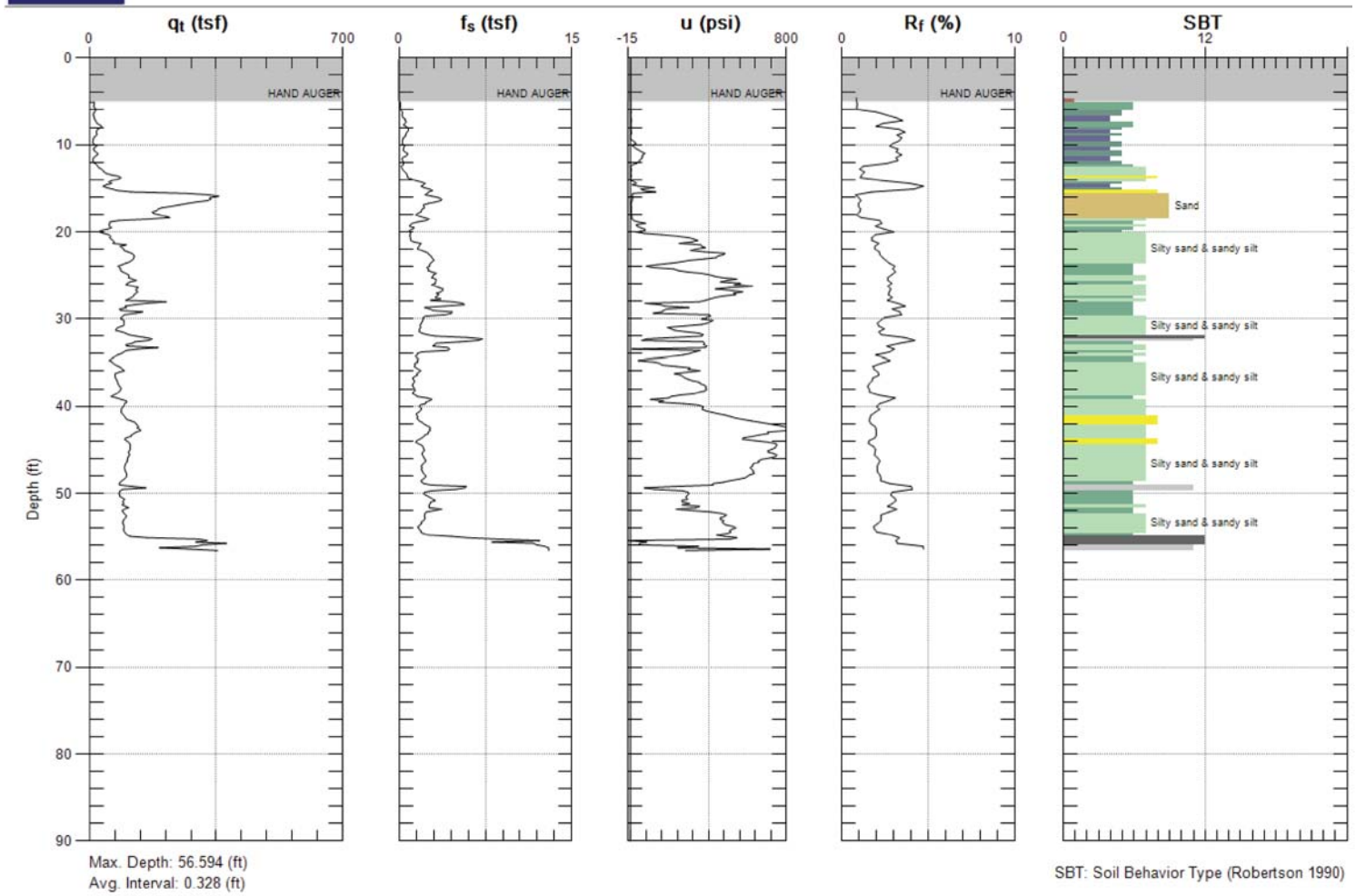
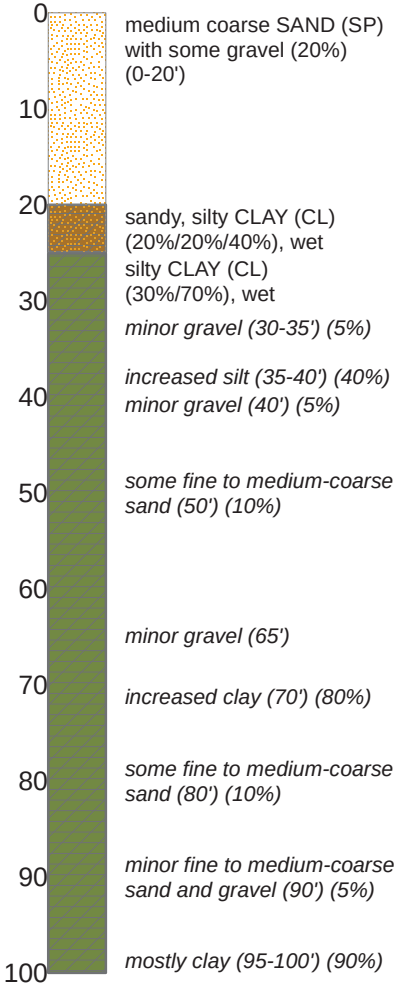

N
0
800
Scale in Feet
Huer Huero Creek
Qoa
Qal
APN
025-435-025
Site 2
Psao Robles
Horse Park
Q-Tp
(Paso Robles Formation)
Qal
Huer Huero Creek
Qoa
Dry Creek
Qal
Site 1
Wisteria Ln
Site 3
Q-Tp
(Paso Robles Formation)
Qoa
Qal
Qt
Paso Robles Blvd
Union Rd
Site 4
APN
025-371-025
Qoa
Huer Huero Creek
Qal
Qoa
Q-Tp
(Paso Robles Formation)
Legend
Paso Robles City Limits
Parcel Boundary
Preferred RW Pipeline Alignment
Alternative RW Pipeline Alignment
Historical CPTs (Fugro 2005)
GWR Field Program
Soil Boring
Cone Penetration Testing
Surficial Geology
Quaternary Holocene alluvium (Qal)
Quaternary older alluvium (Qoa)
Quaternary terrace (Qt)
Q/T Pleistocene deposits (Q-Tp)
Tertiary deposits (T)
TODD GROUNDWATER
Figure 3
Surficial
Geology



Figure 4
Soil Saturated Hydraulic Conductivity



Lithologic Log
Soil Boring B1
(in-channel)



medium coarse SAND (SP) with some gravel (20%) (0-20')

sandy, silty CLAY (CL) (20%/20%/40%), wet

silty CLAY (CL) (30%/70%), wet

minor gravel (30-35') (5%)

increased silt (35-40') (40%)

minor gravel (40') (5%)

some fine to medium-coarse sand (50') (10%)

minor gravel (65')

increased clay (70') (80%)

some fine to medium-coarse sand (80') (10%)

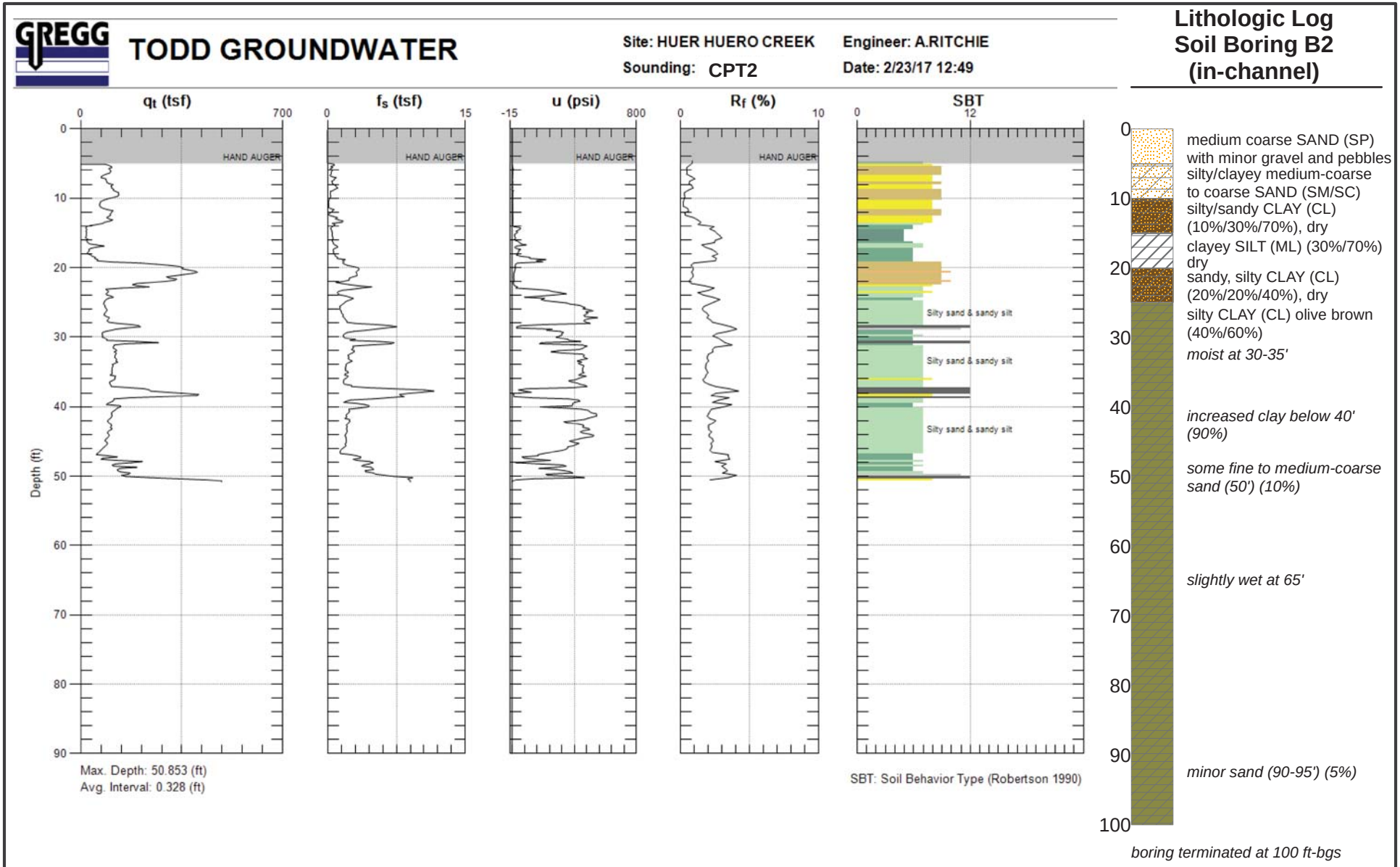
minor fine to medium-coarse sand and gravel (90') (5%)

mostly clay (95-100') (90%)

boring terminated at 101.5 ft-bgs

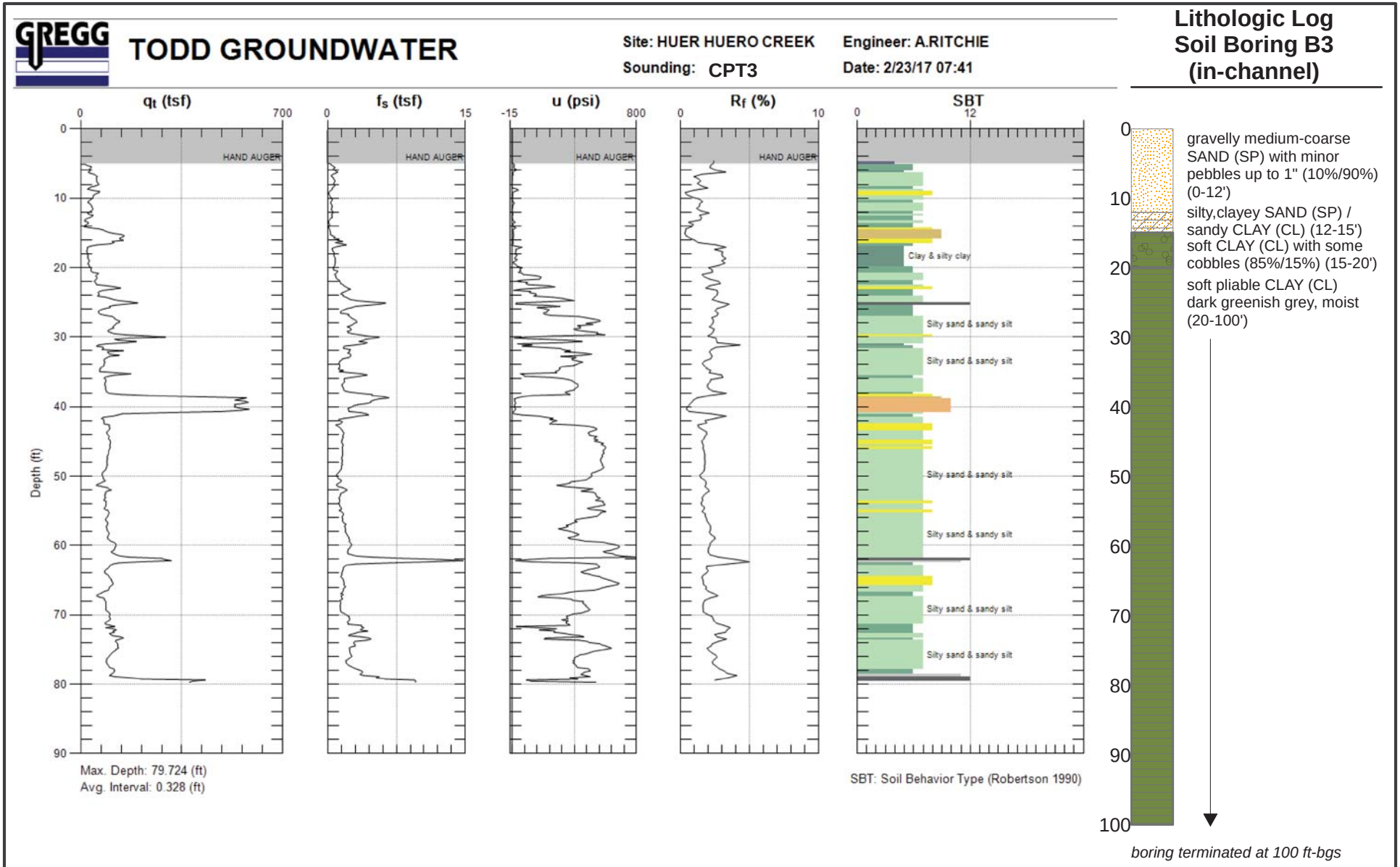
TODD GROUNDWATER

Figure 5
Site 1
Soil Boring (SB1)
and CPT (CPT1) Logs



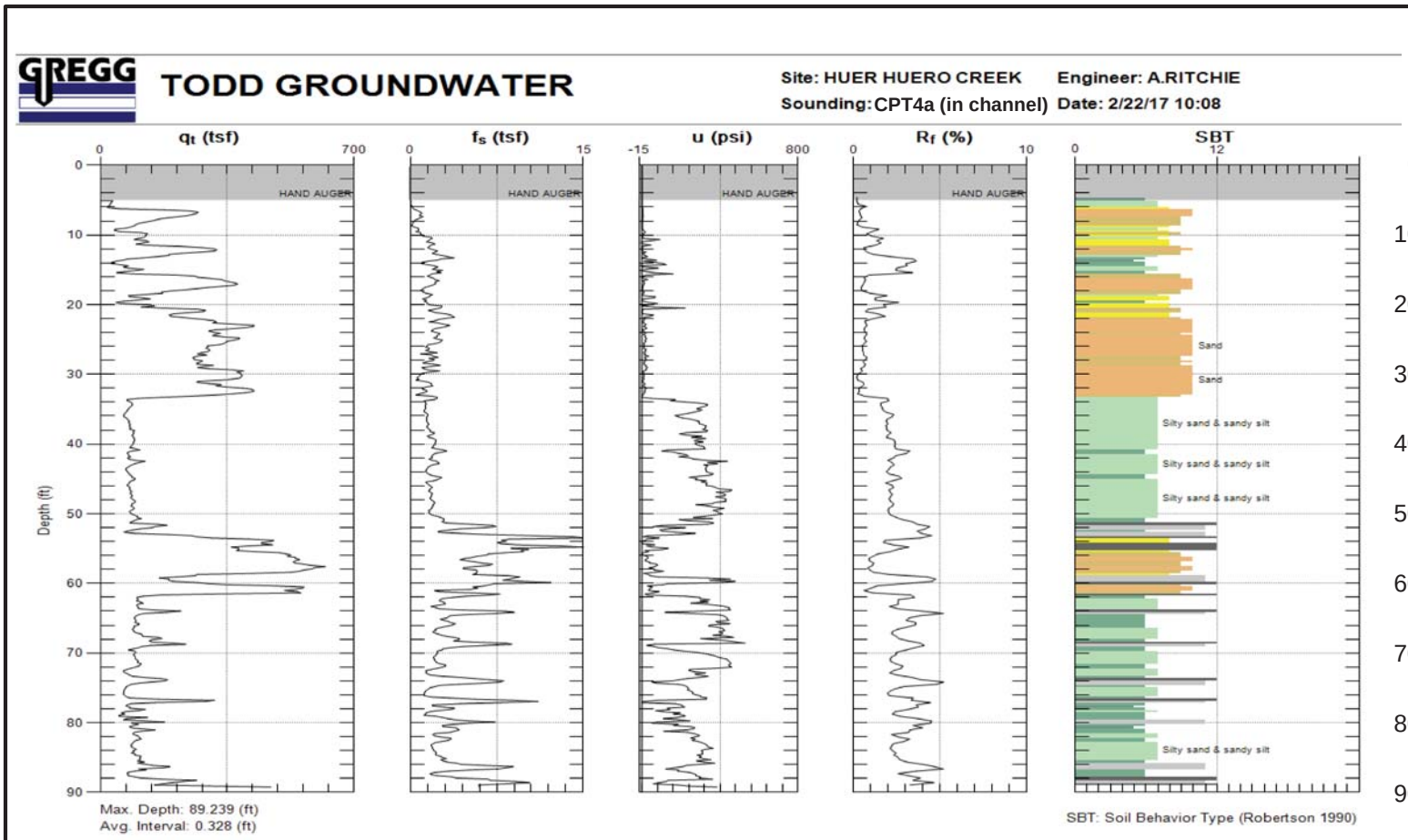
TODD GROUNDWATER

Figure 6
Site 2
Soil Boring (SB2)
and CPT (CPT2) Logs

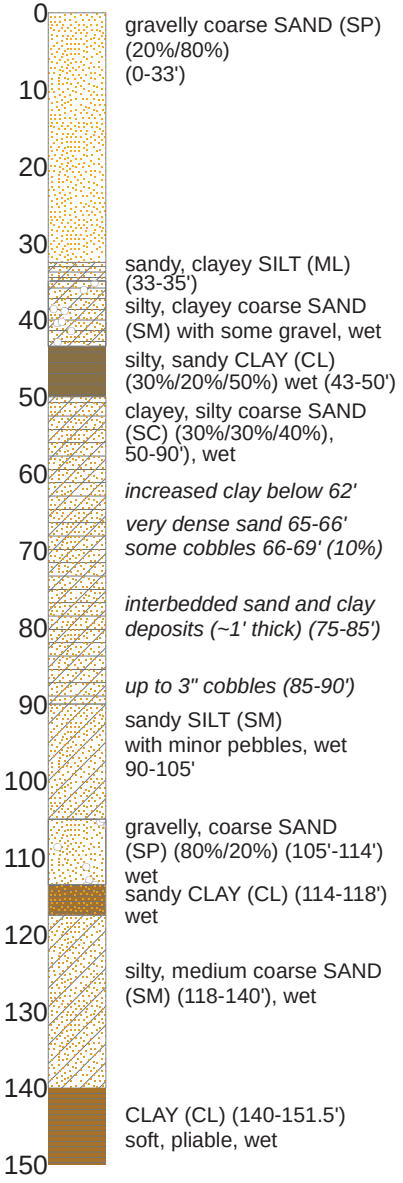


TODD GROUNDWATER

Figure 7
Site 3
Soil Boring (SB3)
and CPT (CPT3) Logs



Lithologic Log
Soil Boring B4
(in-channel)



gravelly coarse SAND (SP) (20%/80%) (0-33')

sandy, clayey SILT (ML) (33-35')

silty, clayey coarse SAND (SM) with some gravel, wet

silty, sandy CLAY (CL) (30%/20%/50%) wet (43-50')

clayey, silty coarse SAND (SC) (30%/30%/40%), 50-90'), wet

increased clay below 62'

very dense sand 65-66'
some cobbles 66-69' (10%)

interbedded sand and clay deposits (~1' thick) (75-85')

up to 3" cobbles (85-90')

sandy SILT (SM) with minor pebbles, wet 90-105'

gravelly, coarse SAND (SP) (80%/20%) (105'-114') wet

sandy CLAY (CL) (114-118') wet

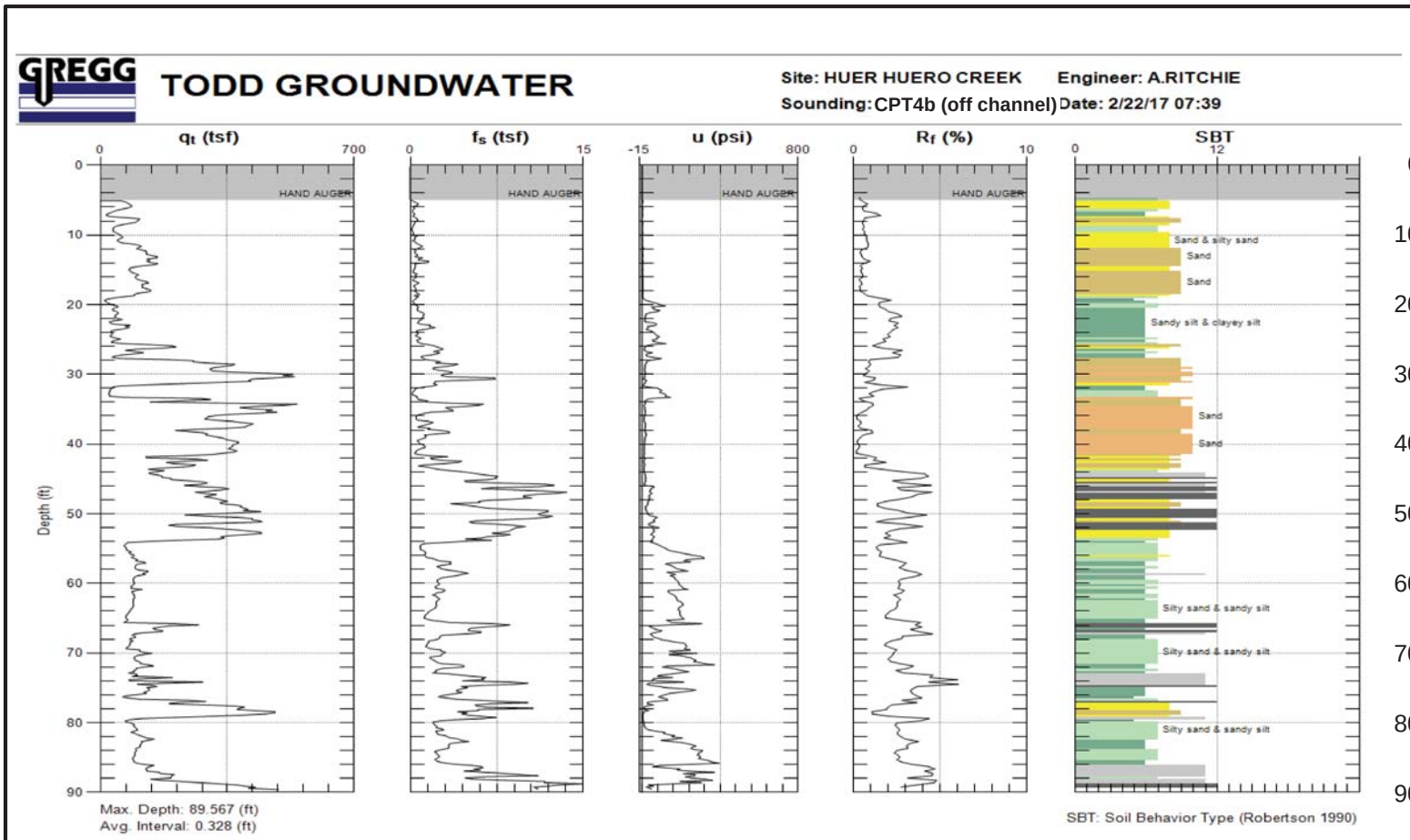
silty, medium coarse SAND (SM) (118-140'), wet

CLAY (CL) (140-151.5') soft, pliable, wet

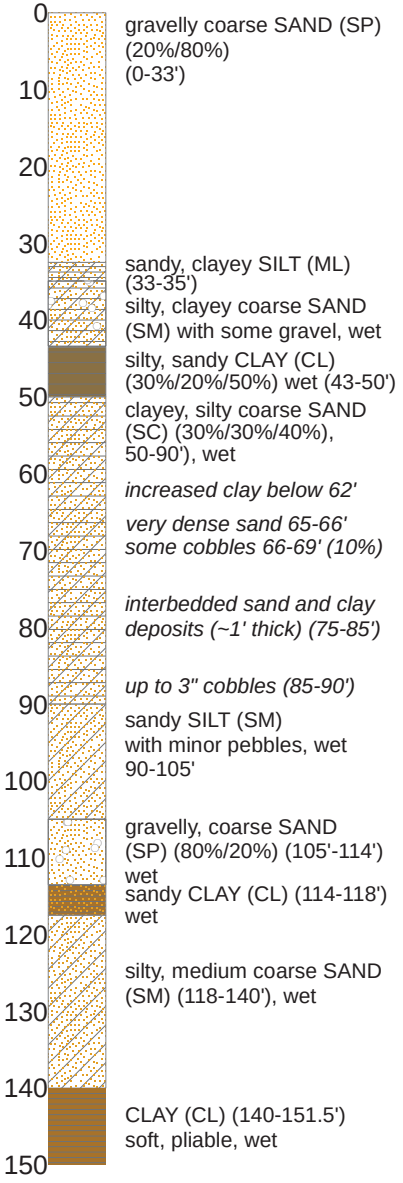
boring terminated at 151.5 ft-bgs

Figure 8
Site 4
Soil Boring (SB4)
and CPT (CPT4a) Logs

TODD GROUNDWATER



Lithologic Log
Soil Boring B4
(in-channel)



gravelly coarse SAND (SP) (20%/80%) (0-33')

sandy, clayey SILT (ML) (33-35')

silty, clayey coarse SAND (SM) with some gravel, wet

silty, sandy CLAY (CL) (30%/20%/50%) wet (43-50')

clayey, silty coarse SAND (SC) (30%/30%/40%), 50-90'), wet

increased clay below 62'

very dense sand 65-66'
some cobbles 66-69' (10%)

interbedded sand and clay deposits (~1' thick) (75-85')

up to 3" cobbles (85-90')

sandy SILT (SM) with minor pebbles, wet 90-105'

gravelly, coarse SAND (SP) (80%/20%) (105'-114') wet

sandy CLAY (CL) (114-118') wet

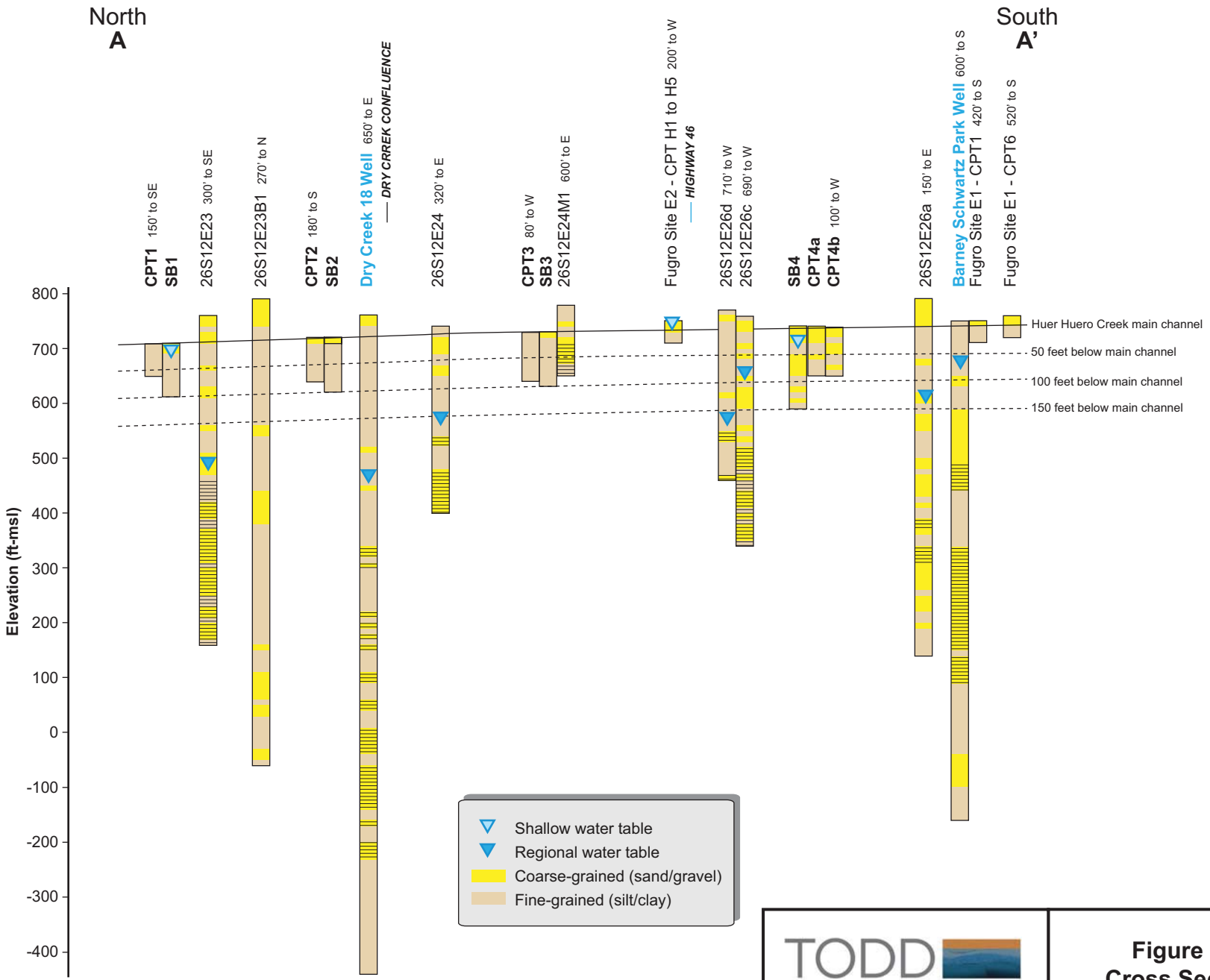
silty, medium coarse SAND (SM) (118-140'), wet

CLAY (CL) (140-151.5') soft, pliable, wet

boring terminated at 151.5 ft-bgs

Figure 9
Site 4
Soil Boring (SB4)
and CPT (CPT4b) Logs

TODD GROUNDWATER



TODD GROUNDWATER

Figure 10
Cross Section
A - A'

TODD GROUNDWATER

EXPLORATORY BORING/WELL LOG

PROJECT NO.: 68302 | PROJECT LOCATION: Huer Huero Creek
HOLE NO.: SB1 | HOLE LOCATION: Site 1 - Wisteria Lane
ELEVATION: | LOGGED BY: Amber Ritchie
DATE STARTED: 12/8/2016 | DATE FINISHED: 20/8/2016

DRILLING INFORMATION

DRILLING AGENCY: Gregg Drilling
DRILLER: Colton Young
DRILLING EQUIPMENT: Marl #5 Rhino
DRILLING METHOD: Hollow Stem Auger
DRILL BIT: 7-inch | DRILLING FLUID: None
SAMPLES TAKEN: | SAMPLE TYPE:
NUMBER OF SAMPLES: | SAMPLING INTERVAL:
FIRST WATER:
TOTAL DEPTH: 101.5' | DRILLED DIAMETER: 6- inch

COMPLETION/DESTRUCTION INFORMATION

DEPTH (FEET)	LITHOLOGIC DESCRIPTION	GRAPHIC LOG: LITHOLOGY	GRAPHIC LOG: COMPLETION/ DESTRUCTION	WATER CONTENT (%)	SAMPLES: TYPE	SAMPLES: INTERVAL	SAMPLES: PENETRATION RESISTANCE (BLOWS)	REMARKS
0	10YR 4/4 dark yellowish brown medium coarse and coarse gravelly SAND (SP) (5/95)							
5	more gravel (20%) from 5'-10'							
10								
15								
20	2.5YR 6/3 light yellowish brown sandy, silty CLAY (CL) (20/20/40) wet							
25	5YR 5/2 olive gray silty CLAY (CL), wet (30/70)							
30	minor gravel from 30'-35'							
35	increased silt 35'-40'							
40	minor gravel 45'					☒		40'-41.5'
45								
50	some fine to medium coarse sand (10%)					☒		50'-51.5'
55								
60	minor gravel 61' to 61.5' (5%)					☒		60'-61.5'
65								

TODD GROUNDWATER

EXPLORATORY BORING/WELL LOG

PROJECT NO.: 68302 PROJECT LOCATION: Huer Huero Creek
HOLE NO.: SB1 HOLE LOCATION: Site 1 - Wisteria Lane
ELEVATION: LOGGED BY: Amber Ritchie
DATE 12/8/2016 DATE FINISHED: 20/8/2016

DEPTH (FEET)	LITHOLOGIC DESCRIPTION	GRAPHIC LOG: LITHOLOGY	GRAPHIC LOG: COMPLETION/ DESTRUCTION	WATER CONTENT (%)	SAMPLES: TYPE	SAMPLES: INTERVAL	SAMPLES: PENETRATION RESISTANCE (BLOWS)	REMARKS
	10YR 5/4 yellowish brown silty CLAY (20/80)							70’-71.5’
75								
	minor medium coarse to coarse sand (5%)							
80								80’-81.5’
85								85’-86.5’
	minor medium coarse to coarse sand and gravel (5)							
90								90’-91.5’
95	mostly clay from 95’ to 100’							95’-96.5’
100								100’-101.5’
	boring terminated at 101.5’							

TODD GROUNDWATER

EXPLORATORY BORING/WELL LOG

PROJECT NO.: 68302 | PROJECT LOCATION: Huer Huero Creek
HOLE NO.: SB2 | HOLE LOCATION: Site 2 - Wisteria Lane
ELEVATION: 715 | LOGGED BY: Edwin Lin and Amber Ritchie
DATE STARTED: 12/17/2016 | DATE FINISHED: 12/7/2016

DRILLING INFORMATION

DRILLING AGENCY: Gregg Drilling
DRILLER: Colton Young
DRILLING EQUIPMENT: Marl ST Rhino ????
DRILLING METHOD: Hollow Stem Auger
DRILL BIT: 7-inch | DRILLING FLUID: None
SAMPLES TAKEN: | SAMPLE TYPE:
NUMBER OF SAMPLES: | SAMPLING INTERVAL:
FIRST WATER:
TOTAL DEPTH: 100' | DRILLED DIAMETER: 6-inch

COMPLETION/DESTRUCTION INFORMATION

DEPTH (FEET)	LITHOLOGIC DESCRIPTION	GRAPHIC LOG: LITHOLOGY	GRAPHIC LOG: COMPLETION/ DESTRUCTION	WATER CONTENT (%)	SAMPLES: TYPE	SAMPLES: INTERVAL	SAMPLES: PENETRATION RESISTANCE (BLOWS)	REMARKS
0	10YR 4/3 brown medium coarse to coarse SAND (SP) with minor gravel and pebbles, dry							
5	10YR 5/3 brown silty, clayey medium coarse to coarse SAND (10/5/40/45) (SM/SC) with some rounded pebbles, dry							
10	10YR 4/4 brown silty, sandy CLAY (CL) (10/30/70), dry							
15	10YR 4/4 brown clayey SILT (ML) (30/70), dry							
20	10YR 4/4 brown silty fine SAND (SM) (40/60), dry							
25	10YR 4/6 yellowish brown silty CLAY (CL) (40/60),							
30	2.5YR 4/3 olive brown 30'-35', moist							
35								
40	90% CLAY below 40'							
45	2.5YR 5/3 light olive brown, 45'-50'							
50	2.5YR 4/3 olive brown below 50'							
55								
60								
65	2.5YR 3/2 very dark grayish brown, slightly wet							

TODD GROUNDWATER

EXPLORATORY BORING/WELL LOG

PROJECT NO.: 68302 PROJECT LOCATION: Huer Huero Creek
HOLE NO.: SB2 HOLE LOCATION: Site 2 - Wisteria Lane
ELEVATION: LOGGED BY: Edwin Lin and Amber Ritchie
DATE 12/7/2016 DATE FINISHED: 12/7/2016

DEPTH (FEET)	LITHOLOGIC DESCRIPTION	GRAPHIC LOG: LITHOLOGY	GRAPHIC LOG: COMPLETION/ DESTRUCTION	WATER CONTENT (%)	SAMPLES: TYPE	SAMPLES: INTERVAL	SAMPLES: PENETRATION RESISTANCE (BLOWS)	REMARKS
75	10YR 5/4 yellowish brown silty CLAY (20/80)							
80	minor medium coarse to coarse minor sand (S)							
85								
90	minor medium coarse to coarse minor sand and gravel (S)							
95	mostly clay from 95’ to 100’							
100	boring terminated at 101.5’							

TODD GROUNDWATER

EXPLORATORY BORING/WELL LOG

PROJECT NO.: 68302 | PROJECT LOCATION: Huer Huero Creek
HOLE NO.: SB3 | HOLE LOCATION: Site 3
ELEVATION: 730' | LOGGED BY: Edwin Lin
DATE STARTED: 12/6/2016 | DATE FINISHED: 12/6/2016

DRILLING INFORMATION

DRILLING AGENCY: Gregg Drilling
DRILLER: Colton Young
DRILLING EQUIPMENT: Marl #5 Rhino
DRILLING METHOD: Hollow Stem Auger
DRILL BIT: None | DRILLING FLUID: None
SAMPLES TAKEN: | SAMPLE TYPE:
NUMBER OF SAMPLES: | SAMPLING INTERVAL:
FIRST WATER: 35'
TOTAL DEPTH: 100' | DRILLED DIAMETER: 6-inch

COMPLETION/DESTRUCTION INFORMATION

CASING SIZE & TYPE:
CASED INTERVAL:
SCREEN SIZE AND TYPE:
SCREENED INTERVAL:
FILTER PACK:
PACKED INTERVAL:
SEAL/BUFFER TYPE:
SEAL/BUFFER INTERVAL:
SURFACE SEAL TYPE:
SURFACE SEAL INTERVAL:
WELLHEAD PROTECTION:
OTHER:

DEPTH (FEET)	LITHOLOGIC DESCRIPTION	GRAPHIC LOG: LITHOLOGY	GRAPHIC LOG: COMPLETION/ DESTRUCTION	WATER CONTENT (%)	SAMPLES: TYPE	SAMPLES: INTERVAL	SAMPLES: PENETRATION RESISTANCE (BLOWS)	REMARKS
0	10YR 4/4 dark yellowish brown coarse SAND and GRAVEL (SP) (90/10) with rounded cobbles up to 1", dry							
10	10YR 4/4 dark yellowish brown silty, clayey SAND and SANDY CLAY (SC/CL)							
15	GLEY 4/1 dark greenish gray CLAY (CH) with some cobbles (85/15), slightly moist							
20	GLEY 4/1 dark greenish gray CLAY (CH), soft, pliable, moist							
45	GLEY 6/1 greenish gray							

TODD GROUNDWATER

EXPLORATORY BORING/WELL LOG

PROJECT NO.: 68302 PROJECT LOCATION: Huer Huero Creek
HOLE NO.: SB3 HOLE LOCATION: Site 3
ELEVATION: 730 msl LOGGED BY: Edwin Lin
DATE 12/6/2016 DATE FINISHED: 12/6/2016

DEPTH (FEET)	LITHOLOGIC DESCRIPTION	GRAPHIC LOG: LITHOLOGY	GRAPHIC LOG: COMPLETION/ DESTRUCTION	WATER CONTENT (%)	SAMPLES: TYPE	SAMPLES: INTERVAL	SAMPLES: PENETRATION RESISTANCE (BLOWS)	REMARKS
75	GLEY 4/1 dark greenish gray CLAY (CH), slightly moist							
80								
85								
90								
95								
100	boring terminated at 100’							

EXPLORATORY BORING/WELL LOG

TODD GROUNDWATER

PROJECT NO.: 68302 | PROJECT LOCATION: Huer Huero Creek
HOLE NO.: SB4 | HOLE LOCATION: Site 4 - Paso Robles Sports Club
ELEVATION: 735' msl | LOGGED BY: Edwin Lin
DATE STARTED: 12/5/2016 | DATE FINISHED: 12/6/2016

DRILLING INFORMATION

DRILLING AGENCY: Gregg Drilling
DRILLER: Colton Young
DRILLING EQUIPMENT: Marl #5 Rhino
DRILLING METHOD: Hollow Stem Auger
DRILL BIT: None | DRILLING FLUID: None
SAMPLES TAKEN: | SAMPLE TYPE:
NUMBER OF SAMPLES: | SAMPLING INTERVAL:
FIRST WATER: 35'
TOTAL DEPTH: 151.5' | DRILLED DIAMETER: 6-inch

COMPLETION/DESTRUCTION INFORMATION

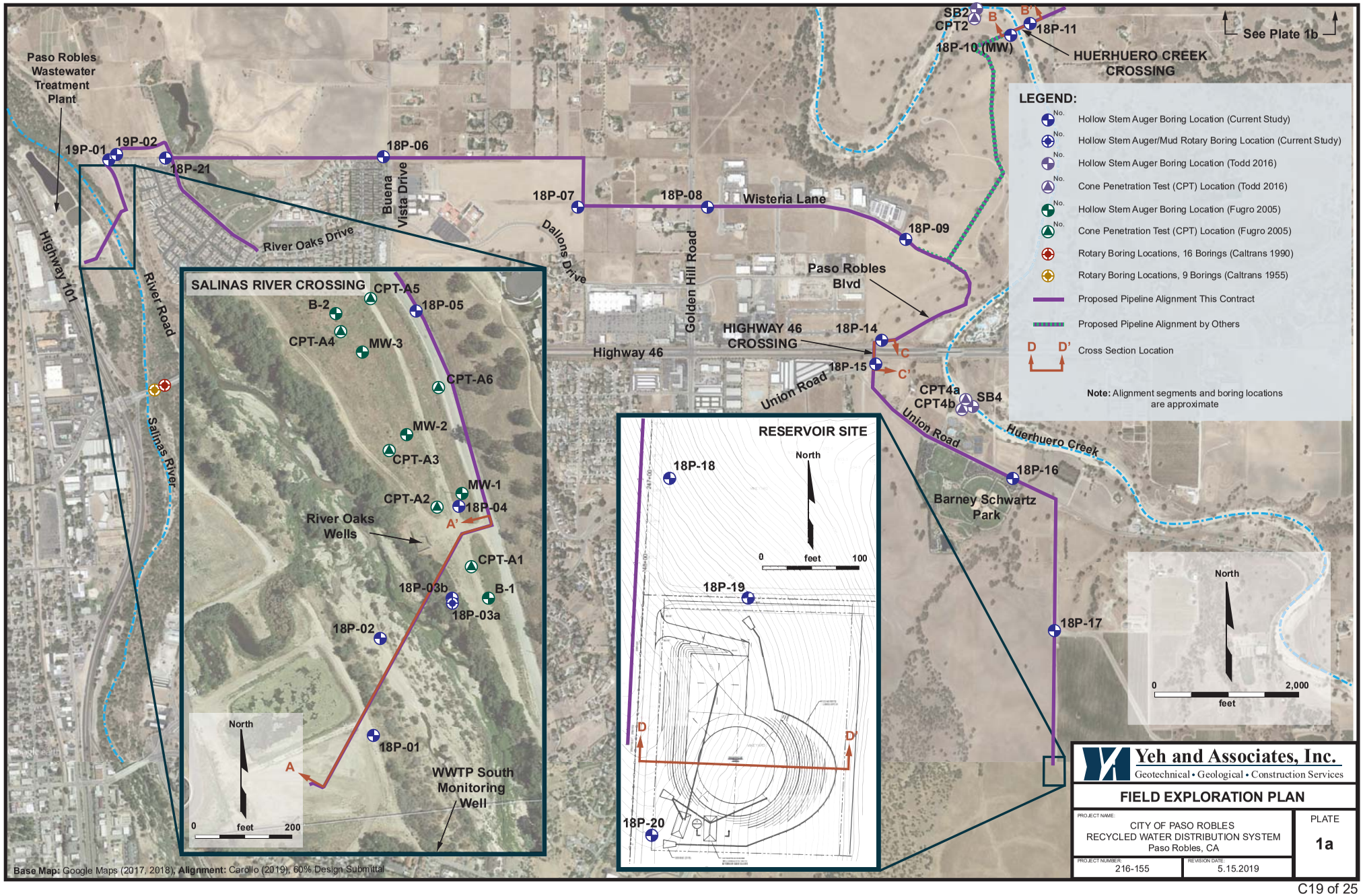
DEPTH (FEET)	LITHOLOGIC DESCRIPTION	GRAPHIC LOG: LITHOLOGY	GRAPHIC LOG: COMPLETION/ DESTRUCTION	WATER CONTENT (%)	SAMPLES: TYPE	SAMPLES: INTERVAL	SAMPLES: PENETRATION RESISTANCE (BLOWS)	REMARKS
0	10YR 6/2 light brownish grey coarse SAND and GRAVEL (80/20), dry (SP)							
10	moist							
15	10YR 5/2 greyish brown							
20	trace gravel							
25	Very coarse sand							
35	10YR 5/2 grayish brown coarse sandy, clayey SILT (ML), wet							
40	10YR 5/2 grayish silty coarse SAND (SM) with some GRAVEL and CLAY (50/30/10/10), wet trace pebbles up to 3/4"							
45	10YR 6/2 light brownish gray silty sandy CLAY (30/20/50) (SC), wet							
50	10YR 6/2 light brownish gray clayey silty coarse SAND (SC) (30/30/40)							
60	more clay 10YR 6/5 yellowish brown							
65	more sand very dense 65'-66'							
	some cobbles and gravel 66'-69'							

TODD GROUNDWATER

EXPLORATORY BORING/WELL LOG

PROJECT NO.: 68302 PROJECT LOCATION: Huer Huero Creek
HOLE NO.: SB4 HOLE LOCATION: Site 4 - Paso Robles Sports Club
ELEVATION: 735' msl LOGGED BY: Edwin Lin
DATE 12/5/2016 DATE FINISHED: 12/6/2016

DEPTH (FEET)	LITHOLOGIC DESCRIPTION	GRAPHIC LOG: LITHOLOGY	GRAPHIC LOG: COMPLETION/ DESTRUCTION	WATER CONTENT (%)	SAMPLES: TYPE	SAMPLES: INTERVAL	SAMPLES: PENETRATION RESISTANCE (BLOWS)	REMARKS
75	10YR 4/6 yellowish brown coarse SAND mixed with CLAY (SC/CL), approximately 1" thick interbedded lenses							
80								
85	up to 3" cobbles rounded							
90	10YR 4/6 yellowish brown sandy SILT (ML) with minor pebbles							
95								
100	10YR 6/5 brownish yellow							
105	10YR 4/6 yellowish brown coarse SAND and GRAVEL (80/20) (SP)							
110								
115	10YR 4/6 yellowish brown sandy CLAY (CL) (50/50)							
120	10YR 4/6 yellowish brown silty SAND (SM)							
125								
130								
135	very wet below 135'							
140	10YR 4/6 yellowish brown soft lean CLAY (CL)							
145								
150						X		150'-151.5'
	boring terminated at 151.5'							



Base Map: Google Maps (2017, 2018); **Alignment:** Carollo (2019), 60% Design Submittal

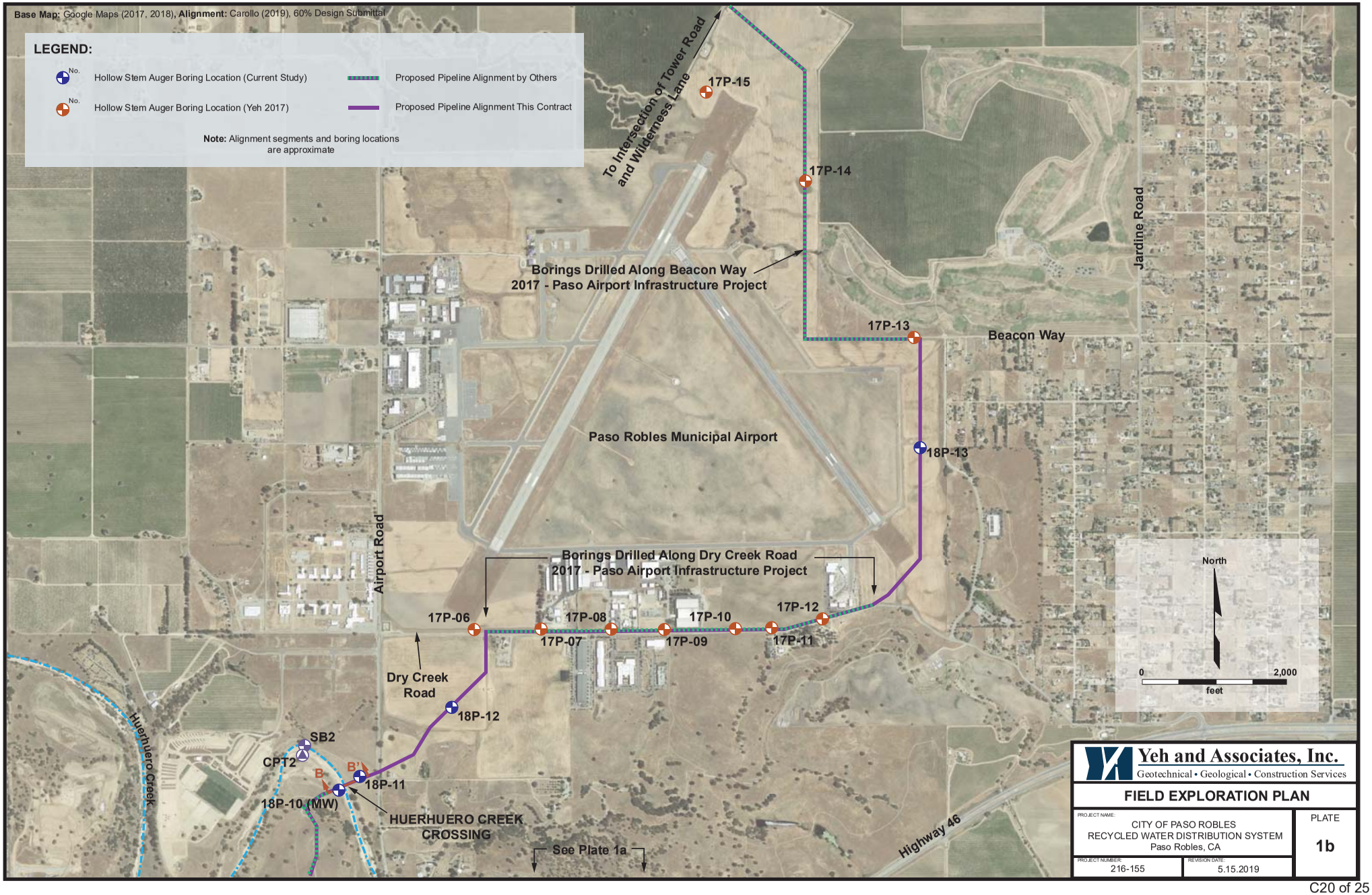
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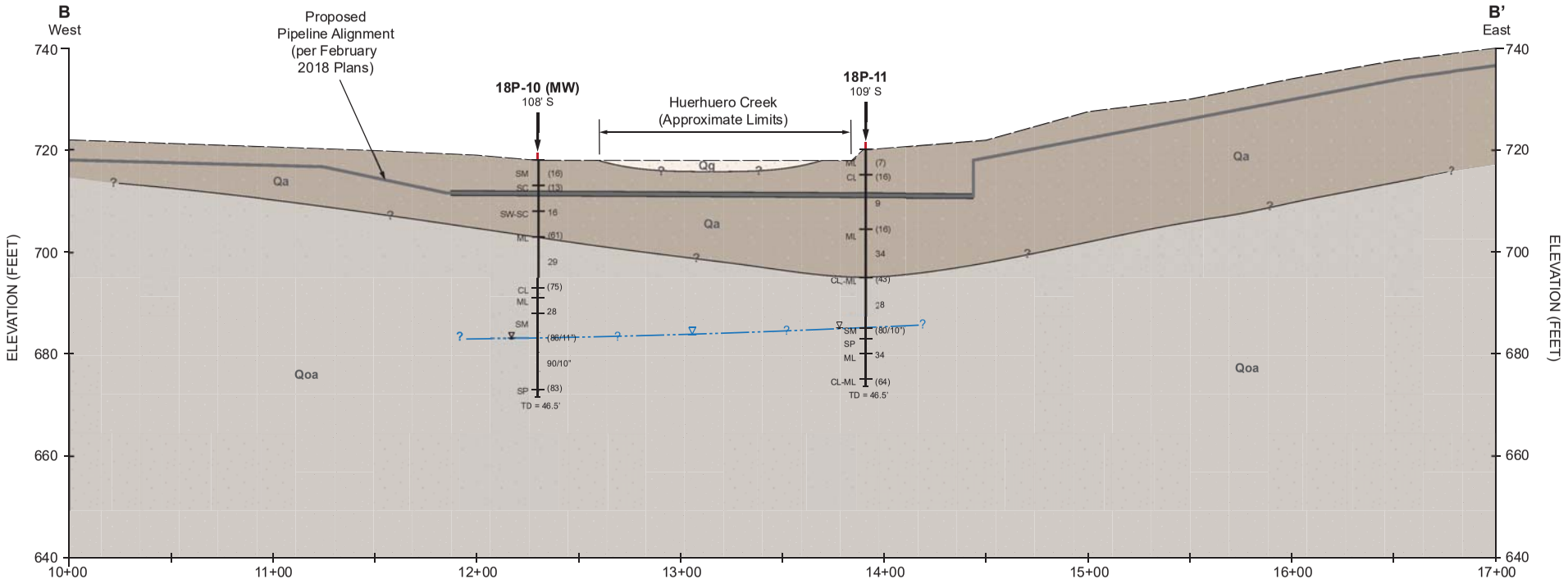
FIELD EXPLORATION PLAN

PROJECT NAME:
CITY OF PASO ROBLES
RECYCLED WATER DISTRIBUTION SYSTEM
Paso Robles, CA

PLATE
1a

PROJECT NUMBER: 216-155
REVISION DATE: 5.15.2019


Base Map: Google Maps (2017, 2018), Alignment: Carollo (2019), 60% Design Submittal
LEGEND:
Hollow Stem Auger Boring Location (Current Study)
Hollow Stem Auger Boring Location (Yeh 2017)
Proposed Pipeline Alignment by Others
Proposed Pipeline Alignment This Contract
Note: Alignment segments and boring locations are approximate
To Intersection of Tower Road and Wilderness Lane
17P-15
17P-14
Jardine Road
Borings Drilled Along Beacon Way
2017 - Paso Airport Infrastructure Project
17P-13
Beacon Way
Paso Robles Municipal Airport
18P-13
Airport Road
Borings Drilled Along Dry Creek Road
2017 - Paso Airport Infrastructure Project
17P-06
17P-08
17P-10
17P-12
17P-07
17P-09
17P-11
Dry Creek Road
18P-12
Huerhuero Creek
SB2
CPT2
B
B'
18P-11
18P-10 (MW)
HUERHUERO CREEK CROSSING
See Plate 1a
Highway 46
North
0
2,000
feet
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FIELD EXPLORATION PLAN
PROJECT NAME:
CITY OF PASO ROBLES
RECYCLED WATER DISTRIBUTION SYSTEM
Paso Robles, CA
PLATE
1b
PROJECT NUMBER:
216-155
REVISION DATE:
5.15.2019



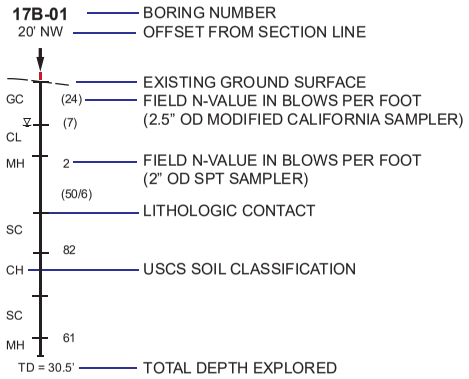
LEGEND:

Qg	**Alluvium (Stream Channel Deposits):** SAND and GRAVEL deposited within the Salinas River channel, as mapped by Dibblee (2004)
Qa	**Alluvium:** SAND with varying amounts of CLAY, SILT, and GRAVEL (SC, SM, SW-SC), SILT (ML), and lean CLAY with varying amounts of SAND (CL)
Qoa	**Older Alluvium:** SAND with varying amounts of SILT (SM, SP-SM, SP), SILT with varying amounts of SAND (ML), and lean CLAY with varying amounts of SAND and SILT (CL, CL-ML)
?	Geologic contact, queried where uncertain
?- - -	Interpreted groundwater surface during drilling, queried where uncertain
▽	Groundwater level encountered during drilling

See text and logs of exploration for description of subsurface conditions. All boundaries and locations are approximate.

PROFILE

1 in.= 50 ft. horizontal
1 in. = 20 ft. vertical



BORING DIAGRAM

Notes:

1) Groundwater level monitored in 18P-10:
35' bgs on 6/12/2018
25' bgs on 6/13/2018
23' bgs on 7/20/2018

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Subsurface Profile B-B': Huerhuero Creek Crossing

PROJECT NAME:
CITY OF PASO ROBLES
RECYCLED WATER DISTRIBUTION SYSTEM
Paso Robles, CA

PLATE
3

PROJECT NUMBER: 216-155
REVISION DATE: December 2018

LOGGED BY	BEGIN DATE	COMPLETION DATE	HAMMER TYPE	BORING NUMBER
J. Cravens	6/12/18	6/12/18	140-lb Automatic trip	18P-10
FINAL BY			BOREHOLE LOCATION (Lat/Long or North/East and Datum)	SURFACE ELEVATION
J. King			°/°	720.0 ft
DRILLING METHOD			BOREHOLE LOCATION (Offset, Station, Line)	WEATHER NOTES
8-inch Hollow-Stem Auger			--	Sunny, warm
DRILLER			LOCATION DESCRIPTION	BACKFILLED WITH
S/G Drilling			19.2' W of Huerhuero creekbed, 25' S of edge of access road	Monitoring well
DRILL RIG			GROUNDWATER READINGS DURING DRILLING / AFTER DRILLING (DATE)	TOTAL DEPTH OF BORING
CME-75			35.0 ft / 25.0 ft on 6-19-18	46.5 ft

ELEVATION (ft)	DEPTH (ft)	Material Graphics	DESCRIPTION	Sample Location	Sample Number	Blows per 6 in.	Blows per foot	Recovery (%)	RQD (%)	Moisture Content (%)	Dry Unit Weight (pcf)	Shear Strength (ksf)	Drilling Method	Well Diagram	Well Description	Remarks
	0															
	1		SILTY SAND (SM); grayish brown; slightly moist to dry; medium dense; fine SAND; trace subrounded GRAVEL; (ALLUVIUM).												Flush mount well cover, Solid 2" OD PVC pipe	
718	2				76	4 7 9	16	89		5	94					
	3														Backfill with native material	
716	4		CLAYEY SAND (SC); grayish brown; moist; loose; fine to medium SAND; trace subrounded GRAVEL.													
	5				77	3 7 6	13	94		10	112					
714	6														Bentonite seal	
	7															
712	8		Well-graded SAND with CLAY and GRAVEL (SW-SC); brown; moist; medium dense; with trace subangular to subrounded GRAVEL.												Backfill with #2/12 sand	
	9															
710	10				78	4 8 8	16	67		4					Slotted 2" OD PVC pipe	-200 (17% G, 74% S, 9% F)
	11															
708	12															Minor rig chatter at 12'
	13		SILT with SAND (ML); grayish brown; moist; very stiff; trace fine SAND; (OLDER ALLUVIUM).													
706	14															
	15				79	5 21 40	61	83		21	93	pp =3.75				PA (0% G, 26% S, 74% F) CR (pH = 8.19, r = 824 ohm-cm, Sulfates = 125 mg/kg, Chlorides = 30 mg/kg)
704	16															
	17															
702	18															
	19															
700	20		Decreasing SAND content.		80	8 13 16	29	100				pp =3.75				
	21															
698	22															
	23															
696	24		Lean CLAY (CL); gray; moist; very stiff; trace fine subrounded to subangular GRAVEL.													
	25				81	10 33 42	75	100		23	102	pp =3.75				
694	26															
	27															
692	28															
	29		SILT (ML); grayish brown; moist; hard; trace fine SAND.													
690	30				82	6 12 16	28	100				pp =4.25				
	31															
688	32															
	33															
686	34		SILTY SAND (SM); brown; wet; very dense; fine SAND.													
	35															

(continued)

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PROJECT NAME	
City of Paso Robles Recycled Water Distribution System	
PROJECT NUMBER	
216-155	
BORING NUMBER	
18P-10	
REVISION DATE	SHEET
3/29/2019	1 of 2

BR - STANDARD WITH MONITORING WELL 216-155 BORING LOGS - MW 18P-10.GPJ CALIFORNIA YEH LIBRARY (FEB 2013).GLB 12/18/18

ELEVATION (ft)	DEPTH (ft)	Material Graphics	DESCRIPTION	Sample Location	Sample Number	Blows per 6 in.	Blows per foot	Recovery (%)	RQD (%)	Moisture Content (%)	Dry Unit Weight (pcf)	Shear Strength (ksf)	Drilling Method	Well Diagram	Well Description	Remarks
	35		SILTY SAND (SM) *(continued)*.		83	17 36 50/5"	86/11"	92		21	106					
684	36															
	37															
682	38															
	39															
680	40		Moist.		84	27 40 50/4"	90/10"	78								
	41															
678	42															
	43															
676	44		Poorly graded SAND (SP); tan; moist to wet; very dense; fine SAND; trace fines.													
	45				85	10 38 45	83	89		22	98					
674	46															
	47		Bottom of borehole at 46.5 ft bgs													
672	48															
	49		This Boring Record was developed in accordance with the Caltrans Soil & Rock Logging, Classification, and Presentation Manual (2010) except as noted on the Soil or Rock Legend or below.													
670	50															
	51															
668	52															
	53															
666	54															
	55															
664	56															
	57															
662	58															
	59															
660	60															
	61															
658	62															
	63															
656	64															
	65															
654	66															
	67															
652	68															
	69															
650	70															
	71															
648	72															
	73															
646	74															
	75															
644	76															
	77															

BR - STANDARD WITH MONITORING WELL 216-155 BORING LOGS - MW 18P-10.GPJ CALIFORNIA YEH LIBRARY (FEB 2013).GLB 12/18/18

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PROJECT NAME
City of Paso Robles Recycled Water Distribution System

PROJECT NUMBER
216-155

BORING NUMBER
18P-10

REVISION DATE
3/29/2019

SHEET
2 of 2

LOGGED BY	BEGIN DATE	COMPLETION DATE	HAMMER TYPE	BORING NUMBER
J. Cravens	6-12-18	6-12-18	140-lb Automatic trip	18P-11
FINAL BY			BOREHOLE LOCATION (Lat/Long or North/East and Datum)	SURFACE ELEVATION
J. King			°/°	720.0 ft
DRILLING METHOD			BOREHOLE LOCATION (Offset, Station, Line)	WEATHER NOTES
8-inch Hollow-Stem Auger			--	Sunny, very hot
DRILLER			LOCATION DESCRIPTION	BACKFILLED WITH
S/G Drilling			19' E of Huerhuero creekbed, 19.5' S of access road	Cement slurry
DRILL RIG			GROUNDWATER READINGS DURING DRILLING 33.0 ft AFTER DRILLING (DATE)	TOTAL DEPTH OF BORING
CME-75				46.5 ft

ELEVATION (ft)	DEPTH (ft)	Material Graphics	DESCRIPTION	Sample Location	Sample Number	Blows per 6 in.	Blows per foot	Recovery (%)	RQD (%)	Moisture Content (%)	Dry Unit Weight (pcf)	Shear Strength (ksf)	Drilling Method	Casing Depth	Remarks
	0		SILT (ML); grayish brown; dry; stiff; with trace fine SAND; (ALLUVIUM).												
718	2			X	86	3 3 4	7	78		11	75	1.75pp			
716	4		Lean CLAY with SAND (CL); grayish brown; slightly moist to dry; very stiff; with trace coarse SAND and trace subrounded GRAVEL.												
714	6			X	87	3 7 9	16	86		17	100	3.25pp			
712	8														
710	10		With trace fine and medium SAND.	X	88	3 3 6	9	83				2.75pp			CR (pH = 8.85, r = 848 ohm-cm, Sulfates = 97 mg/kg, Chlorides = 6 mg/kg)
708	12														
706	14														
704	16		Light grayish brown; moist; very stiff.	X	89	3 3 13	16	72		23	94	4.0pp			-200 (0% G, 23% S, 77% F)
	17		Poorly graded SAND (SP); light brown; moist; medium dense; fine to medium SAND.												
702	18		SILT (ML); brown; moist; very stiff; with trace fine SAND and a 1" thick seam of poorly graded SAND (SP); tan; moist; medium to fine SAND.												
700	20			X	90	4 14 20	34	100				3.0pp			
698	22														
696	24		SANDY SILTY CLAY (CL-ML); light grayish brown; slightly moist to dry; trace SAND; (OLDER ALLUVIUM).												
694	26			X	91	8 18 25	43	100		22	101	3.0pp			-200 (0% G, 33% S, 67% F)
692	28														
690	30		Grayish brown; moist.	X	92	4 12 16	28	100				4.0pp			
688	32														
686	34		SILTY SAND (SM); grayish brown; moist to wet; very dense; fine SAND.												
	35														

(continued)

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PROJECT NAME	City of Paso Robles Recycled Water Distribution System
PROJECT NUMBER	216-155
BORING NUMBER	18P-11
REVISION DATE	3/29/2019
SHEET	1 of 2

ELEVATION (ft)	DEPTH (ft)	Material Graphics	DESCRIPTION	Sample Location	Sample Number	Blows per 6 in.	Blows per foot	Recovery (%)	RQD (%)	Moisture Content (%)	Dry Unit Weight (pcf)	Shear Strength (ksf)	Drilling Method	Casing Depth	Remarks
	35		SILTY SAND (SM) *(continued)*.		93	25 30 50/4"	80/10"	100		21	99				
684	36														
	37														
682	38		Poorly graded SAND with SILT (SP-SM); grayish brown; wet; dense.												
	39														
680	40				94	12 17 17	34	100				4.0pp			
	41		SILT with SAND (ML); grayish brown; moist; very stiff; fine SAND.												
678	42														
	43														
676	44		SILTY CLAY (CL-ML); grayish brown; moist; hard; trace fine SAND.												
	45				95	13 20 44	64	94		22	104				
674	46														
	47		Bottom of borehole at 46.5 ft bgs												
672	48														
	49		This Boring Record was developed in accordance with the Caltrans Soil & Rock Logging, Classification, and Presentation Manual (2010) except as noted on the Soil or Rock Legend or below.												
670	50														
	51														
668	52														
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666	54														
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5 BR - STANDARD 216-155 BORING LOGS.GPJ CALIFORNIA YEH LIBRARY (FEB 2013).GLB 3/29/19

Yeh and Associates, Inc.
Geotechnical • Geological • Construction Services

PROJECT NAME
City of Paso Robles Recycled Water Distribution System

PROJECT NUMBER
216-155

BORING NUMBER
18P-11

REVISION DATE
3/29/2019

SHEET
2 of 2

APPENDIX D. AVILA AND ASSOCIATES PRELIMINARY HYDRAULIC REPORT, 11/10/2020



PRELIMINARY HYDRAULIC REPORT

NEW AIRPORT ROAD BRIDGE AT HUER HUERO CREEK

Bridge Number TBD

City of Paso Robles, CALIFORNIA

AVILA & ASSOCIATES

~DRAFT~

Preliminary Hydraulic Report

AIRPORT ROAD BRIDGE AT HUER HUERO CREEK

City of Paso Robles, CA

Bridge #TBD

NOVEMBER 10, 2020

PREPARED FOR:

WALLACE GROUP AND CITY OF PASO ROBLES DEPARTMENT OF PUBLIC WORKS

Prepared by:

AVILA AND ASSOCIATES
CONSULTING ENGINEERS, INC.



Catherine M.C. Avila, P.E

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Appendix F – Location Hydraulic Study Form
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EXECUTIVE SUMMARY

The new Airport Road Bridge (bridge) at Huer Huero Creek in City of Paso Robles, California is proposed for construction by the City of Paso Robles. The proposed bridge will be a four-span bridge and will either be a pre-stressed, cast-in-place (PS/CIP) concrete box girder bridge, steel girder bridge, or a pre-cast (PC) concrete California wide flange girder bridge. The bridge will be 44 feet wide and will accommodate two travel lanes with 5-foot shoulders as shown in the attached General Plan (See Appendix A). The superstructure will be supported by 6.5-foot piers and wingwall abutments. The bridge pier diameter may be revised in later phases of design. If so, the hydraulic model will be revised for the proposed size and the results in this report will be updated.

Huer Huero Creek flows northerly through the central part of City of Paso Robles (City) draining an approximate 156.5-square mile basin at the bridge site. The discharges used for the bridge hydraulic analysis are shown in Table 1.

Table 1. Estimated discharges and water surface elevations for bridge design

Frequency (years)	**10**	**100**
Discharge (cubic feet per second)	11,000	23,700
Average Water Surface (elevation in feet at upstream face of Bridge)	724.1	726.6
Minimum Freeboard (feet at upstream face of bridge)*	10.5	8.0
*Based on the California Wide Girder Bridge type with an assumed 2% cross slope providing a minimum soffit elevation of 734.6 feet.		

This study used hydraulic modeling based on a HEC-RAS[1] model version 5.0.7 to estimate the water surface elevation (WSE) for the existing and proposed bridge. Results indicate that after construction of the new bridge, the water surface elevation will be increased up to 0.2 feet upstream of the bridge and 0.1 feet downstream of the bridge. With a proposed minimum soffit elevation of 734.6 feet, there will be approximately 10.5 feet of freeboard over the 10-yr WSE and approximately 8 feet of freeboard over the 100-yr WSE.

This report follows the California Department of Transportation (Caltrans) Final Hydraulic Report Format and has been prepared in accordance with the Caltrans Local Assistance Program Guidelines (Caltrans 2020) and Memos to Designers 16-1 [2].

[1] US Army Corps of Engineers Hydraulic Engineering Center River Analysis System which backwater hydraulic model designed to perform one-dimensional hydraulic calculations for a full network of natural and constructed channels.

[2] Caltrans Memo to Designers 16-1 December 2017 (http://www.dot.ca.gov/des/techpubs/manuals/bridge-memo-to-designer/page/section-16/MTD_16-1-attach1.pdf)

GENERAL

This design hydraulic study has been prepared for the sole purpose of meeting the requirements of the Caltrans "Local Assistance Program Guidelines." Although potentially useful for other purposes, this analysis has not been prepared for any other purpose. Reuse of information contained in this report for purposes other than for which Avila and Associates Consulting Engineers, Inc. (Avila and Associates) intended and without their written authorization is not endorsed or encouraged and is at the sole risk of the entity reusing the information.

Avila and Associates was retained to complete the bridge hydrology, hydraulics, and scour analysis for the replacement of the existing Airport Road Bridge over Huer Huero Creek in City of Paso Robles. The location of this project is shown in Figure 1. The following scope of work has been completed to develop this report:

1. Obtain backup information and field review.
2. Estimate hydrology.
3. Create HEC-RAS model.
4. Estimate scour, channel bed degradation and bank protection parameters.
5. Prepare draft report for comment.
6. Prepare final report.
7. Complete location hydraulic study.

The proposed bridge will be located in the City of Paso Robles as shown in Figure 1.

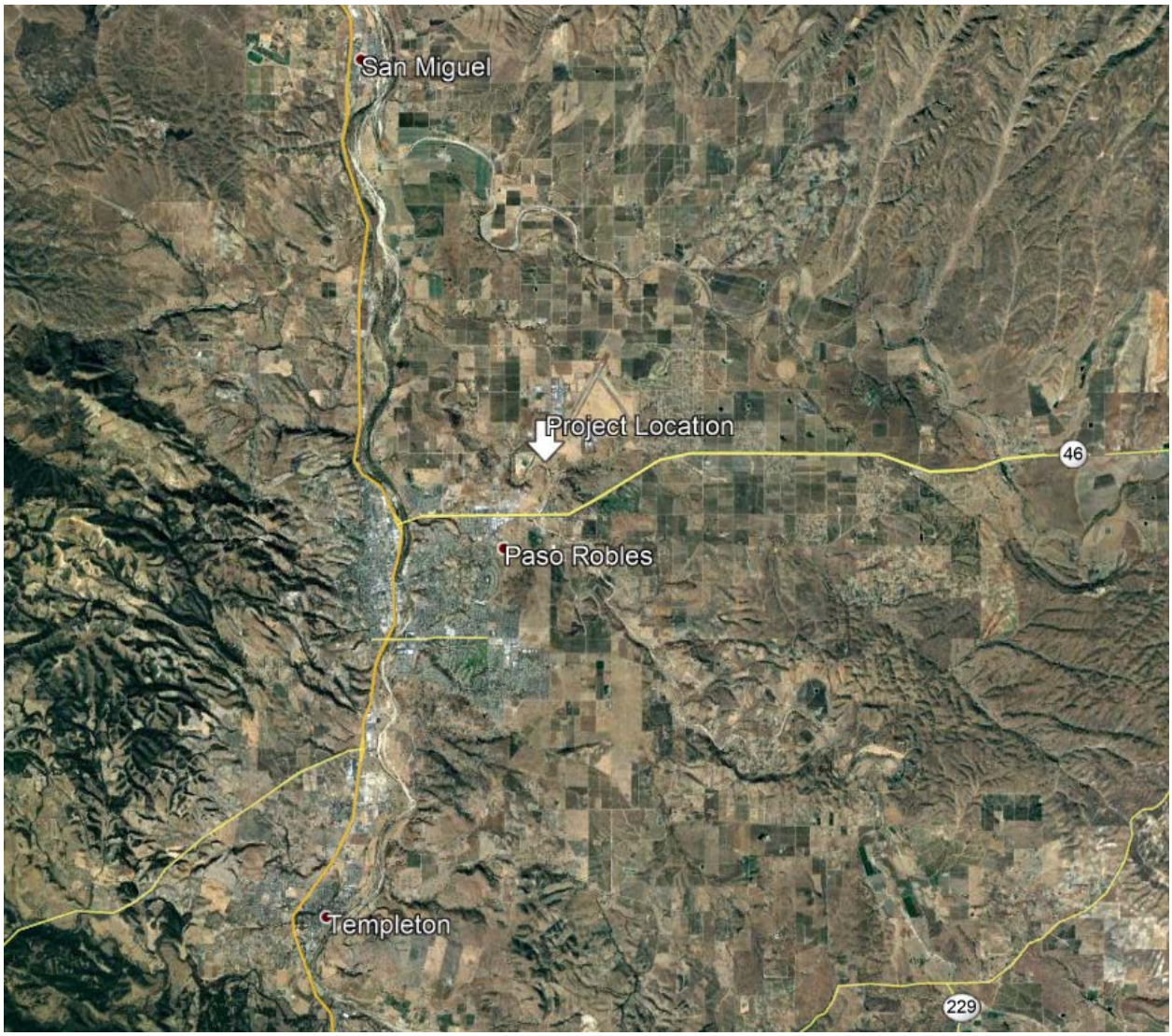


Figure 1. Bridge location map



Figure 2. Detailed project location map

The datum elevation used for this study is NAVD-88[3]. As shown in Figure 3, the proposed bridge is a four-span bridge and will either be a pre-stressed, cast-in-place concrete box girder bridge, steel girder bridge, or a pre-cast concrete California wide flange girder bridge. The bridge will be 44 feet wide and will accommodate two travel lanes with 5-foot shoulders as shown in the attached General Plan (See Appendix A). The superstructure will be supported by 6.5-foot piers and wingwall abutments.

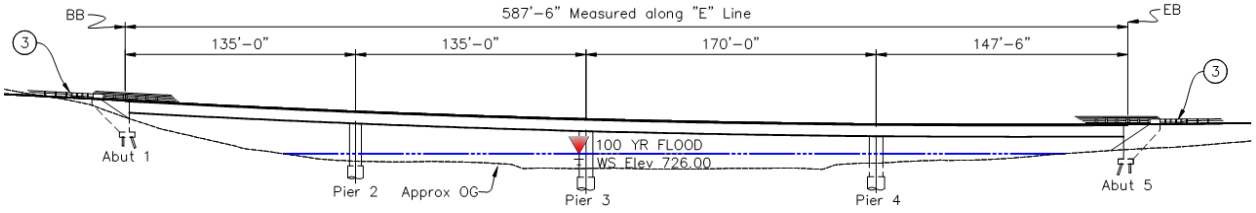


Figure 3. Proposed bridge profile view

[3]As shown in the Basis of Bearings provided by North Coast Engineering, Inc. for the project survey.

BRIDGE HISTORY

Avila and Associates reviewed the pertinent bridge maintenance records for the existing bridge to review the typical impacts to bridges along this reach. Details of the bridge and a summary of the maintenance records are shown in Table 2.

Table 2. Bridge details and summary of maintenance records

	State Routre 46 WB over Huer Huero Creek	State Routre 46 EB over Huer Huero Creek	River Road over Huer Huero Creek	River Road over Huer Huero Creek
Bridge Number	49 0034L	49 0034R	49C0052	49C0346
Bridge Length (ft)	333	326.11	97.11	116.14
Span Lengths (ft)	1 @ 100.25 ft, 1 @ 132 ft, 1 @ 100.25 ft	1 @ 100.25 ft, 1 @ 132 ft, 1 @ 100.25 ft	5 @ 19.00 ft	6 @ 19.02 ft
Bridge Type	Three span continuous CIP/PS box girder (3 cell) on RC pier walls and seated RC abutments with monolithic wingwalls. All founded on concrete driven piles.	Three span continuous CIP/PS box girder (3 cell) on RC pier walls and seated RC abutments with monolithic wingwalls. All founded on concrete driven piles.	Simple span TDF timber girders with RC deck on TDF timber pile extension (5) bents and timber abutments	Simple span UDF timber (14) girders with concrete deck slab on TDF timber column/pile extension (5) bents and abutments.
Debris Challenges	None noted	None noted	1952[4]	2010[5]
Cross Sections Available for	1992	1992	1977, 1993, 2010	1977, 1993, 1999, 2011
NBIS Item 113 (scour) code	8	8	5	U
ELI Flag 361 Condition State	None	None	None	None
Pier Type	RC pier walls on concrete driven piles	RC pier walls on concrete driven piles	TDF timber pile extension	Timber column/pile extension
Year Built	1992	1992	1950	1965
Year Modified	n/a	n/a	n/a	1990
Scour Challenges	None noted	None noted	1958[6], 1988[7]	1991[8]

[4] Large log in stream approximately 25 feet upstream of Span 5
[5] Debris near Abutment 1
[6] Concrete slope paving embankment protections was completely washed out and demolished by scour. (reconstructed in 1964)
[7] Channel graded 2' below original ground in Spans 3, 4, and 5
[8] Upstream land owner complained of land washing away.

BASIN AND DISCHARGE

The watershed draining to the bridge is 156.5 square miles as shown in Figure 4. The average annual rainfall for the watershed is approximately 22.3 inches per year[9]. Huer Huero Creek carries flow northerly to the bridge site.

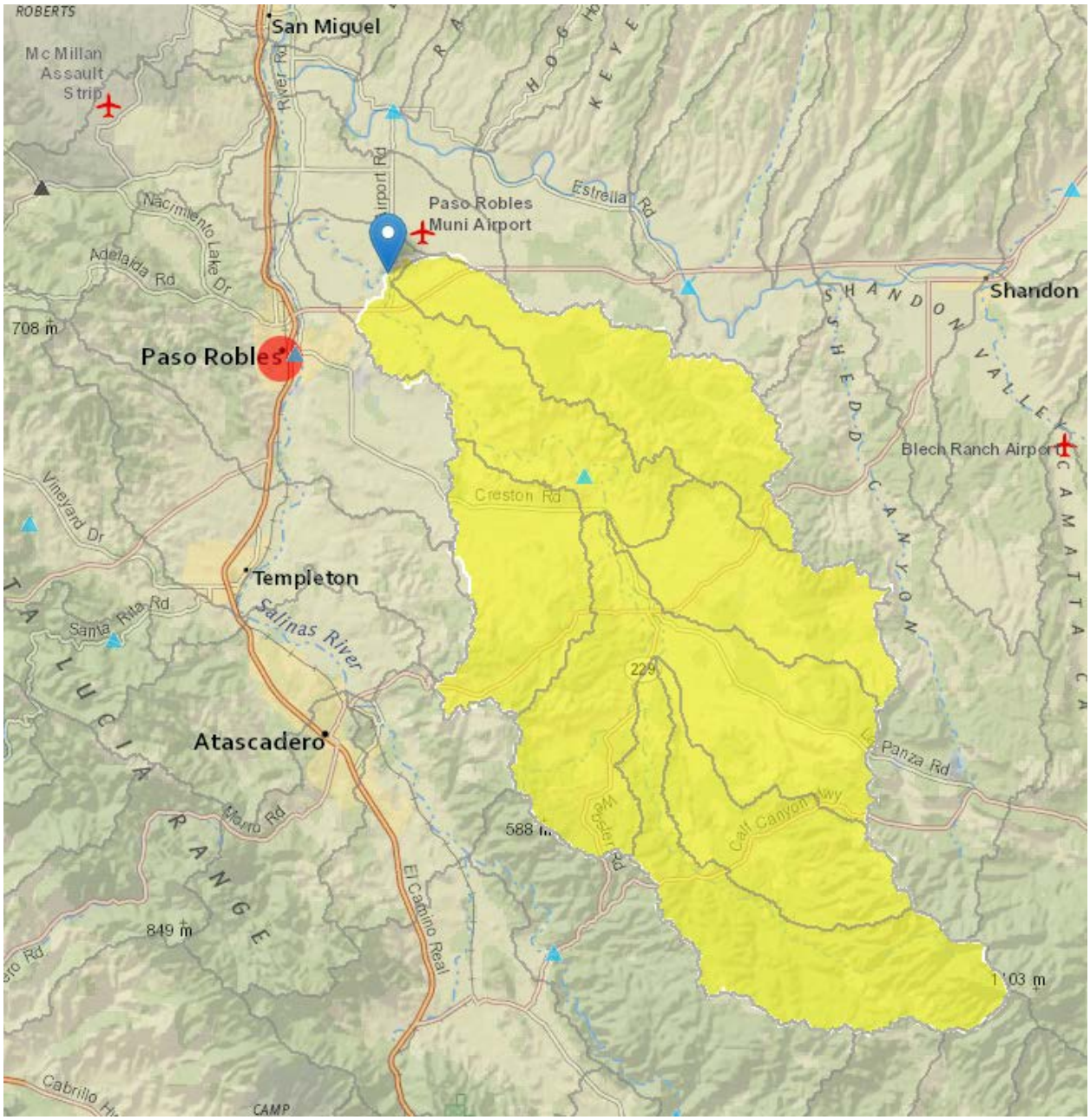


Figure 4. Basin contributing to the bridge (USGS streamstats)

[9] **www.streamstatsags.cr.usgs.gov** (U.S.G.S.)

Dry Creek is a tributary to Huer Huero Creek with the confluence approximately 1,500 feet upstream of the project. Peak flow discharges and hydrographs for both Huer Huero Creek and Dry Creek were provided by North Coast Engineering, Inc (NCE) for use in the HEC-RAS model. NCE used a HEC-HMS model to determine these discharges and calibrated them to the 100-year discharge determined in a FEMA Flood Insurance Study (FIS) (NCE, 2020). The combined peak discharges used in the hydraulic analysis are provided Table 3.

Table 3. Discharges used for design

Frequency (Years)	10	100
Discharge (cfs)	11,000	23,700

HEC-RAS ANALYSIS

Hydraulic parameters (water surface elevations and velocity) were obtained from the U.S. Army Corps of Engineers HEC-RAS (Hydraulic Engineering Center River Analysis System) version 5.0.7 model. Parameters used for the 2D analysis include:

- 0.3 second time interval
- Full momentum equation set

Topographic Data

Digital Elevation Models (DEM) were created from surfaces of the topographic surveys provided by Wallace Group using Autocad Civil 3D for each of the conditions and used to build terrains in HEC-RAS. The topography was altered at the location of the Highway 46 bridge and the Airport Road bridge over Dry Creek to remove the bridge decks from the topography and add the Highway 46 bridge piers.

Vertical Datum and Horizontal Projection

The horizontal datum for the project is NAD 1983 State Plane California V in feet. The vertical datum for the project, is NAVD88 in feet.

2D Model Mesh

The 2D model mesh area is shown in Figure 6. A mesh grid size of 40 ft by 40 ft was used with additional mesh refinement near the proposed bridge and the Highway 46 bridge.

Manning's Roughness (n-value)

A base Manning's Roughness (n-value) of 0.04 was used for the model area. The n-values were then refined within the channel based on land type as shown in Figure 5. These values are consistent with n-values for floodplains with pastures, trees, and brush (Chow, 1959).

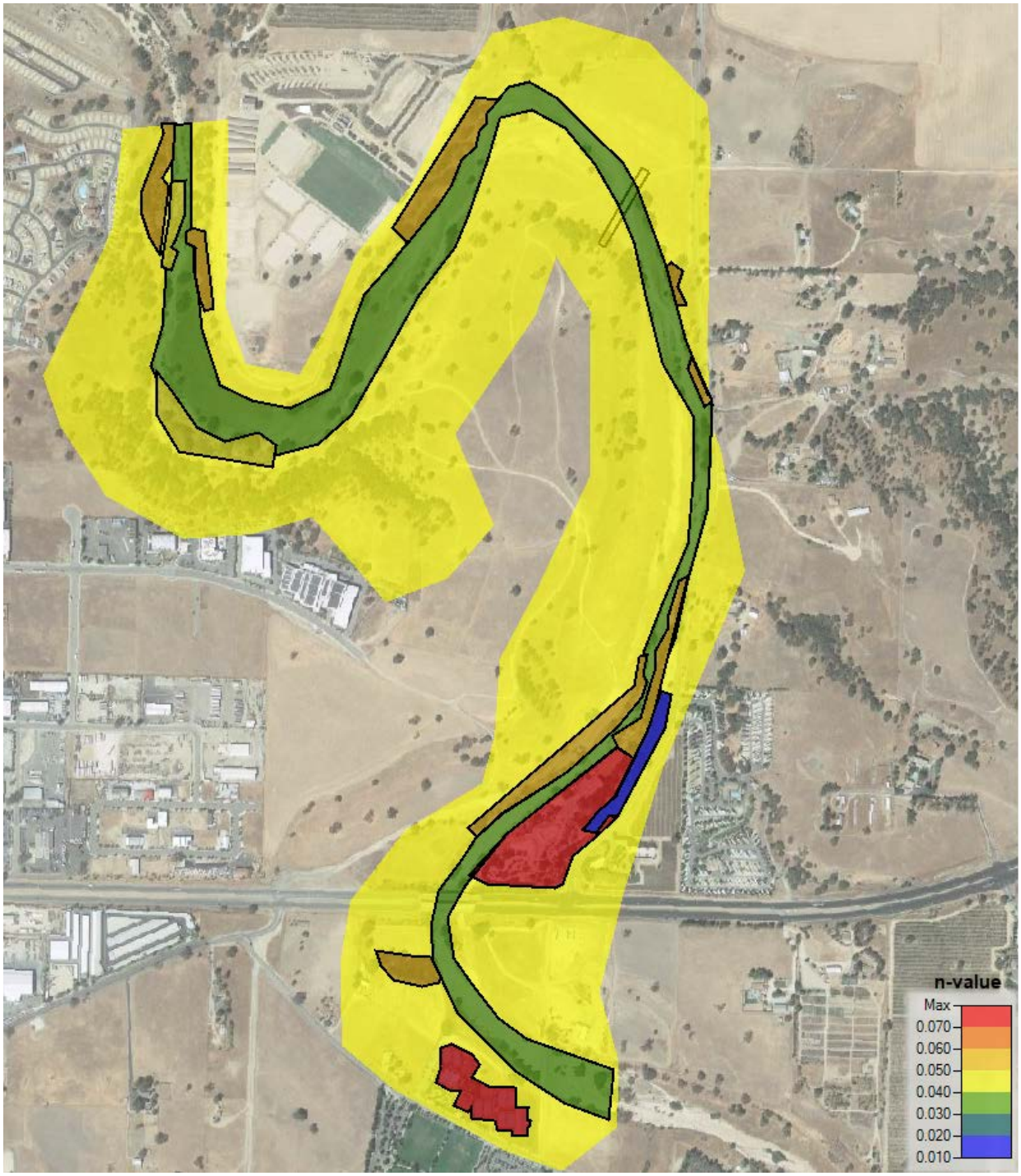


Figure *5. Manning's n-value regions used in the model.*

Boundary Conditions

Normal depth was used for the downstream boundary condition along the 2D model area. The separate hydrographs for Huer Huero Creek and Dry Creek provided by NCE were used as the inflow boundary conditions. The locations of the boundary conditions are shown in Figure 6.

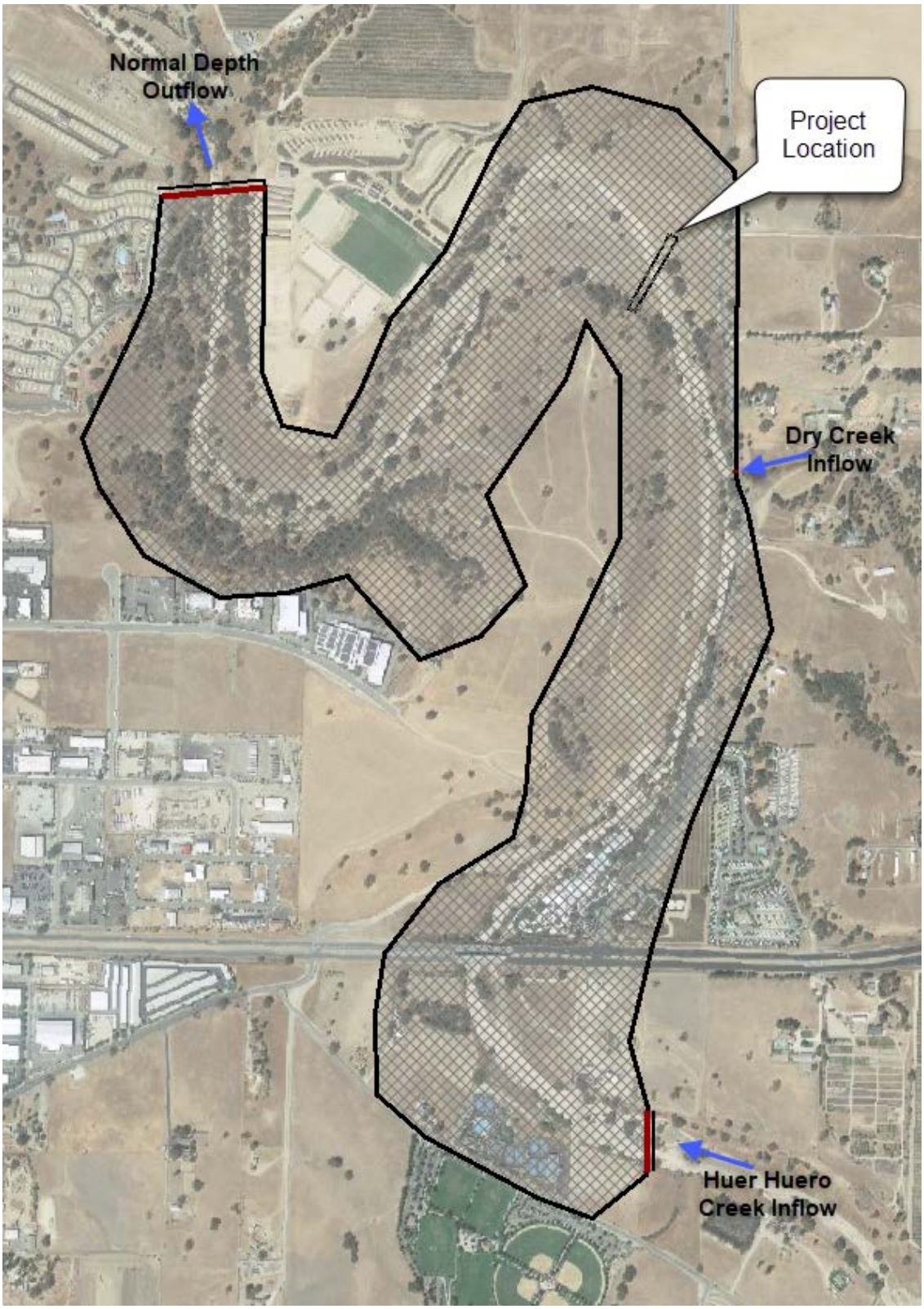


Figure 6. 2D model mesh and boundary conditions.

Proposed Bridge Model

The HEC-RAS model was re-run for the proposed bridge alternatives. The only change to the model was that the addition of the proposed bridge piers to the model terrain as shown in Figure 7.



Figure 7. Proposed bridge piers in model terrain

As shown in Figure 8 and Figure 9 the water surface elevations for the 100-year discharges will be slightly decreased downstream of the proposed piers (less than 0.2 feet) and increased (up to 0.8 feet) upstream of the piers as a result of the proposed bridge piers. Upstream of the proposed bridge, the water surface elevation is increased less than 0.2 feet for approximately 1,100 feet.



Figure 8. Difference results in feet between existing and proposed conditions

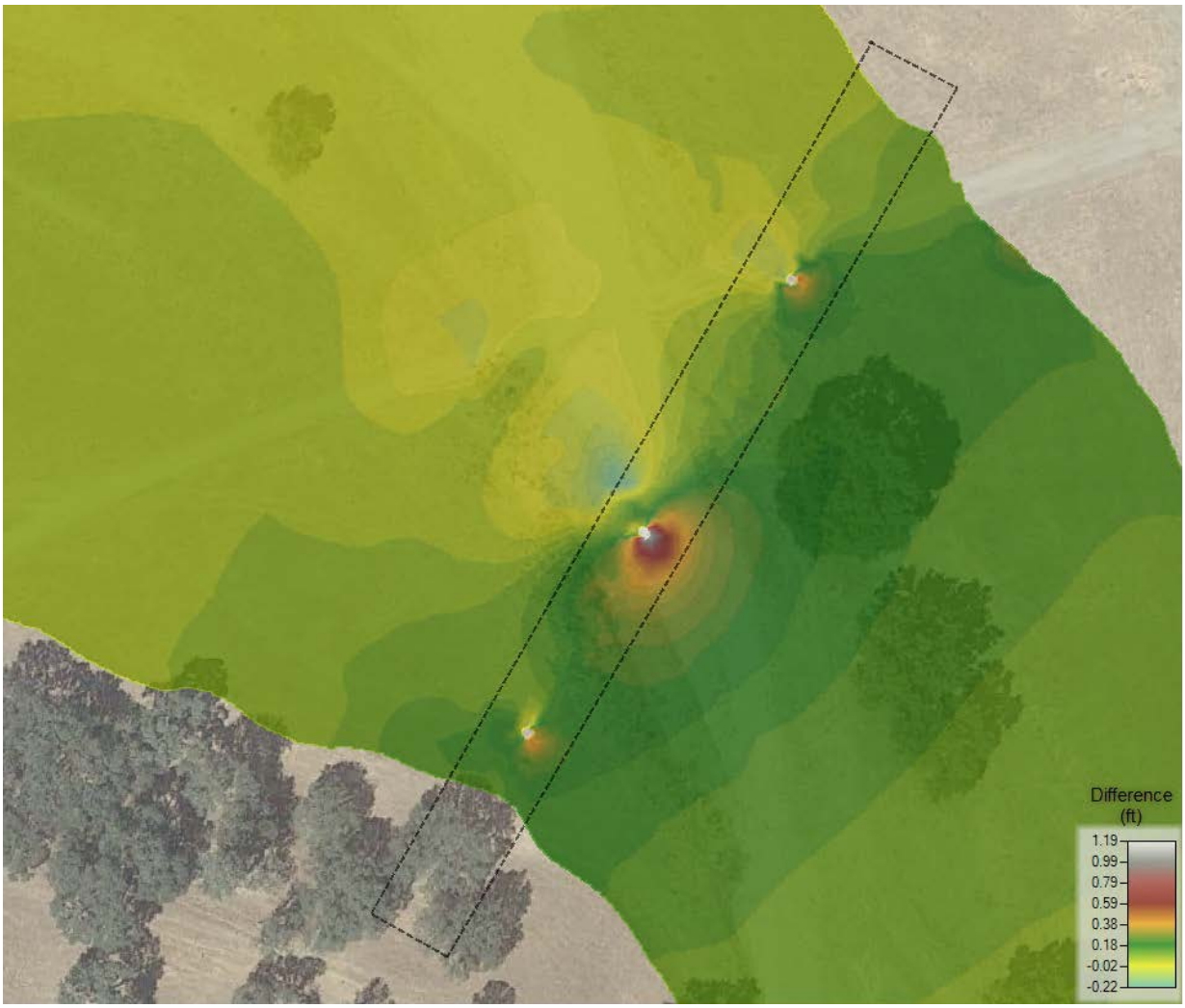


Figure 9. Zoomed in Figure 8.

2D modeling provides water surface elevation results at each cell face within the mesh. To compare the impact of the proposed bridge on a larger scale, profile lines were drawn throughout the reach as shown in Figure 10 and the water surface elevation results were averaged across each of these lines. The resulting water surface elevation profiles are provided in Figure 11 and Figure 12 and a comparison of the average water surface elevations between existing and proposed conditions is provided in Table 4. On average, the proposed bridge increases the water surface elevation up to 0.2 feet at the upstream face of the proposed bridge.



Figure 10. Profile line locations along Huer Huero Creek

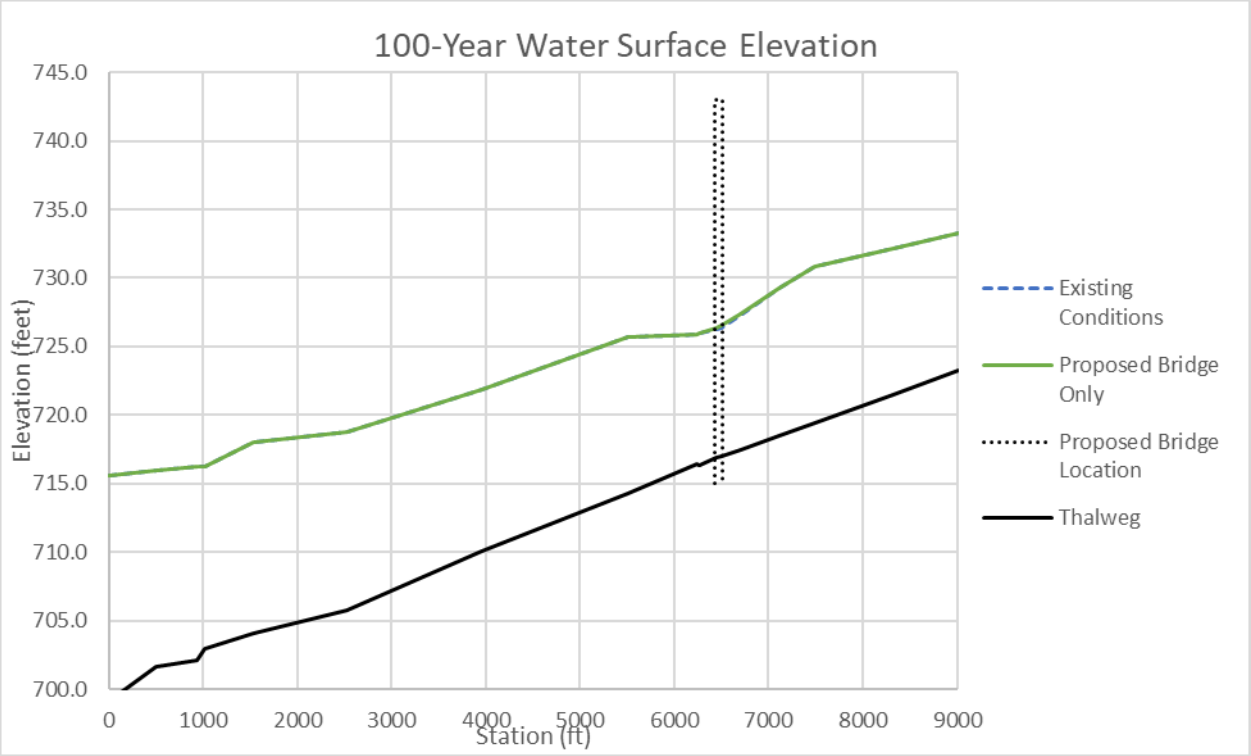


Figure 11. 100-yr water surface elevation comparison existing vs. proposed condition

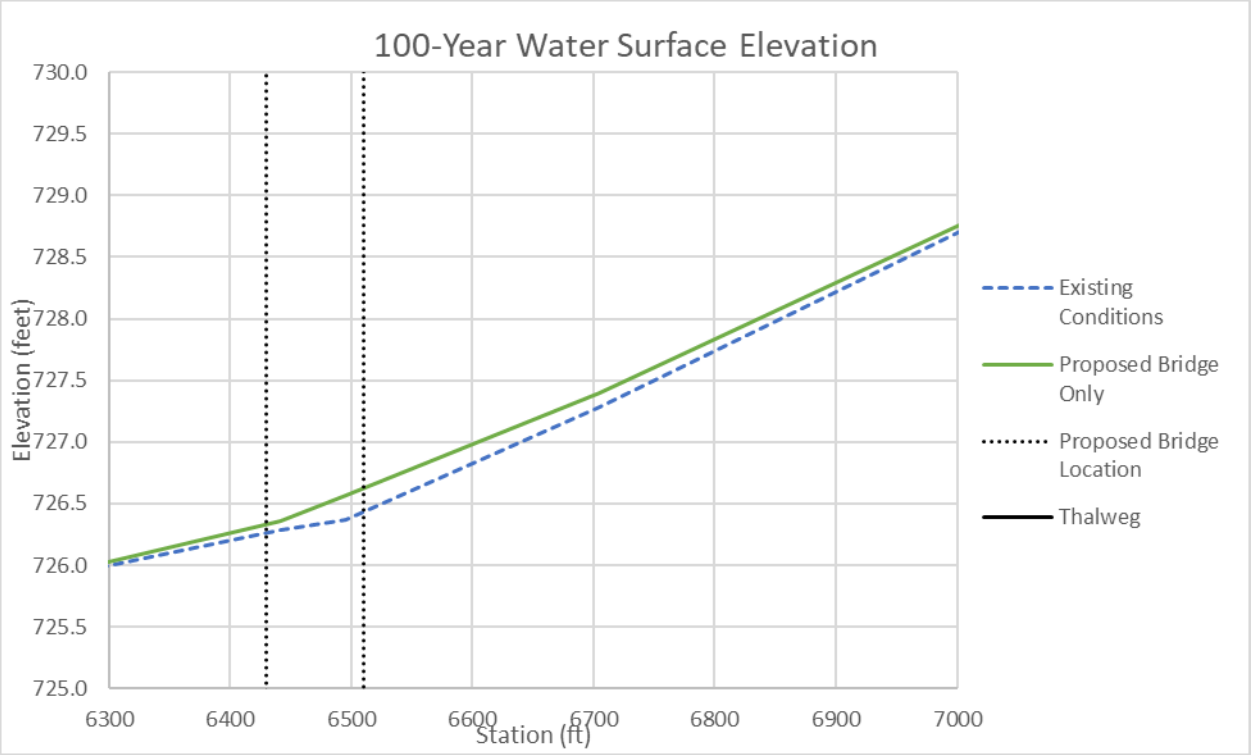


Figure 12. Zoomed in Figure 11.

Table 4. Average water surface elevation for the existing and proposed bridge for the 100-year discharge

Station	Existing (ft)	Proposed (ft)	Difference (ft)
1	715.6	715.6	0.0
506	716.0	716.0	0.0
935	716.2	716.2	0.0
1013	716.3	716.3	0.0
1529	718.0	718.0	0.0
2523	718.8	718.8	0.0
3952	721.9	721.9	0.0
5500	725.7	725.7	0.0
6236	725.9	725.9	0.0
6268	725.9	725.9	0.0
DS Prop BR	726.3	726.4	0.1
US Prop BR	726.4	726.6	0.2
6705	727.3	727.4	0.1
7115	729.2	729.3	0.0
7492	730.8	730.8	0.0
8319	732.1	732.1	0.0
9013	733.2	733.2	0.0

See Appendix B for detailed HEC-RAS output and Appendix C for overtopping output.

HYDRAULIC CRITERIA

Chapter 820 of the Caltrans Highway Design Manual (HDM) delineates the hydraulic design criteria for bridges (Caltrans, 2020). The basic HDM rule for hydraulic design is that bridges should be designed to pass the Q_{50} with sufficient freeboard and convey the Q_{100} without freeboard. Exceptions may be granted if the bridge designer can provide sufficient evidence that less freeboard is needed. The HDM notes that 2 feet of freeboard is often assumed to be appropriate for final bridge designs, but leaves the recommendation for freeboard to the judgment of the hydraulic engineer based primarily upon the debris anticipated at the bridge.

Three bridge deck alternatives are in consideration for the proposed bridge. Assuming a 2% cross slope, the pre-cast concrete California Wide Flange Girder bridge type provides the lowest minimum soffit elevation of 734.6 feet which results in 8 feet of freeboard above the 100-year water surface elevation of 726.6 feet, which exceeds the HDM criteria.

DRIFT

Avila and Associates researched the available Bridge Maintenance Reports for the bridges upstream and downstream of the proposed bridge location to determine if floating debris catches on the bridge. Two instances of debris being caught on the bridges were noted at the bridges downstream on Huer Huero Creek.

The proposed bridge is anticipated to have 6.5-foot diameter piers and it has been demonstrated that larger piers shed debris rather than catch debris (Evelyn, 2004).

SCOUR

Avila and Associates reviewed the available channel cross-sections for the two bridges downstream on River Road and the upstream Highway 46 bridge to compare the oldest recorded condition with the most recent cross sections taken from the topo information (Highway 46) and cross sections completed during the July 2020 filed review at the River Road Bridges. As shown in Figure 13, the channel has not changed appreciably at the Highway 46 bridge between 1992 and 2020. At the River Road bridges, shown in Figure 14 and Figure 15 the channel has shown a pattern of aggradation since 1977. Notably, the bridge inspection records state the channel was graded below bridge 49C0052 in 1988 (2 to 3 feet) indicating aggradation may be a recurring issue for these bridges. Since the channel has remained constant in the last 28 years upstream of the project and has aggraded downstream of the project, future degradation is expected to be minimal. Aggradation of the channel may cause issues at the proposed bridge; however, with 8 feet of freeboard above the 100-year discharge, these issues are likely to be minimal.

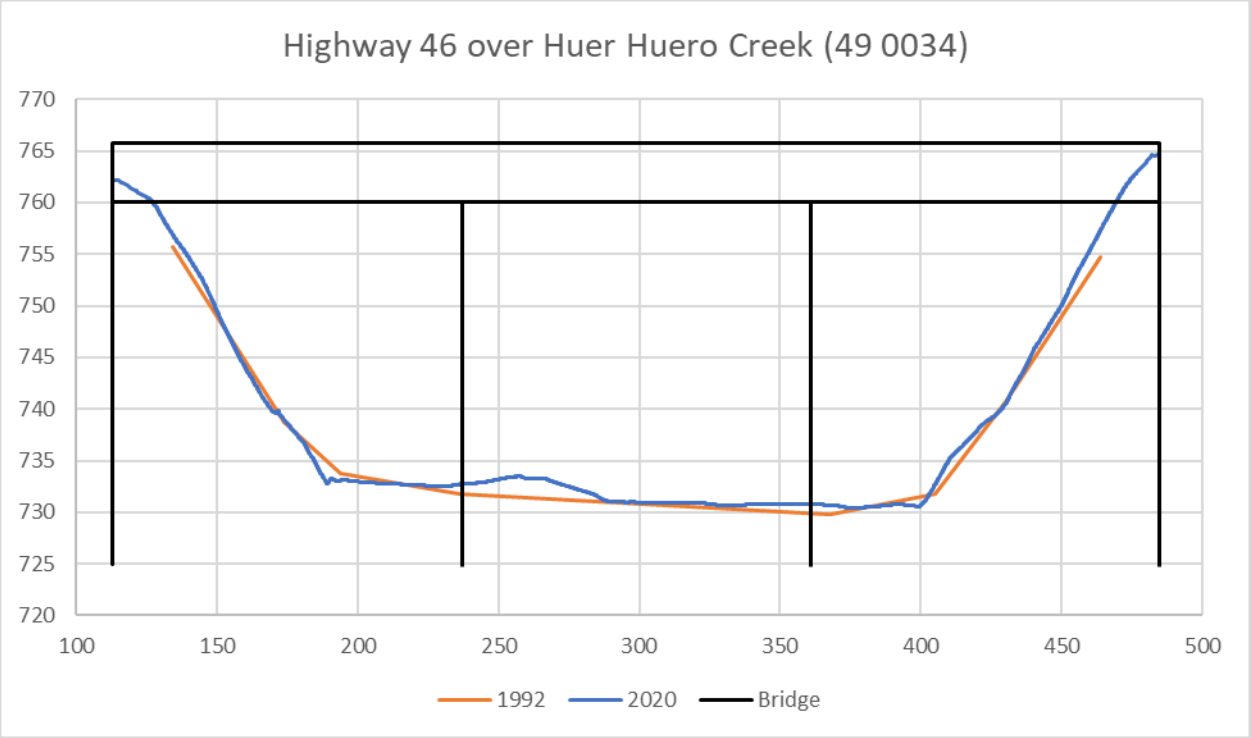


Figure 13. Cross sections taken at the Highway 46 bridge over time (from Caltrans Maintenance Reports)

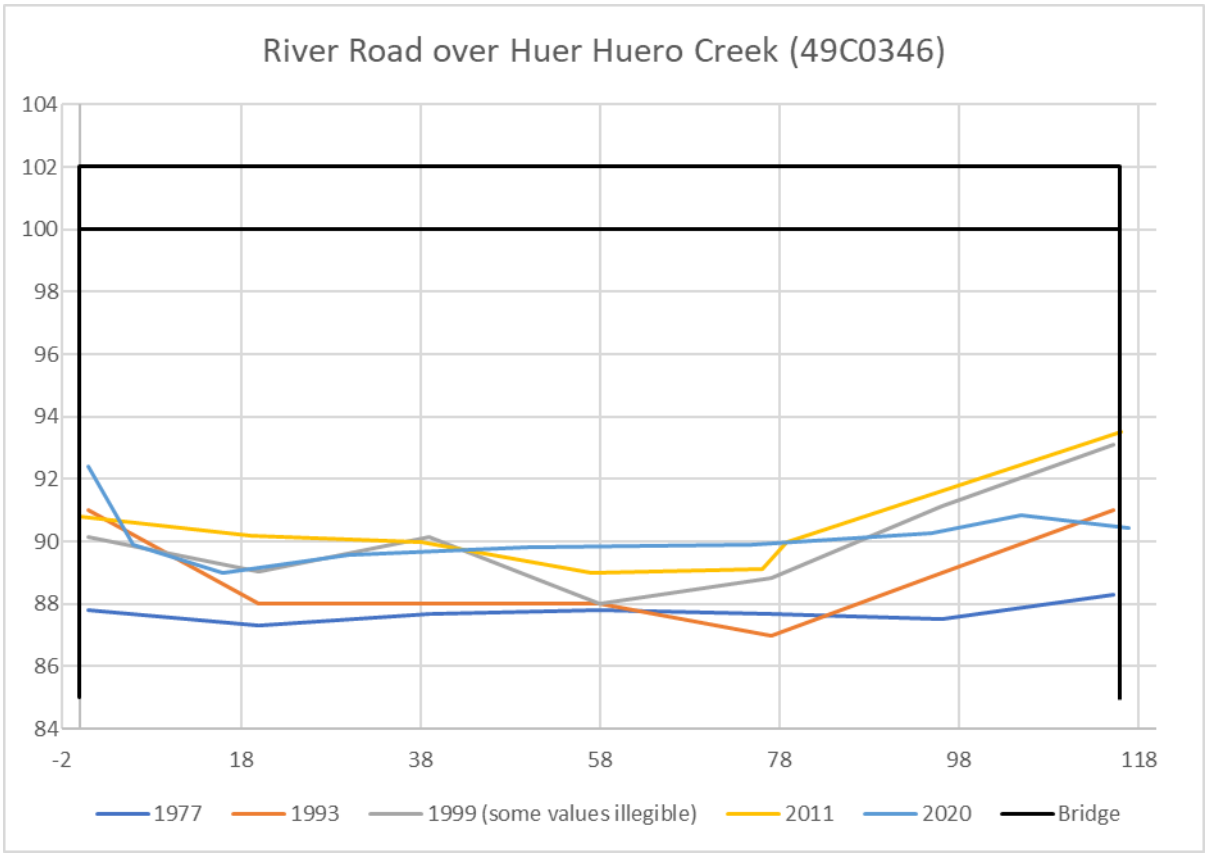


Figure 14. Cross sections taken at the River Road bridge 49C0346 over time (from Caltrans Maintenance Reports)

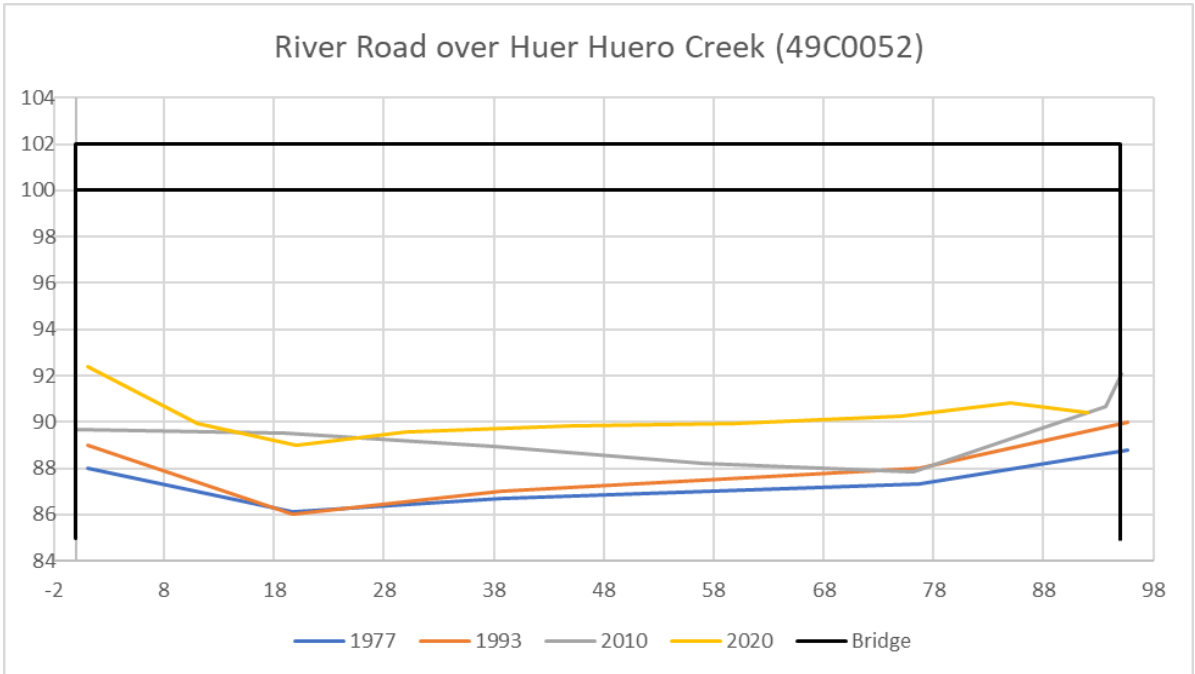


Figure 15. Cross sections taken at the River Road bridge 49C0052 over time (from Caltrans Maintenance Reports)

All scour calculations were completed following the methodology outlined in HEC-18 (Arneson, 2012).

Contraction Scour

The proposed bridge does not constrict the channel and contraction scour is expected to be negligible.

Pier Scour

The proposed bridge is anticipated to have 6.5 ft diameter piers, resulting in an estimated 11 feet of local pier scour. The pier diameter may change in final design and the resulting pier scour depth from pier sizes ranging from 5 to 9 feet is shown in Table 5. This assumes the piers will be round-nosed columns.

Table 5. Pier scour depths for a range of pier sizes.

Pier Diameter	5	6	6.5	7	8	9
Pier Scour Depth (ft)	9	10	11	12	13	14

Abutment Scour

The abutment scour analysis will be provided once the geotechnical investigation is complete.

Total Scour

Total scour values will be provided once the geotechnical investigation is complete.

See Appendix D for detailed scour calculations.

SUMMARY TABLES

The following Hydrologic Summary Table is provided for your use for placement on the Foundation Plan:

Drainage Area: 156.5 Square miles

	Design	Base	Flood of Record
Frequency (Years)	50	100	
Discharge (Cubic feet per second)	11,000	23,700	
Water Surface (Elevation at u/s face of Bridge)	724.1	726.6	
Flood plain data are based upon information available when the plans were prepared and are shown to meet Federal requirements. The accuracy of said information is not warranted by the County and interested or affected parties should make their own investigation.			

The following Scour Data Table is provided for placement on the Foundation Plan, assuming a thalweg elevation of 117 ft:

Support No.	Long Term (Degradation and Contraction) Scour Elevation (ft)	Short Term (Local) Scour Depth (ft)
A1	117	TBD*
P2	117	TBD*
P3	117	TBD*
A4	117	TBD*

*To be provided once the geotechnical investigation is complete.

The Floodplain Evaluation Report as outlined in 23 CFR 650 Subpart A, Section 650.111(b)(c)(d) is included in Appendices F and G.

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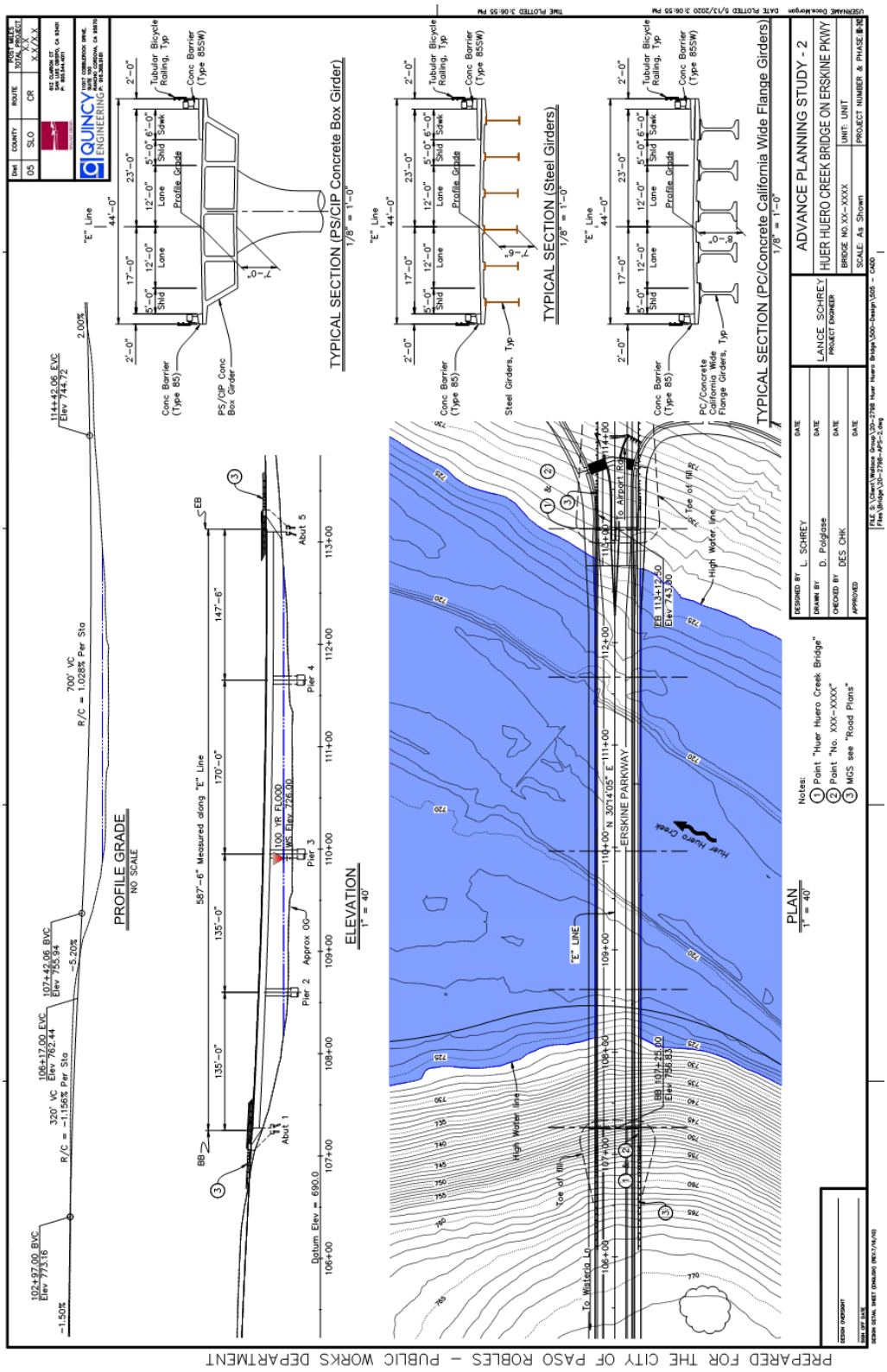
North Coast Engineering, Inc. 2020. "Flood Study HuerHuero Creek Bridge, Roundabout, and Trail Project DOW Project No. 19-05." April.

<<Geotech to be completed>>

Lagasse, P.F. Clopper, P.E., Pagan-Ortiz, J.E., Zeverbergen, L.W., Arneson, L.A., Schall, J.D., Girard, L. G. 2009. "Bridge Scour and Stream Instability Countermeasures. Volumes 1 and 2. Third Edition." Hydraulic Engineering Circular No. 23. Federal Highway Administration Publication No. FHWA-NHI-09-112, Washington, D.C. September.

APPENDICES

APPENDIX A – GENERAL PLAN



APPENDIX B – HEC-RAS OUTPUT

(To be provided in final report)

Existing Conditions

Proposed Conditions

APPENDIX C – OVERTOPPING

(To be provided in final report)

APPENDIX D – SCOUR ESTIMATES

(To be provided in final report)

APPENDIX E – ROCK SLOPE PROTECTION ESTIMATES

(To be provided in final report)

Table 4.1. Minimum and Maximum Allowable Particle Size in Inches.

Nominal Riprap Class by Median Particle Diameter		d_{15}		d_{50}		d_{85}		d_{100}
Class	Size	Min	Max	Min	Max	Min	Max	Max
I	6 in	3.7	5.2	5.7	6.9	7.8	9.2	12.0
II	9 in	5.5	7.8	8.5	10.5	11.5	14.0	18.0
III	12 in	7.3	10.5	11.5	14.0	15.5	18.5	24.0
IV	15 in	9.2	13.0	14.5	17.5	19.5	23.0	30.0
V	18 in	11.0	15.5	17.0	20.5	23.5	27.5	36.0
VI	21 in	13.0	18.5	20.0	24.0	27.5	32.5	42.0
VII	24 in	14.5	21.0	23.0	27.5	31.0	37.0	48.0
VIII	30 in	18.5	26.0	28.5	34.5	39.0	46.0	60.0
IX	36 in	22.0	31.5	34.0	41.5	47.0	55.5	72.0
X	42 in	25.5	36.5	40.0	48.5	54.5	64.5	84.0

Note: Particle size d corresponds to the intermediate ("B") axis of the particle.

Table 4.2. Minimum and Maximum Allowable Particle Weight in Pounds.

Nominal Riprap Class by Median Particle Weight		W_{15}		W_{50}		W_{85}		W_{100}
Class	Weight	Min	Max	Min	Max	Min	Max	Max
I	20 lb	4	12	15	27	39	64	140
II	60 lb	13	39	51	90	130	220	470
III	150 lb	32	93	120	210	310	510	1100
IV	300 lb	62	180	240	420	600	1,000	2,200
V	1/4 ton	110	310	410	720	1,050	1,750	3,800
VI	3/8 ton	170	500	650	1,150	1,650	2,800	6,000
VII	1/2 ton	260	740	950	1,700	2,500	4,100	9,000
VIII	1 ton	500	1,450	1,900	3,300	4,800	8,000	1,7600
IX	2 ton	860	2,500	3,300	5,800	8,300	13,900	30,400
X	3 ton	1,350	4,000	5,200	9,200	13,200	22,000	48,200

Note: Weight limits for each class are estimated from particle size by: $W = 0.85(\gamma_s d^3)$ where d corresponds to the intermediate ("B") axis of the particle, and particle specific gravity is taken as 2.65.

APPENDIX F – LOCATION HYDRAULIC STUDY FORM

(To be provided in final report)

APPENDIX G – SUMMARY FLOODPLAIN ENCROACHMENT REPORT

(To be provided in final report)

APPENDIX E. AVILA AND ASSOCIATES HYDRAULIC ANALYSIS TECHNICAL MEMORANDUM, 4/13/2021

Technical Memorandum



To: Jorge Agular, PE, Wallace Group

From: Holly Callahan, EIT, Assistant Engineer, Avila and Associates
Cathy Avila, PE, Principal, Avila and Associates

Date: April 13, 2021

RE: Hydraulic Analysis for the Huer Huero Creek Trail and Boardwalks in Paso Robles, CA

The purpose of this Technical Memorandum is to summarize the hydraulic results of the proposed Huer Huero Creek Trail and two boardwalk crossings. Two alternatives for the boardwalk, a Low Boardwalk and a High Boardwalk, were analyzed including and excluding the proposed New Airport Road Bridge on Huer Huero Creek. The results of this analysis indicate the Low Boardwalk option will increase the average water surface elevation up to 0.2 feet with and without the proposed bridge and the High Boardwalk option will increase the average water surface elevation up to 1.7 feet with and without the proposed bridge.

Background

The City of Paso Robles is proposing to build a trail along Huer Huero Creek with two boardwalks crossing the creek. The project is located in the northern region of the City of Paso Robles as shown in Figure 1. The proposed trail will extend along Huer Huero Creek and beneath Highway 46 as shown in Figure 2. In addition to the trail and boardwalks, the City of Paso Robles is proposing a new bridge along Airport Way over Huer Huero Creek. A 2D U.S. Army Corps of Engineers HEC-RAS (Hydraulic Engineering Center River Analysis System) version 5.0.7 model was created to model the reach. The details of the bridge modeling are provided in the Preliminary Hydraulic Report for the bridge (Avila & Associates 2020).

The grading for the trail, provided by Wallace Group on November 4, 2020, was incorporated into the hydraulic model and two boardwalk alternatives were added to determine a range of potential hydraulic impacts resulting from the addition of the trail and boardwalks. The first boardwalk alternative is the Low Boardwalk which includes an approximately 2 to 3 ft high boardwalk that spans only the existing low-flow channel, approximately 180 feet long. The second alternative is the High Boardwalk which includes a 3-ft high boardwalk extending the length of the proposed trail grading across the channel, approximately 430 feet long.

A version of the hydraulic model was run for the following scenarios:

1. Existing conditions
2. Proposed trail grading with the Low Boardwalk
3. Proposed trail grading with the Low Boardwalk and the proposed New Airport Road Bridge
4. Proposed trail grading with the High Boardwalk
5. Proposed trail grading with the High Boardwalk and the proposed New Airport Road Bridge

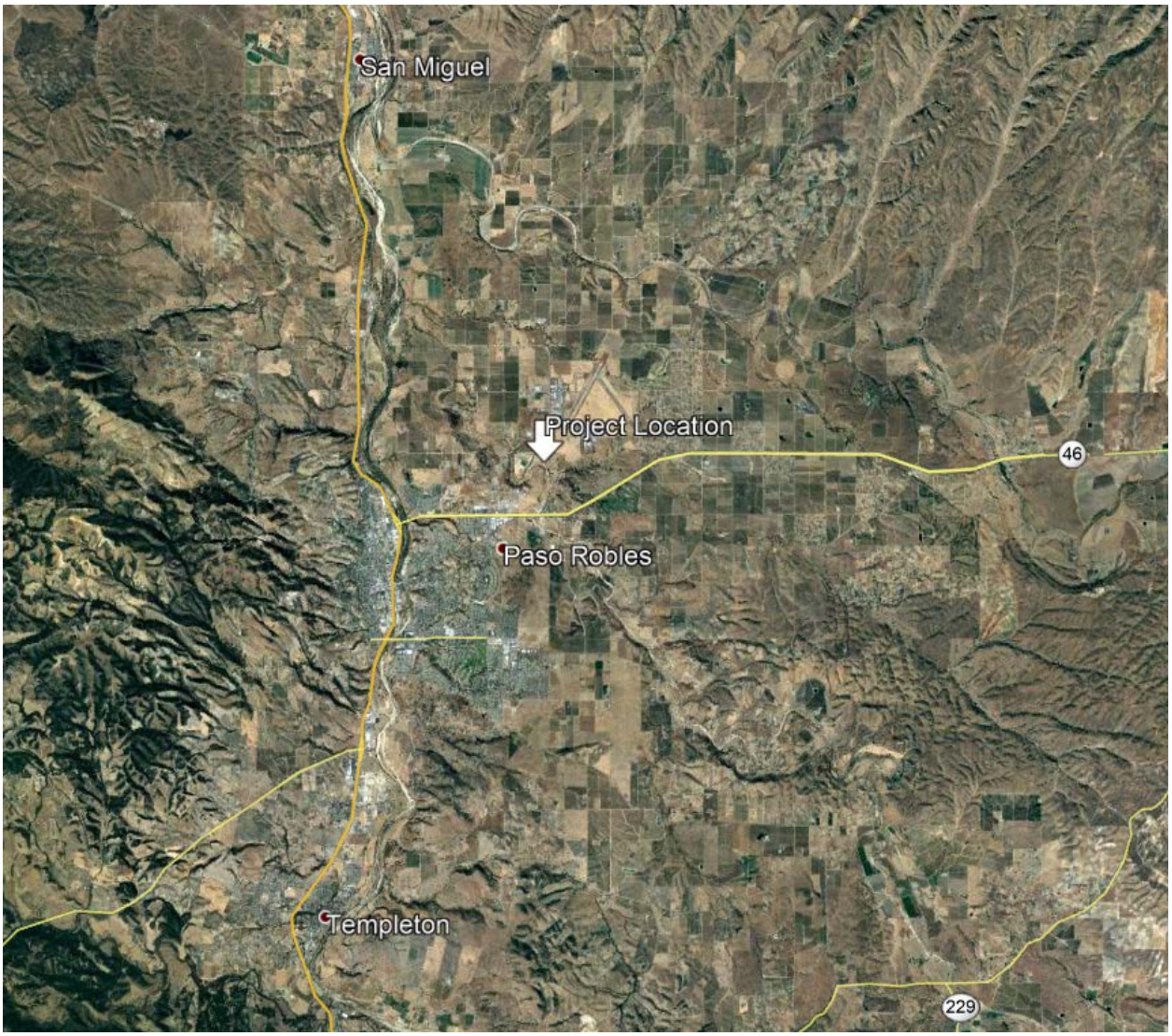


Figure 1. Bridge location map



Figure 2. Proposed trail outline (black) along Huer Huero Creek.

Hydrology

The watershed draining to the bridge is 156.5 square miles as shown in Figure 3. The average annual rainfall for the watershed is approximately 22.3 inches per year[1]. Huer Huero Creek carries flow northerly to the bridge site.

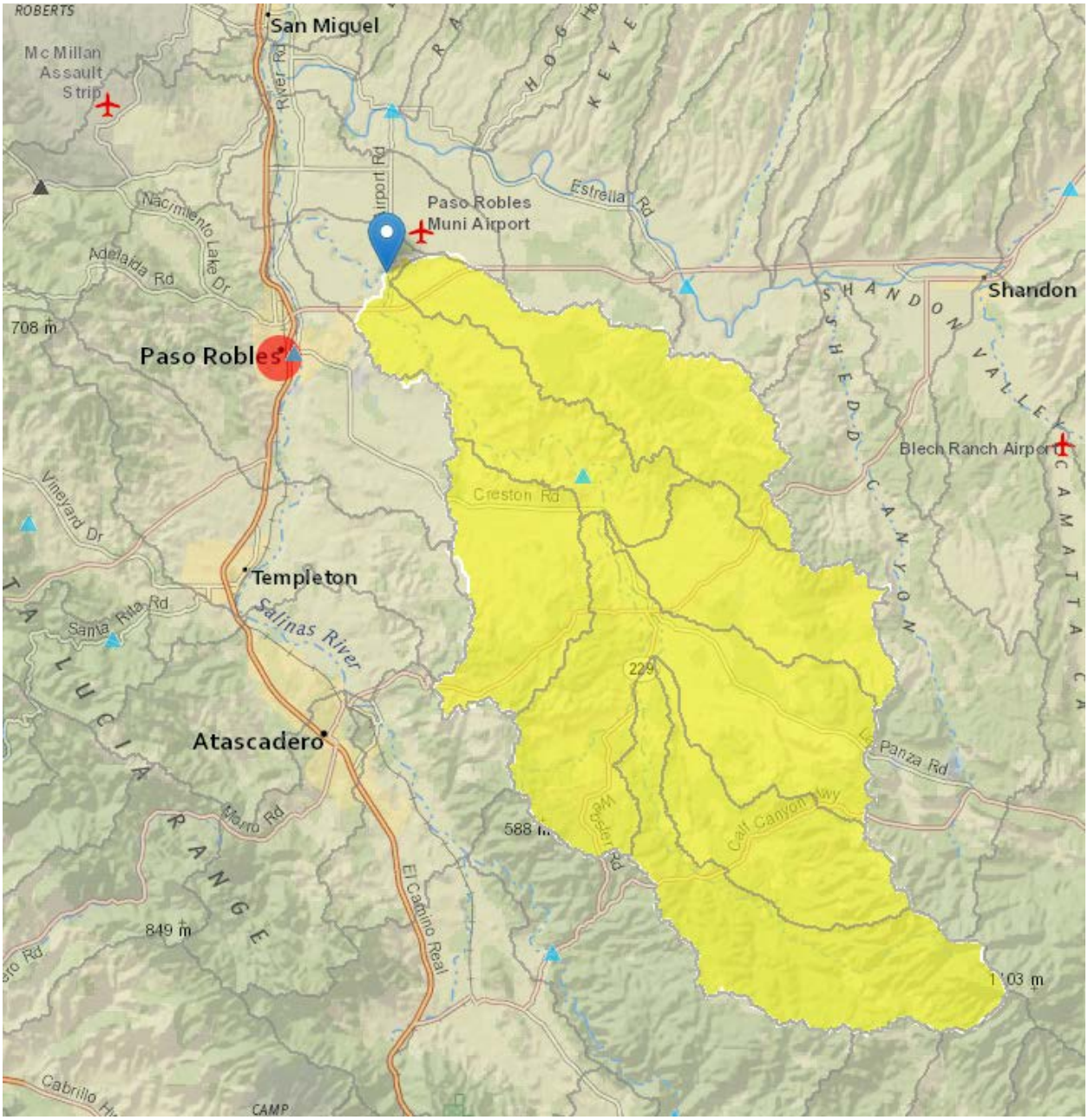


Figure 3. Basin contributing to the bridge (USGS streamstats)

[1] www.streamstatsags.cr.usgs.gov (U.S.G.S.)

Dry Creek is a tributary to Huer Huero Creek with the confluence approximately 1,500 feet upstream of the project. Peak flow discharges and hydrographs for both Huer Huero Creek and Dry Creek were provided by North Coast Engineering, Inc (NCE) for use in the HEC-RAS model. NCE used a HEC-HMS model to determine these discharges and calibrated them to the 100-year discharge determined in a FEMA Flood Insurance Study (FIS) (NCE, 2020). The combined peak discharges used in the hydraulic analysis are provided Table 1.

Table 1. Discharges used for design

Frequency (Years)	10	100
Discharge (cfs)	11,000	23,700

Hydraulic Analysis

Hydraulic parameters (water surface elevations and velocity) were obtained from the U.S. Army Corps of Engineers HEC-RAS (Hydraulic Engineering Center River Analysis System) version 5.0.7 model. Parameters used for the 2D analysis include:

- 0.3 second time interval
- Full momentum equation set

Topographic Data

Digital Elevation Models (DEM) were created from surfaces of the topographic surveys provided by Wallace Group using Autocad Civil 3D for each of the conditions and used to build terrains in HEC-RAS. The topography was altered at the location of the Highway 46 bridge and the Airport Way bridge over Dry Creek to remove the bridge decks from the topography and add the Highway 46 bridge piers.

Vertical Datum and Horizontal Projection

The horizontal datum for the project is NAD 1983 State Plane California V in feet. The vertical datum for the project, is NAVD88[2] in feet.

2D Model Mesh

The 2D model mesh area is shown in Figure 5. A mesh grid size of 40 ft by 40 ft was used with additional mesh refinement near the proposed bridge and the Highway 46 bridge.

Manning's Roughness (n-value)

A base Manning's Roughness (n-value) of 0.04 was used for the model area. The n-values were then refined within the channel based on land type as shown in Figure 4. These values are consistent with n-values for floodplains with pastures, trees, and brush (Chow, 1959).

[2] As shown in the Basis of Bearings provided by North Coast Engineering, Inc. for the project survey.

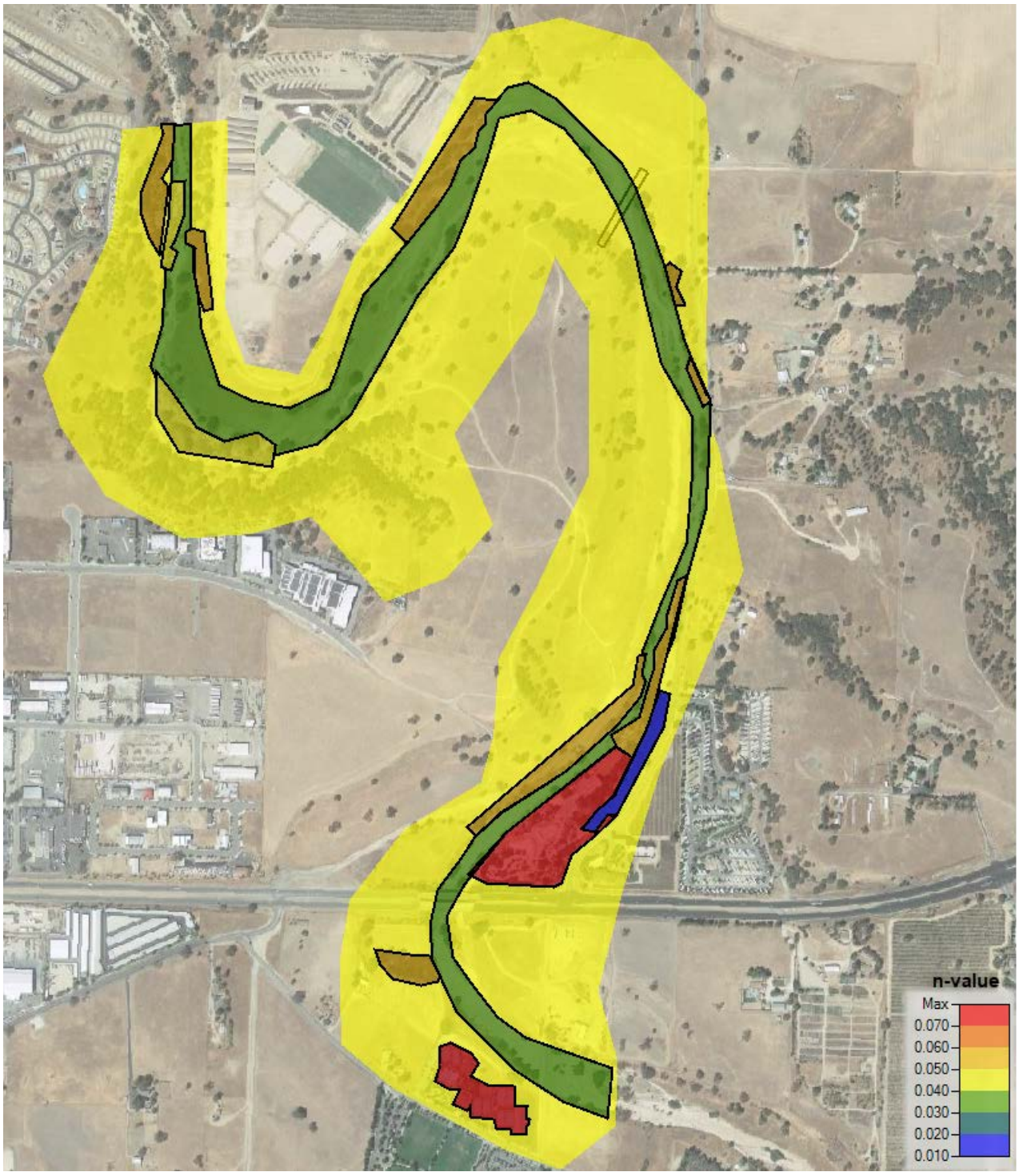


Figure **4. Manning's n-value regions used in the model.**

Boundary Conditions

Normal depth was used for the downstream boundary condition along the 2D model area. The separate hydrographs for Huer Huero Creek and Dry Creek provided by NCE were used as the inflow boundary conditions. The locations of the boundary conditions are shown in Figure 5.

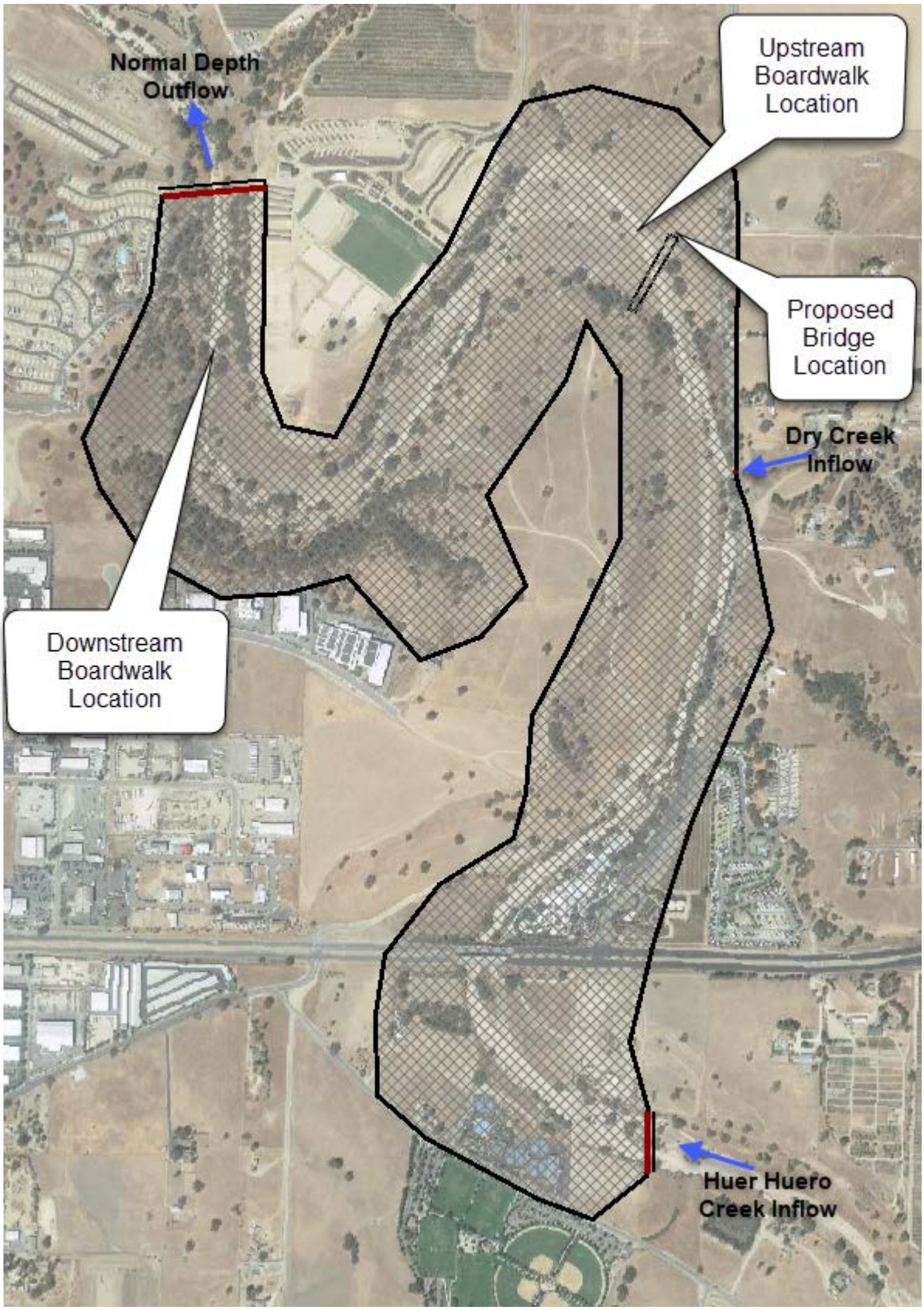


Figure 5. 2D model mesh and boundary conditions.

Proposed Trail Models

The HEC-RAS model was re-run for the proposed trail alternatives. For the Low Boardwallk alternative, the only change to the model was that the addition of the proposed trail and boardwalks to the model terrain as shown for the upstream boardwalk in in Figure 6 and the downstream boardwalk in Figure 7.

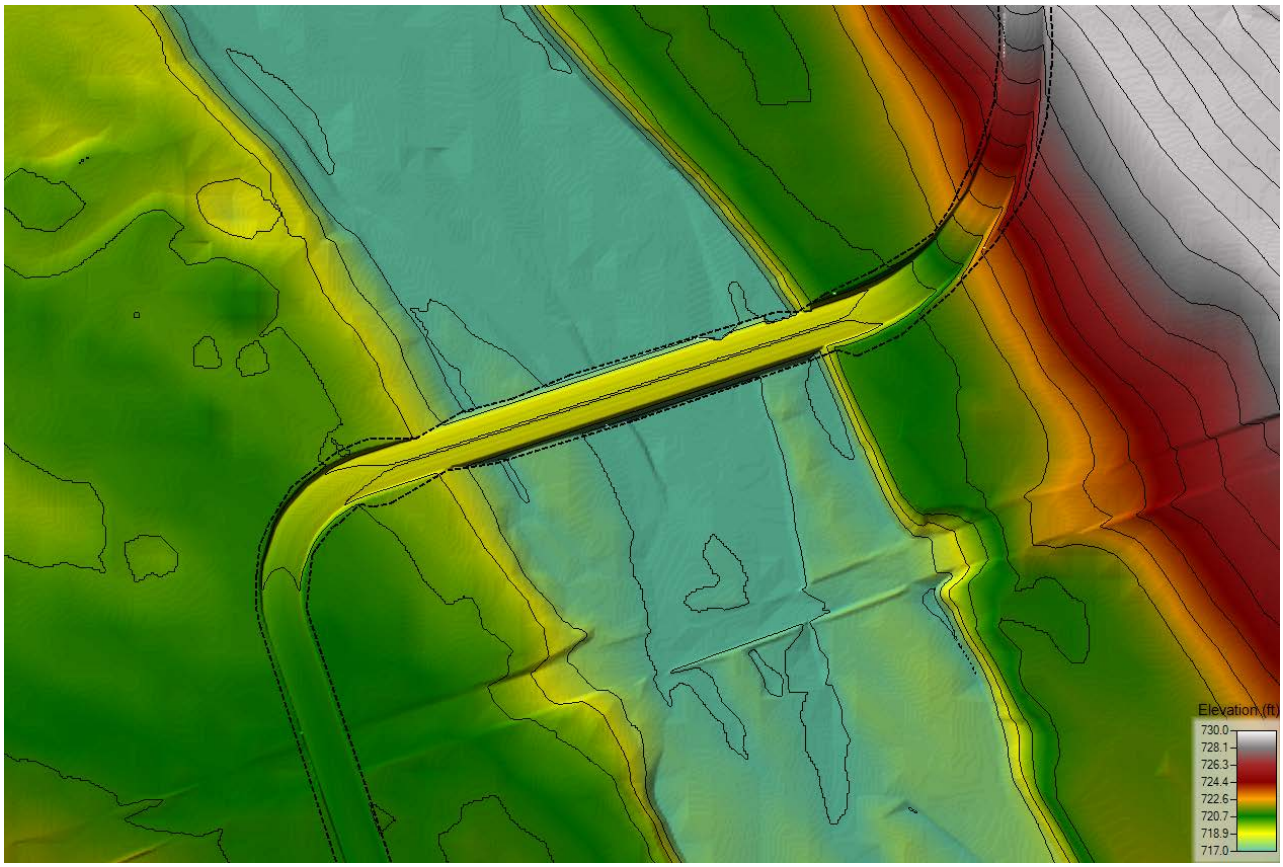


Figure 6. Proposed upstream trail and "low" boardwalk in model terrain

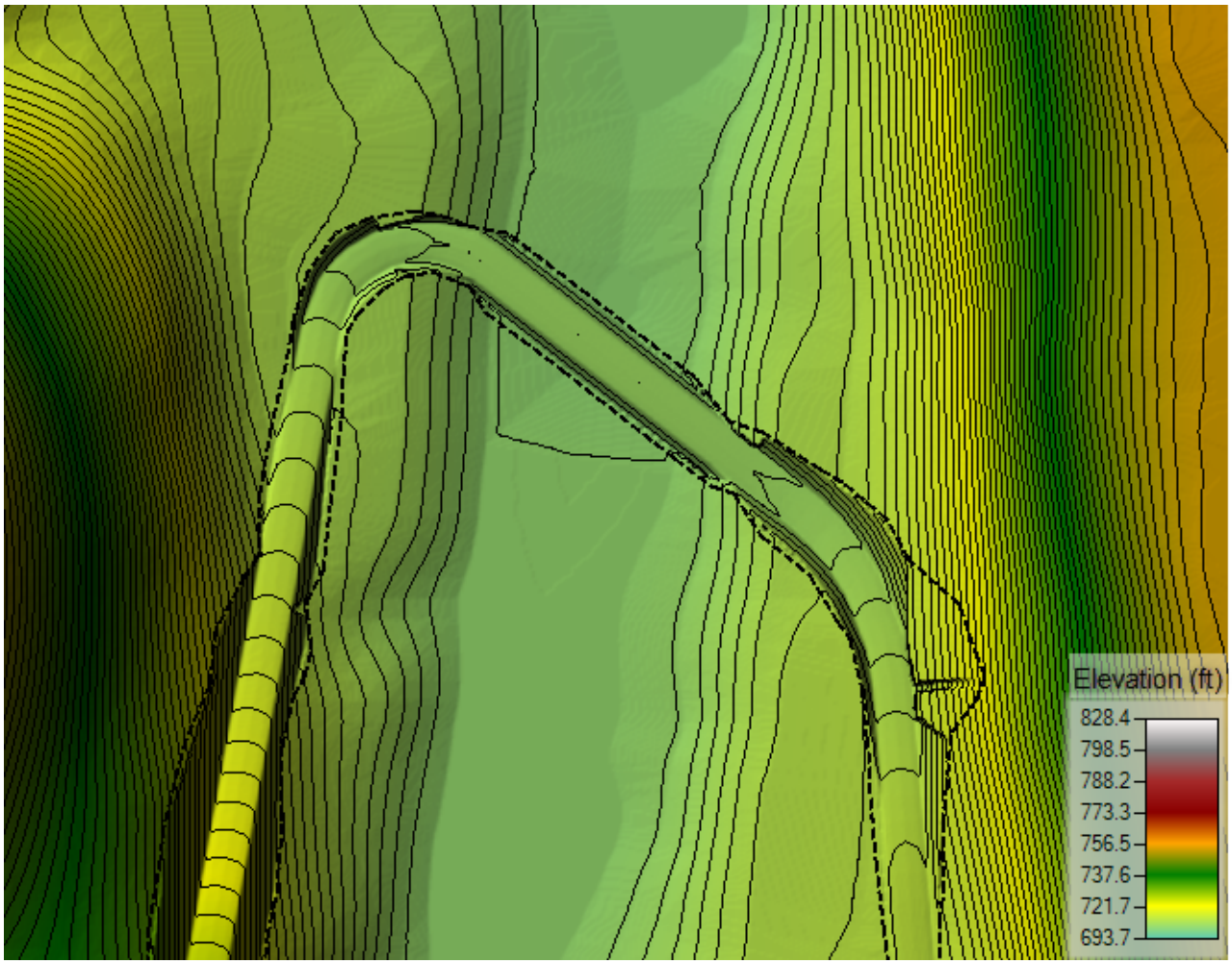


Figure 7. Proposed downstream trail and "low" boardwalk in model terrain

In addition to adding the trail grading to the model terrain, for the High Boardwalk alternative, the boardwalk at the two crossing locations was modeled as an internal weir. As shown in Figure 8 for the upstream boardwalk and Figure 9 for the downstream boardwalk, the weir extended across the channel grading and was set to be 15 feet in width. The elevation of the weir was set to be 3 feet above the existing low flow channel elevation and 3 feet above the proposed grading in the approach sections.

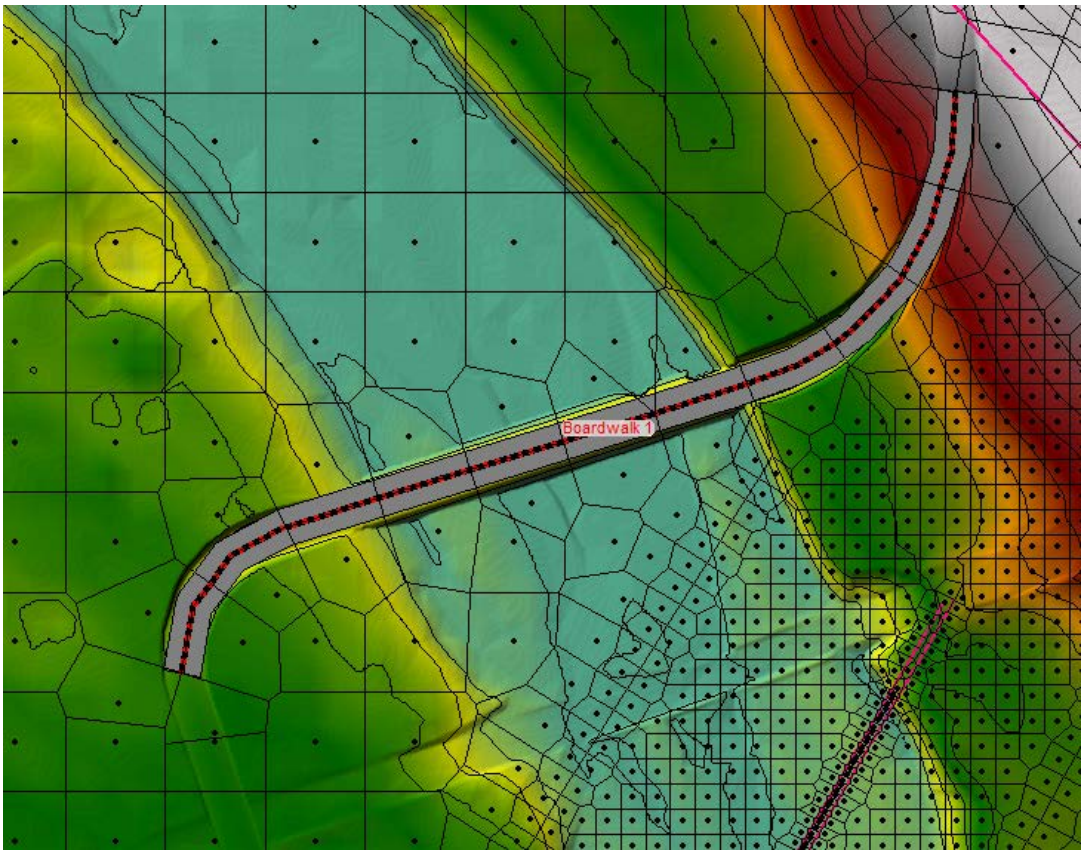


Figure 8. Proposed upstream trail and "high" boardwalk in model terrain

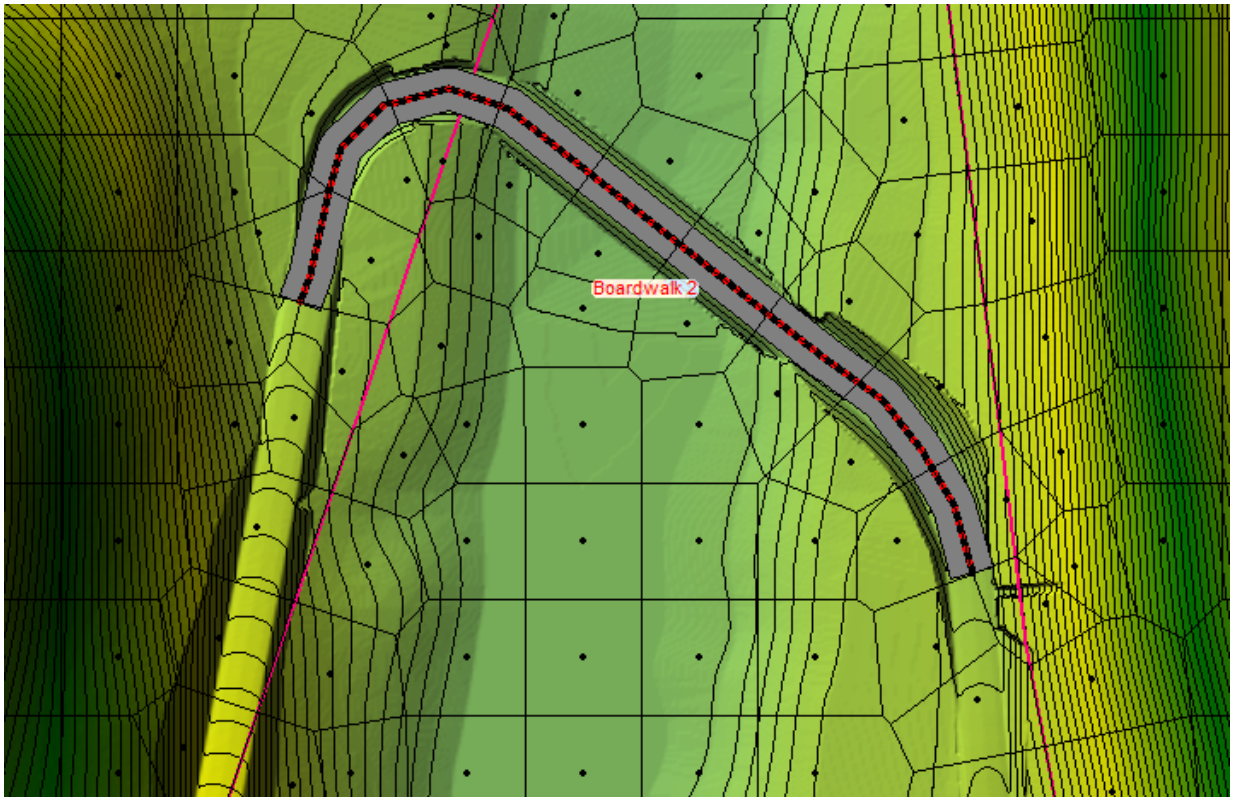


Figure 9. Proposed downstream trail and "high" boardwalk in model terrain

Hydraulic Results

2D modeling provides water surface elevation results at each cell face within the mesh. To compare the impact of the proposed trail and boardwalk alternatives on a larger scale, profile lines were drawn throughout the reach as shown in Figure 10 and the water surface elevation results were averaged across each of these lines. The resulting water surface elevation profiles are provided in Figure 11 for the 10-year and Figure 12 for the 100-year. A comparison of the average water surface elevations between existing and proposed conditions is provided in Table 2 for the 10-year and Table 3 for the 100-year. With and without the proposed New Airport Road Bridge, the Low Boardwalk option results in an average water surface elevation increase of up to 0.2 feet for both the 10-year and 100-year event and the High Boardwalk option results in an average water surface elevation increase of up to 1.7 feet for the 10-year and 100-year water surface elevation.

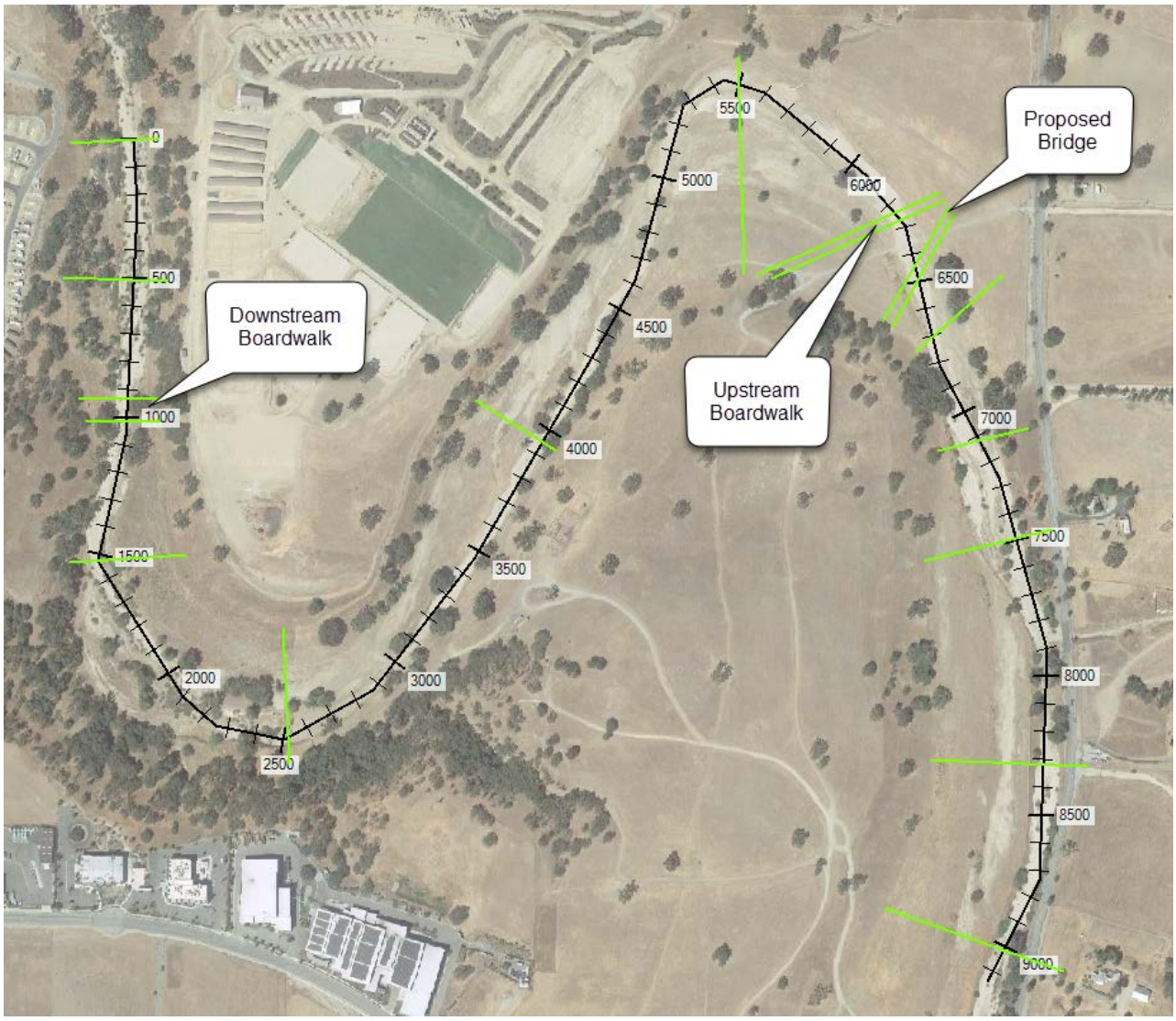


Figure 10. Profile line locations along Huer Huero Creek

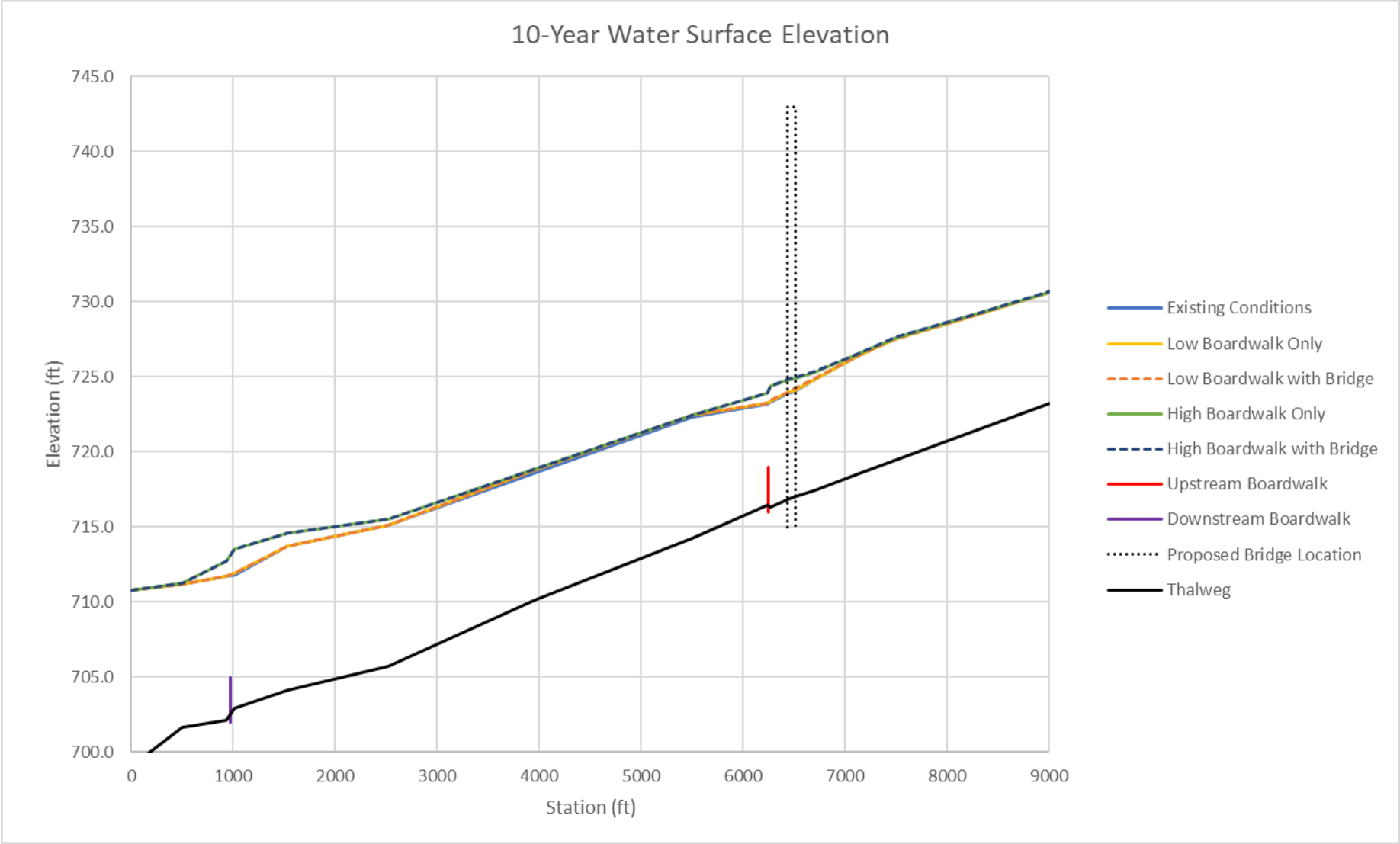


Figure 11. 10-yr water surface elevation comparison existing vs. proposed alternatives

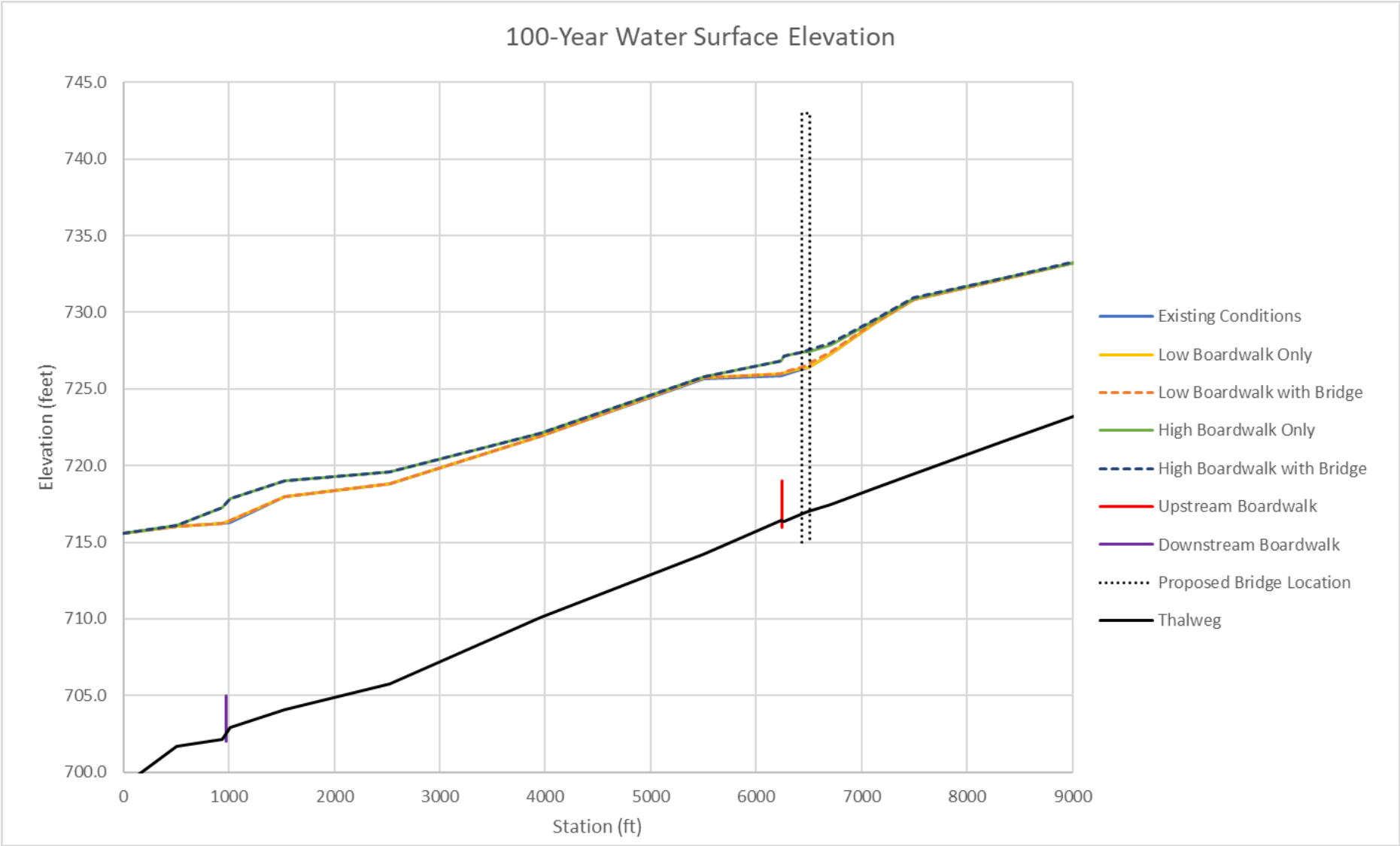


Figure 12. 100-yr water surface elevation comparison existing vs. proposed alternatives

Table 2. Average water surface elevation for the existing and proposed alternatives for the 10-year discharge

Station	Existing Conditions	Low Boardwalk Only	**Difference from Existing (ft)**	Low Boardwalk with Bridge	**Difference from Existing (ft)**	High Boardwalk Only	**Difference from Existing (ft)**	High Boardwalk with Bridge	**Difference from Existing (ft)**
1	710.8	710.8	**0.0**	710.8	**0.0**	710.8	**0.0**	710.8	**0.0**
506	711.2	711.2	**0.0**	711.2	**0.0**	711.2	**0.0**	711.2	**0.0**
DS Downstream Boardwalk	711.7	711.7	**0.0**	711.7	**0.0**	712.7	**1.0**	712.7	**1.0**
US Downstream Boardwalk	711.8	711.9	**0.1**	711.9	**0.1**	713.5	**1.7**	713.5	**1.7**
1529	713.7	713.7	**0.0**	713.7	**0.0**	714.6	**0.8**	714.6	**0.8**
2523	715.1	715.1	**0.0**	715.1	**0.0**	715.5	**0.3**	715.5	**0.3**
3952	718.6	718.8	**0.2**	718.8	**0.2**	718.8	**0.2**	718.8	**0.2**
5500	722.4	722.4	**0.1**	722.4	**0.1**	722.5	**0.1**	722.5	**0.1**
DS Upstream Boardwalk	723.2	723.3	**0.0**	723.3	**0.0**	723.9	**0.7**	723.9	**0.7**
US Upstream Boardwalk	723.3	723.4	**0.1**	723.4	**0.1**	724.4	**1.1**	724.4	**1.1**
DS Proposed Bridge	723.9	724.0	**0.0**	724.0	**0.1**	724.8	**0.9**	724.8	**0.9**
US Proposed Bridge	724.0	724.1	**0.0**	724.2	**0.1**	724.8	**0.8**	724.9	**0.9**
6705	724.9	724.9	**0.0**	724.9	**0.0**	725.3	**0.4**	725.4	**0.5**
7115	726.4	726.4	**0.0**	726.4	**0.0**	726.5	**0.1**	726.5	**0.2**
7492	727.6	727.5	**0.0**	727.5	**0.0**	727.6	**0.1**	727.6	**0.1**
8319	729.2	729.2	**0.0**	729.2	**0.0**	729.2	**0.0**	729.2	**0.0**
9013	730.7	730.7	**0.0**	730.7	**0.0**	730.7	**0.0**	730.7	**0.0**

Table 3. Average water surface elevation for the existing and proposed alternatives for the 100-year discharge.

Station	Existing Conditions	Low Boardwalk Only	**Difference from Existing (ft)**	Low Boardwalk with Bridge	**Difference from Existing (ft)**	High Boardwalk Only	**Difference from Existing (ft)**	High Boardwalk with Bridge	**Difference from Existing (ft)**
1	715.6	715.6	**0.0**	715.6	**0.0**	715.6	**0.0**	715.6	**0.0**
506	716.0	716.0	**0.0**	716.0	**0.0**	716.1	**0.1**	716.1	**0.1**
DS Downstream Boardwalk	716.2	716.2	**0.0**	716.2	**0.0**	717.3	**1.0**	717.3	**1.0**
US Downstream Boardwalk	716.3	716.4	**0.1**	716.4	**0.1**	717.8	**1.6**	717.8	**1.6**
1529	718.0	718.0	**0.0**	718.0	**0.0**	719.0	**1.0**	719.0	**1.0**
2523	718.8	718.8	**0.0**	718.8	**0.0**	719.6	**0.8**	719.6	**0.8**
3952	721.9	721.9	**0.0**	721.9	**0.0**	722.1	**0.2**	722.1	**0.2**
5500	725.7	725.7	**0.1**	725.7	**0.1**	725.8	**0.1**	725.8	**0.1**
DS Upstream Boardwalk	725.9	726.0	**0.1**	726.0	**0.1**	726.8	**1.0**	726.8	**0.9**
US Upstream Boardwalk	725.9	726.1	**0.1**	726.1	**0.2**	727.2	**1.2**	727.1	**1.2**
DS Proposed Bridge	726.3	726.3	**0.1**	726.4	**0.1**	727.4	**1.1**	727.4	**1.1**
US Proposed Bridge	726.4	726.4	**0.0**	726.6	**0.2**	727.4	**1.0**	727.5	**1.2**
6705	727.3	727.3	**0.0**	727.4	**0.1**	727.9	**0.6**	728.0	**0.7**
7115	729.2	729.2	**0.0**	729.3	**0.0**	729.4	**0.2**	729.5	**0.2**
7492	730.8	730.8	**0.0**	730.8	**0.0**	730.9	**0.1**	730.9	**0.1**
8319	732.1	732.1	**0.0**	732.1	**0.0**	732.2	**0.0**	732.2	**0.1**
9013	733.2	733.2	**0.0**	733.2	**0.0**	733.3	**0.0**	733.3	**0.0**

Channel Bed Changes

Avila and Associates reviewed the available channel cross-sections for the two bridges downstream on River Road and the upstream Highway 46 bridge to compare the oldest recorded condition with the most recent cross sections taken from the topo information (Highway 46) and cross sections completed during the July 2020 filed review at the River Road Bridges. As shown in Figure 13, the channel has not changed appreciably at the Highway 46 bridge between 1992 and 2020. At the River Road bridges, shown in Figure 14 and Figure 15 the channel has shown a pattern of aggradation since 1977. Notably, the bridge inspection records state the channel was graded below bridge 49C0052 in 1988 (2 to 3 feet) indicating aggradation may be a recurring issue for these bridges. Since the channel has remained constant in the last 28 years upstream of the project and has aggraded downstream of the project, future degradation is expected to be minimal. However, aggradation of the channel may cause issues for the proposed boardwalk crossings.

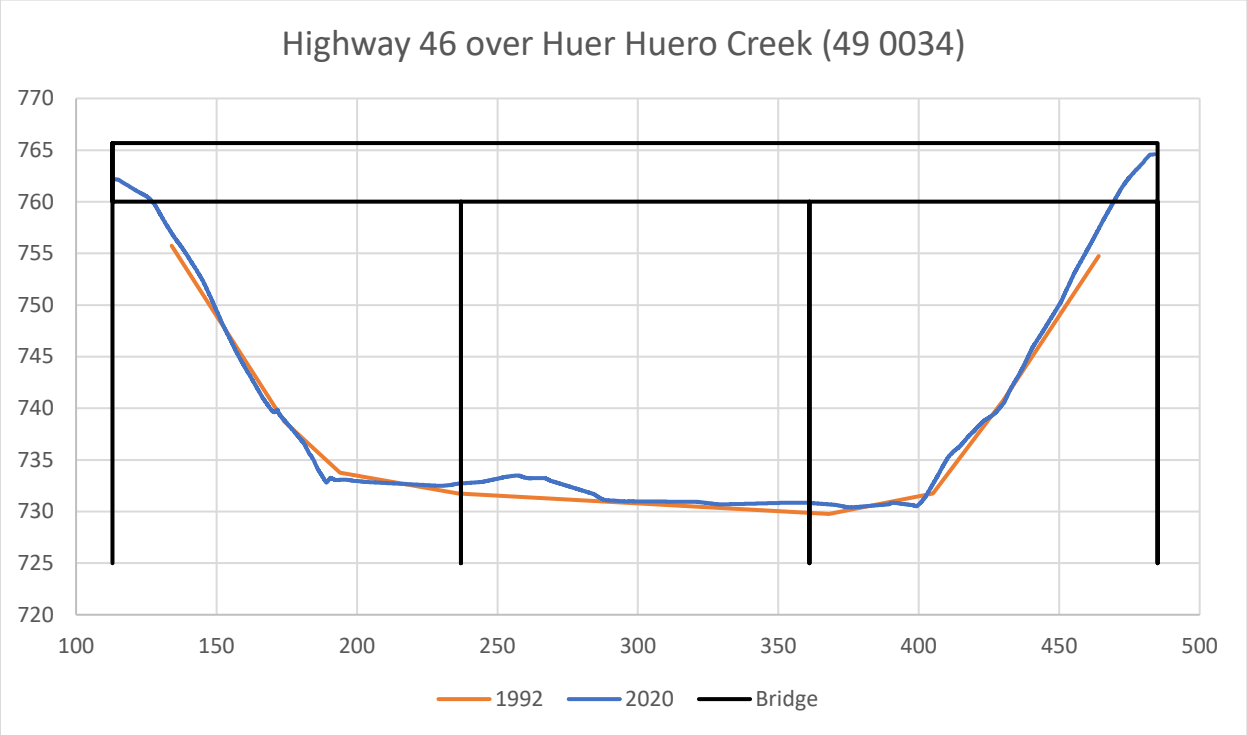


Figure 13. Cross sections taken at the Highway 46 bridge over time (from Caltrans Maintenance Reports)

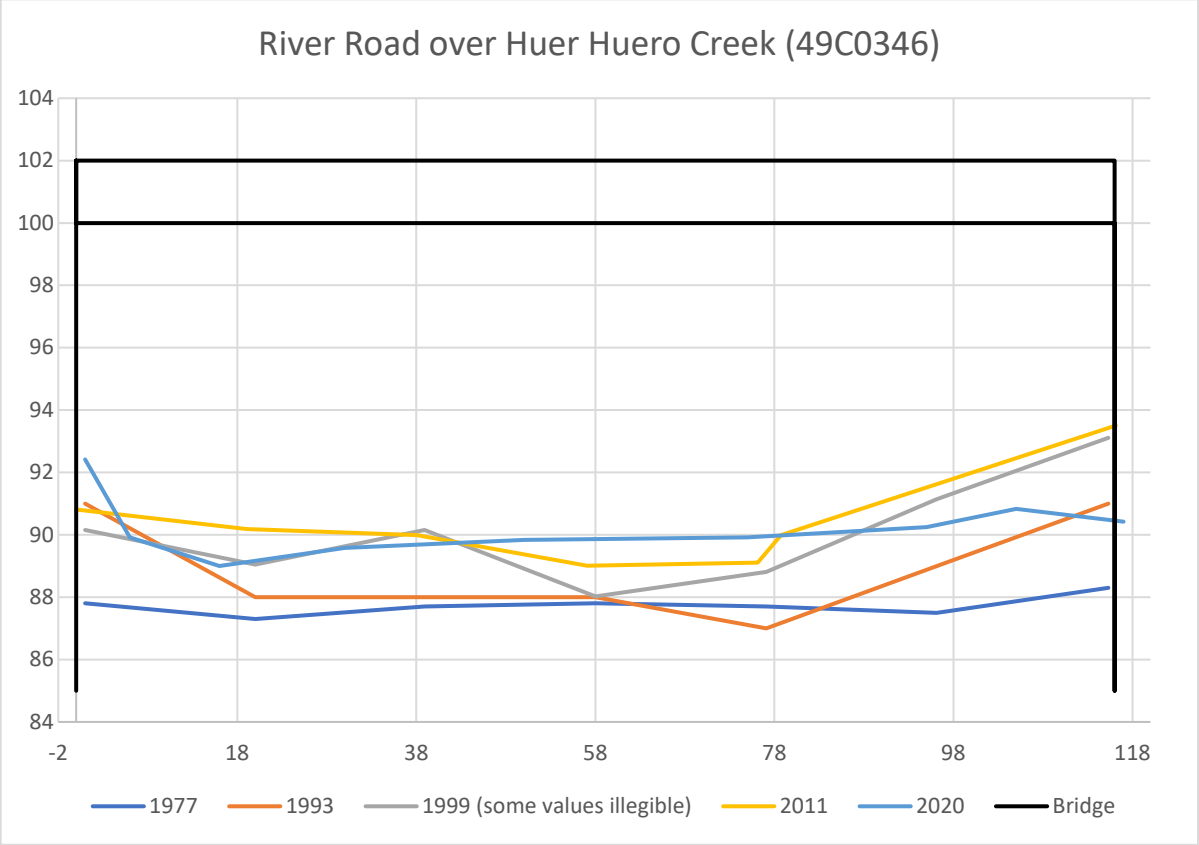


Figure 14. Cross sections taken at the River Road bridge 49C0346 over time (from Caltrans Maintenance Reports)

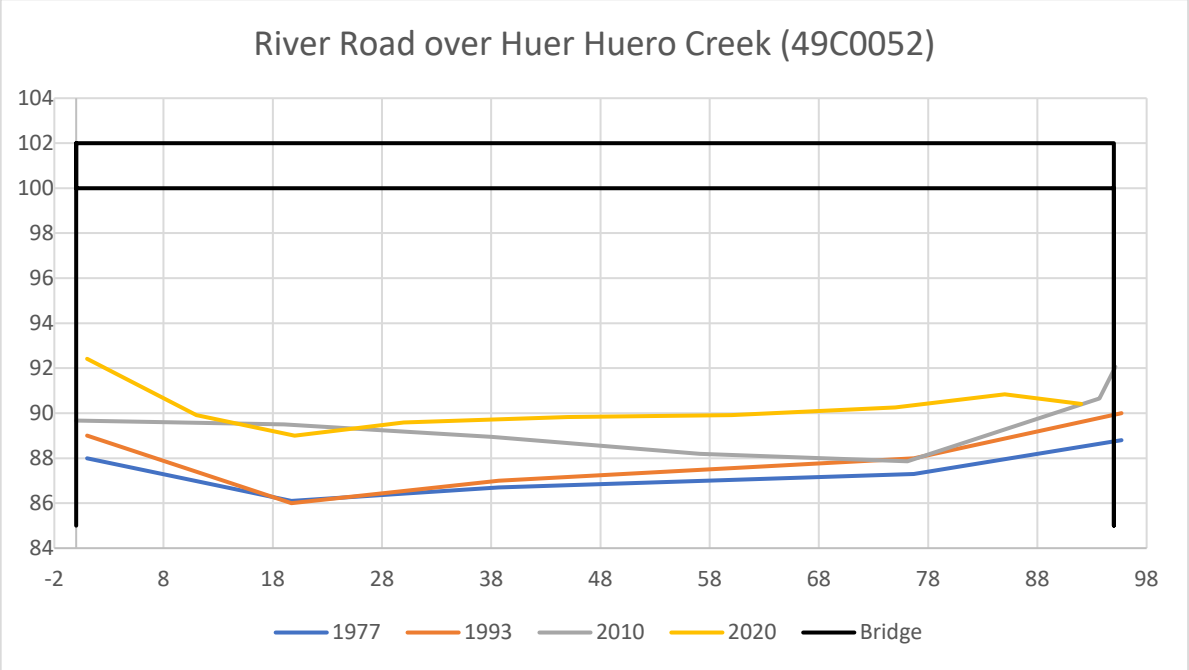


Figure 15. Cross sections taken at the River Road bridge 49C0052 over time (from Caltrans Maintenance Reports)

Conclusions

Two alternatives for the boardwalk, a Low Boardwalk and a High Boardwalk, were analyzed including and excluding the proposed new Airport Road Bridge on Huer Huero Creek. The results of this analysis indicate the Low Boardwalk option will increase the average water surface elevation up to 0.2 feet with and without the proposed bridge and the High Boardwalk option will increase the average water surface elevation up to 1.7 feet with and without the proposed bridge.

While both of the Boardwalk alternatives increase the water surface elevation, the increases do not impact any insurable structures, nor are they expected to have an adverse impact on the floodplain. The hydraulic modeling should be updated with the preferred alternative once it has been chosen and the boardwalk design should incorporate the potential for channel aggradation within the channel and scour at the boardwalk approaches.

References

Avila & Associates Consulting Engineers, Inc. 2020. “Preliminary Hydraulic Report Airport Way Bridge at Huer Huero Creek, Paso Robles, CA.” November.

APPENDIX F. ALTHOUSE AND MEADE BIOLOGICAL REPORT NOVEMBER 2021

Biological Resources Report

for

Huer Huero Bridge and Roundabout

Department of Public Works (DPW 19-05)
City of Paso Robles



Prepared for

City of Paso Robles
Department of Public Works
c/o Ditas Esperanza
1000 Spring Street
Paso Robles, CA 93446

by

ALTHOUSE AND MEADE, INC.
BIOLOGICAL AND ENVIRONMENTAL SERVICES
1602 Spring Street
Paso Robles, CA 93446
(805) 237-9626

November 2021

1235.04

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Cover Page: View from west bank of Huer Huero Creek. March 18, 2020.

SYNOPSIS

- This report describes the study of biological resources at a 169.1-acre Study Area located in the City of Paso Robles, California (Study Area).
- The proposed project (Project) is comprised of 3 components: new Airport Road extension and bridge over Huer Huero Creek, Airport Road realignment and roundabout intersection, and a Class I trail.
- Habitat types identified and mapped within the Study Area are riparian (34.3 acres), oak woodland (24.5 acres), oak savanna (40.9 acres), annual grassland (40.7 acres), upland forbs (4.3 acres), yellow-star thistle fields (6.6 acres), ruderal (5.2 acres), and anthropogenic (12.6 acres).
- Botanical surveys conducted on the 18th of March and June 10, 2020 identified 139 species, subspecies, and varieties of vascular plants in the Study Area. One sensitive species, elegant wild buckwheat (*Eriogonum elegans*) was observed within the Study Area. Shining navarretia (*Navarretia nigelliformis* ssp. *radians)* has a high potential to occur, Lemmon's jewelflower (*Caulanthus lemmonii*) and Davidson's bush-mallow (*Malacothamnus jonesii*) has a moderate potential to occur, and 9 other special status plant species has a low potential to occur within the Study Area.
- Wildlife surveys performed in the Study Area detected 66 animal species: 1 amphibian, 2 reptiles, 56 birds, and 7 mammals. Six sensitive birds were identified onsite: golden eagle (*Aquila chrysaetos*), oak titmouse (*Baeolophus inornatus*), northern harrier (*Circus cyaneus*), loggerhead shrike (*Lanius ludovicianus*), yellow-billed magpie (*Pica nuttalli*), and Lawrence's goldfinch (*Spinus psaltria*). Pallid bat (*Antrozous pallidus*) and Lewis's woodpecker (*Melanerpes lewis*) were determined to have a high potential to occur. Six species have a moderate potential to occur [northern California legless lizard (*Anniella pulchra*), Crotch bumble bee (*Bombus crotchii*), ferruginous hawk (*Buteo regalis*), hoary bat (*Lasiurus cinereus*), coast horned lizard (*Phrynosoma blainvillii*), American badger (*Taxidea taxus*)], and 4 other special status wildlife species have a low potential to occur.
- Sensitive biological resources that could be impacted by the Project include riparian and oak woodland habitat, oak trees, elegant wild buckwheat, and a variety of wildlife species. Mitigation recommendations include avoidance and protection measures for oak trees, nesting birds, and sensitive wildlife species that have potential to occur onsite.
- Impacts to non-wetland waters from two Class I trail crossings will require federal (USACE) and state (RWQCB and CDFW) permit approval and coordination.
- Pursuant to the Bald and Golden Eagle Protection Act (BGEPA), consultation with the U.S. Fish and Wildlife Service will be required.

1 INTRODUCTION

1.1 Purpose

The purpose of this report is to provide results from the study of biological resources on an approximate 169.1-acre site (Study Area) in the City of Paso Robles, California. This report also provides analysis of potential impacts to biological resources from the proposed project (Project). Results include habitat assessment, botanical and wildlife inventory, special status species database search, and literature review. Discussion of special status species that have potential to occur within the Study Area, or be affected by the proposed Project, is also included. The effects of the proposed Project on biological resources are evaluated and mitigation recommendations are outlined.

1.2 Location and Regional Context

Huer Huero Bridge and Roundabout is a 14.5-acre City of Paso Robles (City) capital improvement project (Project) that is located along the Huer Huero Creek corridor. The Study Area includes the Project site and surrounding 50-foot buffer located immediately west of Airport Road, east of Golden Hill Road, south of Dry Creek Road, and north of Union Road. As shown in Figure 1, the center of the Study Area is 120.64277°W, 35.65629 N (WGS84) in the Paso Robles United States Geological Survey (USGS) 7.5-minute topographic quadrangle. The Study Area consists of [portions of] 23 Assessor Parcel Numbers (APNs) listed in Table 1 and depicted on Figure 2. Site elevation is relatively level ranging from 700 to 810 feet above mean sea level.

TABLE 1. ASSESSOR PARCEL NUMBERS FOR THE STUDY AREA

Assessor Parcel Numbers (APN)			
025-431-031	025-431-013	025-421-045	025-433-001
025-431-005	025-431-057	025-421-047	025-371-019
025-431-038	025-431-082	025-421-050	025-371-014
025-431-040	025-431-015	025-431-050	025-371-017
025-431-041	025-431-039	025-431-022	025-371-018
025-431-011	025-431-078	025-433-006	

1.3 Project Description

The City of Paso Robles proposes to construct vehicular and multi-use paths that reduce traffic on Highway 46 near Airport Road. The New Airport Road extension and bridge over Huer Huero Creek will connect business and residences west of the creek with the Paso Robles Airport, businesses, and residences east of the creek. The Project consists of three main components: (1) the New Airport Rd extension and bridge across Huer Huero Creek, (2) realignment of a portion of Airport Road and a new roundabout intersection with New Airport Road, and (3) a Class I trail extending from Union Road in front of Barney Schwartz Park to the Cava Robles RV Resort. A Site Plan is provided in Appendix A, for reference.

1.3.1 New Airport Road Extension and Bridge over Huer Huero Creek

This project proposes to extend New Airport Road from the planned industrial park terminus, bridge over Huer Huero Creek, and connect with Airport Road northeast of the creek. The extension will include construction of an approximately 575-foot-long by 44-foot-wide prestressed cast-in-place (PS/CIP) concrete box girder bridge over Huer Huero Creek. The cross-section of New Airport Road on the bridge will be two 12-foot vehicular travel lanes, two 5-foot bike lanes, one 6-foot sidewalk (on the east side), and two 2-foot bridge barrier rails (one on either side). The bridge, abutments, and roadway will be designed to be above the 100-year flood elevation. The bridge is anticipated to have an approximately 7-foot-deep superstructure, with 4 spans and three approximate 7-foot diameter support piers within the floodplain. One of the piers will likely be in the low flow channel.

1.3.2 Airport Road Realignment and Roundabout Intersection

Airport Road is to be realigned to the west to connect to the New Airport Road extension just north of the northerly bridge abutment. The road will include 12-foot travel lanes and 5-foot shoulders in each direction. A new single-lane roundabout is proposed at the three-leg intersection of Airport Road and New Airport Road. The roundabout will be constructed mostly on fill with a 140-foot inscribed circle diameter (ICD). The roundabout influence area will extend to the ends of the splitter islands that appropriately align and moderate the speed of traffic approaching and departing the roundabout.

The central island in the roundabout will include a wide truck apron designed to accommodate off-tracking of back tires of trailers of large trucks. The truck apron will be separated from the circulatory roadway using a fully mountable and traversable curb. The center of the central island will be mounded and landscaped to increase the visibility and aesthetic appeal of the roundabout. A ten-foot wide shared-use path will be constructed around the roundabout with a detectable buffer separation from the vehicular areas. On both the approach and departure legs of the roundabout bike ramps connecting the shoulders and shared use paths will accommodate cyclists who prefer to ride separated from vehicular traffic through the roundabout. Crosswalks will be 10’ wide and set back from the circulatory roadway with pedestrian refuge areas in the splitter islands.

1.3.3 Class I Trail

The project will construct an approximate 2.5-mile meandering, multi-use path that generally parallels Huer Huero Creek and typically consists of a 10’ wide paved section with 2’ unpaved shoulders. A southern trailhead is proposed at Union Road near Barney Schwartz Park and path construction will end near the Cava Robles motorcoach resort where a final connection to Golden Hill Road is to be constructed by others as part of that development. This multi-use path is a critical part of the City’s 2018 adopted Bicycle and Pedestrian Master Plan.

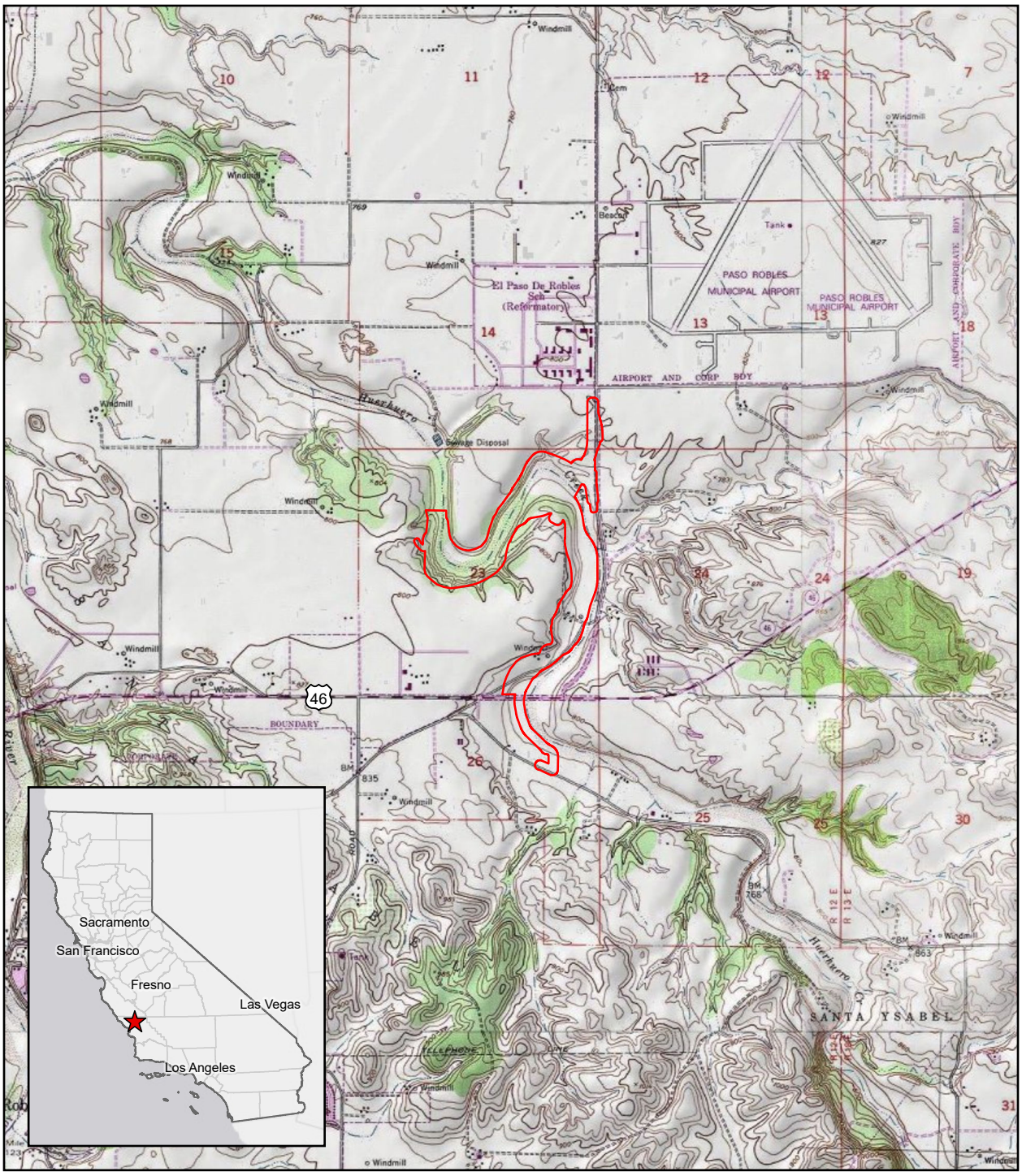
In this reach of Huer Huero Creek water flow is typically subterranean, the trail will be located both within and above the floodplain and generally be constructed at grade to not obstruct significant flood flows. Between the Union Road trailhead and the New Airport Rd bridge the trail will be located west of Huer Huero Creek and cross under State Route 46 East (SR 46E) and the New Airport Rd bridge. After crossing under the new bridge the trail will head north across the creek, and run along the northeast side of the creek until it again crosses the creek to the southwest bank east of the Cava Robles resort. The creek crossings will be boardwalk low-height crossings

to emulate the at-grade nature of the trail and minimize footprint area. The boardwalk creek crossing will allow water to overflow during flood events and be constructed of all-weather recycled decking material with steel/wood supports.

South of SR 46E the alignment will utilize an existing berm as much as possible. Concrete box culverts and embankment construction are anticipated to cross an existing development and roadside drainages on both the north and south sides of SR 46E. A combination of excavation and retaining wall is expected to be constructed on the westerly slope under the SR 46E bridges above the existing RSP limits at the abutments. North of SR 46E the trail will continue on the west side of the creek, and the alignment will climb the existing embankment fill to the north to rise out of the 100-year floodplain. Alternative trail alignments will then either cross Paso Robles Boulevard and head north along a plateau and hillside or use the general Paso Robles Boulevard alignment to head north. The alternative alignments remain on the west side of the creek and intersect at a point along the toe of a hillside on the west bank before continuing north and then westerly as the creek meanders towards and under the New Airport Road bridge.

The trail is to cross underneath the New Airport Rd bridge then cross the creek to the north, where a connection to the shared use path at the roundabout intersection will be constructed. The trail will tie into the roundabout on the northwest side, then follow along the realigned roadway until it reaches the existing Airport Road alignment. At this point it will follow the existing road until it intercepts the realigned road again, where it follows along at an even offset once again, north to Dry Creek Road. West of the bike trail connection to the roundabout, the trail alignment will be centered on an existing dirt ranch road in the upper area of the floodplain, at the base of a hillside that generally parallels the creek. . The trail alignment continues on the northeast side of the creek until another boardwalk crossing to the southwest bank (approximately 3,400’ downstream of the new bridge). The trail alignment then climbs the hillside and terminates at the Cava Robles Resort property line. The connection to Golden Hill Road from this project’s trail terminus point is to be constructed by others.

Figure 1. United States Geological Survey Topographic Map



Legend

Study Area (169.1 acres)

N

0 0.5 1 Mile

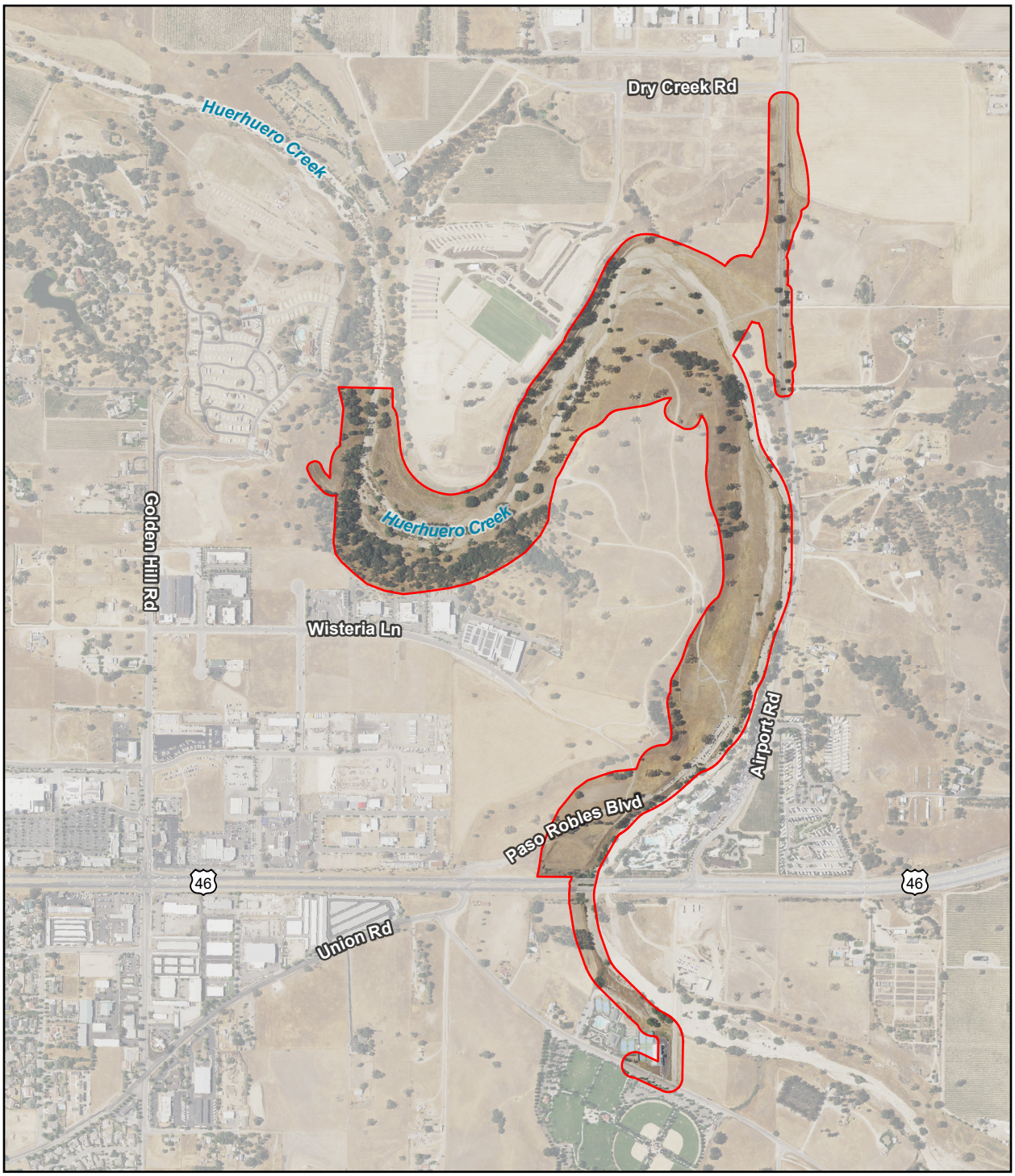
Huer Huero Bridge and Roundabout
Map Center: 120.64685°W 35.65098°N
Paso Robles, San Luis Obispo County

USGS Quadrangle: Paso Robles

ALTHOUSE AND MEADE, INC.
BIOLOGICAL AND ENVIRONMENTAL SERVICES

Map Updated:
March 18, 2021 06:02 PM by SAF

Figure 2. Aerial Photograph



Legend

Study Area (169.1 acres)

N

0 1,000 2,000 Feet

Huer Huero Bridge and Roundabout
Map Center: 120.64835°W 35.6511°N
Paso Robles, San Luis Obispo County

Imagery Source: USDA NAIP, 07/14/2018

ALTHOUSE AND MEADE, INC.
BIOLOGICAL AND ENVIRONMENTAL SERVICES

Map Updated:
March 24, 2021 12:58 PM by SAF

1.4 Regulatory Framework

Standards for environmental protection and restoration, in the form of laws and regulations, are created within three different organizational levels of government: Federal, State, and Local. Entities exist within each level to create and enforce regulations that help ensure protection of specific and pertinent regional issues threatening ecosystems and environments. The following regulations are applicable to the proposed Project.

1.4.1 Federal Law and Regulations

Bald and Golden Eagle Protection Act. The Bald and Golden Eagle Protection Act (BGEPA) prohibits anyone, without a permit issued by the Secretary of the Interior, from taking (pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb) bald or golden eagles, including their parts, nests, or eggs. This includes substantially interfering with normal breeding, feeding, or sheltering behavior. Activities that may result in the take of a bald or golden eagle require permits; the three activities eligible for permits include to remove or relocate an eagle nest; to transport, exhibit, collect, or control eagles or eagle parts, and for incidental take of eagles.

Clean Water Act. The Clean Water Act (CWA) establishes the basic structure for regulating discharges of pollutants into the waters of the United States and regulating quality standards for surface waters. The purpose of the CWA is to restore and maintain the chemical, physical, and biological integrity of all waters of the U.S. Permitting is required for filling waters of the U.S. (including wetlands). Permits may be issued on an individual basis or may be covered under approved nationwide permits.

Endangered Species Act. The federal Endangered Species Act (FESA) provides the legal framework for the listing and protection of species (and their habitats) identified as being endangered or threatened with extinction. "Critical Habitat" is a term within the FESA designed to guide actions by federal agencies and is defined as "an area occupied by a species listed as threatened or endangered within which are found physical or geographical features essential to the conservation of the species, or an area not currently occupied by the species which is itself essential to the conservation of the species." Actions that jeopardize endangered or threatened species and/or critical habitat are considered a 'take' under the FESA. "Take" under federal definition means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.

Projects that would result in "take" of any federally listed threatened or endangered species, or critical habitats, are required to obtain permits from the USFWS through either Section 7 (interagency consultation with a federal nexus) or Section 10 (Habitat Conservation Plan) of FESA, depending on the involvement by the federal government in permitting and/or funding of the project. Through Section 10, it is required to prepare a Habitat Conservation Plan (HCP) to be approved by the United States Fish and Wildlife Service (USFWS), which results in the issuance of an Incidental Take Permit (ITP). Through Section 7, which can only occur when a separate federal nexus in a project exists (prompting interagency consultation), a consultation by the various federal agencies involved can take place to determine appropriate actions to mitigate negative effects on endangered and threatened species and their habitat.

Migratory Bird Treaty Act. All migratory, non-game bird species that are native to the U.S. or its territories are protected under the federal Migratory Bird Treaty Act (MBTA) of 1918 (50 C.F.R. Section 10.13), as amended under the Migratory Bird Treaty Reform Act of 2004. The

MBTA makes it illegal to purposefully take (pursue, hunt, shoot, wound, kill, trap, capture, or collect) any migratory bird, or the parts, nests, or eggs of such a bird, except under the terms of a valid Federal permit. Migratory non-game native bird species are protected by international treaty under the federal MBTA.

1.4.2 State Law and Regulations

California Endangered Species Act. The California Endangered Species Act (CESA), similar to FESA, contains a process for listing of species and regulating potential impacts to listed species. State threatened and endangered species include both plants and wildlife, but do not include invertebrates. The designation "rare species" applies only to California native plants. State threatened and endangered plant species are regulated largely under the Native Plant Preservation Act in conjunction with the CESA. State threatened and endangered animal species are legally protected against "take." The CESA authorizes the California Department of Fish and Wildlife (CDFW) to enter into a memorandum of agreement for take of listed species to issue an incidental take permit for a state-listed threatened and endangered species only if specific criteria are met. Section 2080 of the CESA prohibits the take of species listed as threatened or endangered pursuant to the Act. Section 2081 allows CDFW to authorize take prohibited under Section 2080 provided that: 1) the taking is incidental to an otherwise lawful activity; 2) the taking will be minimized and fully mitigated; 3) the applicant ensures adequate funding for minimization and mitigation; and 4) the authorization will not jeopardize the continued existence of the listed species.

California Environmental Quality Act (CEQA). CEQA defines a "project" as any action undertaken from public or private entity that requires discretionary governmental review (a non-ministerial permittable action). All "projects" are required to undergo some level of environmental review pursuant to CEQA, unless an exemption applies. CEQA's environmental review process includes an assessment of existing resources, broken up by categories (i.e., air quality, aesthetics, etc.), a catalog of potential impacts to those resources caused by the proposed project, and a quantifiable result determining the level of significance an impact would generate. The goal of environmental review under CEQA is to avoid or mitigate impacts that would lead to a "significant effect" on a given resource; section 15382 of the CEQA Guidelines defines a "significant effect" as

> *a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance. An economic or social change by itself shall not be considered a significant effect on the environment, but may be considered in determining whether the physical change is significant.*

Public agencies are required to implement CEQA and execute jurisdiction to determine when applicable activities are or are not subject to CEQA. A public agency with the most prominent nexus and jurisdiction to a project is called the lead agency. The lead agencies determine the scope of what is considered an impact and what constitutes a "significant effect". "Biological resources" is one of the varying categories considered during environmental review through CEQA. A lead agency can require a biological assessment to be prepared to report on existing biological resources and recommended mitigation measures that will reduce or lessen potential negative impacts to those biological resources. The questions listed in CEQA's Appendix G: Biological Resources section, which are used to guide assessment of impacts to biological resources are as follows:

- *Does the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?*
- *Does the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?*
- *Does the project have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?*
- *Does the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?*
- *Does the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?*
- *Does the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?*

The lead agency has the final determination over whether a project is or is not permissible, based upon the environmental review, completed requirements and environmental documentation, and their judgement that the project will not have a significant effect on the environment, or that all significant effects have been mitigated for.

California Oak Woodland Conservation Act. This act established the Oak Woodland Conservation Program, administered by the Wildlife Conservation Board, to help local jurisdictions protect and enhance their oak woodland resources. It offers landowners, conservation groups, and cities/counties an opportunity to obtain funding for projects designed to conserve and restore California's oak woodlands.

California Fish and Game Code (CFGC). The California Fish and Game Code (CFGC) is one of the 29 legal codes that form the general statutory law of California. A myriad of statutes regarding fish and game are specified in the CFGC; the following codes are specifically relevant to the proposed Project:

California Native Plant Protection Act. Sections 1900-1913 of the California Fish and Game Code contain the regulations of the Native Plant Protection Act of 1977. The intent of this act is to help conserve and protect rare and endangered plants in the state. The act allowed the CFGC to designate plants as rare or endangered.

Lake and Streambed Alteration. Section 1602 of the CFGC requires any person, state, or local governmental agency to provide advance written notification to CDFW prior to initiating any activity that would: 1) divert or obstruct the natural flow of, or substantially change or remove material from the bed, channel, or bank of any river, stream, or lake; or 2) result in the disposal or deposition of debris, waste, or other material into any river, stream, or lake. The state definition of "lakes, rivers, and streams" includes all rivers or streams that flow at least periodically or permanently through a well-defined bed or channel with banks that support fish or other aquatic life, and watercourses with surface or subsurface flows that support or have supported riparian vegetation.

Nesting Birds. Sections 3503, 3503.5 and 3513 of CFGC states that it is "unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto," and "unlawful to take, possess, or destroy any birds of prey or to take, possess, or destroy the nest or eggs of any such bird" unless authorized.

Regional Water Quality Control Board. The Regional Water Quality Control Board (RWQCB) not only regulates impacts to water quality in federal waters of the U.S. under Section 401 of the Clean Water Act, but they also regulate any isolated waters that are impacted under the state Porter Cologne Act utilizing a Waste Discharge Requirement. Pursuant to Section 401 of the Clean Water Act, discharge of fill material into waters of the State not subject to the jurisdiction of the USACE may require authorization pursuant to the Porter Cologne Act through application for waste discharge requirements or through waiver of waste discharge requirements.

1.4.3 Local Policies and Regulations

The **Oak Tree Preservation Ordinance** (City 2002) provides policies, regulations and specifications necessary to govern preservation of oak trees within the City and to control their pruning and/or removal. The provisions apply to private property owners, to tree maintenance services and arborists, and to new development, redevelopment and any discretionary considerations by the City that result in development of intensities that could impact existing oak trees. Preservation of existing oak trees and opportunities to promote the establishment of new oak trees is prescribed as a focus of the planning commission and/or city council in conjunction with consideration of any development project or development related entitlement.

Pursuant to the City's Oak Tree Preservation Ordinance oak tree protection measures are for trees measured at six inches or greater in diameter at breast height (dbh), which is 4.5 feet above ground level. Any oak tree slated for removal requires a permit with a director's approval for clearly dead or diseased trees beyond correction, as evaluated by an arborist. Removal of healthy trees require city council approval, in the context that there are no reasonable alternatives to avoid impacting oak tree(s). Oak trees marked for removal require mitigation at 25 percent of the total dbh, or an impact to mitigation ratio of 1-inch to 0.25-inch dbh.

Trees not marked for removal or completely avoided are assessed according to their Critical Root Zone (CRZ). The City of Paso Robles defines the CRZ as the area circumscribed around the tree's trunk using a radius of one foot per one-inch dbh. For this document, CRZ is defined as either the width of the measured canopy, or the area using a radius of one foot per one-inch dbh, whichever is larger. Although not specified in the ordinance, mitigation of CRZ impacts are often assessed according to the percent of CRZ impact, i.e. less than 50 percent or greater than 50 percent.

1.5 Special Status Species and Sensitive Habitat Regulations

For purposes of this Biological Report, special status species are those plants and animals listed, proposed for listing, or candidates for listing as threatened or endangered by the USFWS under the FESA; those listed or proposed for listing as rare, threatened, or endangered by the CDFW under the CESA; animals designated as "Species of Special Concern," "Fully Protected," or "Watch List" by the CDFW; and plants with a California Rare Plant Rank (CRPR) of 1, 2, 3, or 4. In the following sections, further details are provided to highlight the different guidelines and qualifications that are used to help identify special status species in this report.

1.5.1 California Natural Diversity Database (CNDDB)

"Special Plants" and "Special Animals" are broad terms used to refer to all the plant and animal taxa inventoried by the CNDDB, regardless of their legal or protection status (CNDDB 2019a and 2019b). The Special Plants list includes vascular plants, high priority bryophytes (mosses, liverworts, and hornworts), and lichens. The Special Animals list is also referred to by the California Department of Fish and Wildlife (CDFW) as the list of "species at risk" or "special status species."

According to the CNDDB (2019a, 2019b), Special Plants and Animals lists include: taxa that are officially listed or proposed for listing by California or the Federal Government as Endangered, Threatened, or Rare; taxa which meet the criteria for listing, as described in Section 15380 of CEQA Guidelines; taxa deemed biologically rare, restricted in range, declining in abundance, or otherwise vulnerable; population(s) in California that may be marginal to the taxon's entire range but are threatened with extirpation in California; and/or taxa closely associated with a habitat that is declining in California at a significant rate. Separately, the Special Plants List includes taxa listed in the California Native Plant Society's Inventory of Rare and Endangered Plants of California, as well as taxa determined to be Sensitive Species by the Bureau of Land Management, U.S. Fish and Wildlife Service, or U.S. Forest Service. The Special Animals List distinctively includes taxa considered by the CDFW to be a Species of Special Concern (SSC) and taxa designated as a special status, sensitive, or declining species by other state or federal agencies.

1.5.2 Federal and State Endangered Species Listings

The Federal and California Endangered Species Acts are the regulatory documents that govern the listing and protection of species, and their habitats, identified as being endangered or threatened with extinction (see Sections 1.4.1and 1.4.2). Possible listing status under both Federal and California ESA includes Endangered and Threatened (FE, FT, CE, or CT). Species in the process of being listed are given the status of either Proposed Federally Endangered/Threatened, Candidate for California Endangered/Threatened (PE, PT, CCE, or CCT). The CESA has one additional status: Rare (CR).

1.5.3 Global and State Ranks

Global and State Ranks reflect an assessment of the condition of the species (or habitats, see 1.5.6 below) across its entire range. Basic ranks assign a numerical value from 1 to 5, respectively for species with highest risk to most secure. Other ranking variations include rank ranges, rank qualifiers, and infraspecific taxon ranks. All Heritage Programs, such as the CNDDB use the same ranking methodology, originally developed by The Nature Conservancy and now maintained and recently revised by NatureServe. Procedurally, state programs such as the CNDDB develop the State ranks. The Global ranks are determined collaboratively among the Heritage Programs for the states/provinces containing the species. Rank definitions, where G represents Global and S represents State, are as follows:

- G1/S1: Critically imperiled globally/in state because of extreme rarity (5 or fewer populations).
- G2/S2: Imperiled globally/in state because of rarity (6 to 20 populations).

- G3/S3: Vulnerable; rare and local throughout range or in a special habitat or narrowly endemic (on the order of 21 to 100 populations).
- G4/S4: Apparently secure globally/in state; uncommon but not rare (of no immediate conservation concern).
- G5/S5: Secure; common, widespread, and abundant.
- G#G#/S#S#: Rank range - numerical range indicating uncertainty in the status of a species, (e.g., G2G3 more certain than G3, but less certain that G2).
- G/S#?: Inexact numeric rank
- Q: Questionable taxonomy - Taxonomic distinctiveness of this entity is questionable.
- T#: Infraspecific taxa (subspecies or varieties) – indicating an infraspecific taxon that has a lower numerical ranking (rarer) than the given global rank of species.

1.5.4 California Rare Plant Ranks

Plant species are considered rare when their distribution is confined to localized areas, their habitat is threatened, they are declining in abundance, or they are threatened in a portion of their range. The California Rare Plant Rank (CRPR) categories range from species with a low threat (4) to species that are presumed extinct (1A). All but a few species are endemic to California. All of them are judged to be vulnerable under present circumstances, or to have a high potential for becoming vulnerable. Threat ranks are assigned as decimal values to a CRPR to further define the level of threat to a given species. The rare plant ranks and threat levels are defined below.

- 1A: Plants presumed extirpated in California and either rare or extinct elsewhere.
- 1B: Plants rare, threatened, or endangered in California and elsewhere.
- 2A: Plants presumed extirpated in California, but common elsewhere
- 2B: Plants rare, threatened, or endangered in California, but more common elsewhere
- 4: Plants of limited distribution - a watch list
- 0.1: Seriously threatened in California (over 80% of occurrences threatened/high degree and immediacy of threat)
- 0.2: Moderately threatened in California (20-80% occurrences threatened/moderate degree and immediacy of threat)
- 0.3: Not very threatened in California (less than 20% of occurrences threatened/low degree and immediacy of threat or no current threats known)

1.5.5 California Department of Fish and Wildlife Animal Rank

The California Department of Fish and Wildlife (CDFW) assigns one of three ranks to Special Animals: Watch List (WL), Species of Special Concern (SSC), or Fully Protected (FP). Unranked species are referred to by the term Special Animal (SA).

Animals listed as Watch List (WL) are taxa that were previously designated as SSC, but no longer merit that status, or taxa that which do not yet meet SSC criteria, but for which there is concern and a need for additional information to clarify status.

Animals listed as California Species of Special Concern (SSC) may or may not be listed under California or federal Endangered Species Acts. They are considered rare or declining in abundance in California. The Special Concern designation is intended to provide the CDFW biologists, land planners, and managers with lists of species that require special consideration during the planning process to avert continued population declines and potential costly listing under federal and state endangered species laws. For many species of birds, the primary emphasis is on the breeding population in California. For some species that do not breed in California but winter here, emphasis is on wintering range. The SSC designation thus may include a comment regarding the specific protection provided such as nesting or wintering.

Animals listed as Fully Protected (FP) are those species considered by CDFW as rare or faced with possible extinction. Most, but not all, have subsequently been listed under the CESA or FESA. Fully Protected species may not be taken or possessed at any time and no provision of the California Fish and Game code authorizes the issuance of permits or licenses to take any Fully Protected species.

1.5.6 Sensitive Habitats

Sensitive Natural Community is a state-wide designation given by CDFW to specific vegetation associations of ecological importance. Sensitive Natural Communities rarity and ranking involves the knowledge of range and distribution of a given type of vegetation, and the proportion of occurrences that are of good ecological integrity (CDFW 2018a). Evaluation is conducted at both the Global (G) and State (S) levels, resulting in a rank ranging from 1 for very rare and threatened to 5 for demonstrably secure. Natural Communities with ranks of S1-S3 are considered Sensitive Natural Communities in California and may need to be addressed in the environmental review processes of CEQA and its equivalents.

2 METHODS

2.1 Literature Review

Preliminary research includes review of relevant plans, policies, and biological information to determine what biological resources may occur near or in the Study Area. Research included:

- Review of agency plans pertaining to sensitive and special-status species;
- Queries of special-status species occurrence records;
- Review of literature on sensitive species and biological resources in the project area and region;
- Correspondence and consultation with state and federal resource agencies.
- Public documents pertaining to historical and forecasted land uses at and surrounding the property.

Prior to the site visit, Althouse and Meade conducted a data search from the California Natural Diversity Database (CNDDB) and the California Native Plant Society (CNPS) On-line Inventory of Rare and Endangered Plants of California, as well as the Consortium of California Herbaria (CCH 2021) on January 30, 2020. The data search area included the Paso Robles USGS 7.5-minute quadrangle and the 8 surrounding quadrangles (Bradley, Ranchito Canyon, San Miguel, Adelaida, Estrella, York Mountain, Creston, and Templeton). A species review list was also obtained through the USFWS Information for Planning and Consultation (IPaC) online system. A copy of the official IPaC species list is included under Appendix F. Data was compiled for sensitive plant and wildlife species and reviewed according to each species potential to occur at the Study Area. The compiled list of CNDDB, CNPS, CCH, and IPaC are provided in Appendix B and Appendix D.

Additional special status species research consisted of review of biological studies, preconstruction survey reports, and protocol sensitive species survey reports conducted by A&M in the surrounding area, including studies related to the Cava Robles RV Resort (A&M 2016, A&M 2018), Paso Robles Horse Park (A&M 2011). Other database searches included online museum and herbarium specimen records for locality data within the City of Paso Robles, as maintained by the Consortium of California Herbaria. Any additional special status species derived from the above-mentioned sources were added to our special status species lists (refer to Table 5 and Table 7).

A summary of the sources reviewed is listed in Section 5 (References).

Special status species lists produced by database and literature searches were cross-referenced and analyzed according to the described habitat types in the Study Area in order to identify all potential special status species that could occur in or near the Study Area. Each special status species that could occur in or near the Study Area is individually discussed in Sections 3.7.1 and 3.8.1.

After review of the literature, and completing site visits, the following criteria were used to determine the potential for special-status species to occur within the Study Area:

- **Present:** The species was observed in the Study Area during field surveys.
- **High Potential:** Highly suitable habitat and CNDDB or CNPS occurrence records indicate the species is likely to occur in the Study Area or the immediate vicinity. Individuals may

not have been observed during field surveys; however, the species likely occurs in or immediately adjacent to the Study Area and (for wildlife) could move into the Study Area in the future.

- **Moderate Potential:** Moderately suitable habitat is present in the Study Area and CNDDB occurrences or surveys have recorded the species in the vicinity of the Study Area. Individuals were not observed during field surveys, but the species could be present, at least seasonally or as a transient.
- **Low Potential:** Marginally suitable habitat is present in the Study Area, and there are no occurrence records or other historical (i.e., 50 years or older) records in the vicinity of the Study Area. Individuals were not observed during surveys and are not expected to be present.
- **No Potential:** Suitable habitat for the species is not present in the Study Area, and/or the species is not known to occur in the region.

2.2 Surveys

The Study Area was surveyed for biological resources multiple times from January through June 2020 by biologists LynneDee Althouse, Katie Brown, Jessica Griffiths, Greg Salas, and Sarah Termondt (Table 2). Surveys were conducted on foot to inventory existing species, special status plants and animals, and habitat types, and to collect photographic documentation of the Study Area. Each habitat type was field inspected and described by species composition, as interpreted in Section 3.3. All plant and animal species observed in the Study Area were identified and documented in Sections 3.7.2 and 3.8.2. Transects were meandering with an emphasis on locating habitat appropriate for special status plants. Transects were utilized to map boundaries of different vegetation types, describe general conditions and dominant species, compile species lists, and evaluate potential habitat for special status species. Focused survey efforts were conducted in habitats suitable for special status species.

TABLE 2. BIOLOGICAL SURVEYS

Survey Date	Biologist(s)	Weather Observations	Activities
1/29/20	LynneDee Althouse, Katie Brown	55° – 60° F, sunny	Preliminary wetland assessment
2/19/20	Jessica Griffiths	60° F, sunny, wind 0-5 mph	Golden eagle survey
3/17/20	LynneDee Althouse, Katie Brown, Jessica Griffiths	45° – 50° F, partly cloudy, intermittent drizzle, winds 0-3 mph	Wetland delineation, biological survey
3/18/20	Sarah Termondt	50 – 59° F, partly cloudy	Botanical survey
3/20/20	LynneDee Althouse	65° F, partly cloudy	Wetland delineation, biological survey
4/10/20	Greg Salas	55° – 72° F, scattered clouds to 75% cover, NW wind 0-5 mph.	Wildlife survey; golden eagle survey

Survey Date	Biologist(s)	Weather Observations	Activities
4/17/2020	LynneDee Althouse	55° – 50° F, partly cloudy, breezy	Wetland delineation, biological survey
5/12/20	Greg Salas	60-65 F, overcast to 90% cover, NW wind 5-10 mph	Golden eagle survey
6/10/20	Sarah Termondt	60 – 100° F, hot and sunny	Botanical survey
3/30/21	Greg Salas	Clear skies, 60-65° F, NW wind 5-10mph	Golden eagle survey
4/28/21	Greg Salas	Clear skies, 65-70+° F, NW wind 0-5mph	Golden eagle survey
6/2/21	Greg Salas	Clear skies, 80-90+° F, W wind 0-5mph	Golden eagle survey

2.2.1 Botanical

Identification of botanical resources included field observations and laboratory analysis of collected material (Appendix C). Botanical surveys were conducted from January 29 through June 10, 2020 according to guidelines (USFWS 2000, CDFW 2018b, and CNPS 2001). Botanical surveys were appropriately timed to identify all special status plant species known from the region that have potential to occur in the Study Area. Botanical nomenclature used in this document follows the Jepson Manual, Second Edition (Baldwin et al. 2012).

2.2.2 Wildlife

Identification of wildlife resources were made by direct observations or by visual signs of animal presence such as burrows/dens, vocalization, tracks, and/or scat. Wildlife observations were recorded during Study Area field surveys (Appendix E). Birds were identified by sight, using 10-power binoculars, or by vocalizations. Reptiles and amphibians were identified by sight, often using binoculars. Mammals recorded in the Study Area were identified by sight, burrow/dens, scat, and tracks.

2.3 Maps

Mapping efforts utilized Samsung Galaxy Tab 4 tablets equipped with Garmin GLO GPS Receivers and a third-party mapping application. Biological resource constraints were mapped in the field on site. Maps were created using aerial photo interpretation, field notation, and spatial data imported to Esri ArcGIS, a Geographic Information System (GIS) software program. Soil data was overlaid on a 2020 National Agriculture Imagery Program (NAIP) aerial of San Luis Obispo County (NAIP 2020).

3 RESULTS

3.1 Existing Conditions

Huer Huero Creek is a sandy north-trending ephemeral underground stream that flows directly to the Salinas River and is predominantly dry year-round, typically conveying surface water following large rain events for short periods of time. Sub-lateral flow is a result of the highly porous sandy soils with fast infiltration rates. Though the creek flows infrequently (often not flowing for several years at a time), vegetation remains sparse in the channel due to soil composition and lack of water retention. Annual grassland habitat is the dominant habitat type throughout the vegetated areas of the Study Area. However, patches of oak trees (*Quercus lobata, Q. douglasii*) are often present along the channel banks and buffer, particularly on north-facing slopes in the northern Study Area and are described in the oak woodland and oak savanna habitat types (Section 3.3).

Surrounding development consists of a mixture of land uses including Residential Agriculture (RA) located north and south of the Project extent (Paso Robles Horse Park and Barney Schwartz Park), Agriculture (AG), Commercial Light Industrial (C3; Paso Robles Sports Club), Commercial Highway (C2), Parks and Open Space (POS), and Planned Industrial (PM; properties located along Wisteria Lane). The existing Highway 46 bridge, built in 1992, crosses over Huer Huero Creek, where the channel sinuates from a northwest to a northeasterly direction, just west of Airport Road. Paso Robles Regional Airport, a low-density local airport, is located approximately 0.6 miles north of the Study Area on the north side of Highway 46.

Despite increased development, wildlife is abundant in the area, signified by known records of large raptors such as golden eagles (*Aquila chrysaetos*) indicating an abundant prey base of small to moderate sized mammals and birds. A pair of golden eagles occupy a known nest in a blue oak (*Quercus douglasii*) tree within the Study Area.

3.2 Soils

Thirteen soil map units are represented within the Study Area (USDA 2020) (Figure 3). Descriptions of the soil types are provided below.

Arbuckle-Positas complex, 9 to 15 percent slopes (102) consists of approximately forty percent Arbuckle fine sandy loam and thirty percent Positas coarse sandy loam. Also included in this map unit are areas of Greenfield fine sandy loam, Cropley clay, and Hanford fine sandy loam. Both the Arbuckle and Positas soils are very deep, well drained soils formed in alluvium from mixed rocks. The Arbuckle soil has a moderately slow permeability and a moderate to high available water capacity. The Positas soil has a very slow permeability and a moderate to high available water capacity. This complex is in capability units IIIe-1 (14) irrigated and IVe-1 (14) non-irrigated. The Storie index rating is 59.

Arbuckle-Positas complex, 30 to 50 percent slopes (104) is approximately 22 percent of the Study Area and comprises approximately 40 percent Arbuckle fine sandy loam, 30 percent Positas coarse sandy loam, 15 percent Shimmon loam on north slopes, 10 percent is a soil similar to Positas coarse sandy loam except that is has a very gravelly sandy clay subsoil, and 5 percent is small areas of Ayar silty clay, Balcom loam, Greenfield fine sandy loam, Linne Shaly clay loam, Nacimiento silty clay loam, and Badland. The complex is very deep and well drained, with a

moderate to high available water capacity. The Arbuckle-Positas complex with 30 to 50 percent slopes is in capability subclass Vie (14) non-irrigated

Arbuckle-Positas complex, 50 to 75 percent slopes (105) is a very deep, well drained soil derived from mixed rock alluvium. Gravel occurs throughout the profile in some areas. It is composed of approximately 40 percent Arbuckle fine sandy loam, 30 percent Positas coarse sandy loam, 10 percent Greenfield fine sandy loam, 10 percent Cropley clay and Hanford fine sandy loam, and 10 percent of a soil that is similar to Positas soil except that it has a very gravelly sandy clay subsoil. Arbuckle soil has a moderately slow permeability, a moderate to high available water capacity, and a moderate erosion potential. The Positas soil has a very slow permeability, a moderate to high available water capacity, and a moderate erosion hazard.

Arbuckle-San Ysidro complex, 2 to 9 percent slopes (106) consists of approximately forty percent Arbuckle fine sandy loam and twenty percent San Ysidro loam. Also included in this map unit are areas of Greenfield fine sandy loam, Hanford fine sandy loam, Cropley clay, Rincon clay loam, and Ryer clay loam. The Arbuckle soil is a very deep, well drained soil formed in alluvium from mixed rocks. It has a moderately slow permeability and a moderate to high available water capacity. The San Ysidro soil is a very deep soil located in low areas associated with old drainageways. It is moderately well drained, with a very slow permeability and a moderate to high available water capacity. This complex is in capability units IIe-1 (14) irrigated, and IVe-1 (14) non-irrigated. The Storie index rating is 72

Elder loam, flooded, 0 to 5 percent slopes (140) is a very deep, moderately permeable soil formed in mixed rock alluvium. Surface runoff is slow, and erosion hazard is slight. This soil has severe limitations for buildings and roads due to the flood hazard. Elder soils used for these purposes need to be protected from flooding. Elder loam has a land capability class rating of IIw-2 (14) irrigated, and IVw-2 (14) non-irrigated. This rating means this soil type has moderate to very severe limitations for field crops (II, IV). Water in or on the soil interferes with plant growth (w) because the soil is either poorly drained or periodically flooded (2).

Hanford and Greenfield gravelly sandy loams with 0 to 2 percent slopes (149) complex consists of 40 percent Hanford gravelly sandy loam, 30 percent Greenfield gravelly sandy loam, 15 percent Arbuckle fine sandy loam, 10 percent San Ysidro loam, and 5 percent of small areas of Cropley clay, Lockwood Shaly loam, Metz loamy sand, Pico fine sandy loam, Rincon clay loam, and Tujunga fine sand. Both the Hanford soil and the Greenfield soil are derived from mixed rock alluvium, and are very deep and well drained soils. They both have a moderately rapid permeability, and a low to moderate available water capacity with a slight erosion hazard. The gravelly nature of the surface layer limits the vegetation types that can occur on the property. This complex is placed in capability units IIs-4 (14) irrigated, and IVs-4 (14) non-irrigated. This rating shows that this soil type has moderate to very severe limitations for field crops (II, IV). These limitations occur due to the shallow, droughty, or stony soils (s) that have a low available water-holding capacity (4).

The Hanford and Greenfield gravelly sandy loams with 2 to 9 percent slopes (150) is an undifferentiated map unit consisting of soils on terraces. This complex consists of 40 percent Hanford gravelly sandy loam, 30 percent Greenfield gravelly sandy loam, 15 percent Arbuckle fine sandy loam, 10 percent San Ysidro loam, and 5 percent of small areas of Cropley clay, Lockwood Shaly loam, Metz loamy sand, Pico fine sandy loam, Rincon clay loam, and Tujunga fine sand. Both the Hanford soil and the Greenfield soil are very deep and well drained soils

derived from mixed rock alluvium. They both have a moderately rapid permeability, and a low to moderate available water capacity with a slight erosion hazard.

Metz loamy sand, 0 to 5 percent slopes (166) is a very deep, nearly level to gently sloping, somewhat excessively drained soil formed in alluvial fans or floodplains derived from mixed rocks. Flooding can occur rarely, although this soil does not typically hold standing water for long periods. Permeability is moderately rapid and available water capacity is low to moderate. Surface runoff is slow and hazard of erosion is slight.

Metz-Tujunga complex, occasionally flooded, 0 to 5 percent slopes (167) is a very deep, nearly level to gently sloping, somewhat excessively drained soil formed in alluvial fans or floodplains derived from mixed rocks. Flooding occurs about twice every ten years. Permeability is moderately rapid and available water capacity is low to moderate. Surface runoff is slow and hazard of erosion is slight. This complex consists of about 40 percent Metz loamy sand and 35 percent Tujunga fine sand. Areas of these soils are so intricately mixed or so small that it is not practical to separate them in mapping. Included with these soils are other sandy and loamy soils.

S**an Ysidro sandy loam, 2 to 9 percent slopes (196)** consists of moderately well-drained sandy loam soils with a very low available water capacity. It occurs on alluvial fans formed from a parent material of alluvium derived from mixed rocks. Sandy loam comprises the upper horizon from 0 to 19 inches, and lower third horizon from 40 to 60 inches. Clay loam comprises the second horizon from 19 to 40 inches, creating an abrupt textural change, or restrictive layer. This soil type comprises 3.5 percent of the Study Area.

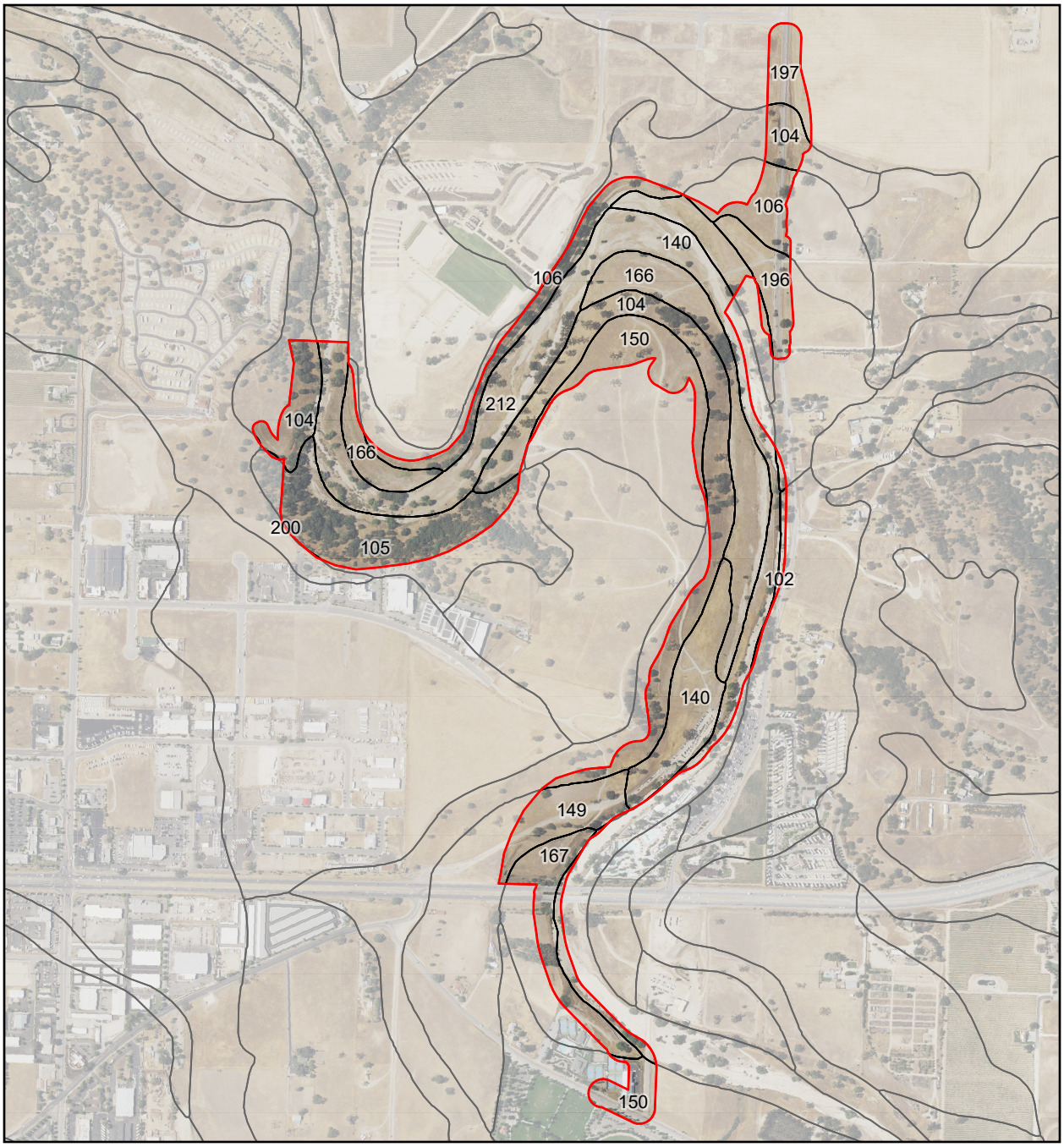
San Ysidro loam, 0 to 2 percent slopes (197) is a very deep, nearly level, moderately well drained soil formed in alluvium derived from mixed rocks. San Ysidro soil has very slow permeability and moderate to high available water capacity. Surface runoff is slow and hazard of erosion is slight. During periods of heavy rain, this soil is subject to ponding, and vernal pools may form in San Ysidro soils. The subsoil has high shrink-swell potential. This soil has severe limitations for building sites, roads, and streets because of the high shrink-swell potential and low strength of the subsoil. Foundations and footings should be designed to prevent structural damage by shrinking and swelling of the subsoil. San Ysidro loam is in capability units IVs-3 (14) irrigated and non-irrigated. This rating means that this soil has severe limitations for field crops, or requires very careful management, or both (IV). These limitations can be the result of a shallow, droughty, or stony soil that has problems or limitations of slow or very slow permeability of the subsoil or substratum. The clayey subsoil of San Ysidro soils is semi-consolidated (3) and creates such a limitation.

Sesame sandy loam, with 9 to 30 percent slopes (200) is a moderately deep, moderately steep, well-drained soil formed in material weathered from granitic rock. Depth to bedrock varies from 20 to 40 inches. Included in this soil map unit are about 10 percent Arbuckle fine sandy loam, 5 percent Vista coarse sandy loam, 5 percent Cieneba coarse sandy loam, and 5 percent small areas of Handford fine sandy loam, Metz loamy sand, and Positas coarse sandy loam. Soil erosion is a hazard in this soil type.

Corducci and Typic Xerofluvents, 0 to 5 percent slopes, occasionally flooded, MLRA 14 (300/212) is a sandy soil that is somewhat excessively drained. Varying sand textures comprise each horizon from fine sand in the top 0 to 35 inches (A and C1 horizons), to regular textured sand at a 35- to 45- inch depth, to coarse sand at a depth of 45 to 59 inches. It occurs in flood plains, alluvial fans, and stream terraces, with a parent material of mixed alluvium derived from igneous

and sedimentary rock. This sandy soil comprises 23 percent of the Study Area and accounts for much of the Huer Huero Creek channel; a riverine system known for its underground, lateral flow due to highly permeable sand content.

Figure 3. USDA Soil Survey



Soil Type	Study Area
102 - Arbuckle-Positas complex, 9 to 15 percent slopes	<1%
104 - Arbuckle-Positas complex, 30 to 50 percent slopes	22%
105 - Arbuckle-Positas complex, 50 to 75 percent slopes	9%
106 - Arbuckle-San Ysidro complex, 2 to 9 percent slopes	2%
140 - Elder loam, 0 to 5 percent slopes, flooded	10%
149 - Hanford and Greenfield gravelly sandy loams, 0 to 2 percent	4%
150 - Hanford and Greenfield gravelly sandy loams, 2 to 9 percent	7%
166 - Metz loamy sand, 0 to 5 percent slopes	12%
167 - Metz-Tujunga complex, occasionally flooded, 0 to 5 percent	5%
196 - San Ysidro sandy loam, 2 to 9 percent slopes	3%
197 - San Ysidro loam, 0 to 2 percent slopes	2%
200 - Sesame sandy loam, 9 to 30 percent slopes	<1%
212 - Xerofluvents-Riverwash association	23%

Legend

Study Area (169.1 acres)

NRCS Soils

N

0 750 1,500 Feet

Huer Huero Bridge and Roundabout
Map Center: 120.64685°W 35.65098°N
Paso Robles, San Luis Obispo County

Source: USDA NRCS Soil Survey

3.3 Habitat Types

The Study Area is defined by eight different habitat types: riparian, oak woodland, oak savanna, upland forbs, annual grassland, ruderal, yellow-star thistle fields, and anthropogenic. Each habitat type was field inspected and described by species composition. The habitat types are illustrated in the attached Figure 4 with the Study Area acreages summarized in Table 3.

TABLE 3. HABITAT TYPES

Habitat Type	Area (Acres)
Riparian	34.3
Oak Woodland	24.5
Oak Savanna	40.9
Upland Forbs	4.3
Annual Grassland	40.7
Ruderal	5.2
Yellow-star thistle fields	6.6
Anthropogenic (Roads and Trails)	12.6
TOTAL	**169.1**

3.3.1 Riparian

Approximately 34.3 acres of riparian habitat occurs along the sandy substrate of Huer Huero Creek, where Fremont cottonwoods (*Populus fremontii*) and red willows (*Salix laevigata*) are sparsely to moderately distributed throughout. Other species include blue and valley oaks, and patches of wild rose (*Rosa californica*), poison oak (*Toxicodendron diversilobum*), coyote bush (*Baccharis pilularis*), and mule fat (*Baccharis salicifolia*). During spring surveys, herbaceous annuals such as Indian tobacco (*Nicotiana quadrivalvis*), seaside heliotrope (*Heliotropium curassavicum* ssp. *oculatum*), and elegant wild buckwheat (*Eriogonum elegans*) were observed within the stream channel. Elegant wild buckwheat is a CRPR 4.3 annual herb and was observed in abundance throughout most of the sandy floodplain (Photo 1 and Photo 2). A variety of birds were observed foraging in cottonwoods including oak titmouse (*Baeolophus inornatus*) and a nesting pair of American kestrels (*Falco sparverius*).



Photo 1. Riparian habitat and sandy substrate, June 10, 2020.



Photo 2. Riparian habitat in Huer Huero Creek, March 17, 2020.

3.3.2 Oak woodland

The Study Area contains approximately 24.5 acres of oak woodland habitat, where oak tree canopy is intermittent to continuous, and sometimes savanna-like. The largest and most intact patch of oak woodland is found in the western portion of the Study Area and is comprised of blue oak and valley oak, with smaller stands scattered across the northern portion, following the contour of Huer Huero Creek (Photo 3). The shrub layer consists of poison oak, California wild rose, and blue-witch (*Solanum umbelliferum*). The oak woodland has a diverse herbaceous understory consisting of non-native grasses, native forbs and bulbs such as ripgut brome (*Bromus diandrus*), white horehound (*Marrubium vulgare*), and slender annual buttercup (*Ranunculus hebecarpus*).

Oak woodlands provide habitat for a variety of birds, bats, reptiles, and other wildlife. A variety of birds were observed such as western bluebird (*Sialia mexicana*) and white-breasted nuthatch (*Sitta carolinensis*). Beehives and oak cavities were commonly observed. Oak cavities likely support many species of bats and bat nurseries. Common reptiles were also observed such as western fence lizard (*Sceloporus occidentalis*), and California alligator lizard (*Elgaria multicarinata multicarinata*).



Photo 3. Oak woodland habitat facing west, June 10, 2020.



Photo 4. Oak savanna habitat facing east, June 10, 2020.

3.3.3 Oak savanna

Oak savanna covers approximately 40.9 acres of the Study Area. This habitat occurs along the east-facing and south-facing slopes of the embankment in the north central portion of the Study Area and was determined by the abundance and proximity of oaks to one another. As shown in Photo 4 the oak canopy is open, with no shrub layer. The oak savanna is comprised primarily of blue and valley oaks and its understory is almost entirely non-native annual grasses including soft chess (*Bromus hordaceus*), foxtail barley (*Hordeum murinum*), and slender wild oat (*Avena fatua*).

3.3.4 Upland forbs

Upland forb habitat (4.3 acres) occurs in the northwestern section of the Study Area, east of Huer Huero Creek. This habitat type is described by a mixture of upland forbs that change dominance. The north portion of the upland forb habitat is dominated by wild tarragon (*Artemisia dracunculus*) shrubs (Photo 5) with over 50 percent relative cover. Non-native grasses and other forbs include sleeping combseed (*Pectocarya penicillata*), California plantain (*Plantago erecta*), and desert wire-lettuce (*Stephanomeria pauciflora*). The southern portion of the upland forb habitat changes species dominance to desert wire-lettuce. As shown in Photo 6, desert wire-lettuce is over 50 percent relative cover. Other associate species in the southern portion is vinegar weed (*Lessingia glandulifera*) and Spanish clover (*Acmispon americanus*) with non-native herbs and grasses. The southeastern portion of the upland forb habitat is dominated by wild mustard (*Hirschfeldia incana*) with longbeak storksbill (*Erodium botrys*), and red brome (*Bromus madritensis* subsp. *rubens*).



Photo 5. Picture of upland forb habitat, wild tarragon (*Artemisia dracunculus*) in the foreground, view west, June 10, 2020.



Photo 6. Picture of upland forb, wire-lettuce (*Stephanomeria pauciflora*) in the foreground, view south, June 10, 2020.

3.3.5 Annual grassland

The majority of the Study Area is comprised of annual grassland, which covers approximately 40.7 acres. The annual grassland is primarily ruderal species of foxtail barley, soft chess, and wild oats. Some natives persist including purple needlegrass (*Stipa pulchra*) and common fiddleneck (*Amsinckia menziesii*). Scattered blue and valley oaks also occur in annual grassland (Photo 7).

Terrestrial mammals and signs of them were observed, including mule deer (*Odocoileus hemionus*) and California ground squirrel (*Otospermophilus beecheyi*). California ground squirrel is one of

the more conspicuous wildlife present in the grassland habitat. Predatory mammals such as fox, coyote and bobcat are likely to pass through the site on occasion. Shining navarretia (*Navarretia nigelliformis* subsp. r*adians*) is a special status plant that has potential to occur in the annual grassland habitat but was found not to be present during the appropriately timed botanical survey.



Photo 7. Annual grassland habitat west of Airport Road, June 10, 2020.



Photo 8. Small eucalyptus grove located south of Hwy 46 bridge and west of Huer Huero Creek, June 10, 2020.

3.3.6 Ruderal

Areas of ruderal land are included in the Study Area and appear to be plowed infrequently and planted with dry-farmed barley (*Hordeum vulgare*). These areas also appear to be grazed by cattle. Occasional blue and valley oaks may occur. California ground squirrels are abundant in these fallow fields. Because of this, ruderal may provide valuable foraging for golden eagles and other raptors.

A small grove of planted blue gum eucalyptus (*Eucalyptus globulus*) is located south of Highway 46 bridge on the western side of Huer Huero Creek. The grove is adjacent to ruderal grass fields and could provide habitat for nesting raptors (Photo 8). Also noted in this area of ruderal habitat on the south side of Highway 46 bridge is an eroded stormwater channel that drains into Huer Huero Creek.

3.3.7 Yellow-star thistle fields

Approximately 0.76-acre of yellow-star thistle fields is located west of Huer Huero Creek. This largest star-thistle dominated field is accessible from a dirt road adjacent to and north of Highway 46 (Photo 9). Other species in this habitat type are ruderal and associated with past disturbance including wild oats, Russian thistle (*Salsola tragus*), Italian thistle (*Carduus pycnocephalus*) with scattered coyote brush shrubs (Photo 10). This habitat type abuts Highway 46 bridge to the north.



Photo 9. Star-thistle dominated field, view northwest, June 10, 2020.



Photo 10. North of Hwy 46 bridge, view south, June 10, 2020.

3.3.8 Anthropogenic (roads and trails)

In general, anthropogenic land uses within the Study Area consists of areas that no longer support native vegetation due to physical alteration such as hardscape, pavement, landscaping, and construction of structures. Anthropogenic land within the Study Area consists of approximately 12.6 acres of dirt roads and trails located throughout.

3.4 Individual Oak Trees

A total of 126 oak trees were assessed within the vicinity of the proposed Project footprint. Tree species that were tagged included: coast live oak (*Quercus agrifolia*), blue oak (*Quercus douglasii*), and valley oak (*Quercus lobata*).

Trees evaluated include 61 valley oaks, 42 blue oaks, and 3 coast live oaks. In addition to this, 20 unidentified oaks were located and partially assessed. Table 4 provides a summary count of assessed trees in the Study Area.

TABLE 4. EVALUATED TREES

Species	Number
Coast live oak (*Quercus agrifolia*)	3
Valley oak (*Quercus lobata*)	61
Blue oak (*Quercus douglasii*)	42
Unidentified oak (*Quercus* sp.)	20
TOTAL	**126**

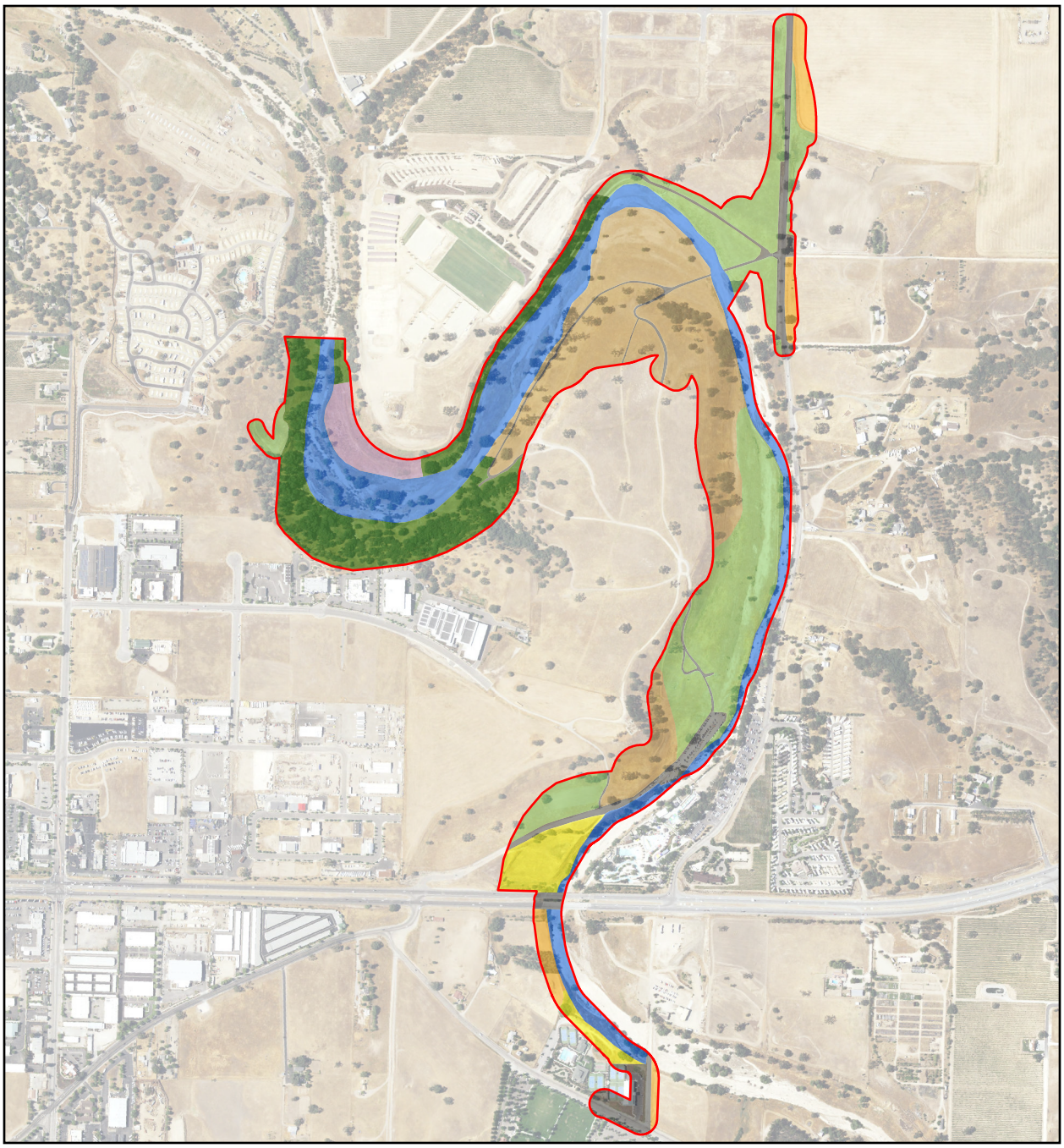
3.5 Potential Wetlands and Jurisdictional Waters

Althouse and Meade, Inc. performed a wetland delineation in and around Huer Huero Creek on the 17th and 20th of March 2020 to delineate federal (USACE) and state (CDFW and RWQCB) jurisdictional boundaries (A&M 2020). No federal or state wetlands were identified in the Study Area; however, a total of 12,300 linear feet (approximately 28.3 acres) of federal and state non wetland waters were encountered in the reach of Huer Huero Creek. An overview map is provided in Figure 5 showing the non-wetland waters, which is within the area described as riparian habitat (Section 3.3.1).

3.6 Sensitive Natural Communities

The Study Area contains oak woodland habitat, which is recognized as a sensitive community (G3/S3) (CDFW 2020c). In addition to this formal association consideration, this habitat supports a unique assemblage of rare plant species and is consequently considered a sensitive community.

Figure 4. Biological Resources



Legend

- Study Area (169.1 acres)
- Annual Grassland (40.7 acres)
- Anthropogenic (12.6 acres)
- Oak Savanna (40.9 acres)
- Oak Woodland (24.5 acres)
- Riparian (34.3 acres)
- Ruderal (5.2 acres)
- Upland Forbs (4.3 acres)
- Yellow-Star Thistle (6.6 acres)

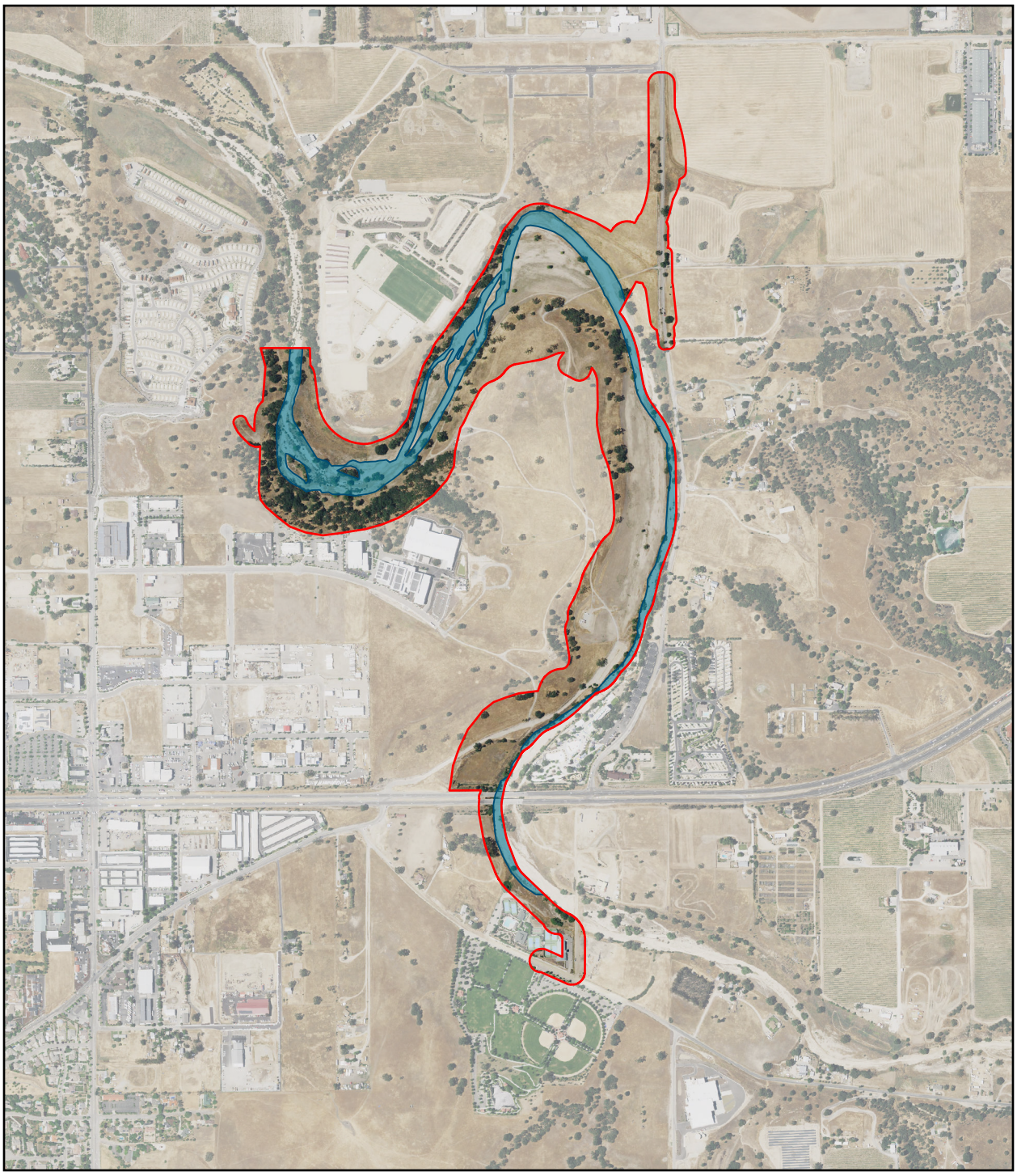
N

0 500 1,000 Feet

Huer Huero Bridge and Roundabout
Map Center: 120.64685°W 35.65098°N
Paso Robles, San Luis Obispo County

Imagery Source: USDA NAIP, 07/14/2018

Figure 5. Wetland Delineation Overview



Legend

Study Area (169.1 acres)

Potential CWA Section 404 Non-Wetland Waters

N

0 1,000 2,000 Feet

Huer Huero Creek Bridge and Roundabout
120.64566°W 35.64965°N
Paso Robles, San Luis Obispo County

Investigator: Katie Brown
Imagery Source: USDA NAIP, 05/21/2020

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BIOLOGICAL AND ENVIRONMENTAL SERVICES

Map Updated:
March 18, 2021 06:09 PM by SAF

3.7 Botanical Resources

Research on special status plant occurrences conducted within the designated search area (see Methods) determined 46 special status plant species are known to occur in the region (Appendix B). Figure 6 depicts the current GIS data for special status plants mapped within a 5 mile radius of Study Area by the CNDDB. No USFWS designated Critical Habitat is present for plants in the Project vicinity.

3.7.1 Special Status Plant Species

Based on an analysis of known ecological requirements for the special status plant species reported from the region and the habitat conditions that were observed, it was determined that a total of 13 special status plant species either occur or potentially occur in the Study Area. Plant species potential to occur was determined by which appropriate habitat and/or soils exist, and/or was historically known to occur onsite or in the vicinity.

One species was confirmed during spring and summer 2020 botanical surveys: elegant wild buckwheat (*Eriogonum elegans*). Analysis determined that 1 species has a high potential to occur: shining navarretia (*Navarretia nigelliformis* ssp. *radians)*; 2 species have a moderate potential to occur: Lemmon's jewelflower (*Caulanthus lemmonii*), Davidson's bush-mallow (*Malacothamnus jonesii*); and 9 species have a low potential to occur: Hoover's bent grass (*Agrostis hooveri*), dwarf calycadenia (*Calycadenia villosa*), San Luis Obispo owl's clover *(Castilleja densiflora* var. *obispoensis*), Douglas' spineflower *(Chorizanthe douglasii*), umbrella larkspur *(Delphinium umbraculorum*), San Benito poppy *(Eschscholzia hypecoides*), Santa Lucia dwarf rush *(Juncus luciensis*), Jones' bush-mallow *(Malacothamnus jonesii*), woodland woolythreads (*Monolopia gracilens*).

These plant species are discussed in further detail below and addressed in Table 5. In addition, no USFWS IPaC resource list plant species have potential to occur within the Study Area based on a lack of suitable habitat and/or the Study Area being outside of the species' known ranges (Table 6). The Project will have **No Effect** on federally-listed plant species.

1. **Hoover's Bent Grass** (*Agrostis hooveri*) is a CRPR 1B.2 species endemic to San Luis Obispo and Santa Barbara Counties. It is known to occur in coastal mountains on dry sandy soils of woodlands, chaparral, and grasslands. It is a perennial bunchgrass that typically blooms between April and July. The closest known record of Hoover's bent grass is a 1958 record from the vicinity of Chimney Rock Ranch, approximately 8.8 miles west of the Study Area (CNDDB #32). The oak woodland and grassland habitats in the Study Area may provide suitable habitat but are lacking the typical sandy soils associated with the plant and there is low potential for the species to occur. Hoover's bent grass was not detected in the Study Area during the spring or summer 2020 surveys.
2. **Dwarf Calycadenia** (*Calycadenia villosa*) is a CRPR 1B.1 species endemic to Fresno, Monterey, San Luis Obispo, and Santa Barbara Counties. It is known to occur in chaparral, cismontane woodland, meadows and seeps, and valley and foothill grassland habitats in rocky areas with fine soils. It is an annual herb that typically blooms between May and October. The closest known record is approximately 6.9 miles northwest of the Study Area within openings of oak woodland habitat at Camp Roberts (CNDDB #59). Portions of the oak woodland and oak savanna habitats with suitable soils may provide suitable habitat for the

species and there is low potential for the species to occur within the Study Area. Dwarf calycadenia was not detected in the Study Area during the spring or summer 2020 surveys.

3. **San Luis Obispo Owl's-clover** (*Castilleja densiflora* ssp. *obispoensis*) is a CRPR 1B.2 subspecies endemic to San Luis Obispo County. It is known to occur in coastal grasslands on sandy or clay soils. It is an annual hemi-parasitic herb that typically blooms between March and May. Three subspecies of *Castilleja densiflora* occur in San Luis Obispo County; only the white form, San Luis Obispo owl's-clover, is considered rare. It is not generally known from inland areas, where purple owl's-clover is more common (*Castilleja densiflora* ssp. *densiflora* and *C. densiflora* ssp. *gracilis*), however there are reports from the Paso Robles and Camp Roberts regions (CNDDB #36, 37 and 42). CNDDB occurrence #42 overlaps with a small portion of the Study Area near the north end of Airport Road. This subspecies was also detected in 2011 along the east bank of Huer Huero Creek, adjacent to the Paso Robles Horse Park (A&M 2011). There is only marginally suitable habitat present in grassland in the Study Area. Based on known records and marginal habitat, there is low potential for this subspecies to occur within the Study Area. San Luis Obispo owl's clover was not detected in the Study Area during the spring or summer 2020 surveys.
4. **Lemmon's Jewel-Flower** (*Caulanthus lemmonii*) is a CRPR 1B.2 subspecies endemic to California. It is known to occur on dry, exposed slopes in grassland and pinyon and juniper woodland habitats. It is an annual herb that typically blooms between February and May. The closest known record overlaps with the Study Area, although the exact location is not known (CNDDB #83). It is a 1960 record and describes the plants as occurring on a steep grassy hillside with oak trees. Appropriate grassland habitat is present within the Study Area and there is moderate potential for Lemmon's jewel-flower to occur. Lemmon's jewel-flower was not detected in the Study Area during the spring or summer 2020 surveys.
5. **Douglas' Spineflower** (*Chorizanthe douglasii*) is a CRPR 4.3 species endemic to San Benito, Monterey and San Luis Obispo Counties. It is known to occur on sandy or gravelly soils in chaparral, cismontane woodland, coastal scrub, and lower montane coniferous forests habitats. It is an annual herb that typically blooms between April and July. The closest known occurrence is a historical (1892) record from Estrella, approximately 3.0 miles northeast of the Study Area (CCH UC84503). The nearest modern record is from 9.0 miles east-southeast where it was noted in rolling, open, grassy hills on sandy, thin soil (CCH CHSC64125). There is marginally suitable habitat present in oak woodland and shrub-dominated areas in the Study Area. Based on known records and marginal habitat, there is low potential for this species to occur within the Study Area. Douglas' spineflower was not detected in the Study Area during the spring or summer 2020 surveys.
6. **Umbrella Larkspur** (*Delphinium umbraculorum*) is a CRPR 1B.3 species endemic to Kern, Monterey, San Luis Obispo, Santa Barbara, and Ventura Counties. It is known to occur in chaparral, cismontane, and moist oak forest habitats. It is a perennial herb that typically blooms between April and June. The closest known record is approximately 8.5 miles west of the Study Area near the community of Adelaida (CNDDB #26). Oak woodlands within the Study Area provide only marginal habitat because they are not suitably moist. Based on known records and marginal habitat, there is low potential for this species to occur within the Study Area. Umbrella larkspur was not detected in the Study Area during the spring or summer 2020 surveys.

7. **Elegant Wild Buckwheat** (*Eriogonum elegans*) is a CRPR 4.3 species endemic to the central coast of California. It is known to occur on sandy or gravelly soil in cismontane woodlands, grasslands. It is an annual herb that typically blooms between May and November. Elegant wild buckwheat was detected in numerous locations along the sandy riparian corridor of the Huer Huero Creek within the Study Area. The northwestern (downstream) reach of the river had the most-dense patches of the plant, with thousands of individuals observed, while the southeastern end had scattered patches of tens to hundreds of plants.



Photo 11. Picture of elegant wild buckwheat (*Eriogonum elegans*) basal rosettes in riparian habitat, March 18, 2020.

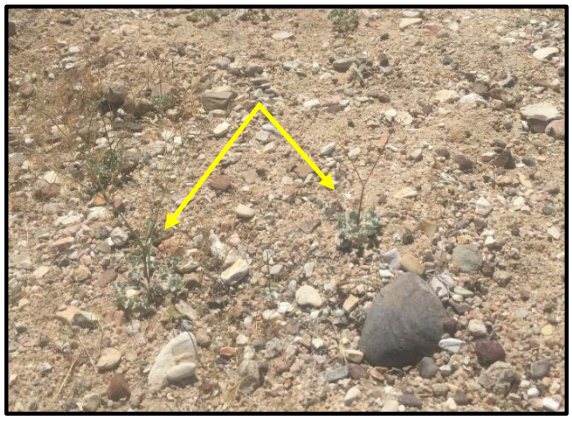


Photo 12. Elegant wild buckwheat (*Eriogonum elegans*) in flower, June 10, 2020.

8. **San Benito Poppy** (*Eschscholzia hypecoides*) is CRPR 4.3 species that occurs in scattered localities throughout much of California but has been most commonly documented in the interior Coast Ranges. It is known to occur on serpentinite clay in cismontane woodland, chaparral, and grassland habitats. It is an annual herb that typically blooms between February and May. The closest known records are from 1937 and 1958 collections along Peachy Canyon Road, west of Paso Robles (CCH UC572240; CCH SBBG2334). Suitable serpentine soils are lacking, and therefore woodland and grassland habitats in the Study Area provide only marginal habitat. Based on known records and marginal habitat, there is low potential for this species to occur within the Study Area. San Benito poppy was not detected in the Study Area during the spring or summer 2020 surveys.
9. **Santa Lucia Dwarf Rush** (*Juncus luciensis*) is a CRPR 1B.2 species endemic to coastal California. It is known to occur in meadows, seeps, vernal pools, chaparral, Great Basin scrub and lower montane coniferous forest. It is an annual herb that typically blooms between April and July. The closest known record is less than 5 miles south of the Study Area and is historical (1937). There is marginally suitable habitat in riparian and shrub-dominated habitats within the Study Area. Based on known records and marginal habitat, there is low potential for this species to occur within the Study Area. Santa Lucia dwarf rush was not detected in the Study Area during the spring or summer 2020 surveys.
10. **Davidson's Bush Mallow** (*Malacothamnus davidsonii*) is a CRPR 1B.2 species that occurs from San Mateo County south to Los Angeles County and is endemic to California. It is known to occur in chaparral, coastal scrub, cismontane woodland, and riparian woodland habitats. It is a perennial deciduous shrub that typically blooms between June and January. The closest known record is approximately 15 miles northwest of the Study Area on Camp

Roberts, where the plant was detected along the sandy floodplain of the San Antonio River (CNDDB #24). There is potentially suitable habitat in riparian and oak woodland habitats in the Study Area. Based on known records and suitable habitat, there is moderate potential for this species to occur within the Study Area. Davidson's bush mallow was not detected in the Study Area during the spring or summer 2020 surveys.

11. **Jones' Bush Mallow** (*Malacothamnus jonesii*) is a CRPR 4.3 species endemic to Monterey, San Luis Obispo, and Santa Barbara Counties. It known to occur in chaparral and cismontane woodland habitats. It is a deciduous perennial shrub that typically blooms between (March) April and October. There are several occurrence records from the Study Area, where the species was found within Huer Huero Creek, south of the Highway 46 bridge (CCH UCR148771). Based on records from 2000, marginal habitat that is disturbed in quality, and the fact that this is a perennial species that would have been seen during botanical surveys, there is low potential for this species to occur within the Study Area. However, likely a seed bank exists from previous records. Jones' bush mallow was not detected in the Study Area during the spring or summer 2020 surveys.
12. **Woodland Woolythreads** (*Monolopia gracilens*) is a CRPR 1B.2 species endemic to California. It is known to occur on serpentine grassland, oak woodland, and open chaparral. It is a perennial herb that typically blooms between March and July. The closest known record is approximately 5 miles west of the Study Area from an area generally described as the Santa Lucia Mountains (CNDDB #2). Based on known records and suitable oak woodland habitat, there is low potential for this species to occur within the Study Area. Woodland woolythreads was not detected in the Study Area during the spring or summer 2020 surveys.
13. **Shining Navarretia** (*Navarretia nigelliformis* ssp. *radians*) is a CRPR 1B.2 subspecies endemic to California, primarily occurring in central California. It is known to occur in vernal pools, grassland, and cismontane woodland habitats, often on clay and alkaline sites. It is an annual herb that typically blooms between (March) April and July. Shining navarretia is known to be present immediately adjacent to the northwestern portion of the Study Area where it occurs in annual grassland habitat (A&M 2018; A&M 2016; CNDDB #4). The CNDDB also noted numerous other occurrences within 1 mile of the south end of the Study Area. Suitable habitat for the plant is present within the upland forbs, oak savanna, and annual grassland habitats within the Study Area and there is high potential for the species to occur; however, shining navarretia was not detected in the Study Area during the spring or summer 2020 surveys.

TABLE 5. SPECIAL STATUS PLANT LIST

	Common Name	Scientific Name	Federal/State Status Global/State Rank CA Rare Plant Rank	Blooming Period	Habitat Preference	Potential to Occur
1.	**Hoover's Bent Grass**	*Agrostis hooveri*	-/- G2/S2 1B.2	Apr-Jul	Sandy sites within chaparral, cismontane woodland, coniferous forest, valley and foothill grassland.	Low. Marginally suitable habitat occurs within the Study Area. Historic occurrence (CNDDB #32) located 8.8 miles to west.
2.	**Dwarf Calycadenia**	*Calycadenia villosa*	-/- G3/S3 1B.1	May-Oct	Dry, rocky hills, ridges, grassland, openings in foothill woodland.	Low. Suitable habitat present. Nearest record of occurrence 6.9 miles northwest (CNDDB #59).
3.	**San Luis Obispo Owl's-Clover**	*Castilleja densiflora* var. *obispoensis*	-/- G5T2/S2 1B.2	Mar-May	Valley and foothill grassland, meadows and seeps. Sometimes serpentinite.	Low. Marginal habitat occurs within the Study Area. Recent occurrence (CNDDB #42) adjacent to northern extent of Study Area.
4.	**Lemmon's Jewelflower**	*Caulanthus lemmonii*	-/- G3/S3 1B.2	Feb-May	Grassland, chaparral, scrub.	Moderate. Suitable habitat occurs within the Study Area and historic occurrence (CNDDB #83) located adjacent to the site.
5.	**Douglas' Spineflower**	*Chorizanthe douglasii*	-/- G4/S4 4.3	Apr-Jul	Cismontane woodland, lower montane coniferous forest, chaparral, coastal scrub, valley and foothill grassland; in sand or gravel.	Low. Suitable habitat occurs within Study Area, but no recent records occur within 9 miles.

	Common Name	Scientific Name	Federal/State Status Global/State Rank CA Rare Plant Rank	Blooming Period	Habitat Preference	Potential to Occur
6.	**Umbrella Larkspur**	*Delphinium umbraculorum*	-/- G3/S3 1B.3	Apr-Jun	Moist oak forest; Cismontane woodland and chaparral.	Low. Marginal suitable habitat occurs within the Study Area and historic occurrence (CNDDB 26) located >5 miles away.
7.	**Elegant Wild Buckwheat**	*Eriogonum elegans*	-/- G4G5/S4S5 4.3	May-Nov	Cismontane woodland, valley and foothill grassland. Usually in sandy or gravelly substrates; often in washes, sometimes roadsides.	**Present**. Species encountered in the Riparian habitat within the Study Area, located in sandy soils and terraces throughout Huer Huero Creek.
8.	**San Benito Poppy**	*Eschscholzia hypecoides*	-/- G4/S4 4.3	Mar-Jun	Grassy areas in woodland, chaparral	Low. Suitable habitat present and historic CCH records located <5 miles to west.
9.	**Santa Lucia Dwarf Rush**	*Juncus luciensis*	-/- G3/S3 1B.2	Apr-Jul	Wet, sandy soils of seeps, meadows, vernal pools, streams, roadsides.	Low. Suitable habitat present within the Study Area. Historic CCH record (1958) located >5 miles south.
10.	**Davidson's Bush-Mallow**	*Malacothamnus davidsonii*	-/- G2/S2 1B.2	Jun-Jan	Riparian woodland, chaparral, cismontane woodland. Slopes, washes	Moderate. Suitable habitat within Study Area. Shrub not detected during surveys and no records within 15 miles.
11.	**Jones' Bush-Mallow**	*Malacothamnus jonesii*	-/- G4/S4 4.3	Mar-Oct	Open chaparral in foothill woodland.	Low. Suitable habitat and record within Study Area (CCH UCR148771). Shrub not detected during surveys.

	Common Name	Scientific Name	Federal/State Status Global/State Rank CA Rare Plant Rank	Blooming Period	Habitat Preference	Potential to Occur
12.	**Woodland Woolythreads**	*Monolopia gracilens*	-/- G3/S3 1B.2	Feb-Jul	Serpentine grassland, open chaparral, oak woodland.	Low. Marginal suitable habitat. Closest known record is historic and approximately 5 miles west (CNDDB #2) of the Study Area off Adelaida Road.
13.	**Shining Navarretia**	*Navarretia nigelliformis* ssp. *radians*	-/- G4T2/S2 1B.2	Mar-Jul	Grassland and cismontane woodland. Often on clay and alkaline sites, sometimes vernal pools. 65-1,000 m.	**High**. Suitable habitat located within Study Area and recent occurrence (CNDDB 4) located adjacent to NW portion of Study Area.

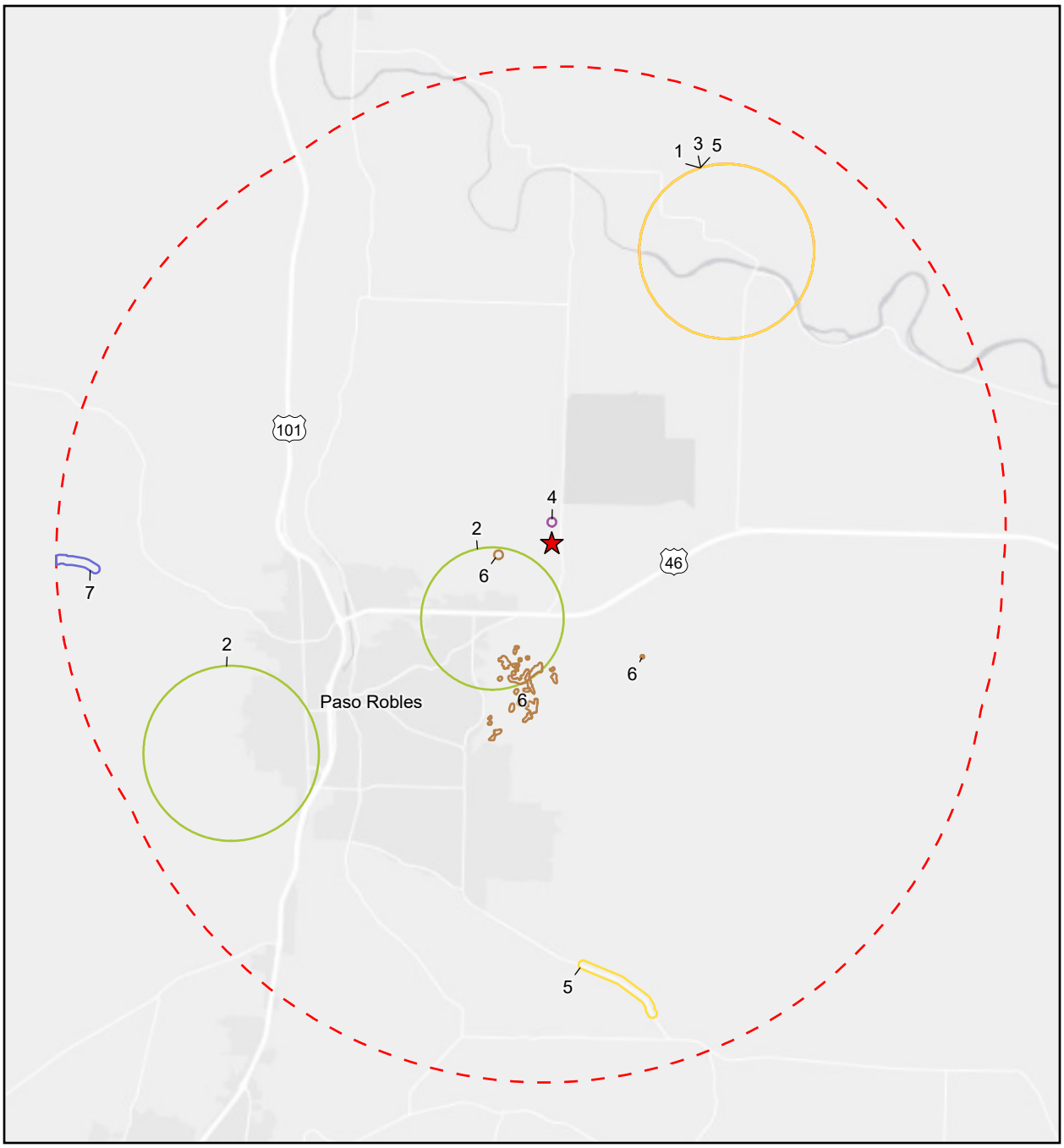
See section 1.5 for status and rank definitions

TABLE 6. FEDERALLY LISTED PLANT SPECIES REVIEWED

	Common Name	Scientific Name	Federal/State Status Global/State Rank CA Rare Plant Rank	Blooming Period	Habitat Preference	Potential to Occur
A.	**Marsh Sandwort***	*Arenaria paludicola*	FE/CE G1/S1 1B.1	May-Aug	Wet meadows, marshes, swamps. Sandy soils	No. Suitable habitat not present; coastal species.
B.	**California Jewelflower***	*Caulanthus californicus*	FE/CE G1/S1 1B.1	Feb-May	Flats, slopes, generally in non-alkaline grassland.	No. Suitable habitat not present and Study Area outside of species known range. Nearest occurrence is toward the coast over 20 miles west (UC857363).
C.	**Santa Lucia Purple Amole**	*Chlorogalum purpureum var. purpureum*	FT/- G2T2/S2 1B.1	Apr-Jun	Open woodland	No. Suitable habitat not present and Study Area outside of variety's range.
D.	**Spreading Navarretia**	*Navarretia fossalis*	FT/- G2/S2 1B.1	Apr-Jun	Vernal pools, ditches	No. Only one historical record in County, over 12 miles south. Mostly known from Ventura County and further south.

* Plant not reported from region but included on USFWS IPaC list for Project.

Figure 6. California Natural Diversity Database Plant Records



Label	Common Name
1	Jared's pepper-grass
2	Lemmon's jewelflower
3	Oval-leaved snapdragon
4	San Luis Obispo owl's-clover
5	Santa Lucia dwarf rush
6	Shining navarretia
7	Woodland woollythreads

Legend

5-Mile Buffer

Project Location

N

0 1 2 Miles

Huer Huero Bridge and Roundabout
Map Center: 120.64662°W 35.65099°N
Paso Robles, San Luis Obispo County

CNDDB GIS Data Last Updated: October 2020

3.7.2 Botanical Survey Results

Botanical surveys conducted in spring and summer 2020 identified 139 species, subspecies, and varieties of vascular plant taxa in the Study Area. The list includes 94 species native to California and 45 introduced (naturalized or planted) species. Native plant species account for approximately 68 percent of the Study Area flora; introduced species account for approximately 32 percent. See Appendix C for a complete list of all vascular plants identified within the Study Area.

3.8 Wildlife Resources

Research on special status animal occurrences conducted within the designated search area (see Methods) determined 43 special status animal species are known to occur in the region (Appendix D). Figure 7 and Figure 8 depict the current GIS data for special status species mapped near the Study Area by the CNDDB and USFWS Critical Habitat.

3.8.1 Special Status Animal Species

Based on an analysis of known ecological requirements for the special-status wildlife species reported or known from the region, and the habitat conditions that were observed, a total of 18 special status animal species either occur or potentially occur in the Study Area. Animal species potential was determined by which appropriate habitat and/or conditions exist, and/or historical occurrence in the vicinity.

Six species were confirmed during 2020 biological surveys: golden eagle (*Aquila chrysaetos*), oak titmouse (*Baeolophus inornatus*), northern harrier (*Circus cyaneus*), loggerhead shrike (*Lanius ludovicianus*), yellow-billed magpie (*Pica nuttallii*), Lawrence's goldfinch (*Spinus lawrencei*). Analysis determined that 2 species have a high potential to occur: pallid bat (*Antrozous pallidus*), Lewis's woodpecker (*Melanerpes lewis*); 6 species have a moderate potential to occur: northern California legless lizard (*Anniella pulchra*), Crotch bumble bee (*Bombus crotchii*), ferruginous hawk (*Buteo regalis*), hoary bat (*Lasiurus cinereus*), coast horned lizard (*Phrynosoma blainvillii*), American badger (*Taxidea taxus*); and 4 species has a low potential to occur burrowing owl (*Athene cunicularia*), California horned lark (*Eremophila alpestris actia*), Monterey dusky-footed woodrat (*Neotoma macrotis luciana*), San Joaquin kit fox (*Vulpes macrotis mutica*).

Due to habitat specifications and range restrictions the California red-legged frog (*Rana draytonii*), and vernal pool fairy shrimp (*Branchinecta lynchii*) do not have potential to occur at the Study Area, but were added to the discussion because of their high level of sensitivity. A total of 20 species are discussed below and are listed in Table 7. No USFWS IPaC resource list animal species have potential to occur within the Study Area based on a lack of suitable habitat and/or the Study Area being outside of the species' known ranges (Table 8). This Project will have **No Effect** on federally-listed animal species.

1. **Northern California legless lizard** (*Anniella pulchra*) is a California Species of Special Concern that occurs from Contra Costa to Santa Barbara County. It has a Global Rank of G3 and a State Rank of S3, both of which indicate that this species is considered Vulnerable. This species includes the subspecies formerly treated as *A. pulchra nigra* and *A. pulchra pulchra* which was shown to be an invalid designation (Pearse and Pogson 2000). Northern California legless lizard inhabits friable soils in a variety of habitats from coastal dunes to oak woodlands

and chaparral. Adapted to subterranean life, the legless lizard thrives near native coastal shrubs that produce an abundance of leaf litter and have strong roots systems (Kuhnz et al. 2005). Areas of exotic vegetation and open grassland do not provide suitable habitat for the legless lizard since these plant communities support smaller populations of insect prey and offer little protection from higher ground temperatures and soil desiccation (Slobodchikoff and Doyen 1977; Jennings and Hayes 1994). The closest reported occurrence of the northern California legless lizard overlaps the Study Area (CNDDB #156). It is a historical record from 1954 with a described locality of the vicinity of Huer Huero Creek and Union Road. Suitable habitat for legless lizard is present in the Study Area within oak woodland and riparian areas that contain *Baccharis* shrubs and there is moderate potential for the species to occur in these areas. No northern California legless lizards were observed in the Study Area during the 2020 surveys.

2. **Pallid bat** (*Antrozous pallidus*) is a California Species of Special Concern. The pallid bat is a large, long-eared bat that occurs throughout the state and occupies a wide variety of habitats. Although most common in open, dry areas ideal for foraging with rocky outcrops for roosting, pallid bats are also found regularly in oak and pine woodlands where they roost in caves, mines, rock crevices, hollow trees and buildings (Nowak et al. 1994). Bridges are also frequently used by pallid bats, often as night roosts between foraging periods (Pierson et al. 1996) (Photo 13). The closest reported occurrence of pallid bat is a roosting site approximately 6.7 miles north at the River Road Bridge crossing of the Salinas River (CNDDB #104). Suitable roosting sites within the Study Area include the underside of the Highway 46 bridge over Huer Huero Creek, and large oak trees with crevices and cavities. There is high potential for the species to roost or forage in the Study Area. No pallid bats were observed during the 2020 surveys of the Study Area, but specialized bat surveys were not conducted.

3. **Golden eagle** (*Aquila chrysaetos*) is designated a Fully Protected species by the CDFW and is federally protected by the Bald and Golden Eagle Protection Act. The species range extends throughout much of North America and in California is found in broadleaved upland and montane coniferous forests, cismontane, pinon and juniper woodlands, coastal prairie, great basin scrub and great basin, valley and foothill grassland habitat types (CDFW 2020a). Most golden eagles in California are residents year-round, but in the winter months this population will be augmented with individuals from other nearby western states. The breeding season in California is generally from late January through August. The golden eagle prefers open habitat and in California it extensively utilizes grazed grasslands and open shrublands for preying on its main food source of hares or rabbits and marmots or ground squirrels (Hunt 1995; Watson 2010). Studies have shown that both the golden Eagle's reproduction rate and success declines with a decrease in prey abundance. The Golden Eagle will even refrain from egg laying when prey numbers are low (Driscoll 2010). In California, the golden eagle nests almost exclusively in trees (82% trees in central California) but in montane regions it also has a preference for cliffs and will avoid nesting in densely forested habitat (Hunt 1995; Pagel et al. 2010). The golden eagle is highly sensitive to anthropogenic presences and will avoid nesting near urban areas (Pagel et al. 2010). Golden eagles will even abandon nests when human activity and development increases in their territory (Driscoll 2010). The closest CNDDB occurrence of nesting golden eagles overlaps with the northwestern end of the Study Area (CNDDB #122). Golden eagles have been known to nest in large oak trees along the bank of the Huer Huero in this area. Nesting behavior, including an adult eagle at a nest, was observed in this area in 2018 by A&M biologists while monitoring work at the adjacent Cava

Robles RV Resort. No chicks were observed during the 2018 monitoring effort and the nest did not appear successful. Golden eagles and two large stick nests were detected within the Study Area during the 2020 biological surveys for the Huer Huero Bridge and Roundabout Project. Golden eagle surveys were conducted in February, April, and May 2020, and while a pair of eagles was observed each time, no nesting behavior was observed (Photo 14). The nest which was occupied in 2018 collapsed between February and April 2020. Inspections of the collapsed nest and vicinity was surveyed multiple times in spring 2021 and saw eagles, but no active nest. Due to the known occurrences of golden eagles nesting in the area, there is high potential for the species to nest in large trees along the riverbed in the Study Area.



Photo 13. Highway 46 bridge crossing Huer Huero Creek at southern end of Study Area provides suitable bat roosting habitat. View north. March 18, 2020.



Photo 14. Pair of golden eagles observed in Study Area on May 12, 2020.

4. **Burrowing owl** (*Athene cunicularia*) is a California Species of Special Concern. It is a small, rare owl that occupies abandoned mammal holes in the ground, most notably those of the California ground squirrel (*Otospermophilus beecheyi*). In California, the burrowing owl is a year-round resident in the Carrizo Plain, Central Valley, Imperial Valley and the San Francisco Bay region. In the winter months, burrowing owl individuals from other western populations will augment the year-round Californian populations (Shuford and Gardali 2008). The breeding season is generally from March through August. Suitable habitat types for the burrowing owl are dry, open annual or perennial grasslands and deserts with an abundance of burrows (CDFW 2014; CDFW 2020a). The burrowing owl commonly nests in abandoned holes in the ground, most notably those of the California Ground squirrel, but the owl is also known to inhabit badger and fox dens and man-made holes, such as pipes and culverts. *Orthoptera* (e.g., grasshoppers, crickets) are the main food source for the owl but it will also consume other insects, as well as amphibians, carrion, small mammals, reptiles and birds (York et al. 2002; Gervais et al. 2008; CDFW 2014). The closest reported occurrence of the burrowing owl is a cluster of records from Camp Roberts, located approximately 8.8 miles northwest of the Study Area (CNDDB #258, #725, #1196). The open oak savanna and annual grassland habitat within the Study Area provide potentially suitable wintering habitat for burrowing owl, but only marginally suitable breeding habitat, and there is low potential for the species to occur. No burrowing owls or sign of burrowing owls, such as whitewash, feathers, or potential burrows, were observed during the 2020 surveys of the Study Area.

5. **Oak titmouse** (*Baeolophus inornatus*) is a Special Animal with nesting occurrences tracked by the CNDDB. The species is found year-round in suitable habitats (oak woodland, mixed oak-pine woodland, or juniper woodland) from northern California through northern Baja California, Mexico. They feed on insects, nuts and seeds and nest within tree cavities. It is a common species in oak woodlands on the central coast but is tracked by the CDFW due to state-wide losses of oak woodland habitat. The CNDDB does not report occurrences of oak titmouse in the vicinity of the Study Area, however the species was observed foraging among oak trees in the Study Area during the March and April surveys. Additionally, the species has been documented on properties adjoining the Study Area (A&M 2008b; A&M 2014). The oak savanna and oak woodland habitat provide suitable habitat for the species and it is expected to nest in the Study Area.

6. **Crotch bumble bee** (*Bombus crotchii*) is designated by California Department of Fish and Wildlife (CDFW) as a Special Animal and is presently a Candidate for listing under the California Endangered Species Act. Crotch bumble bee is known from California, western Nevada, and northern Baja California, Mexico. The species inhabits open grassland and scrub habitats. Requirements for this, as well as all, bumble bee species include suitable nesting sites, pollen and nectar sources, and suitable overwintering sites for the queen. In California, the flight period for the queens approximately February to late October, peaking in early April, with a second pulse in July and the flight period for workers and males is from late March through September with a peak in July (Thorp et al. 1983). In general, bumble bees forage from a diversity of plants, although individual species can vary greatly in their plant preferences, largely due to differences in tongue length (Hatfield et al. 2015). Crotch bumble bees are classified as a short-tongued species, whose food plants include *Asclepias*, *Chaenactis*, *Lupinus*, *Medicago*, *Phacelia*, and *Salvia* (Williams et. al. 2014). Little is known about overwintering for this species, however in general for bumble bees, suitable overwintering sites for queens may include soft, undisturbed soils, leaf litter, or under other debris. The closest reported occurrence of Crotch bumble bee is a historical record (from 1959) described as the general vicinity of Atascadero (CNDDB #79). The oak savanna, annual grassland, and yellow-star thistle field habitats may provide suitable nesting and overwintering sites for Crotch bumble bee; suitable food sources were present during site surveys. There is moderate potential for this species to occur in the Study Area. No bumble bees were detected during the 2020 surveys of the Study Area.

7. **Vernal Pool Fairy Shrimp** (*Branchinecta lynchi*) is a small freshwater crustacean that is federally listed as threatened and occurs in the Central Valley of California from Shasta County to Tulare County and the central and southern Coast Ranges from northern Solano County to Ventura County, California (USFWS 2003). This shrimp is found in grasslands in cool, clear-water sandstone-depression, grassed swale, earth slump and basalt-flow depression pools with a higher occurrence in Redding, Corning and Red Bluff soils (Helm 1998; CDFW 2019a). Preferred pool depth by the shrimp ranges from 2-122 cm. Individuals hatch from cysts during cold-weather winter storms and require water temperatures of 50°F or lower to hatch (Helm 1998; Eriksen and Belk 1999). The time to maturity and reproduction is temperature dependent, varying between 18 days and 147 days, with a mean of 39.7 days. Immature and adult shrimp are known to die off when water temperatures rise to approximately 75°F (Helm 1998). The species is typically associated with smaller and shallower vernal pools (typically about 6 inches deep) that have relatively short periods of inundation (Helm 1998) and relatively low to moderate total dissolved solids (TDS) and alkalinity. Appropriate depression or pool

habitat are not present in the Study Area. Nearest known records occur approximately 0.5-mile east of the Study Area (CNDDB #287). Vernal pool fairy shrimp does not have potential to occur within the Study Area.

8. **Ferruginous hawk** (*Buteo regalis*) is a California Special Animal tracked by the CDFW due to declining populations throughout its range. Only a very small number of Ferruginous hawk nests have in been found in the northeast part of California and the species is considered a winter visitor or migrant to the state. In California the Ferruginous hawk is found in great basin, valley and foothill grassland, great basin scrub and pinon and juniper woodlands (CDFW 2020a). The bird prefers large, open grasslands for coursing low in search of prey, and scattered trees, power poles, and shrubs for perching. The Ferruginous Hawk tends to avoid habitat near human development (Travsky and Beauvais 2005; CDFW 2014). Its main prey sources are ground squirrel (*Otospermophilus beecheyi*), kangaroo rat (*Dipodomys californicus*), cottontail *(Sylvilagus* spp.), northern pocket gopher (*Thomomys talpoides*) and white-tailed jackrabbit (*Lepus townsendii*). They will also eat insects, birds, amphibians and reptiles (Grindrod 1998). Ferruginous Hawk occurs within San Luis Obispo County from November through April (CDFW 2020a). The closest reported occurrence of the Ferruginous Hawk is located approximately 10 miles northwest at Camp Roberts (CNDDB #75). There is a moderate potential for this species to occur in the Study Area. The Ferruginous hawk was not observed on the Property during the 2020 site surveys but could be present in low numbers in the winter season.
9. **Northern harrier** (*Circus hudsonius*) is a California Species of Special Concern found year-round throughout California (CDFW 2014). They occur in greater numbers during migration and less during the breeding season. Northern harriers are typically found in open habitats such as marshes, fields, and prairies. The species nests on the ground in grasses or wetland vegetation (Loughman & McLandress 1994). Potentially suitable nesting habitat is present in grassland in the Study Area, and a Northern harrier was observed overhead during the 2020 site surveys.
10. **California horned lark** (*Eremophila alpestris actia*) is a CDFW Watch List species known from Sonoma County south to San Diego County, as well as east to the foothills of the Sierra Nevada Mountains. It breeds in opens, flat habitats with short vegetation, including grasslands, alkali flats, fallow grain fields, and meadows. Horned larks are common in the interior areas of San Luis Obispo County. They are known to make local movements through the seasons, and may not breed in all areas they are observed. The closest reported CNDDB occurrence of California horned lark is approximately 13.7 miles north of the Study Area, at Camp Roberts (CNDDB #59). The annual grassland habitat provides marginally suitable nesting habitat; however, this subspecies of horned lark tends to be more of an inland species and therefore has low potential to occur. No California horned larks were observed during the 2020 surveys of the Study Area.
11. **Loggerhead shrike** (*Lanius ludovicianus*) is a California Species of Special Concern and resident in arid regions of San Luis Obispo County and elsewhere in California. It requires open areas with appropriate perches for hunting, and shrubby trees or bushes for nesting. They feed on arthropods, reptiles and amphibians, small rodents, and birds, and often store prey for later consumption by impaling it on thorns, plant stems, or barbed wire for storage (Shuford and Gardali 2008). Loggerhead shrike records did not appear in the CNDDB search results for the area; however, the species was observed during both March and April surveys of the Study

Area. Suitable foraging and nesting habitat is present and there is high potential for the species to nest in the Study Area.

12. **Hoary bat** (*Lasiurus cinereus*) is a Special Animal tracked by CDFW. It is widely distributed throughout most of California, though it is uncommon in southeastern deserts. Roosting habitat is primarily woodlands and forests, and it forages for moths in open areas and along habitat edges (CDFW 2014). Hoary bats roost mainly in dense foliage of medium to large deciduous or coniferous trees, near the ends of branches, typically in trees at the edge of a clearing. Roosting has also been documented in caves, under rock ledges, and in tree hollows (Bolster 2005). The closest reported occurrence of hoary bat is a historical record (1940) of a specimen collected approximately 11.5 miles northwest of the Study Area (CNDDB #111). The oak woodland habitat in the Study Area provides suitable roosting habitat for hoary bat and there is moderate potential for the species to occur in the Study Area. No hoary bats were detected during the 2020 surveys of the Study Area, but specialized bat surveys were not performed.

13. **Lewis's Woodpecker** (*Melanerpes lewis*) is a is a Special Animal with nesting occurrences tracked by CDFW. The species range includes much of the western U.S. and in San Luis Obispo County the species may occur as a winter migrant or uncommonly as a year-round resident. Lewis's woodpecker requires open habitats with scattered trees and snags with cavities. Nests are in cavities in tree snags or dead parts of live trees, typically cottonwood, oak, or conifers. Lewis's woodpecker forages primarily on insects in spring and summer, and winter food consists mostly of cached acorns or nuts used in the nonbreeding season (CDFW 2014). There are no CNDDB records of nesting Lewis's woodpeckers within the search area, however A&M documented the species nesting adjacent to the Study Area in 2016, and within the northern portion of the Study Area in 2014 (A&M 2014; L. Herrera pers. communication, May 15, 2020). The oak woodland and oak savanna provide suitable habitat for the species and there is high potential for the animal to forage and nest in these areas. No Lewis's woodpeckers were observed during the 2020 surveys of the Study Area.

14. **Monterey dusky footed woodrat (***Neotoma macrotis luciana*) is a California Species of Special Concern (CDFW 2018) and has a Global Rank of G5T3 (rounded status of T3 – Vulnerable) and a State Rank of S3 (Vulnerable) (NatureServe 2018). According to NatureServe, this species is threatened by habitat loss due to coastal development. However, a significant portion of its range is protected by the Los Padres National Forest, and the species seems to respond favorably to restoration of riparian habitats (NatureServe 2018). Its range extends from the Santa Lucia Mountains in Monterey Bay to Morro Bay and northwestern San Luis Obispo County (Wilson and Ruff 1999; CNDDB 2018). Monterey dusky-footed woodrat occurs in broadleaved upland forest and chaparral with moderate canopy and moderate to dense understory. It constructs nests using grass, leaves, sticks, feathers, etc. The availability of nest materials may be a limiting factor for population growth. The closest reported occurrence of the Monterey dusky footed woodrat is from 1997 near the Camp Roberts training area, approximately 9 miles west of the Study Area (CNDDB #1). There is only marginally suitable habitat present in the few areas of oak woodland with denser understory, therefore there is low potential for this species to occur in the Study Area. No woodrats or woodrat mounds were observed during 2020 site surveys. Small mammal trapping was not conducted.

15. **Coast horned lizard** (or Blainville's horned lizard) (*Phrynosoma blainvillii*) is a California Species of Special Concern. The coast horned lizard is distributed from northern Baja

California through Northern California occurring in open areas of valley foothill hardwood, conifer, riparian, pine-cypress, juniper and annual grassland habitats (Laudenslayer 2007). The horned lizard needs friable sandy soil with rocks and logs essential for burrows and reproduction (Laudenslayer 2007, Gerson 2011). Appropriate habitat for the horned lizard must include an abundance of the native harvester ant (*Pogonomyrmex* and *Messor*). The non-native Argentine ant (*Linepithema humile*) is detrimental to horned lizard food resources as it is out competing the native harvester ant, and the lizard will not eat the Argentine ant (CNDDB 2020a, Gerson 2011). Very little data exists on the habitat requirement for reproduction of the coast horned lizard; however, it has been reported that in southern California the egg laying season is from late May through June (CDFW 2014). The closest reported occurrence of the coast horned lizard is a record of multiple individuals observed along the edge of the Salinas River floodplain, approximately 7.7 miles north of the Study Area (CNDDB #727). Suitable habitat for coast horned lizard is present along the sandy riverbed and open areas within grassland and yellow-star thistle fields. There is moderate potential for the species to occur in the Study Area. No coast horned lizards were observed during the 2020 site surveys.

16. **Yellow-billed magpie** (*Pica nuttallii*) is a Special Animal tracked by the CNDDB (nesting and communal roosts sites) that is endemic to the Central Valley of California, from Sacramento south to Santa Barbara. It is a resident of oak savanna and open oak woodlands, where it lives and breeds in communal groups. The CNDDB does not document yellow-billed magpie nesting occurrences in the vicinity of the Study Area, however the species is known to nest on adjacent property along Huer Huero Creek (A&M 2014). Suitable nesting and foraging habitat is present within the oak woodland and oak savanna habitats and there is high potential for nesting. The species was observed within the Study Area during 2020 surveys.

17. **California Red-legged Frog** (*Rana draytonii*) is a federally listed threatened species and a California Species of Special Concern. It occurs in California in the Coast Range, Sierras, the Transverse Range and south below 1,200 meters elevation (CDFW 2014, Sousa 2008). The main habitat types for the CRLF are deep, still or slow-moving sources of water in lowlands and foothills with shrubby, riparian, or vegetative shorelines for cover (CDFW 2014, Jennings and Hayes 1994). The most suitable vegetation types for cover are cattails (*Typha sp.*), arroyo willow (*Salix lasiolepis*) and bulrushes (*Scirpus sp.*) (Jennings and Hayes 1994). Along with its aquatic habitat, the CRLF also utilizes upland habitat for seeking food, shelter and as migration corridors between breeding and non-breeding sites. Bulger et al. (2003) found that during dry summer months, CRLF were nearly always within 5 meters of a pond; however during summer rain events and early winter rains, frogs moved up to 130 meters from their ponds, and some frogs even traveled up to 2800 meters to migrate to a different pond. When out of the water the CRLF will shelter under natural or manmade debris and burrow into moist leaf litter or small animal burrows (USFWS 2010). The breeding season for the CRLF is from January to July with a peak in March (CDFW 2014). One major cause of CRLF population decline is the introduction of the bullfrog (*Rana catesbeiana*) which can consume and exhaust CRLF resources (Sousa 2008). There is no suitable breeding habitat within the Study Area, and the Study Area is not located within 2800 meters of identified or potential CRLF breeding habitat. The closest recorded CRLF occurrence is 8.3 miles south of the Study Area in Graves Creek, a tributary to the Salinas River (CNDDB #618). Due to the Study Area's lack of suitable aquatic habitat and distance from potential aquatic habitat, this species has no potential to occur within the Study Area.

18. **Lawrence's goldfinch** (*Spinus lawrencei*) is a Special Animal tracked by the CNDDB (nesting occurrences only) that nests in oak habitats in the mountain areas of northern and eastern San Luis Obispo County, and elsewhere in California. Flocks of Lawrence's goldfinches tend to be highly mobile, moving to seasonal food sources. The CNDDB does not document nesting occurrences of Lawrence's goldfinch in the vicinity of the Study Area, however the species was recoded as nesting on adjacent property in 2014 (A&M 2014). Suitable nesting habitat is available in the oak savanna and oak woodland habitat within the Study Area and the species was observed during 2020 site surveys.

19. **American badger** (*Taxidea taxus*) is a California Species of Special Concern with a widespread range across the state (Brehme et. al. 2015, CDFW 2014). It is a permanent but uncommon resident in all parts of California, except for forested regions of the far northwestern corner, and is more abundant in dry, open areas of most shrub and forest habitats (CNDDB 2020a). The American badger requires friable soil to dig burrows for cover and breeding. The main food source for the species is fossorial rodents, mainly ground squirrels and pocket gophers (CDFW 2014). The breeding season for badgers is in summer and early fall, and females give birth to litters usually in March and April (CDFW 2014). The closest reported occurrence of the American badger is located approximately 5.7 miles southwest of the Study Area, near the community of Templeton (CNDDB #23). The oak woodland, oak savanna, and annual grassland habitats provide suitable habitat and foraging opportunities for the American badger and there is a moderate potential for the species to occur within the Study Area. No American badgers, or sign of badger activity, such as dens or dig-outs, were observed during 2020 site surveys.

20. **San Joaquin Kit Fox** (*Vulpes macrotis mutica*; SJKF) is federally listed as endangered and state listed as threatened. The SJKF is one of two subspecies of the kit fox, *Vulpes macrotis*, which is the smallest canid species in North America. It is endemic to the San Joaquin Valley and a few adjacent valleys in the central region of California (Cypher et al. 2013). The SJKF is primarily nocturnal and typically occurs in annual grassland or mixed shrub/grassland habitats throughout low, rolling hills and in valleys. They need loose sandy soils to dig their burrows and a prey population of black-tailed jackrabbits, rodents, desert cottontails, insects, some birds, reptiles and vegetation (CDFW 2014, CDFW 2020a). The most suitable habitat for SJKF has low precipitation, sparse vegetation coverage with high densities of kangaroo rats (*Dipodomys* spp.). For the SJKF to succeed in an area it needs large expanses of non-fragmented suitable habitat. This type of habitat is decreasing rapidly by conversion into agricultural land or degraded by urban development (Cypher et al. 2013). Female SJKF began preparing natal dens in September and October and then breeding occurs from December through February. Pups are born from January to March and family groups typically split up the following October (Meaney et al. 2006). The closest reported occurrence of SJKF is from approximately 0.5 mile south of the Study Area and documents a den site and adult observed in 1990 and 1991 within the grassland and dry farmland of north Chandler Ranch (CNDDB #941). The annual grassland and open oak savanna habitat may provide suitable foraging and denning habitat for San Joaquin kit fox, however increased development and viticulture in the region has reduced contiguous habitat between the Study Area and known extant populations of the animal. Huer Huero Creek could serve as a wildlife corridor; however, there is a low potential for this species to occur because it is likely extirpated from incorporated areas of Paso Robles. No SJKF or sign of kit fox, such as tracks, scat, or potential dens were observed during the 2020 site surveys.

TABLE 7. SPECIAL STATUS ANIMAL LIST

	Common Name	Scientific Name	Federal/ State Status Global/ State Rank CDFW Status	Habitat Preference	Potential to Occur
1.	Northern California Legless Lizard	*Anniella pulchra*	-/- G3/S3 SSC	Sandy or loose loamy soils under coastal scrub or oak trees. Soil moisture essential.	Moderate. Suitable habitat is present in oak woodland and shrub habitat within the Study Area. There is a historic record within the Study Area, but it is nearly 70 years old.
2.	Pallid Bat	*Antrozous pallidus*	-/- G5/S3 SSC	Rock crevices, caves, tree hollows, mines, old buildings, and bridges.	High. Suitable roosting habitat present in large trees and under Highway 46 bridge in Study Area.
3.	Golden Eagle	*Aquila chrysaetos*	-/- G5/S3 FP	Nests in large, prominent trees in valley and foothill woodland. Requires adjacent food source.	Present. Observed during in Study Area during site surveys. Documented nesting previously in Study Area.
4.	Burrowing Owl	*Athene cunicularia*	-/- G4/S3 SSC	Burrows in squirrel holes in open habitats with low vegetation.	Low. Potentially suitable wintering and marginally suitable breeding habitat is present in the Study Area. There are no confirmed breeding records within the vicinity of the Study Area.
5.	Oak Titmouse*	*Baeolophus inornatus*	-/- G5/S3? SA	Nests in cavities in oak woodland habitat. Non-migratory.	Present. Observed in Study Area during site surveys. Suitable nesting habitat is present in oak woodland habitat in Study Area.
6.	Crotch Bumble Bee	*Bombus crotchii*	-/CCE G3G4/S1S2 SA	Open grassland and scrub habitats.	Moderate. Suitable habitat is present in grassland within Study Area, but the nearest known records are over 50 years old.

	Common Name	Scientific Name	Federal/ State Status Global/ State Rank CDFW Status	Habitat Preference	Potential to Occur
7.	Ferruginous Hawk	*Buteo regalis*	-/- G4/S3S4 WL	Winters locally in open grassland or savanna habitats. More common in interior SLO County than coast.	Moderate. Moderately suitable wintering habitat present within Study Area.
8.	Vernal Pool Fairy Shrimp	*Branchinecta lynchi*	FT/- G3/S3 SA	Clear water sandstone depression pools, grassed swale, earth slump, or basalt flow depression pools.	None. Suitable vernal pool habitat is not present within the Study Area.
9.	Northern Harrier*	*Circus hudsonius*	-/- G5S3 SSC	Nest on ground in tall reeds or grasses.	Present. Observed in Study Area during site surveys. Potentially suitable nesting habitat is present.
10.	California Horned Lark	*Eremophila alpestris actia*	-/- G5T4Q/S4 WL	Nests on the ground in open habitats. More common in the interior.	Low. Marginally suitable habitat is present in grassland in the Study Area.
11.	Loggerhead Shrike*	*Lanius ludovicianus*	-/- G4/S4 SSC	Prefers open country for hunting, with perches for scanning, and fairly dense shrubs and brush for nesting.	Present. Observed in Study Area during site surveys. Potentially suitable nesting habitat is present.
12.	Hoary Bat	*Lasiurus cinereus*	-/- G5/S4 SA	Forages in open habitats or habitat mosaics with trees. Roosts in dense foliage of medium to large trees. Feeds on moths. Requires water.	Moderate. Suitable roosting habitat is present in oak woodland, but no known records are located within the vicinity of the Study Area.
13.	Lewis's Woodpecker*	*Melanerpes lewis*	-/- G4/S4 SA	Requires dead trees for nest cavities.	High. Suitable nesting habitat is present in oak trees within the Study Area. This species has been documented in the immediate vicinity of the Study Area within the last 5 years..

	Common Name	Scientific Name	Federal/ State Status Global/ State Rank CDFW Status	Habitat Preference	Potential to Occur
14.	Monterey Dusky-Footed Woodrat	*Neotoma macrotis luciana*	-/- G5T3/S3 SSC	Variety of habitats with moderate to dense understory vegetation	Low. Marginally suitable habitat is present in oak woodland, and there are no known occurrences within the vicinity of the Study Area.
15.	Coast Horned Lizard	*Phrynosoma blainvillii*	-/- G3G4/S3S4 SSC	Frequents a wide variety of habitats, most common in lowlands along sandy washes with scattered low bushes.	Moderate. Suitable habitat for coast horned lizard is present along the sandy riverbed and in shrub habitat, though there are no known occurrences within the vicinity of the Study Area.
16.	Yellow-billed Magpie*	*Pica nuttallii*	-/- G3G4/S3S4 SA	Open oak and riparian woodlands near grassland, pasture, or cropland in Central Valley from south of San Francisco to Santa Barbara.	Present. This species was observed during the 2020 surveys. Suitable nesting habitat is present in the oak woodland and oak savanna habitat.
17.	California Red-Legged Frog	*Rana draytonii*	FT/- G2G3/S2S3 SSC	Lowlands and foothills in or near sources of deep water with dense, shrubby or emergent riparian vegetation. Requires 11-20 weeks for larval development.	None. No breeding habitat is present, and the Study Area is not sufficiently close to known occurrences or potential habitat for it to be present in upland habitat.
18.	Lawrence's Goldfinch*	*Spinus lawrencei*	-/- G3G4/S3 SA	Nests in open oak or other arid woodland and chaparral habitats, near water.	Present. This species was observed during the 2020 surveys. Suitable nesting habitat is available in the oak woodland and oak savanna habitat.
19.	American Badger	*Taxidea taxus*	-/- G5/S3 SSC	Needs friable soils in open ground with abundant food source such as California ground squirrels.	Moderate. There is potentially suitable habitat present, though there are no known occurrences of this species within the vicinity of the Study Area.

	Common Name	Scientific Name	Federal/ State Status Global/ State Rank CDFW Status	Habitat Preference	Potential to Occur
20.	San Joaquin Kit Fox	*Vulpes macrotis mutica*	FE/CT G4T2/S2 SA	Annual grasslands or grassy open stages with scattered shrubby vegetation. Needs loose textured sandy soil and prey base.	Low. Potentially suitable habitat is present within the Study Area, however, species is considered extirpated from the Paso Robles area.

*Not listed in the CNDDB for the search area.
See section 1.5 for status and rank definitions.

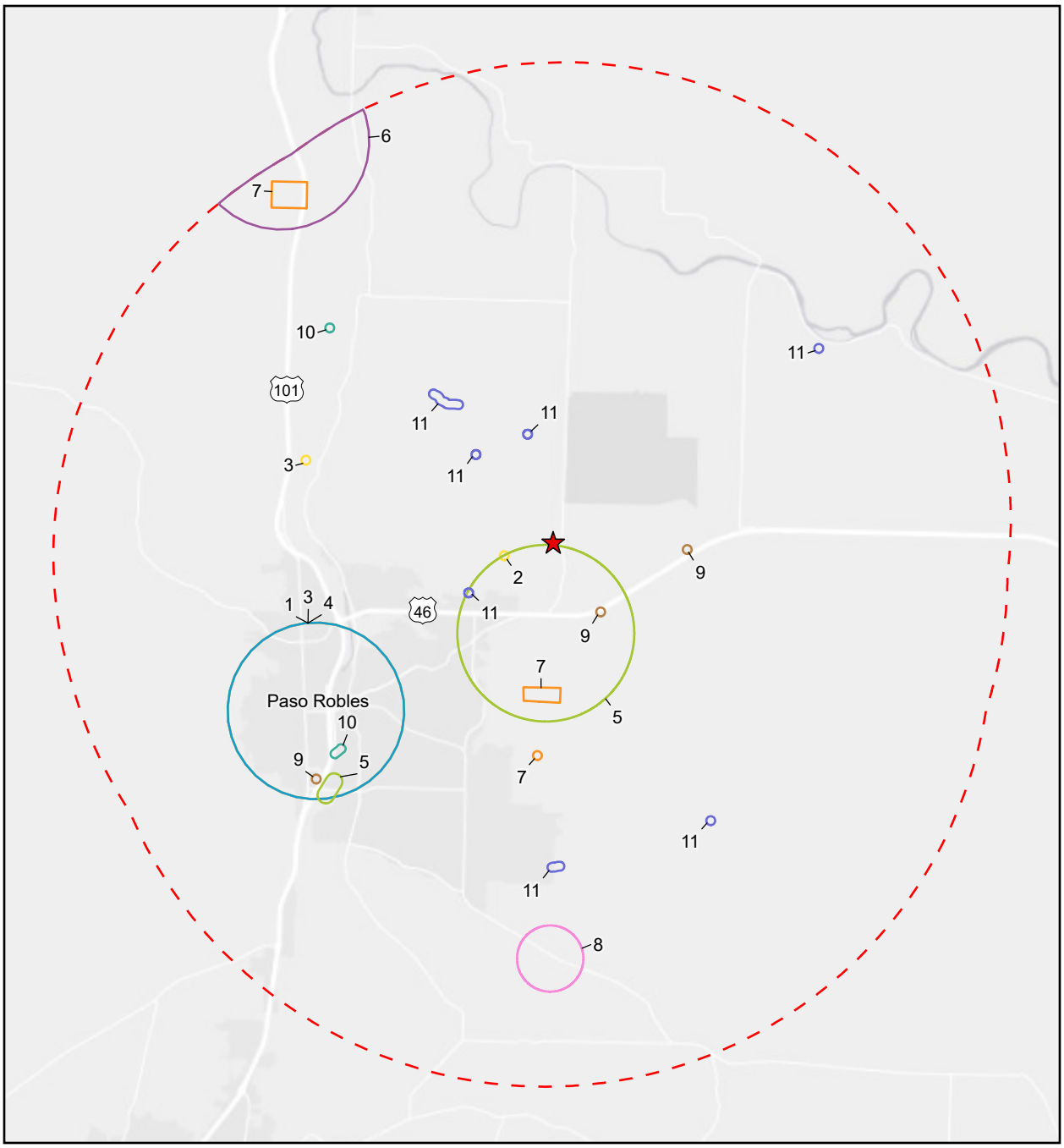
TABLE 8. FEDERALLY LISTED ANIMAL SPECIES REVIEWED

	Common Name	Scientific Name	Federal/State Status Global/State Rank CDFW Status	Habitat Preference	Potential to Occur
A.	**California Tiger Salamander***	*Ambystoma californiense*	FT/CT G2G3/S2S3 WL	Need underground refuges, ground squirrel burrows & vernal pools or other seasonal water for breeding.	None. Appropriate habitat is not present. Study Area is outside of known range.
B.	**Vernal Pool Fairy Shrimp**	*Branchinecta lynchi*	FT/- G3/S3 SA	Clear water sandstone depression pools, grassed swale, earth slump, or basalt flow depression pools.	None. No vernal pools or seasonal ponding in Study Area.
C.	**Giant Kangaroo Rat***	*Dipodomys ingens*	FE/CE G1G2/S1S2 SA	Sandy loamy soil on level and gently sloping ground with annual grasses, forbs, and scattered shrubs. Sw. San Joaquin Valley.	None. Suitable soils not present and Study Area not within species known range.
D.	**Southwestern Willow Flycatcher***	*Empidonax traillii extimus*	FE/CE G5T2/S1 SA	Riparian woodlands in Southern California.	None. Suitable habitat not present.
E.	**Kern Primrose Sphinx Moth***	*Euproserpinus euterpe*	FT/- G1G2/S1 SA	Known from only 3 distinct locations in Walker Basin, Cuyama, and Carrizo Plain. Host plant is evening primrose (*Camissonia contorta epilobioides*).	None. Study Area is not within species range.
F.	**Blunt-Nosed Leopard Lizard***	*Gambelia sila*	FE/CE G1/S1 FP	Semiarid grasslands, alkali flats, and washes; San Joaquin Valley and adjacent lands. 30-730 m.	None. Suitable habitat not present. Study Area outside of species range.
G.	**California Condor***	*Gymnogyps californianus*	FE/CE G1/S1 FP	Deep canyons containing clefts in the rocky walls provide nesting sites. Forages up to 100 miles from roost/nest.	None. No nesting or suitable foraging habitat present in Study Area.

	Common Name	Scientific Name	Federal/State Status Global/State Rank CDFW Status	Habitat Preference	Potential to Occur
H.	**California Ridgway's Rail***	*Rallus obsoletus obsoletus*	FE/CE G5T1/S1 FP	Associated with abundant growths of pickleweed, but feeds away from cover on invertebrates from mud-bottomed sloughs.	None. Suitable habitat not present. Study Area outside of species range.
I.	**California Red-Legged Frog**	*Rana draytonii*	FT/- G2G3/S2S3 SSC	Lowlands and foothills in or near sources of deep water with dense, shrubby or emergent riparian vegetation. Requires 11-20 weeks for larval development.	None. Suitable habitat not present.
J.	**Least Bell's Vireo**	*Vireo bellii pusillus*	E/E G5T2/S2 SA	Summer resident of Southern California in low riparian in vicinity of water or in dry river bottoms; below 2000 ft.	None. Suitable habitat not present.
K.	**San Joaquin Kit Fox**	*Vulpes macrotis mutica*	E/T G4T2/S2 SA	Annual grasslands or grassy open stages with scattered shrubby vegetation. Needs loose textured sandy soil and prey base.	None. Potentially suitable habitat is present within the Study Area, however, species is considered extirpated from the Paso Robles area.

* Animal not reported from region but included on USFWS IPaC list for Project.

Figure 7. California Natural Diversity Database Animal Records



Label	Common Name
1	Atascadero June beetle
2	Golden eagle
3	Least Bell's vireo
4	Lompoc grasshopper
5	Northern California legless lizard
6	Salinas pocket mouse
7	San Joaquin kit fox
8	Tricolored blackbird
9	Vernal pool fairy shrimp
10	Western pond turtle
11	Western spadefoot

Legend

5-Mile Buffer

Project Location

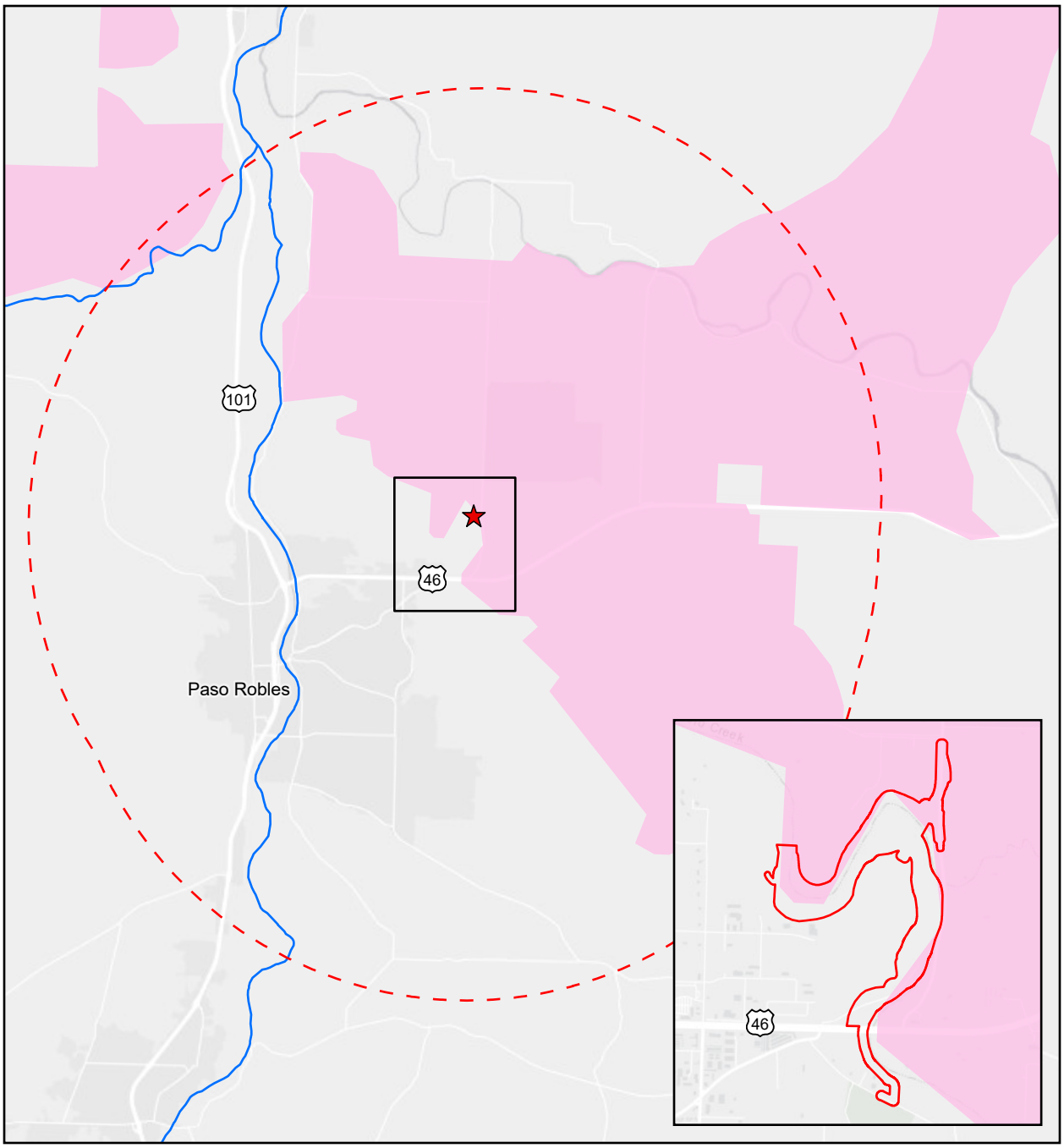
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0 1 2 Miles

Huer Huero Bridge and Roundabout
Map Center: 120.64685°W 35.65098°N
Paso Robles, San Luis Obispo County

CNDDB GIS Data Last Updated: October 2020

Figure 8. USFWS & NMFS Critical Habitat



Legend

NMFS Critical Habitat

Steelhead Trout

USFWS Critical Habitat

Vernal Pool Fairy Shrimp

Project Location

5-Mile Buffer

N

0 1 2 Miles

Huer Huero Bridge and Roundabout
Map Center: 120.62938°W 35.64583°N
Paso Robles, San Luis Obispo County

USFWS & NMFS Critical Habitat Data Last Updated: August 2019

3.8.2 Wildlife Survey Results

A total of 66 wildlife species were detected in the Study Area during the 2020 surveys, including 1 amphibian, 2 reptiles, 56 birds, and 7 mammals. Appendix E provides a list of the wildlife observed in the Study Area. California ground squirrels were observed in the annual grassland habitat in areas of patchy, exposed bare ground. A mule deer was also observed wandering and foraging through the site. Many transient bird species are likely to occur and many common birds and raptors were observed utilizing the oak woodland, oak savanna and adjacent open grasslands and ruderals within the Study Area. A nesting pair of American kestrels were observed south of Highway 46 bridge in a cottonwood and many oak cavities and beehives were observed throughout the oak woodland and oak savanna.

3.8.3 Habitat Connectivity and Wildlife Movement

Wildlife corridors and habitat connectivity are important for the movement of wildlife between different populations and habitats. Wildlife movement corridors are defined as areas that connect suitable wildlife habitat areas in a region otherwise fragmented by rugged terrain, changes in vegetation, or human disturbance. Natural features such as canyon drainages, ridgelines, or areas with vegetation cover provide corridors for wildlife travel. Wildlife movement corridors are important because they provide access to mates, food, and water; allow the dispersal of individuals away from high population density areas; and facilitate the exchange of genetic traits between populations (Beier and Loe 1992). Wildlife movement corridors are considered sensitive by resource and conservation agencies.

Huer Huero Creek is an important wildlife corridor that connects to the Salinas River 3.5 miles northwest of the Study Area. As evidenced by the abundance of birds, terrestrial mammals using the site, wildlife corridors occur both locally and regionally in and around the Project vicinity.

4 ENVIRONMENTAL IMPACT ANALYSIS AND MITIGATION

There are 8 habitat types present within the 169.1-acre Study Area: riparian, oak woodland, oak savanna, upland forbs, annual grassland, ruderal, yellow-star thistle fields, and anthropogenic. As proposed the Project would affect biological resources, including riparian, oak woodland habitat, individual oak trees, and sensitive wildlife. This section provides mitigation recommendations (**BIO**) designed to reduce impacts to biological resources within the Study Area, as summarized by Table 9 and depicted in Figure 9 and Figure 10.

TABLE 9. IMPACTS AND MITIGATION SUMMARY

Biological Resource	Level of Significance	Recommended Mitigation Measures
Riparian	Less than significant with mitigation incorporated	BIO - 1, BIO - 2, BIO-3, BIO- 4
Oak woodland and oak trees	Less than Significant with Mitigation Incorporated	BIO - 2, BIO - 5
Oak savanna, upland forbs, annual grassland, ruderal, yellow-star thistle fields	Less than significant	None
Anthropogenic	No Impact	None
Elegant wild buckwheat (*Eriogonum elegans*)	Less than significant	None
Crotch bumble bee	Less than significant	None
Sensitive lizards	Less than significant with mitigation incorporated	BIO - 6
Special status birds and nesting birds	Less than significant with mitigation incorporated	BIO - 7
Wintering birds	Less than significant	None
Golden eagle	Less than significant with mitigation incorporated	BIO - 2, BIO-7
Special status bats	Less than significant with mitigation incorporated	BIO - 8
Monterey dusky footed woodrat	Less than significant with mitigation incorporated	BIO - 9
American badger	Less than significant with mitigation incorporated	BIO - 10
San Joaquin kit fox	Less than significant with mitigation incorporated	BIO - 11 to BIO-19

Biological Resource	Level of Significance	Recommended Mitigation Measures
Wildlife corridors	Less than significant with mitigation incorporated	BIO-2, BIO-6 to BIO-10, BIO-12 to BIO-20

Table 10 provides an effects determination summary for federally-listed sensitive species.

TABLE 10. EFFECTS DETERMINATION

Biological Resource	Potential Effect from Proposed Project	Mitigation Measure
Federally-listed plant species	No Effect	None
California red-legged frog	No Effect	None
Vernal pool fairy shrimp	No Effect	None
San Joaquin kit fox	May effect, but not likely to adversely affect	BIO - 11 to BIO-17

4.1 Habitats

The Project will impact all 8 habitat types described, equivalent to a total of 14.5 acres (Table 11). A total of 0.8-acre of riparian habitat will be permanently impacted from the Class I trail crossing located in the north portion of the Study Area (two locations). Huer Huero Creek bridge will avoid impacts to riparian habitat. Bridge abutments will impact oak savanna and annual grassland habitat, while Airport Road realignment and roundabout will impact annual grassland and ruderal. All other impacts will be from development of the Class I trail (1.5 acres of oak woodland, oak savanna, 0.5-acre of upland forbs, annual grassland, ruderal, 0.8-acre yellow-star thistle fields, and 3.0 acres of anthropogenic).

Impacts to 1.9 acres of oak savanna, 0.5-acre of upland forbs, 4.8 acres of annual grassland, 1.3 acres of ruderal, and 0.8-acre of yellow-star thistle fields are not considered significant except where these habitat impacts affect other sensitive biological resources such as sensitive plants, animals, oak trees, or nesting birds (see following Sections 4.2 and 4.3).

Although improvements will be made to the existing dirt roads and trails, the anthropogenic land classification will be unchanged and no impact will occur.

TABLE 11. HABITAT IMPACTS

Habitat Type	Area (Acres)
Riparian	0.8
Oak Woodland	1.5
Oak Savanna	1.9

Habitat Type	Area (Acres)
Upland Forbs	0.5
Annual Grassland	4.8
Ruderal	1.3
Yellow-star thistle fields	0.8
Anthropogenic (Roads and Trails)	3.0
TOTAL	**14.5**

4.1.1 Riparian Habitat and Jurisdictional Waters

The Project is anticipated to permanently disturb 0.8-acre of riparian habitat. Permanent impacts to riparian habitat will be mitigated at a minimum 3:1 ratio. Permanent impacts to riparian habitat will be mitigated through habitat creation and enhancement of approximately 2.4 acres of City-owned property located along Huer Huero Creek that is currently disturbed in quality, as identified in the Habitat Mitigation and Monitoring Plan (HMMP). Any temporary impacts from construction of the Class I trail to riparian habitat will be mitigated by habitat re-establishment at a 1:1 ratio through weed abatement and application of seed approved by the Project Biologist, as identified in the HMMP.

As shown on Figure 5, the jurisdictional limits of the Clean Water Act (CWA) Section 404 non-wetland waters are within riparian habitat. Impacts to non-wetland waters will require federal (USACE) and state (RWQCB and CDFW) permit approval and coordination.

BIO - 1 HABITAT MITIGATION AND MONITORING PLAN

To minimize impacts on riparian habitat, prior to commencement of construction activities, prepare and implement a Habitat Mitigation and Monitoring Plan (HMMP). Temporary impacts typically require a minimum 1 to 1 ratio restoration (area of restored habitat to impacted habitat) and permanent impacts to riparian areas typically require a minimum 3 to 1 ratio creation and enhancement (area of created or enhanced habitat to impacted habitat). Habitat enhancement can include improvements to the riparian buffer by expanding, restoring, and enhancing adjacent oak woodland. Improvements to buffer/protect riparian habitat include weed reduction (and associated increase in relative cover of native species), habitat expansion (increase native tree and shrub cover), and addition of cavity nesting boxes for owls, songbirds, and bats. The plan shall include mitigation for trail impacts approximately 0.8-acre of riparian habitat.

BIO - 2. BIOLOGICAL MONITOR/WORKER EDUCATION TRAINING

Prior to obtaining a grading permit or prior to any brush clearance or land disturbance, the permittee shall retain a City-approved biologist to monitor grading/ground disturbing activities located within and directly adjacent to Huer Huero Creek and oak woodlands. Work within oak critical root zone, riparian areas, and/or sandy streambed will require daily monitoring. During active construction the biological monitor will

inspect the work area(s) weekly to verify that mitigation measures and best-management practices are properly implemented. The biological monitor will actively communicate observations and information with the construction supervisor as necessary for maintenance of mitigation and best management practices. The construction supervisor will keep the biological monitor apprised of the project schedule. The biological monitor shall prepare a post construction report that documents completion of ground-disturbing activities adjacent to natural resources that are to be retained onsite, and progress of mitigation measures implemented. Reports shall be furnished to the construction supervisor and the City. The biological monitor will provide a Worker Education Training Program to all personnel associated with the project within 30 days prior to initiation of site disturbance and/or construction, to avoid or reduce impacts on biological resources. At a minimum, the training shall include information on protection of riparian and oak woodland habitats and Huer Huero Creek, all mitigation measures specified by the City, as well as any related biological report(s) prepared for the project. The permittee shall notify the City one week prior to this meeting. A fact sheet shall also be developed prior to the training program, and distributed at the training program to all contractors, employers, and other personnel involved with the construction of the project.

BIO - 3. AGENCY COORDINATION

Impacts to Huer Huero Creek and its associated riparian zone as a result of the project are anticipated to require permits from U.S. Army Corps of Engineers, Regional Water Quality Control Board, and California Department of Fish and Wildlife. The Owner/Applicant shall comply with all state and federal permitting requirements. The Owner/Applicant shall obtain and produce for the city correspondence from applicable state and federal agencies regarding compliance of the proposed development with state and federal laws.

BIO - 4 DEWATERING AND DIVERSION PLAN

A construction dewatering/diversion plan for bridge construction will be required prior to issuance of waterway permits. The plan will include requirements of the Construction General Permit. Dewatering discharges, where sediment and naturally-occurring pollutants are the only substances, can be authorized under the Region 3 Water Quality Control Board low threat general permit. Those discharges not meeting the requirements of the Region 3 low threat general permit may seek coverage under the Construction General Permit (for discharges to a waterbody) or statewide low-threat discharge WDRs (for discharges to land, or a site-specific permit. A Best Management Plan must address project timing and proposed actions to minimize work timing in waterway, control limited threat discharge to minimize impacts to water quality, prevent discharge of pollutants associated with construction activities to surface waters; retain spoils and sediment on site; permanently stabilize disturbed areas. Options may include, but are not limited to: physical filter for solids or dissolved solids, stabilized conveyance systems, energy dissipation, flow diversion around disturbed areas or other pullantant sources usring stabilized convinces, flow controls to prevent erosion and flooding.

4.1.2 Oak Woodland and Individual Oak Trees

Oak woodlands are considered a sensitive natural community because it provides important native habitat for plants and wildlife. Oak woodlands are afforded some level of protection through the California Oak Woodland Conservation Act as implemented through the City's Oak Tree Preservation Ordinance (City 2002). Since proposed Project impacts will not remove but will alter the understory of oak woodland from construction of the Class I trail, mitigation for impacts to 1.5 acres of oak woodland will be implemented through a combination of best management practices (BMPs) to protect the retained oaks surrounding the Project footprint as well as individual tree protection measures. Mitigation for individual trees that are proposed for removal and/or Critical Root Zone (CRZ) impacts will also be implemented through tree protection measures described in the Arborist Report (A&M 2021). Impacts to individual oak trees are identified in Figure 10 and summarized in Table 12. A separate Tree Protection Plan (TPP) will be required post Project approval that details individual oak tree mitigation and protection.

TABLE 12. IMPACTS TO OAK TREES

Species	Total Number	Impact		Avoided (not impacted)
		Remove	CRZ Impact	
Valley oak (*Quercus lobata*)	61	9	45	7
Blue oak (*Quercus douglasii*)	42	9	19	14
Coast live oak (*Quercus agrifolia*)	3	0	1	2
Unidentified oak (*Quercus* sp.)	16	0	0	16
TOTAL	**122**	**18**	**65**	**39**

BIO - 5. TREE PROTECTION PLAN AND MITIGATION PLANTING

An oak tree protection plan shall be prepared and approved by the City of Paso Robles. The trees to be protected shall be shown with a plan to avoid any construction activities within their critical root zone (CRZ).

- Map oaks. Tree canopies and trunks within 25 feet of proposed disturbance zones shall be mapped and numbered by a qualified biologist and a licensed land surveyor. Data for each tree shall include date, species, number of stems, diameter at breast height (DBH) of each stem, critical root zone (CRZ) , canopy diameter, tree height, health, habitat notes, and nests observed.
- Avoid CRZ. Impacts to the oak canopy or CRZ shall be avoided where practicable. Impacts include pruning, any ground disturbance within the dripline or CRZ of the tree (whichever distance is greater), and trunk damage.
- Replace impacted oaks. An arborist will evaluate the health and value of potentially impacted oak trees. When applicable, replacement oaks for impacted trees shall be at a 1:1 ratio for impacts less than 50 percent and 2:1 ratio for impacts to more than 50 percent of the CRZ.
- Replace removed oaks. Mitigation tree planting shall comply with the City's 2002 Ordinance 835. Replacement oaks for removed trees shall be equivalent to 25 percent of the diameter of the removed tree(s). For example, if a 16-inch DBH tree is removed, 4-inches total caliper of replacement trees is required. A one-inch caliper trees is generally

in a 15-gallon container, and approximately 8 to 10 feet tall—4 of these would be required. If replacement caliper trees of appropriate size are not available as specified in the mitigation measure, smaller replacement trees/seedlings in higher quantities that are deemed acceptable by the City may be planted. Smaller caliper trees may be planted at a ratio of 5:1 for each tree removed because smaller size trees in long skinny pots (about 12 to 14 inches tall) often perform better overall than older trees in large pots.

- Maintain replacement oaks. Replacement trees shall be seasonally maintained (browse protection, weed reduction and irrigation, as needed) and monitored annually for at least 7 years.
- Location of oak tree mitigation planting. Oaks shall be planted on City of Paso Robles property in the vicinity of the Project per the direction of the arborist.
- Implement Tree Protection Plan (TPP). Upon issuance of Oak Tree Removal permit the owner or project manager shall provide a copy of the Tree Protection Plan (TPP) to contractors and subcontractors that will work within the critical root zone of any native tree and confirm they are trained in maintaining fencing, protecting root zones and conforming to all tree protection goals. Any future impact changes (within the CRZ) will need a Project arborist review and implementation of potential mitigation measures before proceeding.
- Fencing: Temporary exclusion fencing shall be placed where activities might be likely to encroach into unintended areas that would impact oak trees. The proposed fencing shall be shown on the plans. It must be a minimum of 4 feet high orange plastic high visibility fence staked (with t-posts 8 feet on center, and a minimum of four zip ties shall be used on each stake) and/or t-posts every 10 to 12 feet with minimum 5/16-inch rope. Fencing shall be located at the edge of the critical root zone or line of encroachment for each tree or group of trees. The fence shall be up before the issuance of a grading permit. Fencing shall be labeled with durable signs every 75 to 100 feet that state: "Environmentally Sensitive Habitat: No personnel, equipment, materials, or vehicles allowed." Spacing of signs will be dependent of visibility and extent of construction activities planned in that zone. The Contractor shall be responsible for maintaining an erect fence throughout the construction period. The arborist(s), upon notification, will inspect the fence placement once it is erected. After this time, fencing shall not be moved without arborist inspection/approval. All efforts shall be made to maximize the distance from each protected tree.)
- Soil Aeration Methods: Soils within the CRZ that have been compacted by heavy equipment and/or construction activities shall be returned to closely match their original state before all work is completed. Methods may include, but are not limited to, water jetting, adding organic matter, and boring small holes with an auger (18 inches deep, 2-3 feet apart with a 2-4 inch auger) and the application of moderate amounts of nitrogen fertilizer. The arborist(s) shall advise.
- Grading Within the Critical Root Zone: A Mandatory meeting between the arborists and grading contractor(s) shall take place prior to work starts in the CRZ of affected trees. Grading shall not encroach within the critical root zone unless authorized by an arborist. Grading shall not disrupt the normal drainage pattern around the trees. Fills shall not create a ponding condition and excavations shall not leave the tree on a rapidly draining mound. Any exposed roots shall be covered the same day they

were exposed or wetted daily if possible. If they cannot, roots must be covered with burlap or another suitable material and wetted down 2 times per day until reburied. All exposed roots larger than 1-inch in diameter shall be clean cut with sharp pruning tools and not left ragged. Root treatment by the arborist will be determined on a case-by-case basis using best practices such as clean cuts accompanied by application of appropriate fungicides and insecticides by a licensed pest control applicator.

- Equipment Operation: Vehicles and all heavy equipment shall not be driven under the trees, as this will contribute to soil compaction. Also, there shall be no parking of equipment or personal vehicles in these areas. All areas behind fencing are off limits unless pre-approved by the arborist.
- Existing Surfaces: The existing ground surface within the critical root zone of all oak trees shall not be cut, filled, compacted or pared, unless shown on the grading plans and approved by the arborist.
- Construction Materials and Waste: No liquid or solid construction waste shall be dumped on the ground within the critical root zone of any native tree. The critical root zone areas are not for storage of materials either.
- Arborist Monitoring: An arborist shall be present for soil disturbance work within the critical root zone of oak trees. Monitoring does not necessarily have to be continuous but observational at times during these activities. All monitoring shall be documented on the field report form which will be forwarded to the project manager and the City of Paso Robles Planning Department.
- Pre-Construction Meeting: An on-site pre-construction meeting with the Arborist(s), Contractor, City Staff, and the earth moving team shall be required for this project.
- Pruning: Class 1 branch pruning emphasizes aesthetics, removal of dead, dying, decaying weak branches and selective thinning to lesson wind resistance. Class 2 pruning is recommended where aesthetic conditions are secondary to structural integrity and tree health concerns. It shall consist of removal of dead, dying, decaying, interfering, obstructing and weak branches as well as selective thinning to lesson wind resistance. Class 3 pruning includes removal of dead, diseased, decayed, and weak branches where safety considerations and hazardous conditions are the highest priority. Class 4 pruning, including crown reduction pruning, shall consist of reduction of tops, sides or individual limbs. A certified arborist shall direct all pruning. No pruning shall take more than 25 percent of the live crown of any native tree. Any trees that may need pruning for clearance shall be pruned prior to any grading activities to avoid any branch tearing.

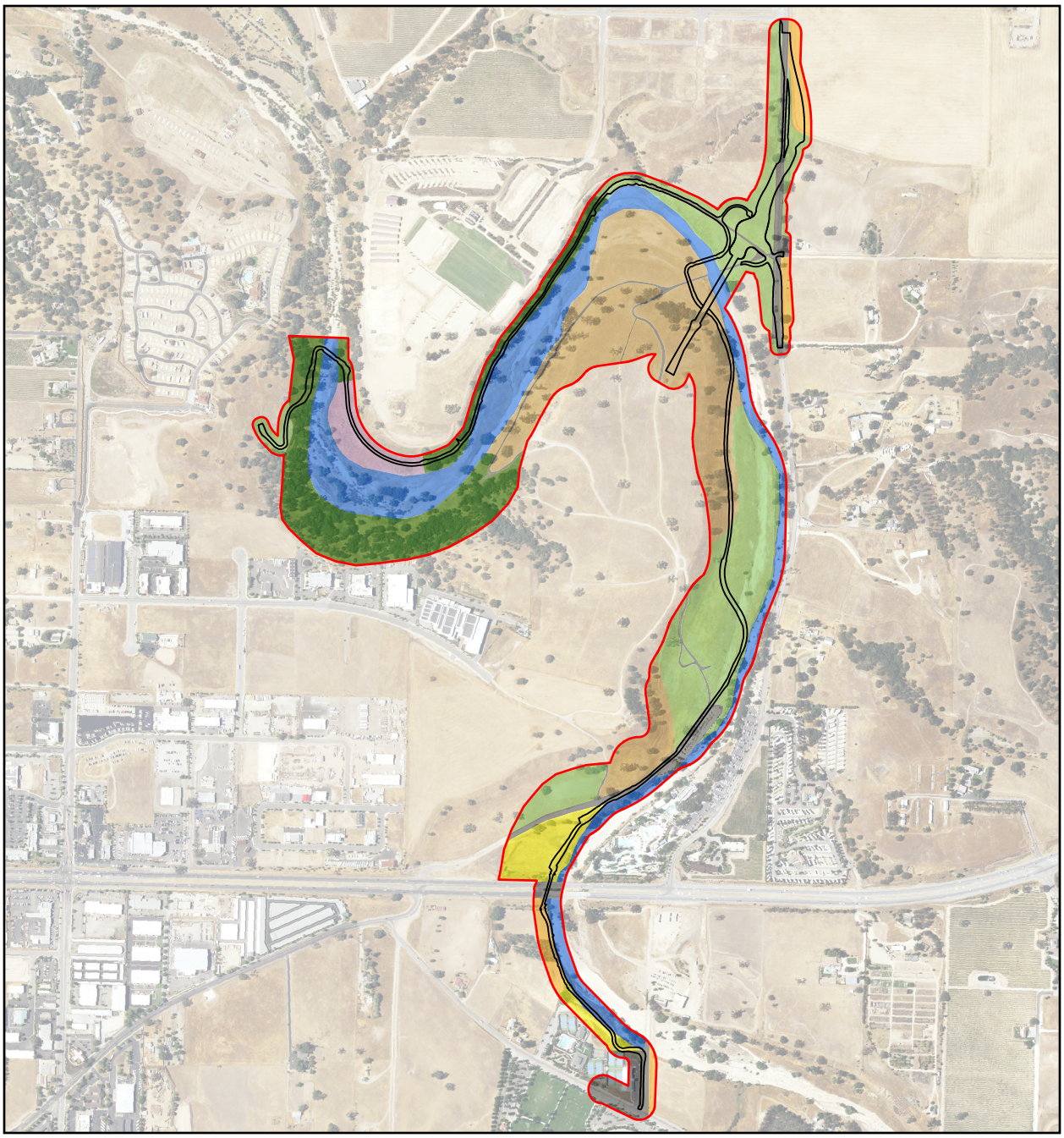
4.2 Botanical Resources

No federal or state listed plants were observed onsite during appropriately timed surveys, nor are any federal or state listed plants expected to occur. One CRPR 4.3 special status plant species was observed in the riparian habitat (elegant wild buckwheat). Based on the Project footprint and the location and abundance of this species within the riparian habitat it was determined that impacts

will likely occur to this species. Since this species was observed throughout the riparian habitat within the Study Area, a conservative estimate of 0.8-acre out of 34.3 acres of occupied riparian habitat will be impacted. Therefore, this Project could potentially impact 2.3 percent of this species population within the Study Area. According to CEQA Guidelines Section 15380 (CDFW 2021a), impacts to CRPR 4 plants may warrant consideration under CEQA if cumulative impacts to such plants are significant enough to affect their overall rarity (CDFW 2018a). In this case a conservative impact estimate of 2.3 percent of elegant wild buckwheat onsite population is less than significant because it will not impact this species overall rarity. No mitigation measures are recommended; however, species avoidance will be incorporated into BIO - 1 and BIO - 2.

Shining navarretia has a high potential to occur, two species have a moderate potential to occur (Lemmon's jewelflower and Davidson's bush-mallow), and nine special status species have a low potential to occur (Hoover's bent grass, dwarf calycadenia, San Luis Obispo owl's clover, Douglas' spineflower, umbrella larkspur, San Benito poppy, Santa Lucia dwarf rush, Jones' bush-mallow, and woodland woolythreads). Shining navarretia has a high potential to occur in the annual grassland, but surveys conducted during appropriate bloom times confirmed negative results. Of the remaining special status plant species potentially occurring in the Study Area, none were found during appropriate bloom times. No mitigation measures are recommended.

Figure 9. Biological Resources Impacts



Legend

- Study Area (169.1 acres)
- Proposed Impacts (14.5 acres)

Habitats

- Annual Grassland (4.8 acres impacted)
- Anthropogenic (3.0 acres impacted)
- Oak Savanna (1.9 acres impacted)
- Oak Woodland (1.5 acres impacted)
- Riparian (0.8 acres impacted)
- Ruderal (1.3 acres impacted)
- Upland Forbs (0.5 acres impacted)
- Yellow-Star Thistle (0.8 acres impacted)

N

0 500 1,000 Feet

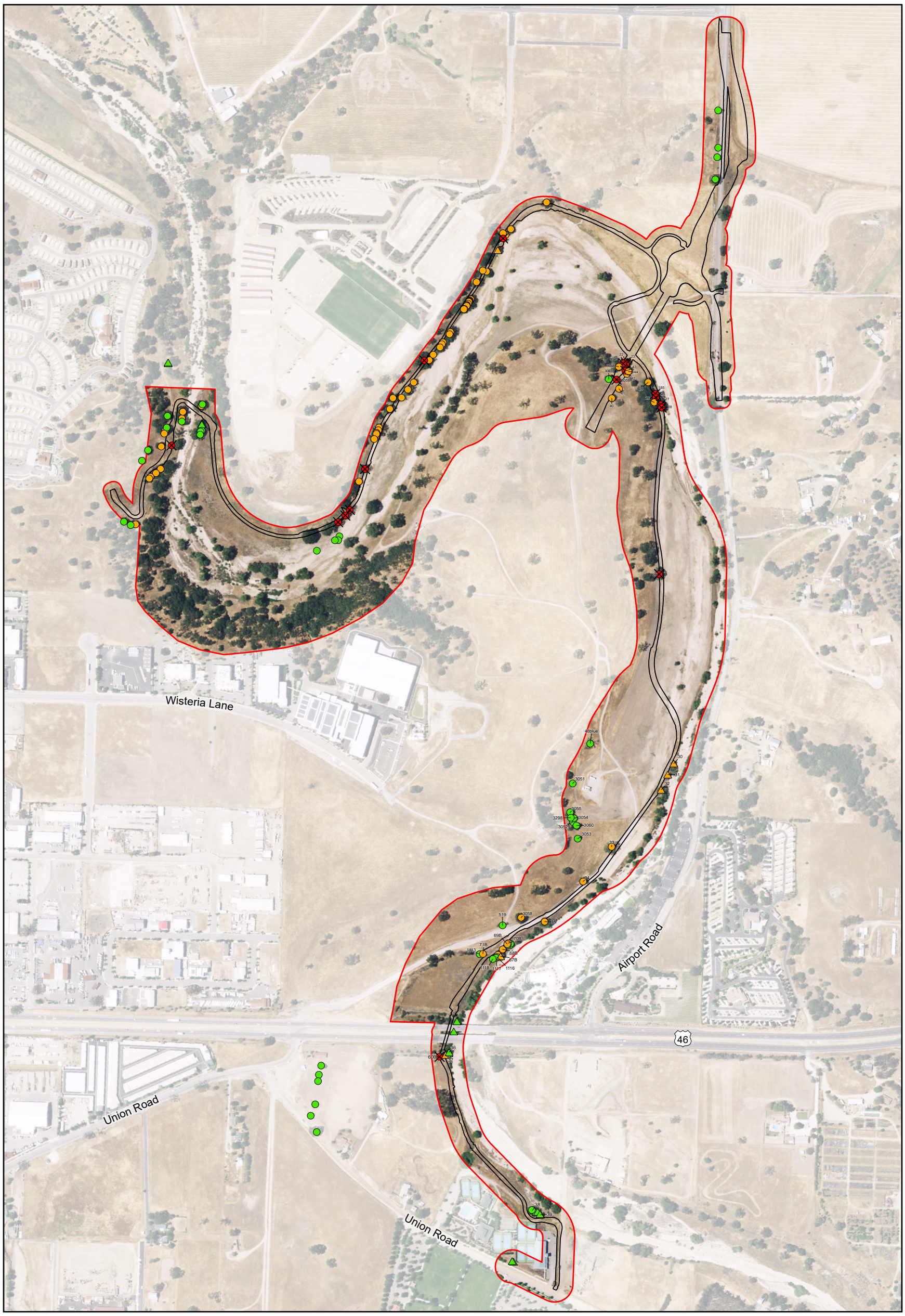
Huer Huero Bridge and Roundabout
Map Center: 120.64685°W 35.65098°N
Paso Robles, San Luis Obispo County

Imagery Source: USDA NAIP, 07/14/2018

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BIOLOGICAL AND ENVIRONMENTAL SERVICES

Map Updated:
November 11, 2021 02:55 PM by SAF

Figure 10. Tree Impacts Overview



Legend

- Study Area (169.1 acres)
- Proposed Impacts
- Non-Oak To Be Protected
- Non-Oak To Be Impacted
- Non-Oak To Be Removed
- Oak To Be Protected
- Oak To Be Impacted
- Oak To Be Removed

N

0 500 1,000 Feet

Huer Huero Bridge and Roundabout
Map Center: 120.64636°W 35.65101°N
Paso Robles, San Luis Obispo County

Imagery Source: USDA NAIP, 05/21/2020

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Map Updated:
March 18, 2021 06:06 PM by SAF

4.3 Wildlife Resources

Twelve special status animal species have potential to occur and six species were observed (golden eagle, oak titmouse, northern harrier, loggerhead shrike, yellow-billed magpie, and Lawrence's goldfinch) within the Study Area. Two species have a high potential to occur (pallid bat and Lewis's woodpecker), six species have a moderate potential to occur (northern California legless lizard, Crotch bumble bee, ferruginous hawk, hoary bat, coast horned lizard, American badger), and four species have a low potential to occur (burrowing owl, California horned lark, Monterey dusky-footed woodrat, San Joaquin kit fox).

4.3.1 Crotch Bumble Bee

The proposed Project will impact habitat that has the potential to support special status invertebrates such as Crotch's bumble bee. Impacts to Crotch's bumblebee, if present, are anticipated to be negligible due to the availability of suitable habitat and nectar sources at the Study Area and in surrounding areas.

4.3.2 Sensitive Reptiles

Although 2020 biological surveys did not detect northern California legless lizard or coast horned lizard, these species were determined to potentially occur in the sandy soils and oak woodland habitat. Project construction activities such as grading and other excavation work would potentially result in direct impact, habitat loss, and mortality.

BIO - 6. SPECIAL STATUS REPTILE PROTECTION AND RELOCATION

A focused preconstruction survey for coast horned lizards and legless lizards shall be conducted in proposed work areas immediately prior to ground-breaking activities that would affect potentially suitable habitat, as determined by the project biologist. The preconstruction survey shall be conducted by a qualified biologist familiar with coast horned lizard and legless lizard ecology and survey methods, and with approval from California Department of Fish and Wildlife to relocate special status lizards out of harm's way. The scope of the survey shall be determined by a qualified biologist and shall be sufficient to determine presence or absence in the project areas. If the focused survey results are negative, a letter report shall be submitted to the City, and no further action shall be required. If coast horned lizards or legless lizards are found to be present in the proposed work areas the following steps shall be taken:

- Legless lizards and/or coast horned lizards shall be captured by hand by the project biologist and relocated to an appropriate location well outside the project areas.
- Construction monitoring shall be required for all new ground-breaking activities located within legless lizard and coast horned lizard habitat. Construction monitors shall capture and relocate lizards as specified above.
- A letter report shall be submitted to the City and CDFW within 30 days of legless lizard or coast horned lizard relocation, or as directed by CDFW.

4.3.3 Special Status Birds and Nesting Birds

Impacts to or take of nesting birds could occur if nests are destroyed by ground or vegetation disturbance activities, or if adults abandon nests due to disruption from construction noise levels or human activity. Migratory non-game native bird species are protected by international treaty under the Federal Migratory Bird Treaty Act (MBTA) of 1918 (50 C.F.R. Section 10.13). Sections 3503, 3503.5 and 3513 of the California Fish and Game Code prohibit take (as defined therein) of all native birds and their active nests, including raptors and other migratory non-game birds (as listed under the Federal MBTA).

To reduce potential adverse effects of the proposed Project on nesting birds (including oak titmouse, loggerhead shrike, yellow-billed magpie, Lawrence's goldfinch, Lewis's woodpecker, California horned lark, and northern harrier) the following mitigation measure is recommended.

BIO - 7 NESTING BIRD AVOIDANCE

Within No more than one week prior to of ground disturbance activities, if work occurs between February 1 and August 15, protected status species nesting bird surveys shall be conducted by a qualified biologist. If surveys do not locate these nesting birds, construction activities may be conducted. If these nesting birds are located, no construction activities shall occur within 100 feet of nests (or other setback distance determined by a qualified biologist). Occupied nests of special status bird species within Project work areas shall be mapped using GPS or survey equipment. Work shall not be allowed within a 300-foot buffer (for special status non-raptors) or 500-foot buffer (for raptors) while the nest is in use, unless otherwise approved by Project Biologist and, if for eagle, the USFWS. The buffer zone shall be delineated on the ground with highly visible fencing or rope barriers where it overlaps work areas. The Project biologist conducting the nesting survey shall have the authority to reduce or increase the recommended buffer depending upon site conditions and the species. Occupied nests of special status bird species shall be monitored at least every two weeks through the nesting season to document nest success and check for Project compliance with buffer zones. Once nests are deemed inactive and/or chicks have fledged and are no longer dependent on the nest, work may commence in these areas. A pre-construction survey report shall be submitted to the City of Paso Robles immediately upon completion of the survey. The report shall detail appropriate fencing or flagging of the buffer zone and make recommendations on additional monitoring requirements, where applicable. A map of the Project site and nest locations shall be included with the report.

4.3.4 Wintering Birds

Ferruginous hawk is a special status raptor that is known to winter in inland grassland habitats in San Luis Obispo County and was determined to have moderate potential to winter or migrate through the Study Area. The Project would result in a net loss of wintering habitat in the region for this species. Due to the large amount of suitable wintering habitat in the area, this impact is considered negligible and no further surveys or mitigations are recommended.

Due to the lack of records of burrowing owls breeding in the area, the site is not expected to support breeding pairs of burrowing owls. There is a low potential that wintering or migrating owls may

occur in the Study Area. No burrowing owls or sign of burrowing owls, such as potential dens, were observed during the 2020 site surveys. The Project will result in a net loss of potential wintering habitat for burrowing owls in the region. Due to the large amount of suitable wintering habitat in the area, this impact is considered negligible and no further surveys or mitigations are recommended.

4.3.5 Golden Eagle

A pair of golden eagles occur within the Study Area. Pursuant to the BGEPA, the Project will be required to consult with the USFWS because Project construction and activities will be potentially located within the recommended 1-mile no-disturbance buffer surrounding golden eagle nesting sites. At minimum, the above-mentioned **BIO - 2. Biological Monitor/Worker Education Training** measure shall apply; however, following consultation USFWS recommendations are dependent on golden eagle nesting activity, type of impact, and distance from nest.

4.3.6 Special Status Bats

Loss of oak woodland and annual grassland habitat my adversely affect pallid bat and hoary bat through the loss of available roosting sites, reduction of prey, and loss of protective cover. These bats are known to roost in buildings, under bridges, tree hollows, tree cavities, and tree canopies. The Study Area contains structures (the Highway 46 bridge) with appropriate day roosting habitat, and suitable trees and snags with cavities are present onsite. Removal of snags and oak trees could affect these bats. The breeding season for bats is April to October. Project activities including tree removal, grading and other excavation work could result in take of bat species, or disturbance of bat roosts. The following recommendations would reduce potential impacts to bats.

BIO - 8. BAT PRE-CONSTRUCTION SURVEY AND PASSIVE RELOCATION

Within No more than 30 days beforeof construction between April and September, the Project biologist shall inspect structures, and trees or snags to be removed or pruned that are greater than 20 inches diameter-at-breast-height for bats. If a bat roost is found, the qualified biologist shall implement passive relocation measures such as installation of one-way valves. For each occupied roost removed, one bat box would shall be installed in similar habitat to those which are removed. Bat maternity colonies mayshall not be disturbed. If a bat roost is detected during the maternal season (April through September), a minimum 50-foot no-disturbance buffer will shall be maintained.

4.3.7 Special Status Terrestrial Mammals

Three terrestrial special-status mammal species - Monterey dusky-footed woodrat, American badger, San Joaquin kit fox - were determined to have a low, moderate and low potential to occur within the Study Area, respectively. Project activities include grading and excavation work that could result in direct injury or mortality to these animals, or indirect take by disturbance of natal dens and abandonment by adult woodrats, badgers or kit fox. Additionally, the Study Area is located within the San Luis Obispo County San Joaquin kit fox habitat area, and specifically within the 3:1 mitigation ratio area. Therefore, standard kit fox mitigation measures apply to this Project. The following measures combined with above-mentioned **BIO - 2. Biological Monitor/Worker**

Education Training are recommended to reduce potential project-related impacts to terrestrial special status mammals:

BIO - 9. MONTEREY DUSKY-FOOTED WOODRAT PRE-CONSTRUCTION SURVEY

A pre-activity survey shall be conducted within proposed work areas to locate woodrat nests. The survey shall be conducted within shall be more than 30 days beforeof starting any vegetation removal. If a woodrat nest is located inis in a proposed work area, the project biologist may dismantle the nest using hand tools in such a manner as to allow any inhabitants to escape into adjacent open space areas. Alternatively, if the nest is in a location where it may be safely left in place, protective fencing may shall be installed under the direction of a project biologist in a manner sufficient to protect the nest from construction equipment.

BIO - 10. AMERICAN BADGER PRE-CONSTRUCTION SURVEY

An American Badgers Pre-Construction Survey shall be conducted by a qualified biologist within no more than thirty days of before beginning work on the site to identify if badgers are present. The results of the survey shall be sent to the project manager at the City of Paso Robles. If the pre-construction survey finds potential badger dens, they shall be inspected to determine whether they are occupied. The survey shall cover the entire impact area, and shall examine both old and new dens. If potential badger dens are too long to completely inspect from the entrance, a fiber optic scope shall be used to examine the den to the end. Inactive dens may be excavated by hand with a shovel to prevent re-use of dens during construction. If badgers are found in dens on the property between February and July, nursing young may be present. To avoid disturbance and the possibility of direct take of adults and nursing young, and to prevent badgers from becoming trapped in burrows during construction activity, no grading shall occur within 100 feet of active badger dens between February and July. Between July 1st and February 1st all potential badger dens shall be inspected to determine if badgers are present. During the winter badgers do not truly hibernate but are inactive and asleep in their dens for several days at a time. Because they can be torpid during the winter, they are vulnerable to disturbances that may collapse their dens before they rouse and emerge. Therefore, surveys shall be conducted for badger dens throughout the year. Exclusion of badgers from dens may only be done during the non-breeding season by a qualified biologist experienced in den exclusions. Dens must be fully excavated and backfilled after eviction is complete.

BIO - 11. SAN JOAQUIN KIT FOX HABITAT CONSERVATION AND COMPENSATION

The proposed project occurs within a 3:1 San Joaquin kit fox mitigation zone. Prior to issuance of grading and/or construction permits, the applicant shall submit evidence to the City of Paso Robles Department of Planning and Building, Environmental and Resource Management Division (City) that states that one or a combination of the following three San Joaquin kit fox mitigation measures has been implemented. Items in bold brackets indicate placeholders for numbers to be provided by the City. These standard County of San Luis Obispo mitigation measures are accepted by the City of Paso Robles and approved by CDFW.Prior to issuance of grading and/or construction permits, the applicant shall submit evidence to the City of Paso Robles Planning Department and CDFW, that satisfactorily demonstrates one or a combination of the following three San Joaquin kit fox mitigation measures has been implemented to offset

the Project's calculated compensatory impacts at 3:1 ratio. Items in bold brackets indicate placeholders for numbers to be provided by the City.

a. Habitat Set Aside: Provide for the protection in perpetuity, through acquisition of fee or a conservation easement, the number of acres of required mitigation of suitable habitat in the kit fox corridor area, as determined by CDFW (e.g. within the San Luis Obispo County kit fox habitat area), either on-site or off-site, and provide for a non-wasting endowment to provide for management and monitoring of the property in perpetuity. Lands conserved shall be subject to review and approval by CDFW (Department) and the City.

   This mitigation alternative (a) requires that all aspects if this program must be in place before City permit issuance or initiation of any ground disturbing activities.

b. In-Lieu Fee: Deposit funds into an approved in-lieu fee program, which would provide for the protection in perpetuity of suitable habitat in the kit fox corridor area within San Luis Obispo County, and provide for a non-wasting endowment for management and monitoring of the property in perpetuity.

   Mitigation alternative (b) above, can be completed by providing funds to The Nature Conservancy (TNC) pursuant to the Voluntary Fee-Based Compensatory Mitigation Program (Program). The Program was established in agreement between the Department and TNC to preserve San Joaquin kit fox habitat, and to provide a voluntary mitigation alternative to project proponents who must mitigate the impacts of projects in accordance with the California Environmental Quality Act (CEQA). This fee is calculated based on the current cost-per-unit of $2500 per acre of mitigation, which is scheduled to be adjusted to address the increasing cost of property in San Luis Obispo County; your actual cost may increase depending on the timing of payment. This fee must be paid after the Department provides written notification about your mitigation options but prior to City permit issuance and initiation of any ground disturbing activities.

c. Conservation Bank Credit: Purchase the number of credits required by CDFW in a CDFW-approved conservation bank, which would provide for the protection in perpetuity of suitable habitat within the kit fox corridor area and provide for a non-wasting endowment for management and monitoring of the property in perpetuity.

   Mitigation alternative (c) above, can be completed by purchasing credits from the Palo Prieto Conservation Bank (see contact information below). The Palo Prieto Conservation Bank was established to preserve San Joaquin kit fox habitat, and to provide a voluntary mitigation alternative to project proponents who must mitigate the impacts of projects in accordance with CEQA. This fee is calculated based on the current cost-per-credit of $2500 per acre of mitigation. The fee is established by the conservation bank owner and may change at any time. Your actual cost may increase depending on the timing of payment. Purchase of credits must be completed prior to City permit issuance and initiation of any ground disturbing activities.

BIO - 12. SAN JOAQUIN KIT FOX PRE-CONSTRUCTION SURVEYS AND MONITORING ACTIVITIES

Prior to issuance of grading and/or construction permits, the City shall retain a qualified biologist to perform the following monitoring activities:

a. Prior to issuance of grading and/or construction permits and within 30 days prior to initiation of site disturbance and/or construction, the biologist shall conduct a pre-activity (i.e. pre-construction) survey for known or potential kit fox dens and submit a letter to the City reporting the date the survey was conducted, the survey protocol, survey results, and what measures were necessary (and completed), as applicable, to address any kit fox activity within the project limits.

b. The qualified biologist shall conduct weekly site visits during site-disturbance activities (i.e. grading, disking, excavation, stock piling of dirt or gravel, etc.) that proceed longer than 14 days, for the purpose of monitoring compliance with required Mitigation Measures BIO - 13 to BIO-19. Site disturbance activities lasting up to 14 days do not require weekly monitoring by the biologist unless observations of kit fox or their dens are made on-site or the qualified biologist recommends monitoring for some other reason. When weekly monitoring is required, the biologist shall submit weekly monitoring reports to the City.

c. Prior to or during project activities, if any observations are made of San Joaquin Kit fox, or any known or potential San Joaquin kit fox dens are discovered within the project limits, the qualified biologist shall re-assess the probability of incidental take (e.g. harm or death) to kit fox. At the time a den is discovered, the qualified biologist shall contact USFWS and CDFW for guidance on possible additional kit fox protection measures to implement and whether or not a Federal and/or State incidental take permit is needed. If a potential den is encountered during construction, work shall stop until such time the USFWS determines it is appropriate to resume work. If incidental take of kit fox during project activities is possible, before project activities commence, the applicant must consult with the USFWS. The results of this consultation may require the applicant to obtain a Federal and/or State permit for incidental take during project activities. The applicant should be aware that the presence of kit foxes or known or potential kit fox dens at the project site could result in further delays of project activities.

d. In addition, the qualified biologist shall implement the following measures:

    1. Within 30 days prior to initiation of site disturbance and/or construction, fenced exclusion zones shall be established around all known and potential kit fox dens. Exclusion zone fencing shall consist of either large flagged stakes connected by rope or cord, or survey laths or wooden stakes prominently flagged with survey ribbon. Each exclusion zone shall be roughly circular in configuration with a radius of the following distance measured outward from the den or burrow entrances:

        - Potential kit fox den: 50 feet
        - Known or active kit fox den: 100 feet
        - Kit fox pupping den: 150 feet

2. All foot and vehicle traffic, as well as all construction activities, including storage of supplies and equipment, shall remain outside of exclusion zones. Exclusion zones shall be maintained until all project-related disturbances have been terminated, and then shall be removed.
3. If kit foxes or known or potential kit fox dens are found on site, daily monitoring by a qualified biologist shall be required during ground disturbing activities.
4. Prior to issuance of grading and/or construction permits, the applicant shall clearly delineate the following as a note on the project plans: "Speed signs of 25 mph (or lower) shall be posted for all construction traffic to minimize the probability of road mortality of the San Joaquin kit fox". Speed limit signs shall be installed on the project site within 30 days prior to initiation of site disturbance and/or construction.

BIO - 13 KIT FOX NIGHT CONSTRUCTION LIMITATIONS

During the site disturbance and/or construction phase, grading and construction activities after dusk shall be prohibited unless coordinated through the City, during which additional kit fox mitigation measures may be required.

BIO - 14 WORKER EDUCATION TRAINING PROGRAM

Prior to issuance of grading and/or construction permit and within 30 days prior to initiation of site disturbance and/or construction, all personnel associated with the project shall attend a worker education training program, conducted by a qualified biologist, to avoid or reduce impacts on sensitive biological resources (i.e. San Joaquin kit fox). At a minimum, as the program relates to the kit fox, the training shall include the kit fox's life history, all mitigation measures specified by the City, as well as any related biological report(s) prepared for the project. The applicant shall notify the City shortly prior to this meeting. A kit fox fact sheet shall also be developed prior to the training program, and distributed at the training program to all contractors, employers and other personnel involved with the construction of the project.

BIO - 15 KIT FOX ENTRAPMENT AVOIDANCE

During the site-disturbance and/or construction phase, to prevent entrapment of the San Joaquin kit fox, all excavations, steep-walled holes and trenches in excess of two feet in depth shall be covered at the close of each working day by plywood or similar materials, or provided with one or more escape ramps constructed of earth fill or wooden planks. Trenches shall also be inspected for entrapped kit fox each morning prior to onset of field activities and immediately prior to covering with plywood at the end of each working day. Before such holes or trenches are filled, they shall be thoroughly inspected for entrapped kit fox. Any kit fox so discovered shall be allowed to escape before field activities resume, or removed from the trench or hole by a qualified biologist and allowed to escape unimpeded.

In addition, during the site-disturbance and/or construction phase, any pipes, culverts, or similar structures with a diameter of four inches or greater, stored overnight at the project site shall be thoroughly inspected for trapped San Joaquin kit foxes before the subject pipe is subsequently buried, capped, or otherwise used or moved in any way.

If during the construction phase a kit fox is discovered inside a pipe, that section of pipe will not be moved. If necessary, the pipe may be moved only once to remove it from the path of activity, until the kit fox has escaped.

BIO - 16 SITE INSPECTIONS

During the site-disturbance and/or construction phase, any pipes, culverts, or similar structures with a diameter of four inches or greater, stored overnight at the project site shall be thoroughly inspected for trapped San Joaquin kit foxes before the subject pipe is subsequently buried, capped, or otherwise used or moved in any way. If during the construction phase a kit fox is discovered inside a pipe, that section of pipe will not be moved. If necessary, the pipe may be moved only once to remove it from the path of activity, until the kit fox has escaped.

BIO - 17 KIT FOX TRASH REMOVAL PROCEDURES

During the site-disturbance and/or construction phase, all food-related trash items such as wrappers, cans, bottles, and food scraps shall be disposed of only in closed containers. These containers shall be regularly removed from the site. Food items may attract San Joaquin kit foxes onto the project site, consequently exposing such animals to increased risk of injury or mortality. No deliberate feeding of wildlife shall be allowed.

BIO - 18 PESTICIDE AND HERBICIDE MINIMIZATION PROCEDURES

Prior to, during and after the site-disturbance and/or construction phase, use of pesticides or herbicides shall be in compliance with all local, State and Federal regulations. This is necessary to minimize the probability of primary or secondary poisoning of endangered species utilizing adjacent habitats, and the depletion of prey upon which San Joaquin kit foxes depend.

BIO - 19 KIT FOX MORTALITY PROCEDURES

During the site-disturbance and/or construction phase, any contractor or employee that inadvertently kills or injures a San Joaquin kit fox or who finds any such animal either dead, injured, or entrapped shall be required to report the incident immediately to the City. In the event that any observations are made of injured or dead kit fox, the applicant shall immediately notify the USFWS and CDFW by telephone. In addition, formal notification shall be provided in writing within three working days of the finding of any such animal(s). Notification shall include the date, time, location and circumstances of the incident. Any threatened or endangered species found dead or injured shall be turned over immediately to CDFW for care, analysis, or disposition.

4.3.8 Habitat Connectivity and Wildlife Movement

Huer Huero Creek is a regionally significant wildlife corridor; however, this Project does not propose impacts that would impede or block wildlife from utilizing this site for movement. The proposed Class I trail would not physically obstruct wildlife from utilizing Huer Huero Creek for passage, but increased human presence during construction and operationally could potentially affect local wildlife usage of the area.

BIO - 20. PERMANENT TRAIL SIGNS

Prior to final acceptance of the trail, permanent trail signs shall be installed.

The applicant shall submit a statement from a California Registered Engineer, or licensed surveyor that all permanent trail signs are shown on grading, construction, or improvement plans. The signs must be corrosion resistant, a minimum of 6" x 9" in size, on posts not less than three (3) feet in height from the ground surface, and must state the following:

"Sensitive Environmental Resources"
Entry Beyond this Point is Prohibited

Information: Contact City of Paso Robles, [insert QR code with details on sign]

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6 APPENDICES

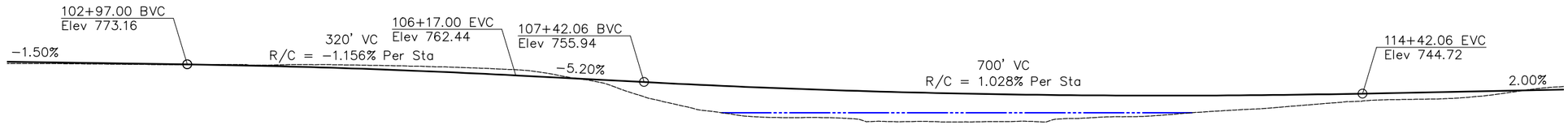
- **Appendix A. Site Plan**
- **Appendix B. Special Status Plants Reported from the Region**
- **Appendix C. Vascular Plant List**
- **Appendix D. Special Status Animals Reported from the Region**
- **Appendix E. Wildlife List**
- **Appendix F. IPaC USFWS Checklist**

APPENDIX A. SITE PLAN

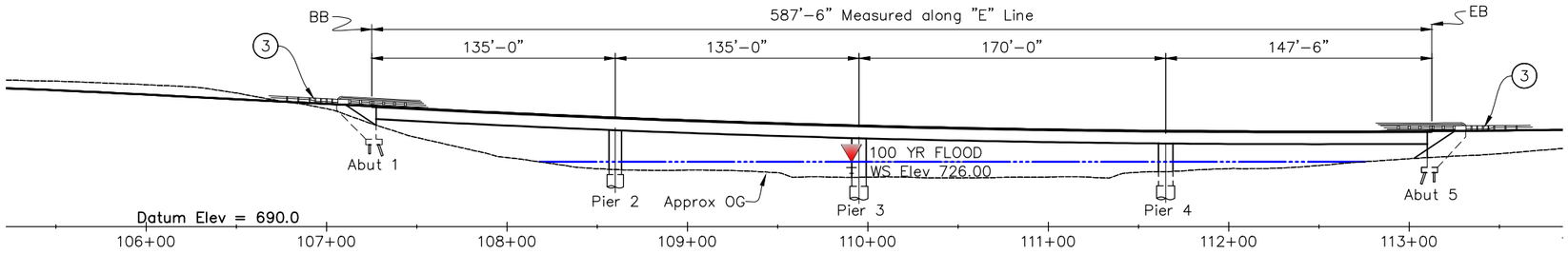
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT
05	SLO	CR	X.X X.X/X.X

WALLACE GROUP®
612 CLARION CT
SAN LUIS OBISPO, CA 93401
P: 805.544.4011

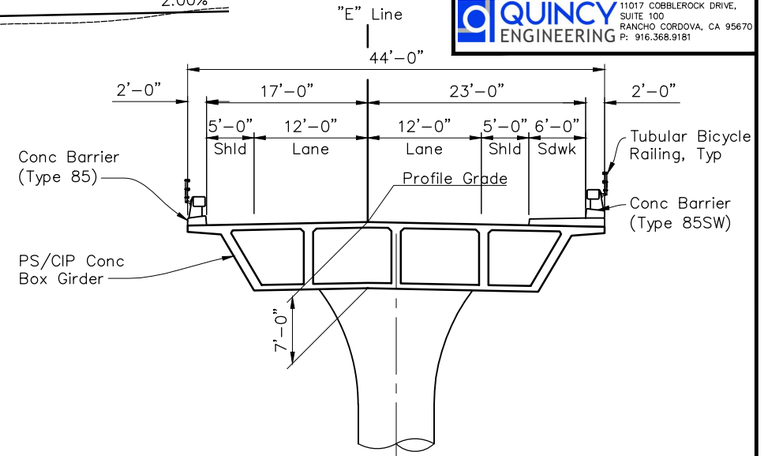
QUINCY ENGINEERING
11017 COBBLEROCK DRIVE, SUITE 100
RANCHO CORDOVA, CA 95670
P: 916.368.9181



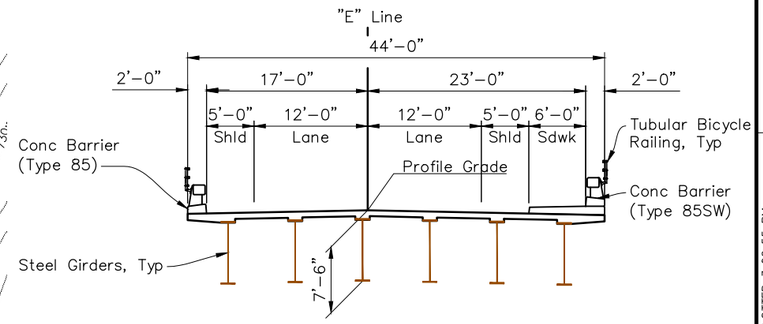
PROFILE GRADE
NO SCALE



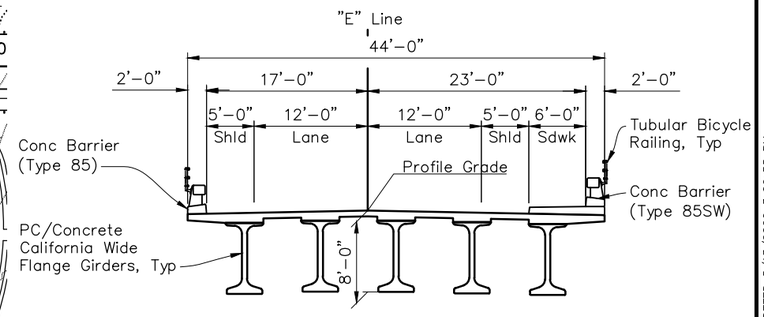
ELEVATION
1" = 40'



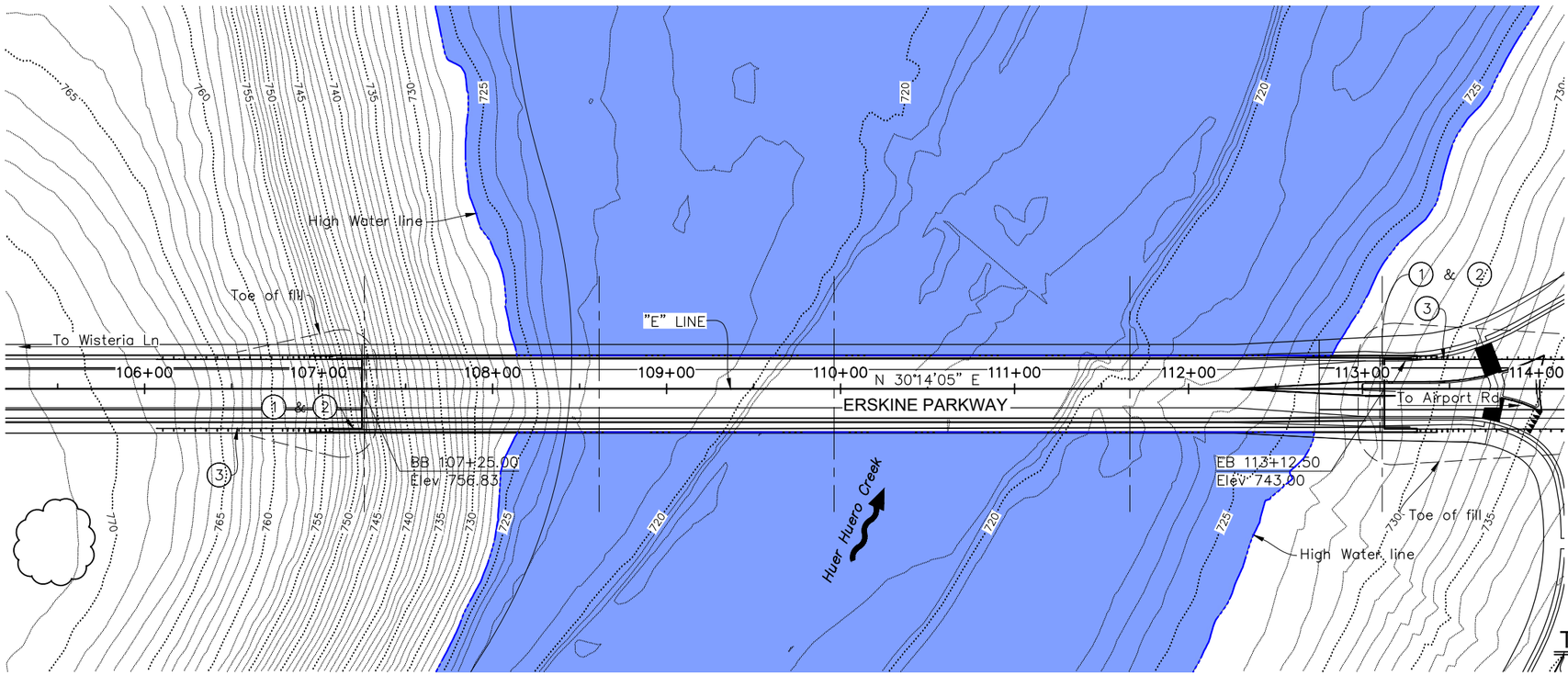
TYPICAL SECTION (PS/CIP Concrete Box Girder)
1/8" = 1'-0"



TYPICAL SECTION (Steel Girders)
1/8" = 1'-0"



TYPICAL SECTION (PC/Concrete California Wide Flange Girders)
1/8" = 1'-0"



PLAN
1" = 40'

Notes:
1. Paint "Huer Huero Creek Bridge"
2. Paint "No. XXX-XXXX"
3. MGS see "Road Plans"

DESIGN OVERSIGHT

SIGN OFF DATE

DESIGNED BY	L. SCHREY	DATE
DRAWN BY	D. Polglase	DATE
CHECKED BY	DES CHK	DATE
APPROVED		DATE

LANCE SCHREY
PROJECT ENGINEER

ADVANCE PLANNING STUDY - 2

HUER HUERO CREEK BRIDGE ON ERSKINE PKWY

BRIDGE NO. XX-XXXX	UNIT: UNIT
SCALE: As Shown	PROJECT NUMBER & PHASE: 80-242

PREPARED FOR THE CITY OF PASO ROBLES - PUBLIC WORKS DEPARTMENT

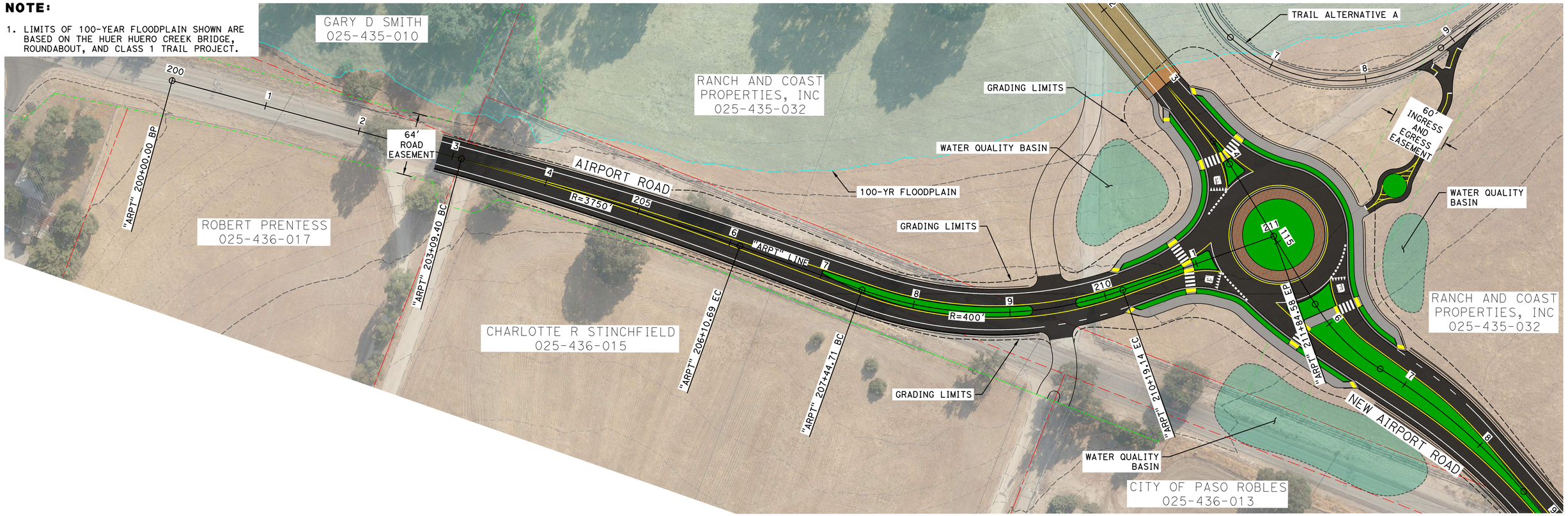
DESIGN DETAIL SHEET (ENGLISH) (REV.7/16/10)

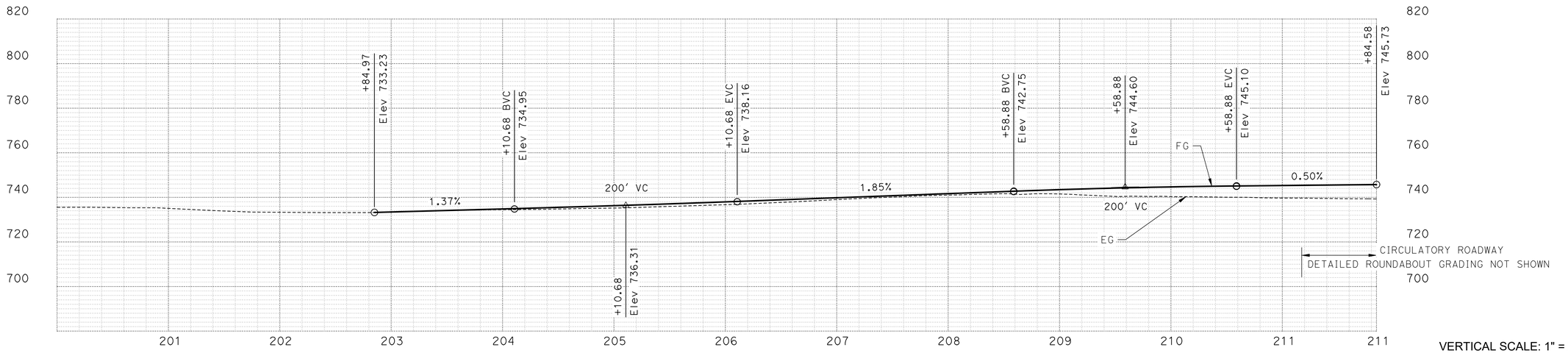
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DATE PLOTTED 5/13/2020 3:06:55 PM
TIME PLOTTED 3:06:55 PM
USERNAME Dace.Morgan

NOTE:

1. LIMITS OF 100-YEAR FLOODPLAIN SHOWN ARE BASED ON THE HUER HUERO CREEK BRIDGE, ROUNDABOUT, AND CLASS 1 TRAIL PROJECT.





FILE NAME: 0067-0042 EXBT-PLPR-ARPT.DWG 7/30/2020 8:45 AM

CITY OF PASO ROBLES

PRELIMINARY ROAD PLAN AND PROFILE - AIRPORT ROAD

HUER HUERO CREEK BRIDGE, ROUNDABOUT, AND CLASS 1 TRAIL

July 30, 2020

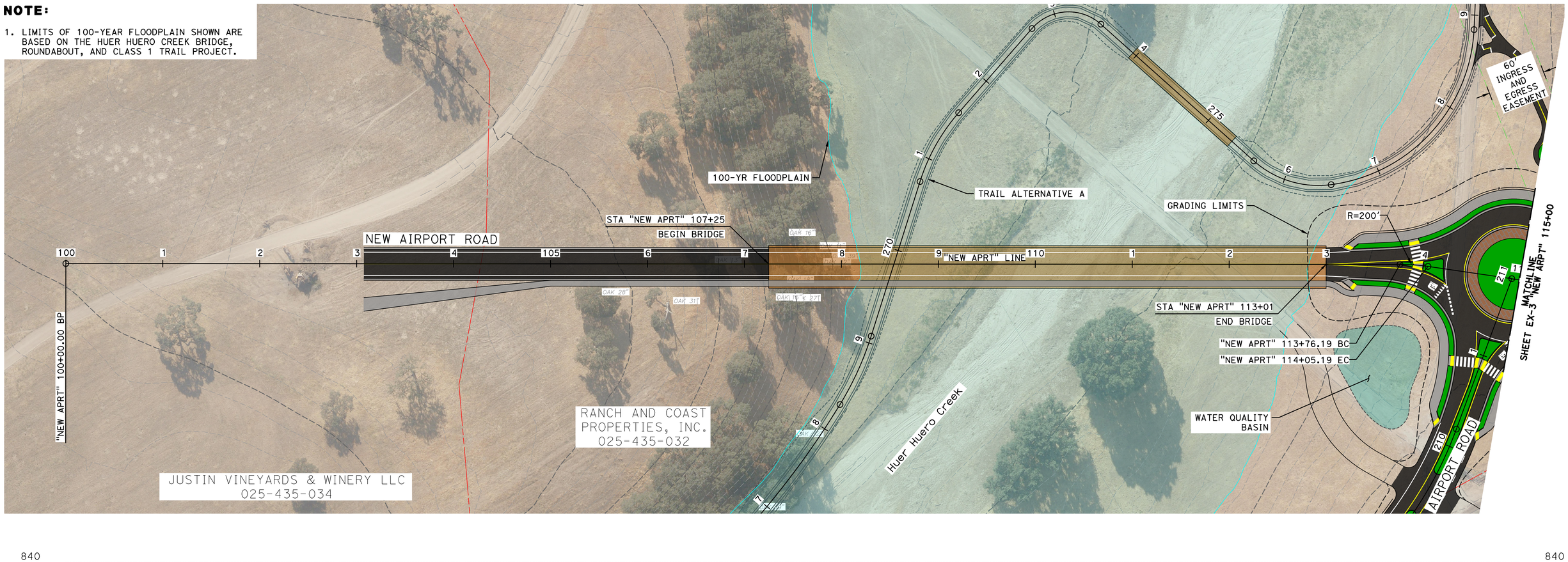
EX-1

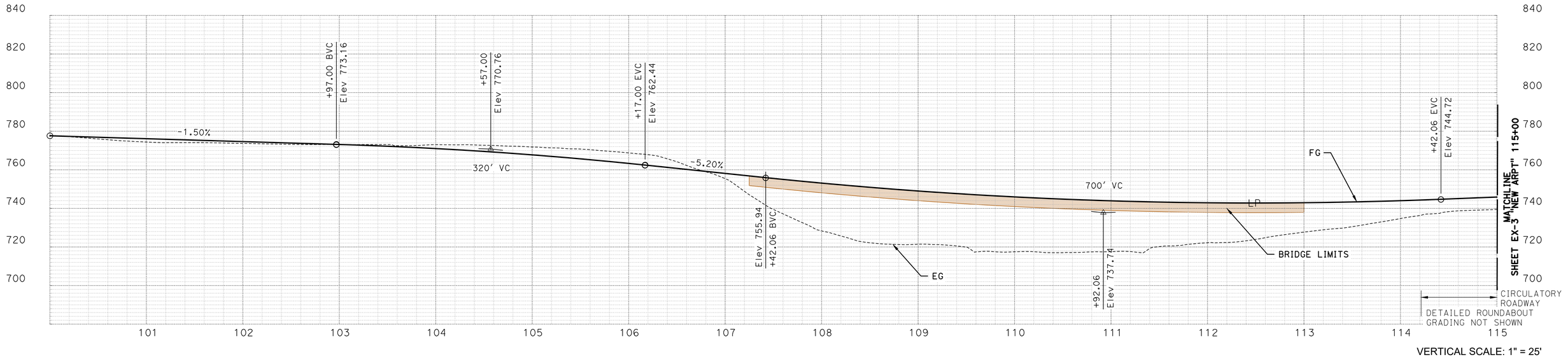
GRAPHIC SCALE
0 25 50 100
(IN FEET)
1 IN = 50 FT

WALLACE GROUP®

NOTE:

1. LIMITS OF 100-YEAR FLOODPLAIN SHOWN ARE BASED ON THE HUER HUERO CREEK BRIDGE, ROUNDABOUT, AND CLASS 1 TRAIL PROJECT.





FILE NAME: 0067-0042 EXBT-PLPR-NEWARPT.DWG 7/30/2020 8:46 AM

CITY OF PASO ROBLES

PRELIMINARY ROAD PLAN AND PROFILE - NEW AIRPORT ROAD

HUER HUERO CREEK BRIDGE, ROUNDABOUT, AND CLASS 1 TRAIL

July 30, 2020

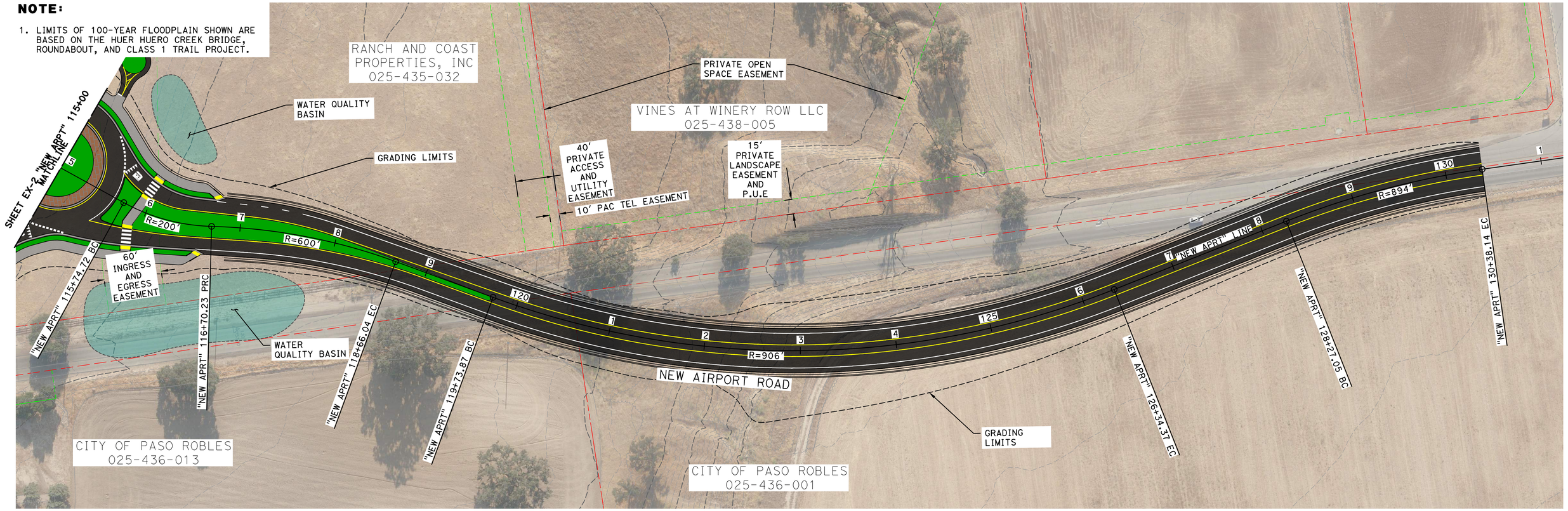
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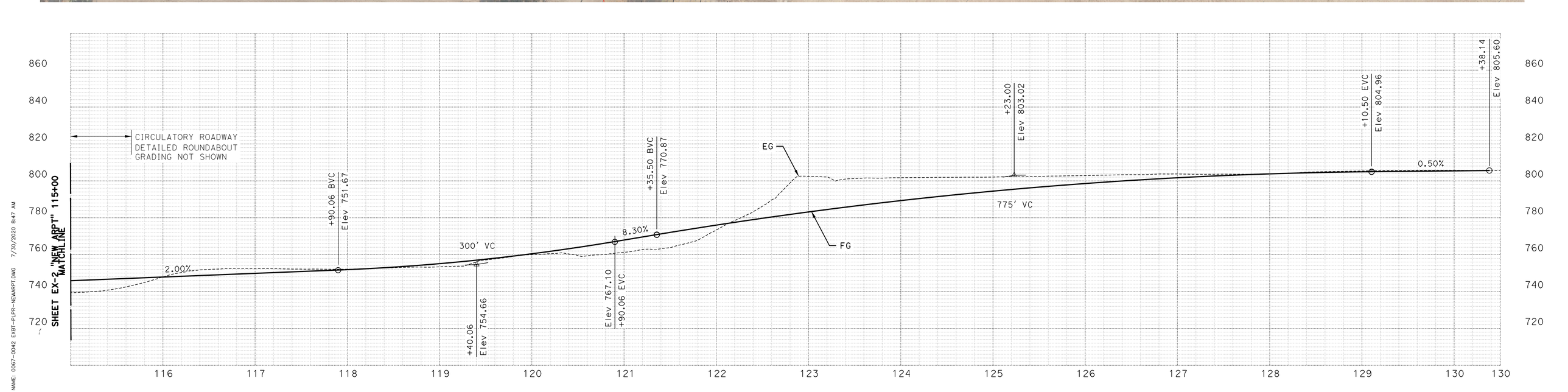
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(IN FEET)
1 IN = 50 FT

WALLACE GROUP®

NOTE:

1. LIMITS OF 100-YEAR FLOODPLAIN SHOWN ARE BASED ON THE HUER HUERO CREEK BRIDGE, ROUNDABOUT, AND CLASS 1 TRAIL PROJECT.





VERTICAL SCALE: 1" = 25'

FILE NAME: 0067-0042 EXBT-PLPR-NEWARPT.DWG 7/30/2020 8:47 AM

CITY OF PASO ROBLES

PRELIMINARY ROAD PLAN AND PROFILE - NEW AIRPORT ROAD

HUER HUERO CREEK BRIDGE, ROUNDABOUT, AND CLASS 1 TRAIL

July 30, 2020

EX-3

GRAPHIC SCALE
0 25 50 100
(IN FEET)
1 IN = 50 FT

WALLACE GROUP®

TRAIL BY OTHERS (CAVA COA/CITY)
CITY OF PASO ROBLES 025-436-001
VINES AT WINERY ROW LLC 025-438-005
2' Max Ret WALL
RANCH AND COAST PROPERTIES, INC 025-435-032
NEW AIRPORT ROAD
CITY OF PASO ROBLES 025-436-013
100-YR FLOODPLAIN
PASO ROBLES HORSE PARK A CA LLC 025-435-008
CHARLOTTE R STINCHFIELD 025-436-015
SUN PASO ROBLES RV LLC 025-435-023
ROBERT PRENTESS 025-436-017
TRAIL BY OTHERS (CAVA COA/CITY)
ALTERNATIVE A
ALTERNATIVE 3
CONNECTOR 4
CONNECTOR 2
CONNECTOR 3
CLASS 1 TO CLASS 2 TRAIL CONNNECTORS
RUSSELL R WILSON 025-436-018
PHILIP TSUI 025-435-024
ALTERNATIVE 2
CITY OF PASO ROBLES 025-435-021
ANTHONY R DIDONNA 025-436-019
JUSTIN VINEYARDS & WINERY LLC 025-435-034
GERMAINE PROPERTIES LLC 025-425-007
CONNECTOR 1
IQMS 025-425-009
IQMS 025-425-010
ALTERNATIVE 1
JUSTIN VINEYARDS & WINERY LLC 025-435-027
6' Max Ret WALL
ALTERNATIVE A
WISTERIA LANE
AIRPORT ROAD
RANCH AND COAST PROPERTIES, INC 025-435-032
LOT 4
9' Max Ret WALL
JERRY & KATHERINE HANDLEY 025-436-029
CULTURAL RESOURCE LIMITS
THOMAS H ERSKINE 025-435-029
RAVINE WATERPARK LLC 025-433-012
SUZANNE RAVA 025-433-001
SR 46E
9' Max Ret WALL
RAK FRANK R JR 025-371-017
PASO ROBLES ATHLETIC CLUB 025-371-025
RAVINE WATERPARK LLC 913-002-252
UNION ROAD
CITY OF PASO ROBLES 025-371-018
BARNEY SCHWARTZ PARK
UNION ROAD

NOTE:

1. LIMITS OF 100-YEAR FLOODPLAIN SHOWN ARE BASED ON THE HUER HUERO CREEK BRIDGE, ROUNDABOUT AND CLASS 1 TRAIL PROJECT.

GRAPHIC SCALE
0 150 300 600
(IN FEET)
1 IN = 300 FT

FILE NAME: 0067-0042 EXBT-OVERALL.DWG 7/30/2020 7:58 AM

OVERALL TRAIL MAP - ALL ALTERNATIVES

HUER HUERO CREEK BRIDGE, ROUNDABOUT, AND CLASS 1 TRAIL

July 30, 2020

EX-2

WALLACE GROUP®

APPENDIX B. SPECIAL STATUS PLANTS REPORTED FROM THE REGION

	Common Name	Scientific Name	Federal/ State Status Global/ State Rank CA Rare Plant Rank	Blooming Period	Habitat Preference	Potential to Occur
1.	**Bristlecone Fir**	*Abies bracteata*	-/- G2G3/S2S3 1B.3	--	Steep, rocky, fire-resistant slopes, generally in canyon-live-oak phase of mixed-evergreen forest.	No potential. No suitable habitat occurs within the Study Area.
2.	**Hoover's Bent Grass**	*Agrostis hooveri*	-/- G2/S2 1B.2	Apr-Jul	Sandy sites within chaparral, cismontane woodland, coniferous forest, valley and foothill grassland.	Low. Marginally suitable habitat occurs within the Study Area. Historic occurrence (CNDDB #32) located 8.8 miles to west.
3.	**Douglas' Fiddleneck**	*Amsinckia douglasiana*	-/- G4/S4 4.2	Mar-May	Unstable shaly sedimentary slopes.	No potential. No suitable habitat occurs within the Study Area.
4.	**Oval-Leaved Snapdragon**	*Antirrhinum ovatum*	-/- G3/S3 4.2	May-Nov	Heavy, adobe-clay soils on gentle, open slopes, also disturbed areas.	No potential. No suitable habitat occurs within the Study Area.
5.	**Hoover's Manzanita**	*Arctostaphylos hooveri*	-/- G3/S3 4.3	Feb-Jun	Rocky slopes, upland chaparral, open ponderosa-pine forest near coast.	No potential. No suitable habitat occurs within the Study Area. Shrub not encountered during surveys.
6.	**Bishop Manzanita**	*Arctostaphylos obispoensis*	-/- G3/S3 4.3	Feb-Jun	Rocky, generally serpentine soils, chaparral, open closed-cone forest near coast.	No potential. No suitable habitat occurs within the Study Area. Shrub not encountered during surveys.

	Common Name	Scientific Name	Federal/ State Status Global/ State Rank CA Rare Plant Rank	Blooming Period	Habitat Preference	Potential to Occur
7.	**Marsh Sandwort***	*Arenaria paludicola*	FE/CE G1/S1 1B.1	May-Aug	Wet meadows, marshes, swamps. Sandy soils	No. Suitable habitat not present; coastal species.
8.	**Indian Valley Spineflower**	*Aristocapsa insignis*	-/- G1/S1 1B.2	May-Sep	Cismontane woodland in sand.	No potential. No suitable habitat occurs within the Study Area.
9.	**Salinas Milk-Vetch**	*Astragalus macrodon*	-/- G4/S4 4.3	Apr-Jul	Eroded pale shales or sandstone, serpentine alluvium.	No potential. No suitable habitat occurs within the Study Area.
10.	**La Panza Mariposa Lily**	*Calochortus simulans*	-/- G2/S2 1B.3	Apr-Jun	Sand (often granitic), grassland to yellow-pine forest.	No potential. No suitable habitat occurs within the Study Area.
11.	**Dwarf Calycadenia**	*Calycadenia villosa*	-/- G3/S3 1B.1	May-Oct	Dry, rocky hills, ridges, grassland, openings in foothill woodland.	Low. Suitable habitat present. Nearest record of occurrence 6.9 miles northwest (CNDDB #59).
12.	**Hardham's Evening-Primrose**	*Camissoniopsis hardhamiae*	-/- G2/S2 1B.2	Mar-May	Chaparral, cismontane woodland in sand.	No potential. No suitable habitat occurs within the Study Area.
13.	**San Luis Obispo Owl's-Clover**	*Castilleja densiflora* var. *obispoensis*	-/- G5T2/S2 1B.2	Mar-May	Valley and foothill grassland, meadows and seeps. Sometimes serpentinite.	Low. Marginal habitat occurs within the Study Area. Recent occurrence (CNDDB #42) adjacent to northern extent of Study Area.

	Common Name	Scientific Name	Federal/ State Status Global/ State Rank CA Rare Plant Rank	Blooming Period	Habitat Preference	Potential to Occur
14.	**California Jewelflower***	*Caulanthus californicus*	FE/CE G1/S1 1B.1	Feb-May	Flats, slopes, generally in non-alkaline grassland.	No. Suitable habitat not present and Study Area outside of species known range. Nearest occurrence is toward the coast over 20 miles west (UC857363).
15.	**Lemmon's Jewelflower**	*Caulanthus lemmonii*	-/- G3/S3 1B.2	Feb-May	Grassland, chaparral, scrub.	Moderate. Suitable habitat occurs within the Study Area and historic occurrence (CNDDB #83) located adjacent to the site.
16.	**Lompoc Ceanothus**	*Ceanothus cuneatus* var. *fascicularis*	-/- G5T4/S4 4.2	Feb-Apr	Sandy substrates, coastal chaparral.	No potential. Outside of floristic range of species and no suitable habitat.
17.	**Santa Lucia Purple Amole**	*Chlorogalum purpureum* var. *purpureum*	FT/- G2T2/S2 1B.1	Apr-Jun	Often in grassy areas with blue oaks in foothill woodland. Gravelly clay soils.	No potential. No suitable habitat (soil) occurs within Study Area and no records are known within 10 miles.
18.	**Douglas' Spineflower**	*Chorizanthe douglasii*	-/- G4/S4 4.3	Apr-Jul	Cismontane woodland, lower montane coniferous forest, chaparral, coastal scrub, valley and foothill grassland; in sand or gravel.	Low. Suitable habitat occurs within Study Area but no recent records occur within 9 miles.
19.	**Palmer's Spineflower**	*Chorizanthe palmeri*	-/- G4/S4 4.2	Apr-Aug	Dry, rocky places and hillsides. Serpentine substrates.	No potential. No suitable habitat occurs within the Study Area.

	Common Name	Scientific Name	Federal/ State Status Global/ State Rank CA Rare Plant Rank	Blooming Period	Habitat Preference	Potential to Occur
20.	**Straight-Awned Spineflower**	*Chorizanthe rectispina*	-/- G2/S2 1B.3	Apr-Jul	Chaparral, cismontane woodland, coastal scrub. Sand or gravel.	No potential. No suitable habitat occurs within the Study Area.
21.	**Monkey-Flower Savory**	*Clinopodium mimuloides*	-/- G3/S3 4.2	Jun-Oct	North coast coniferous forest, chaparral within moist places, streambanks.	No potential. No suitable habitat occurs within the Study Area.
22.	**Small-Flowered Morning-Glory**	*Convolvulus simulans*	-/- G4/S4 4.2	Mar-Jul	Clay substrates, occasionally serpentine, annual grassland, coastal-sage scrub, chaparral.	No potential. No suitable habitat occurs within the Study Area.
23.	**Eastwood's Larkspur**	*Delphinium parryi* spp. *eastwoodiae*	-/- G4T2/S2 1B.2	Feb-Mar	Uncommon. Coastal chaparral, grassland, on serpentine.	No potential. No suitable habitat occurs within the Study Area.
24.	**Umbrella Larkspur**	*Delphinium umbraculorum*	-/- G3/S3 1B.3	Apr-Jun	Moist oak forest; Cismontane woodland and chaparral.	Low. Marginal suitable habitat occurs within the Study Area and historic occurrence (CNDDB #26) located >5 miles away.
25.	**Koch's Cord Moss**	*Entosthodon kochii*	-/- G1/S1 1B.3		Cismontane woodland. Moss growing on soil on river banks.	No potential. No suitable habitat occurs within the Study Area.
26.	**Yellow-Flowered Eriastrum**	*Eriastrum luteum*	-/- G2/S2 1B.2	May-Jun	Broadleafed upland forest, cismontane woodland, chaparral. On bare sandy decomposed granite slopes.	No potential. No suitable habitat occurs within the Study Area.

	Common Name	Scientific Name	Federal/ State Status Global/ State Rank CA Rare Plant Rank	Blooming Period	Habitat Preference	Potential to Occur
27.	**Elegant Wild Buckwheat**	*Eriogonum elegans*	-/- G4G5/S4S5 4.3	May-Nov	Cismontane woodland, valley and foothill grassland. Usually in sandy or gravelly substrates; often in washes, sometimes roadsides.	**Present**. Species encountered in the Riparian habitat within the Study Area, located in sandy soils and terraces throughout Huer Huero Creek.
28.	**Jepson's Woolly Sunflower**	*Eriophyllum jepsonii*	-/- G3/S3 4.3	Apr-Jun	Coastal scrub, chaparral, cismontane woodland, sometimes on serpentine.	No potential. Study Area located outside of known floristic range and no nearby records. No suitable habitat.
29.	**San Benito Poppy**	*Eschscholzia hypecoides*	-/- G4/S4 4.3	Mar-Jun	Grassy areas in woodland, chaparral	Low. Suitable habitat present and historic CCH records located <5 miles to west.
30.	**Hogwallow Starfish**	*Hesperevax caulescens*	-/- G3/S3 4.2	Mar-Jun	Declining. Drying shrink-swell clay of vernal pools, flats, steep slopes (sometimes serpentine)	No potential. No suitable habitat occurs within the Study Area.
31.	**Mesa Horkelia**	*Horkelia cuneata* var. *puberula*	-/- G4T1/S1 1B.1	Feb-Sep	Dry, sandy, coastal chaparral	No potential. No suitable habitat occurs within the Study Area
32.	**Kellogg's Horkelia**	*Horkelia cuneata* var. *sericea*	-/- G4T1?/S1? 1B.1	Apr-Sep	Old dunes, coastal sandhills.	No potential. No suitable habitat occurs within the Study Area
33.	**Santa Lucia Dwarf Rush**	*Juncus luciensis*	-/- G3/S3 1B.2	Apr-Jul	Wet, sandy soils of seeps, meadows, vernal pools, streams, roadsides.	Low. Suitable habitat present within the Study Area. Historic CCH record (1958) located >5 miles south.

	Common Name	Scientific Name	Federal/ State Status Global/ State Rank CA Rare Plant Rank	Blooming Period	Habitat Preference	Potential to Occur
34.	**Jared's Pepper-Grass**	*Lepidium jaredii* spp. *jaredii*	-/- G2G3T1T2/S1S2 1B.2	Mar-May	Valley and foothill grassland (alkaline, adobe).	No potential. Study Area is located outside of species accepted floristic range.
35.	**Davidson's Bush-Mallow**	*Malacothamnus davidsonii*	-/- G2/S2 1B.2	Jun-Jan	Riparian woodland, chaparral, cismontane woodland. Slopes, washes	Moderate. Suitable habitat within Study Area. Shrub not detected during surveys and no records within 15 miles.
36.	**Jones' Bush-Mallow**	*Malacothamnus jonesii*	-/- G4/S4 4.3	Mar-Oct	Open chaparral in foothill woodland.	Low. Suitable habitat and record within Study Area (CCH UCR148771). Shrub not detected during surveys.
37.	**Carmel Valley Malacothrix**	*Malacothrix saxatilis* var. *arachnoidea*	-/- G5T2/S2 1B.2	Mar-Dec	Rocky, open banks, shale outcrops, cliff faces, coastal scrub, chaparral.	No potential. No suitable habitat occurs within the Study Area.
38.	**Oregon Meconella**	*Meconella oregana*	-/- G2G3/S2 1B.1	Mar-Apr	Shaded canyons.	No potential. No suitable habitat occurs within the Study Area.
39.	**Woodland Woolythreads**	*Monolopia gracilens*	-/- G3/S3 1B.2	Feb-Jul	Serpentine grassland, open chaparral, oak woodland.	Low. Marginal suitable habitat. Closest known record is historic and approximately 5 miles west (CNDDB #2) of the Study Area off Adelaida Road.
40.	**Spreading Navarretia**	*Navarretia fossalis*	FT/- G2/S2 1B.1	Apr-Jun	Vernal pools, ditches.	No potential. No suitable habitat occurs within the Study Area.

	Common Name	Scientific Name	Federal/ State Status Global/ State Rank CA Rare Plant Rank	Blooming Period	Habitat Preference	Potential to Occur
41.	**Shining Navarretia**	*Navarretia nigelliformis* ssp. *radians*	-/- G4T2/S2 1B.2	Mar-Jul	Grassland and cismontane woodland. Often on clay and alkaline sites, sometimes vernal pools. 65-1,000 m.	**High**. Suitable habitat located within Study Area and recent occurrence (CNDDB 4) located in NW portion of site.
42.	**Prostrate Vernal Pool Navarretia**	*Navarretia prostrata*	-/- G2/S2 1B.1	Apr-Jul	Alkaline floodplains, vernal pools.	No potential. No suitable habitat and no records within 10 miles of the Study Area.
43.	**Large-Flowered Nemacladus**	*Nemacladus secundiflorus* var. *secundiflorus*	-/- G3T3?/S3? 4.3	Apr-Jun	Dry, gravelly slopes.	No potential. No suitable habitat occurs within the Study Area.
44.	**Hooked Popcornflower**	*Plagiobothrys uncinatus*	-/- G2/S2 1B.2	Apr-May	Chaparral, canyon sides, rocky outcrops, +- fire follower.	No potential. No suitable habitat occurs within the Study Area.
45.	**San Gabriel Ragwort**	*Senecio astephanus*	-/- G3/S3 4.3	May-Jul	Steep rocky slopes in chaparral/coastal-sage scrub and oak woodland.	No potential. No suitable habitat occurs within the Study Area.
46.	**Santa Cruz Microseris**	*Stebbinsoseris decipiens*	-/- G2/S2 1B.2	Apr-May	Open, sandy, shaly, or serpentine sites, coastal.	No potential. No suitable habitat occurs within the Study Area.

*Not listed in the CNDDB for the search area.

State/Rank Abbreviations:

FE: Federally Endangered
FT: Federally Threatened
PE: Proposed Federally Endangered
PT: Proposed Federally Threatened
CE: California Endangered
CR: California Rare
CT: California Threatened
CCE: Candidate for California Endangered
CCT: Candidate for California Threatened

California Rare Plant Ranks:

CRPR 1A: Plants presumed extirpated in California and either rare or extinct elsewhere
CRPR 1B: Plants rare, threatened, or endangered in California and elsewhere

CRPR 2A: Plants presumed extirpated in California, but common elsewhere
CRPR 2B: Plants rare, threatened, or endangered in California, but more common elsewhere
CRPR 4: Plants of limited distribution - a watch list

CRPR Threat Ranks:

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

Global/State Ranks

G1/S1 – Critically Imperiled	Q – Element is very rare but there are taxonomic questions associated with it.
G2/S2 – Imperiled	Range rank – (e.g., S2S3 means rank is somewhere between S2 and S3)
G3/S3 – Vulnerable	? – (e.g., S2? Means rank is more certain than S2S3 but less certain that S2)
G4/S4 – Apparently Secure	
G5/S5 – Secure	

ATTACHMENT C. VASCULAR PLANT LIST

Scientific Name	Common Name	Special Status	Origin
Trees - 8 Species			
Ailanthus altissima	Tree of heaven	-/-	Introduced
Eucalyptus camaldulensis	Red gum	-/-	Introduced
Populus fremontii subsp. fremontii	Alamo or fremont cottonwood	-/-	Native
Quercus douglasii	Blue oak	-/-	Native
Quercus lobata	Valley oak	-/-	Native
Lepidospartum squamatum	Scalebroom	-/-	Native
Salix lasiolepis	Arroyo willow	-/	Native
Tamarix ramosissima	Saltcedar	-/-	Introduced
Shrubs - 22 Species			
Artemisia dracunculus	Tarragon	-/-	Native
Baccharis pilularis	Coyote brush	-/-	Native
Baccharis salicifolia subsp. *salicifolia*	Mule fat	-/-	Native
Centranthus ruber	Red valerian	-/-	Introduced
Eriodictyon traskiae	Trask's yerba santa	-/-	Native
Eriogonum fasciculatum	California buckwheat	-/-	Native
Eriogonum sp.	Buckwheat	-/-	Native
Galium andrewsii	Phlox-leaved bedstraw	-/-	Native
Heliotropium curassavicum var. *oculatum*	Seaside heliotrope	-/-	Native
Iva axillaris	Poverty weed	-/-	Native
Lythrum californicum	California loosestrife	-/-	Native
Marrubium vulgare	White horehound	-/-	Introduced
Penstemon centranthifolius	Scarlet bugler	-/-	Native
Phoradendron leucarpum subsp. *Tomentosum*	Mistletoe	-/-	Native

Scientific Name	Common Name	Special Status	Origin
Rhamnus ilicifolia	Hollyleaf redberry	-/-	Native
Rosa californica	California rose	-/-	Native
Salix laevigata	Red willow	-/-	Native
Sambucus nigra subsp. *caerulea*	Blue elderberry	-/-	Native
Senecio flaccidus	Threadleaf ragwort	-/-	Native
Solanum umbelliferum		-/-	Native
Stephanomeria pauciflora	Wire-lettuce	-/-	Native
Toxicodendron diversilobum	Western poison oak	-/-	Native
Forbs - 94 Species			
Achillea millefolium	Yarrow	-/-	Native
Acmispon americanus var. *americanus*	Spanish lotus	-/-	Native
Acmispon strigosus	Strigose lotus	-/-	Native
Ambrosia acanthicarpa	Annual bur-sage	-/-	Native
Amsinckia menziesii	Common fiddleneck	-/-	Native
Artemisia douglasiana	Mugwort	-/-	Native
Asclepias eriocarpa	Kotolo	-/-	Native
Asclepias fascicularis	Narrow-leaf milkweed	-/-	Native
Astragalus asymmetricus	San Joauquin milk vetch	-/-	Native
Bloomeria crocea	Common goldenstar	-/-	Native
Bowlesia incana	Bowlesia	-/-	Introduced
Brassica nigra	Black mustard	-/-	Native
Calandrinia menziesii	Red maids	-/-	
Calystegia sp.	Morning glory	-/-	Native
Camissoniopsis sp.	Primrose	-/-	Introduced
Capsella bursa-pastoris	Shepherd's purse	-/-	Native
Cardamine oligosperma	Bitter cress	-/-	Introduced

Scientific Name	Common Name	Special Status	Origin
Carduus pycnocephalus subsp. pycnocephalus	Italian thistle	-/-	Native
Castilleja attenuata	Valley tassels	-/-	Native
Castilleja exserta subsp. exserta	Purple owl's clover	-/-	Native
Caulanthus lasiophyllus	California mustard	-/-	Introduced
Centaurea solstitialis	Yellow star-thistle	-/-	Native
Chaenactis glabriuscula	Yellow pincushion	-/-	Native
Chenopodium californicum	California goosefoot	-/-	Native
Cirsium occidentale var. *californicum*	California thistle	-/-	Introduced
Cirsium vulgare	Bull thistle	-/-	Native
Clarkia unguiculata	Woodland clarkia	-/-	Native
Claytonia perfoliata	Miner's lettuce	-/-	Introduced
Conium maculatum	Poison hemlock	-/-	Introduced
Corethrogyne filaginifolia	Common sandaster	-/-	Native
Crassula tillaea	Mediterranean pygmy weed	-/-	Native
Croton setigerus	Dove weed	-/-	Native
Crustuca sp.	Dodder	-/-	Native
Datura wrightii	Jimson weed	-/-	Native
Daucus pusillus	Wild carrot	-/-	Native
Deinandra pentactis	Salinas river tarweed	-/-	Native
Delphineum sp.	Delphineum	-/-	Native
Dichelostemma capitatum	Blue dicks	-/-	Native
Epilobium brachycarpum	Willow herb	-/-	Native
Erigeron canadensis	Horseweed	-/-	Native
Eriogonum elegans	Elegant wild buckwheat	**CRPR 4.3**	Native
Eriogonum roseum	Wand wild buckwheat	-/-	Native
Eristrum sp.	Eriastrum	-/-	Introduced

Scientific Name	Common Name	Special Status	Origin
Erodium botrys	Big heron bill	-/-	Introduced
Erodium moschatum	Greenstem filaree	-/-	Native
Eschscholzia caespitosa	Tufted eschscholzia	-/-	Native
Eschscholzia californica	California poppy	-/-	Native
Euphorbia ocellata ssp. *ocellata*	Valley spurge	-/-	Native
Galium aparine	Goose grass	-/-	Native
Heterotheca grandiflora	Telegraph weed	-/-	Native
Heterotheca sessiliflora subsp. *bolanderi*	Golden aster	-/-	Introduced
Hirschfeldia incana	Short-pod mustard	-/-	Introduced
Hypochaeris glabra	Smooth cat's-ear	-/-	Introduced
Lamium amplexicaule	Henbit	-/-	Native
Lasthenia glabrata	Yellow rayed foldfields	-/-	Introduced
Lepidium latifolium	Perennial pepperweed	-/-	Native
Lessingia glandulifera	Valley vinegar weed	-/-	Native
Lupinus bicolor	Miniature lupine	-/-	Native
Lupinus microcarpus var. *microcarpus*	Chick lupine	-/-	Native
Lupinus succulentus	Arroyo lupine	-/-	Native
Madia gracilis	Gumweed	-/-	Introduced
Matricaria discoidea	Pineapple weed	-/-	Introduced
Medicago polymorpha	California burclover	-/-	Introduced
Melilotus officinalis	Yellow sweetclover	-/-	Native
Nemophila menziesii	Baby blue-eyes	-/-	Native
Nemophila pedunculata	Meadow nemophila	-/-	Native
Nicotiana quadrivalvis	Indian tobacco	-/-	Native
Pectocarya penicillata	Northern pectocarya	-/-	Native
Plagiobothrys canescens	Valley popcorn flower	-/-	Native
Plagiobothrys nothofulvus	Rusty popcornflower	-/-	Native

Scientific Name	Common Name	Special Status	Origin
Plantago erecta	California plantain	-/-	Introduced
Plantago lanceolata	English plantain	-/-	Native
Plectritis sp.	Seablush	-/-	Introduced
Polygonum aviculare	Knotweed	-/-	Native
Psilocarphus tenellus	Slender woolly-marbles	-/-	Native
Ranunculus californicus	Common buttercup	-/-	Native
Ranunculus hebecarpus	Pubescent fruited buttercup	-/-	Introduced
Rumex crispus	Curly dock	-/-	Native
Rumex salicifolius	Willow dock	-/-	Introduced
Salsola tragus	Russian thistle	-/-	Native
Salvia columbariae	Chia	-/-	Introduced
Senecio vulgaris	Common groundsel	-/-	Introduced
Silybum marianum	Milk thistle	-/-	Introduced
Spergularia rubra	Red sand-spurrey	-/-	Native
Thysanocarpus curvipes	Blue witch	-/-	Introduced
Torilis arvensis	Tall sock-destroyer	-/-	Native
Trichostema lanceolatum	Vinegar weed	-/-	Introduced
Trifolium hirtum	Rose clover	-/-	Native
Tropidocarpum gracile	Slender tropidocarpum	-/-	Introduced
Urtica urens	Dwarf nettle	-/-	Introduced
Verbascum virgatum	Wand mullein	-/-	Native
Verbena lasiostachys	Western vervain	-/-	Native
Vicia villosa	Hairy vetch	-/-	Introduced
Zeltnera davyi	Davy's centaury	-/-	Native
Graminoids – 15 Species			
Avena fatua	Wild oat	-/-	Introduced
Bromus diandrus	Ripgut grass	-/-	Introduced
Bromus hordeaceus	Soft chess	-/-	Introduced

Scientific Name	Common Name	Special Status	Origin
Bromus madritensis subsp. *rubens*	Red brome	-/-	Introduced
Bromus tectorum	Cheat grass	-/-	Introduced
Cynodon dactylon	Bermuda grass	-/-	Introduced
Distichlis spicata	Salt grass	-/-	Native
Elymus triticoides	Beardless wild rye	-/-	Native
Festuca myuros	Rattail sixweeks grass	-/-	Introduced
Hordeum murinum	Wall barley	-/-	Introduced
Melica imperfecta	Little california melica	-/-	Native
Phalaris aquatica	Harding grass	-/-	Introduced
Poa bulbosa subsp. *vivipara*	Bulbous blue grass	-/-	Introduced
Stipa lepida	Foothill needle grass	-/-	Native
Stipa miliacea var. *miliacea*	Smilo grass	-/-	Introduced

See Section 1.5 for Special Status definitions.

APPENDIX D. SPECIAL STATUS ANIMALS REPORTED FROM THE REGION

	Common Name	Scientific Name	Federal/ State Status Global/ State Rank CDFW Status	Habitat Preference	Potential to Occur
1.	**Tricolored Blackbird**	*Agelaius tricolor*	-/CT G2G3/ S1S2 SSC	Requires open water, protected nesting substrate, & foraging area with insect prey near nesting colony.	None. No suitable nesting and foraging habitat is present within the Study Area.
2.	**California Tiger Salamander***	*Ambystoma californiense*	FT/CT G2G3/S2S3 WL	Need underground refuges, ground squirrel burrows & vernal pools or other seasonal water for breeding.	None. There is no suitable breeding habitat for this species within or in the vicinity of the Study Area.
3.	**Northern California Legless Lizard**	*Anniella pulchra*	-/- G3/S3 SSC	Sandy or loose loamy soils under coastal scrub or oak trees. Soil moisture essential.	Moderate. Suitable habitat is present in oak woodland and shrub habitat within the Study Area. There is a historic record within the Study Area, but it is nearly 70 years old.
4.	**Pallid Bat**	*Antrozous pallidus*	-/- G5/S3 SSC	Rock crevices, caves, tree hollows, mines, old buildings, and bridges.	High. Suitable roosting habitat present in large trees and under Highway 46 bridge in Study Area.
5.	**Golden Eagle**	*Aquila chrysaetos*	-/- G5/S3 FP	Nests in large, prominent trees in valley and foothill woodland. Requires adjacent food source.	Present. Observed during in Study Area during site surveys. Documented nesting previously in Study Area.
6.	**Great Blue Heron**	*Ardea herodias*	-/- G5/S4 SA	Rookeries located in tall trees near foraging areas.	None. Suitable nesting and foraging habitat is not present within the Study Area.

	Common Name	Scientific Name	Federal/ State Status Global/ State Rank CDFW Status	Habitat Preference	Potential to Occur
7.	**Burrowing Owl**	*Athene cunicularia*	-/- G4/S3 SSC	Burrows in squirrel holes in open habitats with low vegetation.	Low. Potentially suitable wintering and marginally suitable breeding habitat is present in the Study Area. There are no confirmed breeding records within the vicinity of the Study Area.
8.	**Oak Titmouse***	*Baeolophus inornatus*	-/- G5/S3? SA	Nests in cavities in oak woodland habitat. Non-migratory.	Present. Observed in Study Area during site surveys. Suitable nesting habitat is present in oak woodland habitat in Study Area.
9.	**Lesser Slender Salamander**	*Batrachoseps minor*	-/- G1/S1 SSC	Moist wooded habitats.	None. Suitable habitat is not present in the Study Area.
10.	**Crotch Bumble Bee**	*Bombus crotchii*	-/CCE G3G4/S1S2 SA	Open grassland and scrub habitats.	Moderate. Suitable habitat is present in grassland within Study Area, but the nearest known records are over 50 years old.
11.	**Vernal Pool Fairy Shrimp**	*Branchinecta lynchi*	FT/- G3/S3 SA	Clear water sandstone depression pools, grassed swale, earth slump, or basalt flow depression pools.	None. Suitable vernal pool habiat is not present within the Study Area.
12.	**Ferruginous Hawk**	*Buteo regalis*	-/- G4/S3S4 WL	Winters locally in open grassland or savanna habitats. More common in interior SLO County than coast.	Moderate. Moderately suitable wintering habitat present within Study Area.
13.	**Northern Harrier***	*Circus hudsonius*	-/- G5S3 SSC	Nest on ground in tall reeds or grasses.	Present. Observed in Study Area during site surveys. Potentially suitable nesting habitat is present.

	Common Name	Scientific Name	Federal/ State Status Global/ State Rank CDFW Status	Habitat Preference	Potential to Occur
14.	**Townsend's Big-Eared Bat**	*Corynorhinus townsendii*	-/- G3G4/S2 SSC	Roosts in caves, abandoned buildings, tunnels. Roosting sites limiting. Sensitive to human disturbance.	None. Suitable roosting habitat is not present within the Study Area.
15.	**Giant Kangaroo Rat***	*Dipodomys ingens*	FE/CE G1G2/S1S2 SA	Sandy loamy soil on level and gently sloping ground with annual grasses, forbs, and scattered shrubs. Sw. San Joaquin Valley.	None. Suitable habitat is not present in the Study Area. Study Area is outside the known range of this species.
16.	**Southwestern Willow Flycatcher***	*Empidonax traillii extimus*	FE/CE G5T2/S1 SA	Riparian woodlands in Southern California.	None. Suitable riparian habitat is not present in the Study Area.
17.	**Western Pond Turtle**	*Emys marmorata*	-/- G3G4/S3 SSC	Permanent or semi-permanent streams, ponds, lakes.	None. Suitable aquatic habitat is not present within the Study Area.
18.	**California Horned Lark**	*Eremophila alpestris actia*	-/- G5T4Q/S4 WL	Nests on the ground in open habitats. More common in the interior.	Low. Marginally suitable habitat is present in grassland in the Study Area.
19.	**Prairie Falcon**	*Falco mexicanus*	-/- G5/S4 WL	Inhabits dry, open terrain. Nests on cliffs near open areas for hunting.	None. Suitable habitat is not present within the Study Area.
20.	**Blunt-nosed Leopard Lizard***	*Gambelia sila*	FE/CE G1/S1 FP	Semiarid grasslands, alkali flats, and washes; San Joaquin Valley and adjacent lands. 30-730 m.	None. Suitable habitat is not present in the Study Area. Study Area is outside the known range of this species.

	Common Name	Scientific Name	Federal/ State Status Global/ State Rank CDFW Status	Habitat Preference	Potential to Occur
21.	**California Condor***	*Gymnogyps californianus*	FE/CE G1/S1 FP	Deep canyons containing clefts in the rocky walls provide nesting sites. Forages up to 100 miles from roost/nest.	None. Suitable habitat is not present in the Study Area.
22.	**Bald Eagle**	*Haliaeetus leucocephalus*	FD/CE G5/S3 FP	Nests within 1 mile of water in tall live trees with open branches.	None. Suitable foraging habitat is not present, and Study Area is not located within one mile of open water.
23.	**Loggerhead Shrike***	*Lanius ludovicianus*	-/- G4/S4 SSC	Prefers open country for hunting, with perches for scanning, and fairly dense shrubs and brush for nesting.	Present. Observed in Study Area during site surveys. Potentially suitable nesting habitat is present.
24.	**Hoary Bat**	*Lasiurus cinereus*	-/- G5/S4 SA	Forages in open habitats or habitat mosaics with trees. Roosts in dense foliage of medium to large trees. Feeds on moths. Requires water.	Moderate. Suitable roosting habitat is present in oak woodland, but no known records are located within the vicinity of the Study Area.
25.	**San Joaquin Coachwhip**	*Masticophis flagellum ruddocki*	-/- G5T2T3/S2? SSC	Open, dry, treeless areas, including grasslands and saltbush scrub; takes refuge in burrows and under shaded vegetation	None. Suitable habitat is not present within the Study Area.
26.	**Lewis' Woodpecker***	*Melanerpes lewis*	-/- G4/S4 SA	Requires dead trees for nest cavities.	High. Suitable nesting habitat is present in oak trees within the Study Area. This species has been documented in the immediate vicinity of the Study Area within the last 5 years..
27.	**Monterey Dusky-Footed Woodrat**	*Neotoma macrotis luciana*	-/- G5T3/S3 SSC	Variety of habitats with moderate to dense understory vegetation	Low. Marginally suitable habitat is present in oak woodland, and there are no known occurrences within the vicinity of the Study Area.

	Common Name	Scientific Name	Federal/ State Status Global/ State Rank CDFW Status	Habitat Preference	Potential to Occur
28.	**Salinas Pocket Mouse**	*Perognathus inornatus psammophilus*	-/- G4T2?/S1 SSC	Annual grassland and desert shrub in Salinas Valley, with friable soils	None. Suitable habitat is not present within the Study Area.
29.	**Coast Horned Lizard**	*Phrynosoma blainvillii*	-/- G3G4/S3S4 SSC	Frequents a wide variety of habitats, most common in lowlands along sandy washes with scattered low bushes.	Moderate. Suitable habitat for coast horned lizard is present along the sandy riverbed and in shrub habitat, though there are no known occurrences within the vicinity of the Study Area.
30.	**Yellow-billed Magpie***	*Pica nuttallii*	-/- G3G4/S3S4 SA	Open oak and riparian woodlands near grassland, pasture, or cropland in Central Valley from south of San Francisco to Santa Barbara.	Present. This species was observed during the 2020 surveys. Suitable nesting habitat is present in the oak woodland and oak savanna habitat.
31.	**Atascadero June Beetle**	*Polyphylla nubila*	-/- G1/S1 SA	Known only from sand dunes in Atascadero and San Luis Obispo, San Luis Obispo County.	None. Suitable dune habitat is not present within the Study Area.
32.	**California Ridgway's Rail***	*Rallus obsoletus obsoletus*	FE/CE G5T1/S1 FP	Associated with abundant growths of pickleweed, but feeds away from cover on invertebrates from mud-bottomed sloughs.	None. Suitable habitat is not present in the Study Area. Study Area is outside the known range of this species.
33.	**Foothill Yellow-Legged Frog**	*Rana boylii*	-/CCT G3/S3 SSC	Partly shaded, shallow streams and riffles with rocky substrate. Min. 15 weeks for larval development.	None. Suitable aquatic habitat is not present within the Study Area.

	Common Name	Scientific Name	Federal/ State Status Global/ State Rank CDFW Status	Habitat Preference	Potential to Occur
34.	**California Red-Legged Frog**	*Rana draytonii*	FT/- G2G3/S2S3 SSC	Lowlands and foothills in or near sources of deep water with dense, shrubby or emergent riparian vegetation. Requires 11-20 weeks for larval development.	None. No breeding habitat is present, and the Study Area is not sufficiently close to known occurrences or potential habitat for it to be present in upland habitat.
35.	**Yellow Warbler**	*Setophaga petechia*	-/- G5/S3S4 SSC	Frequently found nesting and foraging in willow shrubs and thickets, and in other riparian plants including cottonwoods, sycamores, ash, and alders.	None. Suitable breeding habitat is not present in the Study Area.
36.	**Western Spadefoot**	*Spea hammondii*	-/- G3/S3 SSC	Vernal pools in grassland and woodland habitats	None. Suitable vernal pool habitat is not present in the Study Area.
37.	**Lawrence's Goldfinch***	*Spinus lawrencei*	-/- G3G4/S3 SA	Nests in open oak or other arid woodland and chaparral habitats, near water.	Present. This species was observed during the 2020 surveys. Suitable nesting habitat is available in the oak woodland and oak savanna habitat.
38.	**California Spotted Owl**	*Strix occidentalis occidentalis*	-/- G3G4T2T3/S3 SSC	Most often found in deep-shaded canyons, on north-facing slopes, and within 300 meters of water.	None. Suitable habitat is not present within the Study Area.
39.	**Coast Range Newt**	*Taricha torosa*	-/- G4/S4 SSC	Lives in terrestrial habitats & will migrate over 1 km to breed in ponds, reservoirs & slow moving streams.	None. Suitable habitat is not present within the Study Area.
40.	**American Badger**	*Taxidea taxus*	-/- G5/S3 SSC	Needs friable soils in open ground with abundant food source such as California ground squirrels.	Moderate. There is potentially suitable habitat present, though there are no known occurrences of this species within the vicinity of the Study Area.

	Common Name	Scientific Name	Federal/ State Status Global/ State Rank CDFW Status	Habitat Preference	Potential to Occur
41.	**Lompoc Grasshopper**	*Trimerotropis occulens*	-/- G1G2/S1S2 SA	Gravelly/rocky substrates and road cuts. Known only from Santa Barbara and San Luis Obispo Counties.	None. Suitable habitat is not present within the Study Area.
42.	**Least Bell's Vireo**	*Vireo bellii pusillus*	FE/CE G5T2/S2 SA	Riparian habitat, near water or dry streambed, <2000 ft. Nests in willows, mesquite, Baccharis.	None. Riparian habitat within the Study Area is unsuitable for this species.
43.	**San Joaquin Kit Fox**	*Vulpes macrotis mutica*	FE/CT G4T2/S2 SA	Annual grasslands or grassy open stages with scattered shrubby vegetation. Needs loose textured sandy soil and prey base.	Low. Potentially suitable habitat is present within the Study Area, however, species is considered extirpated from the Paso Robles area.

*Not listed in the CNDDB for the search area.

Federal and State Status Abbreviations:

FE: Federally Endangered
FT: Federally Threatened
PE: Proposed Federally Endangered
PT: Proposed Federally Threatened
CE: California Endangered
CT: California Threatened
CCE: Candidate for California Endangered
CCT: Candidate for California Threatened

Global/State Ranks:

G1/S1 – Critically Imperiled
G2/S2 – Imperiled
G3/S3 – Vulnerable
G4/S4 – Apparently Secure
G5/S5 – Secure
Q – Element is very rare but there are taxonomic questions associated with it.
Range rank – (e.g., S2S3 means rank is somewhere between S2 and S3)
? – (e.g., S2? Means rank is more certain than S2S3 but less certain that S2)

California Department of Fish and Wildlife Rank:

WL: Watch List
SSC: Species of Special Concern
FP: Fully Protected
SA: Special Animal

APPENDIX D. SPECIAL STATUS ANIMALS REPORTED FROM THE REGION

	Common Name	Scientific Name	Federal/ State Status Global/ State Rank CDFW Status	Habitat Preference	Potential to Occur
1.	**Tricolored Blackbird**	*Agelaius tricolor*	-/CT G2G3/ S1S2 SSC	Requires open water, protected nesting substrate, & foraging area with insect prey near nesting colony.	None. No suitable nesting and foraging habitat is present within the Study Area.
2.	**California Tiger Salamander***	*Ambystoma californiense*	FT/CT G2G3/S2S3 WL	Need underground refuges, ground squirrel burrows & vernal pools or other seasonal water for breeding.	None. There is no suitable breeding habitat for this species within or in the vicinity of the Study Area.
3.	**Northern California Legless Lizard**	*Anniella pulchra*	-/- G3/S3 SSC	Sandy or loose loamy soils under coastal scrub or oak trees. Soil moisture essential.	Moderate. Suitable habitat is present in oak woodland and shrub habitat within the Study Area. There is a historic record within the Study Area, but it is nearly 70 years old.
4.	**Pallid Bat**	*Antrozous pallidus*	-/- G5/S3 SSC	Rock crevices, caves, tree hollows, mines, old buildings, and bridges.	High. Suitable roosting habitat present in large trees and under Highway 46 bridge in Study Area.
5.	**Golden Eagle**	*Aquila chrysaetos*	-/- G5/S3 FP	Nests in large, prominent trees in valley and foothill woodland. Requires adjacent food source.	Present. Observed during in Study Area during site surveys. Documented nesting previously in Study Area.
6.	**Great Blue Heron**	*Ardea herodias*	-/- G5/S4 SA	Rookeries located in tall trees near foraging areas.	None. Suitable nesting and foraging habitat is not present within the Study Area.

	Common Name	Scientific Name	Federal/ State Status Global/ State Rank CDFW Status	Habitat Preference	Potential to Occur
7.	**Burrowing Owl**	*Athene cunicularia*	-/- G4/S3 SSC	Burrows in squirrel holes in open habitats with low vegetation.	Low. Potentially suitable wintering and marginally suitable breeding habitat is present in the Study Area. There are no confirmed breeding records within the vicinity of the Study Area.
8.	**Oak Titmouse***	*Baeolophus inornatus*	-/- G5/S3? SA	Nests in cavities in oak woodland habitat. Non-migratory.	Present. Observed in Study Area during site surveys. Suitable nesting habitat is present in oak woodland habitat in Study Area.
9.	**Lesser Slender Salamander**	*Batrachoseps minor*	-/- G1/S1 SSC	Moist wooded habitats.	None. Suitable habitat is not present in the Study Area.
10.	**Crotch Bumble Bee**	*Bombus crotchii*	-/CCE G3G4/S1S2 SA	Open grassland and scrub habitats.	Moderate. Suitable habitat is present in grassland within Study Area, but the nearest known records are over 50 years old.
11.	**Vernal Pool Fairy Shrimp**	*Branchinecta lynchi*	FT/- G3/S3 SA	Clear water sandstone depression pools, grassed swale, earth slump, or basalt flow depression pools.	None. Suitable vernal pool habiat is not present within the Study Area.
12.	**Ferruginous Hawk**	*Buteo regalis*	-/- G4/S3S4 WL	Winters locally in open grassland or savanna habitats. More common in interior SLO County than coast.	Moderate. Moderately suitable wintering habitat present within Study Area.
13.	**Northern Harrier***	*Circus hudsonius*	-/- G5S3 SSC	Nest on ground in tall reeds or grasses.	Present. Observed in Study Area during site surveys. Potentially suitable nesting habitat is present.

	Common Name	Scientific Name	Federal/ State Status Global/ State Rank CDFW Status	Habitat Preference	Potential to Occur
14.	**Townsend's Big-Eared Bat**	*Corynorhinus townsendii*	-/- G3G4/S2 SSC	Roosts in caves, abandoned buildings, tunnels. Roosting sites limiting. Sensitive to human disturbance.	None. Suitable roosting habitat is not present within the Study Area.
15.	**Giant Kangaroo Rat***	*Dipodomys ingens*	FE/CE G1G2/S1S2 SA	Sandy loamy soil on level and gently sloping ground with annual grasses, forbs, and scattered shrubs. Sw. San Joaquin Valley.	None. Suitable habitat is not present in the Study Area. Study Area is outside the known range of this species.
16.	**Southwestern Willow Flycatcher***	*Empidonax traillii extimus*	FE/CE G5T2/S1 SA	Riparian woodlands in Southern California.	None. Suitable riparian habitat is not present in the Study Area.
17.	**Western Pond Turtle**	*Emys marmorata*	-/- G3G4/S3 SSC	Permanent or semi-permanent streams, ponds, lakes.	None. Suitable aquatic habitat is not present within the Study Area.
18.	**California Horned Lark**	*Eremophila alpestris actia*	-/- G5T4Q/S4 WL	Nests on the ground in open habitats. More common in the interior.	Low. Marginally suitable habitat is present in grassland in the Study Area.
19.	**Prairie Falcon**	*Falco mexicanus*	-/- G5/S4 WL	Inhabits dry, open terrain. Nests on cliffs near open areas for hunting.	None. Suitable habitat is not present within the Study Area.
20.	**Blunt-nosed Leopard Lizard***	*Gambelia sila*	FE/CE G1/S1 FP	Semiarid grasslands, alkali flats, and washes; San Joaquin Valley and adjacent lands. 30-730 m.	None. Suitable habitat is not present in the Study Area. Study Area is outside the known range of this species.

	Common Name	Scientific Name	Federal/ State Status Global/ State Rank CDFW Status	Habitat Preference	Potential to Occur
21.	**California Condor***	*Gymnogyps californianus*	FE/CE G1/S1 FP	Deep canyons containing clefts in the rocky walls provide nesting sites. Forages up to 100 miles from roost/nest.	None. Suitable habitat is not present in the Study Area.
22.	**Bald Eagle**	*Haliaeetus leucocephalus*	FD/CE G5/S3 FP	Nests within 1 mile of water in tall live trees with open branches.	None. Suitable foraging habitat is not present, and Study Area is not located within one mile of open water.
23.	**Loggerhead Shrike***	*Lanius ludovicianus*	-/- G4/S4 SSC	Prefers open country for hunting, with perches for scanning, and fairly dense shrubs and brush for nesting.	Present. Observed in Study Area during site surveys. Potentially suitable nesting habitat is present.
24.	**Hoary Bat**	*Lasiurus cinereus*	-/- G5/S4 SA	Forages in open habitats or habitat mosaics with trees. Roosts in dense foliage of medium to large trees. Feeds on moths. Requires water.	Moderate. Suitable roosting habitat is present in oak woodland, but no known records are located within the vicinity of the Study Area.
25.	**San Joaquin Coachwhip**	*Masticophis flagellum ruddocki*	-/- G5T2T3/S2? SSC	Open, dry, treeless areas, including grasslands and saltbush scrub; takes refuge in burrows and under shaded vegetation	None. Suitable habitat is not present within the Study Area.
26.	**Lewis' Woodpecker***	*Melanerpes lewis*	-/- G4/S4 SA	Requires dead trees for nest cavities.	High. Suitable nesting habitat is present in oak trees within the Study Area. This species has been documented in the immediate vicinity of the Study Area within the last 5 years..
27.	**Monterey Dusky-Footed Woodrat**	*Neotoma macrotis luciana*	-/- G5T3/S3 SSC	Variety of habitats with moderate to dense understory vegetation	Low. Marginally suitable habitat is present in oak woodland, and there are no known occurrences within the vicinity of the Study Area.

	Common Name	Scientific Name	Federal/ State Status Global/ State Rank CDFW Status	Habitat Preference	Potential to Occur
28.	**Salinas Pocket Mouse**	*Perognathus inornatus psammophilus*	-/- G4T2?/S1 SSC	Annual grassland and desert shrub in Salinas Valley, with friable soils	None. Suitable habitat is not present within the Study Area.
29.	**Coast Horned Lizard**	*Phrynosoma blainvillii*	-/- G3G4/S3S4 SSC	Frequents a wide variety of habitats, most common in lowlands along sandy washes with scattered low bushes.	Moderate. Suitable habitat for coast horned lizard is present along the sandy riverbed and in shrub habitat, though there are no known occurrences within the vicinity of the Study Area.
30.	**Yellow-billed Magpie***	*Pica nuttallii*	-/- G3G4/S3S4 SA	Open oak and riparian woodlands near grassland, pasture, or cropland in Central Valley from south of San Francisco to Santa Barbara.	Present. This species was observed during the 2020 surveys. Suitable nesting habitat is present in the oak woodland and oak savanna habitat.
31.	**Atascadero June Beetle**	*Polyphylla nubila*	-/- G1/S1 SA	Known only from sand dunes in Atascadero and San Luis Obispo, San Luis Obispo County.	None. Suitable dune habitat is not present within the Study Area.
32.	**California Ridgway's Rail***	*Rallus obsoletus obsoletus*	FE/CE G5T1/S1 FP	Associated with abundant growths of pickleweed, but feeds away from cover on invertebrates from mud-bottomed sloughs.	None. Suitable habitat is not present in the Study Area. Study Area is outside the known range of this species.
33.	**Foothill Yellow-Legged Frog**	*Rana boylii*	-/CCT G3/S3 SSC	Partly shaded, shallow streams and riffles with rocky substrate. Min. 15 weeks for larval development.	None. Suitable aquatic habitat is not present within the Study Area.

	Common Name	Scientific Name	Federal/ State Status Global/ State Rank CDFW Status	Habitat Preference	Potential to Occur
34.	**California Red-Legged Frog**	*Rana draytonii*	FT/- G2G3/S2S3 SSC	Lowlands and foothills in or near sources of deep water with dense, shrubby or emergent riparian vegetation. Requires 11-20 weeks for larval development.	None. No breeding habitat is present, and the Study Area is not sufficiently close to known occurrences or potential habitat for it to be present in upland habitat.
35.	**Yellow Warbler**	*Setophaga petechia*	-/- G5/S3S4 SSC	Frequently found nesting and foraging in willow shrubs and thickets, and in other riparian plants including cottonwoods, sycamores, ash, and alders.	None. Suitable breeding habitat is not present in the Study Area.
36.	**Western Spadefoot**	*Spea hammondii*	-/- G3/S3 SSC	Vernal pools in grassland and woodland habitats	None. Suitable vernal pool habitat is not present in the Study Area.
37.	**Lawrence's Goldfinch***	*Spinus lawrencei*	-/- G3G4/S3 SA	Nests in open oak or other arid woodland and chaparral habitats, near water.	Present. This species was observed during the 2020 surveys. Suitable nesting habitat is available in the oak woodland and oak savanna habitat.
38.	**California Spotted Owl**	*Strix occidentalis occidentalis*	-/- G3G4T2T3/S3 SSC	Most often found in deep-shaded canyons, on north-facing slopes, and within 300 meters of water.	None. Suitable habitat is not present within the Study Area.
39.	**Coast Range Newt**	*Taricha torosa*	-/- G4/S4 SSC	Lives in terrestrial habitats & will migrate over 1 km to breed in ponds, reservoirs & slow moving streams.	None. Suitable habitat is not present within the Study Area.
40.	**American Badger**	*Taxidea taxus*	-/- G5/S3 SSC	Needs friable soils in open ground with abundant food source such as California ground squirrels.	Moderate. There is potentially suitable habitat present, though there are no known occurrences of this species within the vicinity of the Study Area.

	Common Name	Scientific Name	Federal/ State Status Global/ State Rank CDFW Status	Habitat Preference	Potential to Occur
41.	**Lompoc Grasshopper**	*Trimerotropis occulens*	-/- G1G2/S1S2 SA	Gravelly/rocky substrates and road cuts. Known only from Santa Barbara and San Luis Obispo Counties.	None. Suitable habitat is not present within the Study Area.
42.	**Least Bell's Vireo**	*Vireo bellii pusillus*	FE/CE G5T2/S2 SA	Riparian habitat, near water or dry streambed, <2000 ft. Nests in willows, mesquite, Baccharis.	None. Riparian habitat within the Study Area is unsuitable for this species.
43.	**San Joaquin Kit Fox**	*Vulpes macrotis mutica*	FE/CT G4T2/S2 SA	Annual grasslands or grassy open stages with scattered shrubby vegetation. Needs loose textured sandy soil and prey base.	Low. Potentially suitable habitat is present within the Study Area, however, species is considered extirpated from the Paso Robles area.

*Not listed in the CNDDB for the search area.

Federal and State Status Abbreviations:

FE: Federally Endangered
FT: Federally Threatened
PE: Proposed Federally Endangered
PT: Proposed Federally Threatened
CE: California Endangered
CT: California Threatened
CCE: Candidate for California Endangered
CCT: Candidate for California Threatened

Global/State Ranks:

G1/S1 – Critically Imperiled
G2/S2 – Imperiled
G3/S3 – Vulnerable
G4/S4 – Apparently Secure
G5/S5 – Secure
Q – Element is very rare but there are taxonomic questions associated with it.
Range rank – (e.g., S2S3 means rank is somewhere between S2 and S3)
? – (e.g., S2? Means rank is more certain than S2S3 but less certain that S2)

California Department of Fish and Wildlife Rank:

WL: Watch List
SSC: Species of Special Concern
FP: Fully Protected
SA: Special Animal

APPENDIX F. IPAC USFWS CHECKLIST

IPaC **U.S. Fish & Wildlife Service**

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

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Location

San Luis Obispo County, California



Local office

Ventura Fish And Wildlife Office

(805) 644-1766
(805) 644-3958

2493 Portola Road, Suite B
Ventura, CA 93003-7726

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species[1] and their critical habitats are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries[2]).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact NOAA Fisheries for species under their jurisdiction.

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1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information. IPaC only shows species that are regulated by USFWS (see FAQ).
2. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

Mammals

NAME	STATUS

Giant Kangaroo Rat Dipodomys ingens — Endangered
Wherever found
No critical habitat has been designated for this species.
https://ecos.fws.gov/ecp/species/6051

San Joaquin Kit Fox Vulpes macrotis mutica — Endangered
Wherever found
No critical habitat has been designated for this species.
https://ecos.fws.gov/ecp/species/2873

Birds

NAME	STATUS

California Clapper Rail Rallus longirostris obsoletus — Endangered
Wherever found
No critical habitat has been designated for this species.
https://ecos.fws.gov/ecp/species/4240

California Condor Gymnogyps californianus — Endangered
There is **final** critical habitat for this species. The location of the critical habitat is not available.
https://ecos.fws.gov/ecp/species/8193

Least Bell's Vireo Vireo bellii pusillus — Endangered
Wherever found
There is **final** critical habitat for this species. The location of the critical habitat is not available.
https://ecos.fws.gov/ecp/species/5945

Southwestern Willow Flycatcher Empidonax traillii extimus — Endangered
Wherever found
There is **final** critical habitat for this species. The location of the critical habitat is not available.
https://ecos.fws.gov/ecp/species/6749

Reptiles

NAME	STATUS

Blunt-nosed Leopard Lizard Gambelia silus — Endangered
Wherever found
No critical habitat has been designated for this species.
https://ecos.fws.gov/ecp/species/625

Amphibians

NAME	STATUS

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California Red-legged Frog Rana draytonii — Threatened
Wherever found
There is **final** critical habitat for this species. The location of the critical habitat is not available.
https://ecos.fws.gov/ecp/species/2891

California Tiger Salamander Ambystoma californiense — Threatened
There is **final** critical habitat for this species. The location of the critical habitat is not available.
https://ecos.fws.gov/ecp/species/2076

Insects

NAME	STATUS
Kern Primrose Sphinx Moth Euproserpinus euterpe Wherever found There is **proposed** critical habitat for this species. The location of the critical habitat is not available. https://ecos.fws.gov/ecp/species/7881	Threatened

Crustaceans

NAME	STATUS
Vernal Pool Fairy Shrimp Branchinecta lynchi Wherever found There is **final** critical habitat for this species. Your location overlaps the critical habitat. https://ecos.fws.gov/ecp/species/498	Threatened

Flowering Plants

NAME	STATUS
California Jewelflower Caulanthus californicus Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/4599	Endangered
Marsh Sandwort Arenaria paludicola Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/2229	Endangered
Purple Amole Chlorogalum purpureum Wherever found There is **final** critical habitat for this species. The location of the critical habitat is not available. https://ecos.fws.gov/ecp/species/5531	Threatened

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Spreading Navarretia Navarretia fossalis Wherever found There is **final** critical habitat for this species. The location of the critical habitat is not available. https://ecos.fws.gov/ecp/species/1334	Threatened

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

This location overlaps the critical habitat for the following species:

NAME	TYPE
Vernal Pool Fairy Shrimp Branchinecta lynchi https://ecos.fws.gov/ecp/species/498#crithab	Final

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php
- Measures for avoiding and minimizing impacts to birds http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php
- Nationwide conservation measures for birds http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the

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Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON (IF A BREEDING SEASON IS INDICATED FOR A BIRD ON YOUR LIST, THE BIRD MAY BREED IN YOUR PROJECT AREA SOMETIME WITHIN THE TIMEFRAME SPECIFIED, WHICH IS A VERY LIBERAL ESTIMATE OF THE DATES INSIDE WHICH THE BIRD BREEDS ACROSS ITS ENTIRE RANGE. "BREEDS ELSEWHERE" INDICATES THAT THE BIRD DOES NOT LIKELY BREED IN YOUR PROJECT AREA.)
Bald Eagle *Haliaeetus leucocephalus* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Jan 1 to Aug 31
Golden Eagle *Aquila chrysaetos* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1680	Breeds Jan 1 to Aug 31
Lawrence's Goldfinch *Carduelis lawrencei* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9464	Breeds Mar 20 to Sep 20
Lewis's Woodpecker *Melanerpes lewis* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9408	Breeds Apr 20 to Sep 30

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Nuttall's Woodpecker Picoides nuttallii — Breeds Apr 1 to Jul 20
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA
https://ecos.fws.gov/ecp/species/9410

Oak Titmouse Baeolophus inornatus — Breeds Mar 15 to Jul 15
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9656

Song Sparrow Melospiza melodia — Breeds Feb 20 to Sep 5
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA

Spotted Towhee Pipilo maculatus clementae — Breeds Apr 15 to Jul 20
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA
https://ecos.fws.gov/ecp/species/4243

Tricolored Blackbird Agelaius tricolor — Breeds Mar 15 to Aug 10
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/3910

Yellow-billed Magpie Pica nuttalli — Breeds Apr 1 to Jul 31
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9726

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Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that

week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (▪)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.

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Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project

intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the AKN Phenology Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets .

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: The Cornell Lab of Ornithology All About Birds Bird Guide, or (if you are unsuccessful in locating the bird of interest there), the Cornell Lab of Ornithology Neotropical Birds guide. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

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Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

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Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS AT THIS LOCATION.

Fish hatcheries

THERE ARE NO FISH HATCHERIES AT THIS LOCATION.

Wetlands in the National Wetlands Inventory

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

This location overlaps the following wetlands:

FRESHWATER POND

PUSAh
PUBFh

RIVERINE

R4SBA
R4SBJ

A full description for each wetland code can be found at the National Wetlands Inventory website

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

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Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

APPENDIX G. ALTHOUSE AND MEADE WETLAND DELINEATION NOVEMBER 2020

Delineation of Potentially Jurisdictional Wetlands and Waters

for

Huer Huero Bridge and Roundabout

City of Paso Robles
San Luis Obispo County



Prepared for

City of Paso Robles
Department of Public Works
c/o Ditas Esperanza
1000 Spring Street
Paso Robles, CA 93446

Prepared by

ALTHOUSE AND MEADE, INC.
BIOLOGICAL AND ENVIRONMENTAL SERVICES
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Paso Robles, CA 93446
(805) 237-9626

November 2020

1235.05

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Cover Page: Huer Huero Creek view north, downstream towards proposed location of New Airport Road. March 17, 2020.

Definitions of Wetland Indicators

Wetland Plant Indicator Status Ratings in Order of Wetland Affinity

OBL	Obligate	Hydrophyte, almost always occur in wetland. Estimated probability >99 percent to occur in wetlands under natural conditions.
FACW	Facultative Wetland	Hydrophyte, usually occur in wetland, but may occur in non-wetland. Estimated probability >67% to 99% to occur in wetlands under natural conditions.
FAC	Facultative	Equally likely to occur in wetland and non-wetland. Estimated probability 33% to 67% to occur in wetlands under natural conditions.
FACU	Facultative Upland	Non-hydrophyte, usually occurs in non-wetland, but may occur in wetland. Estimated probability 1% to <33% to occur in wetlands under natural conditions.
UPL	Upland	Almost never occur in wetland. Estimated probability <1% to occur in wetlands under natural conditions.
NL	Not Listed	Species not included in federal list of wetland indicator plants. Assumed upland for purposes of wetland analysis.

1 INTRODUCTION

1.1 Purpose

The purpose of this study is to identify and delineate potentially jurisdictional wetland and non-wetland waters according to federal and state standards for the Huer Huero Bridge, roundabout, and trail project site (Study Area).

This document presents a comprehensive inventory and mapping effort of wetland and non-wetland aquatic resources within the Study Area and provides information for owners, the United States Army Corps of Engineers (USACE), Regional Water Quality Control Board (RWQCB), California Department of Fish and Wildlife (CDFW), and the Lead Agency in decisions regarding activities in the Study Area.

Section 2.0 provides more detail on the regulatory framework and scope of this jurisdictional delineation. The City of Paso Robles is the Lead Agency, and Ditas Esperanza, City Engineer, is the point of contact. Wetland specialist LynneDee Althouse, and Katie Brown are the primary investigators.

TABLE 1. RESPONSIBLE PARTIES

Applicant	Biological Consultant
City of Paso Robles, Depart. of Public Works c/o Ditas Esperanza, Capital Projects Engineer 1000 Spring Street Paso Robles, CA 93446 (805) 237-3861 cipengineering@prcity.com	**Althouse and Meade, Inc.** c/o LynneDee Althouse, Principal Scientist 1602 Spring Street Paso Robles, CA 93446 (805) 237-9626 LD@alt-me.com Katie Brown, M.S. katie@alt-me.com

1.2 Study Area Location and Extent

The Study Area is a 158-acre site immediately located along Huer Huero Creek corridor, west of Airport Road, in the City of Paso Robles, California. The northern extent is approximately 1.0-mile north of Highway 46 East and the southern extent is approximately 0.25-mile south of Highway 46 East. Coordinates for the center of the Study Area are 35.65679 N, 120.64459°W (WGS 84) in the Paso Robles United States Geological Survey (USGS) 7.5-minute topographic quadrangle (Figure 1). The Study Area consists of [portions of] Assessor Parcel Numbers (APN) listed in Table 2. Site elevation is relatively flat ranging from 700 to 810 feet above mean sea level.

TABLE 2. LIST OF ASSESSOR PARCEL NUMBERS (APN) FOR THE STUDY AREA

Assessor Parcel Numbers (APN)			
025-431-031	025-431-013	025-421-045	025-433-001
025-431-005	025-431-057	025-421-047	025-371-019
025-431-038	025-431-082	025-421-050	025-371-014
025-431-040	025-431-015	025-431-050	025-371-017
025-431-041	025-431-039	025-431-022	025-371-018
025-431-011	025-431-078	025-433-006	

1.3 Existing Conditions

Huer Huero Creek is a sandy north-trending ephemeral underground stream that flows directly to the Salinas River and is predominantly dry year-round, typically conveying surface water following large rain events for short periods of time. Sub-lateral flow is a result of the highly porous sandy soils with fast infiltration rates. Though the creek flows infrequently (often not flowing for several years at a time), vegetation remains sparse in the channel due to soil composition and lack of water retention. Annual grassland habitat is the dominant habitat type throughout the vegetated areas of the Study Area. However, patches of oak trees (*Quercus lobata, Q. douglasii*) are often present along the channel banks and buffer, particularly on north-facing slopes in the northern Study Area and are described in the oak woodland and oak savanna habitat types (Section 1.3.2).

Surrounding development consists of a mixture of land uses including Residential Agriculture (RA) located north and south of the Project extent (Paso Robles Horse Park and Barney Schwartz Park), Agriculture (AG), Commercial Light Industrial (C3; Paso Robles Sports Club), Commercial Highway (C2), Parks and Open Space (POS), and Planned Industrial (PM; properties located along Wisteria Lane). The existing Highway 46 bridge, built in 1992, crosses over Huer Huero Creek, where the channel sinuates from a northwest to a northeasterly direction, just west of Airport Road. Paso Robles Regional Airport, a low-density local airport, is located approximately 0.6 miles north of the Study Area on the north side of Highway 46.

1.3.1 Hydrology

Huer Huero Creek flows northbound from its headwaters in the Coast Ranges (south) to the Salinas River. The Study Area is in the Lower Huer Huero Creek hydrologic unit, Hydrologic Unit Code (HUC) 180600050307, a subwatershed of the Huer Huero Creek watershed known locally as the Salinas/Estrella Water Planning Area (WPA)14 in San Luis Obispo County. The aerial extent of WPA 14 is 103,496 acres (RCDs 2014). USGS last recorded gauge data in 1972 reported peak flow of 13,800 cfs and base flow of 5.86 cfs.

Huer Huero Creek headwaters occur in the Coast Ranges, south of Creston and reach elevations of approximately 3312 feet. The confluence of Huer Huero Creek with the Salinas River occurs north of Paso Robles, approximately 3.3 miles northwest of the Study Area.

The watershed is divided into two main drainages, the Upper Huer Huero and the Lower Huer Huero. Highway 41 bisects the watershed, and Highway 46 in our Study Area crosses the lower Huer Huero approximately 5.4 stream miles from the confluence with the Salinas River.

The USGS and United States Department of Agriculture (USDA)-Natural Resource Conservation Service (NRCS) watershed boundaries are shown in Figure 3, Figure 4, and Figure 5.

A majority of the Study Area located in Flood Zone A, a high-risk flood area defined as a 1 percent annual chance of flooding. The Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (USGS 2019) are illustrated on Figure 6. Remaining portions, predominantly west of the creek, are located in Flood Zone X, or the 500-year floodplain.

1.3.2 Vegetation and Habitats

Eight different habitat types occur within the Study Area: riparian, oak woodland, oak savanna, upland forbs, annual grassland, cropland, yellow-star thistle fields, and anthropogenic (Figure 7, Photo 1 and Photo 2. No wetland habitat was present within the Study Area. The Huer Huero Creek that flows through the Study Area is classified as Riparian Habitat. Each habitat type is described below.

1.3.2.1 Riparian

Approximately 34.3 acres of riparian habitat occurs along the sandy substrate of Huer Huero Creek, where Fremont cottonwoods (*Populus fremontii*) and red willows (*Salix laevigata*) are sparsely to moderately distributed throughout. Other species include blue and valley oaks, and patches of wild rose (*Rosa californica*), poison oak (*Toxicodendron diversilobum*), coyote bush (*Baccharis pilularis*), and mule fat (*Baccharis salicifolia*). During spring surveys, herbaceous annuals such as Indian tobacco (*Nicotiana quadrivalvis*), seaside heliotrope (*Heliotropium curassavicum* ssp. *oculatum*), and elegant wild buckwheat (*Eriogonum elegans*) were observed within the stream channel. Elegant wild buckwheat is a CRPR 4.3 annual herb and was observed in abundance throughout most of the sandy floodplain. A variety of birds were observed foraging in cottonwoods including oak titmouse (*Baeolophus inornatus*) and a nesting pair of American kestrels (*Falco sparverius*).

1.3.2.2 Oak woodland

The Study Area contains approximately 24.5 acres of oak woodland habitat, where oak tree canopy is intermittent to continuous, and sometimes savanna-like. The largest and most intact patch of oak woodland is found in the western portion of the Study Area and is comprised of blue oak and valley oak, with smaller stands scattered across the northern portion, following the contour of Huer Huero Creek. The shrub layer consists of poison oak, California wild rose, and blue-witch (*Solanum umbelliferum*). The oak woodland has a diverse herbaceous understory consisting of non-native grasses, native forbs and bulbs such as ripgut brome (*Bromus diandrus*), white horehound (*Marrubium vulgare*), and slender annual buttercup (*Ranunculus hebecarpus*).

Oak woodlands provide habitat for a variety of birds, bats, reptiles, and other wildlife. A variety of birds were observed such as western bluebird (*Sialia Mexicana*) and white-breasted nuthatch (*Sitta carolinensis*). Beehives and oak cavities were commonly observed. Oak cavities likely support many species of bats and bat nurseries. Common reptiles were also observed such as western fence lizard (*Sceloporus occidentalis*), and California alligator lizard (*Elgaria multicarinata multicarinata*).

1.3.2.3 Oak savanna

Oak savanna covers approximately 40.9 acres of the Study Area. This habitat occurs along the east-facing and south-facing slopes of the embankment in the north central portion of the Study Area and was determined by the abundance and proximity of oaks to one another. As shown in the oak canopy is open, with no shrub layer. The oak savanna is comprised primarily of blue and valley oaks and its understory is almost entirely non-native annual grasses including soft chess (*Bromus hordaceus*), foxtail barley (*Hordeum murinum*), and slender wild oat (*Avena fatua*).

1.3.2.4 Upland forbs

Upland forb habitat (4.3 acres) occurs in the northwestern section of the Study Area, east of Huer Huero Creek. This habitat type is described by a mixture of upland forbs that change dominance. The north portion of the upland forb habitat is dominated by wild tarragon (*Artemisia dracunculus*) shrubs with over 50 percent relative cover. Non-native grasses and other forbs include sleeping combseed (*Pectocarya penicillata*), California plantain (*Plantago erecta*), and desert wire-lettuce (*Stephanomeria pauciflora*). The southern portion of the upland forb habitat changes species dominance to desert wire-lettuce. As shown in, desert wire-lettuce is over 50 percent relative cover. Other associate species in the southern portion is vinegar weed (*Lessingia glandulifera*) and Spanish clover (*Acmispon americanus*) with non-native herbs and grasses. The southeastern portion of the upland forb habitat is dominated by wild mustard (*Hirschfeldia incana*) with longbeak storksbill (*Erodium botrys*), and red brome (*Bromus madritensis* subsp. *rubens*).

1.3.2.5 Annual grassland

The majority of the Study Area is comprised of annual grassland, which covers approximately 40.4 acres. The annual grassland is primarily ruderal species of foxtail barley, soft chess, and wild oats. Some natives persist including purple needlegrass (*Stipa pulchra*) and common fiddleneck (*Amsinckia menziesii*). Scattered blue and valley oaks also occur in annual grassland.

Terrestrial mammals and signs of them were observed, including mule deer (*Odocoileus hemionus*) and California ground squirrel (*Otospermophilus beecheyi*). California ground squirrel is one of the more conspicuous wildlife present in the grassland habitat. Predatory mammals such as fox, coyote and bobcat are likely to pass through the site on occasion. Shining navarretia (*Navarretia nigelliformis* subsp. r*adians*) is a special status plant that has potential to occur in the annual grassland habitat but was found not to be present during the appropriately timed botanical survey.

1.3.2.6 Cropland

Areas of cropland are included in the Study Area and appear to be plowed infrequently and planted with dry-farmed barley (*Hordeum vulgare*). These areas also appear to be grazed by cattle. Occasional blue and valley oaks may occur in cropland. California ground squirrels are abundant in these fallow fields. Because of this, cropland may provide valuable foraging for golden eagles and other raptors.

A small grove of planted blue gum eucalyptus (*Eucalyptus globulus*) is located south of Highway 46 bridge on the western side of Huer Huero Creek. The grove is adjacent to ruderal grass fields/cropland and could provide habitat for nesting raptors. Also noted in this area of cropland on the south side of Highway 46 bridge is an eroded stormwater channel that drains into Huer Huero Creek.

1.3.2.7 Yellow-star thistle fields

Approximately 0.76-acre of yellow-star thistle fields is located west of Huer Huero Creek. This largest star-thistle dominated field is accessible from a dirt road adjacent to and north of Highway 46. Other species in this habitat type are ruderal and associated with past disturbance including wild oats, Russian thistle (*Salsola tragus*), Italian thistle (*Carduus pycnocephalus*) with scattered coyote brush shrubs. This habitat type abuts Highway 46 bridge to the north.

1.3.2.8 Anthropogenic (roads and trails)

In general, anthropogenic land uses within the Study Area consists of areas that no longer support native vegetation due to physical alteration such as hardscape, pavement, landscaping, and construction of structures. Anthropogenic land within the Study Area consists of approximately 12.7 acres of dirt roads and trails located throughout.



Photo 1. Typical habitat conditions throughout the Study Area. Unvegetated thalweg, annual grasslands, and blue oak trees along banks. View southwest, March 17, 2020.



Photo 2. Riparian habitat at northern end of Study Area. Willows dominate along the edge of the active channel. View south, March 17, 2020.

1.3.3 Soils

Thirteen soil map units are represented within the Study Area (USDA 2020) (Figure 8). Descriptions of the soil types are provided below.

Arbuckle-Positas complex, 9 to 15 percent slopes (102) consists of approximately forty percent Arbuckle fine sandy loam and thirty percent Positas coarse sandy loam. Also included in this map unit are areas of Greenfield fine sandy loam, Cropley clay, and Hanford fine sandy loam. Both the Arbuckle and Positas soils are very deep, well drained soils formed in alluvium from mixed rocks. The Arbuckle soil has a moderately slow permeability and a moderate to high available water capacity. The Positas soil has a very slow permeability and a moderate to high available water capacity. This complex is in capability units IIIe-1 (14) irrigated and IVe-1 (14) non-irrigated. The Storie index rating is 59.

Arbuckle-Positas complex, 30 to 50 percent slopes (104) consists of approximately 40 percent Arbuckle fine sandy loam, 30 percent Positas coarse sandy loam, 15 percent Shimmon loam on north slopes, 10 percent is a soil similar to Positas coarse sandy loam except that is has a very

gravelly sandy clay subsoil, and 5 percent is small areas of Ayar silty clay, Balcom loam, Greenfield fine sandy loam, Linne Shaly clay loam, Nacimiento silty clay loam, and Badland. The complex is very deep and well drained, with a moderate to high available water capacity. The Arbuckle-Positas complex with 30 to 50 percent slopes is in capability subclass Vie (14) non-irrigated

Arbuckle-Positas complex, 50 to 75 percent slopes (105) is a very deep, well-drained soil derived from mixed rock alluvium. Gravel occurs throughout the profile in some areas. It is composed of approximately 40 percent Arbuckle fine sandy loam, 30 percent Positas coarse sandy loam, 10 percent Greenfield fine sandy loam, 10 percent Cropley clay and Hanford fine sandy loam, and 10 percent of a soil that is similar to Positas soil except that it has a very gravelly sandy clay subsoil. Arbuckle soil has a moderately slow permeability, a moderate to high available water capacity, and a moderate erosion potential. The Positas soil has a very slow permeability, a moderate to high available water capacity, and a moderate erosion hazard.

Arbuckle-San Ysidro complex, 2 to 9 percent slopes (106) consists of approximately forty percent Arbuckle fine sandy loam and twenty percent San Ysidro loam. Also included in this map unit are areas of Greenfield fine sandy loam, Hanford fine sandy loam, Cropley clay, Rincon clay loam, and Ryer clay loam. The Arbuckle soil is a very deep, well-drained soil formed in alluvium from mixed rocks. It has a moderately slow permeability and a moderate to high available water capacity. The San Ysidro soil is a very deep soil located in low areas associated with old drainageways. It is moderately well drained, with a very slow permeability and a moderate to high available water capacity. This complex is in capability units IIe-1 (14) irrigated, and IVe-1 (14) non-irrigated. The Storie index rating is 72

Elder loam, flooded, 0 to 5 percent slopes (140) is a very deep, moderately permeable soil formed in mixed rock alluvium. Surface runoff is slow, and erosion hazard is slight. This soil has severe limitations for buildings and roads due to the flood hazard. Elder soils used for these purposes need to be protected from flooding. Elder loam has a land capability class rating of IIw-2 (14) irrigated, and IVw-2 (14) non-irrigated. This rating means this soil type has moderate to very severe limitations for field crops (II, IV). Water in or on the soil interferes with plant growth (w) because the soil is either poorly drained or periodically flooded (2).

Hanford and Greenfield gravelly sandy loams with zero to two percent slopes (149) complex consists of 40 percent Hanford gravelly sandy loam, 30 percent Greenfield gravelly sandy loam, 15 percent Arbuckle fine sandy loam, 10 percent San Ysidro loam, and 5 percent of small areas of Cropley clay, Lockwood Shaly loam, Metz loamy sand, Pico fine sandy loam, Rincon clay loam, and Tujunga fine sand. Both the Hanford soil and the Greenfield soil are derived from mixed rock alluvium and are very deep and well drained soils. They both have a moderately rapid permeability, and a low to moderate available water capacity with a slight erosion hazard. The gravelly nature of the surface layer limits the vegetation types that can occur on the property. This complex is placed in capability units IIs-4 (14) irrigated, and IVs-4 (14) non-irrigated. This rating shows that this soil type has moderate to very severe limitations for field crops (II, IV). These limitations occur due to the shallow, droughty, or stony soils (s) that have a low available water-holding capacity (4).

Hanford and Greenfield gravelly sandy loams with two to nine percent slopes (150) is an undifferentiated map unit consisting of soils on terraces. This complex consists of 40 percent Hanford gravelly sandy loam, 30 percent Greenfield gravelly sandy loam, 15 percent Arbuckle

fine sandy loam, 10 percent San Ysidro loam, and 5 percent of small areas of Cropley clay, Lockwood Shaly loam, Metz loamy sand, Pico fine sandy loam, Rincon clay loam, and Tujunga fine sand. Both the Hanford soil and the Greenfield soil are very deep and well drained soils derived from mixed rock alluvium. They both have a moderately rapid permeability, and a low to moderate available water capacity with a slight erosion hazard.

Metz loamy sand, 0 to 5 percent slopes (166) is a very deep, nearly level to gently sloping, somewhat excessively drained soil formed in alluvial fans or floodplains derived from mixed rocks. Flooding can occur rarely, although this soil does not typically hold standing water for long periods. Permeability is moderately rapid and available water capacity is low to moderate. Surface runoff is slow and hazard of erosion is slight.

Metz-Tujunga complex, occasionally flooded, 0 to 5 percent slopes (167) is a very deep, nearly level to gently sloping, somewhat excessively drained soil formed in alluvial fans or floodplains derived from mixed rocks. Flooding occurs about twice every ten years. Permeability is moderately rapid and available water capacity is low to moderate. Surface runoff is slow and hazard of erosion is slight. This complex consists of about 40 percent Metz loamy sand and 35 percent Tujunga fine sand. Areas of these soils are so intricately mixed or so small that it is not practical to separate them in mapping. Included with these soils are other sandy and loamy soils.

S**an Ysidro sandy loam, 2 to 9 percent slopes (196)** consists of moderately well-drained sandy loam soils with a very low available water capacity. It occurs on alluvial fans formed from a parent material of alluvium derived from mixed rocks. Sandy loam comprises the upper horizon from 0 to 19 inches, and lower third horizon from 40 to 60 inches. Clay loam comprises the second horizon from 19 to 40 inches, creating an abrupt textural change, or restrictive layer. This soil type comprises 3.5 percent of the Study Area.

San Ysidro loam, 0 to 2 percent slopes (197) is a very deep, nearly level, moderately well drained soil formed in alluvium derived from mixed rocks. San Ysidro soil has very slow permeability and moderate to high available water capacity. Surface runoff is slow and hazard of erosion is slight. During periods of heavy rain, this soil is subject to ponding, and vernal pools may form in San Ysidro soils. The subsoil has high shrink-swell potential. This soil has severe limitations for building sites, roads, and streets because of the high shrink-swell potential and low strength of the subsoil. Foundations and footings should be designed to prevent structural damage by shrinking and swelling of the subsoil. San Ysidro loam is in capability units IVs-3 (14) irrigated and non-irrigated. This rating means that this soil has severe limitations for field crops, or requires very careful management, or both (IV). These limitations can be the result of a shallow, droughty, or stony soil that has problems or limitations of slow or very slow permeability of the subsoil or substratum. The clayey subsoil of San Ysidro soils is semi-consolidated (3) and creates such a limitation.

Sesame sandy loam, with 9 to 30 percent slopes (200) is a moderately deep, moderately steep, well-drained soil formed in material weathered from granitic rock. Depth to bedrock varies from 20 to 40 inches. Included in this soil map unit are about 10 percent Arbuckle fine sandy loam, 5 percent Vista coarse sandy loam, 5 percent Cieneba coarse sandy loam, and 5 percent small areas of Handford fine sandy loam, Metz loamy sand, and Positas coarse sandy loam. Soil erosion is a hazard in this soil type.

Corducci and Typic Xerofluvents, 0 to 5 percent slopes, occasionally flooded, MLRA 14 (300) is a sandy soil that is somewhat excessively drained. Varying sand textures comprise each horizon

from fine sand in the top 0 to 35 inches (A and C1 horizons), to regular textured sand at a 35- to 45- inch depth, to coarse sand at a depth of 45 to 59 inches. It occurs in flood plains, alluvial fans, and stream terraces, with a parent material of mixed alluvium derived from igneous and sedimentary rock. This sandy soil comprises 18.3 percent of the Study Area and accounts for much of the Huer Huero Creek channel; a riverine system known for its underground, lateral flow due to highly permeable sand content.

1.3.4 Climate

Wetlands Climate Tables, or WETS data provides thresholds for rainfall expectations. Rainfall data were collected at Paso Robles Municipal Airport [Federal Information Processing System (FIPS) 06079, 2.3 miles northeast from Study Area] by the NOAA (National Oceanic and Atmospheric Administration) Regional Climate Centers (NOAA 2020). The average rainfall, by rain year[1], over the past 20-year span is 10.62 inches (Chart 1), with a maximum precipitation typically from December to March (Chart 2). As shown, last year's rainfall (2019-2020) is slightly above the average totaling 11.37 inches, particularly in the months of December and March.

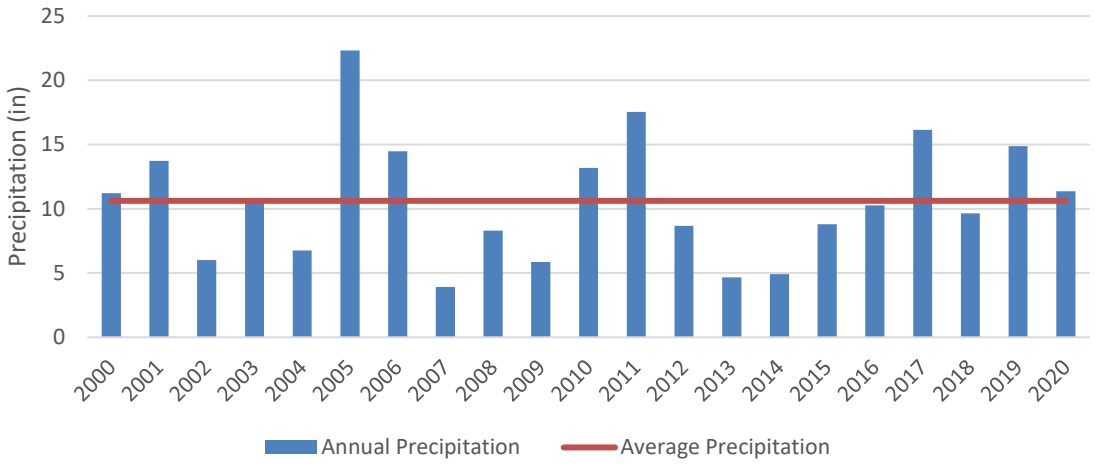


CHART 1. TOTAL ANNUAL PRECIPITATION BY RAIN YEAR (INCHES).

Total precipitation (inches) from 2000 to 2019 data compared to the average annual precipitation (Paso Robles Airport, NOAA 2020).

[1] Rain Year is defined as the period between July 1 and June 30 (i.e., the 2020 rain year was from July 2019 through June 30, 2020).

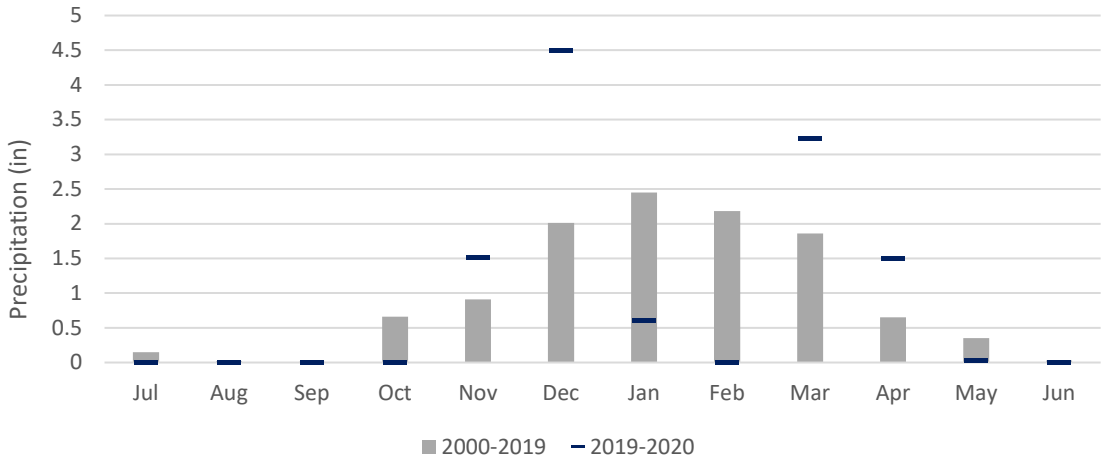


CHART 2. PRECIPITATION BY MONTH (INCHES)

Average precipitation (inches) by month between 2000 and 2019 compared with monthly precipitation in 2019-2020. Precipitation in December 2019 received 4.5 inches of rain compared to the 20-year December average of 2.01 inches (Paso Robles Airport, NOAAA 2020).

2 REGULATORY FRAMEWORK

2.1 United States Army Corps of Engineers

Section 404 of the CWA authorizes the USACE to regulate activities that discharge dredged or fill material to wetlands and other waters of the United States. The term "waters of the United States" encompasses resources described by the Environmental Protection Agency (EPA) and the Corps regulations, 40 Code of Federal Regulations (CFR) § 230.3(s) and 33 CFR § 328.3(a). The geographic limits of relevant federal jurisdiction for non-tidal waters of the U.S. are defined at 33 CFR § 328.4(c).

The *Corps of Engineers Wetlands Delineation Manual* (hereafter "1987 Manual"; Environmental Laboratory 1987) defines wetlands (EPA regulations at 40 CFR § 230.3(t); USACE regulations at 33 CFR § 328.3(b)). Wetlands are considered "special aquatic sites" under the USACE definition. Special aquatic sites are afforded protection under the CWA (Sections 401 and 404). The 1987 Manual and various regional supplements describe the criteria that must be met to determine the presence of a wetland, the methods used to determine whether they are met, and the geographic extent of wetland areas identified in the field.

The USACE takes jurisdiction over wetlands that exhibit hydrology, hydric soil, and hydrophytic vegetation (three parameters) by the standard set forth in the Arid West Regional Supplement. These areas must also exhibit a significant nexus to a Traditionally Navigable Water (TNW). For non-wetland water features, USACE jurisdiction is limited to the Ordinary High Water Mark (OHWM) and a significant nexus to navigable waters through perennial or intermittent flow (see Navigable Waters Protection Rule below).

Navigable Waters Protection Rule (Final Rule). On April 21, 2020, the U.S. Environmental Protection Agency (EPA) and the U.S. Department of the Army Corps of Engineers (USACE) published the Navigable Waters Protection Rule in the *Federal Register* to finalize a revised definition of "waters of the United States" under the CWA (USACE 2020). The agencies have streamlined the definition so that it includes four simple categories of jurisdictional waters, provides clear exclusions for many water features, and defines terms in the regulatory text. The Navigable Waters Protection Rule regulates the nation's navigable waters and the core tributary systems that provide perennial or intermittent flow into them. Ephemeral streams do not qualify as core, connective tributary systems under the Final Rule, and therefore aquatic features connected only by ephemeral streams to navigable waters are no longer under Federal jurisdiction by default. Stream definitions are not based on quantitative measurements, such as volume, due to the nature of variance within stream systems each year and precipitation received. The following stream system definitions were agreed upon as part of the Final Rule to best define jurisdiction of "waters of the U.S.":

Ephemeral. The term *ephemeral* means surface water flowing or pooling only in direct response to precipitation (*e.g.,* rain or snow fall).

Intermittent. The term *intermittent* means surface water flowing continuously during certain times of the year and more than in direct response to precipitation (*e.g.,* seasonally when the groundwater table is elevated or when snowpack melts).

Perennial. The term *perennial* means surface water flowing continuously year-round.

Subterranean river is an underground flow maintaining the same or very nearly the same flow volume underground and at the downstream point where it returns to the surface. A tributary stream does not lose its jurisdictional status if it contributes surface water flow to a downstream jurisdictional water in a typical year through a *subterranean river*.

Tributary. The term *tributary* means a river, stream, or similar naturally occurring surface water channel that contributes surface water flow to a water of the U.S. in a typical year either directly or through one or more waters identified as ditches, ephemeral stream, or high tide. A tributary must be perennial or intermittent in a typical year. The alteration or relocation of a tributary does not modify its jurisdictional status as long as it continues to satisfy the flow conditions of this definition. A tributary does not lose its jurisdictional status if it contributes surface water flow to a downstream jurisdictional water in a typical year through a channelized non-jurisdictional surface water feature, through a subterranean river, through a culvert, dam, tunnel, or similar artificial feature, or through a debris pile, boulder field, or similar natural feature. The term *tributary* includes a ditch that either relocates a tributary, is constructed in a tributary, or is constructed in an adjacent wetland as long as the ditch satisfies the flow conditions of this definition.

Typical year. The term *typical year* means when precipitation and other climatic variables are within the normal periodic range (*e.g.,* seasonally, annually) for the geographic area of the applicable aquatic resource based on a rolling thirty-year period.

Upland. The term *upland* means any land area that under normal circumstances does not satisfy all three wetland factors (*i.e.,* hydrology, hydrophytic vegetation, hydric soils) identified in paragraph (3)(xvi) of this definition, and does not lie below the ordinary high water mark or the high tide line of a jurisdictional water.

Wetlands. The term *wetlands* means areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.

2.2 Regional Water Quality Control Board

Section 401 of the Clean Water Act requires that any applicant for a Section 404 permit also obtain a Water Quality Certification from the State (401 Certification). The Water Code defines "waters of the State" broadly to include "any surface water or groundwater, including saline waters, [natural, and artificial wetlands] within the boundaries of the state." In April 2019, the State Water Resources Control Board (SWRCB) RWQCB adopted procedures to define an area as a wetland if it meets three criteria: wetland hydrology, wetland soils, and (if vegetated) wetland plants. The definition also states: "An area is a wetland if: (1) the area has continuous or recurrent saturation of the upper substrate caused by groundwater, or shallow surface water, or both; (2) the duration of such saturation is sufficient to cause anaerobic conditions in the upper substrate; and (3) the area's vegetation is dominated by hydrophytes or the area lacks vegetation. The Procedures provide the same wetland delineation methods that are used by the Army Corps of Engineers."

"Waters of the State, by definition, includes more aquatic features than Waters of the U.S., which defines the jurisdiction of the federal government. Waters of the State are not so limited. In addition, the federal definition of a wetland requires a prevalence of wetland vegetation under normal circumstances. To account for wetlands in arid portions of the state, the Water Boards'

definition differs from the federal definition in that an area may be a wetland even if it does not support vegetation. If vegetation is present, however, the Water Boards' definition requires that the vegetation be wetland vegetation. The State Water Board's proposed definition clarifies that vegetated and unvegetated wetlands will be regulated in the same manner." The effective date for the approved Procedures is May 28, 2020.

The state will also take jurisdiction over a non-wetland water to the OHWM, and tidal waters to the higher high tide line (CWA section 404 jurisdiction). Regional Water Quality Control Boards (RWQCB) provide regulatory oversight of wetland protection and impact mitigation.

2.3 California Department of Fish and Wildlife

CDFW found the USFWS wetland definition and classification system based on the 1979 Cowardin definition to be the most biologically valid (Cowardin *et al.* 1979). In general, CDFW will take jurisdiction over drainage or lake features with a bed and bank and will limit their jurisdiction to the top of bank and may include adjacent wetland or riparian areas on a case-by-case basis.

3 DELINEATION METHODS

Potentially jurisdictional features are described according to federal Clean Water Act (CWA) Section 404, and the State of California's Porter-Cologne Water Quality Act (State Water Code), and Fish and Game Code Section 1602.

3.1 Overview of Sampling Methodology

Methods and guidelines used to identify jurisdictional features are described in a 1987 Manual last updated in 2008 called the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0)* (hereafter "2008 Supplement"; USACE 2008b). We also use and *A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States* (USACE 2008a). Site visits were made in November 2019 and January 2020. Table 3 summarizes dates of field work and personnel attending each site visit.

TABLE 3. SURVEY DATES

Wetland delineation and/or other biological resource survey site visit and survey dates, action taken, and field personnel are provided.

Survey Date	Activities	Personnel
January 29, 2020	Preliminary wetland assessment	LynneDee Althouse, Katie Brown
February 19, 2020	Biological survey	Jessica Griffiths
March 17, 2020	Wetland delineation	LynneDee Althouse, Katie Brown
	Biological survey	Jessica Griffiths
March 18, 2020	Botanical	Sarah Termondt
March 20, 2020	Wetland delineation and biological survey	LynneDee Althouse
April 10, 2020	Wildlife survey; golden eagle survey	Greg Salas
April 17, 2020	Wetland delineation and biological survey	LynneDee Althouse
May 12, 2020	Golden eagle survey	Greg Salas
June 10, 2020	Botanical survey	Sarah Termondt

3.1.1 Non-Wetland Waters

Non-wetland waters were identified onsite as features that display evidence of hydrology but do not contain vegetation suggestive of wetlands. Evidence of OHWM was used to determine extent of Corps jurisdiction over these non-wetland waters of the U.S. The OHWM Manual (USACE 2010) lists and describes indicators associated with areas that become flooded or ponded, but are not dominated by wetland vegetation and the duration of flooding, ponding, and/or near-surface soil saturation (less than or equal to 12 inches) is not sufficient to cause hydric soils to form or wetland hydrology conditions to occur. Ordinary High Water Mark was identified and noted

according to guidance provided in the OHWM Manual. Arid West Ephemeral and Intermittent Streams OHWM Datasheets are included under Appendix C.

3.1.1.1 Cross Sections

Cross sections were completed along the jurisdictional drainage upstream and downstream of the new Airport Road overpass, and at the two proposed low water crossings where the pedestrian path crosses Hue Huero Creek. For each cross section, individual hydrogeomorphic floodplain units were described through vegetation cover, sediment texture, and hydrology indicators. OHWM was determined based on hydrology indicators described on the Arid West OHWM Datasheets and was defined as the division between the active floodplain and low terrace. Sampled cross-sections are provided by Wallace Group in Section 4, and in Appendix A with site plan project locations (Graph 1 through Graph 4; Photos 3, 5, and 6)

3.1.2 Waters Connectivity/Adjacency

Connectivity to Traditional Navigable Waters and their tributaries is established via field work where accessible, as well through analysis of aerial photographs, United States Geographic Service (USGS) topographic map, USGS National Hydrography Dataset, and site-specific topographic survey. This connectivity determines whether the feature has "significant nexus" (i.e., it significantly affects the chemical, biological, or physical integrity of a Traditional Navigable Water).

3.2 Mapping Methodology

Mapping efforts utilized Samsung Galaxy Tab 4 tablets equipped with Garmin GLO GPS Receivers. Delineation boundaries were drawn using aerial photography, one-foot topographic lines, and field notes. Existing datasets such as the National Hydrography Dataset and the USGS topographic maps were considered during mapping. Our results vary somewhat from these existing publications due to the finer scale and on-the-ground data collection techniques used in our work. GPS data, digitized notes, and photos were imported into Esri ArcGIS, a Geographic Information Systems software suite, and interpreted into maps. Maps were produced at a minimum scale of 1 map inch to 400 feet on the ground using field data.

4 TECHNICAL FINDINGS

The reach of Huer Huero Creek in the Study Area meets Federal and State definitions of water of the U.S. and water of the State. Our 2020 field work resulted in the delineation of 12,300 linear feet (approximately 28.3 acres) of potentially jurisdictional non-wetland waters within the Study Area (Exhibit A through Exhibit F). Wetland features were not identified within the Study Area.

Between 2000 and 2020 LynneDee Althouse observed surface flow only a few times within the subject reach of Huer Huero Creek reach north of Highway 46. We have observed high seasonal surface flows farther south in the watershed, near Highway 58. Water appears to infiltrate south of Highway 41 and flows subsurface for most of the remaining distance to the Salinas River.

4.1 Federal and State Wetlands

No Federal or State wetlands were identified in the Study Area.

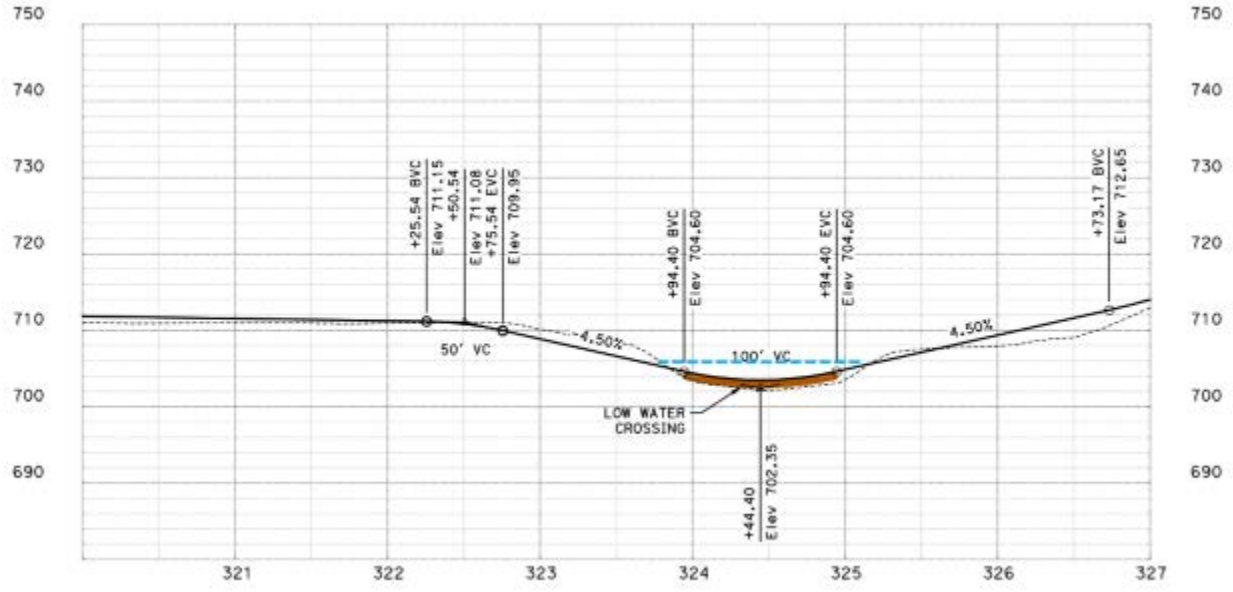
4.2 Federal and State Non-Wetland Waters

The Study Area encompasses 12,300 linear feet (28.3 acres) of Huer Huero Creek, a potentially jurisdictional federal and state non-wetland water. Huer Huero Creek is an ephemeral underground stream that flows into the Study Area from the south-east draining water from the Lower Huer Huero Creek Watershed into the Salinas River. Huer Huero Creek flows north along the existing Airport Road through the Study Area then sinuates west into an "S" shaped curve with a braided channel (Photo 4) before flowing north out of the Study Area towards the Salinas River. Dry Creek flows into Huer Huero Creek from the east into the Study Area. Four other small, unnamed tributaries drain into Huer Huero Creek within the Study Area (Figure 3).

Ordinary High Water Mark fluctuates throughout the Study Area, with an average depth of 3 feet and an average width of 162 feet. Channel substrate throughout the Study area is composed of Xerofluvent-Riverwash, a medium to coarse sandy soil with sporadic pebbles (Photo 3 through Photo 8). Channel cross sections were taken at four locations within the Study Area (Table 4). The channel thalweg is unvegetated throughout the Study Area. Channel banks are dominated by annual grasses and blue oaks (Photo 4 and Photo 6). Willows (*Salix lasiolepis, S. rubra*) dominant in sandbars where the channel is braided (Photo 3). Standing water was not present within the Study Area. At the northern portion of the Study Area there were areas where the soil was visibly wet, but not saturated following rain events in March 2020 (Photo 3).

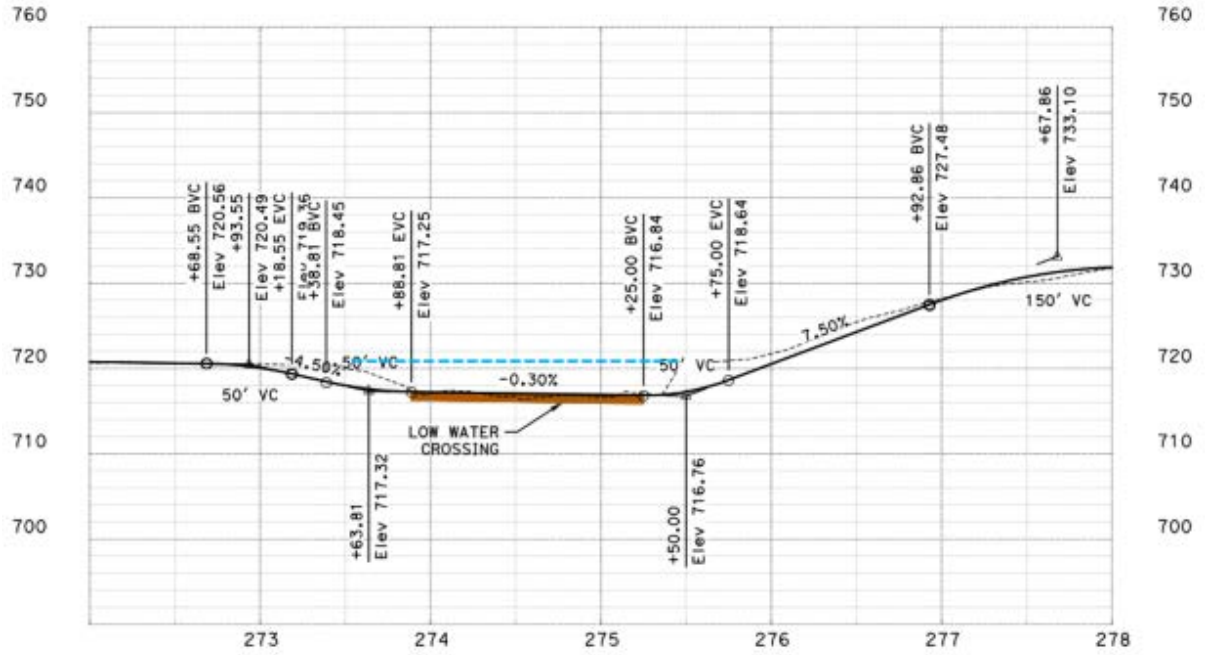
TABLE 4. CHANNEL CROSS SECTION SUMMARY

Cross Section	Depth (ft)	Width (ft)	Substrate	Vegetation
Low Water Crossing 1	4	135	Medium-coarse sand, pebbles	Thalweg unvegetated, willows on bank
Low Water Crossing 2	2	180	Medium-coarse sand, pebbles	Thalweg unvegetated, annual grasses and blue oaks on banks
Cross Section A-A	2	154	Medium-coarse sand, pebbles	Thalweg unvegetated, annual grasses and blue oaks on banks
Cross Section B-B	4	180	Medium-coarse sand, pebbles	Thalweg unvegetated, annual grasses and blue oaks on banks



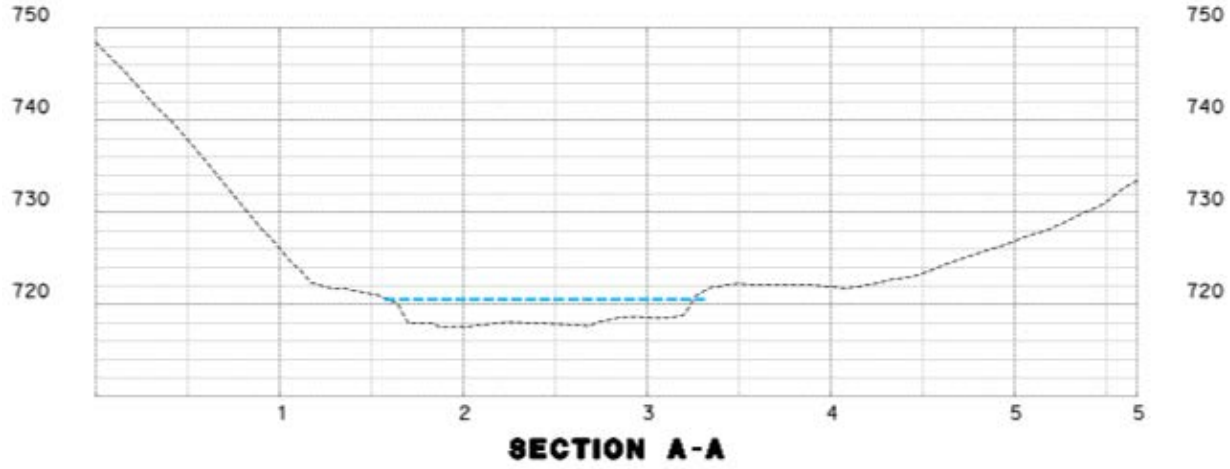
GRAPH 1. LOW WATER CROSS SECTION 1

Cross section taken at proposed Class 1 Trail Project crossing location at northwest end of the Study Area (Wallace 2020). Blue dashed line portrays the location of the OHWM from approximately 702' to 706' elevation feet, and approximately 135 feet wide.



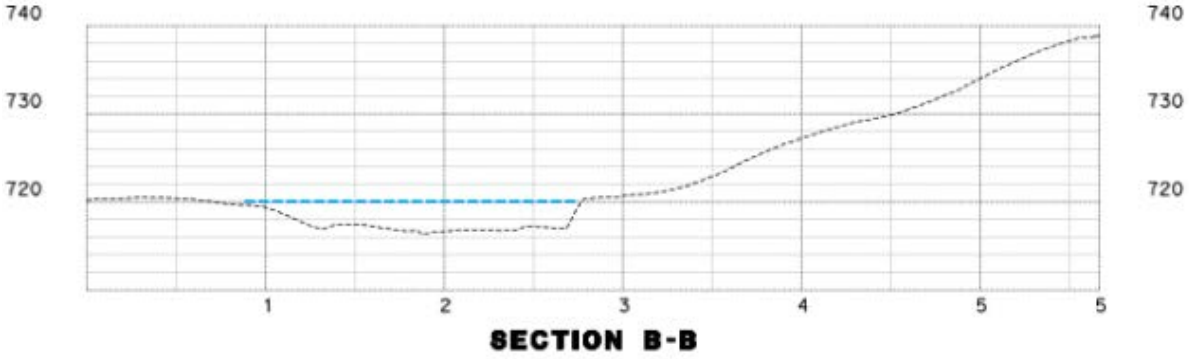
GRAPH 2. LOW WATER CROSS SECTION 2

Cross section taken at proposed Class 1 Trail Project (Section B-B) crossing in the Study Area (Wallace 2020). View south, downstream. Blue dashed line portrays the location of the OHWM from approximately 716 to 720 feet elevation, and approximately 180 feet wide.



GRAPH 3. CROSS SECTION A-A

Cross section taken south of proposed New Airport Road (Section A-A) location within Study Area (Wallace 2020). View south, downstream. Blue dashed line portrays the location of the OHWM from approximately 718 to 720 feet elevation, and approximately 154 feet wide total.



GRAPH 4. CROSS SECTION B-B

Cross section taken just south of proposed Class 1 Trail Project (Section B-B) crossing in the Study Area (Wallace 2020). View south, downstream. Blue dashed line portrays the location of the OHWM from approximately 716 to 720 feet elevation, and approximately 180 feet wide.



Photo 3. Huer Huero Creek at Low Water Crossing 1, view south downstream. Soil visibly wet, but not saturated. March 17, 2020.



Photo 4. Braided channel in northern portion of Study Area. Mapped on Exhibit B. View southwest, March 17, 2020.



Photo 5. Huer Huero Creek just north of Cross Section B-B and location of Low Water Crossing 2. View southeast, March 17, 2020.



Photo 6. View north downstram at proposed location of New Airport Road and Low Water Crossing 2. Cross Sections A-A and B-B, and Low Water Crossing were taken near scientist in orange vest. March 17, 2020.

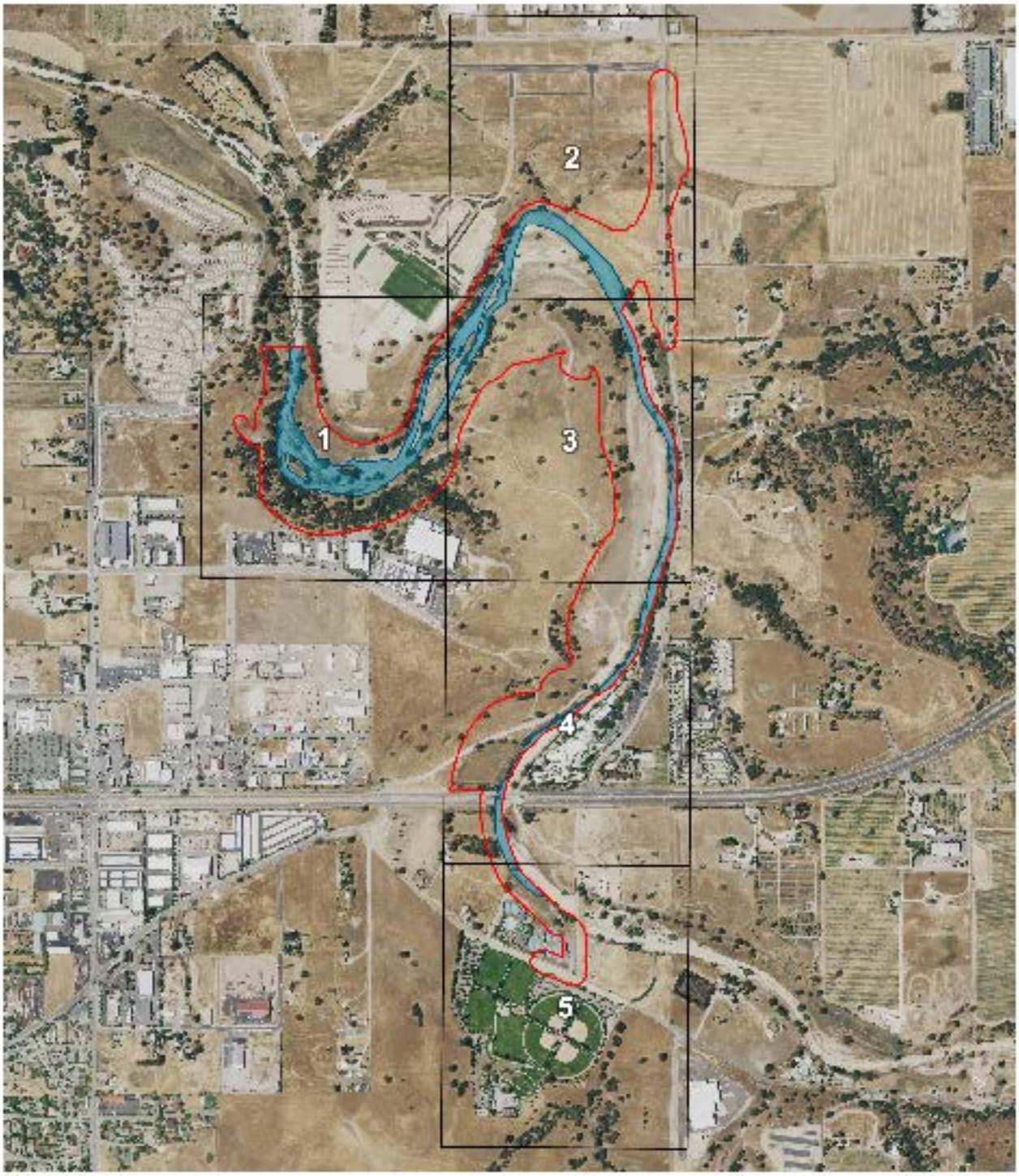


Photo 7. View south upstream from proposed location of New Airport Road and Cross Section A-A. March 17, 2020.



Photo 8. View north downstram at proposed location of New Airport Road and Cross Section A-A. March 17, 2020.

Exhibit A. Wetland Delineation Overview



Legend

Study Area
Figure Extent
Potential CWA Section 404 Non-Wetland Waters

N

0 1,000 2,000 Feet

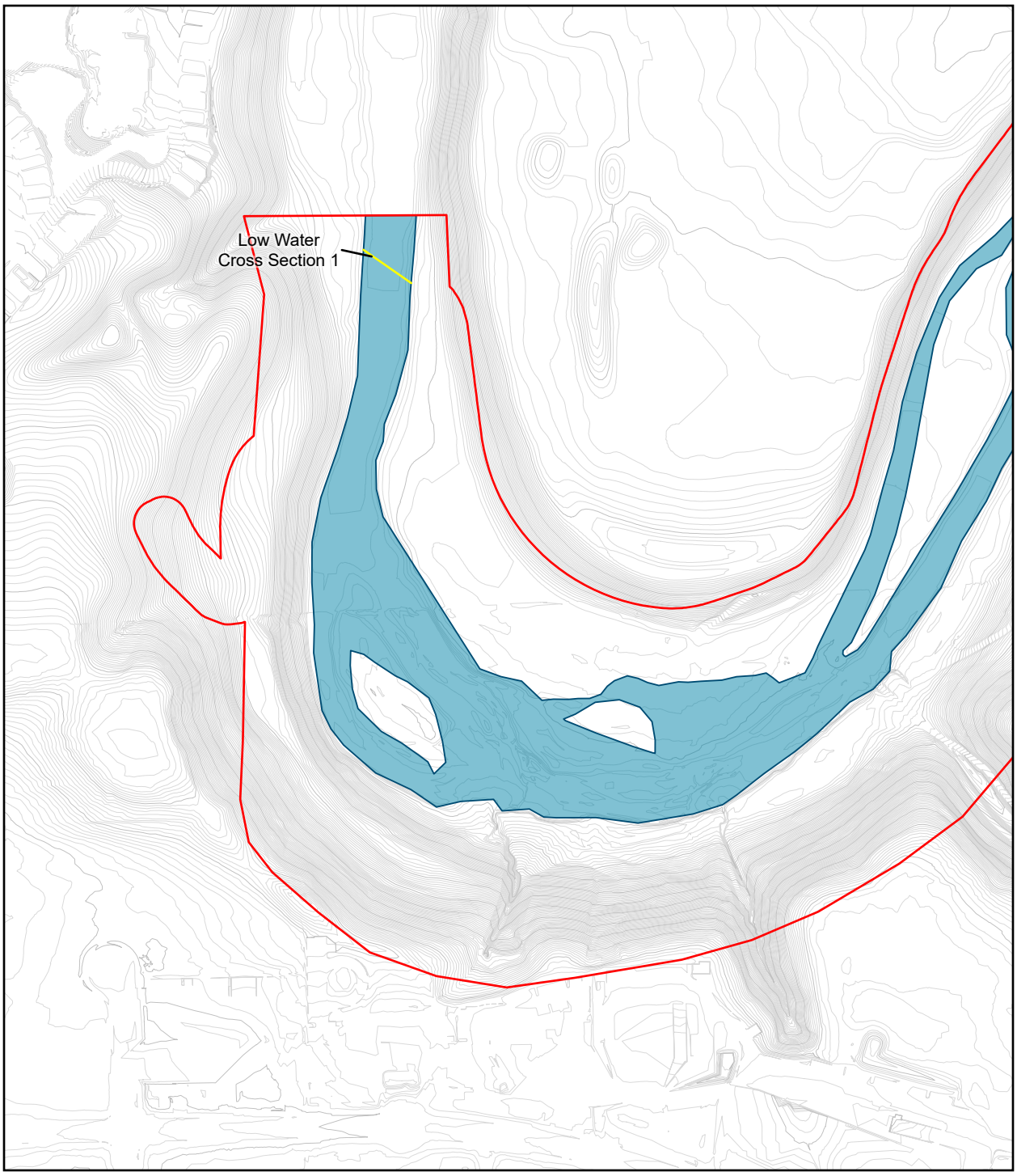
Huer Huero Creek Bridge and Roundabout
120.646880°W 35.648855°N
Paso Robles, San Luis Obispo County

Investigator: Katie Brown
Imagery Source: USDA NAIP, 05/21/2020

ALTHOUSE AND MEADE, INC.

Map Updated:
November 25, 2020 01:22 PM by SAF

Exhibit B. Wetland Delineation Detail 1



Legend

Potential CWA Section 404 Non-Wetland Waters

Study Area

N

0 200 400 Feet

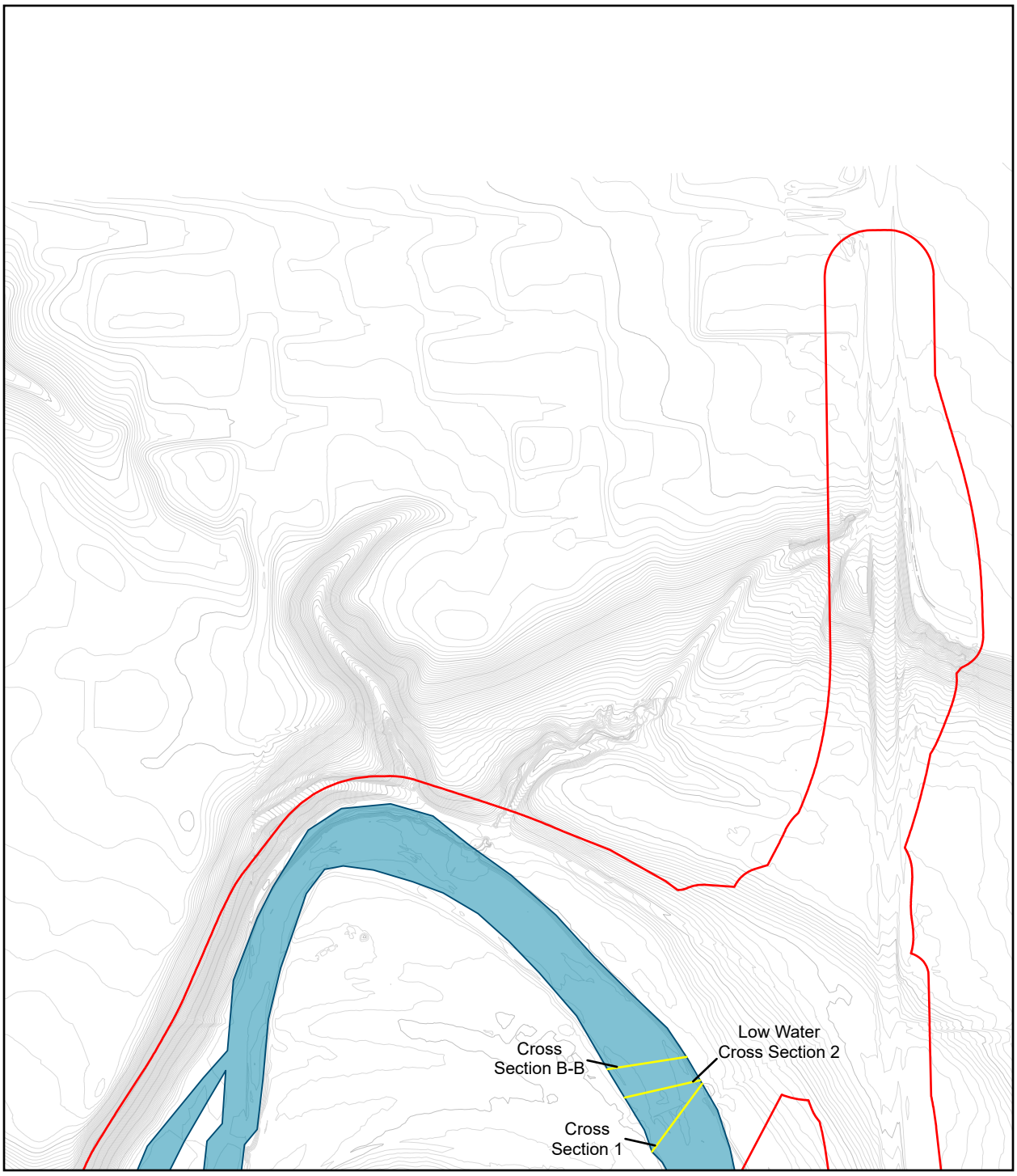
Huer Huero Creek Bridge and Roundabout
120.65112°W 35.65332°N
Paso Robles, San Luis Obispo County

Contour Interval: 1-foot
Investigator: Katie Brown

ALTHOUSE AND MEADE, INC.
BIOLOGICAL AND ENVIRONMENTAL SERVICES

Map Updated:
December 01, 2020 09:28 AM by SAF

Exhibit C. Wetland Delineation Detail 2



Legend

Potential CWA Section 404
Non-Wetland Waters

Study Area

N

0 200 400 Feet

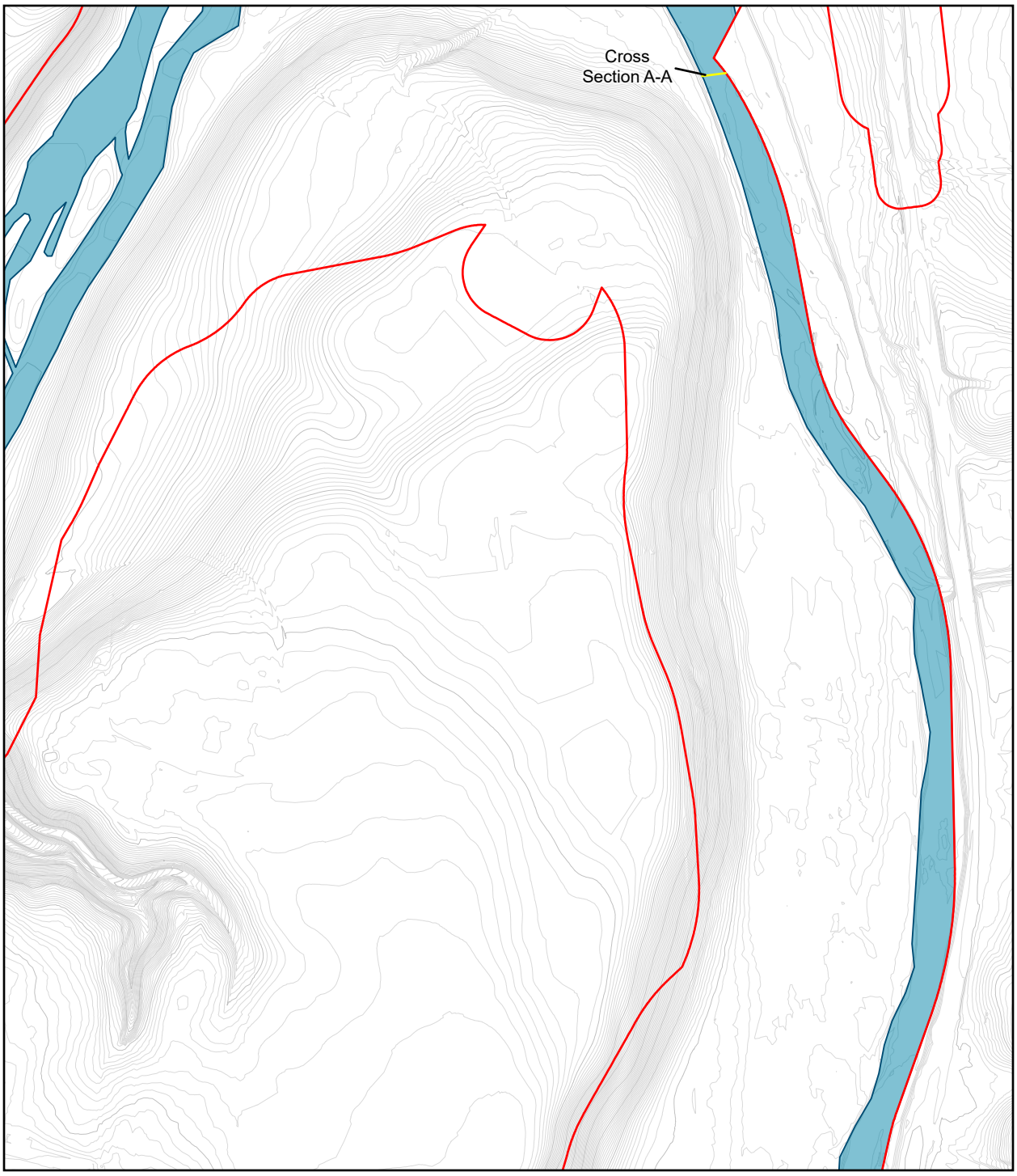
Huer Huero Creek Bridge and Roundabout
120.64368°W 35.66008°N
Paso Robles, San Luis Obispo County

Contour Interval: 1-foot
Investigator: Katie Brown

ALTHOUSE AND MEADE, INC.
BIOLOGICAL AND ENVIRONMENTAL SERVICES

Map Updated:
December 01, 2020 09:28 AM by SAF

Exhibit D. Wetland Delineation Detail 3



Legend

Potential CWA Section 404
Non-Wetland Waters

Study Area

Huer Huero Creek Bridge and Roundabout
120.64383°W 35.65322°N
Paso Robles, San Luis Obispo County

N

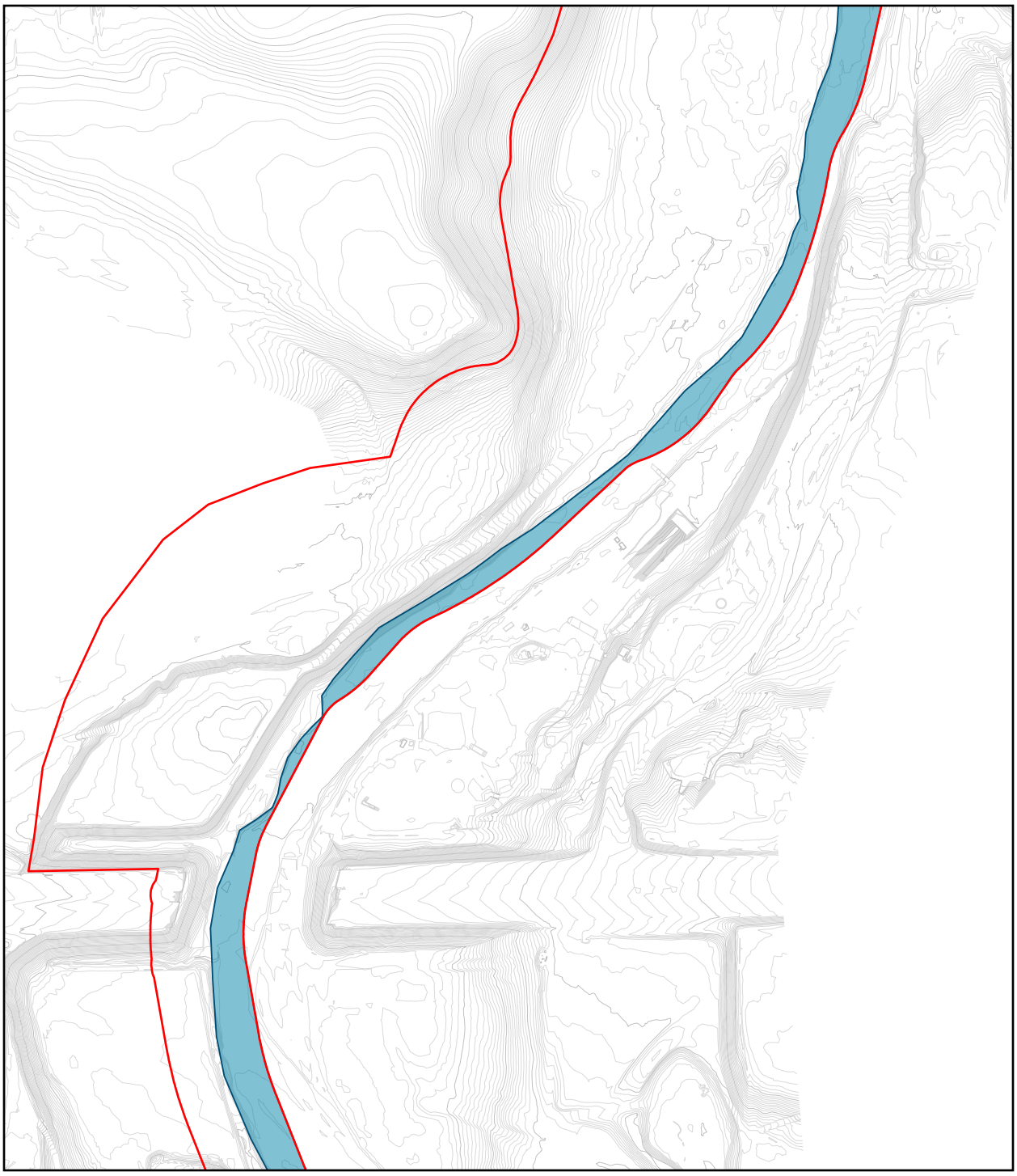
0 200 400 Feet

Contour Interval: 1-foot
Investigator: Katie Brown

ALTHOUSE AND MEADE, INC.
BIOLOGICAL AND ENVIRONMENTAL SERVICES

Map Updated:
November 03, 2020 04:37 PM by SAF

Exhibit E. Wetland Delineation Detail 4



Legend

Potential CWA Section 404 Non-Wetland Waters

Study Area

N

0 200 400 Feet

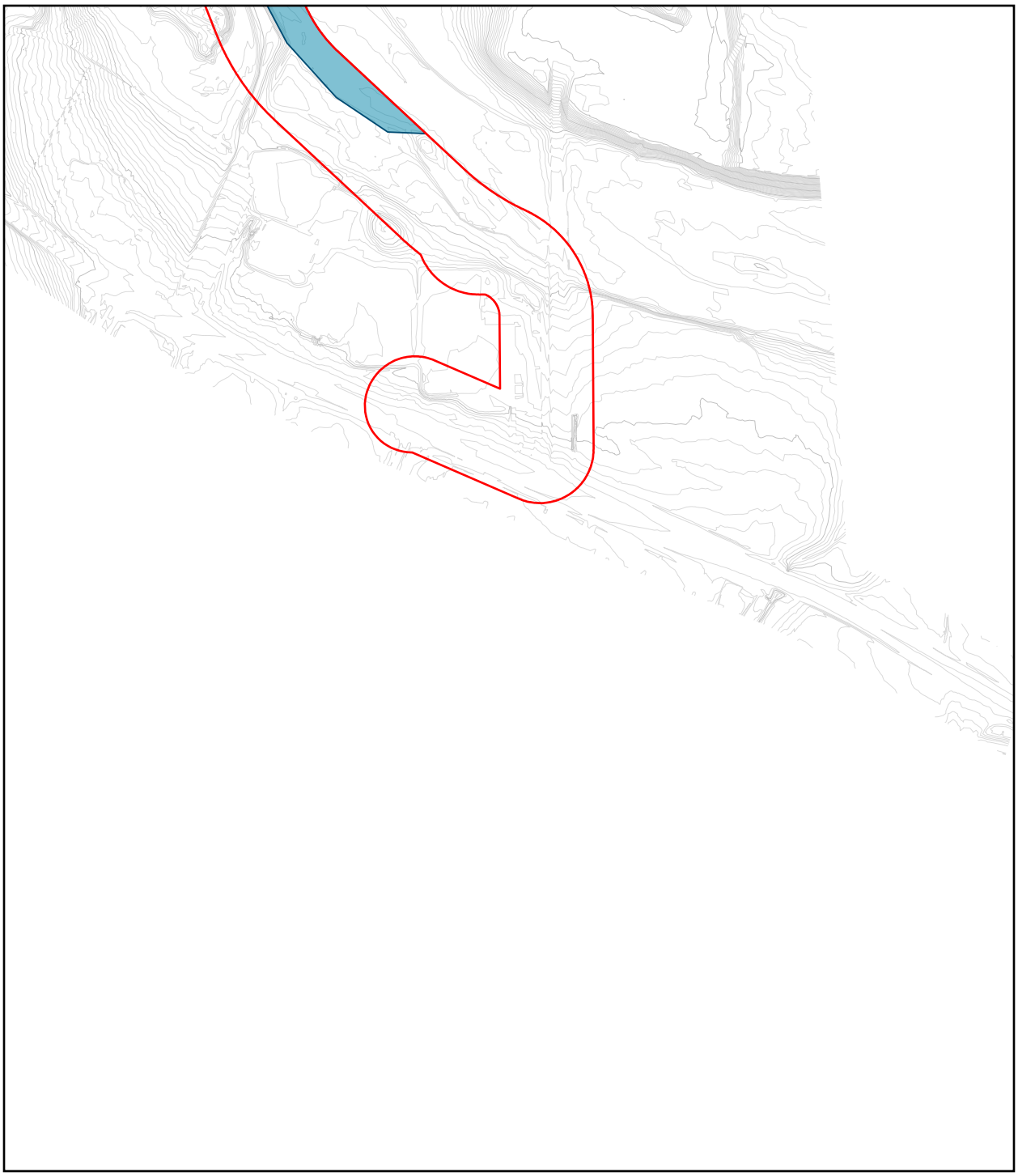
Huer Huero Creek Bridge and Roundabout
120.64397°W 35.64635°N
Paso Robles, San Luis Obispo County

Contour Interval: 1-foot
Investigator: Katie Brown

ALTHOUSE AND MEADE, INC.
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Map Updated:
November 03, 2020 04:37 PM by SAF

Exhibit F. Wetland Delineation Detail 5



Legend

Potential CWA Section 404 Non-Wetland Waters

Study Area

N

0 200 400 Feet

Huer Huero Creek Bridge and Roundabout
120.64411°W 35.63948°N
Paso Robles, San Luis Obispo County

Contour Interval: 1-foot
Investigator: Katie Brown

ALTHOUSE AND MEADE, INC.
BIOLOGICAL AND ENVIRONMENTAL SERVICES

Map Updated:
November 03, 2020 04:38 PM by SAF

5 JURISDICTIONAL DELINEATION

5.1 Federal and State Jurisdictional Areas

The Study Area contains 12,300 linear feet, approximately 28.3 acres of non-wetland waters potentially jurisdictional by the U.S. Army Corps of Engineers and State Water Quality Control Board. Jurisdictional area calculations are based on the mapped location of channel ordinary high water mark as described in Section 3.0 for the jurisdictional delineation. Jurisdictional area calculations are included in Table 5.

The subject reach of Huer Huero Creek is a subterranean river with underground flow that contributes surface water flow to the lower Salinas River, a traditional navigable water in a typical year.

TABLE 5. JURISDICTIONAL NON-WETLAND MEASUREMENTS

Calculated federal and state jurisdictional non-wetland waters areas are given for the Study Area.

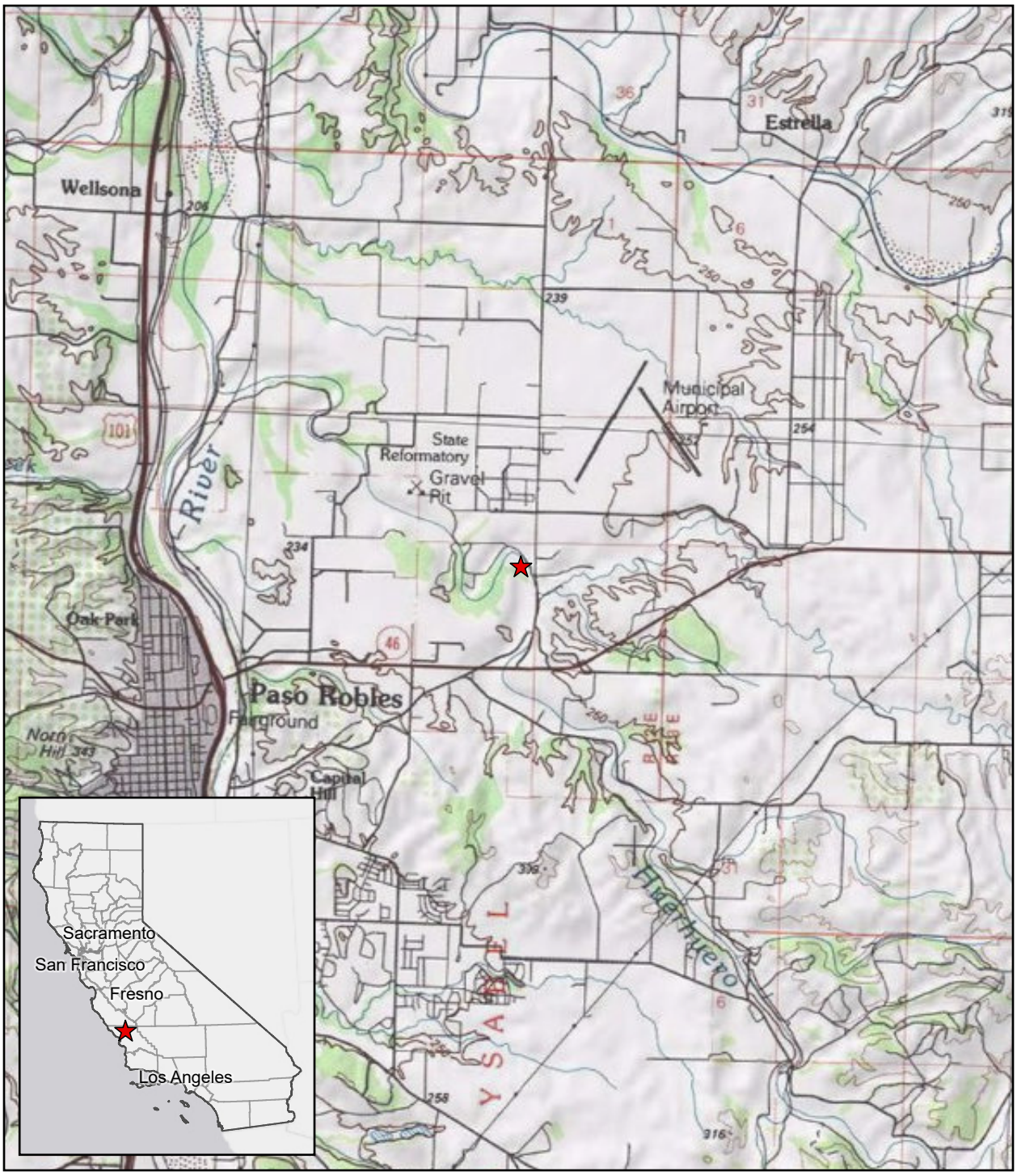
Feature	OHWM Width (ft)	OHWM Depth (ft)	Length (ft)	Area (ac)	Area (sq ft)
Huer Huero Creek	162	3	12,300	28.3	1,232,748
Total Federal and State Non-Wetland Waters			12,300	28.3	1,232,748

This report is subject to verification as a preliminary jurisdictional determination by the United States Army Corps of Engineers.

6 FIGURES

- **Figure 1. United States Geological Survey Topographic Map**
- **Figure 2. Aerial Photograph**
- **Figure 3. National Hydrography Dataset**
- **Figure 4. National Wetlands Inventory**
- **Figure 5. Hydrologic Unit Codes**
- **Figure 6. Federal Emergency Management Agency Flood Insurance Rate Map**
- **Figure 7. Habitat Map**
- **Figure 8. USDA Soil Survey**

Figure 1. United States Geological Survey Topographic Map



Legend

★ Project Location

N

0 0.5 1 Mile

Huer Huero Creek Bridge and Roundabout
120.64444°W 35.65378°N
Paso Robles, San Luis Obispo County

USGS Quadrangle: Paso Robles

ALTHOUSE AND MEADE, INC.
BIOLOGICAL AND ENVIRONMENTAL SERVICES

Map Updated:
October 26, 2020 02:27 PM by JBB

Figure 2. Aerial Photograph



Legend

Study Area (168.8 acres)

N

0 1,000 2,000 Feet

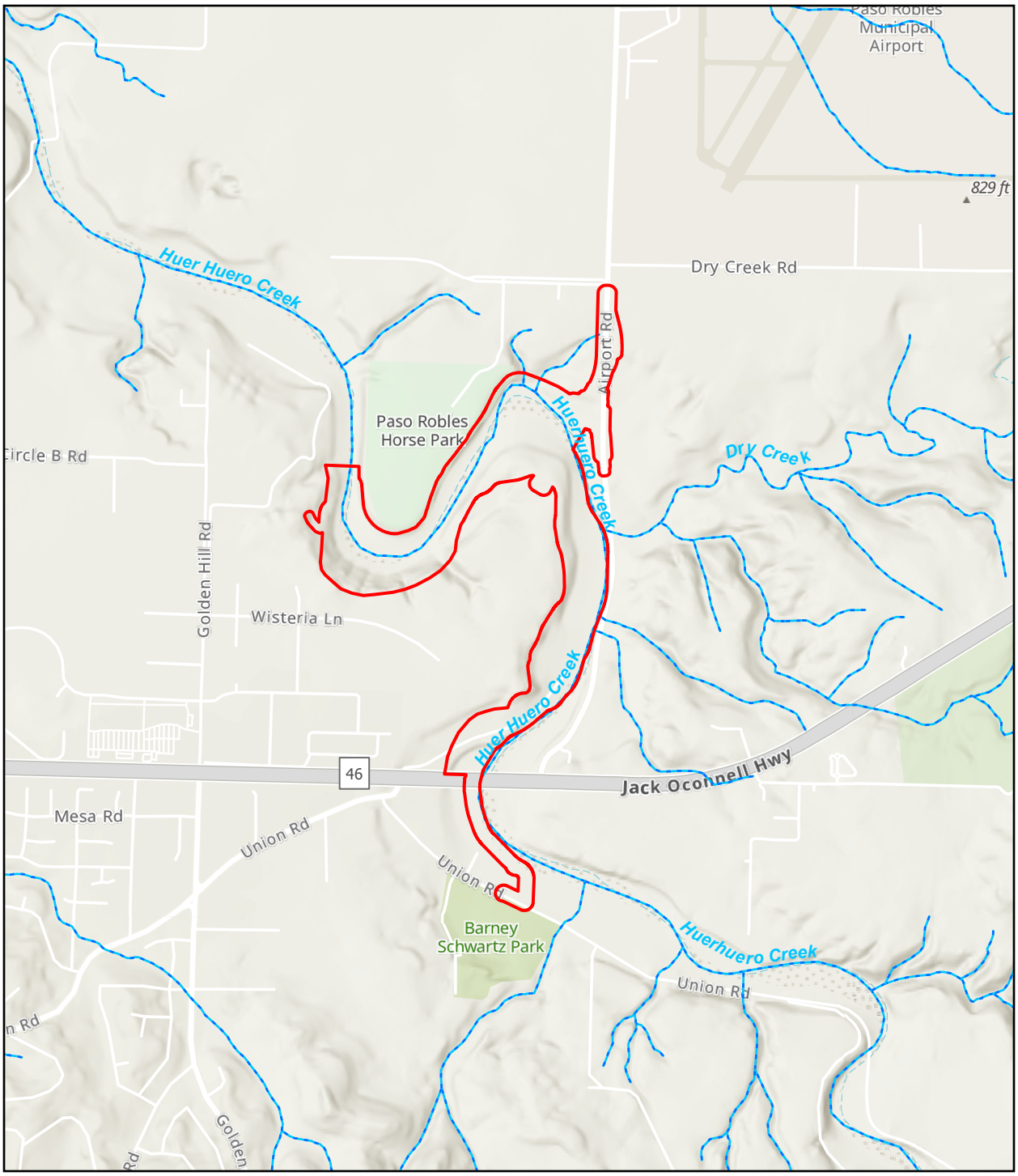
Huer Huero Creek Bridge and Roundabout
120.6468°W 35.65106°N
Paso Robles, San Luis Obispo County

Imagery Source: USDA NAIP, 07/14/2018

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Map Updated:
November 03, 2020 05:11 PM by SAF

Figure 3. National Hydrography Dataset



Legend

Study Area (168.8 acres)

Drainages

N

0 1,000 2,000 Feet

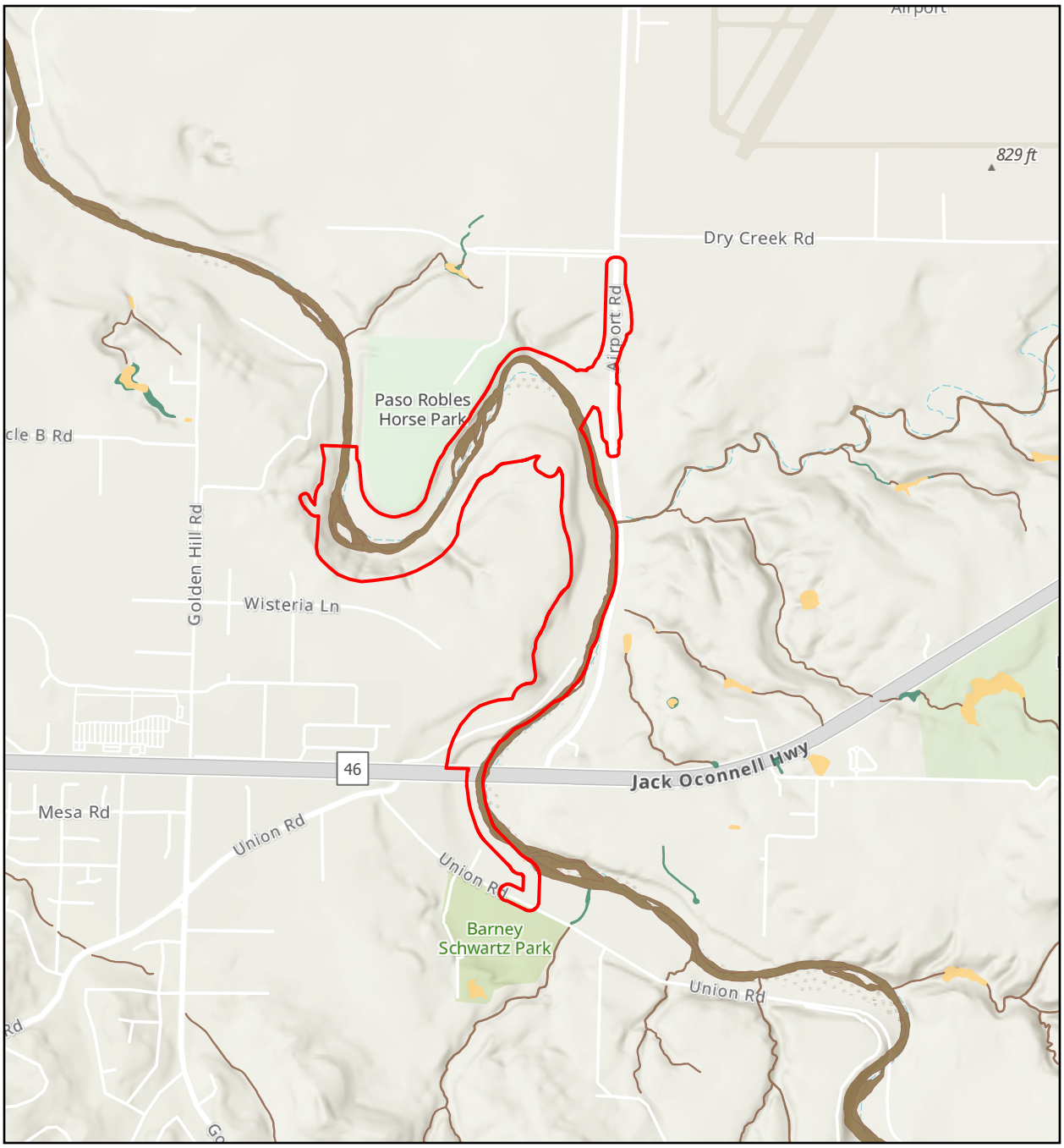
Huer Huero Creek Bridge and Roundabout
120.64488°W 35.65135°N
Paso Robles, San Luis Obispo County

Data Source: United States Geological Survey

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Map Updated:
November 03, 2020 05:12 PM by SAF

Figure 4. National Wetland Inventory



Legend

- Study Area (168.8 acres)
- Freshwater Emergent Wetland
- Freshwater Pond
- Riverine

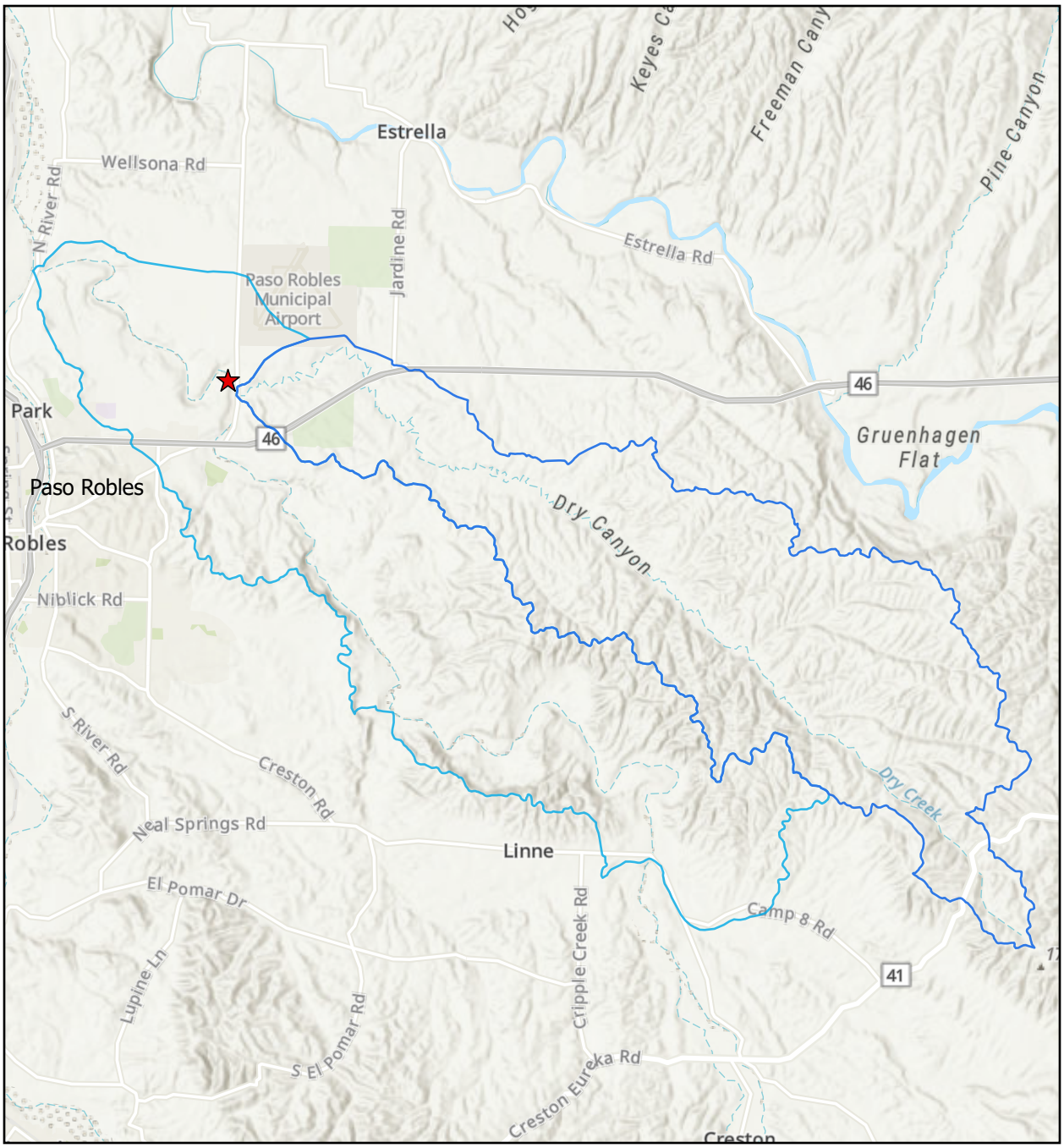
N

0 1,000 2,000 Feet

Huer Huero River Bridge and Roundabout
120.64412°W 35.65136°N
Paso Robles, San Luis Obispo County

Data Source: United States Fish and Wildlife Service

Figure 5. Hydrologic Unit Codes



Legend

- Project Location
- 180600050306 - Dry Creek
- 180600050307 - Lower Huerhuero Creek

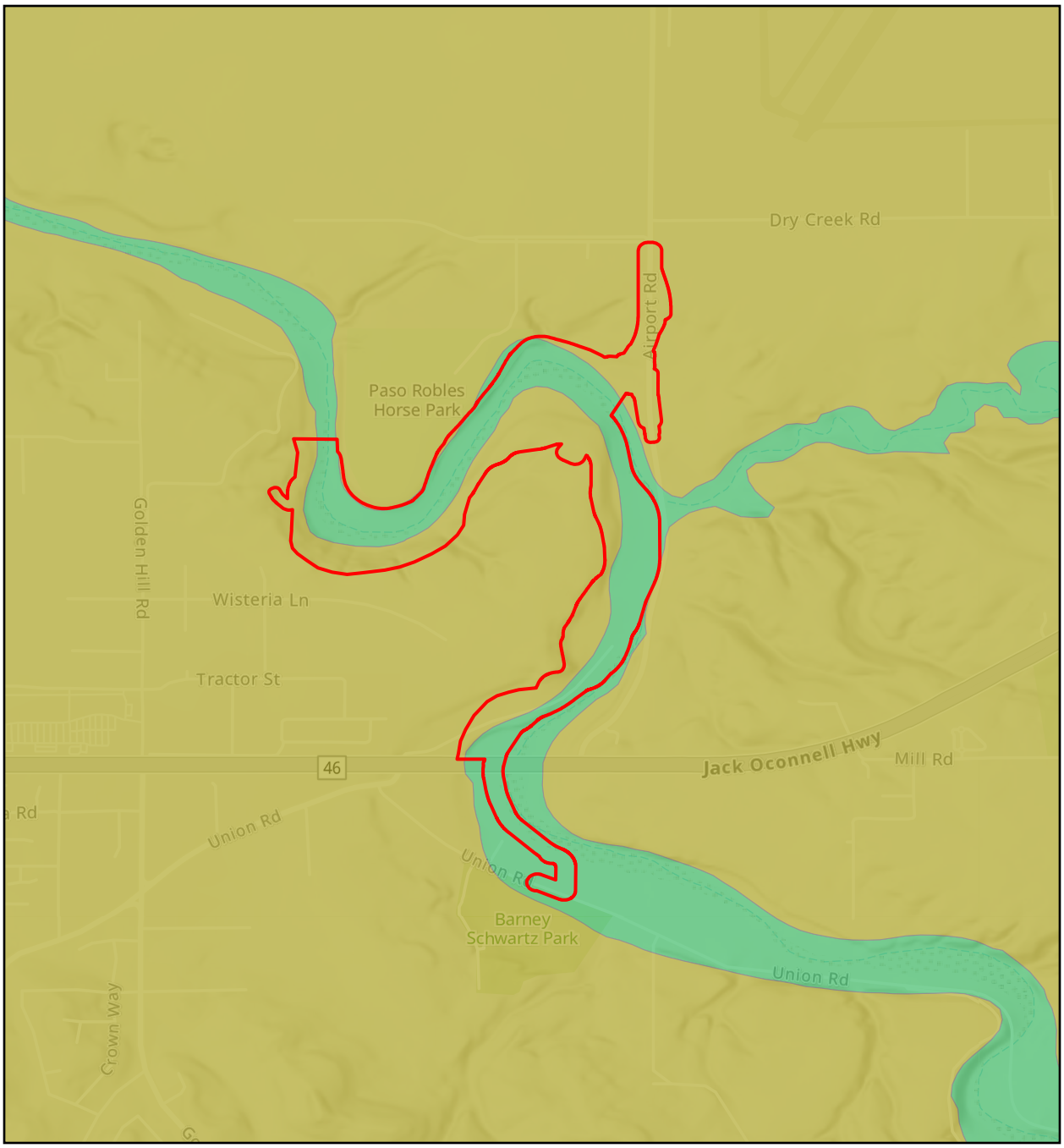
N

0 1 2 Miles

Huer Huero Creek Bridge and Roundabout
120.57345°W 35.62218°N
Paso Robles, San Luis Obispo County

Data Source: United States Geological Survey

Figure 6. Federal Emergency Management Agency Flood Insurance Rate Map



Legend

Study Area (168.8 acres)

Flood Zone*

A

X

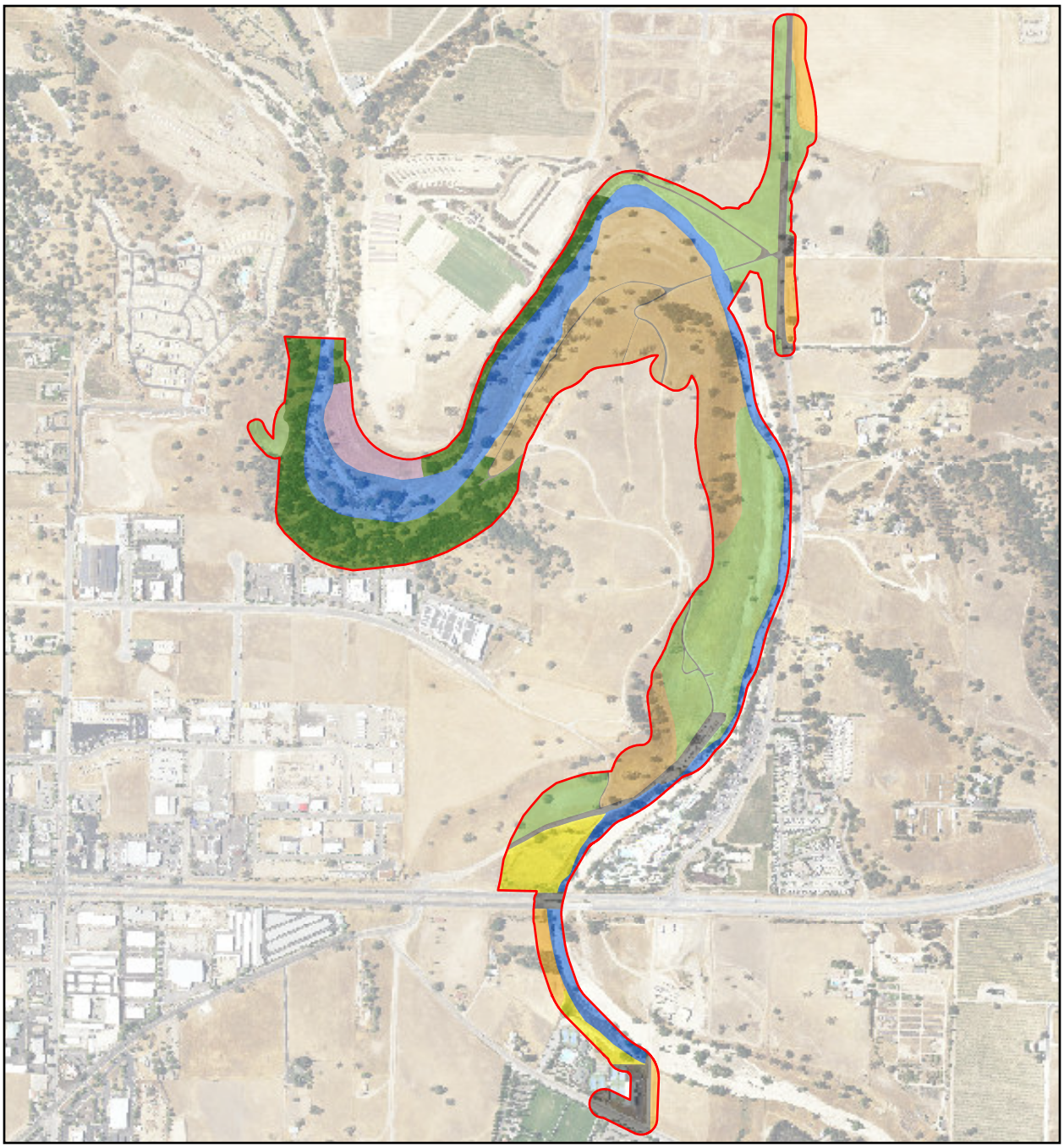
N

0 1,000 2,000 Feet

Huer Huero Creek Bridge and Roundabout
120.64495°W 35.65096°N
Paso Robles, San Luis Obispo County

Data Source: United States Geological Survey

Figure 4. Biological Resources



Legend

- Study Area
- Riparian (34.3 acres)
- Oak Woodland (24.5 acres)
- Oak Savanna (40.9 acres)
- Upland Forbs (4.3 acres)
- Annual Grassland (40.4 acres)
- Cropland (5.2 acres)
- Yellow-Star Thistle (6.6 acres)
- Anthropogenic (12.7 acres)

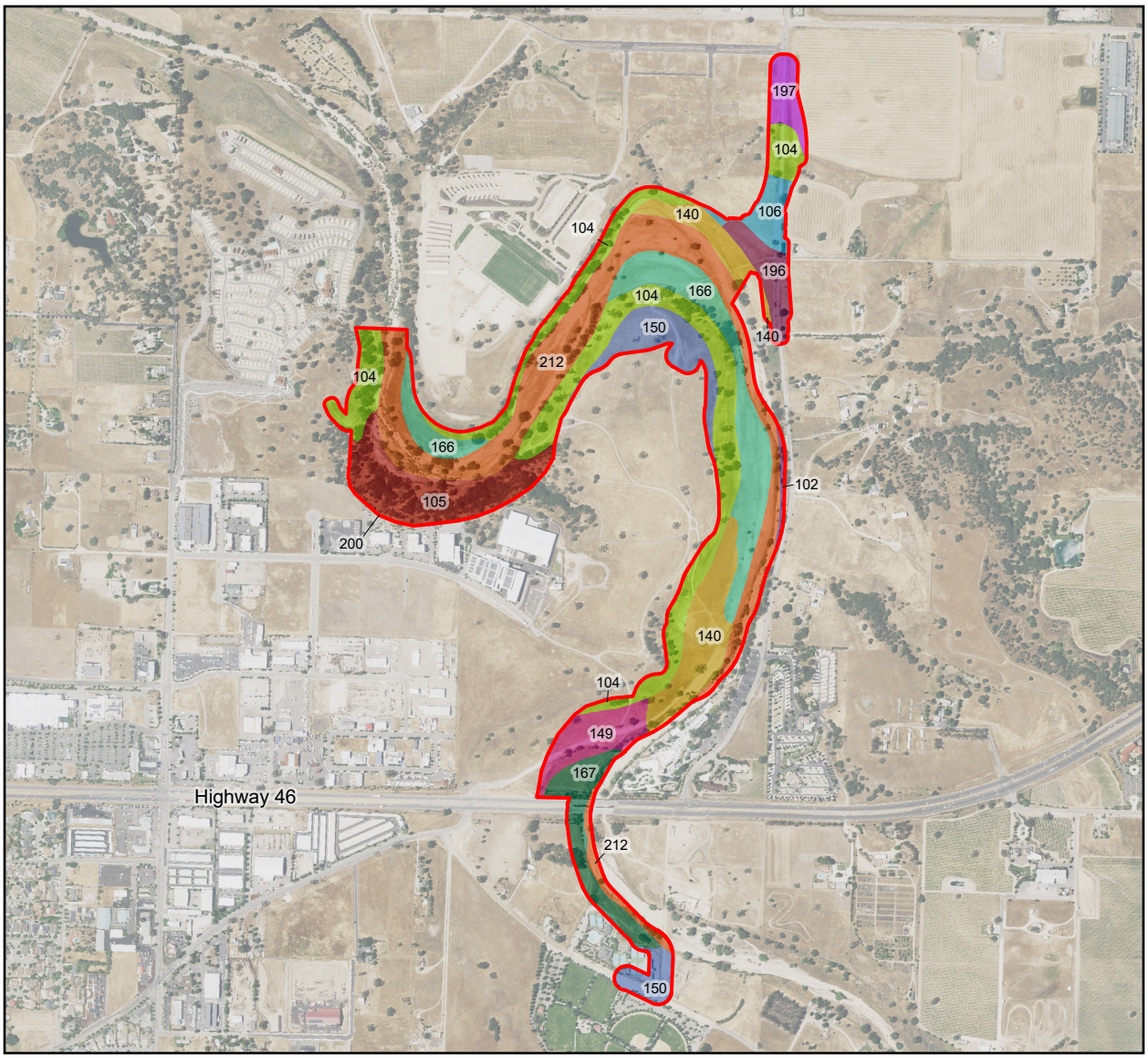
N

0 500 1,000 1,500 Feet

Huer Huero Bridge and Roundabout
Map Center: 120.64685°W 35.65098°N
Paso Robles, San Luis Obispo County

Imagery Source: USDA NAIP, 07/14/2018

Figure 8. United States Department of Agriculture Soil Survey



Soil Type	Study Area
212 - Xerofluvents-Riverwash association	23%
104 - Arbuckle-Positas Complex, 30 to 50 percent slopes	22%
166 - Metz loamy sand, 0 to 5 percent slopes	12%
140 - Elder loam, 0 to 5 percent slopes, flooded	10%
105 - Arbuckle-Positas Complex, 50 to 75 percent slopes	9%
150 - Hanford and Greenfield gravelly sandy loams, 2 to 9 percent slopes	7%
167 - Metz-Tujunga complex, occasionally flooded, 0 to 5 percent slopes	5%
149 - Hanford and Greenfield gravelly sandy loams, 0 to 2 percent slopes	4%
196 - San Ysidro sandy loam, 2 to 9 percent slopes	3%
106 - Arbuckle-San Ysidro complex, 2 to 9 percent slopes	2%
197 - San Ysidro loam 0 to 2 percent slopes	2%
102 - Arbuckle-Positas complex, 9 to 15 percent slopes	<1%
200 - Sesame sandy loam, 9 to 30 percent slopes	<1%

N

0 500 1,000 Feet

Huer Huero Creek Bridge and Roundabout
Map Center: 120.64661°W 35.65097°N
Paso Robles, San Luis Obispo County

Source: USDA NRCS Soil Survey

Legend

Study Area (168.8 acres)

7 REFERENCES

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40 CFR 230. Section 404(b)(1) Guidelines for specification of disposal sites for dredged or fill material. Text from Code of Federal Regulations. Available at http://www.ecfr. gov. Accessed January 2020.

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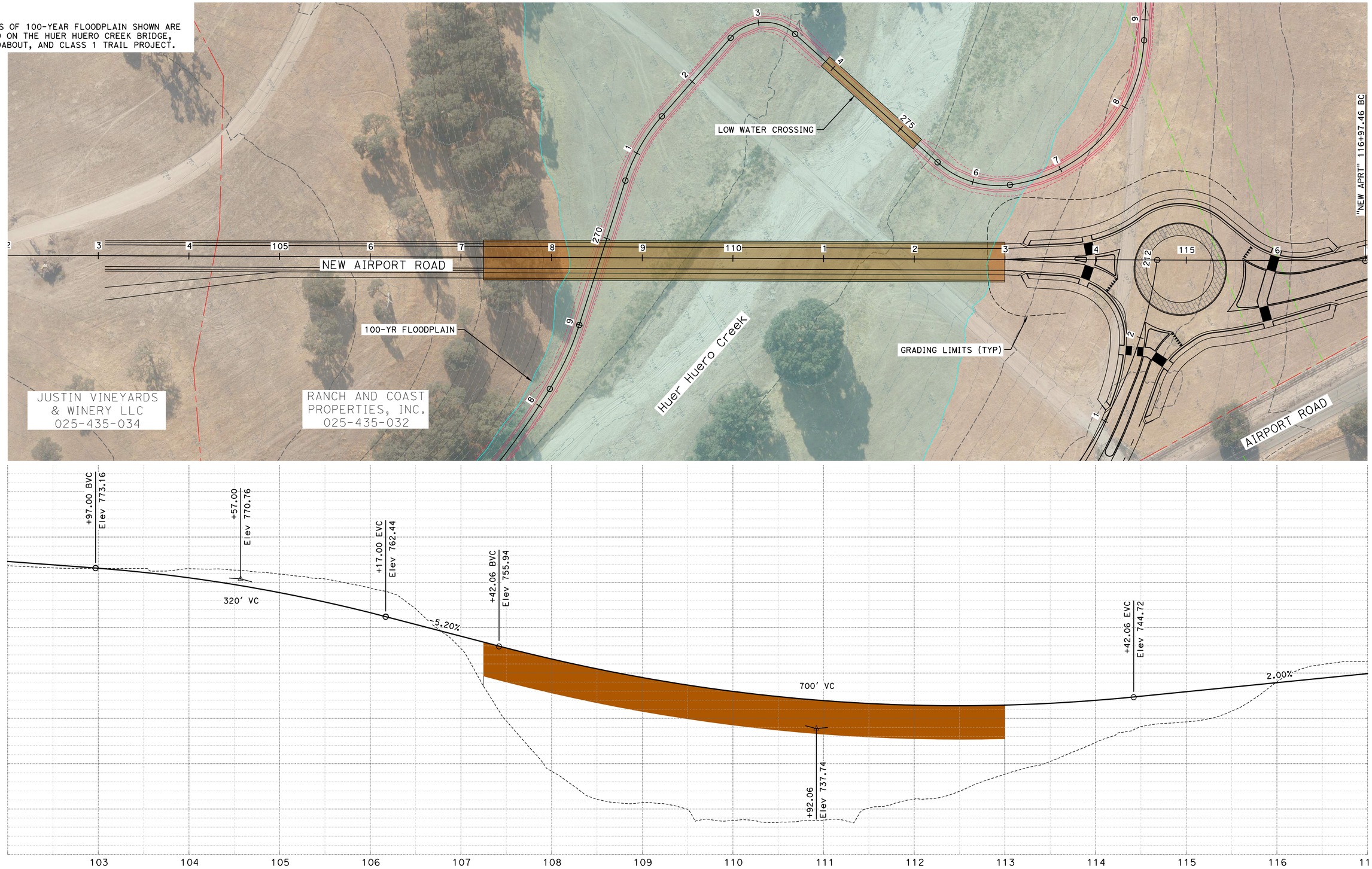
8 APPENDICES

- **Appendix A. Cross-section Sheets from Wallace Group (May 29, 2020)**
- **Appendix B. FEMA/FIRM Zone Classification**
- **Appendix C. OHWM Datasheets**
- **Appendix D. Vascular Plant List**

APPENDIX A. CROSS-SECTION SHEETS FROM WALLACE GROUP (MAY 29, 2020)

NOTE:

1. LIMITS OF 100-YEAR FLOODPLAIN SHOWN ARE BASED ON THE HUER HUERO CREEK BRIDGE, ROUNDABOUT, AND CLASS 1 TRAIL PROJECT.



FILE NAME: 0067-0042 EXBT-CREK.DWG 5/29/2020 2:18 PM

CITY OF PASO ROBLES

PRELIMINARY PLAN AND PROFILE - NEW AIRPORT ROAD

HUER HUERO CREEK BRIDGE, ROUNDABOUT, AND CLASS 1 TRAIL

May 29, 2020

EX-1

GRAPHIC SCALE

0 25 50 100

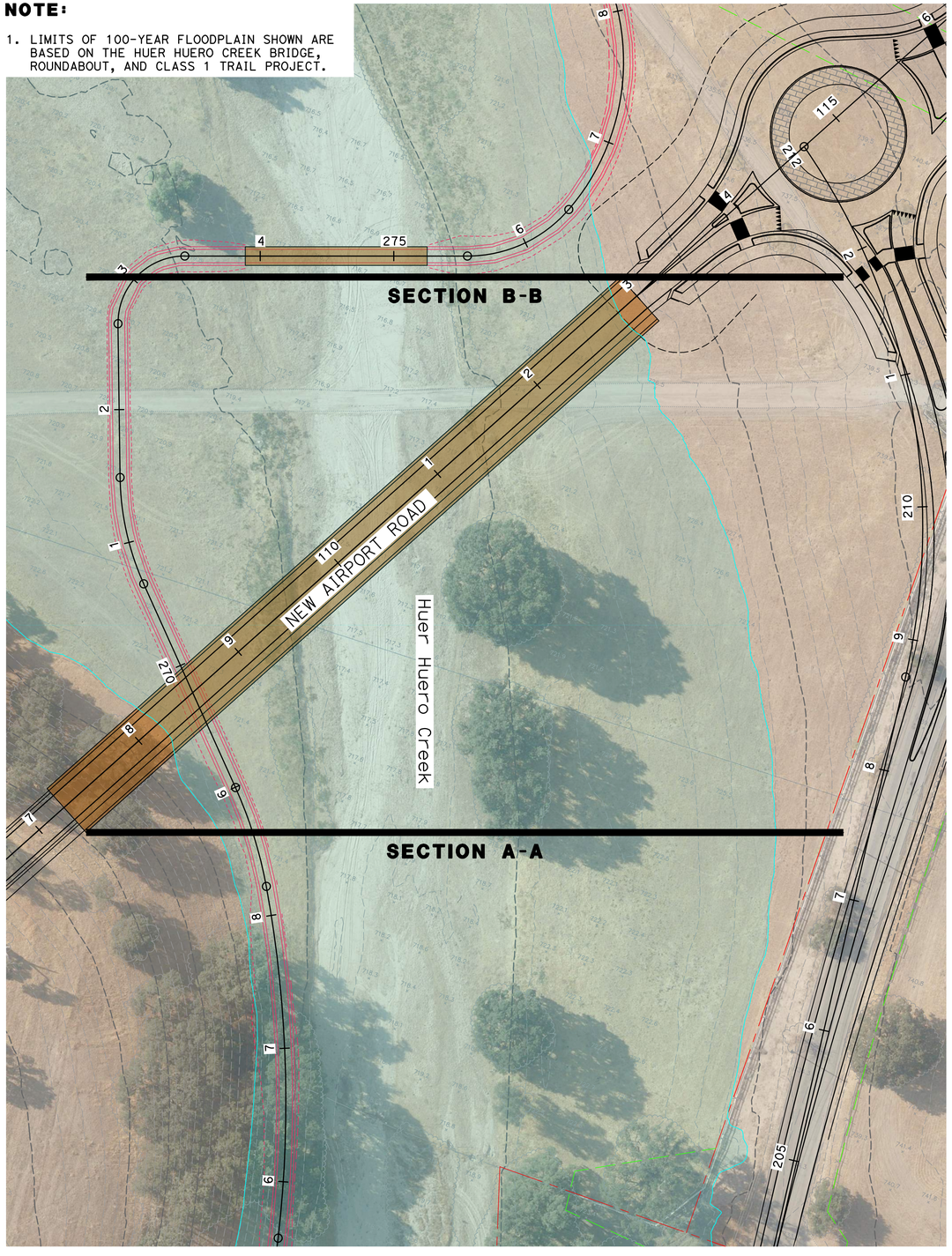
(IN FEET)

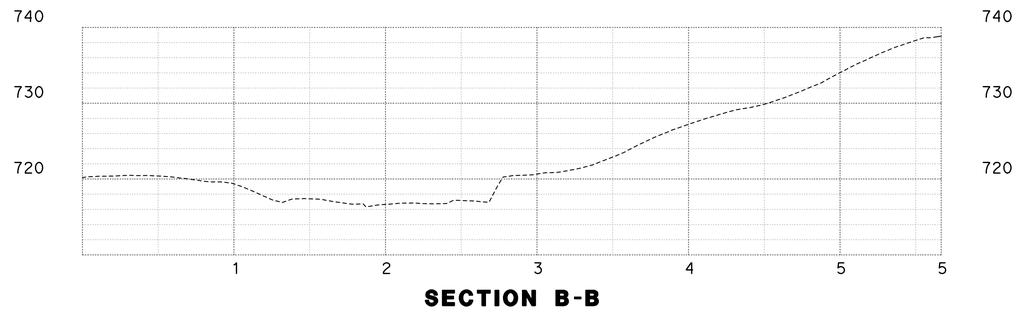
1 IN = 50 FT

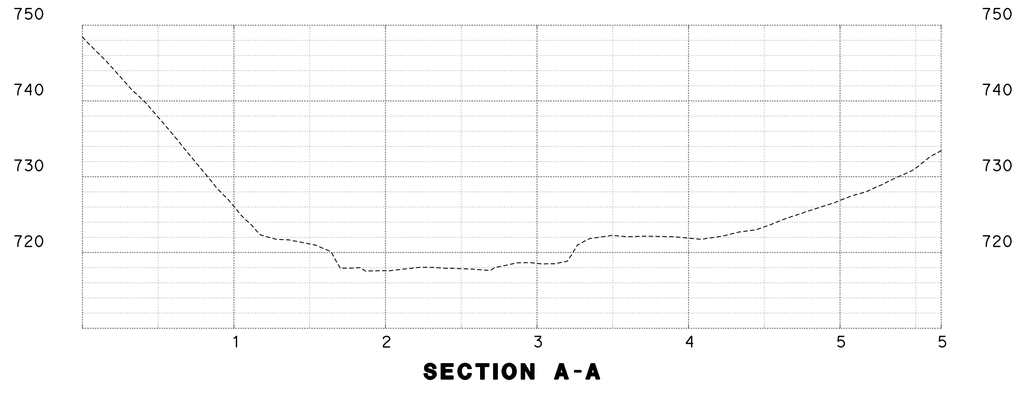
WALLACE GROUP®

NOTE:

1. LIMITS OF 100-YEAR FLOODPLAIN SHOWN ARE BASED ON THE HUER HUERO CREEK BRIDGE, ROUNDABOUT, AND CLASS 1 TRAIL PROJECT.







FILE NAME: 0067-0042 EXBT-CREEK-SECTIONS.DWG 5/29/2020 2:50 PM

CITY OF PASO ROBLES

CREEK CROSS SECTIONS

HUER HUERO CREEK BRIDGE, ROUNDABOUT, AND CLASS 1 TRAIL

May 29, 2020

EX-2

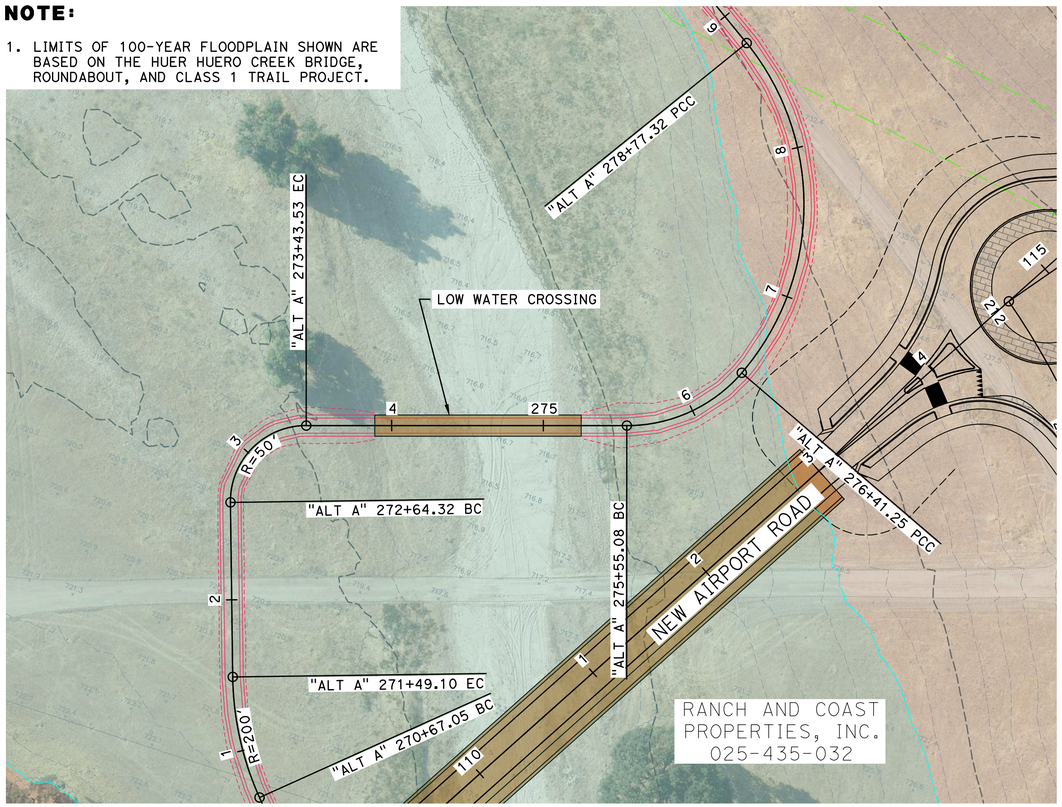
GRAPHIC SCALE
0 25 50 100
(IN FEET)
1 IN = 50 FT

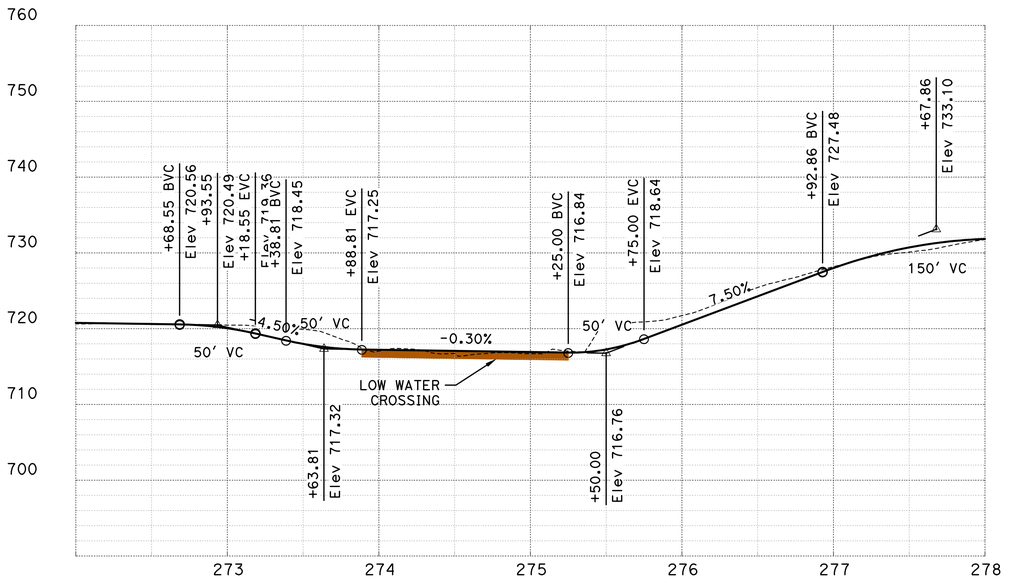
WALLACE GROUP®

Low Water Cross Section 2

NOTE:

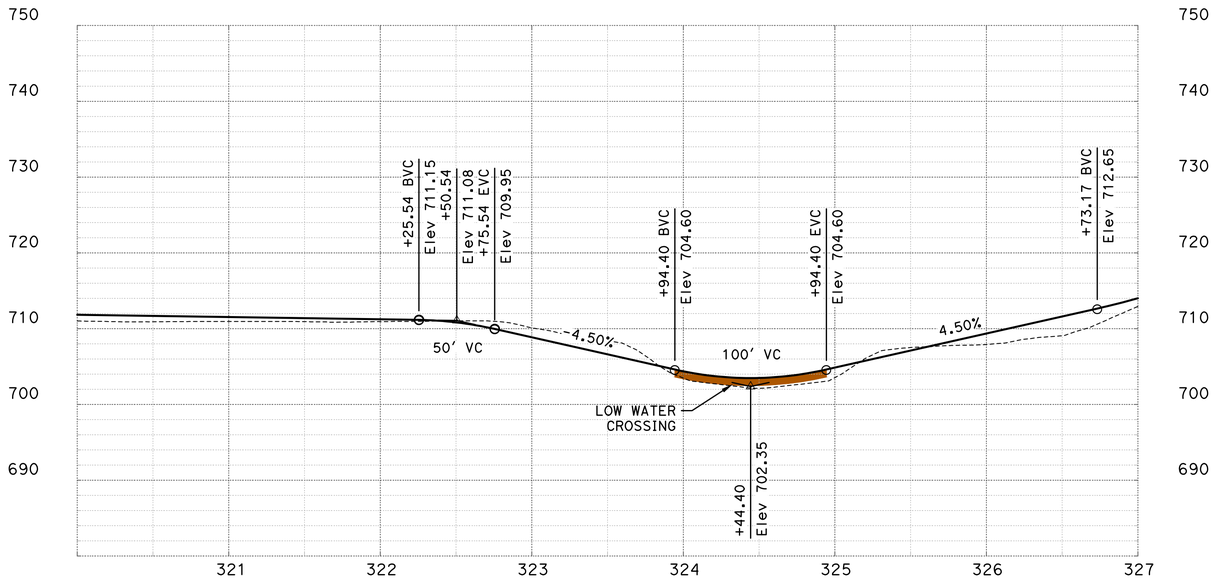
1. LIMITS OF 100-YEAR FLOODPLAIN SHOWN ARE BASED ON THE HUER HUERO CREEK BRIDGE, ROUNDABOUT, AND CLASS 1 TRAIL PROJECT.





Low Water Cross Section 1





FILE NAME: 0067-0042 EXBT-CREEK-TRAIL.DWG 5/29/2020 3:50 PM

CITY OF PASO ROBLES

PRELIMINARY PLAN AND PROFILE - TRAIL CREEK CROSSINGS

HUER HUERO CREEK BRIDGE, ROUNDABOUT, AND CLASS 1 TRAIL

May 29, 2020

EX-3

GRAPHIC SCALE
0 25 50 100
(IN FEET)
1 IN = 50 FT

WALLACE GROUP®

APPENDIX B. FEMA/FIRM ZONE CLASSIFICATION

Moderate to Low Risk Areas

Zone	Description
B and X (shaded)	Area of moderate flood hazard, usually the area between the limits of the 100- year and 500-year floods. B Zones are also used to designate base floodplains of lesser hazards, such as areas protected by levees from 100-year flood, or shallow flooding areas with average depths of less than one foot or drainage areas less than 1 square mile.
C and X (unshaded)	Area of minimal flood hazard, usually depicted on FIRMs as above the 500-year flood level. Zone C may have ponding and local drainage problems that don't warrant a detailed study or designation as base floodplain. Zone X is the area determined to be outside the 500-year flood and protected by levee from 100- year flood.

High Risk Areas

Zone	Description
A	Areas with a 1% annual chance of flooding and a 26% chance of flooding over the life of a 30-year mortgage. Because detailed analyses are not performed for such areas; no depths or base flood elevations are shown within these zones.
AE	The base floodplain where base flood elevations are provided. AE Zones are now used on new format FIRMs instead of A1-A30 Zones.
A1-A30	These are known as numbered A Zones (e.g., A7 or A14). This is the base floodplain where the FIRM shows a BFE (old format).
AH	Areas with a 1% annual chance of shallow flooding, usually in the form of a pond, with an average depth ranging from 1 to 3 feet. These areas have a 26% chance of flooding over the life of a 30-year mortgage. Base flood elevations derived from detailed analyses are shown at selected intervals within these zones.
AO	River or stream flood hazard areas, and areas with a 1% or greater chance of shallow flooding each year, usually in the form of sheet flow, with an average depth ranging from 1 to 3 feet. These areas have a 26% chance of flooding over the life of a 30-year mortgage. Average flood depths derived from detailed analyses are shown within these zones.
AR	Areas with a temporarily increased flood risk due to the building or restoration of a flood control system (such as a levee or a dam). Mandatory flood insurance purchase requirements will apply, but rates will not exceed the rates for unnumbered A zones if the structure is built or restored in compliance with Zone AR floodplain management regulations.
A99	Areas with a 1% annual chance of flooding that will be protected by a Federal flood control system where construction has reached specified legal requirements. No depths or base flood elevations are shown within these zones.
V	Coastal areas with a 1% or greater chance of flooding and an additional hazard associated with storm waves. These areas have a 26% chance of flooding over the life of a 30-year mortgage. No base flood elevations are shown within these zones.
VE, V1-30	Coastal areas with a 1% or greater chance of flooding and an additional hazard associated with storm waves. These areas have a 26% chance of flooding over the life of a 30-year mortgage. Base flood elevations derived from detailed analyses are shown at selected intervals within these zones.

APPENDIX C. OHWM DATASHEETS

Arid West Ephemeral and Intermittent Streams OHWM Datasheet

Project: Huer Huero – Low Water Crossing 1
Project Number: 1235.05
Stream: Huer Huero
Investigator(s): K. Brown, L.D. Althouse

Date: 03/17/2020 **Time:** 0900-1200
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:
North west end of Study Area

Projection: UTM **Datum:** NAD83
Coordinates: 35.65529, -120.652196

Potential anthropogenic influences on the channel system:
Development near tributaries, development (commercial & residential) in upland areas adjacent to top of bank.

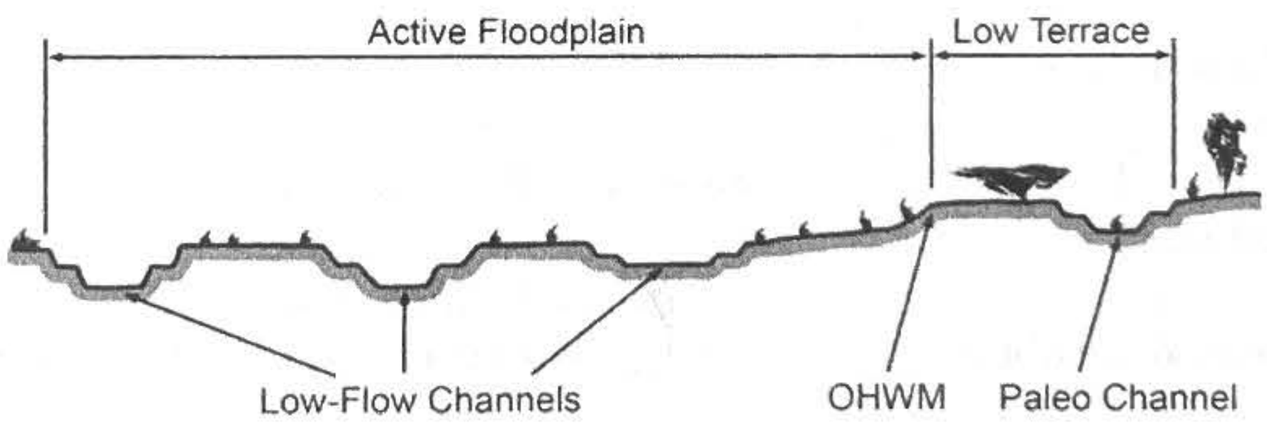
Brief site description:
North western most section of Huer Huero Creek within study Area.

Checklist of resources (if available):

- ☒ Aerial photography
  Dates: 05/21/2020
- ☒ 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: USGS 11147600
  Period of record: Ended in 1972
  - ☒ 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

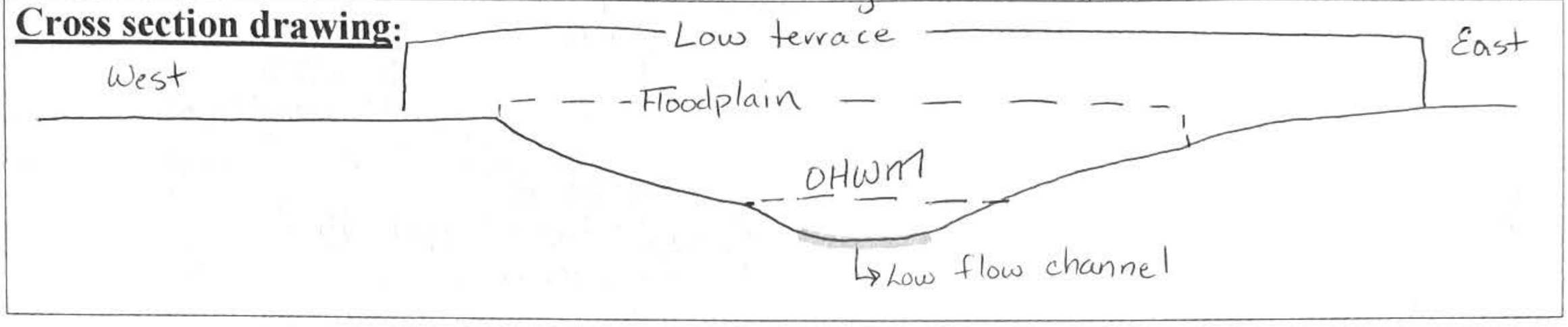


Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:

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: 1235.05 **Cross section ID:** LW Crossing 1 **Date:** 03/17/2020 **Time:** 0900 - 1200

Cross section drawing:



OHWM

GPS point: 35.65529, -120.652194

Indicators:

- [x] Change in average sediment texture
- [ ] Change in vegetation species
- [ ] Change in vegetation cover
- [ ] Break in bank slope
- [ ] Other: _____
- [ ] Other: _____

Comments:
OHWM is not clearly defined as Huer Huero Creek is an ephemeral creek with subsurface flows. Sediment within OHWM slightly changes from coarse sand to finer sand with some silt as a result of flow from upstream areas & tributaries. Soil was moist at lowest point of creek

Floodplain unit: [x] Low-Flow Channel [ ] Active Floodplain [ ] Low Terrace

GPS point: 35.65529, -120.652196

Characteristics of the floodplain unit:

Average sediment texture: Coarse Sand
Total veg cover: 30 % Tree: 0 % Shrub: 25 % Herb: 5 %
Community successional stage:

- [ ] NA
- [ ] Early (herbaceous & seedlings)
- [x] Mid (herbaceous, shrubs, saplings)
- [ ] Late (herbaceous, shrubs, mature trees)

Indicators:

- [ ] Mudcracks
- [ ] Ripples
- [x] Drift and/or debris
- [ ] Presence of bed and bank
- [ ] Benches
- [ ] Soil development
- [x] Surface relief
- [ ] Other: _____
- [ ] Other: _____
- [ ] Other: _____

Comments:
Creek is sparsely vegetated, predominantly with mule fat & red willow. Herbs are present but are growing under shrubs.

Project ID: 123505 **Cross section ID:** 4W Crossing 1 **Date:** 03/17/2020 **Time:** 0900-1200

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

GPS point: 35.655279, -120.652196

Characteristics of the floodplain unit:

Average sediment texture: Coarse Sand

Total veg cover: 80 % Tree: 20 % Shrub: 30 % Herb: 30 %

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:

Topography starting to change and develop bank with later seral stage vegetation.

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

GPS point: 35.655279, -120.652196

Characteristics of the floodplain unit:

Average sediment texture: Fine Sand/Loam

Total veg cover: 85 % Tree: 25 % Shrub: 30 % Herb: 30 %

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:

Soil transitioning to fine sandy loam and supporting higher diversity of upland plant species (blue oak, live oak, cayote brush, etc.)

Arid West Ephemeral and Intermittent Streams OHWM Datasheet

Project: Huer Huero - Low Water Crossing 2
Project Number: 1235.05
Stream: Huer Huero Creek
Investigator(s): K. Brown, L.D. Althouse

Date: 03/17/2020
Town: Paso Robles
Photo begin file#:

Time: 0900 - 1200
State: CA
Photo end file#:

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

Y ☐ / N ☒ Is the site significantly disturbed?

Location Details:
Cross section at proposed trail crossing

Projection: UTM **Datum:** NAD83
Coordinates: 35.6570, -120.6423

Potential anthropogenic influences on the channel system:
Agriculture practices on adjacent upland areas, irrigation may impact hydrology within creek

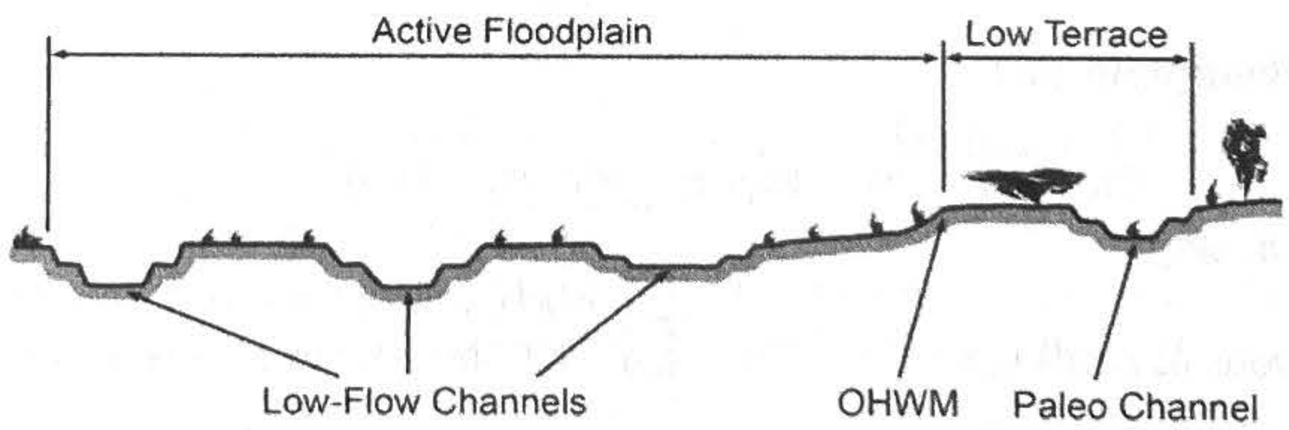
Brief site description:
North east side of Study Area at proposed Class I trail crossing.

Checklist of resources (if available):

- ☒ Aerial photography
  Dates: 05/21/2020
- ☒ 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: USGS 11147600
  Period of record: Ended in 1972
- ☒ 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

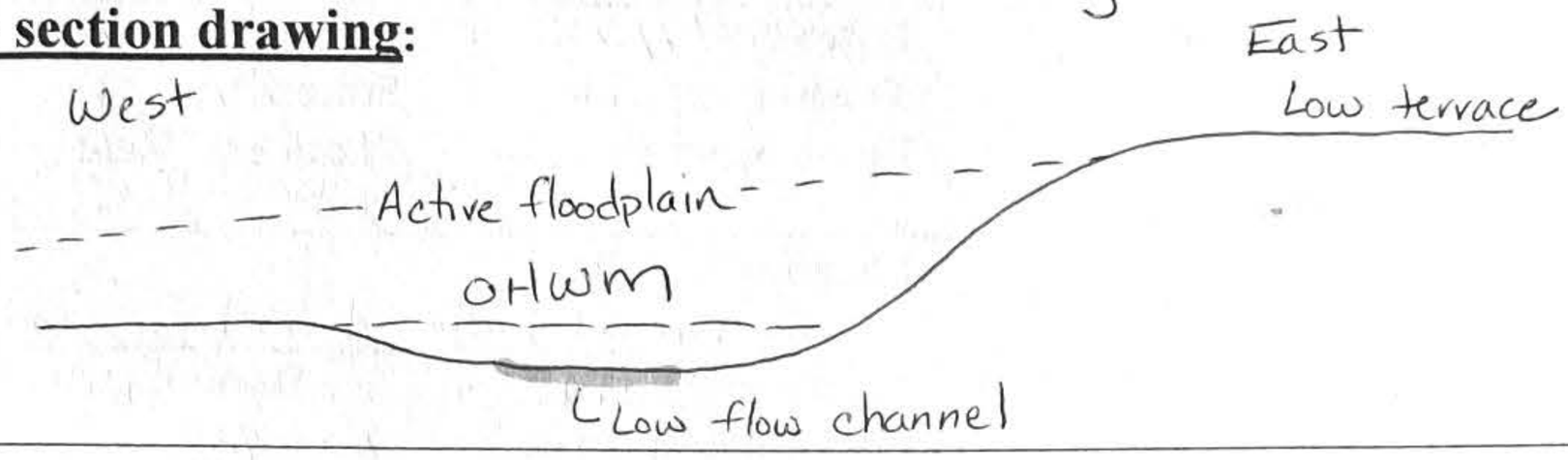


Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:

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: 1235.05 **Cross section ID:** LW Crossing 2 **Date:** 03/17/2020 **Time:** 0900-1200

Cross section drawing:



OHWM

GPS point: 35.6570, -120.6423

Indicators:

- [x] Change in average sediment texture
- [ ] Change in vegetation species
- [ ] Change in vegetation cover
- [ ] Break in bank slope
- [ ] Other: _____
- [ ] Other: _____

Comments:
OHWM distiguishable by change in sediment texture. Channel is flat with no breaks in bank slope.

Floodplain unit: [x] Low-Flow Channel [ ] Active Floodplain [ ] Low Terrace

GPS point: 35.6570, -120.6423

Characteristics of the floodplain unit:
Average sediment texture: Coarse Sand
Total veg cover: 20 % Tree: 0 % Shrub: 0 % Herb: 20 %
Community successional stage:

- [ ] NA
- [x] Early (herbaceous & seedlings)
- [ ] Mid (herbaceous, shrubs, saplings)
- [ ] Late (herbaceous, shrubs, mature trees)

Indicators:

- [ ] Mudcracks
- [ ] Ripples
- [ ] Drift and/or debris
- [x] Presence of bed and bank
- [ ] Benches
- [ ] Soil development
- [x] Surface relief
- [ ] Other: _____
- [ ] Other: _____
- [ ] Other: _____

Comments:
Minimal surface relief, slight change in topography on west side of creek and abrupt change (with developed bank) on east side.

Project ID: 1235.05 **Cross section ID:** LW Crossing 2 **Date:** 03/17/2020 **Time:** 0900-1200

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

GPS point: 35.6570, -120.6423

Characteristics of the floodplain unit:

Average sediment texture: Fine Sand

Total veg cover: 30 % Tree: ____ % Shrub: ____ % Herb: 30 %

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:

Development of bank on east and west side beginning to mark floodplain unit. No change in vegetation.

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

GPS point: 35.6570, -120.6423

Characteristics of the floodplain unit:

Average sediment texture: Fine Sandy loam

Total veg cover: 60 % Tree: 10 % Shrub: 5 % Herb: 35 %

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:

Banks on east & west side developed. Soil beginning to transition to fine sandy loam which supports more vegetation.

Arid West Ephemeral and Intermittent Streams OHWM Datasheet

Project: Huer Huero - Cross section A-A
Project Number: 1235.05
Stream: Huer Huero Creek
Investigator(s): K. Brown, LD Althouse

Date: 03/17/2020
Town: Paso Robles
Photo begin file#:

Time: 0900-1200
State: CA
Photo end file#:

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

Y ☐ / N ☒ Is the site significantly disturbed?

Location Details:
Northern end of Study Area, downstream from trail.

Projection: UTM **Datum:** NAD83
Coordinates: 35.6562, -120.6422

Potential anthropogenic influences on the channel system:
Agriculture practices on adjacent upland areas; irrigation may alter creek hydrology

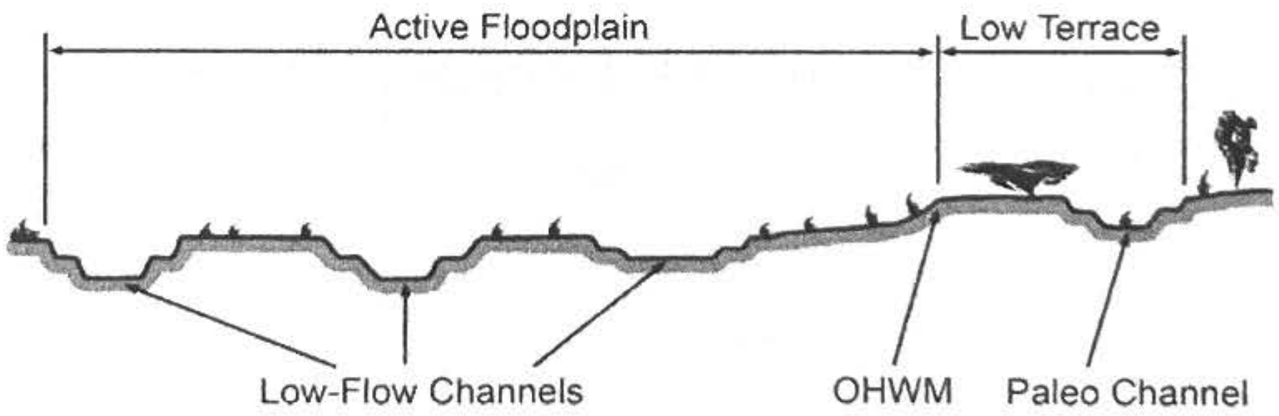
Brief site description:
North side of Study Area, just upstream from proposed Class I trail crossing. Note - Study Area excludes part of low flow channel and OHWM.

Checklist of resources (if available):

- ☒ Aerial photography
  Dates: 05/21/2020
- ☒ 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: USGS 11147600
  Period of record: Ended in 1972
- ☒ 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

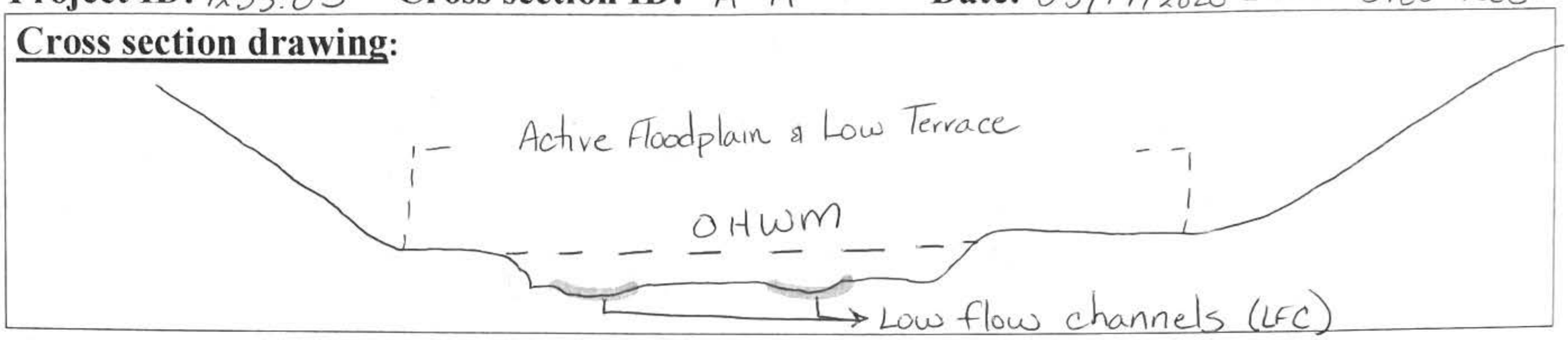


Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:

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: 1235.05 **Cross section ID:** A-A **Date:** 03/17/2020 **Time:** 0900-1200

Cross section drawing:



OHWM

GPS point: 35.6562, -120.6422

Indicators:

- [X] Change in average sediment texture
- [ ] Change in vegetation species
- [X] Change in vegetation cover
- [X] Break in bank slope
- [ ] Other: _____
- [ ] Other: _____

Comments:

Sediment texture is fine to medium sand within LFC 1, and transitions to coarse sand throughout OHWM. OHWM is unvegetated.

Floodplain unit: [X] Low-Flow Channel [ ] Active Floodplain [ ] Low Terrace

GPS point: 35.6562, -120.6422

Characteristics of the floodplain unit:

Average sediment texture: Fine - Medium Sand
Total veg cover: 0 % Tree: ____% Shrub: ____% Herb: ____%
Community successional stage:

- [X] 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
- [X] Surface relief
- [X] Other: Change in sediment texture
- [ ] Other: _____
- [ ] Other: _____

Comments:

Slight changes in topography with minimal surface relief where water typically flows. Within the low flow channel average sediment size is fine to medium sand.

Project ID: 1235.05 **Cross section ID:** A-A **Date:** 03/17/2020 **Time:** 0900-1200

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

GPS point: 35.6562, -120.6422

Characteristics of the floodplain unit:

Average sediment texture: Coarse Sand

Total veg cover: 10 % Tree: ____ % Shrub: ____ % Herb: 10 %

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: Δ in sediment texture
- ☐ Other: ____
- ☐ Other: ____

Comments:

Active floodplain has coarse sand with minimal herbaceous vegetation cover. This is a wide floodplain that transitions to low terrace without substantial change in topography.

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

GPS point: 35.6562, -120.6422

Characteristics of the floodplain unit:

Average sediment texture: Sandy Loam

Total veg cover: 65 % Tree: ____ % Shrub: ____ % Herb: 65 %

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:

Soil begins to transition from coarse sand to a sandy loam. Changes in soil texture allow for increased vegetation growth. Shrubs and trees have not established.

Arid West Ephemeral and Intermittent Streams OHWM Datasheet

Project: Huer Huero - Cross Section B-B
Project Number: 1235.05
Stream: Huer Huero Creek
Investigator(s): K. Brown, LD Althouse

Date: 03/17/2020
Town: Paso Robles
Photo begin file#:

Time: 0900-1200
State: CA
Photo end file#:

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

Y ☐ / N ☒ Is the site significantly disturbed?

Location Details: North end of Study Area, north of proposed crossing

Projection: UTM **Datum:** NAD 83
Coordinates: 35.6572, -120.6424

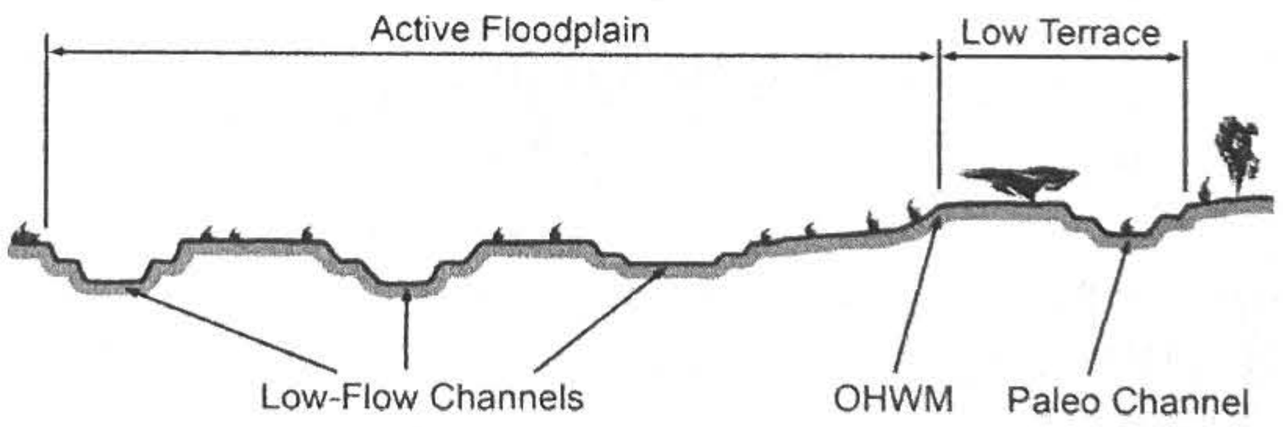
Potential anthropogenic influences on the channel system:
Agriculture practices on adjacent upland areas; irrigation may impact site hydrology.

Brief site description:
North side of Study Area downstream from proposed Class I trail crossing.

Checklist of resources (if available):

- ☒ Aerial photography
  Dates: 05/21/2020
- ☒ 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: USGS 11147600
  Period of record: Ended in 1972
  - ☒ 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

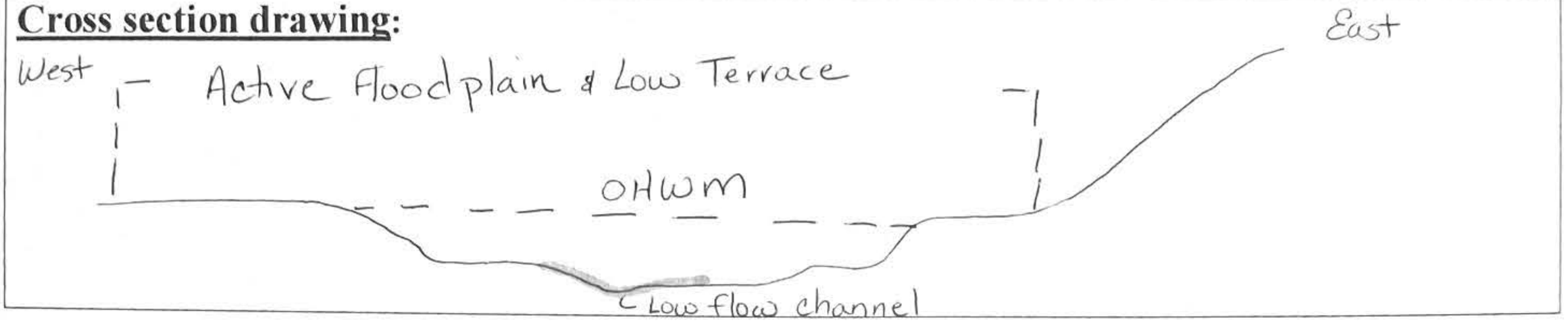


Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:

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: 1235.05 **Cross section ID:** B-B **Date:** 03/17/2020 **Time:** 0900 - 1200

Cross section drawing:



OHWM

GPS point: 35.6572, -120.6424

Indicators:

- [X] Change in average sediment texture
- [ ] Change in vegetation species
- [X] Change in vegetation cover
- [X] Break in bank slope
- [ ] Other: _____
- [ ] Other: _____

Comments:
OHWM is unvegetated with medium to fine sand texture. East side of creek has steeper topography creating a distiguishable OHWM, active floodplain, and upland. West side of OHWM is flat, eventually increasing elevation slowly outside of active floodplain/low terrace.

Floodplain unit:

- [X] Low-Flow Channel
- [ ] Active Floodplain
- [ ] Low Terrace

GPS point: 35.6572, -120.6424

Characteristics of the floodplain unit:

Average sediment texture: Fine - Medium Sand
Total veg cover: 0 % Tree: ____% Shrub: ____% Herb: ____%
Community successional stage:

- [X] 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
- [X] Surface relief
- [X] Other: Change in texture
- [ ] Other: _____
- [ ] Other: _____

Comments:
Low flow channels have minimal surface relief where slight changes in sediment texture were observed. Fine sand was more prominent within Low flow channels while medium sand was prominent thoughout OHWM.

Project ID: 1235.05 **Cross section ID:** B-B **Date:** 03/17/2020 **Time:** 0900-1200

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

GPS point: 35.6572, -120.6424

Characteristics of the floodplain unit:

Average sediment texture: Coarse Sand

Total veg cover: 20 % Tree: ____ % Shrub: ____ % Herb: 20 %

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: Δ in vegetation cover
- ☐ Other: ____
- ☐ Other: ____

Comments:

Coarse sand is prominent throughout active floodplain. Herbaceous vegetation starting to establish. Clear change in topography with bank development on east side.

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

GPS point: 35.6572, -120.6424

Characteristics of the floodplain unit:

Average sediment texture: Sandy Loam

Total veg cover: 60 % Tree: ____ % Shrub: ____ % Herb: 60 %

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:

Soil changes from coarse sand to sandy loam, supporting increased vegetation cover. West side of channel is relatively flat with soil development change being the primary indicator for changes in floodplain units.

APPENDIX D. VASCULAR PLANT LIST

Common Name	Scientific Name	Special Status	Origin	Wetland Plant Rank
Trees – 5 Species				
Ailanthus altissima	Tree of heaven	None	Naturalized	FACU
Eucalyptus camaldulensis	Red gum	None	Naturalized	FAC
Populus fremontii subsp. *fremontii*	Alamo or fremont cottonwood	None	Native	FACW
Quercus douglasii	Blue oak	None	Native	NL
Quercus lobata	Valley oak	None	Native	FACU
Shrubs - 10 Species				
Baccharis pilularis	Coyote brush	None	Native	UPL
Baccharis salicifolia subsp. *salicifolia*	Mule fat	None	Native	FACW
Eriodictyon traskiae	Trask's yerba santa	None	Native	NL
Eriogonum fasciculatum	California buckwheat	None	Native	UPL
Rhamnus ilicifolia	Hollyleaf redberry	None	Native	NL
Rosa californica	California rose	None	Native	FAC
Salix laevigata	Red willow	None	Native	FACW
Sambucus nigra subsp. *caerulea*	Blue elderberry	None	Native	FACU
Toxicodendron diversilobum	Western poison oak	None	Native	FACU
Phoradendron leucarpum subsp. *tomentosum*	Mistletoe	None	Native	NL
Graminoids - 13 Species				
Avena fatua	Wild oat	None	Naturalized	UPL
Bromus diandrus	Ripgut grass	None	Naturalized	FAC
Bromus hordeaceus	Soft chess	None	Naturalized	FACW
Bromus madritensis	Red brome	None	Naturalized	FACU
Bromus tectorum	Cheat grass	None	Naturalized	FACU
Cynodon dactylon	Bermuda grass	None	Naturalized	FACU

Common Name	Scientific Name	Special Status	Origin	Wetland Plant Rank
Distichlis spicata	Salt grass	None	Native	FAC
Elymus triticoides	Beardless wild rye	None	Native	FAC
Festuca myuros	Rattail sixweeks grass	None	Naturalized	NL
Hordeum murinum	Wall barley	None	Naturalized	FACU
Melica imperfecta	Little california melica	None	Native	NL
Phalaris aquatica	Harding grass	None	Naturalized	FACU
Poa bulbosa subsp. vivipara	Bulbous blue grass	None	Naturalized	FACU
Stipa lepida	Foothill needle grass	None	Native	NL
Stipa miliacea var. *miliacea*	Smilo grass	None	Naturalized	NL
Forbs - 106 Species				
Achillea millefolium	Yarrow	None	Native	FACU
Acmispon americanus var. americanus	Spanish lotus	None	Native	UPL
Acmispon strigosus	Strigose lotus	None	Native	NL
Ambrosia acanthicarpa	Annual bur-sage	None	Native	UPL
Amsinckia menziesii	Common fiddleneck	None	Native	UPL
Artemisia douglasiana	Mugwort	None	Native	FAC
Artemisia dracunculus	Tarragon	None	Native	UPL
Asclepias eriocarpa	Kotolo	None	Native	NL
Asclepias fascicularis	Narrow-leaf milkweed	None	Native	FAC
Astragalus asymmetricus	San Joauquin milk vetch	None	Native	NL
Bloomeria crocea	Common goldenstar	None	Native	NL
Bowlesia incana	Bowlesia	None	Native	UPL
Brassica nigra	Black mustard	None	Naturalized	NL
Capsella bursa-pastoris	Shepherd's purse	None	Naturalized	NL
Cardamine oligosperma	Bitter cress	None	Native	FAC

Common Name	Scientific Name	Special Status	Origin	Wetland Plant Rank
Carduus pycnocephalus subsp. pycnocephalus	Italian thistle	None	Naturalized	NL
Castilleja attenuata	Valley tassels	None	Native	NL
Castilleja exserta subsp. exserta	Purple owl's clover	None	Native	NL
Caulanthus lasiophyllus	California mustard	None	Native	NL
Centaurea solstitialis	Yellow star-thistle	None	Naturalized	NL
Centranthus ruber	Red valerian	None	Naturalized	NL
Chaenactis glabriuscula	Yellow pincushion	None	Native	NL
Chenopodium californicum	California goosefoot	None	Native	NL
Cirsium occidentale var. californicum	California thistle	None	Native	UPL
Cirsium vulgare	Bull thistle	None	Naturalized	FACU
Clarkia unguiculata	Woodland clarkia	None	Native	NL
Claytonia perfoliata	Miner's lettuce	None	Native	FAC
Conium maculatum	Poison hemlock	None	Naturalized	FACW
Corethrogyne filaginifolia	Common sandaster	None	Native	NL
Crassula tillaea	Mediterranean pygmy weed	None	Naturalized	FACU
Croton setigerus	Dove weed	None	Native	NL
Datura wrightii	Jimson weed	None	Native	UPL
Daucus pusillus	Wild carrot	None	Native	NL
Deinandra pentactis	Salinas river tarweed	None	Native	NL
Dichelostemma capitatum	Blue dicks	None	Native	FACU
Epilobium brachycarpum	Willow herb	None	Native	NL
Erigeron canadensis	Horseweed	None	Native	FACU
Eriogonum elegans	Elegant wild buckwheat	CRPR 4.3	Native	NL
Eriogonum roseum	Wand wild buckwheat	None	Native	NL
Erodium botrys	Big heron bill	None	Naturalized	FACU

Common Name	Scientific Name	Special Status	Origin	Wetland Plant Rank
Erodium moschatum	Greenstem filaree	None	Naturalized	NL
Eschscholzia caespitosa	Tufted eschscholzia	None	Native	NL
Eschscholzia californica	California poppy	None	Native	NL
Galium andrewsii	Phlox-leaved bedstraw	None	Native	NL
Galium aparine	Goose grass	None	Native	FACU
Heliotropium curassavicum var. oculatum	Seaside heliotrope	None	Native	OBL
Heterotheca grandiflora	Telegraph weed	None	Native	UPL
Heterotheca sessiliflora subsp. bolanderi	Golden aster	None	Native	NL
Hirschfeldia incana	Short podded mustard	None	Naturalized	NL
Hypochaeris glabra	Smooth cat's-ear	None	Naturalized	NL
Iva axillaris	Poverty weed	None	Native	FAC
Lamium amplexicaule	Henbit	None	Naturalized	NL
Lasthenia glabrata	Yellow rayed foldfields	None	Native	FACW
Lepidium latifolium	Perennial pepperweed	None	Naturalized	FAC
Lessingia glandulifera	Valley vinegar weed	None	Native	NL
Lupinus bicolor	Miniature lupine	None	Native	UPL
Lupinus microcarpus var. microcarpus	Chick lupine	None	Native	NL
Lupinus succulentus	Arroyo lupine	None	Native	NL
Lythrum californicum	California loosestrife	None	Native	OBL
Madia gracilis	Gumweed	None	Native	NL
Marrubium vulgare	White horehound	None	Naturalized	FACU
Matricaria discoidea	Pineapple weed	None	Naturalized	FACU
Medicago polymorpha	California burclover	None	Naturalized	FACU
Melilotus officinalis	Yellow sweetclover	None	Naturalized	FACU
Nemophila menziesii	Baby blue-eyes	None	Native	NL
Nemophila pedunculata	Meadow nemophila	None	Native	FAC

Common Name	Scientific Name	Special Status	Origin	Wetland Plant Rank
Nicotiana quadrivalvis	Indian tobacco	None	Native	FACU
Pectocarya penicillata	Northern pectocarya	None	Native	NL
Penstemon centranthifolius	Scarlet bugler	None	Native	NL
Plagiobothrys canescens	Valley popcorn flower	None	Native	NL
Plagiobothrys nothofulvus	Rusty popcornflower	None	Native	FAC
Plantago erecta	California plantain	None	Native	UPL
Plantago lanceolata	English plantain	None	Naturalized	FAC
Polygonum aviculare	Knotweed	None	Naturalized	FAC
Psilocarphus tenellus	Slender woolly-marbles	None	Native	OBL
Ranunculus californicus	Common buttercup	None	Native	FACU
Ranunculus hebecarpus	Pubescent fruited buttercup	None	Native	NL
Rumex crispus	Curly dock	None	Naturalized	FAC
Rumex salicifolius	Willow dock	None	Native	FACW
Salsola tragus	Russian thistle	None	Naturalized	FACU
Salvia columbariae	Chia	None	Native	UPL
Senecio flaccidus	Threadleaf ragwort	None	Native	NL
Senecio vulgaris	Common groundsel	None	Naturalized	FACU
Silybum marianum	Milk thistle	None	Naturalized	NL
Solanum umbelliferum		None	Native	NL
Spergularia rubra	Red sand-spurrey	None	Naturalized	FAC
Stephanomeria pauciflora	Wire-lettuce	None	Native	NL
Thysanocarpus curvipes	Blue witch	None	Native	NL
Torilis arvensis	Tall sock-destroyer	None	Naturalized	NL
Trichostema lanceolatum	Vinegar weed	None	Native	FACU
Trifolium hirtum	Rose clover	None	Naturalized	NL
Tropidocarpum gracile	Slender tropidocarpum	None	Native	NL

Common Name	Scientific Name	Special Status	Origin	Wetland Plant Rank
Urtica urens	Dwarf nettle	None	Naturalized	NL
Verbascum virgatum	Wand mullein	None	Naturalized	NL
Verbena lasiostachys	Western vervain	None	Native	FAC
Vicia villosa	Hairy vetch	None	Naturalized	NL
Zeltnera davyi	Davy's centaury	None	Native	NL
Plectritis sp.	Seablush	None	Native	NL
Euphorbia ocellata ssp. *ocellata*	Valley spurge	None	Native	NL
Eriogonum sp.	Buckwheat	None	Native	NL
Eristrum sp.	Eriastrum	None	Native	NL
Delphineum sp.	Delphineum	None	Native	NL
Crustuca sp.	Dodder	None	Native	NL
Camissoniopsis sp.	Primrose	None	Native	NL
Calystegia sp.	Morning glory	None		NL
Calandrinia menziesii	Red maids	None	Native	NL

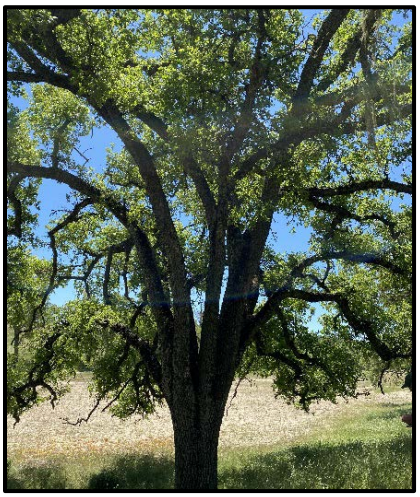
APPENDIX H. ALTHOUSE AND MEADE ARBORIST REPORT NOVEMBER 2021

Arborist Report

for

Huer Huero Bridge and Roundabout

Oak Tree Removal Permit
City of Paso Robles, California



Prepared for

City of Paso Robles
Department of Public Works
c/o Ditas Ensperanza
1000 Spring Street
Paso Robles, CA 93446

by

ALTHOUSE AND MEADE, INC.
BIOLOGICAL AND ENVIRONMENTAL SERVICES
1602 Spring Street
Paso Robles, CA 93446
(805) 237-9626

November 2021

1235.06

Certified Arborist:

Cory Meyer, ISA Certification No. WE7678-A
Althouse and Meade, Inc.
1602 Spring Street
Paso Robles, CA 93446
(805) 237-9626
corym@althouseandmeade.com

As the certified arborist assigned to this project, I evaluated trees, reviewed, and approve the contents of this plan.



Signature

11/30/2021
Date

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ATTACHMENT A. TREE ASSESSMENT DATA
ATTACHMENT B. REPRESENTATIVE PHOTOGRAPHS

Cover Page: Valley oak, tree tag #68. April 15, 2020.

1 INTRODUCTION

1.1 Purpose

The purpose of this report is to provide tree assessment results for the Huer Huero Bridge and Roundabout (Project), consistent with the City of Paso Robles Oak Tree Preservation Ordinance (City 2002). All native trees within and adjacent to the 14.5-acre Project footprint were assessed and a summary of tree health and management recommendations are provided. This report also details oak tree mitigation measures for Project development; including oak replacement criteria for removed and impacted trees, as well as protection measures to non-impacted oak trees. Table 1 provides contact information for the Project applicant, arborist, Project engineer, and lead agency.

TABLE 1. CONTACT INFORMATION

Project Consultant	ISA Certified Arborist
Althouse and Meade, Inc. **Jessica Griffiths, Senior Biologist** 1602 Spring Street Paso Robles, CA 93446 (805) 237-9626 JessicaG@althouseandmeade.com	**Althouse and Meade, Inc.** **Cory Meyer, ISA Certification No. WE7678-A** 1602 Spring Street Paso Robles, CA 93446 (805) 237-9626 cory.meyer@charter.net
Project Engineer	**Lead Agency**
Wallace Group **Jorge Aguilar, Principal** 612 Clarion Court San Luis Obispo, CA 93401 (805) 544-4011 jorgea@wallacegroup.us	**City of Paso Robles, Depart. of Public Works** **Ditas Esperanza, Capital Projects Engineer** 1000 Spring Street Paso Robles, CA 93446 (805) 237-3861 cipengineering@prcity.com

1.2 City of Paso Robles Oak Tree Preservation Ordinance

The Oak Tree Preservation Ordinance (City 2002) provides policies, regulations and specifications necessary to govern preservation of oak trees within the City and to control their pruning and/or removal. The provisions apply to private property owners, to tree maintenance services and arborists, and to new development, redevelopment and any discretionary considerations by the City that result in development of intensities that could impact existing oak trees. Preservation of existing oak trees and opportunities to promote the establishment of new oak trees is prescribed as a focus of the planning commission and/or city council in conjunction with consideration of any development project or development related entitlement.

Pursuant to the City's Oak Tree Preservation Ordinance oak tree protection measures are for trees measured at six inches or greater in diameter at breast height (DBH), which is 4.5 feet above ground level. Any oak tree slated for removal requires a permit which are processed by the City's Community Development Department. Permit for pruning oak trees are in the purview of the City's Public Works Department. Oak trees marked for removal require mitigation, where the total

DBH of replacement trees (or caliper) shall be equivalent to 25 percent of the total dbh of trees removed.

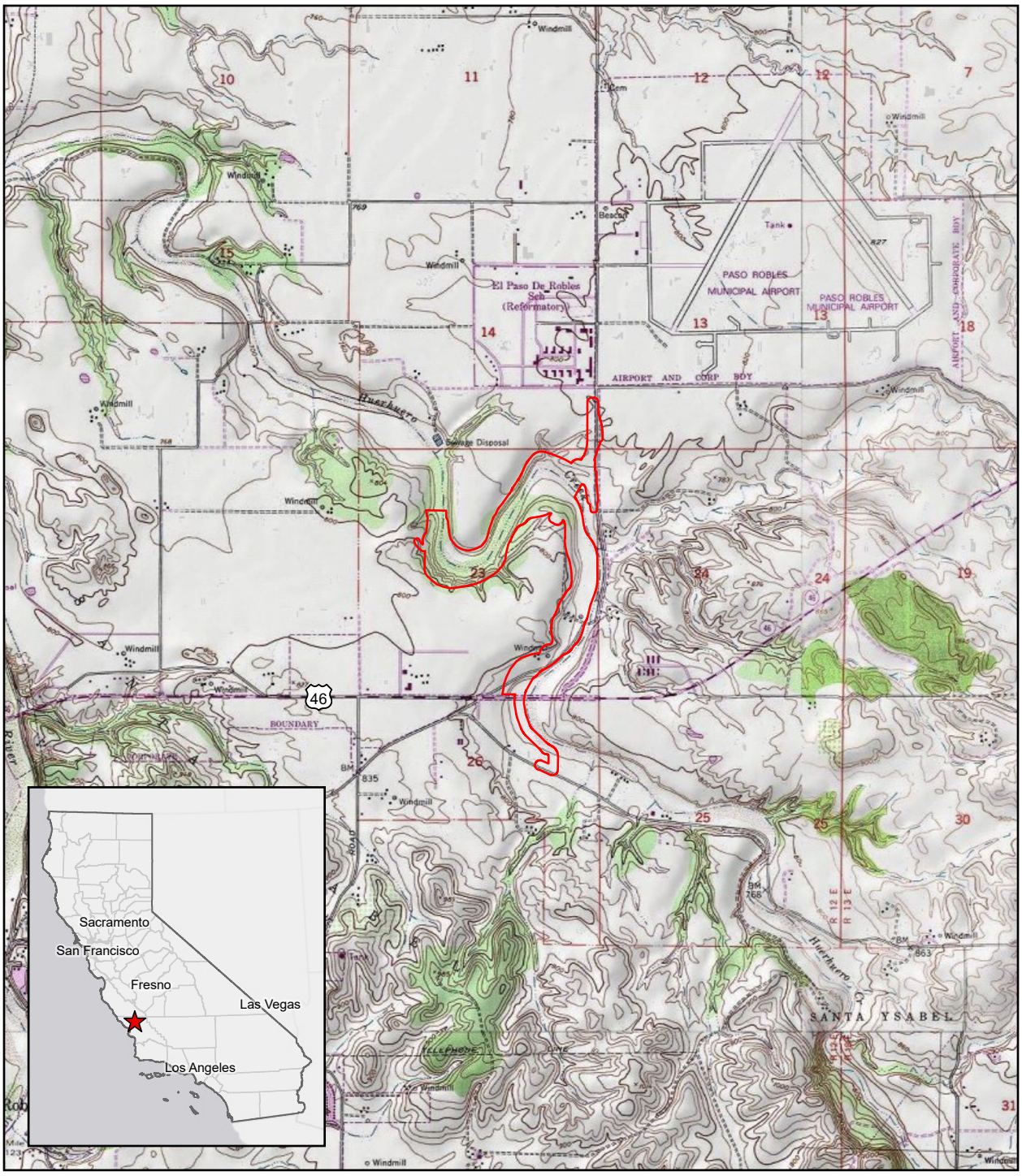
Trees not marked for removal or completely avoided are assessed according to their Critical Root Zone (CRZ). The City of Paso Robles defines the CRZ as the area circumscribed around the tree's trunk using a radius of one foot per one-inch DBH. For this document, CRZ is defined as either the width of the measured canopy, or the area using a radius of one foot per one-inch DBH, whichever is larger. Although not specified in the ordinance, mitigation of CRZ impacts are often assessed according to the percent of CRZ impact, i.e. less than 50 percent or greater than 50 percent.

1.3 Location and Physical Characteristics

Huer Huero Bridge and Roundabout is a 14.5-acre City of Paso Robles (City) capital improvement project (Project) that is primarily located along Huer Huero Creek corridor. The Study Area includes the Project site and surrounding 50-foot buffer located immediately west of Airport Road, east of Golden Hill Road, south of Dry Creek Road, and north of Union Road. As shown in Figure 1, the center of the Study Area is 120.64277°W, 35.65629 N (WGS 84) in the Paso Robles United States Geological Survey (USGS) 7.5-minute topographic quadrangle.

Huer Huero Creek is a sandy north-trending ephemeral underground stream that is predominantly dry year-round and typically conveys surface water following large rain events for short periods of time. Patches of coast live, valley and blue oak trees (*Quercus agrifolia, Q. lobata* and *Q. douglasii*) are present along the channel banks and buffer, particularly on north-facing slopes in the northern Study Area and are represented at varying densities described in the oak woodland, oak savanna, and annual grassland habitats.

Figure 1. United States Geological Survey Topographic Map



Legend

Study Area

N

0 0.5 1 Mile

Huer Huero Bridge and Roundabout
Map Center: 120.64685°W 35.65098°N
Paso Robles, San Luis Obispo County

USGS Quadrangle: Paso Robles

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Map Updated:
March 18, 2021 02:39 PM by SAF

Figure 2. Aerial Photograph



Legend

Study Area Parcels

N

0 500 1,000 Feet

Huer Huero Bridge and Roundabout
Map Center: 120.64685°W 35.65098°N
Paso Robles, San Luis Obispo County

Imagery Source: USDA NAIP, 05/21/2020

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Map Updated:
March 18, 2021 03:23 PM by SAF

2 METHODS

2.1 Field Tree Inventory and Evaluation

A total of 149 trees (117 tagged and 32 untagged) are included in this report. See below for tree tagging and evaluation methodology. Trees under 6 inches DBH are not included in this report, per the City's Oak Tree Protection Ordinance discussed in Section 1.2.

2.1.1 Tree tagging by Althouse and Meade

Tree surveys were conducted in the Study Area by certified arborist Cory Meyer and Althouse and Meade (A&M) Biologist Bret Robinson on April 24, 2020. Due to access restrictions on certain private property within the Study Area, only trees within or immediately adjacent to the proposed Project footprint were assessed. A total of 79 trees were tagged by A&M. Each tree was tagged in the field with a numbered aluminum tag and photographs were taken of each tree. Tree species, height, canopy width, and DBH were measured and recorded. The overall condition/health of the tree was visually rated. The rating system defined in Table 2 consists of a scale from one to ten based on the structure and health of each tree. Any signs of pests, disease, or structural weakness were noted. Trees were inspected from the ground only; tree canopies were not accessed, and no below-ground inspection took place.

TABLE 2. TREE HEALTH RATING SYSTEM

Rating	Condition
0	Deceased
1	Evidence of massive past failures, extreme disease and is in severe decline
2	May be saved with attention to pruning, insect/pest eradication and future monitoring
3	Some past failures, some pests or structural defects that may be mitigated with pruning
4	May have had minor past failures, excessive deadwood or minor structural defects that can be mitigated with pruning
5	Relatively healthy tree with little visual structural and or pest defects
6	Healthy tree that probably can be left in its natural state
7, 8, 9	Have had proper arboricultural pruning and attention or have no apparent structural defects
10	Specimen tree with perfect shape, structure and foliage in a natural or protected setting

2.1.2 Tree tagging by North Coast Engineering

Trees tagged by A&M were then located and mapped by licensed surveyors from North Coast Engineering (NCE) between June 8 and 12, 2020. The Project trail alignment changed somewhat from the initial tagging session on April 24, and NCE tagged an additional 21 trees within or adjacent to the revised trail alignment. NCE also located an additional 17 trees already tagged as part of previous development projects that happened to be within or adjacent to the City's current

project footprint. These 38 additional trees were photographed and DBH and tree species recorded, but tree condition/health, tree height, and canopy width were not measured due to access limitations.

2.1.3 Untagged trees

In addition to the 117 tagged trees mapped by NCE, an additional 32 untagged trees were included in this analysis because of their proximity to the proposed Project. These trees had been located and mapped by NCE during earlier topographical mapping site visits. NCE measured the DBH of these trees, but did not tag them, and did not identify the trees to species beyond "oak" and "non-oak". It was not possible to re-visit the site to tag and identify these trees due to access restrictions on certain private property within the Study Area.

3 RESULTS

3.1 Tree Quantities

A total of 149 trees were assessed within the vicinity of the proposed Project footprint. Tree species that were tagged included: Fremont cottonwood (*Populus fremontii*), coast live oak (*Quercus agrifolia*), blue oak (*Quercus douglasii*), and valley oak (*Quercus lobata*).

Trees evaluated include 61 valley oaks, 42 blue oaks, 3 coast live oaks, and 11 cottonwoods. In addition to this, 16 unidentified oaks and 16 unidentified non-oak trees were located and partially assessed. Table 3 provides a summary of assessed trees in the Study Area.

TABLE 3. EVALUATED TREES

Species	Number
Coast live oak (*Quercus agrifolia*)	3
Valley oak (*Quercus lobata*)	61
Blue oak (*Quercus douglasii*)	42
Unidentified oak (*Quercus* sp.)	16
Fremont cottonwood (*Populus fremontii)*	11
Unidentified non-oak tree	16
TOTAL	**149**

3.2 Tree Health Discussion

Of the 149 trees assessed for the Project, 79 were evaluated for health and given a health rating based on a scale of 1 to 10 (see Section 2.1). The inventory assessment included 14 blue oaks, 55 valley oaks, and 10 Freemont cottonwoods. The remaining 70 trees could not be evaluated for health due to access restrictions. Nine of the blue oaks, 48 of the valley oaks, and all 10 of the Freemont cottonwoods were in overall healthy condition (rated 5, 6, or 7). One blue oak and 1 valley oak were in poor condition (rated a 2). The remaining 4 blue oaks and 6 valley oaks were in moderate condition (rated 3 or 4). No trees were recorded with a rating higher than 7.

Attachment A provides a list of trees assessed and relevant tree data, including health evaluations for the trees described above.

4 IMPACT DISCUSSION

For our impact analysis, CRZ is defined as either the width of the measured canopy, or the area using a radius of one foot per one-inch DBH, whichever is larger. Figure 3 provides an overview of each tree location and type of impact based on the site plans received from the Wallace Group on November 11, 2020. The locations of all assessed trees to be impacted, removed, and protected are shown in Figures 3 through 9.

4.1 Tree Impacts

A total of 149 trees were evaluated within the Study Area, all of which have a DBH that is 6 inches or greater. The resulting impacts equate to 18 trees slated for removal and 72 trees that will have impacts to their CRZ. Most tree removal/impacts are from the Class I trail (5 of the 18 removed and 5 of the 72 impacted are for the bridge, Figure 7). Table 4 shows the species breakdown of evaluated trees that would require removal, have impacts to the CRZ, or be avoided by the Project. Note that Table 4 includes 7 cottonwoods (non-oak tree), as potentially impacted within the root zone.

TABLE 4. IMPACTS TO EVALUATED TREES

Species	Total Number	Impact		Avoided (not impacted)
		Remove	CRZ Impact	
Valley oak (*Quercus lobata*)	61	9	45	7
Blue oak (*Quercus douglasii*)	42	9	19	14
Coast live oak (*Quercus agrifolia*)	3	0	1	2
Unidentified oak (*Quercus* sp.)	16	0	0	16
Fremont cottonwood (*Populus fremontii)*	11	0	7	4
Unidentified non-oak tree	16	0	0	16
TOTAL	**149**	**18**	**72**	**59**

4.2 Oak Tree Removal

Of the 149 trees assessed, 122 are oaks: 18 will be removed, equivalent to a total DBH of 443 inches. Table 5 provides a summary of oak removal. Mitigation for the removal of 18 oak trees is 25 percent of the total DBH, equivalent to 111 inches in diameter for oak replacement trees.

TABLE 5. OAK TREE REMOVALS

Species	Total removed trees	Total DBH
Valley oak (*Quercus lobata*)	9	183
Blue oak (*Quercus douglasii*)	9	260
TOTAL	**18**	**443**

4.3 Non-oak Tree Removal

Of the 27 non-oak trees evaluated in the Study Area within the proposed Project vicinity, none will be removed.

4.4 Oak CRZ Impacts

The existing ground surface within the CRZ of any oak tree shall not be cut, filled, compacted or pared. Excavation adjacent to any oak tree shall not be permitted where damage to the root system will result (City 2002). Table 6 provides a summary of CRZ impacts to oaks. All impacted oaks will have impacts to less than 50 percent of their CRZ. Attachment B provides representative photos and descriptions of impacted oak trees.

TABLE 6. OAK CRZ IMPACTS

Species	Total impacted trees
Valley oak (*Quercus lobata*)	45
Blue oak (*Quercus douglasii*)	19
Coast live oak (*Quercus agrifolia*)	1
TOTAL	**65**

4.5 Oak Tree Avoidance and Protection

Thirty-nine (39) oak trees of the 122 that were assessed will be avoided by the Project. Of these oak trees, those within 50 feet of the Project footprint will be protected. Protective fencing shall be installed around the edge of the CRZ, or line of encroachment for each tree. Figure 3 4 through 9 depict the trees to be avoided, CRZ, and associated tag location number (if any).

5 OAK TREE MITIGATION

Oak trees removed by the project shall be replaced in accordance with the City's Oak Tree Preservation Ordinance. This requirement will be satisfied by planting smaller trees in quantity to account for the mitigated DBH equivalency. As discussed in Section 4.2, mitigation for the removal of 18 oak trees is 25 percent of the total DBH, equivalent to 111 inches in caliper for oak replacement trees. Mitigation for removed oaks could be satisfied by planting a combination 1- inch, 1.5-inch or 2.5-inch caliper trees so long as the total combination totals 111 inches (e.g., 111 one-inch caliper oaks, 74 1.5-inch caliper oaks, or a combination depending on availability). If replacement caliper trees of appropriate size are not available as specified in the mitigation measure, smaller replacement trees/seedlings in higher quantities that are deemed acceptable by the City may be planted. Replacement trees will be planted on City of Paso Robles property in the vicinity of the Project per the direction of the arborist.

We recommend the proposed mitigation measures:

> **BIO- 1.** Replacement oaks for removed trees must be equivalent to 25 percent of the DBH of the removed tree(s). For example, if a 16-inch dbh tree is removed, 4-inches total caliper of replacement trees is required. A one-inch caliper tree is generally in a 15-gallon container, and approximately 8 to 10 feet tall - 4 of these would be required. If replacement caliper trees of appropriate size are not available as specified in the mitigation measure, smaller replacement trees/seedlings in higher quantities that are deemed acceptable by the City may be planted. Smaller caliper trees may be planted at a ratio of 5:1 for each tree removed because smaller size trees in long skinny pots (about 12 to 14 inches tall) often perform better overall than older trees in large pots.
>
> **BIO- 2.** An arborist shall evaluate the health and value of potentially impacted oak trees. When applicable, replacement oaks for impacted trees shall be at a 1:1 ratio for impacts less than 50 percent and 2:1 ratio for impacts to more than 50 percent of the CRZ.

For this Project, a 5:1 mitigation ratio for loss (removal) of 18 trees would yield 90 replacement trees.

Mitigation for impacted trees would be 65 replacement trees, assuming all impacts are less than 50 percent of the CRZ.

Approximately 139 to 155 oaks would be planted, depending on size of replacement trees (Tables 7 and 8).

Supporting documentation comes from our experience planting hundreds of mitigation trees in the City of Atascadero from a variety of sources and sizes. It also comes from University of California Natural Reserve System's Doug McCreary in his "How to Grow Oaks" article[1]. Excerpt below:

> *Oak trees can be started by either directly planting acorns or transplanting small seedlings. However, since relatively few native oak seedlings are produced in the state, it may be difficult to purchase them. Those that are produced are generally grown in containers ranging in size*

[1] McCreary, Doug. 1989. How to Grow California Oaks. Oaks 'n' Folks – Volume 4, Issue 2. Available at https://oaks.cnr.berkeley.edu/how-to-grow-california-oaks/

from a few cubic inches to 5 or 15 gallons. Seedlings grown in the smaller containers should be no more than one year old before transplanting since they quickly outgrow small pots. Even with large containers, it is important that seedlings be transplanted within a couple of years since oaks tend to produce massive root systems and can easily become "pot-bound."

TABLE 7. MITIGATION FOR OAK TREE REMOVAL

Caliper for young oak trees less than 4 inches DBH, is measured six (6) inches above soil level (location of root crown).

Species	Count	Sum of Total DBH	25 percent of DBH Sum	Oak replacement trees (example)	
				1-inch caliper oak trees	1.5-inch caliper oak trees
Valley oak (*Quercus lobata*)	9	183	46	46	31
Blue oak (*Quercus douglasii*)	9	260	65	65	43
TOTAL	**18**	**443**	**111**	**111**	**74**

A total of 65 oak trees would have less than 50 percent of their CRZ impacted. Although not specified in the City's ordinance, typical mitigation measures for CRZ impacts that are less than 50 percent include a 1:1 impact to mitigation ratio by tree count (2:1 if CRZ impacts are over 50 percent). Therefore, 65 oak trees (45 valley oaks, 19 blue oaks, and 1 coast live oak) will be planted with replacement trees of appropriate size deemed acceptable by the City. Replacement trees shall be sourced from California's central coast region.

TABLE 8. MITIGATION FOR CRZ IMPACTS (LESS THAN 50 PERCENT)

Species	Count	Mitigation ratio	Oak replacement trees
Valley oak (*Quercus lobata*)	45	1:1	45
Blue oak (*Quercus douglasii*)	19	1:1	19
Coast live oak (*Quercus agrifolia*)	1	1:1	1
TOTAL	**65**		**65**

5.1 Management Recommendations

Upon issuance of the Oak Tree Removal permit, it is the responsibility of the owner or project manager to provide a copy of a Tree Protection Plan (TPP) to any and all contractors and subcontractors that work within the critical root zone of any native tree and confirm they are trained in maintaining fencing, protecting root zones and conforming to all tree protection goals. It is highly recommended that each contractor sign and acknowledge the TPP. Any future changes (within the CRZ) will need a Project arborist review and implementation of potential mitigation measures before proceeding.

Fencing. Temporary exclusion fencing shall be placed where activities might be likely to encroach into unintended areas that would impact oak trees. The proposed fencing shall be shown on the plans. It must be a minimum of 4 feet high orange plastic high visibility fence staked (with t-posts 8 feet on center, and a minimum of four zip ties shall be used on each stake) and/or t-posts every

10 to 12 feet with minimum 5/16-inch rope. Fencing shall be located at the edge of the critical root zone or line of encroachment for each tree or group of trees. The fence shall be up before any construction or earth moving begins. Fencing shall be labeled with durable signs every 75 to 100 feet that state: "Environmentally Sensitive Habitat: No personnel, equipment, materials, or vehicles allowed." Spacing of signs will be dependent of visibility and extent of construction activities planned in that zone. The Contractor shall be responsible for maintaining an erect fence throughout the construction period. The arborist(s), upon notification, will inspect the fence placement once it is erected. After this time, fencing shall not be moved without arborist inspection/approval. All efforts shall be made to maximize the distance from each protected tree.

Soil Aeration Methods. Soils within the CRZ that have been compacted by heavy equipment and/or construction activities must be returned to closely match their original state before all work is completed. Methods include water jetting, adding organic matter, and boring small holes with an auger (18 inches deep, 2-3 feet apart with a 2-4 inch auger) and the application of moderate amounts of nitrogen fertilizer. The arborist(s) shall advise.

Trenching Within Critical Root Zone. All trenching within the CRZ of native trees shall be hand dug. All major roots shall be avoided whenever possible.

Grading Within the Critical Root Zone. A Mandatory meeting between the arborists and grading contractor(s) must take place prior to work starts in the CRZ of affected trees. Grading shall not encroach within the critical root zone unless authorized. Grading shall not disrupt the normal drainage pattern around the trees. Fills shall not create a ponding condition and excavations shall not leave the tree on a rapidly draining mound. Any exposed roots shall be covered the same day they were exposed or wetted daily if possible. If they cannot, roots must be covered with burlap or another suitable material and wetted down 2 times per day until reburied. All exposed roots larger than 1-inch in diameter shall be clean cut with sharp pruning tools and not left ragged. Root treatment by the arborist will be determined on a case-by-case basis using best practices such as clean cuts accompanied by application of appropriate fungicides and insecticides by a licensed pest control applicator.

Equipment Operation. Vehicles and all heavy equipment shall not be driven under the trees, as this will contribute to soil compaction. Also, there is to be no parking of equipment or personal vehicles in these areas. All areas behind fencing are off limits unless pre-approved by the arborist.

Existing Surfaces. The existing ground surface within the critical root zone of all oak trees shall not be cut, filled, compacted or pared, unless shown on the grading plans and approved by the arborist.

Construction Materials and Waste. No liquid or solid construction waste shall be dumped on the ground within the critical root zone of any native tree. The critical root zone areas are not for storage of materials.

Arborist Monitoring. An arborist shall be present for soil disturbance work within the CRZ of oak trees. Monitoring does not necessarily have to be continuous but observational at times during these activities. All monitoring will be documented on the field report form which will be forwarded to the project manager and the City of Paso Robles Planning Department.

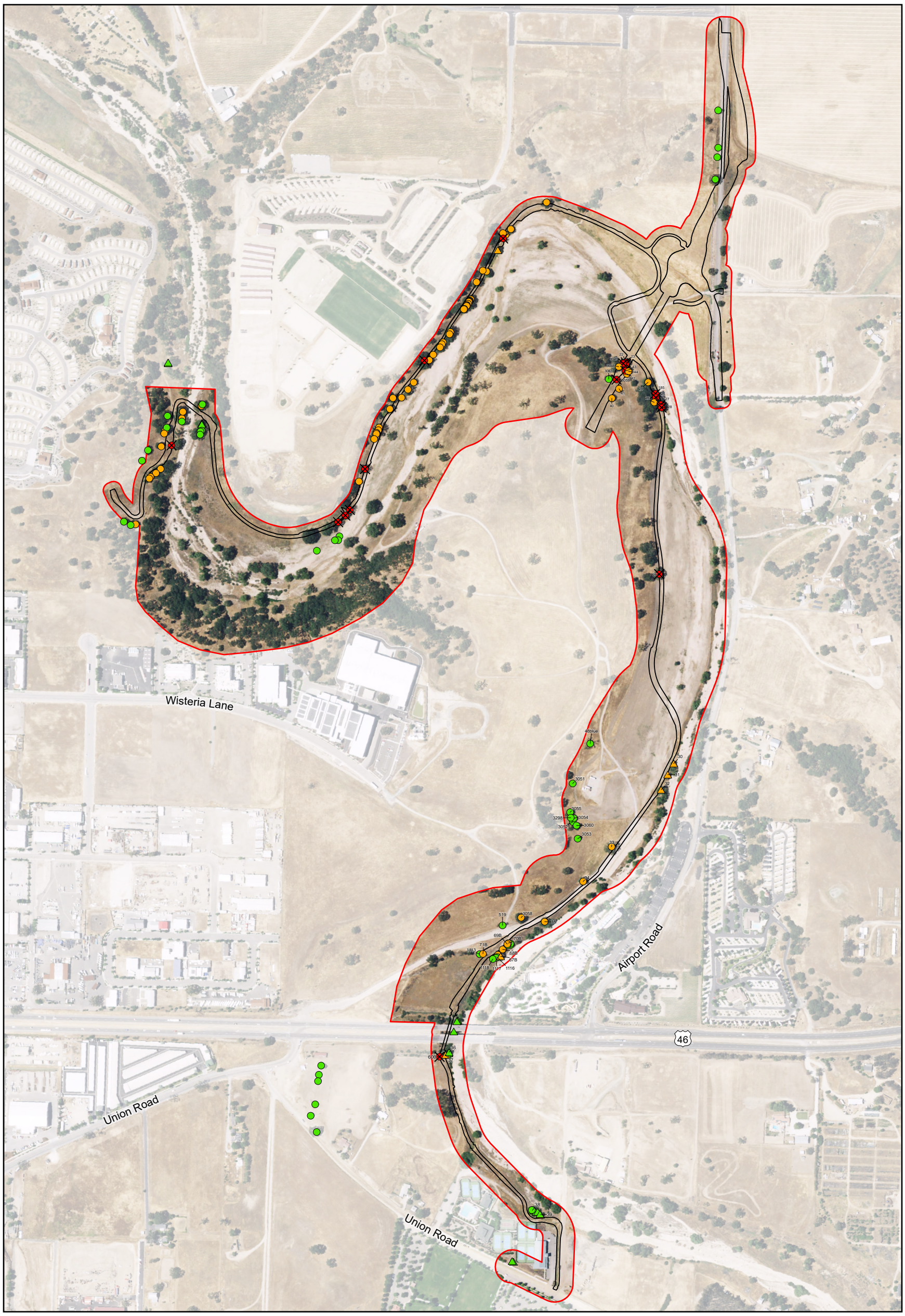
Pre-Construction Meeting. An on-site pre-construction meeting with the Arborist(s), Owner(s), Planning Staff, and the earth moving team shall be required for this project.

Pruning. Class 1 branch pruning aesthetics, removal of dead, dying, decaying weak branches and selective thinning to lesson wind resistance. Class 2 pruning is recommended where aesthetic conditions are secondary to structural integrity and tree health concerns. It shall consist of removal of dead, dying, decaying, interfering, obstructing and weak branches as well as selective thinning to lesson wind resistance. Class 3 pruning includes removal of dead, diseased, decayed, and weak branches where safety considerations and hazardous conditions are the highest priority. Class 4 pruning, including crown reduction pruning, shall consist of reduction of tops, sides or individual limbs. A certified arborist shall direct all pruning. No pruning shall take more than 25 percent of the live crown of any native tree. Any trees that may need pruning for road/home clearance shall be pruned prior to any grading activities to avoid any branch tearing.

Landscape. All landscape within the CRZ shall consist of drought tolerant or native varieties. Lawns shall be avoided. All irrigation trenching shall be routed around critical root zones, otherwise above ground drip-irrigation shall be used. It is the owner's responsibility to notify the landscape contractor regarding this mitigation. For this site it is strongly recommended that drought tolerant native landscape is used with the approval of the arborist. This includes all city sidewalk/greenbelt areas.

Fertilization and Cultural Practices. As the project moves toward completion, the arborist(s) may suggest either fertilization and/or mycorrhizal inoculation applications that will benefit tree health. Application of mycorrhizal inoculum offers several benefits to the host plant, including faster growth, improved nutrition, greater drought resistance, and protection from pathogens.

Figure 3. Tree Impacts Overview



Huer Huero Bridge and Roundabout
Map Center: 120.64636°W 35.65101°N
Paso Robles, San Luis Obispo County

Imagery Source: USDA NAIP, 05/21/2020

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Map Updated:
March 18, 2021 05:13 PM by SAF

Figure 4. Tree Impacts Detail



Legend

- Study Area
- Critical Root Zone
- Proposed Impacts
- Non-Oak To Be Protected
- Non-Oak To Be Impacted
- Non-Oak To Be Removed
- Oak To Be Protected
- Oak To Be Impacted
- Oak To Be Removed

N

0 100 200 Feet

Huer Huero Bridge and Roundabout
Map Center: 120.65217°W 35.65411°N
Paso Robles, San Luis Obispo County

Imagery Source: USDA NAIP, 05/21/2020

Figure 5. Tree Impacts Detail 2



Legend

- Study Area
- Critical Root Zone
- Proposed Impacts
- Non-Oak To Be Protected
- Non-Oak To Be Impacted
- Non-Oak To Be Removed
- Oak To Be Protected
- Oak To Be Impacted
- Oak To Be Removed

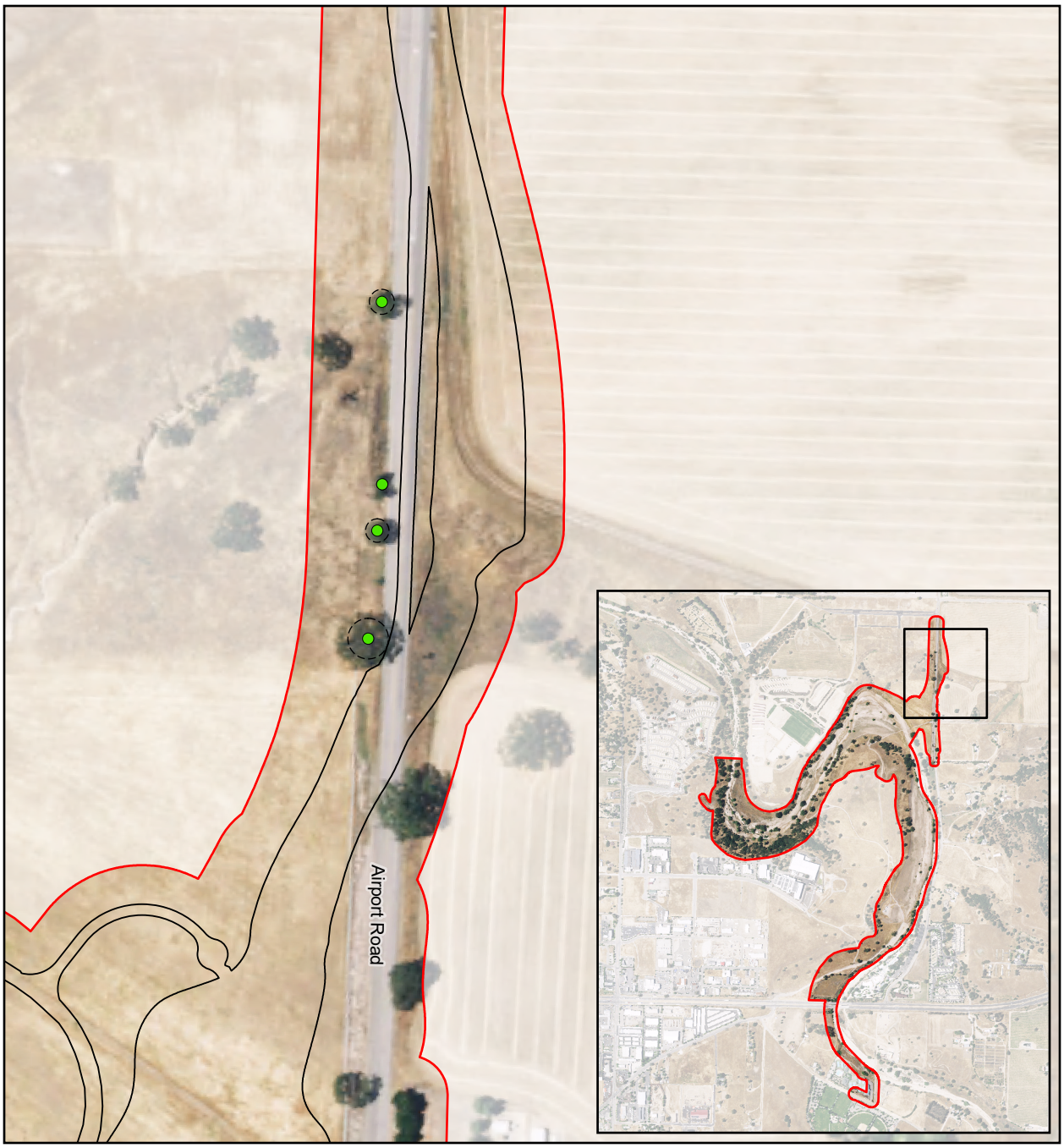
N

0 250 500 Feet

Huer Huero Bridge and Roundabout
Map Center: 120.64694°W 35.65586°N
Paso Robles, San Luis Obispo County

Imagery Source: USDA NAIP, 05/21/2020

Figure 6. Tree Impacts Detail 3



Legend

- Study Area
- Critical Root Zone
- Proposed Impacts
- Non-Oak To Be Protected
- Non-Oak To Be Impacted
- Non-Oak To Be Removed
- Oak To Be Protected
- Oak To Be Impacted
- Oak To Be Removed

N

0 100 200 300 Feet

Huer Huero Bridge and Roundabout
Map Center: 120.64039°W 35.6596°N
Paso Robles, San Luis Obispo County

Imagery Source: USDA NAIP, 05/21/2020

Figure 7. Tree Impacts Detail 4



Legend

- Study Area
- Critical Root Zone
- Proposed Impacts
- Non-Oak To Be Protected
- Non-Oak To Be Impacted
- Non-Oak To Be Removed
- Oak To Be Protected
- Oak To Be Impacted
- Oak To Be Removed

N

0 100 200 300 Feet

Huer Huero Bridge and Roundabout
Map Center: 120.64173°W 35.65439°N
Paso Robles, San Luis Obispo County

Imagery Source: USDA NAIP, 05/21/2020

Figure 8. Tree Impacts Detail 5



Legend

- Study Area
- Critical Root Zone
- Proposed Impacts
- Non-Oak To Be Protected
- Non-Oak To Be Impacted
- Non-Oak To Be Removed
- Oak To Be Protected
- Oak To Be Impacted
- Oak To Be Removed

N

0 200 400 Feet

Huer Huero Bridge and Roundabout
Map Center: 120.64351°W 35.64755°N
Paso Robles, San Luis Obispo County

Imagery Source: USDA NAIP, 05/21/2020

Figure 9. Tree Impacts Detail 6



Legend

- Study Area
- Critical Root Zone
- Proposed Impacts
- Non-Oak To Be Protected
- Non-Oak To Be Impacted
- Non-Oak To Be Removed
- Oak To Be Protected
- Oak To Be Impacted
- Oak To Be Removed

N

0 200 400 Feet

Huer Huero Bridge and Roundabout
Map Center: 120.64571°W 35.64245°N
Paso Robles, San Luis Obispo County

Imagery Source: USDA NAIP, 05/21/2020

6 REFERENCES

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7 ATTACHMENTS

- **Attachment A. Tree Assessment Data**
- **Attachment B. Representative Photographs**

ATTACHMENT A. TREE ASSESSMENT DATA

Tag#	Species	Health Rating	DBH (in.)	Canopy Width (ft.)	CRZ Radius (ft.)	Percent Impact	Status	Notes
22	Blue Oak	6	35	40	35	100	To be Removed	
23	Blue Oak	5	29	15	29	100	To be Removed	
24	Valley Oak	6	33	55	33	44	Impacted	
25	Blue Oak	5	19	15	19	100	To be Removed	
26	Valley Oak	5	27	40	27	19	Impacted	Woodpecker notches in dead branch
27	Blue Oak	3	25	55	28	100	To be Removed	Over 50% dead canopy
28	Valley Oak	5	30	25	30	100	To be Removed	Leaning to east
29	Valley Oak	6	40	65	40	100	To be Removed	
30	Fremont Cottonwood	6	48	50	48	24	Impacted	Previously cut. Has regrowth/ resprout.
31	Fremont Cottonwood	5	20	75	38	35	Impacted	Mistletoe
32	Fremont Cottonwood	5	27	100	50	25	Impacted	
33	Valley Oak	7	54	50	54	25	Impacted	Fungal conk on most likely hollow branch; granary; lots of hollows; heavy woodpecker activity
34	Valley Oak	5	27	55	27	13	Impacted	Oak pit scale included bark
35	Valley Oak	6	24	70	35	26	Impacted	

Tag#	Species	Health Rating	DBH (in.)	Canopy Width (ft.)	CRZ Radius (ft.)	Percent Impact	Status	Notes
36	Fremont Cottonwood	7	8		8		To be Protected	
37	Fremont Cottonwood	6	8		8	14	Impacted	
38	Fremont Cottonwood	6	18	45	22		To be Protected	
39	Fremont Cottonwood	5	28	60	30	11	Impacted	
40	Blue Oak	5	27	50	27	30	Impacted	Included bark; splitting
41	Blue Oak	2	37	65	37	23	Impacted	Very poor shape. Leaning. Small canopy; has hollows and cavities
42	Blue Oak	4	13	50	25	37	Impacted	
43	Blue Oak	4	18	50	25	100	To be Removed	
44	Blue Oak	5	26	45	26	23	Impacted	Included bark
45	Valley Oak	5	52	55	52	37	Impacted	Lots of cavities and possible hollow branches
46	Valley Oak	5	24	45	24	39	Impacted	
47	Blue Oak	5	14	40	20	45	Impacted	
49	Valley Oak	6	15	55	27	100	To be Removed	Leaning to the east; scar on trunk
50	Fremont Cotton	5	65	10	65	21	Impacted	
51	Valley Oak	6	12	45	22	40	Impacted	

Tag#	Species	Health Rating	DBH (in.)	Canopy Width (ft.)	CRZ Radius (ft.)	Percent Impact	Status	Notes
52	Blue Oak	5	14	85	40	23	Impacted	Exposed roots
53	Valley Oak	6	26	30	26	32	Impacted	Has stick nest; exposed roots
54	Valley Oak	5	22	55	27	31	Impacted	
55	Valley Oak	6	7	35	17	27	Impacted	
56	Valley Oak	5	18	50	25	32	Impacted	
57	Valley Oak	6	17	40	20	27	Impacted	
58	Valley Oak	4	13	50	25	35	Impacted	
59	Valley Oak	5	24	20	24	28	Impacted	Leaning out
60	Valley Oak	6	14	60	30	31	Impacted	
61	Valley Oak	6	17	65	32	27	Impacted	
62	Valley Oak	5	13	30	15	16	Impacted	
63	Valley Oak	6	28	80	40	25	Impacted	
64	Valley Oak	5	8	75	37	27	Impacted	
65	Valley Oak	6	42	25	42	21	Impacted	
66	Valley Oak	6	30	75	37	20	Impacted	
67	Valley Oak	5	28	55	28	28	Impacted	
68	Valley Oak	3	8	40	20	25	Impacted	
69	Valley Oak	6	35	65	35	24	Impacted	
70	Valley Oak	4	15	70	35	28	Impacted	
71	Valley Oak	4	11	55	27	37	Impacted	
72	Valley Oak	4	13	35	17	27	Impacted	

Tag#	Species	Health Rating	DBH (in.)	Canopy Width (ft.)	CRZ Radius (ft.)	Percent Impact	Status	Notes
73	Valley Oak	7	58	60	58	100	To be Removed	High bird/woodpecker activity
74	Valley Oak	6	21	80	40	25	Impacted	
75	Valley Oak	6	33	25	33	24	Impacted	
76	Valley Oak	6	17	60	30	33	Impacted	
77	Valley Oak	5	40	65	40	22	Impacted	Woodpecker granary
78	Valley Oak	6	22	65	32	38	Impacted	
79	Valley Oak	4	20	45	22	37	Impacted	
80	Valley Oak	5	49	70	49	26	Impacted	
81	Valley Oak	5	19	65	32	36	Impacted	Included bark
82	Valley Oak	6	26	55	27	33	Impacted	
83	Valley Oak	2	7	45	22	37	Impacted	
84	Valley Oak	5	16	45	22	34	Impacted	
85	Valley Oak	5	20	50	25	100	To be Removed	Leaning
86	Valley Oak	7	28	70	35	26	Impacted	2 trunks
87	Valley Oak	5	38	35	38	100	To be Removed	
88	Valley Oak	6	32	65	32	100	To be Removed	
89	Valley Oak	7	19	75	37	100	To be Removed	
90	Valley Oak	6	21	35	21		To be Protected	
91	Valley Oak	5	22	35	22		To be Protected	
92	Valley Oak	7	29	40	29		To be Protected	
93	Valley Oak	6	46	45	46		To be Protected	

Tag#	Species	Health Rating	DBH (in.)	Canopy Width (ft.)	CRZ Radius (ft.)	Percent Impact	Status	Notes
94	Valley Oak	5	42	25	42	13	Impacted	
95	Fremont Cottonwood	5	18	50	25		To be Protected	
96	Fremont Cottonwood	5	26	60	30		To be Protected	
97	Valley Oak	6	32	45	32	19	Impacted	
185	Blue Oak	4	21	35	21	100	To be Removed	
519	Valley Oak		42		42		To be Protected	
600	Valley Oak		8		8	100	To be Removed	
1113	Blue Oak		12		12		To be Protected	
1115	Blue Oak		36		36	20	Impacted	
1116	Blue Oak		12		12		To be Protected	
1117	Blue Oak		18		18		To be Protected	
1118	Blue Oak		18		18		To be Protected	
1368	Blue Oak		60		60		To be Protected	
1369	Blue Oak		36		36		To be Protected	
1370	Blue Oak		48		48	19	Impacted	
1371	Blue Oak		72		72	22	Impacted	
1373	Blue Oak		60		60	21	Impacted	
1374	Blue Oak	5	26	45	26	10	Impacted	
1375	Valley Oak	6	36	35	36	24	Impacted	Granary tree (acorn woodpeckers)
1381	Blue Oak		36		36	1	Impacted	

Tag#	Species	Health Rating	DBH (in.)	Canopy Width (ft.)	CRZ Radius (ft.)	Percent Impact	Status	Notes
1382	Blue Oak		36		36		To be Protected	
1383	Blue Oak		18		18		To be Protected	
3047	Blue Oak		11		11	100	To be Removed	
3048	Blue Oak		16		16	22	Impacted	
3051	Blue Oak		17		17		To be Protected	
3052	Blue Oak		12		12		To be Protected	
3053	Blue Oak		20		20		To be Protected	
3054	Coast Live Oak		18		18		To be Protected	
3055	Blue Oak		18		18		To be Protected	
3058	Coast Live Oak		54		54	1	Impacted	
3059	Blue Oak		13		13	100	To be Removed	
3060	Coast Live Oak		32		32		To be Protected	
3061	Blue Oak		22		22		To be Protected	
3298	Blue Oak		30		30		To be Protected	
48blue	Valley Oak		47	45	47		To be Protected	
48silver	Blue Oak	5	21	30	21	40	Impacted	Exposed roots on side of slope
67B	Fremont Cottonwood		48		48	8	Impacted	
68B	Blue Oak		30		30	25	Impacted	
69B	Blue Oak		18		18	16	Impacted	
70B	Blue Oak		12		12	5	Impacted	

Tag#	Species	Health Rating	DBH (in.)	Canopy Width (ft.)	CRZ Radius (ft.)	Percent Impact	Status	Notes
71B	Blue Oak		24		24	20	Impacted	
72B	Blue Oak		12		12	100	To be Removed	
73B	Blue Oak		24		24	8	Impacted	
74B	Valley Oak		36		36		To be Protected	
75B	Valley Oak		36		36	1	Impacted	
76B	Valley Oak		48		48	8	Impacted	
N/A	Oak		12		12		To be Protected	
N/A	Oak		60		60		To be Protected	
N/A	Oak		12		12		To be Protected	
N/A	Oak		12		12		To be Protected	
N/A	Oak		12		12		To be Protected	
N/A	Oak		60		60		To be Protected	
N/A	Oak		24		24		To be Protected	
N/A	Oak		24		24		To be Protected	
N/A	Oak		12		12		To be Protected	
N/A	Tree		12		12		To be Protected	
N/A	Tree		12		12		To be Protected	
N/A	Tree		12		12		To be Protected	
N/A	Oak		48		48		To be Protected	
N/A	Oak		24		24		To be Protected	
N/A	Oak		60		60		To be Protected	
N/A	Tree		6		6		To be Protected	

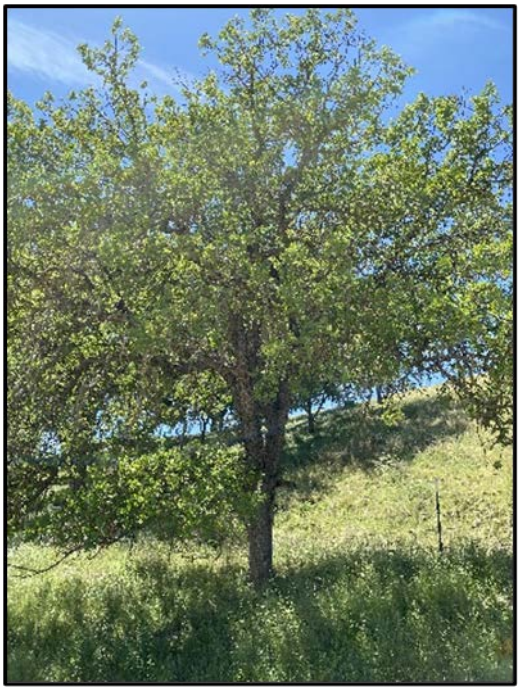
Tag#	Species	Health Rating	DBH (in.)	Canopy Width (ft.)	CRZ Radius (ft.)	Percent Impact	Status	Notes
N/A	Tree		6		6		To be Protected	
N/A	Tree		18		18		To be Protected	
N/A	Tree		12		12		To be Protected	
N/A	Tree		12		12		To be Protected	
N/A	Oak		12		12		To be Protected	
N/A	Oak		24		24		To be Protected	
N/A	Oak		18		18		To be Protected	
N/A	Oak		8		8		To be Protected	
N/A	Tree		12		12		To be Protected	
N/A	Tree		18		18		To be Protected	
N/A	Tree		18		18		To be Protected	
N/A	Tree		18		18		To be Protected	
N/A	Tree		8		8		To be Protected	
N/A	Tree		12		12		To be Protected	
N/A	Tree		12		12		To be Protected	
N/A	Tree		8		8		To be Protected	
N/A	Oak		16		16		To be Protected	
N/A	Oak		7		7		To be Protected	
N/A	Oak		15		15		To be Protected	
N/A	Oak		30		30		To be Protected	

ATTACHMENT B. REPRESENTATIVE PHOTOGRAPHS

Rated 7: No Apparent Structural Defects

	Tag#	Species	DBH (in.)	Percent Impact
	33	Valley Oak	54	25

Rated 6: Healthy Tree to Leave Natural

	Tag#	Species	DBH (in.)	Percent Impact
	24	Valley Oak	33	44

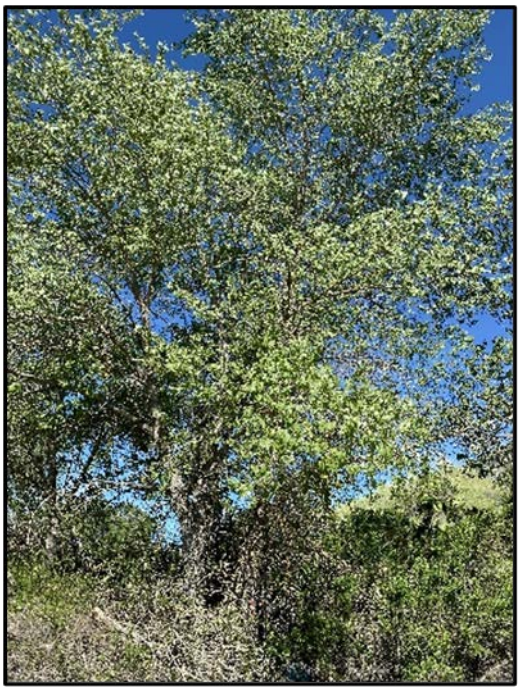
Rated 5: Healthy Tree with Little Visual Structural and/or Pest Defects

	Tag#	Species	DBH (in.)	Percent Impact
	54	Valley Oak	22	31

Rated 4: Minor Past Failures, Excessive Deadwood, or Minor Structural Defects

	Tag#	Species	DBH (in.)	Percent Impact
	42	Blue Oak	13	37

Rated 3: Some Past Failures, Some Pests or Structural Defects that May be Mitigated with Pruning

	Tag#	Species	DBH (in.)	Percent Impact
	27	Blue Oak	25	100

Rated 2: May be saved with Pruning, Inspect/Pest Eradication and Future Monitoring

	Tag#	Species	DBH (in.)	Percent Impact
	41	Blue Oak	37	23

APPENDIX I. CRMS CULTURAL RESOURCES INVENTORY, OCTOBER 2020

CULTURAL RESOURCES INVENTORY FOR THE NEW AIRPORT ROAD EXTENSION, HUER HUERO BRIDGE, AND MULTI-USE PATH

Prepared for:

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October, 2020

USGS 7.5' Quadrangle, Paso Robles, CA

CRMS
CULTURAL RESOURCE MANAGEMENT SERVICES

CRMS Job No.: 54-974

ABSTRACT

An archaeological inventory survey was performed for a re-alignment of Airport Road, construction of a roundabout, a bridge over Huer Huero Creek and a 2.75 mile recreational trail in the city of Paso Robles, California, by Cultural Resource Management Services (CRMS). This survey included a record search at the Central Coast Information center at the University of California, Santa Barbara, a Sacred Land/Sites search at the Native American Heritage Commission (NAHC), and the sending of information letters soliciting input to the listed Native Americans and groups.

Two prehistoric archaeological sites, CA-SLO-2826 and CA-SLO-2827, both low density lithic scatters, had previously been recorded with the project APE. No additional archaeological materials were found during the current investigation. The two archaeological sites will be avoided during the construction of this project. Monitoring of construction work in the vicinity of the sites is required.

Esther Kenner holds a Master's Degree in Anthropology/Archaeology from California State University East Bay, is a Registered Professional Archaeologist (RPA), and has worked as Senior Archaeologist with CRMS since 2014. Nancy Farrell received her Bachelor's Degree in Anthropology from the University of California, Los Angeles in 1968 and has worked as President and Archaeologist with CRMS since 1985.

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1.0 INTRODUCTION

The City of el Paso de Robles proposes to construct vehicular and multi-use paths that reduce traffic on Highway 46 (SR 46E) near Airport Road (Project). This will include the realignment of Airport Road, to include a roundabout and construction of a new bridge over Huer Huero Creek. Additionally they intend to construct a bicycle/walking trail to connect the Cava Robles RV Park along the creek to end at Barny Schwartz Park. To that end, Althouse and Meade, Inc. are preparing a Mitigated Negative Declaration for the Project. As part of that effort, Cultural Resource Management Services (CRMS) has conducted a cultural resource inventory. The purpose of this investigation is to identify any cultural resources present on the parcel that may be affected by the proposed construction. This work was completed in order to comply with the requirements of the California Environmental Quality Act (CEQA) and the City of Paso Robles. 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. A literature and records search and intensive archaeological survey were conducted to identify and evaluate any significant prehistoric or historic cultural resources that might be impacted by the proposed construction (Exhibit A).

Per the requirements of the City of El Paso de Robles Conservation Element, CEQA, and AB-52 (see Regulatory Setting), letters were sent to Native American tribes, organizations and individuals. The list of recipients was provided by the Native American Heritage Commission (NAHC), and is comprised of those groups and individuals thought to have a cultural interest in this area, notifying them of the proposed project, inviting them to consult, and requesting information or concerns regarding the proposed project. Additionally, a Sacred Lands Search was conducted at the NAHC. There have been four responses to the letters written, noted specifically in Exhibit B attached to this report.

1.1 PROJECT DESCRIPTION

The New Airport Road extension and bridge over Huer Huero Creek will connect business and residences west of the creek with the Paso Robles Airport, businesses and residences east of the creek. The Project consists of three main components: the New Airport Road extension and bridge across Huer Huero Creek, realignment of a portion of Airport Road and a new roundabout intersection with New Airport Road, and a Class I trail extending from Union Road in front of Barney Schwartz Park to the Cava Robles RV Resort.

1.1.1 New Airport Road Extension and Bridge over Huer Huero Creek

This project proposes to extend New Airport Road from the planned industrial park terminus, bridge over Huer Huero Creek, and connect with Airport Road northeast of the creek. The extension will include construction of an approximately 575′ long by 44′ wide prestressed cast-in-place (PS/CIP) concrete box girder bridge over Huer Huero Creek. The cross section of New Airport Road on the bridge will be two 12′ vehicular travel lanes, two 5′ bike lanes, one 6′ sidewalk (on the east side), and two 2′ bridge barrier rails (one on either side). The bridge, abutments, and roadway will be designed to be above the 100-year flood elevation. The bridge is anticipated to have an approximately 7′ deep superstructure, with four spans and three approximately 7' diameter support piers within the floodplain. One of piers will likely be in the low flow channel.

1.1.2 Airport Road Realignment and Roundabout Intersection.

Airport Road is to be realigned to the west to connect to the New Airport Road extension just north of the northerly bridge abutment. The road will include 12′ travel lanes and 5′ shoulders in each direction. A new single-lane roundabout is proposed at the three-leg intersection of Airport Road and New Airport Road. The roundabout will be constructed mostly on fill with a 140′ inscribed circle diameter (ICD). The roundabout influence area will extend to the ends of the splitter islands that appropriately align and moderate the speed of traffic approaching and departing the roundabout.

The central island in the roundabout will include a wide truck apron designed to accommodate off-tracking of back tires of trailers of large trucks. The truck apron will be separated from the circulatory roadway using a fully mountable and traversable curb. The center of the central island will be mounded and landscaped to increase the

visibility and aesthetic appeal of the roundabout. A 10′ wide shared-use path will be constructed around the roundabout with a detectable buffer separation from the vehicular areas. On both the approach and departure legs of the roundabout bike ramps connecting the shoulders and shared use paths will accommodate cyclists who prefer to ride separated from vehicular traffic through the roundabout. Crosswalks will be 10′ wide and set back from the circulatory roadway with pedestrian refuge areas in the splitter islands.

1.1.3 Class I Trail

The project will construct an approximately 2.75-mile meandering, multi-use path that generally parallels Huer Huero Creek and typically consists of a 10 foot wide paved section with 2 foot wide unpaved shoulders. A southern trail head is proposed at Union Road near Barney Schwartz Park. Path construction will end near the Cava Robles motorcoach resort where a final connection to Golden Hill Road is to be constructed by others as part of that development. This multi-use path is a critical part of the City's 2018 adopted Bicycle and Pedestrian Master Plan.

In this portion of Huer Huero Creek water flow is typically subterranean; the trail will be located both within and above the floodplain and generally be constructed at grade so as to not obstruct significant flood flows. Between the Union Road trail head and the New Airport Road bridge the trail will be located west of Huer Huero Creek and cross under State Route 46 East (SR 46E) and the New Airport Rd bridge. After crossing under the new bridge the trail will head north across the creek, and run along the northeast side of the creek until it again crosses the creek to the southwest bank east of the Cava Robles resort. The creek crossings will be boardwalk low-height crossings to emulate the at-grade nature of the trail and minimize footprint area. The boardwalk creek crossing will allow water to overflow during flood events and be constructed of all-weather recycled decking material with steel/wood supports.

South of SR 46E the alignment will utilize an existing berm as much as possible. Concrete box culverts and embankment construction are anticipated to cross an existing development and roadside drainages on both the north and south sides of SR 46E. A combination of excavation and retaining wall is expected to be constructed on the westerly slope under the SR 46E bridges above the existing RSP limits at the abutments. North of SR 46E the trail will continue on the west side of the creek, and the alignment will climb the existing embankment fill to the north to rise out of the 100-year

floodplain. Alternative trail alignments will then either cross Paso Robles Boulevard and head north along a plateau and hillside or use the general Paso Robles Boulevard alignment to head north. The alternative alignments remain on the west side of the creek and intersect at a point along the toe of a hillside on the west bank before continuing north and then westerly as the creek meanders towards and under the New Airport Road bridge.

The trail is to cross underneath the New Airport Road bridge then cross the creek to the north and a connection to the shared use path at the roundabout intersection will be constructed. The trail will tie into the roundabout on the northwest side, then follow the realigned roadway until it reaches the existing Airport Road alignment. At this point it will follow the existing road until it intercepts the realigned road again, where it follows the road north to Dry Creek Road. West of the bike trail connection to the roundabout, the trail alignment will be centered on an existing dirt ranch road in the upper area of the floodplain, at the base of a hillside that generally parallels the creek. The trail alignment continues on the northeast side of the creek until another boardwalk crossing to the southwest bank (approximately 3,400' downstream of the new bridge). The trail alignment then climbs the hillside and terminates at the Cava Robles Resort property line. The connection to Golden Hill Road from this project's trail terminus point is to be constructed by others (Figure 1, 2 and 3).

2.0 REGULATORY FRAMEWORK

The following regulatory framework describes the applicable state and local statutes, ordinances, and policies pertaining to the protection of cultural resources. These laws must be considered during the planning process for projects that have the potential to affect cultural resources in the City of El Paso de Robles.

2.1 STATE REGULATIONS

2.1.1 California Environment Quality Act

The California Environmental Quality Act (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 National Register of Historic Places (NRHP), the California Register of

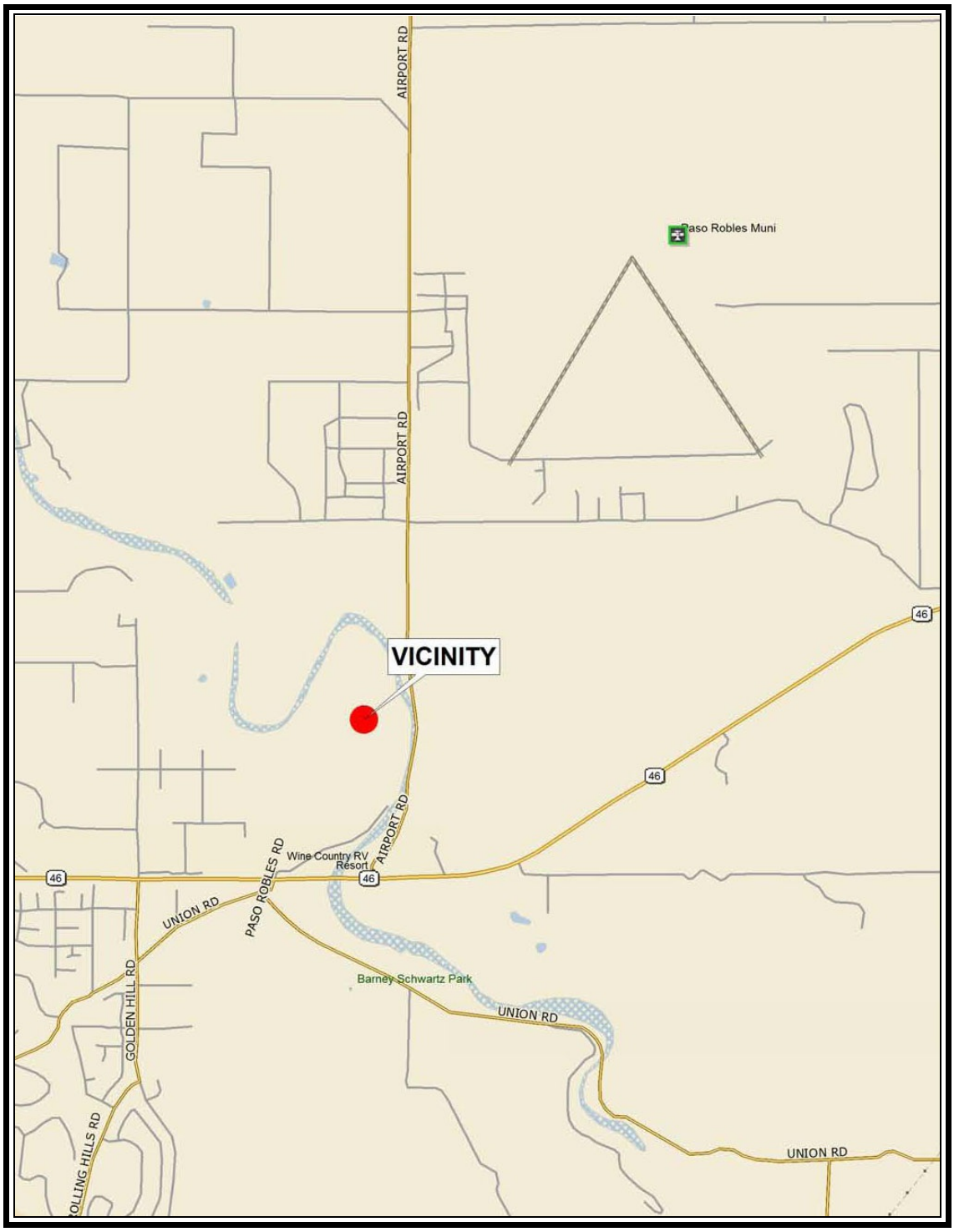


Figure 1: Vicinity Map (No Scale)

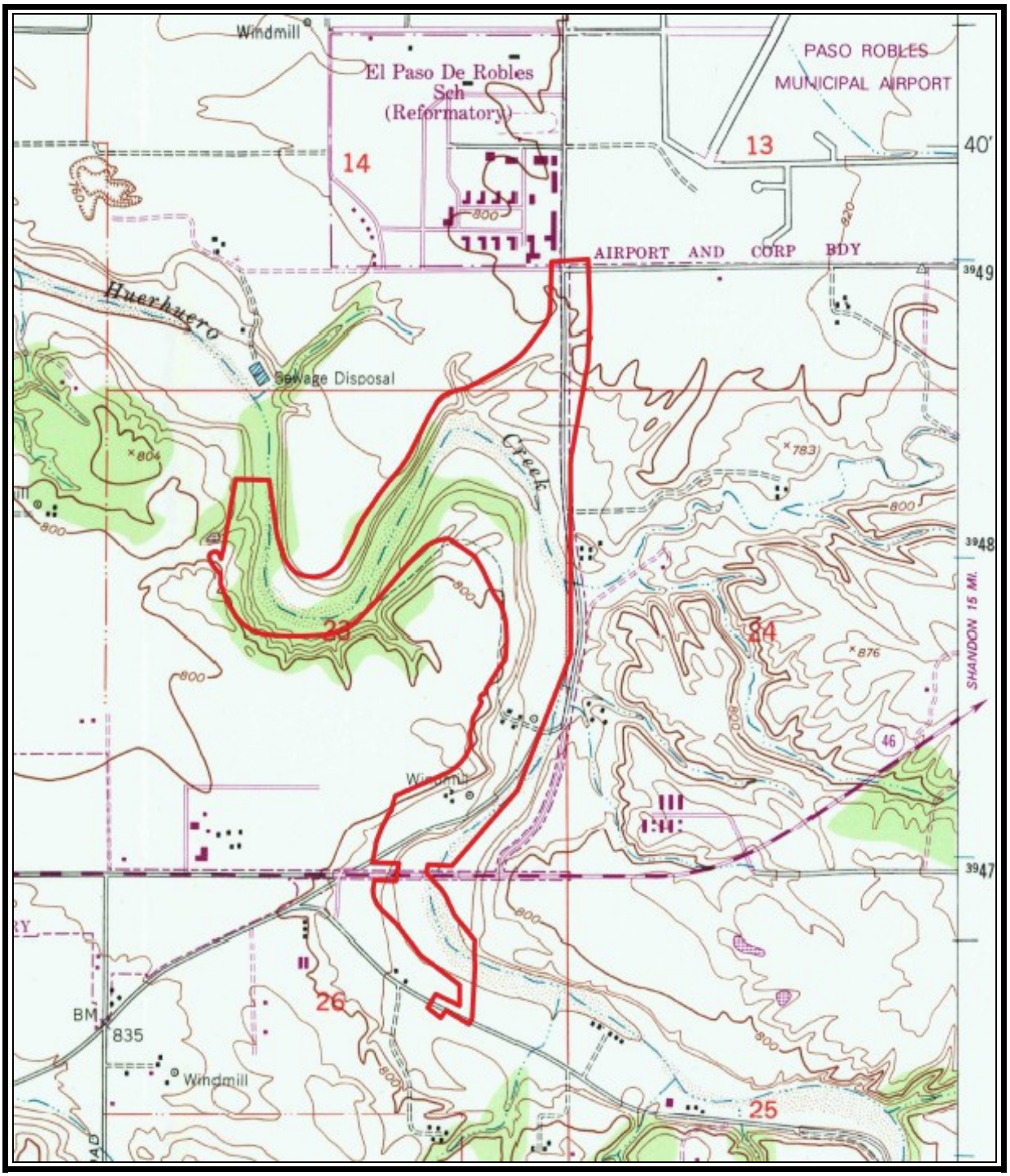


Figure 2: Portion of USGS 7.5' Quadrangle, Paso Robles, CA.
Survey Area Shown In Red Outline



Figure 3: Aerial Photo Showing Approximate Limits of Survey

Graphic Courtesy of Althouse and Meade, Inc.

Historical Resources (California Register), 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 National Register or California Register.
- 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 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 California Register (CEQA Guidelines Section 15064.5).

CEQA Guideline 14 CCR 15064.5(b) defines the phrase "substantial adverse change in the significance of an historical resource" as well as circumstances when a project would materially impair the significance of a historical resource. Both PRC §21084.1 and 14 CCR 15064.5(b) assert that a project may have a significant effect on the environment if it may cause "a substantial adverse change in the significance of an historical resource." If a resource is either listed or eligible for listing in the California Register, or designated in a local register of historic resources or identified as significant in a local survey conducted in accordance with state guidelines are also considered historical resources under CEQA, unless a preponderance of the facts demonstrates otherwise. According to CEQA, the fact that a resource is not listed in or determined eligible for listing in the California Register or is not included in a local

register or survey does not preclude a lead agency from determining that the resource may be considered a "historical resource" as defined in PRC §5024.1.7; PRC §21084.1; 14 CCR 15064.5(a)

.

2.1.2 California Register of Historical Resources

Implemented in 1998, the California Register of Historical Resources (California Register) is "an authoritative guide in California to be used by state and local agencies, private groups, and citizens to identify the state's historical resources and to indicate what properties are to be protected, to the extent prudent and feasible, from substantial adverse change" (PRC §5024.1(a)). The term "historical resource" includes "any object, building, structure, site, area, place, record, or manuscript which is historically or archaeologically significant, or is significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California" (PRC Section 5020.1(j)).

The California Office of Historic Preservation (OHP) recommends evaluation of historic resources "achieving significance within the past fifty (50) years. In order to understand the historic importance of a resource, sufficient time must have passed to obtain a scholarly perspective on the events or individuals associated with the resource. However, a resource less than fifty (50) years old may be considered for listing in the California Register if it can be demonstrated that sufficient time has passed to understand its historical importance" (14CCR 4852(d)(2).

All resources listed in or formally determined eligible for the NRHP are eligible for the California Register. The California Register is a listing of resources that are significant within the context of California's history. The California Register is a state-wide program of similar scope to the National Register. In addition, properties designated under municipal or county ordinances are eligible for listing in the California Register. 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:

> (1) 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 (U.S.) (Criterion 1); or
> (2) It is associated with the lives of persons important to local, California, or

national history (Criterion 2); or
(3) 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 (Criterion 3); or
4) It has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California, or the nation (Criterion 4).

California Register criteria are similar to NRHP criteria; any resource that meets the above criteria is considered an historical resource under CEQA. In addition to meeting at least one of the four criteria of significance, a property must retain integrity, which is the ability of a property to convey its significance. Similar to the NRHP applicable elements of integrity, the California Register seven elements of integrity include location, design, setting, material, workmanship, feeling, and association. Resources eligible for listing in the California Register must retain sufficient historic characteristics to be recognizable to the period of significance, and it must be able to convey the reasons for the resource's significance. A resource that has lost its historic character or appearance may still have sufficient integrity for the California Register if, under Criterion 4, it maintains the potential to yield significant scientific or historical information or specific data.

2.1.3 Thresholds of Significance

Appendix G of the CEQA Guidelines indicate that impacts from the project would be considered significant if the project would cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5:

- Demolish or materially alter in an adverse manner those physical characteristics of a historical resource that convey its historical significance and that justify its inclusion in, or eligibility for, inclusion in the California Register of Historical Resources.
- Demolish or materially alter in an adverse manner those physical characteristics that account for its inclusion in a local register of historical resources pursuant to local ordinance or resolution, or its identification in an historical resources survey meeting the requirements of Public Resources Code Section 5024.1(g).
- Demolish or materially alter in an adverse manner those physical

characteristics of a resource that convey its historical significance and that justify its eligibility for inclusion on the California Register as determined by a lead agency.

2.1.4 Assembly Bill 52 (2015)

The goal of AB 52 is to promote the involvement of California Native American Tribes in the decision-making process when it comes to identifying and developing mitigation for impacts to resources of importance to their culture. AB 52 amended CEQA to require Tribal Cultural Resources to be considered as potentially significant cultural resources under the CEQA environmental review process. It applies to all CEQA environmental documents for which a Notice of Preparation is filed. CEQA lead agencies are required to consult with tribes about potential tribal cultural resources in the project area, the potential significance of project impacts, the development of project alternatives, and the type of environmental document that should be prepared. Within 14 days of deciding to undertake a project or determining that an application for a project is complete, the lead agency must formally notify all tribes that have requested this notification. Notification usually takes the form of a letter that includes a brief project description, the project location, and the lead agency's contact information. Tribes have 30 days to request consultation after receiving the notification letter. If the tribe requests consultation, the lead agency must begin the consultation within 30 days and prior to the release of a negative declaration, mitigated negative declaration, or environmental impact report for that proposed project. (PRC§ 21080.3.1).

2.1.5 California Public Resources Code §5097.5

California PRC §5097.5 prohibits excavation or removal of any "vertebrate paleontological site…or any other archaeological, paleontological or historical feature, situated on public lands, except with express permission of the public agency having jurisdiction over such lands." Public lands are defined to include lands owned by or under the jurisdiction of the State or any city, county, district, authority or public corporation, or any agency thereof. Section 5097.5 states that any unauthorized disturbance or removal of archaeological, historical, or paleontological materials or sites located on public lands is a misdemeanor.

2.1.6 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 © 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.
> © 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).

2.2 LOCAL POLICIES AND REGULATIONS

2.2.1 San Luis Obispo County General Plan

The San Luis County General Plan, Conservation and Open Space Element, Section 4 (2010), states that the County has established four goals to identify and protect cultural and historical resources:

> 1. The County will have a strong, positive community image that honors its history and cultural diversity.
> 2. The County will promote public awareness and support for the preservation of cultural resources in order to maintain the County's uniqueness and promote economic vitality.
> 3. The County's historical resources will be preserved and protected.
> 4. The County's known and potential Native American, archaeological, and paleontological resources will be preserved and protected.

2.2.2 County of San Luis Obispo Land Use Ordinance

County of San Luis Obispo Land Use Ordinance, Title 22, Section 01.010 (CESF2007a, p. 5.7-36) is a plan to protect and enhance significant natural, historic, archaeological, and scenic resources in the county, as defined in the County General Plan. Section 22.10.040 - Archeological Resources identifies the following standards in the event that archeological resources are unearthed or discovered during any construction activities:

> A. Construction activities shall cease, and the Department shall be notified so that the extent and location of discovered materials may be recorded by a qualified archaeologist, and disposition of artifacts may be accomplished in accordance with state and federal law.
> B. In the event archeological resources are found to include human remains, or in any other case when human remains are discovered during construction, the County Coroner shall be notified in addition to the Department so proper disposition may be accomplished.

2.2.3 Paso Robles Historic Preservation Ordinance (2008)

City General Plan, As Amended (2014)

The purpose of the Historic Preservation Ordinance is to provide for the recognition, preservation, protection, and use of Historic Resources in the City by establishing procedures and regulations that are necessary to:

1) Assist the City in identifying and protecting its Historic Resources;
2) Ensure that new development maintains continuity with the City's historic character and scale;
3) Maintain Historic Resources as community assets; and
4) Fulfill the City's responsibilities regarding Historic Resources under applicable State and Federal laws, including the California Environmental Quality Act (CEQA) and Federal Section 106.

3.0 ENVIRONMENTAL CONTEXT

Geographically, the Project area is located near the eastern boundary of the City of El Paso de Robles. Paso Robles lies in the Upper Salinas River Valley on the east side of the Santa Lucia Range about 20 miles northeast of Estero Bay and the Pacific Ocean (Figure 1). The project region is one of rolling hills and tablelands two miles east of the Salinas River. SR 46 E intersects the Project. A portion of Huer Huero Creek, a tributary of the Salinas River, traverses the property. Airport Road runs parallel to the eastern boundary of the project. Elevation ranges from 800 to 880 feet above mean sea level Archaeological sites are expected to be found on the riverside terraces and in a few locations on accessible hilltop knolls overlooking small streams.

3.1 CLIMATE

The area is characterized by a Mediterranean climate with hot dry summers and cool wet winters. The rainy season occurs from November through April with precipitation averaging from 12 to 20 inches annually. Summer high temperatures range from the mid-80s to 110 degrees. Every several years, extreme frosts occur during winter months, but generally the area experiences 300 to 325 frost-free days per year. Such a setting is eminently suitable for ancient as well as present-day human occupation**.**

3.2 WATER SOURCES

Today the Estrella River, north of the property, and the Huer Huero Creek flow at the surface only during seasons of heavy rainfall, but the river flow was probably more

abundant and regular during the time of prehistoric human occupation of the area. The surface flow has been reduced to a minimum in recent years by the many municipal and private wells which draw water from the river and creeks for residential and agricultural use.

3.3 GEOLOGY AND PEDOLOGY

The Paso Robles area presents a complex geologic picture. Cenozoic Monterey Shale and Miocene Santa Margarita Sandstone formations are dominant (Chipping 1987:VIII-7). Sandstones, siltstone, diatomite and conglomerates are characteristic rocks of the Santa Margarita Formation. Beds of fossil Pecten and Oyster shells are also present in some locations. Overlying this is the Pliocene-era Paso Robles Formation. This formation is a dominantly continental series of river, alluvium fan, and lake deposits that originated during the middle and late Pliocene in the Salinas basin. Rock types typical of the Paso Robles formation include sandstone, conglomerate, mudstone, non-marine limestone, gravel beds, and semi-consolidated clay, silt, and sand. A variety of soil types is present within the project area;

102 Arbuckle-Positas Complex (9 to 15 percent slopes)
This complex consists of rolling soils on terraces. The complex is about 40 percent Arbuckle fine sandy loam and 30 percent Positas course sandy loam. The Arbuckle soil is a very deep, well drained soil that formed in alluvium derived from mixed rocks. Typically, the surface layer is pale brown sandy loam about 10 inches thick.

104 Arbuckle-Positas Complex (30 to 50 percent slopes)
This complex consists of steep soils on terraces. Elevation 600 to 1,500 feet.

106 Arbuckle-San Ysidro Complex (2 to 9 percent slopes)
This complex consists of undulating to gently rolling soils on terraces. The complex is about 40 percent Arbuckle and 20 percent San Ysidro loam.

148 Hanford and Greenfield Fine Sandy Loams (2 to 9 percent slopes)
This undifferentiated unit consists of soils on terraces. Elevation is 600 to 1,500 feet. This unit is made up of 40 percent Hanford fine sandy loan and 30 percent Greenfield fine sandy loam.

166 Metz Loamy Sand (0 to 5 percent slopes)
This very deep nearly level to gently sloping, somewhat excessively drained soil formed in alluvium derived from mixed rocks. It is on flood plains. Elevation is 600 to 1,500 feet. This soil is subject to rare flooding under abnormal conditions.

179 Nacimiento-Los Osos Complex (9 to 30 percent slopes)
This complex consists of moderately steep soils on hills. This complex is about 30 percent Nacimiento silty clay loam and 20 percent Los Osos clay loam. The Nacimiento soil is a moderately deep, well drained soil that formed in material weathered from calcareous sandstone and shale.

187 Rincon Clay Loam (0 to 2 percent slopes)
This is very deep, nearly level, well drained soil on alluvial fans, formed in alluvium derived from sedimentary rocks. Typically, the surface layer is grayish brown clay loam about 18 inches thick. The subsoil is grayish brown and pale brown clay loam and clay to a depth of 60 inches.

196 San Ysidro Sandy Loam (2 to 9 percent slopes)
This very deep gently sloping to moderately sloping, moderately well drained soil formed in alluvium derived from mixed rocks. It is on alluvial fans.

197 San Ysidro Loam (0 to 2 percent slopes)
This very deep, nearly level moderately well drained soil formed in alluvium derived from mixed rocks that occurs on terraces. Typically, the surface layer is pale brown loam about 20 inches thick. The subsurface layer is very pale brown loam about three inches thick. The subsoil extends to a depth of 64 inches or more and is light brown heavy clay loam. (Lindsey 1983).

212 Xerofluvents-Riverwash Association
This association consists of soils and barren areas on flood plains. Elevation is 600 to 1,500 feet. This association in about 50 percent Xerofluvents and 30 percent Riverwash.

3.4 VEGETATION

The Project area is a melange of habitat types: Annual grassland, Oak Woodland, Oak Savannah, Riparian, Upland Forbs, Cropland and patches of Yellow Star Thistle. Agricultural practices that began around 1800 such as the grazing of horses, sheep and cattle and the production of cereal crops have profoundly affected the local environment. Thousands of oaks were removed from the region northeast of Paso Robles in the early 1900s for orchards and later for dry framing (Rossi 1979: 260). Various species of oak are present including: Valley Oaks (*Quercus lobata*), Blue Oaks (*Quercus douglasii*), and *Quercus Agrifolia*. Fremont cottonwood (*Populous fremontii*) willows (*Salix spp*.) and Blue elderberry (*Sambucus nigra caerulea*) grow near Huer Huero Creek. Poison oak (*Toxicodendron diversilobum*), Coyote brush (*Baccharis pilularis*), California rose (*Rosa californica*), and California buckwheat (*Eriogonum fasciculatum*) are major shrubs.

Abundant native and introduced grasses and forbs are present, such as: Poison hemlock (*Conium maculatu*m), Jimsonweed (*Datura wrightii)*, Dove weed (*Croton setiger*), Vinegar weed (*Trichostema lanceolatum*), Filaree (*Erodium moschatum*), Wild oats (*Avena fatua)*,
Foxtail barley (*Hordeum murinum)*, Winter vetch (*Vicia villosa*), Pigweed (*Chenopodium californicum)*, Horehound (*Marrubium vulgare*), Black Mustard (*Brassica nigra*) and the dreaded Yellow star thistle (*Centaurea solstitialis)*.

3.5 FAUNA

Fauna commonly occurring in the surrounding region includes Black-tailed deer (*Odocoileus hemionus columbianus*), Coyote (*Canis latrans*), Black-tailed jackrabbit (*Lepus californicus*), Cottontail rabbit (*Sylvilagus* spp.), Black bear (*Ursus americanus*) and historically, Grizzly bear (*Ursus horribilis*) and Tule elk (*Cervus elaphus nannoides*). A number of ground squirrels (*Spermophilus* spp.), the Western gray squirrel (*Sciurus griseus*), gophers (*Thomomys* spp.), mice (*Microtus* spp. and *Peromyscus* spp.), and a variety of reptiles and amphibians are also present. Common birds in the area include Red-tailed hawk (*Buteo jamaicensis*), California scrub jay (*Aphelocoma coerulescens*), Mourning dove (*Zenaida macroura*), Western meadowlark (*Sturnella neglecta*), Mockingbird (*Mimus polyglottos*), Turkey vulture (*Cathartes aura*), Acorn woodpecker (*Melanerpes formicuvorus*), and Valley quail (*Lophortyx californicus*). Except for predators, all of these animals would have been food items for indigenous populations. Bones, feathers and skins would likewise have been useful.

4.0 HISTORICAL CONTEXT

4.1 ARCHAEOLOGICAL BACKGROUND

Archaeological evidence indicates that San Luis Obispo County was occupied as early as 9000 years ago, as indicated by radiocarbon dates from excavations at Diablo Canyon (Greenwood 1972), Edna Valley (Fitzgerald 2000), Cambria (Gibson 1979) and Paso Robles (Stevens *et al.* 2004). Because of the relatively small amount of archaeological excavation work that has occurred in the interior central coast ranges, the cultural history of this region has until quite recently been placed within the sequence defined for the Santa Barbara region, where far more archaeological investigations had taken place.

The first regional chronology was proposed by D.B. Rogers (1929) and was based on his excavation of coastal sites around Santa Barbara. This three-part sequence of Early Oak Grove or Millingstone Culture, Intermediate or Hunting People and a late Canaliño Culture is still considered generally valid in terms of broad cultural patterns (Fitzgerald and Jones 1998). Researchers on the Central Coast have continued to refine the chronological framework and several alternative schemes have been proposed, primarily based on sites in the Central Valley, Central Coast and Channel Islands (*cf.* Moratto 1984: 125; King 1990; Erlandson and Jones 2002; Jones *et al.* 2007). The following chronology for the San Luis Obispo area builds on this work and incorporates extensive investigations carried out on the Pecho Coast, south of San Luis Obispo (Jones and Codding 2019). All dates are radiocarbon calibrated dates:

.	Paleoindian	10,000 BC - 8350 BC
	Millingstone/ Lower Archaic	8350 BC - 3500 BC
	Early	3500 BC - 600 BC
	Middle	600 BC - AD 1000
	Middle/Late Transition	AD 1000 - AD 1230
	Late	AD 1230 - AD 1769
	Mission Period	AD 1769 - AD 1830

These periods are based upon shifts in technology that relate to the type and variety of foods consumed, methods of procurement, and social structure. The earliest periods were a time of hunting and gathering, with an emphasis on seed collecting and processing. The tool kit for these periods shows an emphasis on milling equipment and crude cores yielding flaked stone tools. An increased reliance on fishing (evidenced by fishhooks), and on acorns as a dietary staple (mortars and pestles), was indicated later by the addition of new tools.

4.1.1 Paleoindian (10,000-8350 BC)

Excavations on the northern Channel Islands have yielded radiocarbon dates as early as 12,500 years ago (Erlandson and Braje 2011). There is still very limited information for the Paleoindian period in the Central Coast mainland region.

4.1.2 Millingstone Period (8350 BC–3500 BC)

More substantive archaeological evidence exists for the Millingstone Period, as evidenced by radiocarbon dates from excavations conducted at Diablo Canyon (Greenwood 1972), Cambria (Gibson 1979) Edna Valley (Fitzgerald *et al.* 1998) and Paso Robles (Stevens *et. al* 2004). It was during this period that permanent settlements with associated cemeteries were established. This basic adaptation persisted until about 3500 BC and was characterized by milling slabs, manos (handstones), rather crude cobble tools and a high density of marine shellfish remains on the coast. Collection of seeds appears to have been important for diet.

4.1.3 Early Period (3500 BC–600 BC)

Investigations at coastal sites reveal that people fished with nets and bone gorges; used tule reed boats or rafts; ate deer, small land mammals and sea mammals. Large projectile points and stone knives are indicative of hunting activity. Milling implements consisting of manos and metates were evidence of the processing of seeds, and possibly vegetable foods, dried meats, and fish. The end of this period is marked by changes in technology with the decrease of manos and metates, a shift in the settlement pattern, and alterations in ornamental style. Along the coast and in interior areas, the Early period is marked by the appearance of mortars and pestles and contracting-stemmed projectile points (Olsen and Payen 1969; Jones 1993). Other artifacts found with Early period occupations are also found in Millingstone period sites including Olivella (*Callianax biplicata*) class L beads, large side-notched projectile points, and milling slabs and handstones. Greater numbers of sites are known from the Early period, possibly signaling a population increase.

4.1.4 Middle Period (600 BC– AD 1000)

Mortars and pestles become larger and more common during this period. Exotic products are adopted and small seeds become less important as a staple. This period heralds the advent of social and political alliances and economic networks to regulate food supplies and their distribution in order to alleviate conditions resulting from regional fluctuations in the harvest. Some villages grew larger and less defensive in nature as populations were integrated into larger political units. The end of this period is marked by dramatic changes in economic, social, and political conditions; evidenced by the creation of new habitation sites and larger coastal fishing communities. The Middle period is well represented at recorded sites along the central coast and increasingly in interior regions as well. The types of artifacts found in Middle period

occupations are similar to those from the Early period although a larger number of bone implements and bead types are known (Olsen and Payen 1969; Bennyhoff and Hughes 1987; Jones and Waugh 1995). Projectile points tend to be contracting-stemmed types with large side-notched and square-stemmed points apparently no longer used. Excavations at Fort Hunter-Liggett have shown that Middle period occupations in that area resemble those found along the coast (Jones and Haney 1997).

4.1.5 Middle/Late Transition Period (AD 1000 – AD 1230)

Around 1,000 A.D., a 300-year period of warmer temperatures and drier climate, the Medieval Climatic Anomaly, caused adverse environmental conditions, particularly intermittent droughts (Raab and Larson 1997). During the Late Period, terrestrial resource production is thought to have decreased significantly, while adaptive responses involving technology and social complexity evolved. Characteristic artifacts include curved shell fishhooks, mortars with attached basket hopper, contracting-stemmed and double side-notched projectile points. The bow and arrow was introduced.

4.1.6 Late Period (AD 1230 - AD 1769)

This period is marked by a more mobile, dispersed settlement pattern than earlier periods (Jones *et al.* 2015: 15), an increasing dependence on acorns and other storable commodities, and a general diversification of the marine and terrestrial foods consumed. The tool assemblage for this period is distinguished by Desert Side-notched and Cottonwood projectile points, bedrock mortars, hopper mortars, steatite disk beads and bifacial bead drills. This period is also marked by the development of an economic system involving the introduction of new forms of beads and ornaments as forms of money. Late period assemblages from the interior south coast ranges are distinguished by a suite of new bead types, small side-notched and triangular arrow points, and hopper mortars as well as many artifact types found in earlier periods (Olsen and Payen 1969). At Fort Hunter Liggett, Late period occupations also included small arrow points, new bead types, as well as bedrock mortars and unshaped pestles (Jones 2000; Haney *et al.* 2002). The Late period assemblages from a wide area of the central coast and interior regions appear superficially similar, but this was probably a time of continued cultural differentiation due to higher population densities.

4.1.7 Mission Period (AD 1769 - AD 1830)

Glass trade beads, square nails and bottle glass begin to appear in the archaeological matrix (Meighan 1979; Moratto 1984: 273).

There is clearly still a great deal to learn about the prehistory of the interior south coast ranges, but comparisons between findings in coastal areas and work conducted locally show that a similar set of cultural changes probably occurred in both areas. What is not well understood at this point is how people living in the interior interacted with those living along the coast. The presence of marine shell beads in interior areas and obsidian obtained from the desert east in coastal areas is testimony to the wide-ranging trade and social networks that existed from an early date. Future work may yet uncover archaeological evidence necessary to understand these and other important issues that have only recently begun to be explored in this region.

4.2 ETHNOHISTORICAL OVERVIEW

At the time of European contact, this region of Paso Robles was occupied by the Salinan of the Hokan linguistic group (Mason 1918, Greenwood 1978). The Salinan were bordered by the Esselen and Costanoan to the north the Chumash to the south and the Tulares to the east (Kroeber 1925). The exact boundaries of these groups has not been well established and is the subject of continuing research on the part of ethnohistorians, archaeologists, and some descendants of these groups (Gibson 1983). Unfortunately, relatively little of substance is known about Salinan culture because of the early influence of the missions and the remoteness of their territory. Their traditional lifeways were altered early on and few people outside of the mission system were present to record what remained after secularization (Mason 1912).

The economies of the Salinan, observed at the time of European contact, was based upon an annual cycle of foraging and hunting. Plants foods, especially acorns and seeds, provided the bulk of the diet. Acorns were stored in large willow-twig granaries until needed, then ground in a stone mortar. The tannic acid present in the acorn meal was leached out with water, and the result was cooked into a gruel. Other important plant foods included wild grass and other hard seeds, roots and corms, and various fruits and berries. Major animal foods included a diverse assortment of terrestrial mammals, marine and freshwater fish, shellfish, birds, as well as reptiles and insects. It is unclear to what extent people living inland ventured to the coast and vice versa, but it is likely that people were mobile enough to take advantage of plant and animal foods

when and where they occurred. Diets would have varied from season to season, and from year to year, depending on what was available at any one time. Hunting of animals and birds was accomplished with snares, traps, spears, and the bow and arrow. The tool assemblage used, and certain projectile points made of chert or obsidian are testimony to these practices. Stone, bone, wood and shell all provided materials for the production of tools. Stone tools and the debris from their manufacture and maintenance are the most likely to be seen in an archaeological context. Stone work included projectile points, scrapers and choppers. Pecked and ground stone objects include bowl mortars, pestles, metates, basket mortars, stone bowls, notched pebble net sinkers, and steatite arrow shaft straighteners. Ornaments were made of steatite and serpentine. Bone and shell tools were also manufactured, especially bone awls and on the coast, C-shaped fishhooks. Shell beads of mussel and abalone were the basis of the Salinan "currency", with value assigned based on shell color (Hester 1978:502).

4.3 HISTORIC OVERVIEW

4.3.1 European Contact

European contact in the San Luis Obispo County region may have begun as early as 1587 with the visit of Pedro de Unamano to Morro Bay, although some scholars have questioned this based on the ambiguity of Unamano's descriptions (Mathes 1968). A visit in 1595 by Sebastian Rodriguez Cermeño is better documented (Wagner 1924). The earliest well-documented descriptions of the region come from accounts by members of Gaspar de Portola's land expedition, which passed through the region in 1769 (Squibb 1984). No large villages, such as those seen along the Santa Barbara channel, were reported by early travelers in the San Luis Obispo region. Several accounts of this expedition exist, including those of Juan Crespi (Bolton 1926), Miguel Costanso (Browning 1992), and Pedro Fages (Priestley 1937). Costanso's diary contains observations regarding the native inhabitants' houses, settlement patterns, dress, and customs, as well as their attitudes toward the expedition (Browning, 1992).

4.3.2 Spanish Settlement

Permanent Spanish settlement of the region began with the founding of Mission San Antonia de Padua (near King City) in 1771 and San Luis Obispo de Tolosa (in San Luis Obispo) in 1772. Twenty-five years later in 1797, Mission San Miguel Archangel was founded as the sixteenth of the chain along the El Camino Real, in the heart of southern Salinan territory. The mission properties were extensive and included an outlying

rancho station, Las Gallinas, near present day Paso Robles (Ohles 1997). Under the guidance of the mission fathers, the natives were instructed in European farming methods, including the production of wheat, beans and fruit, and the raising of livestock. The goal of the original Spanish missionary endeavor in Alta California had been that each mission would eventually form the nucleus of a town. "The pueblo would receive a grant of four square leagues of land; the fields town lots and other property would be parceled out among the Indians..." (Bean 1968). The mission church would then be turned over to parish priests, "secular clergy" and the missionaries would continue their work further afield.

4.3.2.1 Mission San Miguel Archangel

Located on land near the Salinas and Nacimiento Rivers, it also was close to native villages. The location wasn't quite as good as first thought. In a report made by Fr. Cabot in 1827, a description of the extent of the mission ranchos was as follows:

> "Lands for sowing grains in the summer are few, owing to the lack of water for irrigation…. In a word, with regard to planting all kinds of seeds and grain this Mission suffers the greatest drawbacks from want of suitable land. Such as is good lies at a distance of six or seven leagues, and is cultivated amid untold labor and thousands of anxieties.
> … There are two streams, one of which runs past the front of the Mission, and the Nacimiento. Both are of no advantage owning to the lack of land, and both run dry in the summer."
> "In the direction toward the south, all the land is occupied, for the Mission there maintains all its sheep, besides the horses of the guards. It is there it has the Rancho de Santa Isabel, where there is a small vineyard. Other ranchos of the Mission in that direction are *San Antonio*, where barley is planted; *Rancho del Paso de Robles* where the wheat is sown; and the *Rancho de le Asuncion*. … However all is dependent upon rain, because there is no means to irrigate the land, save at Asuncion, where there is a little spring with sufficient water for a garden; and at Santa Isabel, which has a little more in the summer." (Engelhardt 1971:28)

The inadvertent introduction of European diseases, the consequent high mortality rate, and the pressures of overwhelming social change decimated the population. By 1805, most native villages had been abandoned and the populace had either fled or moved

into the mission system (Gibson 1983). The natives who had survived the Spanish colonization period, went on to build and staff the ranchos of the Mexican and American periods that followed. By the beginning of the 20th Century, the Salinan had been integrated into American society (King 1984).

4.3.3 Mexican and Rancho Era

In 1822, Mexico attained independence of Spain and California became a Mexican territory. No longer supported, mission lands were granted to Mexican citizens. The Secularization Act, passed by the Mexican congress in 1833, provided for the immediate break-up of the missions and the transfer of mission lands to settlers and Indians. Work toward this end began in 1834 under Governor Figueroa. Grants were made to individuals by the governor on the recommendation of the local *alcalde* of the Mission. Most of these grant lands were used for the grazing of cattle and sheep, typically for the hide and tallow trade (Bean 1974). In 1848 the Treaty of Guadalupe Hidalgo marked an end to the Mexican American war and California became a territory of the United States. Statehood was attained in 1850 and in 1851 the Land Act, passed by Congress, meant that all grants were then subject to validation under United States laws.

Even after the acquisition of California by the United States the ranchos continued to thrive until the ruinous droughts of 1863-1864, which decimated the cattle herds. The large land grants were gradually sold off to a burgeoning community of small farmers. Tens of thousands of acres changed hands as lands sold, often for less than their assessed value (Angel 1883; Dart 1978; Morrison and Haydon 1917). The new owners were most often North Americans or Europeans who arrived on the heels of the drought as land prices plummeted. Two grants (Santa Ysabel and El Paso de Robles) were made in the vicinity of the Project, although neither included it. A number of complex land transfers involving the grant s took place over the next decades.

4.3.3.1 Rancho Santa Ysabel and Rancho El Paso de los Robles

The 17,774+ acre Rancho Santa Ysabel, located directly south of the Project, was granted on May 12, 1844 by Mexican Governor Manuel Micheltorena to Francisco Arce (Ohles 1997: 104-110). At the time Arce was a clerk in the government offices in Monterey (Blomquist 2003). Myron Angel reported that the owner of the Santa Ysabel was Teodora Gonzales in 1860 (Angel 1883), but this title is a bit murky. By 1864, The Maurice Dore family was running a sheep operation on the property. An 1874 map

shows "Ranch House M. Dore" near the mouth of a "Warm Spring" (Santa Ysabel Creek). The United States Land Commission issued a patent on the parcel on May 21, 1866. In 1878, a San Miguel Mission administrator, Don Innocenti Garcia, told Thomas Savage that Arce had sold the land to Don Francisco Rico (Temple 1974); however, no other record of this transaction has been located (Ohles 1997:110). Ownership had passed to W. V. Huntington by 1886. The Huntingtons had plans to build a resort around the hot springs at the rancho, but this never came to fruition.

The 26,000 acre rancho El Paso de los Robles was granted May 12, 1844 to Pedro Navarez by Mexican Governor Manuel Micheltorena. This rancho had been used by the Mission San Miguel for growing wheat and grazing sheep. Navarez was a Mexican who had served as Captain of the Port of Monterey. Since he had duties in Monterey, he operated the rancho through a *mayordomo*. In 1845, he sold it to Petronillo Rios, who could stay on the rancho and thereby protect it from the continuing raids by Indians. A patent on the El Paso de los Robles was obtained July 20, 1866 by Petronillo Rios.

4.3.4 American Era

4.3.4.1 Paso Robles

Prior to the patent of the El Paso de los Robles, the land had been sold in two separate transactions, first to Daniel and James Blackburn on September 21, 1858. The second portion was sold July 9, 1861 to Lazarus Godchaux. They immediately began making improvements to the hot sulphur springs which had been used by local inhabitants for generations (Robinson 1970: 57). The location had long been a rest stop for travelers on the El Camino Real. In 1864 the El Paso de Robles Hotel was built, with attendant bath house. By the 1870s, the Paso Robles Hot Springs was a well known destination for people seeking the famous curative powers of the springs (Sawyer 1915). Drury Woodson James bought a one-half interest in the Paso Robles Hot Springs and the one league surrounding it in 1869.

4.3.4.2 West Coast Land Company

The West Coast Land Co. was incorporated on March 27, 1886 under the management of Chauncey H Phillips. Their immediate objective was to purchase and develop 64,000 acres of land for resale (*Pacific Rural Press* 1887). As described in the company advertising pamphlet, the region was "Heaven on Earth, anything will grow, plentiful water is available by digging only 10-40 feet deep, grow three crops per year." (West Coast Land 1887). The land was comprised of the ranchos Santa Ysabel, El Paso de

Robles, Eureka, and the unsold portion of Huer Huero. The purchase was based upon the expectation that the Southern Pacific Railroad would build a coastal line between San Francisco and Los Angeles through San Luis Obispo County (Nicholson 1980). A town plan for Paso Robles was commissioned. On November 17, 1886, two weeks after the first train arrived in "town" a "Grand Auction" was held, resulting in the sale of 228 lots. The town plan was completed by 1887. The trickle of settlers became a flood and Paso Robles became a major agricultural export center. Cattle ranches, dairies, almond and other fruit orchards, and large tracts devoted to dry land grain production comprised the rural landscape.

The West Coast Land Company subdivided the Santa Ysabel Rancho into 143 parcels. Homesteaders along the northeast border of the rancho along Huer Huero Creek, from north to south, were Kearny, two Reynold farms and Ballard. The Map filed for their development excluded the property with a windmill at the eastern end of Wisteria Lane that was already being farmed by Dwight Reynolds.

4.3.5 History in the Project Area

Within T26S R12E of the MDM, the proposed project meanders through most of Section 23 with a portion south of Highway 46 within the northeast quarter of Section 26. Following the Huer Huero Creek drainage, it also runs along the edge of Section 24 curving up through the southwest corner of Section 13 and across to the southeast corner of Section 14. The Huer Huero Creek runs north through that portion eventually entering the Salinas River. In 1862 the Homestead Act was enacted to provide settlers with 160 acres of farmland from public lands (Robinson 1948). Later, Patents were issued to farmers and ranchers desiring to develop the area north and east of Rancho Santa Ysabel.

Tract 2778-2 (1), APN 025-435-029 (030/031), the parcel that contains the windmill at the end of Wisteria Lane, is within the southeast quarter of Section 23, T26S R12E. Section 23 borders the east side of Rancho Santa Ysabel and was settled in 1874 by Dwight Reynolds. The southeastern one half of Section 14, also in the project area, was homesteaded by James D. Kearney in 1874. The Land Office issued Patent #878, for E½ of SW ¼ of Section 23 in 1877 to John M. Cunningham. The El Paso Robles Homestead Patent consisted of a 148.6 acre parcel. Homestead Patent #490 outside of the Rancho Santa Ysabel along the Huer Huero in Sections 13 and 14, was filed by William G. Guffy in 1875. Homestead Patent #1263 for land south of the current Highway 46 in the

northern portion of Section 26 within the current project area, as well as a part of Section 23, was issued to Benjamin Mathew in 1872.

4.3.5.1 Estrella District

Estrella was the name of a district region defined by the Salinas and Estrella Rivers and Huer Huero Creek, part of the lands of Mission San Miguel used for livestock grazing. After the demise of the mission system, the area remained unsettled until the 1870s, when settlers began to homestead on the government owned lands, raising sheep and cattle, and growing barley and wheat (Angel 1883: 378). The small community constructed the first Protestant church in the northern part of the county in 1877. Located on Airport Road, it is now a California Historical Landmark.

> "John A. McMillan, a circuit rider who had been appointed on August 20, 1877, came through the hills from Cambria to Estrella. On January 29, 1878, people gathered in the Estrella Courthouse and organized the first Methodist Episcopal class on the Estrella Plains (the area northeast of the current Paso Robles airport). John Fortney, whose family settled on the Estrella Plains in 1862, was the leader. The people who gathered resolved to build a church.
> "Water was hauled and bricks were made on the site located one-half mile west of the first Estrella School. Any lumber needed had to be hauled over the mountain from San Luis Obispo. The six early pioneers, most of the money, and the labor for making the original adobe bricks were John Fortney, Francis M. Stovall, John Marden, William Guffy, Joseph P. Moody, and Dwight Reynolds." (Ohles www.historyinslocounty.org)

Guffy and Reynolds farmed land and lived on both sides of the Huer Huero Creek in the project area. John Fortney farmed just to the east of Guffy in Section 13. William G. Guffy's 160 acres ran along the east bank of the Huer Huero Creek. Fruit trees were being grown in the area as reported by Guffy in 1889. The names and number of fruit trees, familiar to the project area were; the Fortney estate 50, Tuley 100, Guffy 100 and H. W. Rhyne 1200. Rhyne's number of trees probably included those grown on land in other areas. It was in 1896 that Guffy's Patent was mortgaged to E. F. Young for $1200 and his mortgage to Bertha Schwartz for $650 was paid off.

In 1880, forty families supported a school, butcher shop, grocery, candy store, two blacksmiths, and a mercantile in Estrella. The post office was established on July 8, 1886, across the street from the Fortney General Store. A. N. Rude reported to the *San Luis Obispo Tribune* from the Estrella region in 1883:

> "Crops are looking well, especially on the summer fallowed land, that was put in after the first rain had started the vegetation.
> "The county continues to settle up quite rapidly. Every few days a settler comes in and locates a Government claim. In a few years most all the Government land will be taken. We hope to see those large ranches lying south of our settlement divided up into small tracts and sold to settlers. The Santa Ysabel, Eureka and Huer Huero would make homes for hundreds of families. Cord Hester [sic] sold his place the other day to Mr. Edger of San Jose.
> "The Grange met last Saturday, the 21st, at the school-house and had quite a pleasant time. After the business of the Grange was over a splendid dinner was served, free to all. The meeting of the Grange was of special interest, because of the presence of Hon. Geo. Steele, who is one of the pioneer Grangers of the State. At one o'clock he delivered an interesting and instructive lecture on Grange principles. H. W. Rhyne also spoke on the same subject. Quite a number were present and seemed to enjoy the lecture very much. In the evening dancing commenced and continued until near midnight. The young folks of course enjoyed the dancing and some of the older ones too." (*San Luis Obispo Tribune,* April 27, 1883).

Families in attendance that evening included the Rhynes, who married into the Reynolds families, as well as the Waggoners from Section 14, and the Fortneys.

4.3.5.1.1 Dwight and Mary Reynolds

In 1877, Mary Reynolds purchased land from John B. and Anna Cunningham described as E½ and Lots 3 and 4 and Southwest ¼ of Section 23 for $500 (San Luis Obispo County 1877). Later in 1879, Mary purchased the adjoining parcel from Cunningham (San Luis Obispo County 1879). During that year, Dwight Reynolds was reported in the 1880 U. S. Selected Federal Census Non-Population Schedules for his 300 acres as producing $240 from his farm. His land and improvements were worth $1000. The same year, his neighbor was Robert Shannon, to whom he mortgaged the of the ¼, N ½ of SE¼ in Section 23 and the E½ Lots 3 and 4 of the SW¼ of Section 23 totaling 300

acres. (*San Luis Obispo Tribune,* Jan. 17, 1880). A report of agricultural possibilities reported by Reynolds was published in the newspaper in 1883:

FROM SAN YSABEL

"Mr. Dwight Reynolds, who owns a fine farm of 300 acres on the San Ysabel, called in on Tuesday. He reports everything in the agricultural line promising most liberally. The grass and grain is growing as if in a hot house. Ten days ago where all was in despair now the brightest hopes prevail, such being the revivifying power of a few showers of rain. There are about 500 acres of wheat on the San Ysabel, and from 6000 to 8000 on the Estrella plains near by, all of which will yield above the average. Mr. Reynolds reports the locating of a station of the Southern Pacific Railroad at the Estrella settlements, about five miles from his place. The people are well pleased with the prospect of a railroad and want it completed so they can send their wheat to market by this fall. Mr. Reynolds thinks the land in the valley of the Estrella and Huero [sic] Huero superior for wheat to the land on the western side of the Coast range, provided the rains are fair, as the soil is light, rich and warm. Deed [sic] *deep* plowing, however, is required. The country is uncommonly favorable for fruit, no variety being excepted which can withstand a winter temperature of twenty degrees. The great want heretofore has been water, but now there is plenty for this year, and from experiments made it is believed that an abundance of artesian can be obtained. Some time since Mr. Cody sunk a well, by digging and windlass, to the depth of 80 feet but finding no water was discouraged and about to abandon the work when he concluded to bore with a small artesian auger from the bottom of his shaft. After sinking through a body of clay for a depth of thirty feet, a stream of water burst forth driving the auger out of the hole. Two men were at work at the time in the bottom of the shaft, which at once commenced filling with water. As but one could ascend at a time there was danger of the second drowning while the first was being raised to the surface. By the time the bucket returned for the remaining well-digger the water had accumulated to a depth of six feet and continued to rise until a stratum of sand was reached about thirty feet form the top. Since then Mr. Kingery has purchased the land and lately undertook to bail out the well, intending to put in a pipe with the expectation that water would flow over the ground. He was unable to lower the water more than two feet in

> a day although he had horse power to aid in the bailing. From this circumstance it is believed that an abundance of water can be obtained throughout the region by deep boring." (*San Luis Obispo Tribune* April 6, 1883)

In the 127 years since that was reported, there have been great changes to water levels as well as requirements by OSHA.

A map titled "Map of the Subdivisions of the Rancho Santa Ysabel," was surveyed by R. R. Harris in 1886 for the West Coast Land Company and was filed in the following year. At that time the project parcel depicted on the map was farmed by Dwight Reynolds. In 1889, a petition was presented to the County Supervisors for a new road to be named Reynolds Road by Dwight Reynolds and others. It was rejected as impractical (*San Luis Obispo Tribune* May 10, 1889). Another request was made to widen the Paso Robles/Estrella Road over lands owned by Reynolds and others. In 1891 along the Huer Huero, Mary Reynolds received from Dwight Reynolds, property described as the SE¼and S½ of NE¼ of Section 23 for $100 excepting 1½ acres that was previously owned by Guffy *(San Luis Obispo Tribune* Dec 3, 1891).

4.3.5.1.2 Reynolds Family

Dwight Reynolds was born in the state of New York in 1837. Growing up he worked on his father's farm and for other farmers around the state. He left New York for California, arriving by ship to San Francisco in 1860. After working in farms and running sheep for others in San Joaquin and Santa Clara, Dwight settled in San Luis Obispo County. Dwight was a well known citizen of Paso Robles. He engaged socially, and was a representative to Republican conventions.

> "In 1874, Mr. Reynolds came to San Luis Obispo County and engaged in raising sheep for himself. He was later superintendent of the Eureka ranch two years and for a few years of the Santa Isabel ranch. He purchased two ranches of one hundred sixty acres each on the Huer-Huero river about three miles from Paso Robles, and began improving them with good buildings and getting the land under cultivation; and from time to time he added to them until he owns about four hundred acres in one body. Here he engaged in the sheep business for a number of years and met with success. He also did general farming. He also owns

> one hundred sixty acres adjoining Paso Robles, where the golf links are located, a place that promises to become one of the finest residential sections of the city." (Morrison & Haydon 1917: 243-44)

Dwight married Mary Johnson in San Luis Obispo at the Cosmopolitan Hotel in August, 1875. Mary was originally from Canada. Mary owned lots in San Luis Obispo in the Loomis Addition. After their marriage Mary Reynolds purchased two adjoining parcels in Section 23 along the Huer Huero from John B. and Anna Cunningham; first in October 1877 (SLO County 1877) and later in 1879 (SLO County 1879). Dwight and Mary Reynolds settled on the parcel and raised five children. Dwight was involved with the first Dry Creek School as a trustee and board member. Although the five children were in the household in 1900, by 1910 they had left the farm.

In 1917 Isabel, their oldest daughter, had married Walter Rhyne and in the later years lived on the ranch. Brothers Ross and Charles were farming on the Huntington Ranch and William was in Canada. The youngest, a daughter, Vine had married (Morrison and Haydon 1917). Dwight at age 82 and Mary at age 75, still lived on the land in 1920, with Dwight working as a general farmer. In 1922, Dwight's daughter Vine Coates was deeded a lot on the rancho. After Mary died in 1923 and just before Dwight died in 1925, Dwight granted 148 acres in Section 23 to a Mary Gantze.

4.3.5.1.3 Ross Reynolds

Throughout his life Ross farmed and ranched. Early on he moved to various places renting and leasing large acreages around Huer Huero. For a short period he had a teaming and hauling enterprise when he was hauling for the Producers Transportation Company during construction of the pipe line from the valley. Not long after that he settled on, and operated, his father's ranch.

4.3.5.1.4 Foote Rhyne Family

Born in 1852, Foote and his father, Henry W. Rhyne came from Mississippi to California by train in 1869. The family came to the county in 1880, briefly at first, to Arroyo Grande. By 1889, Foote was an officer of the Paso Robles Grange. Two years later the Foote Rhyne family homesteaded and pre-empted 320 acres on the Huer Huero along the road to Shandon (Morrison and Haydon 1917). Foote and his wife, Nellie Kitchen Rhyne, had ten children. Foote and son Walter were involved with the Alliance Mill in San Miguel serving as directors beginning in 1898. After thirty years of

raising alfalfa and cattle, Foote sold out and relocated to Turlock. Foote and Nellie's sons, Walter and Weaver F., remained in the county.

4.3.5.1.5 Walter W. Rhyne

Foote and Nellie's son Walter was born in 1878 in Monterey County. Walter was soon helping out ranching and farming on the family homestead on the Huer Huero. He "…learned to drive eight and ten-horse teams in the fields, and helped at home until he was twenty-two" (Morrison and Haydon 1917:773). Walter Rhyne married Isabel, the daughter of Dwight and Mary Reynolds, in 1900. They had four children. Later he ran his father's ranch until 1910, when he farmed grain on 640 acres of leased land on the Huntington Ranch as did Ross Reynolds, Dwight's son in 1913. The names Rhyne and Reynolds are intertwined in the history of the eastern side of the Salinas River.

4.3.5.1.6 Reynolds and Rhyne in the 1950s

In 1950, Ross, the son of Dwight and Mary Reynolds still had most of the property in the project area in 1950. In 1953 he requested a survey of NE1/4 SE1/4 of Section 23 for the Airport Business Park. More deeds are listed for Ross in the area until he died in 1966. Unfortunately due to the COVID-19 virus, the San Luis Obispo County Clerk/Recorder's Office was not open to the public to allow and confirm further deed research for the project area. Walter W. Rhyne, who had married Ross's sister Isabel, still lived on the parcel on the north side of Highway 46 west of the Huer Huero. Walter died in 1958 five years after Isabel. The Rhyne name appears on the 1957 Division of Forestry Map.

4.3.5.2 Recent Times

The 1948 Paso Robles USGS 7.5 minute quadrangle shows seven structures in the southern portion of the study area, three of them near a windmill (See Figure 2). None of these structures are extant, disappearing sometime after 1978, as they still appear on the 1978 USGS 7.5' quadrangle. Tom Erskine acquired much of the project area over the past number of years; much of the project study area is still used for cattle grazing. In 1996, the 18-hole Huerhuero Golf Course was proposed that would have included some of the northern portion of the study area. An archaeological survey was performed (Singer 1996), but the golf course was never built. A study was conducted in 2013 for the "Wisteria Project" in San Luis Obispo County. The proposed project area comprises 210 acres encompassing much of the present Project study area. Eleven lots located at

the eastern end of Wisteria Lane are slated for commercial development based on a Tentative Tract Map/Planned Development and General Plan Amendment.

5.0 METHODS

5.1 PREVIOUS ARCHEOLOGICAL RESEARCH

Prior to the field survey, a records and literature search was conducted at the Central Coastal Information Center, University of California Santa Barbara, which is the state-designated regional clearinghouse for archaeological site information for San Luis Obispo County. The records of the State Historic Property Data Files, National Register of Historic Places, National Register of Determined Eligible Properties, California Historical Landmarks, California Points of Historic Interest, California Office of Historic Preservation Archaeological Determinations of Eligibility, and the Caltrans State and Local Bridge Surveys were also consulted. (see Exhibit A).

A total of 40 previous cultural resource studies have been conducted within a one mile radius of the project area. (Anastasio 2013; Conway 2001, 2006, 2008, 2015; Dills 1975, 1990a, 1990b; Farrell 1999, 2007; Gibson 1988, 2006, 2010; Glover et *al.* 1999; Gross and Bowen 2010; Haas *et al.* 2015; Hoover 1985, 1988; Laurie and Pulcheon 2013; Letter and Letter 2018; Lober and Hannahs 2011; Maki 2000; PAR Environmental 1992; Parker, B. 1995, 2000; Parker, J. 1999, 2006; Singer 1987, 1996, 1997, 1998a, 1998b, 2000, 2004, 2005a, 2005b; Singer and Atwood 1988; Smith 1979; Spanne 1977; Waldron 1985). Twelve of these investigations took place at least partially within the current project area.

5.1.1 Prehistoric Archaeological Sites

Four archaeological sites or isolated artifacts have been identified within the one mile study area radius, three of these are within the project area:

- Resource 40-038329 is an isolated cream colored Monterey chert leaf-shaped projectile point that was found within the project area during a survey for a previously proposed development (Laurie and Pulcheon 2013).

- Site CA-SLO-2826 is located on the flat overlooking Huer Huero Creek to the east. It is a low density lithic (stone) debitage and tool scatter about 24 by 40 meters. The artifacts are of locally available Monterey chert. When recorded in 2013, nine primary flakes, eight secondary flakes, one core and a single early stage biface fragment were seen.

- CA-SLO-2827 is another low density lithic scatter measuring 20 by 45 meters, located about 50 meters south of SLO-2826. Here 15 primary flakes, 12 secondary flakes, three core fragments and a contracting-stemmed projectile point were seen. A shaped sandstone mano (handstone) was also found. No subsurface investigations have been undertaken at either of these locations. Although in the project study area, these sites will be avoided and should not be impacted by any construction.

5.1.2 Historic Debris

A light scattering of historic debris within the Project study area was noted by Singer (1996) and also during the fieldwork for the Wisteria project:

> "Sparse historical archaeological debris (e.g., glass, ceramic, and various ferrous metals) was observed in very limited quantities within the project area. These materials are likely associated with the aforementioned historic-era structures visible on the 1948 *Paso Robles* 7.5-minute USGS quadrangle and are still present on the 1978 version.... The buildings are no longer present. The highly diffuse nature and low quantities of historic materials are likely the result of the demolition and removal of the structures. Due to the disturbed nature and lack of concentrated deposits/scatters, these materials are not considered a historical archaeological site and do not warrant formal recordation; they are given no further consideration in the report due to their lack of potential to qualify as historical or unique archaeological resources under CEQA." (Laurie and Pulcheon 2013)

5.2 SUMMARY OF NATIVE AMERICAN OUTREACH

A request for a Sacred Lands File (SLF) was sent to the Native American Heritage Commission (NAHC) in Sacramento, with a request for a list of names and information for Native American tribes, individuals, and organizations that may have knowledge or concerns about resources in the project area. The NAHC responded with negative results from the SLF search, and a caveat that neither the NAHC or CHRIS files are exhaustive, and a negative response to these researches does not preclude the existence of a cultural place. NAHC provided the following list of affiliated tribes to whom letters were sent inviting consultation: Santa Ynez Band of Mission Indians,

Barbareño/Ventureño Band of Mission Indians, San Luis Obispo County Chumash Council, Salinan Tribe of Monterey and San Luis Obispo Counties, Santa Ynez Tribal Elders Council, Coastal Band of the Chumash Nation, yak tityu tityu Northern Chumash Tribe, Salinan-Chumash Nation, and the Northern Chumash Tribal Council (Exhibit B).

5.3 FIELD SURVEY

A series of transects spaced at approximately one meter apart were walked over a period of several days by Nancy Farrell and Ron Rose of CRMS. As the exact project footprint was tweaked several times, a number of trips to the field were made in the winter, spring and summer of 2020. Mineral soil visibility was variable, ranging from 10% to 90%. Bare areas of ground and rodent burrows, were carefully inspected for the presence of cultural materials. The survey focused on the entire proposed footprint. No prehistoric cultural materials, such as ground stone or chipped stone tools, or shell or bone ecofacts were observed within the project area. As discussed above, occasional historic debris was encountered (Figure 4, 5, 6, 7, 9 and 9).



Figure 4: Photo of Typical Rodent Burrow



Figure 5: View To Southwest From Bluff-top East of Airport Road



Figure 6: View South From Dry Creek Road



Figure 7: View South From West of Airport Road and East of Huer Huero Creek



Figure 8: View North Between Horse Park and RV Park



Figure 9: View Northeast From Cava Robles RV Park

6.0 RESULTS AND RECOMMENDATIONS

During the field surveys, no previously unknown archaeological sites were found. Two previously identified sites, CA-SLO-2826 and CA-SLO-2827, were re-located and plotted using GIS. Further cultural resources study such as Phase II evaluative test excavations would be required to formally evaluate these resources for their eligibility for inclusion in the CRHR. Through a process of consultation with the project designers, these sites are no longer in the impact zone. The recreational trail will run in the vicinity of, but at the same time avoiding the artifact scatters. Therefore, excavation of the sites is not deemed necessary at this time.

6.1 CULTURAL RESOURCES MONITORING PLAN

Due to the proximity of these sites, however, it is recommended that archaeological monitoring be required during trail construction within 100 feet of the recorded site boundaries. The monitoring should be guided by a Cultural Resource Monitoring Plan written by a qualified archaeologist and approved by the City.

6.2 ACCIDENTAL DISCOVERY

If cultural resources, such as prehistoric or historic artifacts, bone, or other cultural materials are encountered during project activities, all work within 50 feet of the discovery should be redirected. The City Environmental Coordinator should be

notified so that the extent and location of discovered materials may be evaluated by a qualified archaeologist. The archaeologist will assess the situation, consult with agencies as appropriate, and make recommendations regarding the treatment of the discovery. Upon completion of the assessment, the archaeologist should prepare a report documenting the methods and results of the investigation, and provide recommendations for the treatment of the archaeological materials discovered.

Project personnel should not collect or move any archaeological materials or human remains and associated materials. Prehistoric materials can include flaked-stone tools (projectile points, knives, choppers); obsidian, chert, basalt, or quartzite tool-making debris; bone tools; culturally darkened (midden) soil (often containing fire-affected rock, ash and charcoal, shellfish remains, bones); and ground stone milling equipment.

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EXHIBIT A

Records and Literature Search
Central Coast Information Center
University of California
Santa Barbara, CA

California
Archaeological
Inventory



SAN LUIS OBISPO AND
SANTA BARBARA COUNTIES

Central Coast Information Center
Department of Anthropology
University of California
Santa Barbara, CA 93106-3210
PHONE (805)-893-2474
FAX (805)-893-8707
EMAIL ccic@anth.ucsb.edu

2/11/2020

Nancy Farrell
Cultural Resource Management Services
829 Paso Robles St.
Paso Robles, CA 93446

Re: City of Paso Robles Huer Huero Bridge Crossing

The Central Coast Information Center received your record search request for the project area referenced above, located on the Paso Robles, Estrella USGS 7.5' quad(s). The following reflects the results of the records search for the project area and a one mile radius:

As indicated on the data request form, the locations of reports and resources are provided in the following format: ■ custom GIS maps ☐ shapefiles ☐ hand-drawn maps ☐ none

Resources within project area:	P-40-038329
Resources within 1 mile radius:	SLO-2879, P-40-038332, P-40-38008
Reports within project area:	13; See list
Reports within 1 mile radius:	27; See list

Resource Database Printout (list):	■ enclosed	☐ not requested	☐ nothing listed
Resource Database Printout (details):	■ enclosed	☐ not requested	☐ nothing listed
Resource Digital Database Records:	☐ enclosed	■ not requested	☐ nothing listed
Report Database Printout (list):	■ enclosed	☐ not requested	☐ nothing listed
Report Database Printout (details):	☐ enclosed	■ not requested	☐ nothing listed
Report Digital Database Records:	☐ enclosed	■ not requested	☐ nothing listed
Resource Record Copies:	■ enclosed	☐ not requested	☐ nothing listed
Report Copies:	☐ enclosed	■ not requested	☐ nothing listed
OHP Historic Properties Directory:	☐ enclosed	☐ not requested	■ nothing listed
Archaeological Determinations of Eligibility:	☐ enclosed	☐ not requested	■ nothing listed

The following sources of information are available at **http://ohp.parks.ca.gov/?page_id=28065**. Some of these resources used to be available through the CHRIS but because they are now online, they can be accessed directly. The Office of Historic Preservation makes no guarantees about the availability, completeness, or accuracy of the information provided through the sources listed below.

California State Lands Commission Shipwreck Database	*Caltrans Historic Bridge Inventory*
U.S. Geological Survey Historic Topographic Maps	*Rancho Plat Maps*
National Park Service National Register of Historic Places Nominations	*Natural Resource Conservation Service Soil Survey Maps*
US Bureau of Land Management General Land Office Records	*California Historical Landmarks Listing (by county)*
Five Views: An Ethnic Historic Site Survey for California (1988)	*Historical Soil Survey Maps*

Please forward a copy of any resulting reports from this project to the office as soon as possible. Due to the sensitive nature of archaeological site location data, we ask that you do not include resource location maps and resource location descriptions in your report if the report is for public distribution. If you have any questions regarding the results presented herein, please contact the office at the phone number listed above.

The provision of California Historical Resources Information System (CHRIS) data via this records search response does not in any way constitute public disclosure of records otherwise exempt from disclosure under the California Public Records Act or any other law, including, but not limited to, records related to archeological site information maintained by or on behalf of, or in the possession of, the State of California, Department of Parks and Recreation, State Historic Preservation Officer, Office of Historic Preservation, or the State Historical Resources Commission.

Due to processing delays and other factors, not all of the historical resource reports and resource records that have been submitted to the Office of Historic Preservation are available via this records search. Additional information may be available through the federal, state, and local agencies that produced or paid for historical resource management work in the search area. Additionally, Native American tribes have historical resource information not in the CHRIS Inventory, and you should contact the California Native American Heritage Commission for information on local/regional tribal contacts.

Should you require any additional information for the above referenced project, reference the record search number listed above when making inquiries. Requests made after initial invoicing will result in the preparation of a separate invoice.

Thank you for using the CHRIS.

Sincerely,

Brian Barbier, M.A.
Assistant Coordinator

EXHIBIT B

Letter To Native American Heritage Commission (NAHC)
Response From NAHC
Letter To Native Americans and Groups
Response From Native Americans and Groups

CRMS
CULTURAL RESOURCE MANAGEMENT SERVICES

Cultural Resource Management Services
829 Paso Robles Street
Paso Robles, CA 93446
Phone 805-237-3838
Fax 805-237-3849

February 10, 2020

Mr. Steven Quinn
Associate Governmental Program Analyst
California Native American Heritage Commission
1550 Harbor Blvd., Suite 100
West Sacramento, CA 95691

RE: Phase I Inventory Survey, Dry Creek Road and Airport Road
Paso Robles, CA

Dear Mr. Quinn

The City of El Paso de Robles, owner of the property described above, is proposing the realignment of Airport Road, to include a bridge over Huer Huero Creek, as well as various walkways and bicycle paths.

Cultural Resource Management Services (CRMS) has been retained, to prepare a Phase I surface survey as well as provide an early participation notice to interested Native Americans and Native American groups relative to the proposed construction project.

Please review the sacred lands files for any Native American Sacred resources or sites that may be within or adjacent to the area of potential effect (APE). Please verify that any sacred sites in the vicinity are not in the APE. The project area is within the incorporated limits of the City of El Paso de Robles, San Luis Obispo County, and is identified on the attached portion of the USGS Paso Robles 7.5' Quadrangle. The study area falls within, Portions of Sections14, 15, 23, 24 and 26, Township 26 South, Range 12 East, MDM.. As a portion of the area was part of a Rancho, there are no section lines for parts of the study area. The project location is depicted as a salmon colored polygon.

Also provide a list, including names and addresses, of Native American individuals and organizations who may have knowledge of cultural resources in the project area; or who may have a concern or wish to comment on the project.

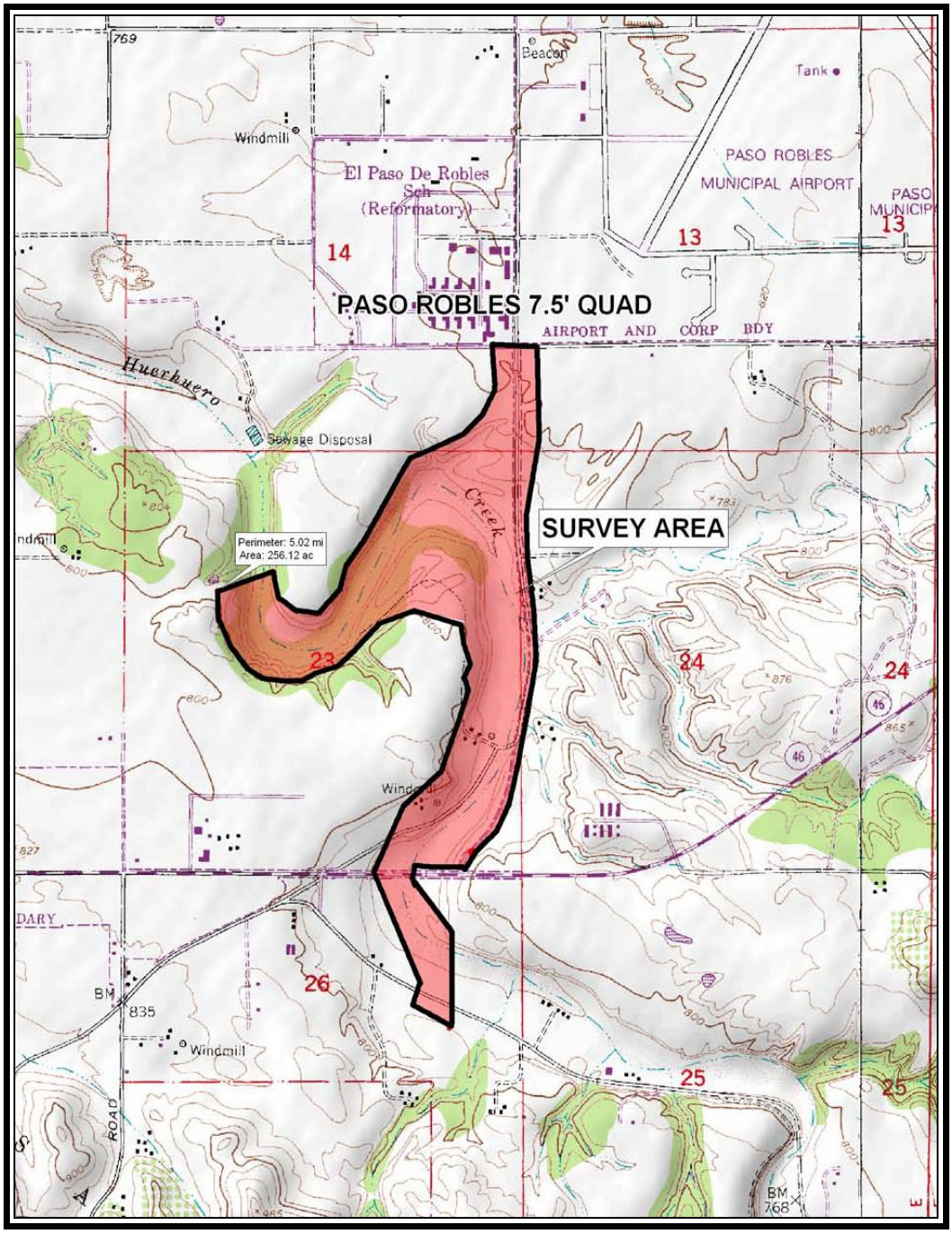
If you have any questions contact me at the phone number or address shown, or by email ronrose@crms.com. We look forward to your reply.

Best regards,



Ron Rose
Vice President

Encl: Portion of USGS 7.5' Quadrangle Paso Robles, CA



Portion of USGS 7.5' Quadrangle, Paso Robles, CA

NATIVE AMERICAN HERITAGE COMMISSION

CHAIRPERSON
Laura Miranda
Luiseño

VICE CHAIRPERSON
Reginald Pagaling
Chumash

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Luiseño

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Paiute/White Mountain Apache

COMMISSIONER
Joseph Myers
Pomo

COMMISSIONER
Julie Tumamait-Stenslie
Chumash

COMMISSIONER
[Vacant]

EXECUTIVE SECRETARY
Christina Snider
Pomo

NAHC HEADQUARTERS
1550 Harbor Boulevard
Suite 100
West Sacramento,
California 95691
(916) 373-3710
nahc@nahc.ca.gov
NAHC.ca.gov

February 24, 2020

Ron Rose
CRMS

Via Email to: ronrose@crms.com

Re: Dry Creek Road and Airport Road Project, San Luis Obispo County

Dear Mr. Rose:

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 indicate the absence of cultural resources in any project area. Other sources of cultural resources should also be contacted for information regarding known and recorded sites.

Attached is a list of Native American tribes who may also have knowledge of cultural resources in the project area. This list should provide a starting place in locating areas of potential adverse impact within the proposed 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 or email to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from tribes, please notify me. With your assistance, we can assure that our lists contain current information.

If you have any questions or need additional information, please contact me at my email address: Andrew.Green@nahc.ca.gov.

Sincerely,

Andrew Green

Andrew Green
Cultural Resources Analyst

Attachment

CRMS
CULTURAL RESOURCE MANAGEMENT SERVICES

Cultural Resource Management Services
829 Paso Robles Street
Paso Robles, CA 93446
Phone 805-237-3838
Fax 805-237-3849

XXXXXXXXXXXXXXXXXXXXX
XXXXXXXXXXXXXXXXXXXXX
XXXXXXXXXXXXXXXXXXXXX
XXXXXXXXXXXXXXXXXXXXX

March 2, 2020

RE: Phase I Survey, Vicinity of Airport Road and Dry Creek Road, Paso Robles, CA

XXXXXXXXXXX:

The City of El Paso de Robles intends to realign Airport Road, to include a bridge crossing over Huer Huero Creek, and ultimately tying into the existing Wisteria Lane.

Cultural Resource Management Services (CRMS) has been retained, to prepare a Phase I surface survey as well as provide an early participation notice to interested Native Americans and Native American groups relative to the proposed construction project.

The project area is within the incorporated limits of the City of El Paso de Robles, San Luis Obispo County, and is identified on the attached portion of the USGS Paso Robles 7.5' Quadrangle. The study area falls within, Portions of Sections 14, 15, 23, 24 and 26, Township 26 South, Range 12 East, MDM.. As a portion of the area was part of a Rancho, there are no section lines for parts of the study area. The project location is depicted as a salmon colored polygon.

The Native American Heritage Commission has indicated that no Sacred Sites exist either on the property or in the near vicinity. If you have knowledge of the area, please share that information with me in your comments. If you have any questions contact me at the phone number or address shown, or by email ronrose@crms.com. We look forward to your reply.

Best regards,

Ron Rose
Vice President

Encl: Portion of USGS 7.5' Quadrangle, Paso Robles CA

The letter on the previous page was sent to the following Native Americans and Groups. XXXX substituted for address and salutation.

Native American Heritage Commission
Native American Contact List
San Luis Obispo County
2/24/2020

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

Barbareno/ Ventureno Band of Mission Indians
Patrick Tumamait,
992 El Camino Corto — Chumash
Ojai, CA, 93023
Phone: (805) 216 - 1253

Barbareno/ Ventureno Band of Mission Indians
Raudel Banuelos,
331 Mira Flores — Chumash
Camarillo, CA, 93012
Phone: (805) 427 - 0015

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

Chumash Council of Bakersfield
Julio Quair, Chairperson
729 Texas Street — Chumash
Bakersfield, CA, 93307
Phone: (661) 322 - 0121
chumashtribe@sbcglobal.net

Coastal Band of the Chumash Nation
Gino Altamirano, Chairperson
P. O. Box 4464 — Chumash
Santa Barbara, CA, 93140
cbcn.consultation@gmail.com

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

Salinan Tribe of Monterey, San Luis Obispo Counties
Fredrick Segobia, Tribal Representative
7070 Morro Road, Suite A — Salinan
Atascadero, CA, 93422
Phone: (831) 385 - 1490
info@salinantribe.com

San Luis Obispo County Chumash Council
Mark Vigil, Chief
1030 Ritchie Road — Chumash
Grover Beach, CA, 93433
Phone: (805) 481 - 2461
Fax: (805) 474-4729

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

Xolon-Salinan Tribe
Karen White, Chairperson
P. O. Box 7045 — Salinan
Spreckels, CA, 93962
Phone: (831) 238 - 1488
xolon.salinan.heritage@gmail.com

Xolon-Salinan Tribe
Donna Haro, Tribal Headwoman
P. O. Box 7045 — Salinan
Spreckels, CA, 93962
Phone: (925) 470 - 5019
dhxolonaakletse@gmail.com

This list is current only as of the date of this document. 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 assessment for the proposed Dry Creek Road and Airport Road Project, San Luis Obispo County.

Native American Heritage Commission
Native American Contact List
San Luis Obispo County
2/24/2020

yak tityu tityu yak tiłhini – Northern Chumash Tribe
Mona Tucker, Chairperson
660 Camino Del Rey
Arroyo Grande, CA, 93420
Phone: (805) 748 - 2121
olivas.mona@gmail.com

Chumash

This list is current only as of the date of this document. 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 assessment for the proposed Dry Creek Road and Airport Road Project, San Luis Obispo County.

RESPONSE TO LETTERS WRITTEN

3/5/20 Email response from Julie Lynn Tumamait Stenslie

Thanks Ron, this is out of my area. I defer to Mona Tucker.

Julie

3/16/20 Email response from Patti Dunton

Hi Ron, I have read the proposed project and because of the location near and in the Huer Huer River were burials have been identified in the past we would request that all ground disturbing activities be monitored by a cultural resource specialist from our tribe.

Take Care, Patti

3/23/20 Email response from Fred Collins

Hello Ron,

NCTC would like to see the records search and the final Phase I survey report for the project, thank you.

Fred Collins
NCTC

3/24/20 Email response from Karen White

Good Day,
This area falls under the traditional lands and boundaries of the Xolon Salinan Tribe.Â At this time, we do not know of any specific sensitive sites within this project.
Please be aware our ancient ancestors lived close to creeks and other water tributaries within these lands.
Regards, Karen R White, Xolon Salinan Tribe

APPENDIX J. KOVESDI CONSULTING VISUAL ASSESSMENT, JULY 2021

DRAFT

VISUAL RESOURCES AND IMPACT ASSESSMENT

For
City of Paso Robles
Huer Huero Bridge and Roundabout



Prepared for

City of Paso Robles
Department of Public Works
1000 Spring Street
Paso Robles, CA 93446

Prepared by

Kovesdi Consulting
3940-7 Broad Street, #139
San Luis Obispo, CA 93401
(805) 471-2948

July 28, 2021

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1.0 PROJECT DESCRIPTION

1.1 PROJECT SYNOPSIS

The City of el Paso de Robles proposes to construct vehicular and multi-use paths that reduce traffic on Highway 46 near Airport Road. The New Airport Road extension and bridge over Huer Huero Creek will connect businesses and residences south and west of the creek with the Paso Robles Airport, businesses, and residences north and east of the creek. The Project consists of three main components located within a Project area of approximately 13.3 acres: (1) the New Airport Road extension and bridge across Huer Huero Creek, (2) realignment of a portion of Airport Road and a new roundabout intersection with New Airport Road, and (3) a Class I trail extending from Union Road in front of Barney Schwartz Park to the Cava Robles RV Resort.

1.2 PROJECT COMPONENTS

1.2.1 New Airport Road Extension and Bridge over Huer Huero Creek

This project proposes to extend New Airport Road from the planned industrial park terminus,

This project proposes to extend New Airport Road from the planned industrial park terminus, bridge over Huer Huero Creek, and connect with Airport Road northeast of the creek. The extension will include construction of an approximately 575’ long by 44’ wide prestressed cast-in-place (PS/CIP) concrete box girder bridge over Huer Huero Creek. The cross section of New Airport Road on the bridge will be two 12’ vehicular travel lanes, two 5’ bike lanes, one 6’ sidewalk (on the west side), and two 2’ bridge barrier rails (one on either side). The bridge, abutments, and roadway will be designed to be above the 100-year flood elevation. The bridge is anticipated to have an approximately 7’ deep superstructure, with four spans and three approximately 6' x 9' oblong support piers within the floodplain. One of piers will likely be in the low flow channel.

1.2.2 Airport Road Realignment and Roundabout Intersection

Airport Road is to be realigned to the west to connect to the New Airport Road extension just north of the northerly bridge abutment. The road will include 12’ travel lanes and 5’ shoulders in each direction. A new single-lane roundabout is proposed at the three-leg intersection of Airport Road and New Airport Road. The roundabout will be constructed mostly on fill with a 140’ inscribed circle diameter (ICD). The roundabout influence area will extend to the ends of the splitter islands that appropriately align and moderate the speed of traffic approaching and departing the roundabout.

The central island in the roundabout will include a wide truck apron designed to accommodate off-tracking of back tires of trailers of large trucks. The truck apron will be separated from the circulatory roadway using a fully mountable and traversable curb. The center of the central island will be mounded and landscaped to increase the visibility and aesthetic appeal of the roundabout. A ten-foot wide shared-use path will be constructed around the roundabout with a detectable buffer separation from the vehicular areas. On both the approach and departure legs of the roundabout, bike ramps connecting the shoulders and shared use paths will accommodate cyclists who prefer to ride separated from vehicular traffic through the roundabout. Crosswalks will be 10’ wide and set back from the circulatory roadway with pedestrian refuge areas in the splitter islands.

1.2.3 Class I Trail

The project will construct an approximate 2.5-mile meandering, multi-use path that generally parallels Huer Huero Creek and typically consists of a 10' wide paved section with 2' unpaved shoulders on each side. A southern trailhead is proposed at Union Road near Barney Schwartz Park, and path construction will end near the Cava Robles motorcoach resort where a final connection to Golden Hill Road is to be constructed by others as part of another development. This multi-use path is a critical part of the City's 2018 adopted Bicycle and Pedestrian Master Plan.

In this reach of Huer Huero Creek water flow is typically subterranean. The trail will be located both within and above the floodplain and generally be constructed at grade to not obstruct significant flood flows. Between the Union Road trailhead and the New Airport Road bridge the trail will be located west of Huer Huero Creek and cross under State Route 46 East (SR 46E) and the New Airport Road bridge. After crossing under the new bridge, the trail will head north across the creek, and run along the northeast side of the creek until it again crosses the creek to the southwest bank east of the Cava Robles resort. The creek crossings will be boardwalk low-height crossings to emulate the at-grade nature of the trail and minimize footprint area. The boardwalk creek crossing will allow water to overflow during flood events and be constructed of all-weather recycled decking material with steel/wood supports.

South of SR 46E, the alignment will utilize an existing berm as much as possible. Concrete box culverts and embankment construction are anticipated to cross an existing development and roadside drainages on both the north and south sides of SR 46E. A combination of excavation and retaining wall is expected to be constructed on the westerly slope under the SR 46E bridges above the existing RSP limits at the abutments. North of SR 46E the trail will continue on the west side of the creek, and the alignment will climb the existing embankment fill to the north to rise out of the 100-year floodplain. Alternative trail alignments were considered. The proposed trail alignment will use the general Paso Robles Boulevard alignment to head north. The alignment remains on the west side of the creek and continues north and then westerly as the creek meanders towards and under the New Airport Road bridge.

The trail is to cross underneath the New Airport Road bridge then cross the creek to the north, where a connection to the shared use path at the roundabout intersection will be constructed. The trail will tie into the roundabout on the northwest side, then follow along the realigned roadway until it reaches the existing Airport Road alignment. At this point it will follow the existing road until it intercepts the realigned road again, where it follows along at an even offset once again, north to Dry Creek Road. West of the bike trail connection to the roundabout, the trail alignment will be centered on an existing dirt ranch road in the upper area of the floodplain, at the base of a hillside that generally parallels the creek. The trail alignment continues on the northeast side of the creek until another boardwalk crossing to the southwest bank (approximately 3,400' downstream of the new bridge). The trail alignment then climbs the hillside and terminates at the Cava Robles Resort property line. A connection to Golden Hill Road from this project's trail terminus point is to be constructed by others.

1.3 PRIMARY PURPOSE AND OBJECTIVE

The primary purposes of this Project are to re-route arterial traffic from northeast of the City to Golden Hill Road, extend multi-modal connections that avoid Highway 46 crossings, and reduce Vehicle Miles Traveled. The northeast part of the City is a growth area for jobs/businesses as well as tourism and airport use. State Route 46 East (SR 46E) bisects this NE portion of the City from the residential and downtown areas.

The City, in conjunction with the San Luis Obispo Council of Governments (SLOCOG) and the California Department of Transportation (Caltrans), has worked for years to find ways to reduce congestion at the at-grade crossings that characterize this segment of SR 46E, and allow multimodal access from the NE portion of the City to residential and downtown areas. The "Parallel Routes" concept was born of this work, which seeks to construct alternate means to connect the NE section of the City to the rest of the City while bypassing use of SR 46E. New Airport Road is a backbone element of this plan. The Huer Huero Bridge and Roundabout project allows motorized and non-motorized commuters and visitors to use roadway and trail elements to safely and efficiently bypass SR 46E.

1.4 LOCATION AND BACKGROUND

Paso Robles is situated on the Central Coast of California, approximately halfway between San Francisco and Los Angeles (Figure 1-1). The City is located in northern San Luis Obispo County and is bordered on all sides by the unincorporated areas of the County. Paso Robles encompasses 12,740 acres and supports a population of approximately 32,000 residents.

State Route 46 East (SR 46E) within the City Limits is currently a four lane highway. This section of the highway passes over grazing lands, vineyards and wineries located in the hills of Paso Robles. It serves as a major goods movement route for produce and other products coming out of the Salinas Valley to other areas throughout California.

Demand on SR 46E comes from interregional mobility and goods movement, travel within the region, as well as locally generated trips. The demand for goods movement is evidenced by relatively heavy truck traffic that accounts for a higher percentage compared to other routes. While travel demands continue to increase throughout the corridor, infrastructure improvements have not kept pace for the facility to operate at an acceptable level of service.

In addition to existing and projected regional growth, there have been numerous development proposals in and around the Municipal Airport. The City has collaborated with Caltrans, the San Luis Obispo Council of Governments (SLOCOG), and the County of San Luis Obispo on numerous studies and programs to address traffic and circulation issues on SR 46 East. These include:

- 1964 – 46 East Freeway Agreement
- 2001 – 46 East Corridor Study
- 2003 – Route 46 Corridor Improvements Project
- 2007 – Caltrans Freeway Requirement Letter

- 2008 – 46E Parallel Route Study
- 2009 – SR 46 Corridor System Management Plan
- 2009 – 46E Comprehensive Corridor Study (CCS)
- 2010 – 46E / Union Road PID
- 2011 – Circulation Element Update
- 2014 – 46E / Union Road PSR
- 2015 – 46E / Union Road PAED (initiated)
- 2017 – 46 Concept Plan (TCR)
- 2019 – Circulation Element Update, Transportation Impact Fee Needs List Update

The most recent outcome of these studies, agreed to by the City, Caltrans, SLOCOG, and the County of San Luis Obispo, is for the City to improve the "parallel routes" to State Route 46 East (SR 46E) in order to provide local traffic alternative connections and relieve SR 46E congestion pressure. The proposed project includes Alternative 1 and a portion of Alternative 3, as shown on the "Map of Alternatives" exhibit of backbone facilities for these "parallel routes" (Fehr & Peers, 2008).

The City is currently finalizing the second step of planning for an overcrossing of Union Road over SR 46E in the PA&ED phase. Final design is anticipated to start in late 2021. Roundabouts at Tractor Street and Wisteria Lane are envisioned to be constructed by future development, along with the construction of "New Airport Road". The City is now initiating its share of these "parallel routes" for the construction of the Huer Huero Creek Bridge, the roundabout north of the bridge and the roadway connection to "Old" Airport Road.

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2.0 METHODOLOGY

2.1 OVERVIEW AND PURPOSE OF VISUAL ASSESSMENT

The purpose of this visual assessment is to document potential visual impacts caused by the proposed Project and propose measures to lessen any detrimental impacts that are identified. Visual impacts are demonstrated by identifying visual resources in the project area, measuring the amount of change that would occur as a result of the project, and predicting how the affected public would respond to or perceive those changes.

The assessment of visual (or aesthetic) impacts involves qualitative analysis that is subjective in nature: different viewers react to aesthetic conditions differently. This discussion evaluates the existing visual environment, as well as the changes to that environment anticipated with implementation of the Project. A number of key views have been identified that would most clearly demonstrate the change in the project's visual resources. Key views also represent the viewer groups that have the highest potential to be affected by the project considering exposure and sensitivity.

The proposed Project conceptual plans were modelled and overlaid onto photos of existing conditions, then reviewed for conformance to adopted plans and regulations described in Section 2.2, below. These photo simulations, included in the Visual Assessment, allow viewers, decision makers, and the public to compare existing visual resources against those that would occur after implementation of the proposed Project. The analysis portion of the Visual Assessment characterizes both the extent and nature of the anticipated change to visual and aesthetic resources.

A Visual Assessment provides important information to the public and decision makers about the effects of a proposed project through the following analytical steps:

- Identifying those views potentially affected by a proposed project over which the public is most likely to express concern (critical public views);
- Describing the existing visual conditions (character and quality) of those potentially affected critical public views;
- Estimating the intensity of possible adverse visual impacts on those views;
- Evaluating the significance of the possible impacts; and
- As applicable, considering possible mitigation measures that could lessen the impacts to a level of intensity that is less than significant.

The existing visual condition of the Project site is the baseline against which the visual impacts of a proposed action or its alternatives is measured, and it is assessed only relative to critical public views, as defined in Section 2.1.3. This baseline is expressed in terms of the prevailing character of the affected setting and the degree to which past actions have adversely affected that character and its quality. Both the existing daytime visual conditions of the project vicinity and the existing night lighting conditions are considered. Specifically, the existing visual condition is influenced by the following:

- Visual Features. Visual features are treated as inherent, an established part of the setting, if they reflect how the landscape was formed (e.g., ecological processes versus human activities), how it functions (e.g., serving land uses or ecological relationships), and how it is structured ("patterns" of features, such as the broad rectilinear mosaic of irrigated croplands, a natural and irregular mosaic of grasslands and woodlands, or development in urban zones).

- Congruence (Intactness). A second attribute of the existing visual condition of the landscape is the degree to which past actions have noticeably and unfavorably changed landscape features, or introduced incompatible features, such that the results appear incongruent with the inherent visual character of the area. A Visual Assessment measures the landscape's current state of "intactness," the integrity of the character type in terms of the degree to which "encroaching elements" may be present.

- Coherence (Unity). The third attribute of existing visual condition is the current internal consistency and harmony of landscape features that has resulted from past actions. A landscape may be "intact" relative to the type of features within view, yet past actions may have resulted in there being little to no discernible pattern, composition and/or harmony associated with those features. Incoherent landscapes are those in which the scale, form, line, color, and texture of introduced features may be divergent to the point of distraction.

- Visual Access. Apart from its physical features, the affected landscape is also described in terms of the physical conditions under which it is viewed. Such conditions include public access to views, the breadth of available views (panoramic or narrowly focal), their duration and timing, and the viewing angle. Past actions may have limited physical access to formerly available viewing positions or partially or totally blocked visual resources from public view, shortened view duration, or altered when the views are available (e.g., entry limited to certain hours of the day or times of the year).

2.1.1 Definition of Visual Resources

The visual resources of an area include the features of its landforms, vegetation, water surfaces and cultural modifications (physical changes caused by human activities) that give the landscape its visually aesthetic qualities. Landscape features, natural or otherwise, form the overall impression of an area. This impression is referred to as "visual character." Visual character is studied as a point of reference to assess whether a given project would appear compatible with the established features of the setting or would contrast noticeably and unfavorably with them.

2.1.2 2Definition of Visual Sensitivity

Visual resources have a social setting, which includes public expectations, values, goals, awareness, and concern regarding visual quality. This social setting is addressed as "visual sensitivity," the relative degree of public interest in visual resources and concern over adverse changes in the quality of that resource. As applied to visual impact analyses, sensitivity refers to public attitudes about specific views, and is key to identifying critical

public views, assessing how important a visual impact may be, and whether it represents a significant impact.

The degree of visual sensitivity is treated as occurring at one of four levels as follows:

High Sensitivity. High sensitivity suggests that there is great potential for the public to react strongly to any lessening of visual quality. Concern is expected to be great because the affected views are rare, unique, or in other ways are special to the region or locale. A highly concerned public is assumed to be more aware of any given level of adverse change and less tolerant than a public that has little concern. A small modification of the existing landscape may be visually distracting to a highly sensitive public and represent a substantial reduction in visual quality.

Moderate Sensitivity**.** Moderate sensitivity suggests that there is substantial potential for the public to voice some concern over visual impacts of moderate to high intensity. Often the affected views are secondary in importance or are similar to others commonly available to the public. Noticeably adverse changes would probably be tolerated if the essential character of the views remains dominant.

Low Sensitivity. A small minority of the public may have a concern over scenic/visual resource impacts on the affected area. Only the greatest intensity of adverse change in the condition of aesthetics/visual resources would have the potential to register with the public as a substantial (significant) reduction in visual quality.

No Sensitivity. There is no sensitivity where the potentially affected views are not "public" (not accessible to the general public) or because there are no indications that the affected views are valued by the public.

2.1.3 Definition of Critical Public Views

Critical views are defined as being those sensitive public views that would be most affected by the subject action (e.g., the greatest intensity of impact due to viewer proximity to the project and project visibility, duration of the affected view, etc.).

The approach to identifying critical public views begins with an inventory of sensitive viewing positions in the project vicinity. Public surveys may be conducted to uncover attitudes toward the potentially affected visual resources which may indicate potential sensitivity to adverse changes in those resources. It is unusual for surveys to be held, due to constraints on the budget for the assessment and the time to complete the analyses. In the absence of public surveys, most often indicators of public concern are used to rate potential public sensitivity. A list of commonly used indicators is presented in Table 1. This list reflects the concepts and methods of the United States Forest Service (USFS), Bureau of Land Management (BLM), and Federal Highway Administration (FHWA), which treat sensitivity as a function of viewer expectations, activity, awareness, and values. Some activities tend to heighten viewer awareness of scenic resources (recreational pursuits, for instance), while others tend to focus attention on other aspects of the environment (i.e., commuting to work). Viewer awareness may also be heightened where areas are

formally classified or designated as being of special interest, such as historic monuments or national, state, or regional parks and forests.

TABLE 1. VISUAL SENSITIVITY INDICATORS

HIGH SENSITIVITY • Views of and from areas the aesthetic values of which are protected in laws, public regulations and policies, and public planning documents. • Views of and from designated areas of aesthetic, recreational, cultural, or scientific interest, including national, state, county, and community parks, reserves, memorials, scenic roads and trails, interpretive sites of scientific value, scenic overlooks, recreation areas, designated open space, and historic structures, sites, and districts. • Views of and from areas or sites of cultural/religious importance to Native Americans. • Views from national or state-designated scenic highways or roads, designated scenic highways or roads of regional importance. • Views from resort areas. • Views from urban residential subdivisions and segments of roads near them that serve as their primary access route. • Views from segments of travel routes, including roads, rail lines, pedestrian and equestrian trails, and bicycle paths, that are near, and are the primary access to, designated areas of aesthetic, recreational, cultural, or scientific interest. Views seen while approaching an area of interest may be closely related to the appreciation of the aesthetic, cultural, scientific, or recreational significance of that destination.
MODERATE SENSITIVITY • Views from segments of travel routes near highly sensitive use areas of interest serving as a secondary access route to those areas. • Views from highways or roads locally designated as scenic routes and of importance only to the local population, or informally designated as such in literature, road maps and road atlases. • Views from a major aggregation of rural residences (a group of at least twenty homes) and the proximate stretch of the roadway serving as their primary access route (within one mile of the homes). • Views of, and from, undesignated but protected or popularly used or appreciated areas of aesthetic, recreational, cultural, or scientific significance at the local, county, or state level. • Views from segments of travel routes, including roads, trails, bicycle paths, and equestrian trails, that are near, and are the primary access to, protected or popularly used undesignated areas important for their aesthetic, recreational, cultural, or scientific interest, and which lead directly to them. • Views of and from religious facilities and cemeteries.
LOW SENSITIVITY • Views from travel routes serving as secondary access to moderately sensitive areas. • Views from a minor aggregation of rural residences (a group of at least four homes) and the proximate stretch of the roadway serving as their primary access route (within one mile of the homes). • A small minority of the public demonstrably has an interest in the quality of scenic/visual resources within potentially affected views and a concern over adverse impacts on those resources.
NO SENSITIVITY • The views are not public. • There are no identifiable indications of public interest in the quality of scenic/visual resources within potentially affected views or concern over adverse impacts to those scenic/visual resources. For example, such views would occur along travel routes serving solely commercial, industrial, or agricultural traffic, business parks, research, development, and manufacturing sites.

2.1.4 Definition of Visual Impact

Visual Impact is defined as a change in aesthetics and visual resources which occurs when, relative to a public view:

- Features are altered, introduced, made less visible, or are removed, such that the resultant effect on public views is perceptibly incongruous with the inherent, established character of the landscape. Changes that seem incongruous are those that appear out of place, discordant, or distracting.
- Access to public views is substantially diminished or eliminated by screening or blocking of the affected view; and/or physical access to public viewing positions is substantially restricted or eliminated.

2.1.5 Definition of Visual Impact Intensity

The intensity of a visual impact depends upon how noticeable the adverse change may be. It is indicated by the degree to which existing visual conditions (the baseline for the analyses) would change as a result of Project construction and operation. Whether changes in visual quality are noticeable is a function of public sensitivity to adverse visual impacts, the intensity of the impacts, and their duration.

2.1.6 Definition of Significant Visual Impact

A significant visual impact is one that would cause a substantial, or potentially substantial, adverse change in the visual resources of the affected environment, substantially damage scenic visual resources, or conflict with applicable laws, ordinances, standards, or policies protecting critical public views.

This report will utilize the definitions above, along with supporting evidence, including images and visual simulations of project implementation in order to best assess the existing visual quality, viewer sensitivity, and potential visual impacts to aesthetic resource quality resulting from implementation of the proposed Project. Because the proposed project site is located within a visual corridor potentially regulated by Federal, State, and Local agencies, the regulatory setting of each is described below.

2.2 REGULATORY SETTING

2.2.1 Federal Regulations

The United States Environmental Protection Agency (USEPA) administers the National Environmental Policy Act of 1969 (NEPA). NEPA requires Federal agencies to undertake an assessment of the environmental effects of their proposed actions prior to making decisions. Visual impacts are included among those environmental effects. NEPA did not directly establish specific guidance for conducting environmental analyses. Instead, it set forth national environmental policies and goals for the protection, maintenance, and enhancement of the environment, and provided a process for implementing these goals within federal agencies. NEPA regulations are binding on all federal agencies. The procedural provisions of NEPA include the process of preparing Environmental Impact Statements. Most federal agencies have set forth their own NEPA regulations and guidance which generally follow general procedures, but are tailored to the specific mission and activities of each agency. The best known of these include the analytical frameworks

developed by the U.S. Department of Agriculture, Forest Service (USDA-FS, 1974, 1995); U.S. Department of Interior, Bureau of Land Management (USDI-BLM, 1978); and U.S. Department of Transportation, Federal Highway Administration (USDOT- FHWA, 2015).

The United States Forest Service (USFS) and Bureau of Land Management (BLM) approaches to visual resource assessment are quite similar. Both are frameworks for visual resource management planning, each aimed at establishing Visual Management Objectives (USFS) or Visual Management Classes (BLM) for the lands under their jurisdiction. These Objectives/Classes commit lands to specific levels of visual quality and become part of the overall land management plans adopted for areas under agency jurisdiction. The adoption of these plans is a federal action requiring the preparation of a NEPA-compliant Environmental Impact Statement.

It is important to note that the USFS and BLM systems were designed to: (1) inventory visual resources and provide the basis for ascribing visual resource management objectives to lands under agency management, and (2) to determine whether a proposed action or its alternatives would meet those management objectives. They do not offer a NEPA-compliant framework for identifying the intensity of impacts on visual resources or the significance of those impacts. These systems do not define what constitutes a significant impact, and do not include thresholds of significance for impacts to visual resources.

The Federal Highway Administration (FHWA) methodology differs substantially from the USFS and BLM approaches in that this agency manages no land and, therefore, is not concerned with visual management objectives. Instead, it focuses on guiding the design of highway projects occurring on lands subject to various jurisdictions by identifying and mitigating adverse visual effects. However, like the other agencies, the FHWA neither defines what constitutes a significant impact nor identifies thresholds of significance. The system goes only as far as defining what a visual impact is: "...the degree of change in visual resources and viewer response to those resources caused by a development project" (USDOT- FHWA, 2015).

The FHWA visual impact assessment methodology includes four phases: establishment, inventory, analysis, and mitigation. The establishment phase determines the regulatory context, describes the visual character of the proposed project, and defines the area of visual effect. Viewsheds and landscape units are established to describe the visual context of the project, and to determine how viewers interact with the visual environment in the project area.

The inventory phase describes the natural and cultural environments to define the affected environment; describes viewer groups, such as residents and visitors, to define the affected population, as well as existing and preferred visual quality expected by that population. The gathered inventory data determines key viewpoints and viewsheds as experienced by viewer groups. Key viewpoints and viewsheds are then examined to establish the visual quality baseline in the project area. The inventory phase includes site visits and visual surveys.

The analysis phase measures the impact of the proposed project on the affected environment and population by assessing the compatibility of each visual impact to the existing visual environment,

the sensitivity of viewers to each visual impact, and the degree or type of each visual impact. Analysis includes both quantitative and qualitative evaluation.

Compatibility of each impact is assessed by conducting an analysis of the existing visual character of the project area, compared with the visual character of the project area during and after project implementation. Viewer sensitivity is evaluated based on viewer exposure to and awareness of the project area under existing conditions and awareness of potential visual changes resulting from the proposed project.

Viewer exposure is determined by three factors:

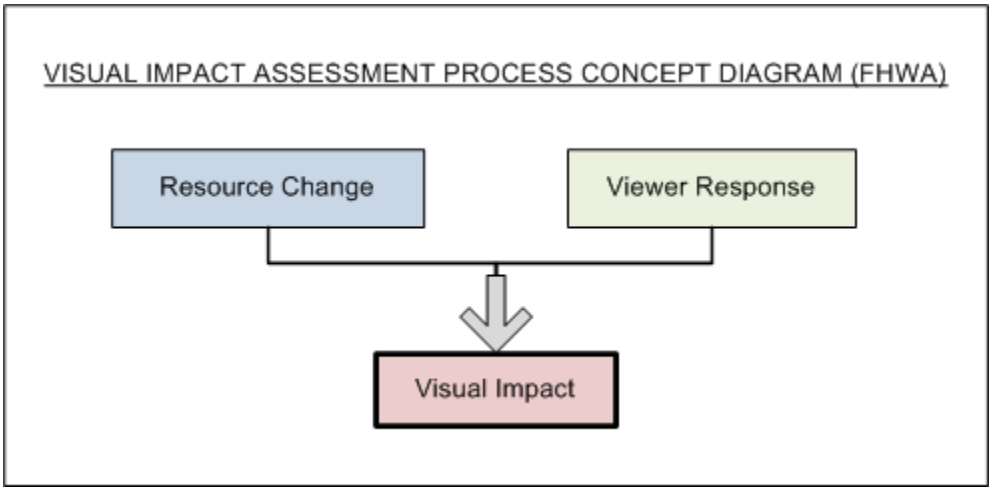
- Proximity (how close the viewer will be to the impact);
- Extent (how many viewers will see the impact); and
- Duration (how long viewers will be able to see each viewpoint).

Viewer awareness is also determined by three factors:

- Attention (increases with the uniqueness of the view and decreases with the routineness of the view);
- Focus (increases with fewer visual elements and decreases with more visual elements); and
- Protection (includes social and legal protections, including those not primarily aimed at protecting aesthetic resources).

Finally, the degree or type of each visual impact is determined by assessing viewer sensitivity to potential impacts to visual resources, including changes to natural harmony, cultural order, project area coherence, and overall visual quality. Impacts can be adverse, beneficial, or neutral. Graphic simulations of the proposed project are often used in this analysis to show the impacts resulting from project implementation. Figure FHWA-1 and Table FHWA-2 outline the agency's evaluation of visual impacts.

EXHIBIT 1. FHWA VISUAL IMPACT ASSESSMENT PROCESS



(FHWA 2013)

TABLE 2. FHWA VISUAL IMPACT RATINGS ASSESSMENT

TABLE FHWA-2. Visual Impact Ratings Using Viewer Response and Resource Change						
	Viewer Response (VR)					
Resource Change (RC)		Low (L)	Moderate-Low (ML)	Moderate (M)	Moderate-High (MH)	High (H)
	Low (L)	L	ML	ML	M	M
	Moderate-Low (ML)	ML	ML	M	M	MH
	Moderate (M)	ML	M	M	MH	MH
	Moderate-High (MH)	M	M	MH	MH	H
	High (H)	M	MH	MH	H	H

(FHWA 2013)

In the mitigation phase, recommendations are developed for avoiding, minimizing, and compensating for significant adverse visual impacts associated with a proposed project. Opportunities for enhancing visual quality may also be identified. Consideration of mitigation and enhancement measures is required by the National Environmental Policy Act (NEPA) (40 CFR 1508.20) to help reduce the overall impact of a proposed project on both physical and social environments. Proposed mitigation and enhancement measures must be technically and financially feasible.

Under NEPA, the terms "effect" and "impact" are used interchangeably. Effects may also include those resulting from actions which may have both beneficial and detrimental effects, even if on balance the agency believes that the effect would be beneficial. Direct and indirect effects are defined as follows:

- Direct effects are those caused by the action and occurring at the same time and place.
- Indirect effects are caused by the action and are later in time or farther removed in distance but are still reasonably foreseeable.

2.2.2 State Regulations

The intent of the California Environmental Quality Act (CEQA) is defined, in part, as a structure to "[t]ake all action necessary to provide the people of this state with clean air and water, enjoyment of aesthetic, natural, scenic, and historic environmental qualities, and freedom from excessive noise". All discretionary actions undertaken by local or state agencies in California require evaluation for potential impacts under CEQA. Unlike NEPA, the California Environmental Quality Act provides limited guidance in identifying thresholds for significance of aesthetic impacts. Under CEQA, an effect is considered to be a change in any of the physical environment within the area affected by the project.

CEQA defines "environment" as "the physical conditions that exist within the area which will be affected by a proposed project, including land, air, water, minerals, flora, fauna, noise, or objects of historic or aesthetic significance", and defines a significant impact as "...a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project, including...objects of...aesthetic significance". Four specific areas of concern regarding significant visual impacts are listed in Appendix G of the CEQA Guidelines (Environmental Checklist). An impact is considered significant if the project would result in one or more of the following conditions:

a. Substantial, adverse effects on a scenic vista.
b. Substantial damage to scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within [view from] a state scenic highway [insertion added for clarity].
c. Substantial degradation of existing visual character or quality of a site and its surroundings.
d. Creation of a new source of substantial light or glare that would adversely affect day or nighttime views in the area.

The California Scenic Highway Program was created by the Legislature in 1963. Its intent is to "protect and enhance the natural scenic beauty of California highways and adjacent corridors, through special conservation treatment". A highway is eligible for designation as scenic based upon the scenic quality of the landscape, how much of the natural landscape can be seen by travelers, and the extent to which development intrudes upon natural views.

The California Department of Transportation (Caltrans) manages the Scenic Highways Program, which allows eligible highways throughout the state to be officially designated as scenic. The State of California Streets and Highways Code (sections 260-264) maintains a list of all designated Scenic Highways in the state. In order for an eligible highway to be granted State Scenic Highway designation, the local governing agency with jurisdiction over land abutting the highway must adopt a "Scenic Corridor Protection Program", which protects the scenic quality of the corridor by limiting development visible from the highway. Highway 46 East in Paso Robles is eligible for Scenic Highway designation.

2.2.3 Local Regulations

The City of Paso Robles regulates the appearance of private and public improvements through provisions of the General Plan Land Use, Circulation, and Conservation Elements, as well as the Municipal Code Design Guidelines.

The Land Use Element (2014) governs development within the City. A number of Land Use Element goals, policies, and actions to protect visual resources in the Specific Plan area apply to the Proposed Project:

GOAL LU-2: Image/Identity. Maintain/enhance the city's image/ identity.
Policy LU-2B: Visual Identity. Promote architectural and design excellence by imposing stringent design and construction standards for commercial, industrial, mixed-use, and multifamily projects.

Action Item 2. Adopt design standards to clearly articulate how important public views, gateways, and landmarks are to be maintained/enhanced. This is to include, but not be limited to:

- Enhancing views along highways, roads, streets, and rail corridors with landscaping, building setbacks, enhanced architecture, and signage/monuments.

Action Item 3. Require utilities to be places underground in new development projects, except for those circumstances where this requirement is not reasonably related to the specific project. Voltage lines of 44 KV or greater are excluded from this undergrounding requirement.

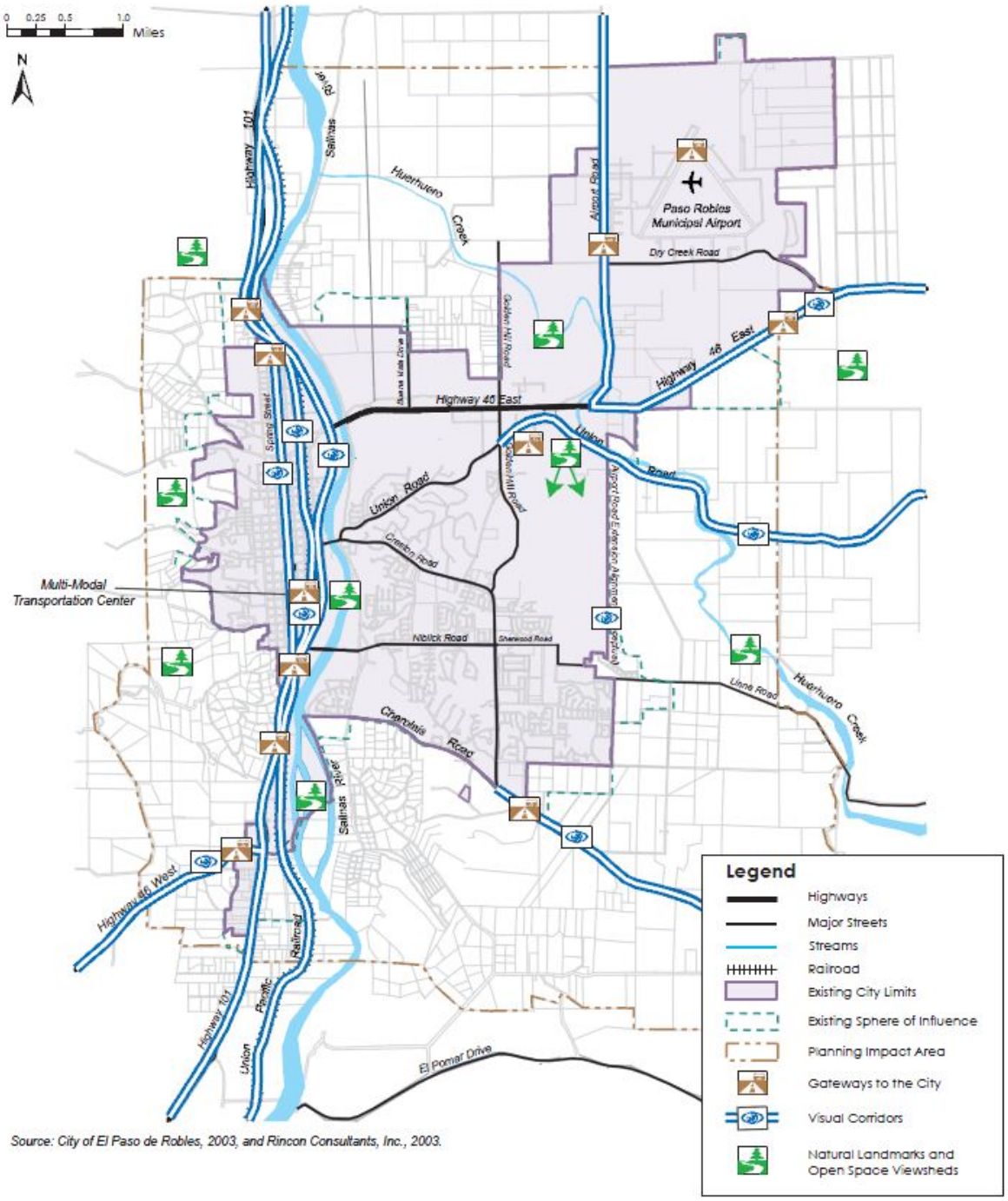
The City's Conservation Element (2014) promotes the preservation of visual and other resources in and around the City that contribute to the "quality of life and community image", and "make Paso Robles a special place to live or visit". The Conservation Element includes one Goal, one Policy, and two Action Items specific to visual resources:

GOAL C-5: Visual Resources. Enhance/upgrade the City's appearance.
POLICY C-5A: Visual Gateways and Landmarks. Identify important visual resources: gateways, corridors, major arterials, natural/open space areas, as shown on Table C-1 and Figure C-3.

Action Item 1. Investigate and implement, as feasible, a variety of alternative funding sources to enhance important visual resources, including but not limited to:

- Mello-Roos and similar infrastructure financing for improvement and potential maintenance of public landscaping, particularly along streets and other visible public travel routes;
- Bond programs such as property acquisition, improvement, and maintenance for corridor visual improvements; and/or
- Encourage Caltrans to preserve or enhance existing trees and landscaping along the Highway 101 corridor.

Action Item 2. Coordinated/Complementary Design Standards: Establish and implement site design, landscaping, architecture, and sign design standards in order to ensure that gateways, corridors, major arterials, and natural areas are identifiable.



Source: City of El Paso de Robles, 2003, and Rincon Consultants, Inc., 2003.

City Gateways, Visual Corridors, Natural Landmarks, and Open Space Viewsheds

Figure C-3

Highway 46 East, between Jardine and Airport Roads, and Airport Road itself are both identified in the Conservation Element as "Gateways to the City", and "Visual Corridors", both of which entail special treatment in order to protect visual resources. Figure C-3 of the Conservation Element identifies these areas graphically. Highway 46 East is designated as a "Major Gateway" and "Visual Corridor", due to the volume of local and out of area visitors who encounter this gateway regularly. Table C-1 – "Important Visual Resources" –enumerates related provisions associated with each of these designations:

Gateways to the City:

- May be marked with entrance monument signs.
- Limit range of land uses to preclude those commercial and industrial uses with outside processes and storage.
- Development shall be designed to make a positive visual impression (in terms of design/architecture and landscaping) and incorporate/preserve natural features.
- Billboards shall be limited in number, shall be located to preserve views of natural features.

Visual Corridors:

- Development shall be designed to make a positive visual impression and incorporate/preserve natural features
- Billboards shall be limited in number, shall be located to preserve views of natural features.

The City further explicates visual treatments in gateway areas in its "Paso Robles Gateway Plan: Design Standards" (2008). Standards in this document are intended "to preserve and enhance attractive and appropriate transition areas outside of the community and at the [City's] edges, and to prevent the spoiling of the countryside and the disconnection of the town from the countryside". The Gateway Plan Design Standards identifies Highway 46 east of Airport Road as a key "Town and Country" gateway to the City, marking the "edge of town entry points from the surrounding countryside", with long views and "elevated vistas". The Gateway Plan states that the "essence of this gateway is the experience of moving from a beautiful rural environment into a beautiful town". In order to fulfill this design vision, the Gateway Plan recommends, among other things, working across jurisdictions, with the County and Caltrans, and planting oaks and other trees. The Plan recognizes that "single oaks…. define a strong and uniquely California country road character".

Oak trees are consistently identified as one of the character-defining features of the City, and the Conservation Element includes provisions guiding the preservation and planting of oak trees, recognizing these trees as an important visual resource. The Conservation Element includes one goal, one policy, and three action items which acknowledge the importance of oak trees to the visual character of the City. These provisions contain recommendations for the preservation and enhancement of oak trees within the City:

GOAL C-3: Biological Resources. As feasible, preserve native vegetation and protected wildlife, habitat areas, and vegetation, through avoidance, impact mitigation, and habitat enhancement.

POLICY C-3 A: Oak Trees. Preserve existing oak trees and oak woodlands. Promote the planting of new oak trees.

Action Item 1. Implement the Oak Tree Preservation Ordinance.

Action Item 2. Plant oaks in parks and on other City-owned properties. Care shall be taken to plant new and replacement oak trees in locations and settings that will be appropriate to their species (e.g., avoiding mitigation that would not be suitable).

Action Item 3. Encourage and/or require new development to include the planting of new oaks where feasible and appropriate.

The Municipal Code comprises the regulations that serve as the civil code for the City of Paso Robles. The importance of oak trees as both biological and visual resources for the City is further reflected in the Paso Robles Municipal Code, which includes the aforementioned Oak Tree Preservation Ordinance (2002, Title 10, Chapter 10):

> "A. It is declared that the public interest and welfare requires that the city establish a program for the preservation of oak trees in order to maintain the heritage and character of the City of El Paso de Robles ("The Pass of the Oaks") as well as preserve the beauty and identity of the community."

Section 10.01.010.D explicitly states that "The policies and procedures contained in this chapter apply equally to private property and to projects being pursued by public agencies, including but not limited to the city of El Paso de Robles. It shall be the city's policy to encourage other agencies to comply with these provisions even when the city does not have legal jurisdiction over the actions of that agency." Therefore, provisions of the Oak Tree Ordinance apply to projects proposed and carried out by the City.

The Oak Tree Ordinance directs decision makers to carefully consider oak trees during deliberations and public meetings:

> "F. Preservation of existing oak trees and opportunities to promote the establishment of new oak trees shall be a focus of the planning commission and/or city council in conjunction with consideration of any development project or development related entitlement. Public education regarding the value of preserving oaks and other trees shall be promoted by the City of El Paso de Robles."

The Oak Tree Ordinance details the permitting process for pruning, removing, or grading or landscape planting within the critical root zone (CRZ) of any healthy oak tree with a diameter of six inches or greater at breast height (DBH), along with conditions which may be attached to such approvals.

3.0 VISUAL ASSESSMENT

3.1 EXISTING CONDITIONS, SETTING AND VISUAL CHARACTER

The City of Paso Robles' visual character is defined by undulating hills and oak covered ridgelines, the Salinas River and its tributaries, residential neighborhoods, and transportation corridors. The City's historic Downtown contributes significantly to the unique identity of Paso Robles. Many acres of planted vineyards form the City's "Purple Belt" agricultural buffer, adding definition and charm to Paso Robles.

The proposed Project site is located North of Highway 46 East, South of Dry Creek Road, East of the existing terminus of Wisteria Lane, and West of the existing Airport Road. The area is characterized by rolling, grassy hills, dotted with oaks and other trees. The Huer Huero Creek runs through the site in an undulating, usually dry wash. Land uses surrounding the project site include visitor serving (e.g., equestrian center, RV resorts, water park), light industrial (e.g., agricultural support, shipping, manufacturing), and limited rural residential. The Paso Robles Municipal Airport is located approximately ¼ mile North of the proposed Project site, on Airport Road.

3.2 KEY VIEWPOINTS AND VIEWSHEDS

The Paso Robles Municipal Code defines a viewshed as "the geographical area typically visible from a location beyond a project site. The viewshed includes all surrounding points that are in line of sight with that location and excludes points that are beyond the horizon or obstructed by terrain and other features (e.g., buildings, trees)." Because Airport Road and Highway 46 East (between Jardine and Airport Roads) are identified as Gateways to the City and Visual Corridors, views from each of these travelled ways are considered key viewsheds. Key viewpoints analyzed in this report are shown in Figure 1.

Highway 46 East in the Project area is a divided, four-lane expressway, which connects the City of Paso Robles to the local towns of Whitley Gardens and Shandon, continuing East to the I-5 corridor. The posted speed limit on Highway 46 East is 60 miles per hour. Highway 46 East in the Project area transitions from "Purple Belt" rural and agricultural uses to the East, to industrial and commercial uses immediately West of the Project. Existing foreground views along this corridor range from wineries, an RV resort, a water park, and scattered rural residences East of the Project site, to industrial warehouses, self-storage facilities, and "big-box" retail West of the Project site. Distance views to the North, East and South are largely blocked by topographic features (low hills), but travelers heading West enjoy distant views of the Coastal Mountain Range.

Due to its designation as a "Gateway to the City" (the functional equivalent of a scenic route within the City of Paso Robles), its eligibility for designation as a State Scenic Highway, its proximity to an "Open Space Viewshed" as designated in the City's Conservation Element, and high traffic volumes (which represent a high frequency of public views), public views from Highway 46 East are considered highly sensitive. However, the existing topography and terrain obscures views of the proposed Project site from both eastbound and westbound lanes. Figure 2 shows existing and

post-Project views from eastbound Highway 46 East. Figure 3 shows existing and post-Project views from westbound Highway 46 East.

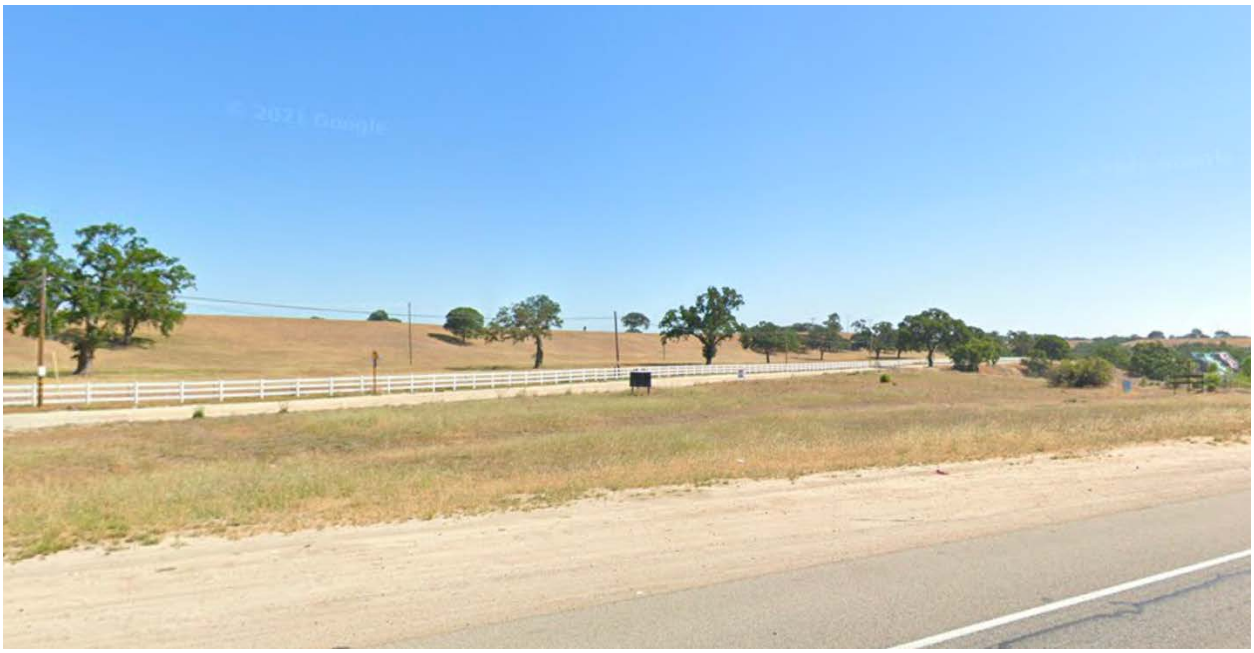
The existing Airport Road North of Highway 46 is an undivided, two-lane arterial, which connects travelers on Highway 46 East to the Paso Robles Municipal Airport, and continues North, out of the incorporated City to Estrella Road, in San Luis Obispo County. The posted speed limit on Airport Road is 55 miles per hour. During AM and PM peak periods, the roadway accommodates approximately 500 peak hour trips. Existing foreground views along the Airport Road corridor between the airport and Highway 46 include grass-covered hills and cultivated fields (some with wood three-rail or wire fencing), as well as parking lots, industrial buildings, and a few rural residences. Utilities along this route are aboveground, with utility wires and poles placed between 50 and 300 feet apart. Oak trees line the roadway at irregular intervals. Ridgelines are visible in the distance along some stretches of Airport Road.

The Project site itself is visible from public vantagepoints on northbound and southbound Airport Road. Also designated as a “Gateway to the City, with direct views of the adjacent “Open Space Viewshed” as designated in the City’s Conservation Element, given lower traffic volumes overall, serving as primary access for less than twenty rural residences, views from Airport Road are considered moderate to highly sensitive. The proposed Project will impact existing views along and from Airport Road for less than one mile. Given the posted speed limit on Airport Road of 55 miles per hour, travelers on Airport Road will note visual changes for just over one minute. Figure 4 shows existing and post-Project views from northbound Airport Road. Figure 5 shows existing and post-Project views from southbound Airport Road.

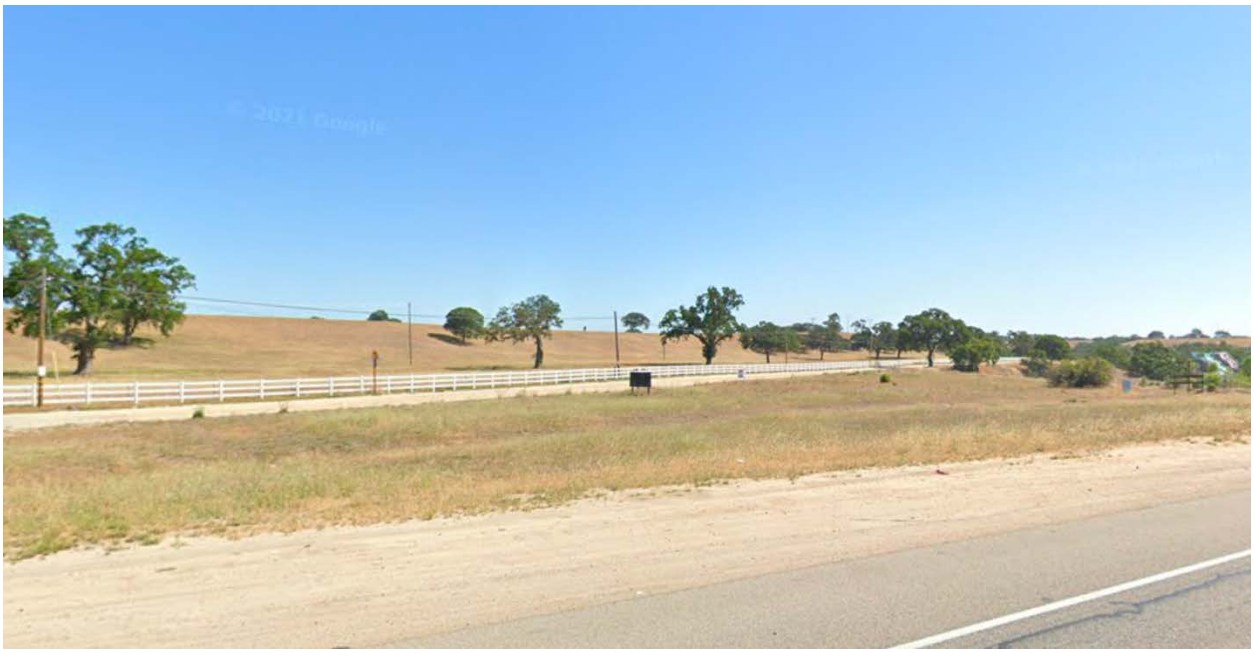
FIGURE 1. KEY VIEWPOINTS



FIGURE 2. HIGHWAY 46 EAST, EASTBOUND



Existing View



Post-Project Construction View

FIGURE 3. HIGHWAY 46 EAST, WESTBOUND



Existing View



Post-Project Construction View

FIGURE 4. AIRPORT ROAD, NORTHBOUND



Existing View



Post-Project Construction View

FIGURE 5. AIRPORT ROAD, SOUTHBOUND



Existing View



Post-Project Construction View

3.3 VISUAL IMPACTS ASSOCIATED WITH PROPOSED PROJECT

3.3.1 Temporary Impacts

Construction activities will temporarily alter some public views, specifically from Airport Road. During construction, equipment may block some views west of the existing Airport Road. These impacts would be temporary in nature, as the construction will occur over a period of up to 24 months (January 2023 through December 2024). The proposed bridge will be constructed over two consecutive construction seasons, May through October 2023 and 2024. Because travelers utilizing public roadways generally anticipate occasional infrastructure improvement-related construction, and due to the limited duration of views on this segment of Airport Road, these temporary visual changes are considered minor.

3.3.2 Permanent Impacts

The project consists of the construction of the New Airport Rd extension and bridge across Huer Huero Creek, realignment of a portion of Airport Road and a new roundabout intersection with New Airport Road, and a Class I trail extending from Union Road in front of Barney Schwartz Park to the Cava Robles RV Resort. The extension will include construction of an approximately 575’ long by 44’ wide concrete box girder bridge over Huer Huero Creek. Airport Road is to be realigned to the west to connect to the New Airport Road extension just north of the northerly bridge abutment. The realigned Airport Road section will be approximately 34 feet in width. A new single-lane roundabout is proposed at the three-leg intersection of Airport Road and New Airport Road. The roundabout will be constructed within a 140’ inscribed circle diameter (ICD). The project will construct an approximately 2.5-mile meandering, multi-use path that generally parallels Huer Huero Creek and typically consists of a 10’ wide paved section with 2’ unpaved shoulders. A southern trailhead is proposed at Union Road near Barney Schwartz Park and path construction will end near the Cava Robles RV resort. Construction of the proposed improvements will involve grading, and the placement of fill material, aggregate base, hot mix asphalt pavement, concrete bridge abutments, guard rails and street lights.

General Plan Policy LU-2D, Action Item 5 requires new lighting to be “shielded and directed downward in such a manner as to not create off-site glare or adversely impact adjacent properties”. Street lighting shall be subject to approval by the Development Review Committee prior to issuance of building or grading permits, as appropriate. Therefore, impacts associated with the installation of new sources of exterior lighting and glare would be less than significant.

Although existing topographic features and terrain obscures views of the proposed project from Highway 46 East, the proposed roadway, bridge, and trail improvements will be visible from public viewpoints along Airport Road. Airport Road is utilized by residents of the City and surrounding County areas, as well as winery and airport visitors. During AM and PM peak periods, the roadway accommodates approximately 500 peak hour trips. The proposed project will introduce a new roadway, bridge, and street lighting to the Airport Road viewshed. The roadway improvements will be constructed approximately at existing contours, with very limited areas of fill. The bridge will be elevated approximately 30 feet, at its highest point, over the existing Huer Huero creek bed elevation. Streetlights will be required to comply with the City’s requirements for light shielding and will be downcast to not shed light on adjacent properties.

Implementation of the proposed project would result in permanent impacts to the visual character of the project area. Tree removal and removal of other vegetation along the slopes adjacent to the bridge will be necessary for the project. Of the 122 oak trees within the project area, 18 will be removed during project implementation in order to accommodate the new bridge alignment. An additional 65 oak trees may incur impacts within the Critical Root Zone (CRZ). Thirty-nine oak trees in the project area will be protected in place, with impacts avoided. No non-oak trees will be removed with the project. The 18 removed oak trees represent approximately fifteen percent of the oak canopy in the area, which may result in a noticeable change in visual resources for sensitive viewers. Because views from Airport Road are protected, removal of 18 oak trees could adversely affect this "Designated Scenic Resource" as defined by CEQA statutes and the Paso Robles General Plan.

3.4 RECOMMENDED MITIGATIONS

The City's Oak Tree Ordinance stipulates that it applies "equally to private property and to projects being pursued by public agencies, including but not limited to the city of El Paso de Robles" (10.01.010D). The Ordinance requires permits for pruning or removal of any oak tree:

- Permit to Prune. No person shall prune an oak tree growing on private or public property within the city limits of the city of El Paso de Robles if said pruning involves cutting a portion of the tree that is six inches or greater in diameter unless they have first received approval of a permit to prune issued by the city's public works director. The director of public works is authorized to establish standards for pruning of oak trees. Pruning of tree limbs of less than six inches diameter does not require a permit.

- Permit to Remove. No person shall remove or otherwise destroy an oak tree of six inches or greater diameter at breast height (DBH) growing on private or public property within the city limits of the city of El Paso de Robles unless they have first received approval of a permit to remove as authorized by the director of community development or the city council. See "Removal of Oak Tree—Application Process;" Removal of oak trees of less than six inches DBH does not require a permit from the city of El Paso de Robles. (Ord. 835 N.S. (part), 2002)

The City of Paso Robles is the applicant for the proposed Project, and is subject to the Tree Ordinance, as described above, for oak tree pruning and removal. During construction, 18 will be removed during project implementation in order to accommodate the new bridge alignment. An additional 65 oak trees may incur impacts within the Critical Root Zone (CRZ). 39 oak trees in the project area will be protected in place, with impacts avoided. No non-oak trees will be removed with the project. The 18 removed oak trees represent approximately fifteen percent of the oak canopy in the area, which may result in a noticeable change in visual resources for sensitive receptors.

In order to mitigate potential visual impacts, mitigation measures including planting of replacement oak trees are proposed. At a 5:1 replacement ratio, up to 90 replacement oak trees will be planted as mitigation for these removals. An additional 65 replacement oak trees will be planted to mitigate trees impacted but not removed. These 155 replacement trees, along with right-of-way

and median landscaping, will soften the visual character within and surrounding the project site. This mitigation measure brings the project into compliance with Policy C-5 of the City's Conservation Element by ensuring that natural areas within the City remain identifiable.

The following mitigation measures are proposed for Aesthetic Resources:

AES - 1. Replacement oaks for removed trees shall be equivalent to 25 percent of the diameter of the removed tree(s), unless an alternative size is approved by the Project Biologist and City Community Development Director. For example, if a 16-inch dbh tree is removed, 4-inches total caliper of replacement trees is required. A one-inch caliper tree is generally in a 15-gallon container, and approximately 8 to 10 feet tall - 4 of these would be required. Smaller caliper trees may be planted at a ratio of 5:1 for each tree removed.

AES - 2. Replacement oaks for impacted trees shall be at a 1:1 ratio for impacts less than 50 percent and 2:1 ratio for impacts to more than 50 percent of the CRZ.

These recommended mitigation measures would reduce the project's visual impact as seen from Airport Road. No mitigation measures are required related to Highway 46 East since the Project site is not visible from that roadway.

3.1 Significance After Mitigation

The Project would result in alteration of views on the Project site by removing 18 oak trees. Implementation of Mitigation Measures AES-1 and AES-2 would reduce visual impacts associated with development on the Project site to a less than significant level by minimizing the project's adverse effects on views of natural vegetative features on the Project site. As proposed and with the recommended mitigations, the Project would not significantly degrade the visual and aesthetic character of public views to the Project site.