



**YOLO COUNTY
COMMUNITY SERVICES DEPARTMENT**

**Draft Initial Study/
Mitigated Negative Declaration
File #PW2022-03**

**County Road 49 over Hamilton Creek
Bridge Replacement Project**

**County Work Order 4599
Federal Project Number BRLO-5922 (111)
November 2022**

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1. Introduction

The Project site is located in northeastern Yolo County, in the Capay Valley, northwest of the town of Guinda. County Road (CR) 49 is a dead-end local roadway that extends from County Road 59 on the south to its terminus roughly 3 miles to the northwest connecting local properties to State Route 16. Approximately 26 feet long and 20 feet wide, the existing bridge (Bridge No. 22C0095) was constructed in 1911 as a single-span earth-filled concrete arch. The bridge has rock pockets and spalling with exposed rebar on the arch soffit. Additionally, the abutment footings are exposed along their entire lengths. As recently as 2013 Caltrans determined the bridge to be functionally obsolete; the bridge has a sufficiency rating of 43.1.

The Yolo County Department of Community Services, Public Works Division (County), and the California Department of Transportation (Caltrans) Division of Local Assistance are proposing to replace the existing bridge on CR 49 crossing over Hamilton Creek with funding made available through the Federal Highway Administration (FHWA) Highway Bridge Program and administered by Caltrans.

The proposed Project will involve the construction of a new bridge along a similar alignment as the existing structure. The proposed replacement bridge will be a single-span, cast-in-place, post-tensioned slab structure, approximately 61 feet long. Construction of the proposed replacement bridge would involve excavation for and construction of cast-in-place concrete abutments to be founded on driven piles. Construction of the roadway approaches will involve the removal of existing pavement and placement of new roadway fill material, aggregate base, hot mix asphalt pavement, and installation of guard rail. Tree removal and removal of other vegetation along the banks of Hamilton Creek will be necessary for Project activities access. Temporary work within Hamilton Creek includes removal of the existing bridge structure, falsework erection and removal, and installation of scour countermeasures at the abutments. During construction, vehicular traffic through the Project site will be maintained with a temporary crossing north of the existing bridge. A drivable surface over the temporary crossing will be installed with gravel backfill placed atop pipe-culverts. Following completion of construction, all materials of the temporary crossing will be removed. Relocation of overhead electrical and communication lines, including two utility poles, and underground telecommunication lines are anticipated as part of the Project. Construction is anticipated to begin in Spring 2024 and have a duration of approximately 8 months.

1.1 Regulatory Framework

The Yolo County Department of Community Services determined that the County Road 49 over Hamilton Creek Bridge Replacement Project meets the California Environmental Quality Act (CEQA) Guidelines Section 15378 definition of a Project. CEQA Guidelines Section 15378 defines a project as the following:

"Project" means the whole of an action, which has a potential for resulting in either a direct physical change in the environment, or a reasonably foreseeable indirect physical change in the environment.

In accordance with the CEQA (Public Resources Code Sections 21000-21177), this Initial Study has been prepared to identify potentially significant impacts upon the environment resulting from the construction, operation, and maintenance of the County Road 49 over Hamilton Creek Bridge Replacement Project (Project or proposed Project). In accordance with Section 15063 of the State CEQA Guidelines, this Initial Study is a preliminary analysis prepared by the Yolo County Department of Community Services as Lead Agency to inform the Lead Agency decision makers, other affected agencies, and the public, of potential environmental impacts associated with the implementation of the Project.

2. Environmental Checklist Form

Project Title	County Road 49 over Hamilton Creek Bridge Replacement Project (Project)
Lead Agency Name and Address	Yolo County Department of Community Services 292 West Beamer Street Woodland, CA, 95695-2598
Contact Person and Phone Number	Ahmad Aleaf, P.E. Senior Civil Engineer 530-666-8437
Project Location	The Project is located on County Road 49, west of State Route 16, northwest of the town of Guinda, in Yolo County, California.
Project Sponsor's Name and Address	Todd Riddiough, Interim Director Public Works Division Yolo County Department of Community Services 292 W. Beamer St. Woodland, CA 95695
General Plan Designation	Agriculture (AG)
Zoning	County Road Right of Way Agricultural Intensive (A-N): 060-090-003; 060-090-006; 060-090-007; 060-090-010
Project Description Summary:	
<p>Construction of a replacement bridge with a similar alignment as the existing bridge (Bridge No. 22C0095) which was determined to be functionally obsolete. The replacement bridge will be a 61-foot long, single-span, cast-in-place, post-tensioned concrete slab with a risen profile to clear a 30- to 40-year storm event. Construction will involve excavation for cast-in-place concrete abutments that will be founded on driven piles. Construction of the roadway approaches will involve the removal of existing pavement and placement of new roadway fill material, aggregate base, hot mix asphalt pavement, and installation of guard rail. Temporary work within Hamilton Creek includes removal of the existing bridge structure, falsework erection and removal, and installation of scour countermeasures at the abutments. To facilitate continued traffic access on CR 49, temporary creek crossing through the Project site will be maintained until the completion of the replacement bridge. A drivable surface over the temporary crossing will be installed with gravel backfill placed atop pipe-culverts. Following completion of construction, all materials of the temporary crossing will be removed. Relocation of overhead electrical and communication lines, including two utility poles, and underground telecommunication lines are expected as a part of the Project. Construction is anticipated to begin in Spring 2024 and have a duration of approximately 8 months.</p>	
Surrounding Land Uses and Setting:	
<p>Land uses/types surrounding (within 5 miles) the Project area consist of valley foothill riparian, rangeland, cropland, agricultural facilities, and a few rural residences.</p>	

Other Public Agencies Whose Approval May Be Required (e.g., permits, financing approval, or participation agreement.):

- Caltrans — National Environmental Policy Act (NEPA) Categorical Exclusion
- U.S. Army Corps of Engineers — Section 404 Clean Water Act Nationwide Permit
- U.S. Fish and Wildlife Service — Section 7 Endangered Species Act
- Central Valley Regional Water Quality Control Board — Section 401 Water Quality Certification
- California Department of Fish and Wildlife — Section 1602 Streambed Alteration Agreement
- Yolo Habitat Conservancy (Conservancy)

Have California Native American tribes traditionally and culturally affiliated with the Project area requested consultation pursuant to Public Resources Code section 21080.3.1? If so, is there a plan for consultation that includes, for example, the determination of significance of impacts to tribal cultural resources, procedures regarding confidentiality, etc.?:

All Tribes requesting notification in Yolo County were delivered a letter via email on June 18, 2021, giving formal notice and invitation by Yolo County to initiate AB 52 consultation on the proposed Project and to request participation of interested parties. As of the date of developing this document, no responses from Native American Tribes in response to the letters have been received.

The Yocha Dehe Wintun Nation representatives attended a field review meeting on February 20, 2020 to visit the Project site and to better understand the proposed Project activities. As of the date this document was developed, no additional responses from Native American Tribes have been received.

2.1 Project Description

Location

The Project is located within unincorporated Yolo County, California on CR 49 over Hamilton Creek. County Road 49 is a dead-end roadway that extends from CR 59 to its terminus roughly 3 miles to the northwest. The Project is located within the US Geological Survey (USGS) “Guinda” Quadrangle; Section 4, Township 11N, Range 3W.

History

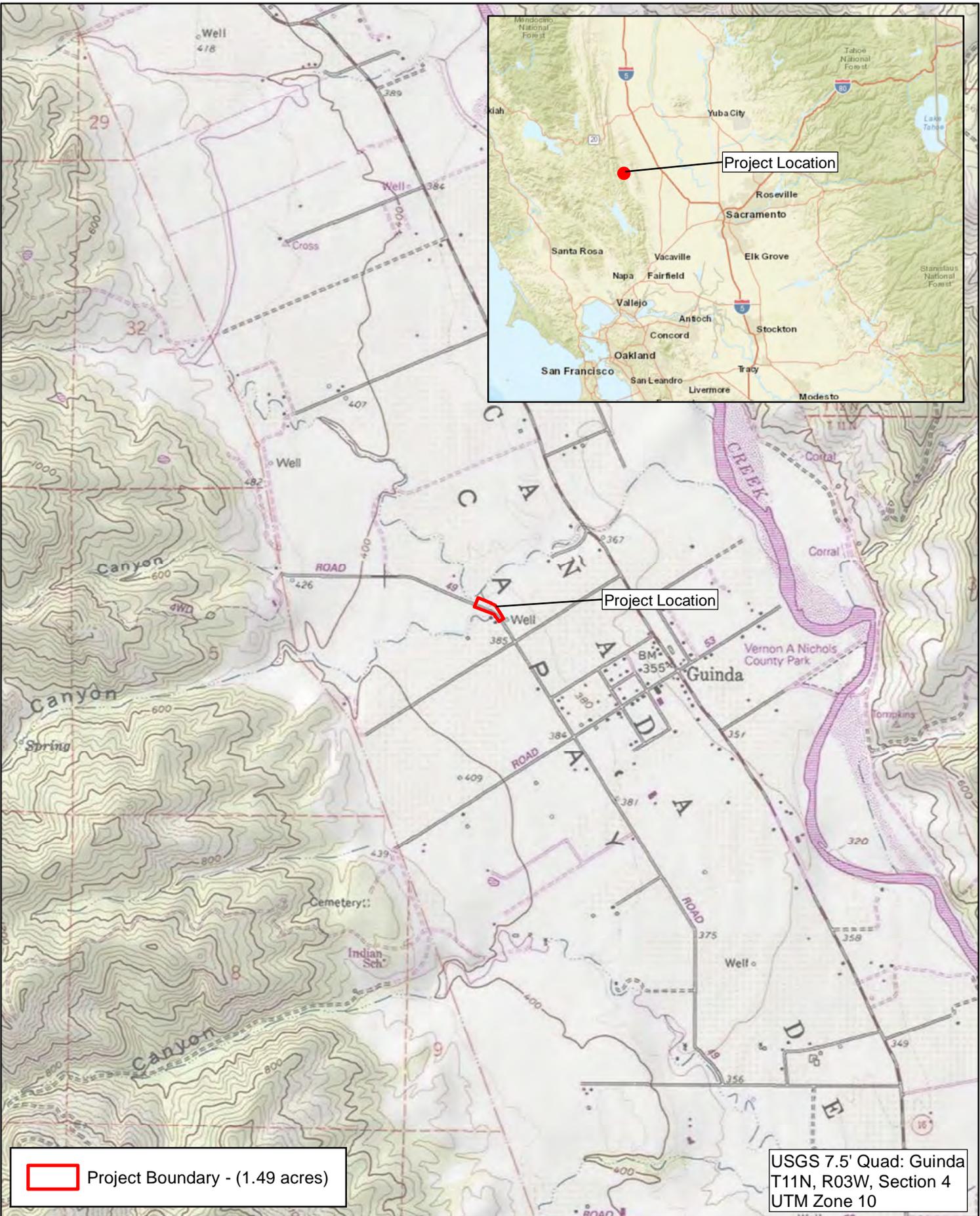
The County proposes to replace the existing bridge on CR 49 over Hamilton Creek with funding made available through the FHWA Highway Bridge Program and administered by Caltrans. The bridge was determined to be functionally obsolete by Caltrans as recently as 2013 and currently has a sufficiency rating of 43.1.

The Project site is located west of Guinda in the Capay Valley in northeastern Yolo County. County Road 49 is a dead-end local roadway, with a constructed width of approximately 20 feet wide, that is paved south of Hamilton Creek and unpaved compacted dirt and gravel north of Hamilton Creek. The bridge, with an Average Daily Traffic count of 106 vehicles, is bordered by agricultural land and rural residential parcels. There is a residential structure approximately 100 feet south of the bridge. There is no posted speed limit within the vicinity of the Project area.

The existing bridge (Bridge No. 22C0095) was constructed in 1911 and is approximately 26 feet long and 20 feet wide. The structure consists of single-span, earth-filled concrete. The bridge has rock pockets and spalling with exposed rebar. Additionally, the abutment footings are exposed along their entire lengths.

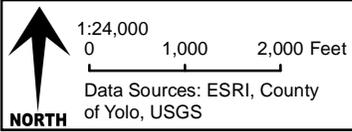
Project Purpose and Need

The existing bridge has been given a sufficiency rating of 43.1 and has a status of functionally obsolete. The bridge has rock pockets and spalling with exposed rebar on the arch soffit. Additionally, the bridge abutments footings are exposed along their entire lengths. The bridge has been programmed for replacement in the Highway Bridge Program (HBP).



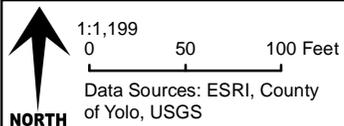
 Project Boundary - (1.49 acres)

USGS 7.5' Quad: Guinda
T11N, R03W, Section 4
UTM Zone 10



County Road 49 Over Hamilton Creek
Regional Location Map
Figure 1





County Road 49 Over Hamilton Creek
Project Location Map
Figure 2

Project Description

The Project site is located within the northwestern corner of Yolo County, west of Highway 16. County Road 49 is a rural local roadway that extends from CR 59 on the south to its terminus roughly 3 miles to the northwest. Within the Project vicinity, CR 49 varies between paved, dirt, and gravel roadway, with a constructed width of approximately 20 feet and no shoulders. The bridge has an Average Daily Traffic count of 106 vehicles, and serves 10 agricultural and rural properties, some which are developed with residential home site. Four (4) of the properties immediately adjacent to the bridge (Assessor Parcel Numbers (APNs) 060-090-003 [22.19 acres northwest], 060-090-006 [73.04 acres northwest], 060-090-007 [36.44 acres southwest] and 060-090-010 [48.99 southeast]) will require permanent and/or temporary right-of way acquisition to construct and complete the Project. There are no posted speed limits in the vicinity of the Project.

The existing bridge (Bridge No. 22C0095) was constructed in 1911 and is approximately 26 feet long and 20 feet wide. The structure consists of a single-span, earth-filled concrete arch. The bridge has rock pockets and spalling with exposed rebar on the arch soffit. Additionally, the bridge abutment footings are exposed along their entire lengths.

The proposed Project will construct a new bridge along a similar alignment as the existing structure. The new bridge is anticipated to be a single-span structure approximately 61 feet long and will accommodate two (2) 10-foot travel lanes and 2-foot shoulders. The structure type of the bridge is expected to be a cast-in-place post-tensioned concrete slab and the profile of the bridge will be raised to clear a 30-to 40-year storm event to ensure no increases in water surface elevation in the vicinity of the bridge. Construction of the bridge will involve excavation for and construction of concrete abutments, founded on either spread footings or deep foundations on driven piles.

Construction of the roadway approaches will involve the removal of existing pavement and placement of new roadway fill material, aggregate base, hot mix asphalt pavement, and installation of guard rails. Tree removal and removal of other vegetation along the creek will be necessary for the Project. Temporary work within Hamilton Creek includes removal of the existing structure, falsework erection and removal, and installation of scour countermeasures at the abutments.

Relocation of overhead electrical and communication lines, including two (2) utility poles, and underground telecommunication lines are anticipated as part of the Project. Permanent right-of-way acquisition will be needed from the parcels identified as (APNs) 060-090-010 and 060-090-007. Parcels 060-090-003, 060-090-007 and 060-090-010 are Williamson Act lands and will have minor right-of-way acquisition for both permanent and temporary impacts. Temporary construction easements will be needed from all four (4) adjacent parcels (APNs 060-090-010, -007, -006, and -003) to facilitate driveway conforms, utility relocations, and allow construction access.

Temporary creek diversion through a temporary crossing is anticipated in order to complete activities within the waterway. During construction, vehicular traffic through the Project site will be maintained with a temporary crossing north of the existing bridge. The temporary crossing is anticipated to consist of pipe culverts to convey stream flow. Gravel backfill will be placed on top of the pipe culverts to provide a drivable surface. Following completion of construction, all in-stream material will be removed. Construction is anticipated to begin in Spring 2024 with a duration of approximately 8 months.

Yolo HCP/NCCP Avoidance and Minimization Measures

The proposed Project is required to follow the conditions of the Yolo County Habitat Conservation Plan & Natural Community Conservation Plan (Yolo HCP/NCCP) with the incorporation of Avoidance and Minimization Measures (AMMs) that are applicable to the proposed Project activities. The following AMMs were identified during the development of the Natural Environment Study prepared for the Project. See Appendix B: Natural Environment Study.

- **AMM 1: Establish Buffers**
- **AMM 2: Design Developments to Minimize Indirect Effects at Urban-Habitat Interfaces**
- **AMM 3: Confine and Delineate Work Area**
- **AMM 4: Cover Trenches and Holes during Construction and Maintenance**
- **AMM 5: Control Fugitive Dust**
- **AMM 6: Conduct Worker Training**
- **AMM 7: Control Nighttime Lighting of Project Construction Sites**
- **AMM 8: Avoid and Minimize Effects of Construction Staging Areas and Temporary Work Areas**
- **AMM 9: Establish Buffers around Sensitive Natural Communities**
- **AMM 10: Avoid and Minimize Effects on Wetlands and Waters**
- **AMM 12: Minimize Take and Adverse Effects on Habitat of Valley Elderberry Longhorn Beetle**
- **AMM 16: Minimize Take and Adverse Effects on Habitat of Swainson's Hawk and White-Tailed Kite**

The application of the aforementioned AMMs and integration within specific Mitigation Measures is described in detail in the Biological Resources section of this document.

3. Environmental Factors Potentially Affected

This Initial Study has determined that, in the absence of mitigation, the proposed Project could have the potential to result in significant impacts associated with the factors checked below. Mitigation measures are identified in this Initial Study that would reduce all potentially significant impacts to less-than-significant levels.

<input type="checkbox"/> Aesthetics	<input type="checkbox"/> Land Use and Planning
<input type="checkbox"/> Agricultural Resources	<input type="checkbox"/> Mineral Resources
<input type="checkbox"/> Air Quality	<input checked="" type="checkbox"/> Noise
<input checked="" type="checkbox"/> Biological Resources	<input type="checkbox"/> Population and Housing
<input type="checkbox"/> Cultural Resources	<input type="checkbox"/> Public Services
<input checked="" type="checkbox"/> Tribal Cultural Resources	<input type="checkbox"/> Recreation
<input type="checkbox"/> Energy	<input type="checkbox"/> Transportation/Traffic
<input type="checkbox"/> Geology and Soils	<input type="checkbox"/> Utilities and Service Systems
<input type="checkbox"/> Greenhouse Gas Emissions	<input type="checkbox"/> Wildfire
<input checked="" type="checkbox"/> Hazards and Hazardous Materials	<input checked="" type="checkbox"/> Mandatory Findings of Significance
<input checked="" type="checkbox"/> Hydrology and Water Quality	<input type="checkbox"/> None Identified

4. 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, there will not be a significant effect in this case because the Project-specific mitigation measures described in Section III have been added to the Project. A MITIGATED NEGATIVE DECLARATION will be prepared.
- 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 Project MAY have a “Potentially significant impact” or “potentially significant unless mitigated” impact 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 although the Project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed Project, nothing further is required.

Signature: _____ **Date:** 11/28/2022

Name and Title: Stephanie Cormier, Principal Planner

5. Evaluation of Environmental Impacts

- Responses to the following questions and related discussion indicate if the proposed Project will have or potentially have a significant adverse impact on the environment.
- A brief explanation is required for all answers except “No Impact” answers that are adequately supported by referenced information sources. 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 or general standards.
- 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.
- Once it has been determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. “Potentially Significant Impact” is appropriate if there is substantial evidence that an effect may be significant. If there is at least one “Potentially Significant Impact” entry when the determination is made an EIR is required.
- Negative Declaration: “Less than Significant with Mitigation Incorporated” applies when the incorporation of mitigation measures has reduced an effect from “Potentially Significant Impact” to a “Less than Significant Impact.” The initial study will describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level (mitigation measures from Section 4, “Earlier Analysis,” may be cross-referenced).
- Earlier analyses may be used where, pursuant to tiering, a program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration [Section 15063(c)(3)(D)].
- Initial studies may incorporate references to information sources for potential impacts (e.g. the general plan or zoning ordinances, etc.). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated. A source list attached, and other sources used or individuals contacted are cited in the discussion.
- The explanation of each issue should identify:
 - a. The significance criteria or threshold, if any, used to evaluate each question; and
 - b. The mitigation measure identified, if any, to reduce the impact to less than significant.

5.1 Aesthetics

Except as provided in Public Resources Code Section 21099 would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) In non-urbanized 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 point). If the Project is in an urbanized area, would the Project conflict with applicable zoning and other regulations governing scenic quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Environmental Setting

The following information is from the 2009 County General Plan CEQA Environmental Impact Report (EIR, Yolo County 2009b). The General Plan EIR characterizes the unincorporated area of the County as having seven separate subareas of distinct natural resources, geographic, or developed qualities in order to describe the varying visual and scenic resources found within the County.

Yolo County is predominantly rural, having an agricultural character throughout most of the eastern portion of the County and a more topographically varied foothill/mountain character in the western portion of the County.

The Upper Cache Creek subarea where the proposed Project is located generally includes those lands within the Capay Valley located between the Capay Hills and North Blue Hills subareas and generally east of the Hungry Hollow Basin and Willow Slough Basin subareas. The area includes the town of Guinda and the valley in which the upper reach of Cache Creek occurs within Yolo County. These lands are almost entirely agricultural in land use and include rangeland, a variety of field crops, and orchards. The landscape within this subarea is predominantly flat, with expansive views of cultivated fields uninterrupted by natural or constructed landforms or significant development. Adding to the visual character of this subarea are the ridgelines of the surrounding hills serving as a backdrop for open farmland, orchard and agricultural buildings, including barns, processing facilities, storage areas, and rural residences which give the Upper Cache Creek subarea a rural aesthetic appeal.

Currently, Yolo County has no designated federal or State Scenic Highways; however, State Route 128 is state listed as eligible for designation as a State Scenic Highway. Yolo County designates State Route 16 from the Colusa County line to Capay as a local scenic highway, a portion of which is within proximity to the Project area, less than half a mile to the east (Yolo County 2009a).

Potential Environmental Effects

- a) ***Less Than Significant Impact.*** The landscapes and visual features of the County are of predominantly local importance and the County does not host significant numbers of viewers (Yolo County 2009a). The County's scenic areas, vistas, and views are predominantly accessible by the County's locally designated scenic highways. The Project is located near State Route 16, a County designated scenic highway from the Colusa County line to Capay Views from the Project location include the valley-foothill riparian vegetation associated with Hamilton Creek. Construction of Project is anticipated to require the removal of native and non-native trees and vegetation associated with Hamilton Creek.

The proposed vegetation removal will result in a minor change to the views of the Project site. Upon completion of the Project, existing views will be maintained. The proposed improvements are consistent with the existing land use and aesthetic features of the area. Proposed bridge replacement will not result in a substantial adverse impact to any scenic vistas. Project impacts are less than significant.

- b) ***Less Than Significant Impact.*** Currently Yolo County has no designated federal or State Scenic Highways however, State Route 128 is state listed as eligible for designation as a State Scenic Highway. See also discussion under item a) above.
- c) ***Less Than Significant Impact.*** See discussion of a) and b) above.
- d) ***No Impact.*** The Project does not include lighting or surfaces which would contribute to glare, therefore there is no impact.

Mitigation Measures: None required.

5.2 Agricultural and Forestry Resources

In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment Project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the Project:

	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Result in the loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Environmental Setting

The Project site is located in an agricultural/rural setting immediately surrounded by riparian woodland, pasture and orchard. As defined by the Farmland Mapping and Monitoring Program (FMMP) the adjacent parcels are classified as farmland of Local Potential; Prime or Statewide Soils. The Project will result in an estimated 0.24 acres of permanent impacts to farmlands as classified by the FMMP. Project activities are anticipated to permanently impact 0.04 acres of grazing farmland, 0.14 acres of local potential farmland, and 0.06 acres of prime farmland; for a cumulative total of 0.24 acres of permanent impact to farmlands. Project activities are anticipated to temporarily impact 0.06 acres of grazing farmland, 0.10 acres of local potential farmland, and 0.03 acres of prime farmland; for a cumulative 0.19 acres of temporary impact to farmlands as classified by the FMMP.

Three (3) of the four (4) parcels that occur north, east, and south of the Project site (APNs 060-090-003; -010; -007) have contracts under the Williamson Act. It is anticipated that no Williamson Act contracts will be terminated, although the parcels under contract may require minor contract revisions due to temporary construction easements and minor loss of farmland resulting from right-of-way acquisitions.

The three (3) parcels under Williamson Act contracts will sustain approximately 0.19 acres of temporary impacts, and 0.20 acres of permanent impacts. The following describes impacts per parcel: APN 060-090-003 – 0.06 ac permanent, 0.10 ac temporary; APN 060-090-010 – 0.06 ac temporary, 0.11 ac permanent; APN 060-090-007 – 0.03 ac temporary, 0.04 ac permanent. The remaining acreage from the parcels under contract will continue to meet Yolo County’s criteria for eligibility to remain enrolled in the Williamson Act.

Government Code §51295 states that when a public improvement project acquires or modifies only a portion of a parcel of land subject to a Williamson Act contract, the contract is deemed null and void only as to that portion of the contracted farmland removed. The remaining land continues to be subject to the contract unless it is adversely affected with property acquired by eminent domain or in lieu of eminent domain. Section 15206(b)(3) of the California Environmental Quality Act Guidelines identifies the cancellation of 100 acres or more of an open space contract under the Williamson Act by a project as constituting a project of statewide, regional, or areawide significance. As stated above, it is anticipated that no Williamson Act contracts will be terminated, although parcels currently enrolled (APNs 060-090-003; -010; -007) will require minor revisions to their contracts due to the new right of way acquisitions resulting from fill slope intrusions onto adjoining properties.

The Project will not result in any impacts to agricultural improvements that might be needed for the cultivation of the affected parcels, such as wells or canals. Title 49 of the Code of Federal Regulation Part 24 Uniform Relocation Assistance and Real Property Acquisition Act (URA) for Federal and Federally-assisted Programs (section 24.102 Basic Acquisitions policies or section 24.103 Criteria for appraisals) would apply to the compensation for improvements and the need to pay for salvage value. These sections would apply to the compensation to landowners for any right of way acquisition as a result of Project activities. Accordingly, the landowners would be compensated to replace any affected improvements.

The Yolo County Agricultural Conservation and Mitigation Program (Yolo County Ordinance §8-2404) requires mitigation for conversion of agricultural lands to predominately non-agricultural use. Section 8-2404 (c)(2)(ii) of the ordinance allow for facilities and infrastructure that do not generate revenue to be exempt from farmland conversion mitigation requirements.

Yolo County does not have a specific threshold of significance to assess potentially significant impacts to farmland. However, the County has established different criteria for protecting farmland in different contexts. First, the County’s Agricultural Conservation and Mitigation Program (Sec. 8-2.404 & 405) sets an impact threshold of 20 acres for projects to require the acquisition of a permanent conservation easement, rather than the payment of in-lieu fees. Second, the County’s Agricultural Zoning Regulations (Sec. 8-2.302) sets forth minimum parcel size requirements for creating new parcels in the agricultural zones of 40 acres for irrigated parcels in permanent crops, 80 acres for irrigated parcels, and 160 acres for uncultivated and not irrigated. Similarly, the County does not allow new Williamson Act contracts that are less than 40 acres of irrigated farmland; 80 gross acres where the soils are capable of cultivation but are not irrigated; and 160 acres where the soils are not capable of cultivation.

Finally, the County’s Williamson Act Guidelines determine a project’s compatibility with agriculture based on the principles of compatibility in Government Code section 51238.1:

- (1) The use will not significantly compromise the long-term productive agricultural capability of the subject contracted parcel or parcels or on other contracted lands in agricultural preserves.

(2) The use will not significantly displace or impair current or reasonably foreseeable agricultural operations on the subject contracted parcel or parcels or on other contracted lands in agricultural preserves. Uses that significantly displace agricultural operations on the subject contracted parcel or parcels may be deemed compatible if they relate directly to the production of commercial agricultural products on the subject contracted parcel or parcels or neighboring lands, including activities such as harvesting, processing, or shipping.

(3) The use will not result in the significant removal of adjacent contracted land from agricultural or open-space use.

Accordingly, significance under CEQA can be evaluated through a three-step evaluation: 1) does the Project remove more than 20 acres of farmland, 2) does the Project reduce the farmland to less than 40 acres, or 3) are there aspects of the Project that are incompatible with agriculture on the affected parcel(s) or neighboring farmland?

Potential Environmental Effects

- a) ***Less Than Significant Impact.*** The proposed Project will permanently impact 0.21 acres of land that falls under a Williamson Act contract. These permanent impacts to farmland do not remove more than 20 acres of farmland, do not reduce the size of a parcel to the 40 acres applicable to irrigated farmland, and will not significantly compromise the long-term productive agricultural capability of any parcel, displace any current or foreseeable farming operations, or remove adjacent agricultural or open space land. Due to the relatively minor amount of farmland conversion, this impact is considered to be less than significant.
- b) ***Less Than Significant Impact.*** The affected parcels within the Project area are zoned by Yolo County as Agricultural Intensive (A-N) and are designated for Agriculture (AG) in the Yolo County General Plan. Roads are not separately zoned and are included in any zone without the need for a special designation. The three (3) parcels under Williamson Act contracts will sustain approximately 0.19 acres of temporary impacts, and 0.20 acres of permanent impacts. The following describes impacts per parcel: APN 060-090-003 – 0.06 ac permanent, 0.10 ac temporary; APN 060-090-010 – 0.06 ac temporary, 0.11 ac permanent; APN 060-090-007 – 0.03 ac temporary, 0.04 ac permanent. The remaining acreage from the parcels under contract will continue to meet Yolo County’s criteria for eligibility to remain enrolled in the Williamson Act. The removal of Williamson Act contracted land to accommodate the Project is authorized by the California Land Conservation Act, and therefore does not conflict with the Williamson Act (California Department of Conservation 2020).
- c) ***No Impact.*** The proposed Project consists solely of a bridge replacement and does not include any rezoning activities.
- d) ***No Impact.*** The proposed Project will not result in the loss of, or conversion of, forest land.
- e) ***No Impact.*** The Project does not include other activities that could result in conversion of farmland to non-agricultural use or conversion of forest land to non-forest use.

Mitigation Measures: None required

5.3 Air Quality

Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations. Would the Project:	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
a) Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Environmental Setting

The Project area is located in the Sacramento Valley Air Basin (SVAB). The air quality of a region is determined by the air pollutant emissions (quantities and type of pollutants measured by weight) and by ambient air quality (the concentration of pollutants within a specified volume of air). Air pollutants are characterized as primary and secondary pollutants. Primary pollutants are those emitted directly into the air, for example carbon monoxide (CO), and can be traced to a single pollutant source. Secondary pollutants are those pollutants that form through chemical reactions in the atmosphere; for example, reactive organic gasses (ROG) and nitrogen oxides (NO_x) combine to form ground level ozone, or smog.

Congress established much of the basic structure of the Clean Air Act in 1970 and made major revisions in 1977 and 1990. The Federal Clean Air Act established national ambient air quality standards (NAAQS). These standards are divided into primary and secondary standards. Primary standards are designed to protect public health and secondary standards are designed to protect other values. Because of the health-based criteria identified in setting the NAAQS, the air pollutants are termed “criteria” pollutants. California has adopted its own, more stringent, ambient air quality standards (CAAQS). Table 2 lists the SVAB attainment status for federal and state criteria pollutants.

Table 1. Attainment Status for SVAB in Yolo County

Pollutant	National Designation	State Designation
Ozone	Nonattainment (8 hr.)	Nonattainment-Transitional
PM ₁₀	Unclassified	Nonattainment
PM _{2.5}	Nonattainment	Unclassified
CO	Unclassified/ Attainment	Attainment
NO ₂	Unclassified/ Attainment	Attainment
SO ₂	Unclassified/ Attainment	Attainment
Sulfates	NA	Attainment
Lead	Unclassified/ Attainment	Attainment
Hydrogen Sulfide	NA	Unclassified
Visibility Reducing Particles	NA	Unclassified

(Source: CARB 2021)

Yolo County is currently in nonattainment status for the 8-hour ozone and PM_{2.5} NAAQS. The County is in nonattainment-transitional status for the ozone and nonattainment status for the PM₁₀ CAAQS.

The Yolo-Solano Air Quality Management District (YSAQMD) administers the state and federal Clean Air Acts in accordance with state and federal guidelines. The YSAQMD regulates air quality through its district rules and permit authority. It also participates in planning review of discretionary project applications and provides recommendations. The following YSAQMD rules may apply to the Project:

- **Rule 2.3 Visible Emissions:** The purpose of this rule is to limit the emissions of visible air contaminants to the atmosphere.
- **Rule 2.5 Nuisance:** Prohibits the discharge of air containments which cause injury, detriment, nuisance, or annoyance.
- **Rule 2.11 Particulate Matter:** The purpose of this rule is to protect the ambient air quality by establishing a particulate matter emission standard.
- **Rule 2.28 Cutback and Emulsified Asphalts:** The purpose of this Rule is to limit the emissions of organic compounds from the use of cutback and emulsified asphalts in paving materials, paving, and maintenance operations.
- **Rule 2.32 Stationary Internal Combustion Engines:** The purpose of this Rule is to limit the emission of oxides of nitrogen (NO_x) and carbon monoxide (CO) from stationary internal combustion engines.
- **Rule 9.8 Asbestos – Serpentine Rock:** The purpose of this Rule is to limit asbestos emissions to the atmosphere from serpentine rock by prohibiting the use or sale of serpentine rock containing more than one percent (1%) asbestos for surfacing applications.

The YSAQMD sets threshold levels for use in evaluating the significance of criteria air pollutant emissions from Project-related mobile and area sources in the *Handbook for Assessing and Mitigating Air Quality Impacts* (the Handbook, YSAQMD 2007). The Handbook identifies the following significance thresholds for use in evaluating criteria air pollutant emissions from Project-related activities.

- Reactive Organic Gases (ROG) 10 tons per year (approx. 54.8 pounds per day)
- Oxides of Nitrogen (NOx) 10 tons per year (approx. 54.8 pounds per day)
- Particulate Matter (PM10) 80 pounds per day
- Carbon Monoxide (CO) Violation of State ambient air quality standard

The Project will not increase the traffic capacity of CR 49. Since the Project does not increase the capacity of CR 49, the Project will not result in increased operational vehicular emissions. The air quality analysis below is focused on potential construction related impacts.

Construction emissions were estimated for the Project using the Sacramento Metropolitan Air Quality Management District's Road Construction Emissions Model (RCEM), Version 9.0.0. The RCEM was developed to estimate emissions from linear project types including road and bridge construction. The RCEM divides the Project into four 'Construction Periods':

- Grubbing/Land Clearing
- Grading/Excavation
- Drainage/Utilities/Sub-Grade
- Paving

Based on similar road projects, the assumptions presented in Table 2 regarding type of construction equipment and use duration were used in the RCEM. Other Project assumptions used in the RCEM include a total 8-month construction schedule starting in 2024, and equipment assumed to run eight hours per day. Results of the RCEM based on the Project assumptions are in Table 3.

Table 2. Construction Equipment and Use Assumptions.

Construction Period	Equipment	
	Quantity (Assumed Running Hrs. Per Day)	Type
Grubbing/ Land Clearing	1(8) 1(8) 2(8)	Crawler Tractors Excavators Signal board
Grading/Excavation	1(8) 2(8) 2(8) 2(8) 1(8) 1(8) 2(8) 3(8) 1(8) 1(8)	Crawler Tractors Excavators Graders Roller Rubber Tired Loader Scrapers Signal board Tractor/Loader/Backhoe Drill Rig Crane
Drainage/Utilities/Sub-Grade	1(8) 1(8) 1(8) 1(8) 1(8) 2(8) 2(8) 2(8)	Air Compressor Generator Set Grader Plate Compactor Pump Scrapers Signal Board Backhoe
Paving	1(8) 1(8) 2(8) 2(8) 2(8)	Paver Paving Equipment Roller Signal Board Tractor/Loader/Backhoe

Table 3. Estimated Construction Emissions with Mitigation Options

Project Phases	ROG lbs./day	NOx lbs./day	PM10 Total lbs./day	CO lbs./day
Grubbing/ Land Clearing	0.78	7.79	5.33	6.60
Grading/excavation	4.26	43.44	6.85	37.29
Drainage/utilities/sub- grade	2.73	26.08	6.15	26.91
Paving	1.24	11.54	0.59	15.51
Maximum lbs./day	4.26	43.44	6.85	37.29
<i>Significance Threshold (tons/year)</i>	<i>10</i>	<i>10</i>	<i>--</i>	<i>--</i>
<i>Significance Threshold lbs./day</i>	<i>54.8</i>	<i>54.8</i>	<i>80</i>	<i>--</i>
Significant?	No	No	No	<i>N/A</i>

Notes: Data entered to emissions model: Project Start Year: 2023; Project Length (months): 8; Total Project Area (acres): 1.49; Assumed Total Soil Imported/Exported (yd³/day): 20. PM10 estimates assume 50% control of fugitive dust from watering and associated dust control measures. Total PM10 emissions are the sum of *exhaust* and *fugitive dust* emissions.

Potential Environmental Effects

- a) **No Impact.** A project would be inconsistent with the applicable air quality plan if it would result in population and/or employment growth that exceeds growth estimated in the applicable air quality plan. The proposed Project does not include development of new housing or employment centers and would not induce population or employment growth; therefore, the proposed Project would not conflict with or obstruct the implementation of any air quality plan.
- b) **Less Than Significant Impact.** Yolo County is currently in nonattainment status for the 8-hour ozone and PM_{2.5}, NAAQS as well as the ozone and PM₁₀ CAAQS. Project construction would create short-term increases in ROG, NOx, and PM₁₀ emissions from vehicle and equipment operation. The RCEM estimates that maximum daily emissions totals generated by Project activities will be below the Yolo County CEQA significance threshold of 10 tons per year (54.8 lbs. per day) each for ROG and NOx and 80 lbs./day PM₁₀. Proposed Project activities would not generate additional traffic on CR 49, would not affect intersection operations, and would not result in a potential violation of the CO standard. This impact is considered less than significant
- c) **Less Than Significant Impact.** Sensitive individuals refer to those segments of the population most susceptible to poor air quality (i.e., children, the elderly, and those with pre-existing serious health problems affected by air quality). Sensitive land uses occur where sensitive individuals are most likely to spend time (e.g., schools and schoolyards, parks and playgrounds, day care centers, nursing homes, hospitals, and residential communities). Recreational land uses are considered moderately sensitive to

air pollution. Although exposure periods are generally short, exercise places a high demand on respiratory functions, which can be impaired by air pollution.

The Project is located northwest of the town of Guinda. The site abuts rural and agricultural land uses. Potential receptors in the Project area consist of residential home sites immediately southwest of the Project site. Sensitive individuals who may be in the vicinity of the proposed Project have the potential to be exposed to PM₁₀, PM_{2.5}, CO, ROG, and NO_x during construction. Adherence to the YSAQMD rules (Rules 2.3, 2.5, 2.11, 2.28, 2.32, and 9.8 as applicable) will limit potential air quality impacts on sensitive receptors. These impacts are considered less than significant.

- d) ***Less Than Significant Impact.*** Construction activities would involve the use of construction equipment, which have distinctive odors. Odors from construction activities are considered less than significant because of the limited number of the public affected and the short-term nature of the emissions. The proposed Project would not result in increased production of odors causing compounds beyond the construction period.

Mitigation Measures: None required.

5.4 Biological Resources

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) 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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Have a substantial adverse effect on state federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Environmental Setting

Potential impacts to biological and wetlands resources were evaluated in the following Project documents:

- **Natural Environment Study (NES):** The NES is a standard Caltrans report format for documenting and evaluating the potential Project impacts to biological resources (Gallaway Enterprises 2021a).
- **Draft Delineation of Waters of the United States:** This report evaluates and delineates wetland and other waters of the U.S. in the Project area (Gallaway Enterprises 2021b).
- **Biological Assessment (BA):** The BA analyzes to what extent potential impacts to threatened and endangered species may occur from Project activities (Gallaway Enterprises 2021c).

The documents conclude the following regarding biological resources:

- Modeled habitat for wildlife species covered under the Yolo HCP/NCCP includes western pond turtle (*Emys marmorata*), Swainson's hawk (*Buteo swainsoni*), white-tailed kite (*Elanus leucurus*), and valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*).
- There is suitable habitat within the BSA for Swainson's hawk, white-tailed kite, western pond turtle, northern harrier, valley elderberry longhorn beetle, western red bat (*Lasiurus blossevillii*), and

migratory birds and raptors protected under the Migratory Bird Treaty Act (MBTA) and California Fish and Game Code (CFGC).

- The Project area does not provide suitable habitat for special-status plant species.
- The Project will result in impacts to jurisdictional Waters of the United States (WOTUS) under §404 of the Clean Water Act (CWA).
- Permits and authorizations required for the Project include a §404 CWA Nationwide Permit from the U.S. Army Corps of Engineers (Corps), a §401 Water Quality Certification from the Regional Water Quality Control Board (RWQCB), a National Pollutant Discharge Elimination System (NPDES) Permit from the RWQCB, and a Fish and Game Code §1602 Streambed Alteration Agreement from the California Department of Fish and Wildlife (CDFW). The Project will seek coverage under the Yolo HCP/NCCP.

Yolo Habitat Conservation Plan/Natural Communities Conservation Plan (Yolo HCP/NCCP)

The Yolo HCP/NCCP is a comprehensive, County-wide plan to provide for the conservation of 12 sensitive species and the natural communities and agricultural land on which they depend, as well as a streamlined permitting process to address the effects of a range of future anticipated activities on these 12 species. The Yolo HCP/NCCP refers to the range of future anticipated activities as *covered activities* and the 12 sensitive species covered by this HCP/NCCP as *covered species*.

The Yolo HCP/NCCP Section 4.3, Avoidance and Minimization Measures (AMMs), describes conditions that Project proponents must adopt to receive coverage under the Plans. These measures specify how Project proponents will avoid and minimize take of covered species during implementation of covered activities and are referred to herein as AMMs. Section 4.3.1, General Project Design, describes AMMs that apply to the design of all development projects. Section 4.3.2, General Construction and Operations and Maintenance, describes AMMs that apply to all construction and operations, and maintenance activities. Section 4.3.3, Sensitive Natural Communities, describes AMMs that are specific to rare or sensitive natural communities, such as the fresh emergent wetland natural community and other natural communities associated with aquatic features, and therefore warrant specific avoidance and minimization measures. Section 4.3.4, Covered Species, describes AMMs that are specific to each covered species.

Physical Conditions

The Project area is located within the Capay Valley, northwest of Guinda in unincorporated Yolo County, California. The Project area is composed primarily of existing asphalt roadway, the area containing the existing bridge over Hamilton Creek, and a section of Hamilton Creek and bankside where the construction of a temporary crossing is proposed. Land within the Project area that surrounds CR 49 is primarily composed of agricultural land, annual grassland, and valley foothill riparian vegetation associated with the channel of Hamilton Creek. Planted trees and barren dirt roads associated with an adjacent rural residence also occur within the Project area. Soils within the Project area consist of silty clay loam. The average annual precipitation for the area is 19.49 inches and the average temperature is 60.95° F (Western Regional Climate Center 2020). The Project area occurs at an elevation of approximately 380 feet above sea level and is sloped between 0 and 2 percent, however the banks of Hamilton Creek are highly channelized, exhibiting slopes of 70 percent or greater.

There is one stream feature (Hamilton Creek) present within the Project area (See Appendix C: Draft Delineation of Waters of the U.S. Map). There are no wetland features present within the Project site.

Biological Conditions

Land cover types delineated by the Yolo HCP/NCCP within the Project area are Lacustrine and Riverine, Valley Foothill Riparian Natural Community: Great Valley Oak Riparian, Semi-agricultural/Incidental to Agriculture, Blue Oak Woodland: Blue Oak Alliance, Cultivated Lands: Grain and Hay Crops, Grassland Natural Community, Developed: Vegetated Corridor, Developed: Urban, and Barren: Anthropogenic.

Per the Project NES, the Project has the potential to affect three (3) HCP/NCCP covered species:

- Swainson's hawk (*Buteo swainsoni*), California listed as threatened
- White-tailed kite (*Elanus leucurus*), California Fully Protected species
- Valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*), listed as federally threatened

The Project also has the potential to affect nesting migratory birds and raptors protected by the MBTA and CFGC, as well as Western red bat (*Lasiurus blossevillii*), a California Species of Special Concern.

A comprehensive list of species that are known to occur in the region and were evaluated for their potential to occur in the Project area is included in the NES (Appendix B). Field surveys conducted by Conservancy-approved qualified biologists identified the presence of habitat that could support the wildlife listed above.

Yolo HCP/NCCP Designated Land Cover Types within the Project Area

Lacustrine and Riverine

The Lacustrine and Riverine SNC is defined by the Yolo HCP/NCCP as the open water portions of lakes, rivers, and streams. Within the Project area, there is one (1) stream feature (Hamilton Creek), a tributary to Cache Creek that qualifies as Riverine habitat. Hamilton Creek is a highly channelized intermittent stream, 0.10 acre (186.5 linear feet) of which occurs within the Project area.

Cultivated Lands: Grain and Hay Crops

The Cultivated Lands: Grain and Hay Crops land cover type consists of irrigated and dryland grain and hay crops; predominantly wheat, barley, rye, and oat hay. Grain and hay crops do not conform to normal habitat stages and are regulated by the crop cycle in California. Rodents, birds, and some mammals have adapted to field crops and are controlled by fencing, trapping, and poisoning (Mayer and Laudenslayer 1988).

Valley Foothill Riparian: Great Valley Oak Riparian

The Great Valley Oak Riparian land cover type is a subset of the Valley Foothill Riparian Natural Community, which is designated as a SNC by the Yolo HCP/NCCP. The Great Valley Oak Riparian land cover type consists of deciduous trees along streams and rivers, dominated by valley oaks (*Quercus lobata*), cottonwoods (*Populus spp.*), and willows (*Salix spp.*), and areas dominated by herbaceous or shrubby riparian vegetation if less than 1 acre in size. Valley foothill riparian habitats provide food, water, migration, and dispersal corridors for fish species, and escape, nesting, and thermal cover for an abundance of other wildlife species. Within the BSA, Great Valley Oak Riparian land cover occurs in small patches that were dominated by a tree canopy of valley oak and black walnut (*Juglans hindsii*) in association with Hamilton Creek.

Blue Oak Woodland: Blue Oak Alliance

There is a small patch of blue oak-foothill pine woodland located in the far northwestern corner of the Project area. The dominant tree species observed were blue oak (*Quercus douglasii*) and foothill pine (*Pinus sabiniana*). Many of the oaks within the Project area contained large cavities, presumably caused by decay

and woodpecker activity. Typical of blue oak woodland in inland areas, the shrub layer was relatively sparse with scattered clusters of white-leaved manzanita (*Arctostaphylos viscida* ssp. *viscida*) and buckbrush (*Ceanothus cuneatus* var. *cuneatus*). The herbaceous layer was comprised of annual grassland species, with the most dominant species observed being wild oats (*Avena fatua*), soft chess (*Bromus hordeaceus*), ripgut brome (*Bromus diandrus*), and hedgehog dogtail (*Cynosurus echinatus*). This habitat type provides foraging and breeding habitat for a variety of terrestrial reptiles, nesting birds, and mammals.

Semi-agricultural/Incidental to Agriculture

Semi agricultural areas include livestock feedlots, farmsteads, and miscellaneous semi agricultural features such as small roads, ditches, and unplanted areas of cropped fields (e.g., field edges).

Developed: Vegetated Corridor

The Developed: Vegetated Corridor land cover type consists of areas planted in ornamental vegetation maintained adjacent to highways or in association with houses and developed areas, or other vegetated corridors associated with developed areas and isolated from intact stream channels. The vegetated corridor land cover type occurs along the sides of CR 49, primarily in the south Project area where black walnuts have been planted, and in association with the adjacent residential building where fruit trees and a variety of ornamental vegetation has been planted. The planted walnut trees along CR 49 are mature, and trees over 20 feet in height can support nesting by the Yolo HCP/NCCP-covered Swainson's hawk and white-tailed kite.

Developed: Urban

The Developed: Urban land cover type consists of areas dominated by pavement and building structures, including barren lands graded for development. This environment can present a mosaic of vegetation, including primarily ornamental landscaping, but can also incorporate native tree species. Generalist and invasive species often occupy urban habitat such as common raven (*Corvus corax*), house sparrow (*Passer domesticus*), and Brewer's blackbirds (*Euphagus cyanocephalus*) as well as small to medium mammals (e.g., raccoon, opossum, striped skunk) (Mayer and Laudenslayer 1988).

Grassland Natural Community

The California Annual Grassland Alliance land cover type is a subset of the Grassland Natural Community characterized by grassland dominated by annual grasses and forbs. Within the Project area, the dominant species present included wild oat, yellow starthistle (*Centaurea solstitialis*), wall hare barley (*Hordeum murinum*), soft chess, ripgut brome and winter vetch (*Vicia villosa*). Annual grasslands occur on open, flat to gently rolling lands and are dominated by grasses and annual plants, with the dominant species varying depending on the climate and soils. A variety of ground-nesting avian species, reptiles, and small mammals use grassland habitat for breeding, while many other wildlife species only use it for foraging and require other habitat characteristics such as rocky outcroppings, cliffs, caves, or ponds in order to find shelter and cover (Mayer and Laudenslayer 1988). Common species found utilizing this habitat type include western fence lizards (*Sceloporus occidentalis*), common garter snakes (*Thamnophis elegans*), California ground squirrels (*Otospermophilus beecheyi*), and a variety of migratory bird and raptor species. Per the Yolo HCP/NCCP, the Grassland Natural Community is suitable foraging habitat for Swainson's hawk and white-tailed kite.

Barren: Anthropogenic

Barren lands are areas that are devoid of vegetation. Barren, rock outcrop, levee (tops and riprapped areas), and gravel/sand bars land cover types fall within this general definition. As opposed to the urban land cover type, which is dominated by structures and pavement, barren lands include areas that have been cleared of vegetation and are not closely associated with a human structure.

Impacts to Yolo HCP/NCCP land cover types that occur within the Project area have been quantified below.
 Table 4. Impacts to Land Cover Types

Impacts to Land Cover Types		
Land Cover Types	Permanent Impacts Acres	Fee Buffer Acres
Lacustrine and Riverine - Open Water	0.019	0.042
Valley Foothill Riparian: Great Valley Oak Riparian	0.060	0.029
Blue Oak Woodland: Blue Oak Alliance	0.000	0.000
Grassland Natural Community: Annual Grassland	0.111	0.095
Cultivated Land - Grain and Hay Crops	0.000	0.000
Developed: Urban or Built Up	0.193	0.020
Developed: Vegetated Corridor	0.065	0.035
Semi agriculture / Incidental to Agricultural	0.000	0.018
Barren: Anthropogenic	0.030	0.022
Totals =	0.478	0.261

Yolo HCP/NCCP Avoidance and Minimization Measures

The Project will implement the following required Yolo HCP/NCCP AMMs into the Project design and the mitigation measures (MM) presented in this document:

- **AMM 1: Establish Buffers:** Addressed in MM BIO-5 (Wetlands and Waters)
- **AMM 2: Design Developments to Minimize Indirect Effects at Urban-Habitat Interfaces**
- **AMM 3: Confine and Delineate Work Area:** Addressed in MM BIO-5 (Wetlands and Waters), and MM BIO-6 (Establish Buffers around Sensitive Natural Communities),
- **AMM 5: Control Fugitive Dust:** This Yolo HCP/NCCP AMM is addressed through adhering to YSAQMD Rules in section 5.3 above.
- **AMM 6: Conduct Worker Training:** Addressed in MM BIO-7 (Worker Environmental Training Program).
- **AMM 7: Control Nighttime Lighting of Project Construction Sites:** Addressed in MM BIO-9 (Control Nighttime Lighting).
- **AMM 8: Avoid and Minimize Effects of Construction Staging Areas and Temporary Work Areas:** Addressed in MM BIO-5 (Wetlands and Waters), and MM BIO-6 (Establish Buffers around Sensitive Natural Communities).
- **AMM 9: Establish Buffers around Sensitive Natural Communities:** Addressed in MM BIO-5 (Wetlands and Waters), and MM BIO-6 (Establish Buffers around Sensitive Natural Communities).
- **AMM 10: Avoid and Minimize Effects on Wetlands and Waters:** Addressed in MM BIO-5 (Wetlands and Waters), and MM BIO-6 (Establish Buffers around Sensitive Natural Communities).

- **AMM 12: Minimize Take and Adverse Effects on Habitat of Valley Elderberry Longhorn Beetle:** Addressed in MM BIO-1 (Valley Elderberry Longhorn Beetle).
- **AMM 16: Minimize Take and Adverse Effects on Habitat of Swainson’s Hawk and White-Tailed Kite:** Addressed in MM BIO-2 (Swainson’s Hawk and White-Tailed Kite).

Potential Environmental Effects

a) *Less Than Significant with Mitigation Incorporated*

Special-Status Wildlife Species:

Valley elderberry longhorn beetle (VELB, *Desmocerus californicus dimorphus*): VELB is listed as threatened under the federal ESA and is a covered species under the Yolo HCP/NCCP. The beetle is found only in association with its host plant, elderberry (*Sambucus* spp.). One (1) elderberry shrub (*Sambucus cerulea*) was identified within the Project area during the planning level survey, and a second elderberry shrub was identified south of the Project area. Both identified elderberry shrubs are located on the banks of Hamilton Creek: one shrub along the north side of CR 49 and the other shrub approximately 12 feet south of the Project area. The shrub present within the Project area contains stems of sufficient size (i.e., 1.0 inches or greater) to provide habitat for VELB. As a result of the protocol-level VELB survey, a total of 28 stems 1.0 inch or greater in diameter at ground level were recorded. Potential VELB exit holes were identified. Because of the potential for the proposed Project to affect a federally listed species, a biological assessment (BA) has been prepared for Caltrans to initiate consultation with the USFWS under Section 7 of the ESA. Implementation of MM BIO-1 (Valley Elderberry Longhorn Beetle), which incorporates Yolo HCP/NCCP AMM 12 (Minimize Take and Adverse Effects on Habitat of Valley Elderberry Longhorn Beetle), will transplant the elderberry shrub and pay fees for compensatory mitigation credits, thereby reducing potential impacts to less than significant.

Nesting Migratory Birds and Raptors: The Project area provides potential nesting sites for birds listed under the federal MBTA, the State Migratory Bird Policy Act (MBPA) of 2019 and regulated by the Yolo HCP/NCCP and the CFGC. Depending on the species, birds may nest in trees, shrubs, in or on the ground, and on artificial structures such as buildings, culverts, headwalls, poles, and signs. The planning level surveys determined that potentially suitable habitat for Yolo HCP/NCCP-covered bird species including Swainson’s hawk and white-tailed kite, occurs within or adjacent to the Project area. The removal of trees in the Project site has the potential to impact nesting sites. Implementation of MM BIO-2 will reduce potential impacts to Swainson’s hawk and white-tailed kite by requiring preconstruction surveys to identify active nests and/or presence of species. Impacts will be reduced to a less than significant level. MM BIO-3 below provides for preconstruction surveys for other birds protected by the MBTA or California Fish and Game Code. Implementation of MM BIO-3 will reduce potential impacts to nesting migratory birds and raptors by restricting Project activities and vegetation removal, thereby reducing impacts to a less than significant level. Implementation of MM BIO-6 (Sensitive Natural Communities), and MM BIO-7 (Worker Environmental Training Program) will also reduce potential impacts to Swainson’s hawk, white-tailed kite, valley elderberry longhorn beetle, and nesting migratory birds and raptors by avoiding environmentally sensitive areas and sensitive natural communities, and requiring that all construction personnel be properly trained in avoidance measures. Potential for impacts would be reduced to a less than significant level.

Western Red Bat (*Lasiurus blossevillii*): Although not a covered species under the Yolo HCP/NCCP, the western red bat is designated as a CDFW Species of Special Concern (SSC) in California. Western red bats are typically solitary, roosting primarily in the foliage of trees or shrubs. Day roosts are commonly in edge habitats adjacent to streams or open fields, in orchards, and sometimes in urban areas. There may be an association with intact riparian habitat (particularly willows, cottonwoods, and sycamores). Roost sites are generally hidden from view from all directions except below; lack obstruction beneath, allowing the bat to drop downward for flight; lack lower perches that would allow visibility by predators; have dark ground cover to minimize solar reflection; have nearby vegetation to reduce wind and dust; and are generally located on the south or southwest side of a tree. Red bats generally begin to forage one to two hours after sunset. Although some may forage all night, most typically have an initial foraging period corresponding to the early period of nocturnal insect activity, and a minor secondary activity period corresponding to insects that become active several hours before sunrise. Red bats mate in late summer or early fall. Females become pregnant in spring and have a pregnancy of 80-90 days. Females may have litters of up to five pups per year. This species is considered to be highly migratory. Although generally solitary, red bats appear to migrate in groups and forage in close association with one another in summer. The timing of migration and the summer ranges of males and females seem to be different. Winter behavior of this species is poorly understood (Western Bat Working Group 2021). Implementation of MM BIO-4 (Bat Avoidance and Minimization), addressed below, provides conditions on the timing of mature tree removal activities and measures such as preconstruction surveys prior to the start of construction to avoid and minimize impacts, thereby reducing impacts to a less than significant level.

- b) ***Less Than Significant with Mitigation Incorporated.*** The Project area contains Sensitive Natural Communities designated by the Yolo HCP/NCCP: Lacustrine and Riverine and Valley Foothill Riparian. Hamilton Creek occurs within the Project area as potential waters of the United States (WOTUS) and State. Impacts to Wetlands and Waters are discussed under Item c) below.

Valley Foothill Riparian: 0.123 acre of Great Valley Oak Riparian vegetation cover occurs within the Project site in small patches along Hamilton Creek among a tree canopy dominated by valley oak (*Quercus lobata*) and black walnut (*Juglans hindsii*). Project implementation will result in 0.060 acre of permanent impact to Valley Foothill Riparian SNC in the Project area resulting from installation of the bridge structure and associated road approaches. Several trees will be removed as part of the proposed Project. Healthy trees and riparian vegetation will be retained and avoided to the extent practicable while maintaining safe design considerations for the proposed facilities. Implementation of MM BIO-8 (Tree Removal Documentation and Replacement) is required to ensure impacts to tree resources are maintained at a less than significant level. Yolo HCP/NCCP AMM 9 (Establish Buffers around Sensitive Natural Communities, Valley Foothill Riparian) states that a buffer will be established 100 ft. from the canopy dripline of Valley Foothill Riparian habitat. AMM 9 also states: ‘*Transportation or utility crossings may encroach into this sensitive natural community provided effects are minimized and all other applicable AMMs are followed*’. Proposed Project activities cannot completely avoid impacts to Valley Foothill Riparian in the Project area. The Project will implement all applicable Yolo HCP/NCCP AMMs as listed above and below.

Lacustrine and Riverine: The Project site contains a channelized portion of Hamilton Creek, which is categorized as Riverine SNC. Hamilton Creek is an intermittent stream that serves as a tributary to Cache Creek and is considered open water land cover type within the Lacustrine and Riverine SNC.

The proposed Project will be limited to the replacement of the existing bridge and conforming approach roadwork within the Project area. Approximately 0.019 acres of Lacustrine and Riverine SNC will be permanently impacted by Project activities. Implementation of MM BIO-5 (Wetlands and Waters) and MM BIO-6 (Sensitive Natural Communities) will reduce potential impacts to SNCs through avoidance and minimization of impacts, payment of Yolo HCP/NCCP fees, acquiring applicable permits and fulfilling compensatory mitigation requirements to less than significant level. Implementation of MM BIO-7 (Worker Environmental Training Program) aims to further reduce potential impacts to Sensitive Natural Communities by requiring that all construction personnel be properly trained in avoidance measures. It is anticipated that impacts to Riverine SNC would be at a less than significant level.

- c) ***Less Than Significant with Mitigation Incorporated.*** The Project area contains 0.10 acres of potential Waters of the U.S. and State and the Project proposes to directly impact 0.019 acres of potentially jurisdictional waters as a result of the Project. Proposed Project activities have the potential to temporarily impact water quality and introduce fill into potential state and federally protected waters. During construction, potential impacts to water quality will be avoided and minimized by implementation of Best Management Practices. Implementation of MM BIO-5 (Wetlands and Waters) will reduce potential impacts to State and federally protected waters and wetlands to a less than significant level by implementation of appropriate avoidance and minimization practices, payment of Yolo HCP/NCCP fees, acquiring applicable permits and fulfilling compensatory mitigation requirements. Implementation of MM BIO-6 (Sensitive Natural Communities) and MM BIO-7 (Worker Environmental Training Program) will also reduce potential impacts to State and federally protected waters by requiring that all construction personnel be properly trained in avoidance measures. It is anticipated that impacts to potentially jurisdictional waters would be at a less than significant level.
- d) ***Less Than Significant with Mitigation Incorporated.*** Construction of the Project could temporarily disrupt movement of native wildlife species that occur in or adjacent to the Project area. Both short- and long-term light exposure could affect wildlife. Short-term exposure to bright lights could temporarily reduce visual capacity in some species, making them vulnerable to predation. Longer-term night lighting could disorient wildlife, alter foraging and reproductive behaviors, increase predation risk, and inhibit movement to and from breeding areas or refugia by stimulation of light-seeking behavior. In the event that lighting is required for either nighttime work or security reasons, lighting may be detrimental to native species. Because proposed Project activities may necessitate the use of nighttime lighting, there may be potential interference with wildlife species visual capacity, foraging and reproductive behaviors resulting in a potential impact. With the implementation of MM BIO-9 Control Nighttime Lighting which implements Yolo HCP/NCCP AMM7 (Control Nighttime Lighting of Project Construction Sites) potential impacts from nighttime lighting on species and adjacent habitats will be minimized. Impacts from Project area lighting are anticipated to be reduced to a less than significant level. Project activities will be appropriately scheduled, and the construction area will be organized such that wildlife will be able to move around or through the Project area at night. Upon completion of construction activities, the Project area will be restored to preconstruction conditions to facilitate continued wildlife access through the Project area. Although daytime Project activities may temporarily hinder wildlife movements within the Project area, the duration of proposed Project is expected to be relatively short-term, and the finished construction will be aligned and

configured to resemble the existing roadway. Project activities are not anticipated to substantially interfere with the movement of fish and wildlife; therefore, impacts to wildlife movements will be less than significant.

- e) ***Less Than Significant with Mitigation Incorporated.*** The 2030 Countywide General Plan contains Conservation policies that protect biological resources, including Policy CO-2.3, which encourages the preservation and enhancement of biological communities such as heritage valley oaks, remnant valley oak groves and roadside tree rows. A heritage tree preservation ordinance has not yet been adopted by the County. Several trees in the Project corridor that are planned for removal as part of the proposed Project are not of composition to be considered a remnant valley oak grove. It is anticipated that Project activities will involve the removal of approximately thirteen (13) trees and associated underbrush vegetation, including the removal of one elderberry shrub (*Sambucus cerulea*) located along CR 49 at the northeast corner of the existing bridge over Hamilton Creek. The Project will involve the removal of approximately 4 to 6 valley oaks (*Quercus lobata*), 3 foothill pine (*Pinus sabiniana*), eucalyptus, and other vegetation including willow (*Salix Spp.*) and toyon (*Heteromeles arbutifolia*). In order to document the number of trees removed and to ensure that impacts to tree resources are minimized and mitigated, MM BIO-8 Tree Removal Documentation and Replacement is required. There will be no conflicts with local policies or ordinances that regulate or protect biological resources in the Project area; therefore, the Project would not conflict with any local policies or ordinances protecting biological resources. See also discussion below regarding the Yolo HCP/NCCP. With the implementation of MM BIO-8 Tree Removal Documentation and Replacement, the County will ensure that all trees proposed for removal will be documented, a plan for replacement will be developed and implemented. Trees retained will receive adequate avoidance and minimization measures during construction activities. Impacts would be reduced to a less than significant level.
- f) ***No Impact.*** The Yolo HCP/NCCP addresses public and private activities and the protection of 12 covered species and the land on which these species depend within Yolo County. The Yolo HCP/NCCP ensures compliance with the federal Endangered Species Act (ESA), Natural Communities Conservation Planning Act (NCCPA), and CESA for covered activities that may affect the covered species. Pursuant to Section 10(a)(1)(B) of ESA and Section 2835 of the NCCPA chapter of the California Fish and Game Code (Fish & Game Code), the Yolo HCP/NCCP provides Permittees (i.e., Yolo County, the four incorporated cities, and the Conservancy) with incidental take permits for the 12 covered species. The Project is a rural infrastructure project and is a “covered activity” under the HCP/NCCP. The Project will be implemented in compliance with permit requirements and conditions as well as avoidance and minimization measures that are listed in the HCP/NCCP. As applicable, the Project will pay mitigation fees for the acreage of land-cover types that are impacted by the Project and implement Project-specific AMMs. The Project-specific Yolo HCP/NCCP AMMs that apply to the Project are AMMs 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 12, and 16, which are described above and noted with the associated mitigation measures as applicable. Through adherence to the terms of the HCP/NCCP, which include payment of mitigation fees and implementation of the listed AMMs, there will be no conflict with the HCP/NCCP and therefore no impact as it relates to this topic.

Mitigation Measures:

MM BIO-1 – Valley Elderberry Longhorn Beetle

Implementation of Yolo HCP/NCCP AMMs 1, 5, and 12: Establish Resource Protection Buffers, Control Fugitive Dust, Minimize Take and Adverse Effects on Habitat of Valley Elderberry Longhorn Beetle.

The following measures will reduce potential impacts to valley elderberry longhorn beetle:

- The elderberry shrub will be transplanted to a USFWS- and Conservancy-approved beetle conservation bank in accordance with the guidelines set forth in AMM 12.
- Impacts to 0.060 acre of Great Valley Oak Riparian habitat, which is designated as VELB habitat, will be mitigated for in accordance with the Yolo HCP/NCCP. The specific acreage of compensatory mitigation credits are subject to change depending on consultation with the USFWS and the Conservancy.

MM BIO-2 – Swainson’s Hawk and White-Tailed Kite

Implementation of Yolo HCP/NCCP AMM 16: Minimize Take and Adverse Effects on Habitat of Swainson’s Hawk and White-Tailed Kite

The following avoidance and minimization measures will be implemented to minimize the potential for adverse impacts on Swainson’s hawk and white-tailed kite to the maximum extent possible:

- The Project proponent will retain a qualified biologist to conduct preconstruction surveys for active nests consistent with guidelines provided by the Swainson’s Hawk Technical Advisory Committee (2000), between March 1 and August 30, with the final survey conducted no more than 7 days prior to the beginning of the construction activity. The results of the survey(s) will be submitted to the Conservancy and CDFW. If active nests are found during preconstruction surveys, a 1,320-foot initial temporary nest disturbance buffer shall be established. If Project-related activities within the temporary nest disturbance buffer are determined to be necessary during the nesting season, then the qualified biologist will monitor the nest and will, along with the Project proponent, consult with CDFW to determine the best course of action necessary to avoid nest abandonment or take of individuals. Work may be allowed only to proceed within the temporary nest disturbance buffer if Swainson’s hawk or white-tailed kite are not exhibiting agitated behavior, such as defensive flights at intruders, getting up from a brooding position, or flying off the nest, and only with the agreement of CDFW and USFWS. The designated on-site biologist/monitor shall be on-site daily while construction-related activities are taking place within the 1,320-foot buffer and shall have the authority to stop work if raptors are exhibiting agitated behavior. If active nests are found during preconstruction surveys, no tree pruning or removal of the nest tree will occur during the period between March 1 and August 30 within 1,320 feet of an active nest, unless a qualified biologist determines that the young have fledged and the nest is no longer active.

MM BIO-3 – Special-Status Bird Species, Migratory Birds, and Raptors

The following measures will be implemented to further reduce the potential for impacts on special-status and migratory birds and raptors that may nest in or near the Project area:

- Project activities and vegetation removal within the Project area shall be initiated outside of the bird nesting season (February 1 – August 31).

- If Project activities and vegetation removal cannot be initiated outside of the bird nesting season then the following will occur:
 - A qualified biologist will conduct a pre-construction survey within 7 days prior to the initiation of Project activities.
 - If an active avian nest (i.e., with egg[s] or young) is observed within 250 feet of the Project area during the pre-construction survey, then a species protection buffer will be established. The species protection buffer will be defined by the qualified biologist in consultation with CDFW. Construction activity shall be prohibited within the buffer zones until the young have fledged or the nest fails. Nests shall be monitored once per week and a report submitted to the lead agency weekly.

MM BIO-4 – Bat Avoidance and Minimization The following measures will be implemented to further reduce the potential for impacts on bats that may roost in the Project area.

- Mature trees should be removed and/or fallen between September 16 – March 15 outside of the bat maternity season. Trees should be removed at dusk to minimize impacts to roosting bats.
- If tree removal cannot be performed outside of the maternity season, a qualified biologist shall conduct a preconstruction survey of suitable roosting habitat within 7 days prior to construction activities.
 - If bats are found, consult with CDFW.
 - If no roosting bats and no potential for roosting bats are found, tree removal can proceed.
 - If potential for roosting bats has been determined and no bats are discovered, a qualified biologist should monitor tree removal activities to ensure the avoidance and minimization of take of regulated species.

MM BIO-5 – Wetlands and Waters

Implements Yolo HCP/NCCP AMMs 1, 2, 3, 8, 9, and 10: Establish Buffers around Sensitive Natural Communities; Confine and Delineate Work Area to Avoid and Minimize Effects of Construction Staging Areas and Temporary Work Areas; Avoid and Minimize Effects on Wetlands and Waters

The following measures shall be implemented to avoid or minimize the potential for Project-related impacts on wetlands and waters:

- The County will comply with the terms of a Clean Water Act Section 404 permit issued by the Corps and Section 401 water quality certification issued by the RWQCB for activities involving the discharge of fill material into jurisdictional drainages. The County will also comply with terms of a Streambed Alteration Agreement with the CDFW (if determined necessary by the CDFW). Prior to any discharge into drainages, the required permits and authorizations will be obtained from the respective agencies. All terms and conditions of the required permits and authorizations will be implemented.
- Water quality BMPs will be installed around Hamilton Creek in a manner that prevents water, sediment, and chemicals from draining into the feature, and all staging, storage, stockpile areas, and off-road travel routes will be located as far as practicable away from the drainage.

- Mitigation for the approximate 0.019 acres (84.4 linear feet) of permanent impacts to jurisdictional WOTUS will be addressed through the purchase of credits at a Corps-approved mitigation bank or payment to a Corps-approved in-lieu fund.
- Project temporary impacts of 0.053 acres (122.0 linear feet) to jurisdictional WOTUS will be restored to pre-Project conditions upon completion of bridge replacement activities in accordance to AMM10 of the Yolo HCP/NCCP.
- Impacts to Riverine Sensitive Natural Community will be mitigated for through the Yolo HCP/NCCP Natural Community and Land Cover Impacts Mitigation Fees. The specific acreage of compensatory mitigation credits is subject to change depending on consultation with the USFWS and the Conservancy.

MM BIO-6 – Sensitive Natural Communities

Implements Yolo HCP/NCCP AMM 9, Establish Buffers around Sensitive Natural Communities

Environmentally Sensitive Area (ESA) fencing will be established around the following Sensitive Natural Communities where they occur within or adjacent to the Project area, when feasible. These areas will be identified on construction drawings and demarcated in the field with flagging and/or signs identifying the area as off limits to all personnel, equipment, and ground-disturbing activities.

Per Yolo HCP/NCCP AMM 9, the buffers for each Sensitive Natural Community are as follows:

- Valley foothill riparian: 100 feet from canopy dripline. If avoidance is infeasible, a lesser buffer than is stipulated in the AMMs may be approved by the Conservancy, USFWS, and CDFW if they determine that the sensitive natural community or covered species is avoided to an extent that is consistent with the Project purpose (e.g., if the purpose of the Project is to provide a stream crossing or replace a bridge, the Project may encroach into the buffer and the natural community or species habitat to the extent that is necessary to fulfill the Project purpose). Transportation or utility crossings may encroach into this sensitive natural community provided effects are minimized and all other applicable AMMs are followed.
- Lacustrine and riverine: Outside urban planning units, 100 feet from the top of banks. Within urban planning units, 25 feet from the top of the banks.

MM BIO-7 – Worker Environmental Training Program

Implements Yolo HCP/NCCP AMM6: Conduct Worker Training

- All construction personnel will participate in a worker environmental training program approved/authorized by the Conservancy and administered by a qualified biologist. The training will provide education regarding sensitive natural communities and covered species and their habitats, the need to avoid adverse effects, state and federal protection, and the legal implications of violating the FESA and NCCPA Permits. A pre-recorded video presentation by a qualified biologist shown to construction personnel may fulfill the training requirement.

MM BIO-8 – Tree Removal Documentation and Replacement

The following measures shall be implemented to compensate for the removal of protected trees and to avoid or minimize the potential for Project-related impacts on tree resources.

- Final plans will identify the number, size, and species of protected trees to be removed and include a planting plan, to ensure replacement of trees in a manner consistent with County and Resource Agencies policies. If replanting cannot completely compensate for the number of trees removed within the Project site or on County managed land, purchase of compensatory mitigation credits will be required for the remainder of trees. The replanting plan must be approved by the County and any compensatory mitigation credits for tree resources must be purchased prior to vegetation clearing activities.
- A plan for avoidance and minimization of trees that are in the area of direct impact, but not removed shall be developed by an International Society of Arboriculture (ISA) Arborist and implemented by the County prior to vegetation clearing activities and throughout the construction of the Project.

MM BIO-9 - Control Nighttime Lighting

Implements Yolo HCP/NCCP AMM7: (Control Nighttime Lighting of Project Construction Sites)

- Workers will direct all lights for nighttime lighting of Project construction sites into the Project construction area and minimize the lighting of natural habitat areas adjacent to the Project construction area.

5.5 Cultural Resources

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Disturb any human remains, including those interred outside of formal cemeteries?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Environmental Setting

Record Search

An Archeological Survey Report (ASR) and a Historical Property Survey Report (HPSR) (Gallaway Enterprises 2021c – Appendix D) were prepared for the Project.

Gallaway Enterprises conducted a cultural resources study of the Project area. Gallaway Enterprises requested a records search from the Northwest Information Center (NWIC) of the California Historical Resources Information System on November 19, 2020. The search included all previously recorded cultural resources and reports within a half mile radius of the APE. The record search was conducted to determine if any portion of the Project has been previously surveyed and if any cultural resources have been previously recorded within the Project APE. Additional archival research included the California Register of Historic Resources, the National Register of Historic Places, historic topographic maps, historical documentation, and BLM GLO records.

Results of a pedestrian survey (December 10, 2022) and the record search indicated one previous cultural resource is recorded within the APE and five cultural resources are recorded within a half mile of the APE. The previously recorded site within the Project boundary, the “Guinda Bridge” (CR 49 crossing over Hamilton Creek [bridge #22C0095]), had previously been determined not eligible for the National Register of Historic Places (NRHP) as a category 5 bridge from the Caltrans historic bridge inventory. The five resources located outside of the APE included a prehistoric midden site and four historic structures associated with the town of Guinda.

Archival Research

In addition to the record search, various historical maps, topographic quadrangles, land grants, and patents, Gallaway Enterprises reviewed the following resources:

- National Register of Historic Places (NRHP)
- California Register of Historic Resources (CRHR)
- General Land Office Plat maps and land patents
- Historic United States Geological Survey (USGS) topographic maps
- Yolo Historical Society
- Hattie Weber Museum

- Yolo County Library

Archival research indicates the bridge was previously assessed as part of the Caltrans statewide historic bridge inventory program. As a result of the Caltrans historic bridge inventory program, the bridge at CR 49 over Hamilton Creek Bridge # 22C0095, was determined not eligible for the National Register as a category 5 bridge. No properties listed within the NRHP and CRHR fall within the Project boundary.

The APE has been heavily modified and disturbed by construction and agricultural related activities and is comprised of paved road south of Hamilton Creek, unpaved road north of Hamilton Creek, agricultural land and private residence driveways. Agricultural land occurs north, south, east, and west of the APE. A residence on agricultural property occurs south of the APE, south of Hamilton Creek. Undeveloped and non-agricultural annual grassland occurs in the northwest of the APE between CR 49 and Hamilton Creek. Ongoing disturbance and development within and adjacent to the APE greatly reduce the likelihood of intact cultural deposits. The Project area appears to contain lands with low to moderate sensitivity for intact prehistoric and historic period sites and/or features.

Native American Consultation

Gallaway Enterprises contacted the Native American Heritage Commission (NAHC) to request sacred lands file search and contact list. On October 27, 2020, the NAHC returned a negative result for sacred lands within the Project APE. Additionally, the NAHC listed three (3) Native American tribes who may have knowledge of sites or traditionally cultural properties that may be affected by Project-related activities. All tribes listed were contacted via email in a letter dated October 30, 2020 informing them of the proposed Project and to request participation of interested parties.

One response was received by the Yocha Dehe Wintun Nation (Tribe) on November 10, 2020. The Project boundary lies within the aboriginal territories of the Yocha Dehe Wintun Nation who claimed authority over the proposed Project area. The Tribe expressed concerns that the Project could impact known cultural resources. Yocha Dehe recommended the inclusion of cultural monitors during Project development and ground disturbance. Additionally, the Tribe recommended cultural sensitivity training prior to construction related activities. Should cultural material or new information be discovered during the Project, the Tribe will be notified.

Potential Environmental Effects

- Less Than Significant Impact.*** Research and evaluation of historical resources were conducted as part of the ASR and HPSR documents. The research and findings contained within the aforementioned documents concluded that no resources required evaluation. Archival research indicates the bridge was previously assessed as part of the Caltrans statewide historic bridge inventory program. As a result of the Caltrans historic bridge inventory program, the bridge at CR 49 over Hamilton Creek # 22C0095, was determined not eligible for the National Register as a category 5 bridge. No properties listed within the NRHP and CRHR fall within the Project boundary. California Public Resources Code Sections 5097.5 ensures protection of cultural resources in the event of inadvertent discovery. Impacts will remain less than significant.
- Less Than Significant Impact.*** Research and evaluation of archaeological resources were conducted as part of the ASR document. The research and findings contained within the ASR document concluded that no resources required evaluation. Due to the developed character of the site, the potential to encounter surface-level archaeological resources is considered low. However, there is the

potential for accidental discovery of archaeological resources. Native American outreach indicated gathering material are within the vicinity of the Project location and the Project site is considered sensitive for cultural resources due to the proximity of local waterways and Tribal property. In the event that resources are inadvertently discovered, California Public Resources Code Sections 5097.5 prohibits further excavation, removal, or destruction of any historic or prehistoric ruins, burial grounds, archaeological or historical feature and requires the County to follow the professional standards for determining commercial and archaeological value, in accordance with those procedures established in the federal Archaeological Resources Protection Act of 1979 (Public Law 96-95), as amended, and in compliance with the Uniform Regulations set forth in Subpart A (commencing with Section 7.1) of Part 7 of Title 43 of the Code of Federal Regulations. Adherence to California Public Resources Code Sections 5097.5 and incorporation of recommendations provided by Tribal consultation will ensure archaeological and cultural resources will remain protected in the event of inadvertent discoveries. Impacts are expected to be less than significant.

- c) ***Less Than Significant Impact.*** The ASR and HPSR documents show that no known cemeteries or burials occur within the Project area of direct impact. In the event of discovery or recognition of any human remains within the Project site, California Health and Safety Code Section 7050.5 requires excavation to cease in the vicinity of the discovery until the coroner of the County has determined that the remains are not subject to the provisions of Section 27491 of the Government Code or any other related provisions of law concerning investigation of the circumstances, manner and cause of any death, and the recommendations concerning the treatment and disposition of the human remains have been made to the person responsible for the excavation, or to his or her authorized representative, in the manner provided in Section 5097.98 of the Public Resources Code. If the coroner determines that the remains are not subject to his or her authority and if the coroner recognizes the human remains to be those of a Native American, or has reason to believe that they are those of a Native American, he or she shall contact, by telephone within 24 hours, the Native American Heritage Commission. California Health and Safety Code Section 7050.5 and Section 5097.98 of the Public Resources Code will ensure human remains will be protected from any inadvertent discoveries Impacts are expected to be less than significant.

Mitigation Measures: None Required

5.6 Energy

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Potential Environmental Effects

- a) **Less Than Significant Impact.** All construction equipment would be regulated per the California Air Resources Board (CARB) In-Use Off-Road Diesel Vehicle Regulation. CARB standards for construction equipment includes measures to reduce emissions from vehicles by subjecting fleet owners to retrofit or accelerated replacement/repower requirements and imposing idling limitations on owners, operators, renters, or lessees of off-road diesel vehicles, thereby having a secondary benefit of reducing energy consumption during construction activities
- b) Project construction would also be required to comply with all applicable YSAQMD rules and regulations. Future maintenance activities (e.g., vegetation control) would likely involve the use of electric or gas-powered equipment. The Project would be required to comply with all applicable standards and regulations regarding energy conservation and fuel efficiency, which would ensure that the future activities would be energy efficient to the maximum extent practicable. The Project would not be considered to result in a wasteful, inefficient, or unnecessary use of energy, and impacts related to construction and operational energy would be considered less than significant.
- c) **Less Than Significant Impact.** Yolo County has taken steps to reduce overall emissions in the County in an effort to reduce GHG emissions and address economic and social adaptation to the effects of climate change. The County’s General Plan policies and Climate Action Plan (CAP) address these issues. In order to demonstrate Project-level compliance with CEQA relevant to GHG emissions and climate change impacts, applications for discretionary projects must demonstrate consistency with the General Plan and CAP. Implementation of the proposed Project would not conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases. Adherence to the YSAQMD rules (Rules 2.3, 2.5, 2.11, 2.28, 2.32, and 9.8 as applicable) will limit potential construction related GHG impacts. These impacts are considered less than significant.

Mitigation Measures: None required.

5.7 Geology and Soils

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Directly or indirectly cause potential substantial adverse effects, including the 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.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ii) Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iii) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iv) Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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 offsite landslide, lateral spreading, subsidence, liquefaction or collapse?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Environmental Setting

The Project area is located on the floor of the Capay Valley, where the topography is relatively flat and level. According to the 2030 Countywide General Plan, the only fault in Yolo County that has been identified by the California Division of Mines and Geology (1997) to be subject to surface rupture (within an Alquist-Priolo Earthquake Fault Zone) is the Hunting Creek Fault, which is partly located in a sparsely inhabited area of the extreme northwest corner of the County. Most of the fault extends through Lake and Napa Counties. The other potentially active faults in the County are the Dunnigan Hills Fault, which extends west of I-5 between Dunnigan and northwest of Yolo, and the more recently identified West Valley and East Valley Faults (Fault Activity Map of California, California Geological Survey, 2010); these faults are not within an Alquist-Priolo Earthquake Fault Zone and are therefore not subject to surface rupture. Crawford & Associates, Inc. developed a Draft Foundation Report for the proposed Project (Crawford & Associates, Inc. 2020), which presents the results of subsurface exploration and testing, engineering analysis, conclusions and recommendations for use in design and construction of the new bridge structure foundations and approach roadway sections.

The Capay Valley is a tectonically controlled depression bounded by the Coast Ranges on the west and the Capay Hills to the east. The valley appears to have formed as a down-dropped block between the pre-Quaternary Sweitzer fault to the east, and an un-named pre-Quaternary fault to the west. The floor of Capay Valley is mapped as Quaternary-age Modesto-Riverbank Formation (arkosic sediments); outcrops of Tehama Formation (sand, silt, and volcanoclastic rocks) are present on the valley floor. Mapping by the California Department of Mines and Geology indicates there are no ultramafic rocks (rocks likely to contain naturally occurring asbestos) within a mile of the Project site. The site is not located within an Alquist-Priolo Earthquake Fault Zone. The nearest quaternary age fault appears to be the Mysterious Ridge segment of the Great Valley thrust, located approximately 3.8 miles east-northeast of the Project site. No evidence of faulting, springs or seeps was observed within or immediately adjacent to the project site during reconnaissance.

Potential Environmental Effects

- a) ***a-i) Less Than Significant Impact.*** The site does not lie within an Alquist-Priolo Earthquake Fault Zone and no known active faults are mapped within or through the Project area. The nearest quaternary age fault appears to be the Mysterious Ridge segment of the Great Valley thrust, located approximately 3.8 miles east-northeast of the Project site. The Hunting Creek Fault is the only fault in the County that has been identified by the California Geologic Survey (CGS) as active and subject to surface rupture (i.e., is delineated as an Alquist-Priolo Earthquake Fault zone) (Yolo County 2009b). Based on the observed geological conditions of the Project (lack of faulting, springs, or seeps) and the distance to the known active fault location, impacts are considered less than significant.

a-ii) Less Than Significant Impact. Earthquake shaking hazards are calculated by projecting earthquake rates based on earthquake history and fault slip rates, the same data used for calculating earthquake probabilities (California Department of Conservation 2020a). Calculations of earthquake shaking hazards for California are part of a cooperative project between USGS and CGS and are part of the National Seismic Hazard Maps. Yolo County General Plan DEIR Figure IV.L-4 (Regional Ground Shaking Hazard) shows potential seismic shaking based on National Seismic Hazard Map calculations plus amplification of seismic shaking due to the near surface soils. Per Figure IV.L-4 the Project is located in a region where shaking hazards that are ‘*distant from known, active faults and will experience lower levels of shaking less frequently. In most earthquakes, only weaker, masonry buildings would be damaged. However, very infrequent earthquakes could still cause strong shaking here.*’ The draft Foundation Report (Crawford & Associates, Inc. 2020) concluded there are no over-riding geologic hazards identified near or at the project site, and impacts are considered less than significant.

a-iii) Less Than Significant Impact. The proposed Project involves the replacement of an existing bridge to update the crossing to current design and safety standards. The proposed Project will not directly or indirectly cause potential adverse effects including the risk of loss, injury or death involving seismic-related ground failure, including liquefaction. Risk of potential ground failure from Project activity is considered less than significant.

a-iv) Less Than Significant Impact. The Project is located on relatively flat ground. No over-riding geologic hazards, including landslides were identified by either published geologic mapping or observations made at the site. Risk of landslide caused by, or occurring during, Project activities is considered less than significant.

- b) ***Less Than Significant Impact.*** Project activities could potentially introduce sediments and other contaminants typically associated with construction into stormwater run-off. Overall soil erosion and loss would be minimal with implementation of standard construction practices for dust control, erosion and stormwater pollution prevention. Erosion and sediment control measures include the required Caltrans Standard Specifications (§13 Water Pollution Control and §21 Erosion Control) and a stormwater pollution prevention plan (SWPPP) will be implemented during construction to minimize the potential for erosion and stormwater run-off. Post-project, the potential for erosion to occur in the Project area would be like current conditions; therefore, the Project would result in less than significant impacts relating to soil erosion and loss of topsoil.
- c) ***Less Than Significant Impact.*** The Project does not include activities that would result in soil units onsite becoming unstable and will not potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse. Potential impacts from Project activities are considered less than significant.
- d) ***Less Than Significant Impact.*** Expansive soils that may swell enough to cause problems with paved surfaces are generally clays falling into the AASHTO A-6 or A-7 groups, or classified as CH, MH, or OH by the Unified Soil Classification System (USCS), and with a Plasticity Index greater than about 25 as determined by ASTM D4318. Chapter 610 of the Caltrans Highway Design Manual (2012) defines an expansive subgrade to include soils with a Plasticity Index greater than 12 (Caltrans 2012). The Project is designed in accordance with the special engineering or construction considerations outlined in Chapter 610 "*Engineering Considerations*" of the Highway Design Manual, California Transportation Department. The proposed Project has been designed appropriately: in accordance with the Caltrans Highway Design Manual, influence of expansive soils is considered within the Project design. Impacts from soil expansion in relation to project activities will be less than significant.
- e) ***No Impact.*** The proposed Project does not include the use of septic tanks or alternative wastewater disposal systems. No impact will occur.
- f) ***Less Than Significant:*** Paleontological resources are known to occur in Yolo County, and the geological formations that underlie Yolo County are generally paleontologically sensitive. The Project would not likely impact paleontological features due to the general disturbed conditions at the site. There is the possibility of accidental paleontological discoveries during construction-related ground-disturbing activities. Caltrans Standard Specification 14-7.03 requires that if any unanticipated paleontological resources are discovered, work shall halt within 60 feet of the discovery and the engineer shall be notified. Caltrans Standard Specifications will ensure that paleontological resources will be protected any inadvertent discoveries. Impacts are expected to be less than significant.

Mitigation Measures: None required.

5.8 Greenhouse Gas Emissions

Would the Project:	Potentially Significant Impact	Less Than Significant with 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Environmental Setting

Greenhouse gases (GHGs) are recognized by wide consensus among the scientific community to contribute to global warming/climate change and associated environmental impacts. The major GHGs that are released from human activity include carbon dioxide, methane, and nitrous oxide. The primary sources of GHGs are vehicles (including planes and trains), energy plants, and industrial and agricultural activities (such as dairies and hog farms).

Greenhouse gas emissions for transportation projects can be divided into those produced during operations and those produced during construction. The proposed Project does not increase the capacity of CR 49 and would not increase operational GHG levels. The discussion below therefore focuses on construction related GHG emissions of the Project.

Potential Environmental Effects

- a) **Less Than Significant Impact.** Off-site production of construction materials and onsite construction of the proposed Project would generate short-term emissions of greenhouse gases. Emissions of GHGs resulting from off-road heavy-duty diesel engines during construction activities would be short-term and minor. Adherence to the YSAQMD rules (Rules 2.3, 2.5, 2.11, 2.28, 2.32, and 9.8 as applicable) will limit potential air quality impacts. These impacts are considered less than significant.
- b) **Less Than Significant Impact.** Yolo County has taken steps to reduce overall emissions in the County in an effort to reduce GHG emissions and address economic and social adaptation to the effects of climate change. The County’s General Plan policies and Climate Action Plan (CAP) address these issues. In order to demonstrate Project-level compliance with CEQA relevant to GHG emissions and climate change impacts, applications for discretionary projects must demonstrate consistency with the General Plan and CAP. In addition, the County established a working group to implement the County’s Climate Change Initiative, aimed at reducing transportation emissions by encouraging the use of electric vehicles, reducing County vehicle trips and purchasing low-polluting construction equipment. Implementation of the proposed Project would not conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases. Adherence to the YSAQMD rules (Rules 2.3, 2.5, 2.11, 2.28, 2.32, and 9.8 as applicable) will limit potential construction related GHG impacts. These impacts are considered less than significant.

Mitigation Measures: None required.

5.9 Hazards and Hazardous Materials

Would the Project:	Potentially Significant Impact	Less Than Significant with 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Environmental Setting

A hazardous material is defined by the California EPA, Department of Toxic Substances Control (DTSC), as a material that poses a significant present or potential hazard to human health and safety or the environment if released because of its quantity, concentration, or physical or chemical characteristics (26 California Code of Regulations (CCR) 25501).

According to Title 22 of the CCR (22 CCR) Section 66261.20, the term “hazardous substance” refers to both hazardous materials and hazardous wastes; both are classified according to four properties: toxicity, ignitability, corrosiveness, and reactivity.

A hazardous material is defined by 22 CCR Section 66261.10 as a substance or combination of substances that may cause or significantly contribute to an increase in serious, irreversible, or incapacitating illness or may pose a substantial presence or potential hazard to human health or the environment when improperly treated, stored, transported, or disposed of, or otherwise managed.

While public health and safety is potentially at risk whenever hazardous materials are or will be used, the risk is determined by the probability of exposure and to the inherent toxicity of a material. Factors that can influence health effects when human beings are exposed to hazardous materials include the dose the person

is exposed to, the frequency of exposure, the duration of exposure, the exposure pathway (how a chemical enters the body), and the individual's unique biological susceptibility.

Hazardous wastes are hazardous substances that no longer have practical use, such as materials that have been discarded, discharged, spilled, or contaminated or are being stored until they can be disposed of properly (22 CCR Section 66261.10). Soil that is excavated from a site containing hazardous materials is a hazardous waste if it exceeds specific 22 CCR criteria.

Hazardous materials transport within California is subject to various federal, state, and local regulations including the California Vehicle Code California and Occupational Health and Safety Administration (CalOSHA) requirements. The California Highway Patrol (CHP) designates through routes to be used for the transportation of hazardous materials. Transportation of hazardous materials is generally restricted to these routes.

An Initial Site Assessment (ISA) was prepared for the proposed Project by Crawford & Associates, Inc. in May of 2021 (Appendix H). The purpose of the ISA is to identify recognized soil or groundwater contamination and hazardous material issues that may affect the planned Project improvements. The ISA identifies Recognized Environmental Conditions (RECs) and general hazardous materials issues that may be present at the site, and provides recommendations for further investigation, as warranted. Based on the records search and site reconnaissance Crawford & Associates, Inc. made the following observations.

- Lead-based paint was identified on existing bridge rail supports.
- Fencing material adjacent to APN 060-090-010 appears to consist of chemically treated wood.
- Proposed construction easements and the temporary detour route will impact soil that may contain elevated concentrations of agricultural chemicals on neighboring agricultural land (APNs 060-090-003; 006; 010), although it has been recommended that soil testing be administered to evaluate whether the agricultural chemicals that occur at the Project site area at potentially harmful concentrations.
- The Project site was not identified in the database records reviewed. The records review found the nearest environmental case to be located $\pm 1,000$ feet from the Project site, and that case is closed.
- The database records, aerial photographs, and historical topographic maps search did not identify any RECs or historical RECs that have potentially impacted the Project site.
- Reconnaissance did not identify any other suspect sites in the Project site vicinity.

Potential Environmental Effects

- a) ***Less Than Significant Impact.*** Small amounts of hazardous materials are to be used during proposed Project activities and Project vehicle operation (i.e., equipment maintenance grease and oils, fuel, and solvents). Project activities would continue the use, transport, and disposal of potentially hazardous materials, similar to the existing conditions on and in the vicinity of the Project site. The Project is required to comply with federal, state, and local regulations regarding the storage, handling, transportation, disposal, and cleanup of hazardous materials. Use of hazardous materials in accordance with applicable standards ensures that any exposure of the public to hazard materials would have a less than significant impact.
- b) ***Less Than Significant with Mitigation Incorporated.*** The ISA developed by Crawford & Associates, Inc. did not identify any RECs; however, the report did identify lead-based paint on the existing bridge structure, the potential for agricultural chemicals in the soils, and potentially chemically treated-wood fencing material adjacent to APN 060-090-010. A lead compliance plan that protects workers and the

environment from lead exposure will need to be prepared prior to implementation of demolition and construction activities. Painted bridge components will need to be removed, transported, and recycled or disposed of in a manner consistent with the lead compliance plan and applicable State and federal law. Project construction and operation would not routinely generate any hazardous materials. Project operation would not involve the use or storage of any hazardous materials. Although construction would not generate any hazardous materials, a potential hazard to the public and the environment would be posed by using diesel or gasoline powered construction equipment (trucks, excavators, etc.) and lubricants such as oil and hydraulic fluids. The potential for such a hazard would be temporary and avoidable through the implementation of AMM3 (Confine and Delineate Work Area) and AMM8 (Avoid and Minimize Effects of Construction Staging Areas and Temporary Work Areas), as required by the Yolo HCP/NCCP. The use and handling of hazardous materials during construction activities would occur in accordance with applicable federal, state, and local laws including California Occupational Health and Safety Administration (CalOSHA) requirements. Adherence to the applicable federal, state, and local laws and the application of AMMs from the Yolo HCP/NCCP and implementation of MM HAZ-1 Lead Compliance Plan, MM HAZ-2 Hazardous Waste Disposal and MM-HAZ-3 Soils Testing would reduce the potential impacts to less than significant levels through materials testing, proposer disposal and developing protocols to handle potentially hazardous waste.

- c) **No Impact.** No schools occur within 0.25 mile of the Project site.
- d) **No Impact.** The Project area is not included on the list of hazardous materials sites compiled pursuant to Government Code Section 65962.5.
- e) **No Impact.** The Project area does not occur within two (2) miles of an airport facility.
- f) **Less Than Significant Impact.** During construction, CR 49 will remain open for through traffic via a temporary crossing over Hamilton Creek that will be maintained during Project-related demolition and construction activities. Construction is anticipated to begin in Spring 2024 and have a duration of approximately 8 months. Although temporary, short disruptions to normal traffic operations would occur during construction, the impact would be less than significant. The Project is not anticipated to impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan.
- g) **No Impact.** The completed Project will not expose people or structures to a new or increased significant risk of loss, injury or death involving wildland fires.

Mitigation Measures:

MM HAZ-1 Lead Compliance Plan

A lead compliance plan that protects workers and the environment from lead exposure must be prepared and implemented prior to implementation of demolition and construction activities. Painted bridge components will need to be removed, transported, and recycled or disposed of in a manner consistent with the lead compliance plan and applicable State and Federal law. The plan must address (Caltrans 2018 Standard Specifications section 7-1.02K(6)(j)(ii), Lead Compliance Plan, and Caltrans 2018 Standard Special Provision 7-1.02K(6)(j)(iii)), and a Health & Safety Plan for workers in accordance with Cal OSHA Title 8, Section 1532.1. Additional sampling and analysis of the paint may be required to insure proper disposal of the painted components.

MM HAZ-2 Hazardous Waste Disposal

In accordance with California 2018 Standard Special provision (SSP) 14-11.14, the contractor is required follow the Alternative Management Standards (AMS), including providing training to all personnel that may come in contact with hazardous materials, specifically, treated wood waste. Project activities are expected to impact a fence containing treated wood material located north of the bridge along the boundary of APN 060-090-010. Prior to Project activities, personnel are to attend a training must that include, at a minimum, safe handling; sorting and segregating; storage; labeling (including date); and proper disposal methods of hazardous waste.

MM HAZ-3 Soils Testing

A Limited Soils Assessment (LSA) shall be prepared and conducted at for the areas where the Project easement and detour may intersect with the adjacent parcels (ANPs 060-090-006; -003; -010). Soil from these parcels should be tested to evaluate if residual agricultural chemicals (listed below) are present at concentrations that might pose and exposure risk to construction workers or require special handling for re-use or off-site disposal.

- organochlorine pesticides (EPA Method 8081)
- chlorinated herbicides (EPA Method 8151)
- organophosphorus pesticides (EPA Method 8141)

The LSA shall also determine if excavated soils generated during construction activities are likely to be classified as a regulated waste. Should any of the constituents of concern be found in excess concentrations, the applicant shall prepare a Soil Management Plan (SMP) or equivalent report, which shall be distributed to construction personnel. The SMP shall establish protocols for handling, sampling, storage, and disposal of any suspected burn ash-impacted soils generated during construction activities.

5.10 Hydrology and Water Quality

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the Project may impede sustainable groundwater management of the basin?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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 off-site	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ii. substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iv. Impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation??	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Environmental Setting

A Floodplain Evaluation Report and Water Quality Study Memorandum for the proposed Project was developed by WRECO (Appendix E and Appendix F respectively). The following overview is derived from the aforementioned documents:

The Project is located within the Sacramento Valley Groundwater Basin Yolo Subbasin (5-21.67). Based on California’s Groundwater Bulletin 118 (DWR, 2016), the Yolo Subbasin is located on the southern portion of the Sacramento Valley Basin primarily within Yolo County. It is bounded on the east by the Sacramento River, on the west by the Coast Range, on the north by Cache Creek, and on the south by Putah Creek. According to the Central Valley RWQCB Basin Plan (2018), the Sacramento Valley Groundwater Basin Yolo Subbasin is not listed as having beneficial uses for groundwater. The proposed Project is anticipated to have a Disturbed Soil Area (DSA) of 0.37 acres and 0.24 acres of added impervious area. Disturbed soils can result in sediment laden flows and increase the potential for erosion. Generally, as the DSA increases, the potential for temporary water quality impacts also increases. Routinely used temporary BMPs are included to protect water quality. These include preservation of existing vegetation where possible, temporary cover for soil stabilization, temporary fiber rolls, silt fence for sediment control, stream flow diversion, dewatering and affluent discharge control, and temporary construction entrances and exits. Long-term impacts from the Project could result from fill placed in environmentally sensitive areas, potential increases to the velocity and

volume of downstream flows due to added impervious areas, and sediment transported from erosion. Stormwater runoff from the study area can potentially carry pollutants into naturally flowing streams, as well as into adjacent jurisdictional biotic/aquatic areas.

The Project site is located in Special Flood Hazard Area (SFHA) Zone A, which represents areas subject to flooding by the 100-year flood event determined by detailed methods where Base Flood Elevations (BFE) are not shown.

The selected design flows for Hamilton Creek were based on a rainfall/runoff model to estimate the design discharges using HEC-HMS software and following the Soil Conservation Service (SCS) Unit Hydrograph Method. The peak discharge calculated using the rainfall/runoff model is recommended for use in the hydraulic analysis because the SCS unit hydrograph method provides a detailed analysis of the watershed. The 100-year flow is 2,630 cubic feet per second (cfs).

The hydraulic assessment was performed using the United States Army Corps of Engineers' (USACE) Hydrologic Engineering Center's River Analysis System (HEC-RAS) modeling software. The hydraulic analysis indicates the proposed bridge replacement would result in a decrease in WSEs of 0.4 ft for the 100-year storm at the bridge site and a localized increase in WSEs of 0.2 ft downstream of the bridge.

Potential Environmental Effects

- a) ***Less Than Significant with Mitigation Incorporated.*** Project activities have the potential to introduce sediments and other contaminants, typically associated with construction, into stormwater runoff. Stormwater flowing over the Project features during construction could carry various pollutants downstream such as sediment, nutrients, soil-borne pathogens, oil and grease, heavy metals, organics, pesticides, and miscellaneous waste. These pollutants could originate from soil disturbances, construction equipment, building materials, and workers. Erosion potential and water quality impacts are always present during construction and occur when protective vegetative cover is removed, and soils are disturbed. The proposed Project's particular risk of erosion will be incurred by vegetation removal from the banks of Hamilton Creek, the installation of a temporary crossing, and soil disturbance associated with the bridge replacement.

Under existing State regulations, the Project proponent is required to obtain a water quality certification or waiver from the Central Valley RWQCB. Through the RWQCB permitting process (refer to MM BIO-5), the Project will be required to avoid, minimize, and/or compensate for potential discharges into regulated waterways based on a detailed review of the bridge construction techniques. Existing State permitting requirements by the RWQCB will ensure that the Project will not result in the violation of any water quality standards or waste discharge requirements. The Project is not expected to degrade ground water quality. The proposed Project involves the temporary fill of state and federally regulated waters (detour crossing over Hamilton Creek), and Project activities have the potential to temporarily impact surface water quality when water is present within Hamilton Creek during Project construction. Potential impacts to State and federally regulated aquatic features will be reduced to a less than significant level by the implementation of avoidance and minimization measures (MM BIO-5), payment of Yolo HCP/NCCP fees, acquisition of applicable permits and fulfillment of any compensatory mitigation requirements. With the standard permitting and water quality requirements in place, potential impacts to water quality from the Project are considered to be less than significant with mitigation.

- b) **No Impact.** Construction and operation of the Project would have no effect on groundwater supplies. There would be no net change in local aquifers or the local groundwater table because of the Project.
- c) **i Less Than Significant Impact.** The proposed project’s grading and excavation are not anticipated to result in substantial erosion or siltation, on or off-site. Compliance with the various requirements of the SWRCB statewide general permit for construction (which include water pollution control, erosion control and the development of a SWPPP) will ensure that erosion or siltation on- or off-site during the construction phase of the proposed Project would remain less than significant.
- ii Less Than Significant Impact.** The proposed Project includes minor widening of the paved section of CR 49 to improved roadway infrastructure which will result in an increase in impervious surfaces. These increases in impervious surfaces are not a substantial increase when compared to existing conditions. The recontouring and re-establishment of roadway drainage facilities are designed to accommodate the predicted runoff from the proposed Project. The Project will not contribute to a substantial increase in water runoff from the site. Project impacts are less than significant.
- iii Less Than Significant Impact.** As mentioned above, the proposed Project would include minor increases in runoff water, however the runoff water would not exceed the capacity of existing or planned stormwater drainage systems. The proposed Project includes the replacement of an existing bridge and minor widening of an existing road to include improved roadway conditions and will not introduce a substantial additional source of polluted runoff, since the existing use is similar to the proposed use of the project site. Project impacts are less than significant.
- iv Less Than Significant Impact.** The proposed Project has been designed to avoid obstructions or redirection of flood flows. The proposed project design has been analyzed (see Floodplain Evaluation Report Appendix E) to ensure there are less than significant impacts as they pertain to hydraulic conditions, impediments, potential flooding and stormwater issues. The Federal Emergency Management Agency (FEMA) has a “no increase” requirement in relation to inundation, floodplain limits and water surface elevations as a result of the project. Through the standard process of design, peer review and meeting the requirements of FEMA, the Project is expected to have a less than significant impact with respect to impeding or redirecting flood flows.
- d) **Less Than Significant Impact.** The Project is within FEMA/FIRM panel 06113C0225G and is located in SFHA Zone A, which represents areas subject to flooding by a 100-year flood event determined by detailed methods where BFEs are not shown. The 100-year Water Surface Elevation (WSE) was measured to be 384.6 ft NAVD 88 immediately downstream of the existing bridge and the proposed bridge. The completed Project would not include components that risk release of pollutants due to inundation, the and Project is not located within a tsunami or seiche zones; impacts would be considered less than significant.
- e) **No Impact.** The proposed Project is the replacement of an existing bridge and does not include activities that would conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

Mitigation Measures: Mitigation Measure BIO-6 (Biological Resources)

5.11 Land Use and Planning

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Environmental Setting

The 2009 Yolo County General Plan is the relevant land use plan for the Project area.

Potential Environmental Effects

- a) ***No Impact.*** The Project does not include activities that would result in physically dividing an established community.
- b) ***No Impact.*** The proposed Project is consistent with the County General Plan.

Mitigation Measures: None required.

5.12 Mineral Resources

Would the Project:	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Environmental Setting

Per the County General Plan, Yolo County contains important mineral resources. A variety of minerals are mined in the County. The predominant resources presently extracted in Yolo County are aggregates and natural gas (Yolo County 2009b). The Project is located outside the Cache Creek Area Plan (CCAP) project area, a rivershed management plan that includes approximately 14.5 miles of lower Cache Creek, between the Capay Dam and the town of Yolo. Components of the CCAP establish goals to assist in the overall management and include the Off-Channel Mining Plan (OCMP).

Potential Environmental Effects

- a) **No Impact.** The Project area is not in an important mineral resource zone or site, as depicted in the County’s General Plan DEIR Figure IV.L-2 (Yolo County 2009b). The Project would have no impact on mineral resources.
- b) **No Impact.** No locally important mineral resource recovery sites are located within the Project area.

Mitigation Measures: None required.

5.13 Noise

Would the Project:	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the Project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Generation of excessive ground-borne vibration or ground-borne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) For a project located within -the vicinity of a private airstrip or-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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Environmental Setting

The 2009 Yolo County General Plan (GP), Chapter 8-Health and Safety Element, Section D (Noise) establishes policies and standards associated with noise producing sources.

Yolo County GP Action HS-A61 states:

“Adopt a comprehensive Noise Ordinance that includes the following components:

- Standards for acceptable exterior and interior noise levels, their applicability, and any specific exceptions to those standards.
- Guidelines and technical requirements for noise measurements and acoustical studies to determine conformance with provisions of the ordinance.
- Standards for construction equipment and noise-emitting construction activities.
- Regulations for the noise generated by events, including truck loading and unloading, operation of construction equipment, and amplified music.”

To date a County noise ordinance addressing construction noise has not been adopted; however, the County relies on the State Office of Noise Control Guidelines when considering new outdoor noise sources.

A Construction Noise Technical Memorandum was developed for the proposed Project by Mark Thomas (Appendix G). The report identifies potential construction-related sources of noise and provides methods to ensure the Project will not result in excessive construction-period noise effects.

No new stationary sources of noise will be established as part of the proposed Project; therefore, the following discussion is focused on potential construction related noise impacts. Section 14-8.10 (Noise and Vibration) of the Caltrans Standard Specifications includes requirements for the control and monitoring of noise resulting from construction activities. The Caltrans Standard Specifications require construction noise to not exceed 86 dBA at 50 feet from the job site from 9:00p.m. to 6:00a.m.

Potential Environmental Effects

- a) ***Less Than Significant with Mitigation Incorporated.*** Project activities are expected to temporarily increase noise levels in the vicinity of the Project area during the standard construction times of 6:00a.m. to 9:00p.m. Noise levels are expected to vary throughout the Project duration, depending on the type of activity and equipment involved, and the distance between the source of the noise and the receptors. The contractor for the Project is to comply with noise standards outlined in Caltrans Standard Specifications, and applicable construction equipment will be equipped with appropriate mufflers pursuant to the Standard Specifications and the YSAQMD rules. Long-term noise associated with the traffic use on CR 49 would be similar to current conditions. There are several noise receptors bordering the Project area. These include two agricultural properties with residences located at 7381 CR 49 and 7383 CR 49. These residences are located approximately 100 ft south and 450 ft south of the CR 49 bridge crossing over Hamilton Creek. Yolo County GP does not consider residences on agriculturally zoned land to be sensitive receptors. The closest residentially zoned land which contain residences (sensitive receptors) is in the town of Guinda approximately 1,700 feet southeast of the Project boundary.

To avoid substantial construction-period noise impacts to nearby receptors, MM NOI-1 Control of Construction Noise will be implemented during project construction. With implementation of MM NOI-1, the County will ensure that applicable minimization measures to reduce construction related noise and potential impacts on noise receptors will be implemented. Noise impacts introduced by Project activities are expected to be maintained at less than significant levels.

- b) ***Less Than Significant Impact.*** Project construction includes activities, such as operation of large pieces of equipment (e.g., heavy trucks), which may result in the periodic, temporary generation of ground-borne vibration. The Project does not introduce new sources of permanent ground-borne vibration. Given the temporary nature of any potential ground-borne vibration as a result of the construction of the bridge, potential impacts are less than significant.
- c) ***Less Than Significant Impact.*** The Project is not within the vicinity of a private or public airport that would expose people working in the Project area to excessive noise levels.

Mitigation Measures:

MM NOI-1 – Control of Construction Noise

To avoid substantial construction-period noise impacts to nearby sensitive receptors, the Best Management Practices listed below will be implemented during Project construction. With implementation of these standard construction period specifications, the Project will not result in excessive construction-period noise effects.

1. Project-related noise-generating activities at, or adjacent to, the construction site shall comply with the Caltrans Standard Specifications Section 14-8.02. "Control and monitor noise resulting from work activities. Do not exceed 86 dBA at 50 feet from the job site from 9:00 p.m. to 6:00 a.m."
2. All internal combustion engine driven equipment shall be equipped with the appropriate intake and exhaust mufflers, which are in good condition.
3. "Unnecessary" idling of internal combustion engines shall be strictly prohibited.
4. Avoid staging construction equipment within 200 feet of residences and locate all stationary noise-generating construction equipment as far as practical from existing noise receptors. Construct

temporary barriers to screen noise generating equipment when located in areas adjoining noise-sensitive land uses.

5. “Quiet” air compressors and other stationary noise sources shall be used when applicable.
6. All construction traffic shall be routed to and from the Project site via designated truck routes. Construction-related heavy truck traffic shall be prohibited in residential areas where feasible. Construction truck traffic shall be prohibited in the Project vicinity during non-allowed hours.
7. The businesses and residents in the Project area shall be notified in writing by the County of the construction schedule.
8. The County shall designate a “noise disturbance coordinator” who will be responsible for responding to any local complaints about construction noise. The disturbance coordinator will determine the cause of the noise complaint and implement reasonable measures to correct the problem. The contractor shall visibly post the telephone number for the disturbance coordinator at the construction site. The County shall include the telephone number in the notice sent to residents regarding the construction schedule.

5.14 **Population and Housing**

Would the Project:	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Environmental Setting

The Project is in a rural area of the County that is primarily used for agricultural and farming practices.

Potential Environmental Effects

- a) ***No Impact.*** The Project does not include activities that would result in substantial unplanned population growth either directly or indirectly.
- b) ***No Impact.*** The Project does not include any activities that would result in the displacement of housing or people.

Mitigation Measures: None required.

5.15 Public Services

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Would the Project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental 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:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Environmental Setting

Project construction activities would be coordinated with local law enforcement and emergency services providers as applicable. The existing crossing of CR 49 over Hamilton Creek will be closed during construction; however, CR 49 will remain open to through traffic via detour that will be established beside the Proposed bridge replacement. The temporary detour for CR 49 will include a crossing over Hamilton Creek within the Project area and will be maintained until the completion of the proposed bridge replacement.

Potential Environmental Effects

- a) ***Less Than Significant Impact.*** During construction, CR 49 cannot be closed to through traffic because the eastern terminus of CR 49 has no outlet. No existing detour routes are currently available for access to properties with sole access to CR 49 and east of the Hamilton Creek crossing. The proposed Project includes the construction of a temporary crossing over Hamilton Creek over which vehicular traffic will be able to access CR 49 through the Project area. The Project is anticipated to begin construction in Spring 2024 and have a duration of approximately 8 months. The Project is not anticipated to impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan. Although Project-related traffic control and work zone speed limits may temporarily disrupt normal traffic operations, the proposed detour through the Project site would not introduce significant travel delays. No adverse effects on service ratios, response times, or service objectives for any of the public services are anticipated. The Project would have a less than significant impact on fire and police protection response times during construction activities. Once the Project is completed there would be no impact on fire and police protection services. There will be no impacts on schools, parks, or other public facilities.

Mitigation Measures: None required.

5.16 **Recreation**

	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
a) Would the Project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Does the Project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Environmental Setting

The Project is in a rural area of the County that is primarily used for agricultural and farming practices. There are no parks or recreational facilities in the immediate vicinity of the Project site. The Vernon Nichols County Park is located approximately one mile southeast of the project site on the east side of State Route 16 and adjacent to Cache Creek.

Potential Environmental Effects

- a) ***Less Than Significant Impact.*** It is not expected that the Vernon Nichols County Park would be affected by the proposed Project and there are no recreational facilities or parks are in the immediate vicinity of the Project site; therefore, impacts are less than significant.
- b) ***No Impact.*** The Project would not require the construction or expansion of recreational facilities.

Mitigation Measures: None required.

5.17 Transportation

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Would the Project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Result in inadequate parking capacity?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Potential Environmental Effects

- a) **No Impact.** The proposed Project does not include activities that would cause a permanent negative impact to the circulation system (roads), including transit, roadway, bicycle, and pedestrian facilities. The proposed Project is identified in the SACOG Metropolitan Transportation Plan / Sustainable Communities Strategy (MTP/SCS). The bridge replacement will occur in the same location as the existing bridge and is designed to provide for public safety. Once constructed, the Project would not result in an increase in traffic in the area and will not conflict with the Yolo County General Plan, MTP/SCS, or any ordinance, policy, or congestion management program. The Project will have no impact on traffic circulation plans or policies.
- b) **Less Than Significant Impact.** The Project would not have an impact on vehicle miles traveled. During the 8-month construction period, worker commute and equipment hauling vehicles would be traveling to and from the Project site causing a minor, temporary increase in localized traffic; however, this would cease once construction is complete. During Project construction activities, traffic will be routed through the Project site over a temporary crossing; therefore, the Project detour will not increase commute times aside from minor delays from standard construction traffic control. Upon completion of the Project, regional commuting times will return to pre-Project conditions. The Project would not result in any changes to vehicle miles travelled. The impact associated with temporary increases in Project-related traffic would be less than significant.
- c) **No Impact.** The Project replaces the existing bridge to improve public safety. The Project does not include features that introduce or exacerbate any transportation or traffic hazards due to a design feature. The proposed bridge replacement has been designed to accommodate automobiles, as well as farm equipment, while providing improvements to public safety.
- d) **Less Than Significant Impact.** The completed Project will have no impact on emergency access. The Project construction activities would be coordinated with local law enforcement and emergency services providers as applicable. Impacts would be considered less than significant.

e) ***No Impact.*** The Project would not result in an increase in demand for parking in the vicinity of the Project.

Mitigation Measures: None required.

5.18 Tribal Cultural Resources

	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
a) 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, and that is:				
i) 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), or	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ii) 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 Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Environmental Setting

The ASR and HPSR studies did not identify any archaeological resources resource within the Project site.

The Native American Heritage Commission (NAHC) was issued a request for a sacred lands file search and contact list. On October 20, 2020, the NAHC returned a negative result for sacred lands within the Project APE.

All Tribes requesting notification in Yolo County were delivered a letter via email on June 18, 2021 giving formal notice and invitation by Yolo County to initiate AB 52 consultation on the proposed Project and to request participation of interested parties.

See Section 2 (Environmental Checklist) above for a summary of Project related consultation and coordination with Native American tribes.

Potential Environmental Effects

a) ***i- Less Than Significant Impact.*** Based on the results of the ASR and HPSR documents prepared for the Project and the AB 52 consultation there are no sites, features, places, or cultural landscapes that are 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, and that is 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) in the Project site. Therefore, impacts are considered less than significant.

ii- Less Than Significant with Mitigation Incorporated. The County sent AB 52 consultation letters to all Native American Tribes who may have knowledge of sites or traditionally cultural properties that may be affected by Project-related activities on June 18, 2021. All tribes listed by the NAHC, including those Tribes requesting notification in Yolo County, were contacted via email that included

a letter on October 30, 2021, informing them of the proposed Project and to request participation of interested parties.

One response was received by the Yocha Dehe Wintun Nation Tribal Historic Preservation Officer (THPO) during the ASR/HPSR outreach. The letter indicated the Yocha Dehe Wintun Nation have cultural interest in the Project location and assigned the Tribe as the authority in the proposed Project area. The response also indicated potential impacts to cultural resources. The recommendation for a cultural monitor during initial ground disturbing activity and cultural sensitivity training was made. Should any new information or items be discovered as result of Project related activity, the Yocha Dehe Wintun Nation requests notification. Laverne Bill, Cultural Resources Manager, was assigned the person of contact. In communications with Mr. Bill, he expressed a concern for potential impacts to unknown cultural resources due to the proximity of the site to water and tribal lands. Mr. Bill also noted gathering material was present within the area of the Project (personal communication, February 17, 2021).

Implementation of MM TCR-1 Sensitivity Training and MM TCR-2 Cultural Monitor will reduce potential impacts to inadvertent discoveries of Tribal Cultural Resources to a less than significant level through educating Project personnel of the importance and value of Tribal Cultural Resources, and appropriate protocols for avoiding and informing the Tribe of potential cultural resources encountered during Project activities. Impacts are considered less than significant with mitigation incorporated.

Mitigation Measures:

MM TCR-1 – (Sensitivity Training)

Prior to the start of the Project, Project personnel will attend cultural sensitivity training to be administered by a representative of the Yocha Dehe Wintun Nation. Contact Yocha Dehe Wintun Nation Tribal Monitor Supervisor, Office: (530) 215-6180.

MM TCR-2 – (Cultural Monitor)

A cultural monitor representing the Yocha Dehe Wintun Nation may be present during Project ground disturbance activities to ensure avoidance and minimization of tribal cultural resources that may potentially be encountered during initial ground disturbing or other Project activities. Contact Yocha Dehe Wintun Nation Tribal Monitor Supervisor, Office: (530) 215-6180.

5.19 Utilities/ Service Systems

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Require or result in the relocation or construction of new water or expanded wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Have sufficient water supplies available to serve the Project and reasonably foreseeable future development during normal, dry, and multiple dry years?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Environmental Setting

There are several utilities in the Project area. AT&T and PG&E (Electric and Gas) utilities will be relocated as a result of the proposed Project. New utility services will not be required to serve the proposed Project after completion.

Potential Environmental Effects

- a) ***Less Than Significant Impact.*** The Project involves the replacement of an existing bridge and will not require new water or expanded wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities to serve the Project. Utility relocation and realignment will be required, none of which would involve significant environmental impacts. Implementation of the Project will require the relocation of drainage ditches and above-ground utilities outside the clear recovery zone, which will include extension, replacement, and/or relocation of existing drainage structures to accommodate the widened road. This will also include relocation and/or abandonment of underground utilities where they are in conflict with the Project. The installation and relocation of utilities and associated infrastructure will occur within the footprint of the disturbance area and will not cause significant environmental effects. This is considered a less than significant impact.
- b) ***Less Than Significant Impact.*** The Project would not involve any actions that would require a new water supply or generate wastewater. There may be the need for minor landscaping irrigation to establish vegetation and replanting within the disturbed footprint of post-Project activities; however, this water need is not expected to be in perpetuity, nor is it expected to impact existing service levels regarding water use. No new water or wastewater facilities would be constructed or needed as part of the Project.

- c) **No Impact.** The Project would not produce wastewater.
- d) **Less Than Significant Impact.** Solid waste generated by the Project would be limited to construction debris. Solid waste disposal would occur in accordance with federal, state, and local regulations. Disposal would occur at permitted landfills; likely the Yolo County Central Landfill located approximately 8 miles east of the Project. The Project would not generate solid waste in amounts that would substantially affect the existing capacity of the Yolo County Central Landfill and impacts would be less than significant.
- e) **No Impact.** The Project would conform to all applicable state and federal solid waste regulations.

Mitigation Measures: None required

5.20 Wildfire

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Environmental Setting

In accordance with California Public Resource Code Section 4201-4204 and Government Code Section 51175-51189, CalFire has mapped areas of significant fire hazards based on fuels, terrain, weather, and other relevant factors. These zones, referred to as Fire Hazard Severity Zones (FHSZ), represent the risks associated with wildland fires.

In California, responsibility for wildfire prevention and suppression is shared by federal, state, and local agencies. Federal agencies are responsible for federal lands in Federal Responsibility Areas (FRA). The State of California has determined that non-federal lands in unincorporated areas with watershed value are of Statewide interest and have classified those lands as State Responsibility Areas (SRA), which are managed by CalFire. All incorporated areas and other unincorporated lands are classified as Local Responsibility Areas (LRA). Most of the western third of Yolo County has been classified as SRA, with FRA near the northwest and west County boundaries.

The Project is in an area designated as “moderate” per the and within the SRA per the 2018 CalFire Fire Hazard Severity Zones map (CalFire 2022).

Under State regulations, areas within very high fire hazard risk zones must comply with specific building and vegetation management requirements intended to reduce property damage and loss of life within these areas.

Potential Environmental Effects

- a) ***No Impact.*** The Project is being implemented to improve safety along CR 49. During construction, vehicular traffic through the Project site will be maintained with a temporary crossing north of the existing bridge. A drivable surface over the temporary crossing will be installed with gravel backfill placed atop pipe-culverts. The Project would not impair an adopted emergency response plan or emergency evacuation plan.

- b) **No Impact.** The proposed Project would not exacerbate wildfire risks or expose occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire.
- c) **Less than Significant Impact.** The Project involves replacement of an existing bridge. The completed Project would not exacerbate fire risk. The completed Project will improve public safety/fire prevention by facilitating improved transportation of fire-fighting equipment. Project impacts are less than significant.
- d) **No Impact.** The Project does not include activities that would expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes.

Mitigation Measures: None required.

5.21 Mandatory Findings of Significance

To be filled out by Lead Agency if required	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Does the Project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Potential Environmental Effects

- a) ***Less Than Significant with Mitigation Incorporated.*** The proposed Project does not have the potential to significantly 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, 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. Based on the preceding environmental analysis, the application of existing regulations and the incorporation of BMPs, Yolo HCP/ NCCP AMMs, and mitigation measures, all potentially significant impacts associated with the Project, including those related to biological resources, tribal cultural resources, noise, hazards and hazardous materials, hydrology and water quality would be avoided, minimized, or mitigated to maintain a level that is considered less than significant with mitigation incorporated.
- b) ***Less Than Significant Impact.*** The Project is consistent with the General Plan and would not result in individually limited but collectively significant impacts; therefore, the Project would not cause any additional environmental effects or significantly contribute to a cumulative impact.
- c) ***Less Than Significant Impact.*** The Project would not result in substantial direct or indirect adverse effects from noise, either during Project construction or operation, nor would it result in impacts to air quality, water quality, or utilities and public services. Additionally, measures have been identified to maintain the Project's effects to air quality, water quality, hazards and hazardous materials, and noise levels at less than significant levels. Therefore, the Project would not cause substantial adverse effects on human beings.

6. Summary of Mitigation Measures

The following mitigation measures were identified to reduce impacts to less than significant:

BIOLOGICAL RESOURCES

MM BIO-1 – Valley Elderberry Longhorn Beetle

Implementation of Yolo HCP/NCCP AMMs 1, 5, and 12: Establish Resource Protection Buffers, Control Fugitive Dust, Minimize Take and Adverse Effects on Habitat of Valley Elderberry Longhorn Beetle.

The following measures will reduce potential impacts to valley elderberry longhorn beetle:

- The elderberry shrub will be transplanted to a USFWS- and Conservancy-approved beetle conservation bank in accordance with the guidelines set forth in AMM 12.
- Impacts to 0.060 acre of Great Valley Oak Riparian habitat, which is designated as VELB habitat, will be mitigated for in accordance with the Yolo HCP/NCCP. The specific acreage of compensatory mitigation credits are subject to change depending on consultation with the USFWS and the Conservancy.

MM BIO-2 – Swainson’s Hawk and White-Tailed Kite

Implementation of Yolo HCP/NCCP AMM 16: Minimize Take and Adverse Effects on Habitat of Swainson’s Hawk and White-Tailed Kite

The following avoidance and minimization measures will be implemented to minimize the potential for adverse impacts on Swainson’s hawk and white-tailed kite to the maximum extent possible:

- The Project proponent will retain a qualified biologist to conduct preconstruction surveys for active nests consistent with guidelines provided by the Swainson’s Hawk Technical Advisory Committee (2000), between March 1 and August 30, with the final survey conducted no more than 7 days prior to the beginning of the construction activity. The results of the survey(s) will be submitted to the Conservancy and CDFW. If active nests are found during preconstruction surveys, a 1,320-foot initial temporary nest disturbance buffer shall be established. If Project-related activities within the temporary nest disturbance buffer are determined to be necessary during the nesting season, then the qualified biologist will monitor the nest and will, along with the Project proponent, consult with CDFW to determine the best course of action necessary to avoid nest abandonment or take of individuals. Work may be allowed only to proceed within the temporary nest disturbance buffer if Swainson’s hawk or white-tailed kite are not exhibiting agitated behavior, such as defensive flights at intruders, getting up from a brooding position, or flying off the nest, and only with the agreement of CDFW and USFWS. The designated on-site biologist/monitor shall be on-site daily while construction-related activities are taking place within the 1,320-foot buffer and shall have the authority to stop work if raptors are exhibiting agitated behavior. If active nests are found during preconstruction surveys, no tree pruning or removal of the nest tree will occur during the period between March 1 and August 30 within 1,320 feet of an active nest, unless a qualified biologist determines that the young have fledged and the nest is no longer active.

MM BIO-3 – Special-Status Bird Species, Migratory Birds, and Raptors

The following measures will be implemented to further reduce the potential for impacts on special-status and migratory birds and raptors that may nest in or near the Project area:

- Project activities and vegetation removal within the Project area shall be initiated outside of the bird nesting season (February 1 – August 31).
- If Project activities and vegetation removal cannot be initiated outside of the bird nesting season then the following will occur:
 - A qualified biologist will conduct a pre-construction survey within 7 days prior to the initiation of Project activities.
 - If an active avian nest (i.e., with egg[s] or young) is observed within 250 feet of the Project area during the pre-construction survey, then a species protection buffer will be established. The species protection buffer will be defined by the qualified biologist in consultation with CDFW. Construction activity shall be prohibited within the buffer zones until the young have fledged or the nest fails. Nests shall be monitored once per week and a report submitted to the lead agency weekly.

MM BIO-4 – Bat Avoidance and Minimization The following measures will be implemented to further reduce the potential for impacts on bats that may roost in the Project area.

- Mature trees should be removed and/or fallen between September 16 – March 15 outside of the bat maternity season. Trees should be removed at dusk to minimize impacts to roosting bats.
- If tree removal cannot be performed outside of the maternity season, a qualified biologist shall conduct a preconstruction survey of suitable roosting habitat within 7 days prior to construction activities.
 - If bats are found, consult with CDFW.
 - If no roosting bats and no potential for roosting bats are found, tree removal can proceed.
 - If potential for roosting bats has been determined and no bats are discovered, a qualified biologist should monitor tree removal activities to ensure the avoidance and minimization of take of regulated species.

MM BIO-5 – Wetlands and Waters

Implements Yolo HCP/NCCP AMMs 1, 2, 3, 8, 9, and 10: Establish Buffers around Sensitive Natural Communities; Confine and Delineate Work Area to Avoid and Minimize Effects of Construction Staging Areas and Temporary Work Areas; Avoid and Minimize Effects on Wetlands and Waters

The following measures shall be implemented to avoid or minimize the potential for Project-related impacts on wetlands and waters:

- The County will comply with the terms of a Clean Water Act Section 404 permit issued by the Corps and Section 401 water quality certification issued by the RWQCB for activities involving the discharge of fill material into jurisdictional drainages. The County will also comply with terms of a Streambed Alteration Agreement with the CDFW (if determined necessary by the CDFW). Prior to

any discharge into drainages, the required permits and authorizations will be obtained from the respective agencies. All terms and conditions of the required permits and authorizations will be implemented.

- Water quality BMPs will be installed around Hamilton Creek in a manner that prevents water, sediment, and chemicals from draining into the feature, and all staging, storage, stockpile areas, and off-road travel routes will be located as far as practicable away from the drainage.
- Mitigation for the approximate 0.019 acres (84.4 linear feet) of permanent impacts to jurisdictional WOTUS will be addressed through the purchase of credits at a Corps-approved mitigation bank or payment to a Corps-approved in-lieu fund.
- Impacts to Riverine Sensitive Natural Community will be mitigated for through the Yolo HCP/NCCP Natural Community and Land Cover Impacts Mitigation Fees. The specific acreage of compensatory mitigation credits is subject to change depending on consultation with the USFWS and the Conservancy.

MM BIO-6 – Sensitive Natural Communities

Implements Yolo HCP/NCCP AMM 9, Establish Buffers around Sensitive Natural Communities

Environmentally Sensitive Area (ESA) fencing will be established around the following Sensitive Natural Communities where they occur within or adjacent to the Project area, when feasible. These areas will be identified on construction drawings and demarcated in the field with flagging and/or signs identifying the area as off limits to all personnel, equipment, and ground-disturbing activities.

Per Yolo HCP/NCCP AMM 9, the buffers for each Sensitive Natural Community are as follows:

- Valley foothill riparian: 100 feet from canopy dripline. If avoidance is infeasible, a lesser buffer than is stipulated in the AMMs may be approved by the Conservancy, USFWS, and CDFW if they determine that the sensitive natural community or covered species is avoided to an extent that is consistent with the Project purpose (e.g., if the purpose of the Project is to provide a stream crossing or replace a bridge, the Project may encroach into the buffer and the natural community or species habitat to the extent that is necessary to fulfill the Project purpose). Transportation or utility crossings may encroach into this sensitive natural community provided effects are minimized and all other applicable AMMs are followed.
- Lacustrine and riverine: Outside urban planning units, 100 feet from the top of banks. Within urban planning units, 25 feet from the top of the banks.

MM BIO-7 – Worker Environmental Training Program

Implements Yolo HCP/NCCP AMM6: Conduct Worker Training

- All construction personnel will participate in a worker environmental training program approved/authorized by the Conservancy and administered by a qualified biologist. The training will provide education regarding sensitive natural communities and covered species and their habitats, the need to avoid adverse effects, state and federal protection, and the legal implications of violating the FESA and NCCPA Permits. A pre-recorded video presentation by a qualified biologist shown to construction personnel may fulfill the training requirement.

MM BIO-8 – Tree Removal Documentation and Replacement

The following measures shall be implemented to compensate for the removal of protected trees and to avoid or minimize the potential for Project-related impacts on tree resources.

- Final plans will identify the number, size, and species of protected trees to be removed and include a planting plan, to ensure replacement of trees in a manner consistent with County and Resource Agencies policies. If replanting cannot completely compensate for the number of trees removed within the Project site or on County managed land, purchase of compensatory mitigation credits will be required for the remainder of trees. The replanting plan must be approved by the County and any compensatory mitigation credits for tree resources must be purchased prior to vegetation clearing activities.
- A plan for avoidance and minimization of trees that are in the area of direct impact, but not removed shall be developed by an International Society of Arboriculture (ISA) Arborist and implemented by the County prior to vegetation clearing activities and throughout the construction of the Project.

MM BIO-9 Control Nighttime Lighting

Implements Yolo HCP/NCCP AMM7: (Control Nighttime Lighting of Project Construction Sites)

- Workers will direct all lights for nighttime lighting of Project construction sites into the Project construction area and minimize the lighting of natural habitat areas adjacent to the Project construction area.

HAZARDOUS MATERIALS

MM HAZ-1 Lead Compliance Plan

A lead compliance plan that protects workers and the environment from lead exposure must be prepared prior to implementation of demolition and construction activities. Painted bridge components will need to be removed, transported, and recycled or disposed of in a manner consistent with the lead compliance plan and applicable State and Federal law. Additional sampling and analysis of the paint may be required to insure proper disposal of the painted components.

MM HAZ-2 Hazardous Waste Disposal

In accordance with California 2018 Standard Special provision (SSP) 14-11.14, the contractor is required to follow the Alternative Management Standards (AMS), including providing training to all personnel that may come in contact with hazardous materials, specifically, treated wood waste. Project activities are expected to impact a fence containing suspected treated wood material located north of the bridge along the boundary of APN 060-090-010. Prior to Project activities, personnel are to attend a training that must include, at a minimum, safe handling; sorting and segregating; storage; labeling (including date); and proper disposal methods of hazardous waste.

MM HAZ-3 Soils Testing

A Limited Soils Assessment (LSA) shall be prepared and conducted at for the areas where the Project easement and detour may intersect with the adjacent parcels (ANPs 060-090-006; -003; -010). Soil from these

parcels should be tested to evaluate if residual agricultural chemicals (listed below) are present at concentrations that might pose and exposure risk to construction workers or require special handling for re-use or off-site disposal.

- organochlorine pesticides (EPA Method 8081)
- chlorinated herbicides (EPA Method 8151)
- organophosphorus pesticides (EPA Method 8141)

The LSA shall also determine if excavated soils generated during construction activities are likely to be classified as a regulated waste. Should any of the constituents of concern be found in excess concentrations, the applicant shall prepare a Soil Management Plan (SMP) or equivalent report, which shall be distributed to construction personnel. The SMP shall establish protocols for handling, sampling, storage, and disposal of any suspected burn ash-impacted soils generated during construction activities.

NOISE

MM NOI-1 – Control of Construction Noise

To avoid substantial construction-period noise impacts to nearby sensitive receptors, the Best Management Practices listed below will be implemented during Project construction. With implementation of these standard construction period specifications, the Project will not result in excessive construction-period noise effects.

1. Project-related noise-generating activities at, or adjacent to, the construction site shall comply with the Caltrans Standard Specifications Section 14-8.02. "Control and monitor noise resulting from work activities. Do not exceed 86 dBA at 50 feet from the job site from 9:00 p.m. to 6:00 a.m."
2. All internal combustion engine driven equipment shall be equipped with the appropriate intake and exhaust mufflers, which are in good condition.
3. "Unnecessary" idling of internal combustion engines shall be strictly prohibited.
4. Avoid staging construction equipment within 200 feet of residences and locate all stationary noise-generating construction equipment as far as practical from existing noise receptors. Construct temporary barriers to screen noise generating equipment when located in areas adjoining noise-sensitive land uses.
5. "Quiet" air compressors and other stationary noise sources shall be used when applicable.
6. All construction traffic shall be routed to and from the Project site via designated truck routes. Construction-related heavy truck traffic shall be prohibited in residential areas where feasible. Construction truck traffic shall be prohibited in the Project vicinity during non-allowed hours.
7. The businesses, residents and schools in the Project area shall be notified in writing by the County of the construction schedule.
8. The County shall designate a "noise disturbance coordinator" who will be responsible for responding to any local complaints about construction noise. The disturbance coordinator will determine the cause of the noise complaint and implement reasonable measures to correct the problem. The contractor shall visibly post the telephone number for the disturbance coordinator at the construction site. The County shall include the telephone number in the notice sent to residents regarding the construction schedule.

TRIBAL CULTURAL RESOURCES

MM TCR-1 – (Sensitivity Training)

Prior to the start of the Project, Project personnel will attend cultural sensitivity training to be administered by a representative of the Yocha Dehe Wintun Nation. Contact Yocha Dehe Wintun Nation Tribal Monitor Supervisor, Office: (530) 215-6180.

MM TCR-2 – (Cultural Monitor)

A cultural monitor representing the Yocha Dehe Wintun Nation may be present during Project ground disturbance activities to ensure avoidance and minimization of tribal cultural resources that may potentially be encountered during Project activities. Contact Yocha Dehe Wintun Nation Tribal Monitor Supervisor, Office: (530) 215-6180.

7. Supporting Information Sources

7.1 Report Preparation

Yolo County Department of Community Services, CEQA Lead Agency

Stephanie Cormier	Principal Planner
Ahmad Aleaf	Project Engineer, Senior Civil Engineer, Public Works Division

Mark Thomas (Engineering Consultant)

Julie Passalacqua	Project Engineer
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Galloway Enterprises (Environmental Consultant)

Kevin Sevier	Senior Planner
Anthony McLaughlin	Planner

7.2 References

- California Air Resources Board (CARB). 2021. Maps of State and Federal Area Designations. <https://ww2.arb.ca.gov/resources/documents/maps-state-and-federal-area-designations>
- California Department of Conservation. 2020. 2014-2016 Important Farmland Data – Yolo County. Accessed at: <https://www.conservation.ca.gov/dlrp/fmmp/Pages/Yolo.aspx>. December 2021.
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- California Environmental Quality Act (CEQA) Statutes. 1970. Public Resources Code Section 21000, et seq.
- California Geological Survey, 2010, Fault Activity Map of California
- CalFire. Accessed October 2022. Recommended and Remaining Draft Local Responsibility Area (including Cities and other Local Agencies) Fire Hazard Severity Zone Maps and Adopted State Responsibility Area Fire Hazard Severity Zone Maps. <https://osfm.fire.ca.gov/divisions/wildfire-prevention-planning-engineering/wildland-hazards-building-codes/fire-hazard-severity-zones-maps/>
- Crawford & Associates, Inc. 2021a. Initial Site Assessment County Road 49 Bridge Replacement Over Hamilton Creek Yolo County, California Bridge No. 22C0095.
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- Federal Highway Administration (FHWA). 2006. Construction Noise Handbook, Final Report. U.S. Department of Transportation, Federal Highway Administration Office of Natural and Human Environment, Washington, D.C. 20590.
- Federal Highway Administration (FHWA). 2017. Highway Traffic Noise Analysis and Abatement Policy and Guidance. U.S. Department of Transportation, Federal Highway Administration, 1200 New Jersey Avenue, SE,

Washington D.C.20590.

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- Gallaway Enterprises. 2021d. Biological Assessment for County Road 49 over Hamilton Creek Bridge Replacement Project Federal Project No. BRLO-5922(111)
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Appendix A

Farmland Study Memo

September 7, 2021 (updated November 15, 2021)

Caltrans District 3 – North Region Local Assistance
ATTN: Chris Carroll, Associate Environmental Planner
703 B Street
Marysville, CA 95901

RE: Farmlands Study for the County Road 49 at Hamilton Creek Bridge Replacement Project – Yolo County

Mr. Carroll;

The Yolo County Department of Public Works has reviewed the County Road 49 at Hamilton Creek Bridge Replacement Project (Project) to determine if there are potential impacts to adjacent agricultural lands from the Project's proposed construction activity. Specifically, this study focused on farmland of prime, local potential, and grazing important farmland within the proposed project boundary. An additional evaluation of preliminary impacts to parcels with Williamson Act contracts is provided as well.

The purpose of the project is to replace the existing, functionally obsolete single span, earth-filled concrete arch bridge over Hamilton Creek. The Project site is located in an agricultural/rural setting immediately surrounded by riparian woodland, pasture and orchard. Hamilton Creek is an intermittent drainage that flows in an eastern direction through the site and is fed by smaller upstream water, groundwater and runoff from precipitation. The project will result in an estimated 0.24 acres of permanent impacts to farmlands as classified by the Farmland Mapping and Monitoring Program (FMMP). The following are the justifications for the evaluations in Part VI of the AD1006 form wherein a larger numeric score reflects a higher potential impact to farmland resources.

Evaluation 1: How much land is in nonurban use within a radius of 1.0 mile from where the project is intended?

The proposed project is located in an agricultural/rural setting. More than 95 percent of the land surrounding the project site is considered non-urban; therefore, it is valued at the maximum of 15 points.

Evaluation 2: How much of the perimeter of the site borders on land in nonurban use?

More than 90 percent of the Project perimeter borders agricultural land; therefore, it is valued at the maximum of 10 points.

Evaluation 3: How much of the site has been farmed (managed for a scheduled harvest or timber activity) more than 5 of the last 10 years?

Approximately 8 percent of the farmland within the site has been farmed more than 5 of the last 10 years; therefore, this criterion is rated at a 0 out of a possible 20.

Evaluation 4: Is the site subject to State or unit of local government policies or programs to protect farmland or covered by private programs to protect farmland?

The parcel south of the bridge (APN 060-090-007), northwest (APN 060-090-003), and northeast (APN-060-090-010), which will be partially impacted by construction activities are, according to the latest 2020 Yolo County Assessor Maps, are enrolled under Williamson Act contracts and are classified as containing farmland of Local Potential; Prime or Statewide Soils. Additionally, the lands surrounding the project are designated as agricultural in the County's General Plan land use map and are subject to the County's agricultural protections of Goal AG-1: Preserve and defend agriculture as fundamental to the identity of Yolo County – Agriculture and Economic Development Element) The criterion is rated a maximum of 20 points.

Evaluation 5: How close is the site to an urban built-up area?

The site is significantly further than 2 miles from any urban built-up area. Woodland, CA, which is considered urban built-up due to a population exceeding fifty thousand, is the nearest urban area at approximately 30 miles away. According to the latest census data Woodland has a population of 59,710; therefore, a maximum rating of 15 of a possible 15 is given.

Evaluation 6: How close is the site to water lines, sewer lines and/or other local facilities and services whose capacities and design would promote nonagricultural use?

According to the Public Facilities and Services Element of the Yolo County General Plan 2030, the project site, located in the area of Guinda, has no community wastewater system. Local facilities and services are present but not less than 3 miles from the site; therefore, a maximum rating of 15 points is given.

Evaluation 7: Is the farm unit(s) containing the site (before the project) as large as the average-size farming unit in the county?

According to the 2017 Census of Agriculture the Average Size of Farm Acres in Yolo County, CA is 484 acres. The bridge site is central to four surrounding parcels all with significantly lower acreages than that of the county average; Parcel 060-090-003 NW, 23 acres, is 5% of the average, Parcel 060-090-010 NE, 44 acres, is 9%, Parcel 060-090-007 SE, 35 acres, is 7%, Parcel 060-090-006 SW, 71 acres, is 14%. This criterion is rated 0 out of 10

Evaluation 8: If this site is chosen for the project, how much of the remaining land on the farm will become nonfarmable because of interference with land patterns?

The proposed Project will directly convert 0.24 acres of farmland with a temporary conversion of 0.19 acres during construction; however, the remaining farmland, and temporarily converted acreage will not be permanently affected, and therefore will not become non-farmable because of interference with land patterns. As a result, this criterion is rated at 0 out of 10 because less than 5 percent of the acres within the Project boundary will be directly converted by the project.

Evaluation 9: Does the site have available adequate supply of farm support services and markets, i.e., farm suppliers, equipment dealers, processing and storage facilities and farmer's markets?

It is assumed that the site has an adequate supply of farm support services and markets, therefore this criterion is rated at a 5 out of a possible 5.

Evaluation 10: Does the site have substantial and well-maintained on-farm investments such as barns, other storage buildings, fruit trees and vines, field terraces, drainage, irrigation, waterways, or other soil and water conservation measures?

The parcels surrounding the Project site do appear to contain substantial and well-maintained on-farm investments. The bridge site does not contain on-farm investments such as barns, other storage buildings, fruit trees and vines. The bridge site does contain components of field terraces, drainage, irrigation and waterways. Conservatively, this criterion is rated 20 out of 20 possible points.

Evaluation 11: Would the project at this site, by converting farmland to nonagricultural use, reduce the demand for farm support services so as to jeopardize the continued existence of these support services and thus, the viability of the farms remaining in the area?

The proposed Project would not reduce the demand for farm support services so as to jeopardize the continued existence of these support services and the viability of the farms remaining in the area. This criterion is rated at a 0 out of a possible 10.

Evaluation 12: Is the kind and intensity of the proposed use of the site sufficiently incompatible with agriculture that it is likely to contribute to the eventual conversion of surrounding farmland to nonagricultural uses?

The proposed Project involves the replacement of a functionally obsolete bridge on the existing alignment and is not considered to be fully incompatible with the existing agricultural use of surrounding farmland; however, the project will require the permanent conversion of 0.24 acres of farmland to nonagricultural use. The percentage of acreage to be permanently converted in comparison to the total project boundary acreage is 16 percent; therefore, this criterion is considered tolerable to existing agricultural uses and is rated 1 out of a possible 10

Please find attached a U.S. Department of Agriculture Form AD-1006 that shows this project earning a score of 80 Assessment Points in Part VI. When the final scores from Part V and Part VI is between 160 and 220, at least two other alternatives need to be evaluated and the one with the lowest number of points selected unless there are other overriding considerations. NRCS determined the preferred project (now referred to as Alternative A) to have a combined score from Part V and Part VI of 161 points (Part VII), necessitating the evaluation of two alternatives. In addition to the preferred project (Alternative A), we have included an evaluation of Alternative B and a no project alternative (Attachment D: Reason for Selection).

In regard to Williamson Act contract lands, estimated permanent right-of-way acquisitions total 0.21 acres and temporary construction easement impacts total 0.15 acres. These impact acreages are approximations for planning purposes and subject to revision during the right-of-way acquisition process

Regards,



Kevin Sevier

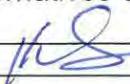
Vice President and Senior Planner

kevin@gallawayenterprises.com

Enclosed: Attachment A: Form AD-1006
 Attachment B: Farmland Impacts Map
 Attachment C: Williamson Act Lands
 Attachment D: Reason For Selection

Attachment A: Form AD-1006

FARMLAND CONVERSION IMPACT RATING

PART I (To be completed by Federal Agency)		Date Of Land Evaluation Request 8/24/2021				
Name of Project CR 49 at Hamilton Creek Bridge Replace		Federal Agency Involved FHWA/Caltrans				
Proposed Land Use Bridge		County and State Yolo County, CA				
PART II (To be completed by NRCS)		Date Request Received By NRCS 11/2/2021		Person Completing Form: Jacqueline Vega-Perez		
Does the site contain Prime, Unique, Statewide or Local Important Farmland? (If no, the FPPA does not apply - do not complete additional parts of this form)		YES <input checked="" type="checkbox"/>	NO <input type="checkbox"/>	Acres Irrigated 234,703	Average Farm Size 484	
Major Crop(s) Almonds, Tomatoes, Grapes	Farmable Land In Govt. Jurisdiction Acres: 482,645% 73.9	Amount of Farmland As Defined in FPPA Acres: 352,554% 54.0				
Name of Land Evaluation System Used CA Revised Storie Index	Name of State or Local Site Assessment System None	Date Land Evaluation Returned by NRCS 11/4/2021				
PART III (To be completed by Federal Agency)		Alternative Site Rating				
		Site A	Site B	Site C	Site D	
A. Total Acres To Be Converted Directly		0.24				
B. Total Acres To Be Converted Indirectly		0				
C. Total Acres In Site		0.24				
PART IV (To be completed by NRCS) Land Evaluation Information						
A. Total Acres Prime And Unique Farmland		0.19				
B. Total Acres Statewide Important or Local Important Farmland		0.01				
C. Percentage Of Farmland in County Or Local Govt. Unit To Be Converted		0.0001				
D. Percentage Of Farmland in Govt. Jurisdiction With Same Or Higher Relative Value		19.55				
PART V (To be completed by NRCS) Land Evaluation Criterion Relative Value of Farmland To Be Converted (Scale of 0 to 100 Points)		80				
PART VI (To be completed by Federal Agency) Site Assessment Criteria (Criteria are explained in 7 CFR 658.5 b. For Corridor project use form NRCS-CPA-106)		Maximum Points	Site A	Site B	Site C	Site D
1. Area In Non-urban Use		(15)	15			
2. Perimeter In Non-urban Use		(10)	10			
3. Percent Of Site Being Farmed		(20)	0			
4. Protection Provided By State and Local Government		(20)	20			
5. Distance From Urban Built-up Area		(15)	15			
6. Distance To Urban Support Services		(15)	15			
7. Size Of Present Farm Unit Compared To Average		(10)	0			
8. Creation Of Non-farmable Farmland		(10)	0			
9. Availability Of Farm Support Services		(5)	5			
10. On-Farm Investments		(20)	0			
11. Effects Of Conversion On Farm Support Services		(10)	0			
12. Compatibility With Existing Agricultural Use		(10)	1			
TOTAL SITE ASSESSMENT POINTS		160	81	0	0	0
PART VII (To be completed by Federal Agency)						
Relative Value Of Farmland (From Part V)		100	80	0	0	0
Total Site Assessment (From Part VI above or local site assessment)		160	81	0	0	0
TOTAL POINTS (Total of above 2 lines)		260	161	0	0	0
Site Selected: A		Date Of Selection 11/15/2021		Was A Local Site Assessment Used? YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>		
Reason For Selection: Alternative A (Proposed Project) would have less impacts to important farming soils and lands and fulfill the project goals when compared to the alternatives considered.						
Name of Federal agency representative completing this form:  Kevin Suter / Galloway Enterprises				Date: 11/15/2021		
<i>(See Instructions on reverse side)</i>				Form AD-1006 (03-02)		

STEPS IN THE PROCESSING THE FARMLAND AND CONVERSION IMPACT RATING FORM

- Step 1 - Federal agencies (or Federally funded projects) involved in proposed projects that may convert farmland, as defined in the Farmland Protection Policy Act (FPPA) to nonagricultural uses, will initially complete Parts I and III of the form. For Corridor type projects, the Federal agency shall use form NRCS-CPA-106 in place of form AD-1006. The Land Evaluation and Site Assessment (LESA) process may also be accessed by visiting the FPPA website, <http://fppa.nrcs.usda.gov/lesa/>.
- Step 2 - Originator (Federal Agency) will send one original copy of the form together with appropriate scaled maps indicating location(s) of project site(s), to the Natural Resources Conservation Service (NRCS) local Field Office or USDA Service Center and retain a copy for their files. (NRCS has offices in most counties in the U.S. The USDA Office Information Locator may be found at http://offices.usda.gov/scripts/ndISAPI.dll/oip_public/USA_map, or the offices can usually be found in the Phone Book under U.S. Government, Department of Agriculture. A list of field offices is available from the NRCS State Conservationist and State Office in each State.)
- Step 3 - NRCS will, within 10 working days after receipt of the completed form, make a determination as to whether the site(s) of the proposed project contains prime, unique, statewide or local important farmland. (When a site visit or land evaluation system design is needed, NRCS will respond within 30 working days.
- Step 4 - For sites where farmland covered by the FPPA will be converted by the proposed project, NRCS will complete Parts II, IV and V of the form.
- Step 5 - NRCS will return the original copy of the form to the Federal agency involved in the project, and retain a file copy for NRCS records.
- Step 6 - The Federal agency involved in the proposed project will complete Parts VI and VII of the form and return the form with the final selected site to the servicing NRCS office.
- Step 7 - The Federal agency providing financial or technical assistance to the proposed project will make a determination as to whether the proposed conversion is consistent with the FPPA.

INSTRUCTIONS FOR COMPLETING THE FARMLAND CONVERSION IMPACT RATING FORM

(For Federal Agency)

Part I: When completing the "County and State" questions, list all the local governments that are responsible for local land use controls where site(s) are to be evaluated.

Part III: When completing item B (Total Acres To Be Converted Indirectly), include the following:

1. Acres not being directly converted but that would no longer be capable of being farmed after the conversion, because the conversion would restrict access to them or other major change in the ability to use the land for agriculture.
2. Acres planned to receive services from an infrastructure project as indicated in the project justification (e.g. highways, utilities planned build out capacity) that will cause a direct conversion.

Part VI: Do not complete Part VI using the standard format if a State or Local site assessment is used. With local and NRCS assistance, use the local Land Evaluation and Site Assessment (LESA).

1. Assign the maximum points for each site assessment criterion as shown in § 658.5(b) of CFR. In cases of corridor-type project such as transportation, power line and flood control, criteria #5 and #6 will not apply and will, be weighted zero, however, criterion #8 will be weighed a maximum of 25 points and criterion #11 a maximum of 25 points.
2. Federal agencies may assign relative weights among the 12 site assessment criteria other than those shown on the FPPA rule after submitting individual agency FPPA policy for review and comment to NRCS. In all cases where other weights are assigned, relative adjustments must be made to maintain the maximum total points at 160. For project sites where the total points equal or exceed 160, consider alternative actions, as appropriate, that could reduce adverse impacts (e.g. Alternative Sites, Modifications or Mitigation).

Part VII: In computing the "Total Site Assessment Points" where a State or local site assessment is used and the total maximum number of points is other than 160, convert the site assessment points to a base of 160.

Example: if the Site Assessment maximum is 200 points, and the alternative Site "A" is rated 180 points:

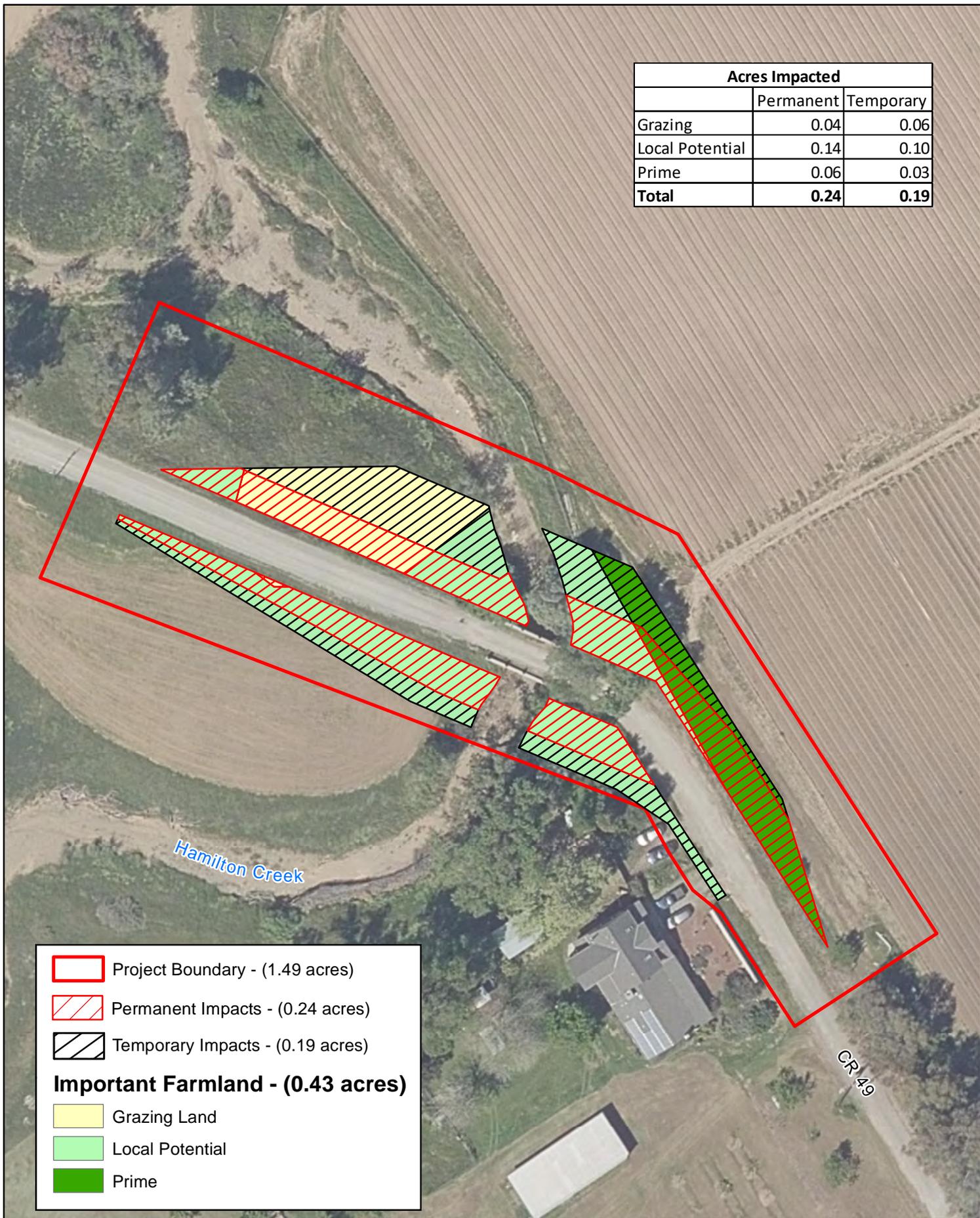
$$\frac{\text{Total points assigned Site A}}{\text{Maximum points possible}} = \frac{180}{200} \times 160 = 144 \text{ points for Site A}$$

For assistance in completing this form or FPPA process, contact the local NRCS Field Office or USDA Service Center.

NRCS employees, consult the FPPA Manual and/or policy for additional instructions to complete the AD-1006 form.

Attachment B: Farmland Impacts Map

Acres Impacted		
	Permanent	Temporary
Grazing	0.04	0.06
Local Potential	0.14	0.10
Prime	0.06	0.03
Total	0.24	0.19



Project Boundary - (1.49 acres)
 Permanent Impacts - (0.24 acres)
 Temporary Impacts - (0.19 acres)
Important Farmland - (0.43 acres)
 Grazing Land
 Local Potential
 Prime



1:785 1 inch = 65 feet
 0 50 100 Feet

Data Sources: ESRI, Yolo County 04/13/2018, FMMP 2016

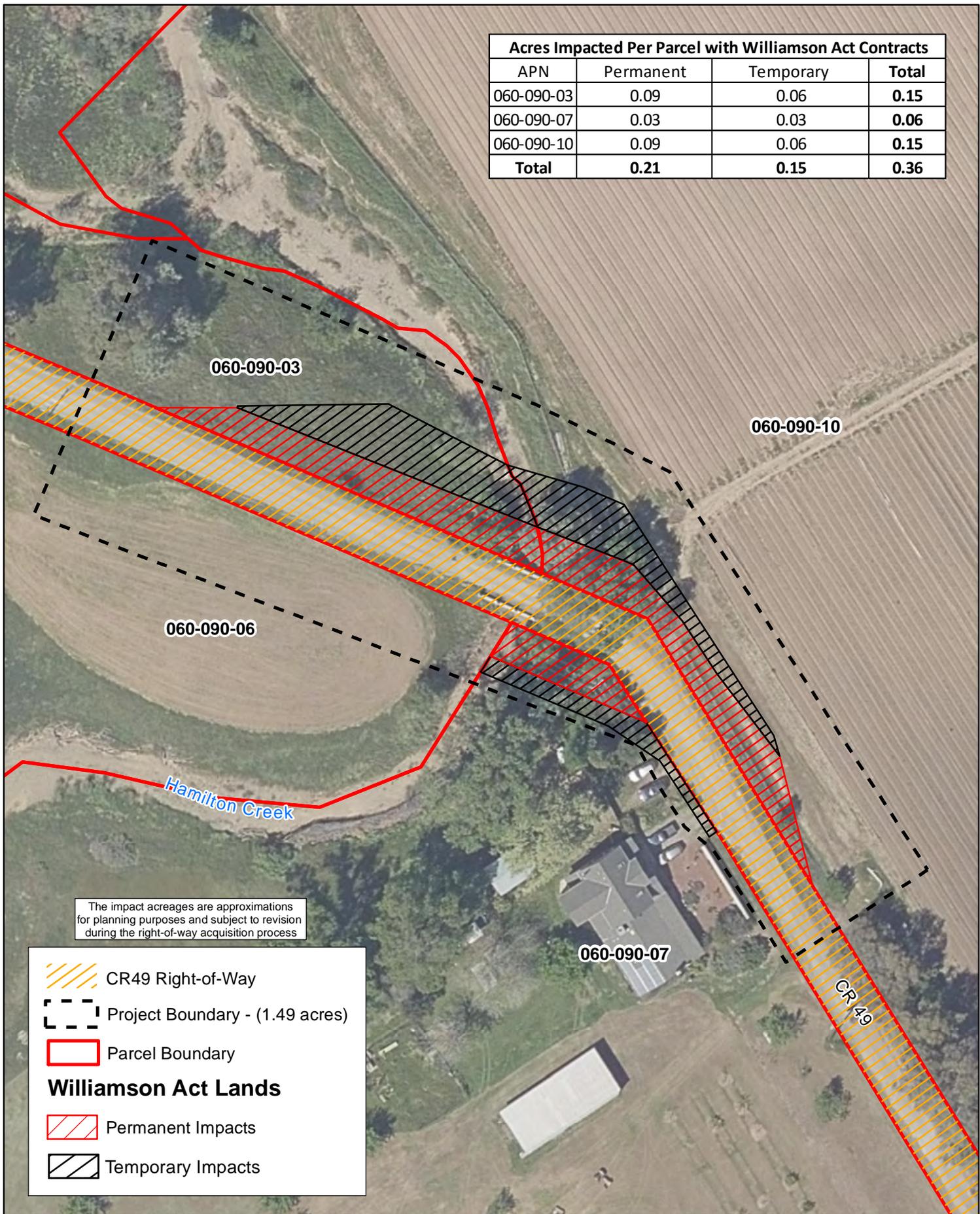
County Road 49 Over Hamilton Creek
 Farmland Impacts Assessment
 Figure 1



Map By: A. McLaughlin
 GE: #17-013C Map Date: 08/23/2021

Attachment C: Williamson Act Lands

Acres Impacted Per Parcel with Williamson Act Contracts			
APN	Permanent	Temporary	Total
060-090-03	0.09	0.06	0.15
060-090-07	0.03	0.03	0.06
060-090-10	0.09	0.06	0.15
Total	0.21	0.15	0.36



The impact acreages are approximations for planning purposes and subject to revision during the right-of-way acquisition process

-  CR49 Right-of-Way
-  Project Boundary - (1.49 acres)
-  Parcel Boundary
- Williamson Act Lands**
-  Permanent Impacts
-  Temporary Impacts

 1:785 1 inch = 65 feet
 0 50 Feet
 Data Sources: ESRI, Yolo County

County Road 49 Over Hamilton Creek
 Williamson Act Lands


 Map By: A. McLaughlin
 GE: #17-013C Map Date: 9/2/2021

Attachment D: Reason For Selection

Important Farmland Soils Alternatives Analysis for the CR 49 Bridge over Hamilton Creek BRLO-5922(111)

A total score of between 160 and 220 in part V and part VI requires two alternatives to be evaluated. The preferred alternative scored a 161, and therefore a review of alternatives is required. Since the proposed project is a bridge replacement, there are no other off-site options, therefore on-site alternatives should be reviewed.

The first alternative (Alternative B) considered for this plan but dropped from consideration was to utilize a larger shoulder slope (approximately 3:1) which resulted in a larger impact to farmlands and associated resources. Proposal/Alternative B resulted in an approximate 10-percent greater impact to important farming soils.

Alternative A (proposed project) was developed to increase the slope of the shoulder with the intended goal of reducing the total impact on the surrounding important farming soils. Implementing this alternative would not have a negative impact on the purpose of this project to improve public safety by replacing the bridge and associated approach roadway. Increasing the slope of the shoulder reduces the impacts to important farming soils.

The third alternative is a no project alternative. The no project alternative does not meet the operational and safety goals established in County's general Plan or SACOG's Metropolitan Transportation Plan, to provide infrastructure that is safe for the public and therefore does not meet the project purpose and is removed from consideration.

Based on the aforementioned review of Alternative A, Alternative B and the no project alternative, Alternative A is selected since it reduces the impacts to important farmland soils and meets the goals of the proposed project.

Appendix B

Road Construction Emissions Model Output

Road Construction Emissions Model, Version 9.0.0

Daily Emission Estimates for -> CR49 over Hamilton														
Project Phases (Pounds)	ROG (lbs/day)	CO (lbs/day)	NOx (lbs/day)	Total PM10 (lbs/day)	Exhaust PM10 (lbs/day)	Fugitive Dust PM10 (lbs/day)	Total PM2.5 (lbs/day)	Exhaust PM2.5 (lbs/day)	Fugitive Dust PM2.5 (lbs/day)	SOx (lbs/day)	CO2 (lbs/day)	CH4 (lbs/day)	N2O (lbs/day)	CO2e (lbs/day)
Grubbing/Land Clearing	0.78	6.60	7.79	5.33	0.33	5.00	1.33	0.29	1.04	0.02	1,650.85	0.42	0.04	1,673.19
Grading/Excavation	4.26	37.29	43.44	6.85	1.85	5.00	2.68	1.64	1.04	0.09	9,046.74	2.62	0.12	9,147.03
Drainage/Utilities/Sub-Grade	2.73	26.91	26.08	6.15	1.15	5.00	2.09	1.05	1.04	0.06	5,464.30	1.09	0.08	5,514.65
Paving	1.24	15.51	11.54	0.59	0.59	0.00	0.53	0.53	0.00	0.03	2,523.46	0.66	0.05	2,554.48
Maximum (pounds/day)	4.26	37.29	43.44	6.85	1.85	5.00	2.68	1.64	1.04	0.09	9,046.74	2.62	0.12	9,147.03
Total (tons/construction project)	0.26	2.40	2.55	0.49	0.11	0.37	0.18	0.10	0.08	0.01	534.58	0.14	0.01	540.27

Notes: Project Start Year -> 2023
 Project Length (months) -> 8
 Total Project Area (acres) -> 1
 Maximum Area Disturbed/Day (acres) -> 1
 Water Truck Used? -> Yes

Phase	Total Material Imported/Exported Volume (yd ³ /day)		Daily VMT (miles/day)			
	Soil	Asphalt	Soil Hauling	Asphalt Hauling	Worker Commute	Water Truck
Grubbing/Land Clearing	0	0	0	0	200	40
Grading/Excavation	0	0	0	0	1,120	40
Drainage/Utilities/Sub-Grade	0	0	0	0	720	40
Paving	0	0	0	0	320	40

PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.
 Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns G and H. Total PM2.5 emissions shown in Column I are the sum of exhaust and fugitive dust emissions shown in columns J and K.
 CO2e emissions are estimated by multiplying mass emissions for each GHG by its global warming potential (GWP), 1, 25 and 298 for CO2, CH4 and N2O, respectively. Total CO2e is then estimated by summing CO2e estimates over all GHGs.

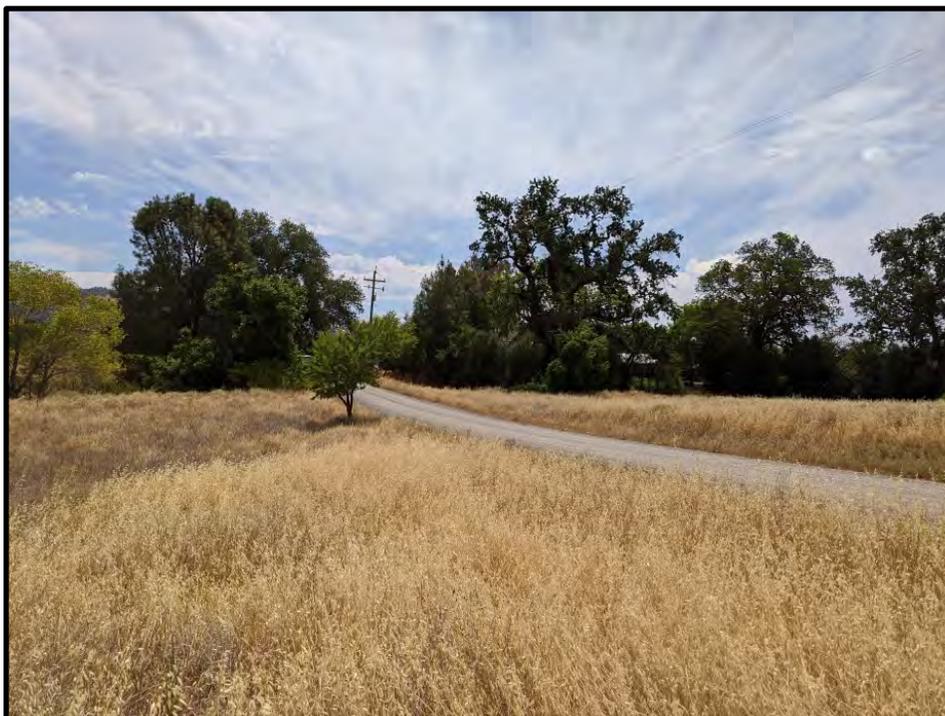
Total Emission Estimates by Phase for -> CR49 over Hamilton														
Project Phases (Tons for all except CO2e. Metric tonnes for CO2e)	ROG (tons/phase)	CO (tons/phase)	NOx (tons/phase)	Total PM10 (tons/phase)	Exhaust PM10 (tons/phase)	Fugitive Dust PM10 (tons/phase)	Total PM2.5 (tons/phase)	Exhaust PM2.5 (tons/phase)	Fugitive Dust PM2.5 (tons/phase)	SOx (tons/phase)	CO2 (tons/phase)	CH4 (tons/phase)	N2O (tons/phase)	CO2e (MT/phase)
Grubbing/Land Clearing	0.01	0.06	0.07	0.05	0.00	0.04	0.01	0.00	0.01	0.00	14.53	0.00	0.00	13.36
Grading/Excavation	0.15	1.31	1.53	0.24	0.07	0.18	0.09	0.06	0.04	0.00	318.45	0.09	0.00	292.09
Drainage/Utilities/Sub-Grade	0.08	0.83	0.80	0.19	0.04	0.15	0.06	0.03	0.03	0.00	168.30	0.03	0.00	154.09
Paving	0.02	0.20	0.15	0.01	0.01	0.00	0.01	0.01	0.00	0.00	33.31	0.01	0.00	30.59
Maximum (tons/phase)	0.15	1.31	1.53	0.24	0.07	0.18	0.09	0.06	0.04	0.00	318.45	0.09	0.00	292.09
Total (tons/construction project)	0.26	2.40	2.55	0.49	0.11	0.37	0.18	0.10	0.08	0.01	534.58	0.14	0.01	490.13

PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.
 Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns G and H. Total PM2.5 emissions shown in Column I are the sum of exhaust and fugitive dust emissions shown in columns J and K.
 CO2e emissions are estimated by multiplying mass emissions for each GHG by its global warming potential (GWP), 1, 25 and 298 for CO2, CH4 and N2O, respectively. Total CO2e is then estimated by summing CO2e estimates over all GHGs.
 The CO2e emissions are reported as metric tons per phase.

Appendix C

Natural Environment Study

County Road 49 over Hamilton Creek Bridge Replacement Project



Natural Environment Study

Yolo County, California

Section 4

Township 11N, Range 3W

Guinda Quadrangle

District 3-YOL-CR 49

Federal Project No. BRLO-5922(111)

February 2021



Natural Environment Study

STATE OF CALIFORNIA
Department of Transportation
District 3-YOL-CR 49

Prepared By: Brittany Reaves Date: 6/28/21

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Prepared By: Mark T. Christison Date: 6/28/21

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Recommended
for Approval By: Brooks Taylor Date: 10/18/21

Brooks Taylor, District Biologist
(530) 740-4807
North Region Environmental Planning M-1
Caltrans District 3

12/08/21

Approved By: Laura Loeffler Date: _____

Laura Loeffler, District Environmental Branch Chief:
(530) 741-4592
North Region Environmental Planning M-1
Caltrans District 3

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List of Abbreviated Terms

BSA	Biological Study Area
BMP	Best Management Practices
Cal-IPC	California Invasive Plant Council
Caltrans	California Department of Transportation
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFGF	California Fish and Game Code
CFR	Code of Federal Regulations
CNDDDB	California Natural Diversity Database
CNPS	California Native Plant Society
Conservancy	Yolo Conservancy
Corps	United States Army Corps of Engineers
County	Yolo County
CRPR	California Rare Plant Rank
CWA	Clean Water Act
DPS	Distinct Population Segment
EFH	Essential Fish Habitat
EPA	Environmental Protection Agency
ESA	Endangered Species Act
GIS	Geographic Information System
HCP	Habitat Conservation Plan
IPaC	Information for Planning and Consultation
MBTA	Migratory Bird Treaty Act
NCCP	Natural Community Conservation Plan
NEPA	National Environmental Quality Act
NES	Natural Environmental Study
NOAA	National Oceanic and Atmospheric Administration

NMFS	National Marine Fisheries Service
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
OHWM	Ordinary High Water Mark
RWQCB	Regional Water Quality Control Board
SSC	State Species of Special Concern
SWRCB	State Water Resources Control Board
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
WOTUS	Waters of the United States

Summary

Yolo County proposes to replace the existing bridge on County Road 49 crossing over Hamilton Creek with funding made available through the Federal Highway Administration Highway Bridge Program and administered by California Department of Transportation. The bridge was determined to be functionally obsolete as recently as 2013 and currently has a sufficiency rating of 43.1.

The project site is located within the northwestern corner of Yolo County, west of Highway 16. County Road 49 is a rural local roadway that extends from County Road 59 on the south to its terminus roughly 3 miles to the northwest. Within the project vicinity, the base road substrate varies between paved, dirt, and gravel.

The existing bridge (Bridge No. 22C0095) was constructed in 1911 and is approximately 26 feet long and 20 feet wide. The structure consists of a single-span, earth-filled concrete arch. The bridge has rock pockets and spalling with exposed rebar on the arch soffit. Additionally, the bridge abutment footings are exposed along their entire lengths.

The proposed project will construct a new bridge along a similar alignment as the existing structure. The new bridge is anticipated to be a single-span structure approximately 61 feet long. Construction of the bridge will involve excavation for and construction of concrete abutments, founded on either spread footings or deep foundations. Construction of the roadway approaches will involve the removal of existing pavement and placement of new roadway fill material, aggregate base, hot mix asphalt pavement, and installation of guard rail. Tree removal and removal of other vegetation along the creek will be necessary for the project. Temporary work within Hamilton Creek includes removal of the existing structure, falsework erection and removal, and installation of scour countermeasures at the abutments. Temporary creek diversion through a temporary crossing is anticipated in order to complete activities within the waterway. Relocation of overhead electrical and communication lines, including two utility poles, and underground telecommunication lines are anticipated as part of the project.

During construction, vehicular traffic through the project site will be maintained with a temporary crossing north of the existing bridge. The temporary crossing is anticipated to consist of pipe culverts to convey stream flow. Gravel backfill will be placed on top of the pipe culverts to provide a drivable surface. Following completion of construction, all of this

material will be removed. Construction is anticipated to begin in Spring 2023 and have a duration of approximately 8 months.

Gallaway Enterprises conducted assessments in compliance with the Yolo County Habitat Conservation Plan/Natural Community Conservation Plan (HCP/NCCP). The assessments included a Land Cover Mapping and Covered Species Habitat Assessment and a Planning Level Survey for Land Cover Types and Covered Species Habitat. The purpose of the assessments was to determine the presence of special-status species, quantify land cover types, and define impacts within the Biological Study Area (BSA). The BSA for the project includes the project's boundary and the "Fee Buffer" prescribed by the HCP/NCCP that extends 10 feet from the area of permanent impacts. Land cover types delineated by the Yolo County HCP/NCCP within the BSA are Riverine: Open Water, Valley Foothill Riparian: Great Valley Oak Riparian, Blue Oak Woodland: Blue Oak Alliance, Grassland Natural Community: Annual Grassland, Cultivated Lands: Grain and Hay Crops, Semiagricultural: Incidental to Agriculture, Barren: Anthropogenic, Developed: Urban, and Developed: Vegetated Corridor. Riverine and Valley Foothill Riparian land cover types are designated by the Yolo County HCP/NCCP as Sensitive Natural Communities.

There is no potential for special-status plant species to occur within the BSA. There is potential for occurrence within the BSA for valley elderberry longhorn beetle, Swainson's hawk, and white-tailed kite, which are covered species under the Yolo County HCP/NCCP. There is also suitable habitat within the BSA for western red bat, a State Species of Special Concern, and migratory birds and raptors protected under the Migratory Bird Treaty Act and California Fish and Game Code.

Consistent with the Yolo County HCP/NCCP, planning level surveys were conducted for tricolored blackbird due to the presence of modeled habitat; however, suitable habitat was not identified within the BSA.

There will be no impacts to valley elderberry longhorn beetle, Swainson's hawk, white-tailed kite, western red bat, or migratory birds and raptors with the implementation of avoidance and minimization measures in accordance with the Yolo County HCP/NCCP.

There will be minor permanent impacts to Hamilton Creek, an "other water" tributary (0.019 acres). There will be no impacts to wetlands as currently defined under the federal Clean Water Act. Mitigation for impacts to jurisdictional waters of the United States will be addressed through the purchase of credits at a Corps-approved mitigation bank or payment to a Corps-approved in-lieu fund.

Chapter 1 – Introduction

The purpose of the County Road (CR) 49 bridge replacement over Hamilton Creek project (project) is to improve public safety by replacing the current bridge on CR 49 over Hamilton Creek which was determined to be functionally obsolete in 2013. The project is located in Guinda, Yolo County, California (**Figure 1: Regional Location, Figure 2: Project Location**).

The purpose of this Natural Environment Study (NES) is to evaluate potential project impacts to special-status species and their habitats within the project vicinity. In addition, the NES complies with the Yolo Habitat Conservation Plan/Natural Community Conservation Plan (Yolo HCP/NCCP) planning survey and reporting requirements.

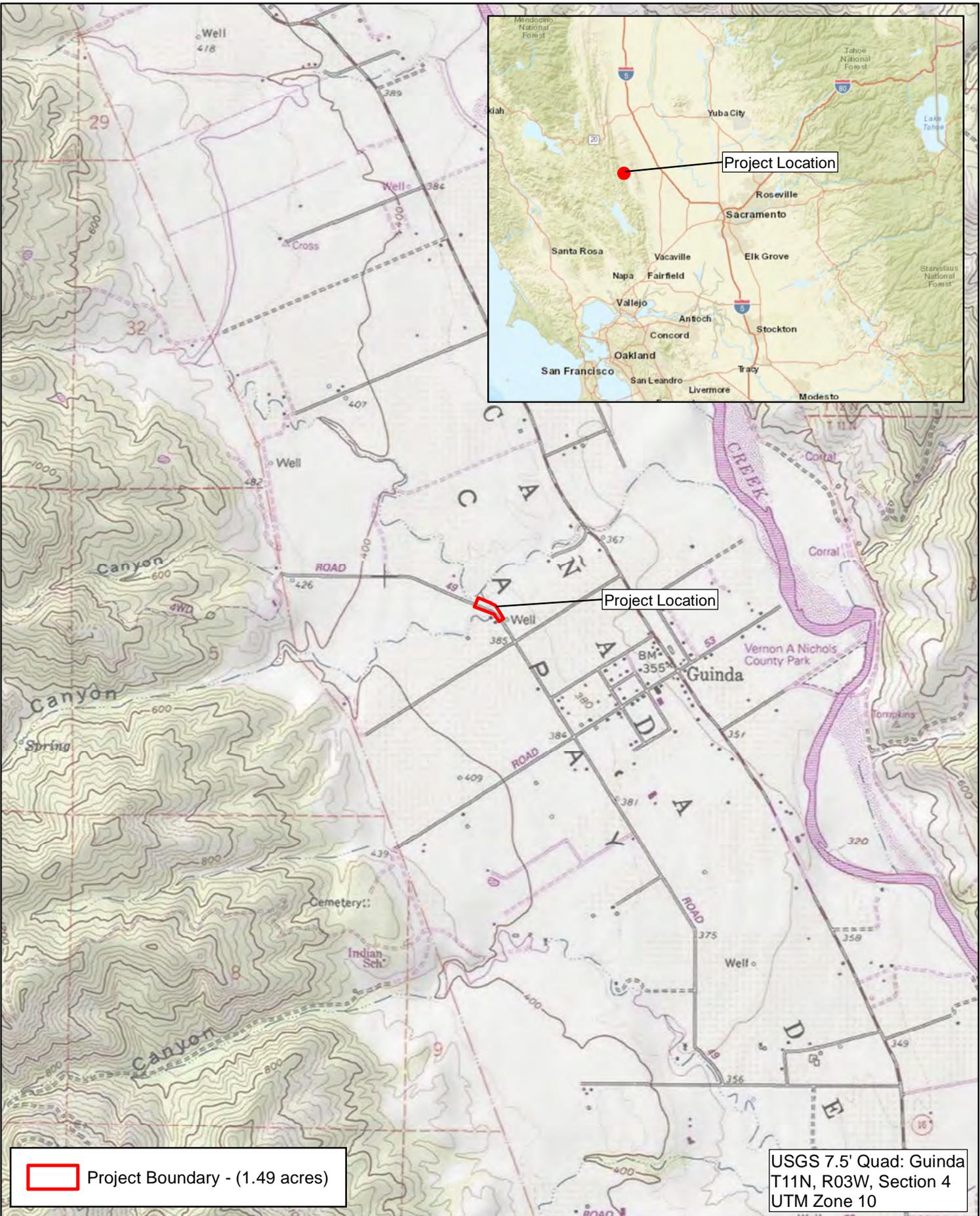
Project History and Description

Yolo County proposes to replace the existing bridge on CR 49 crossing over Hamilton Creek with funding made available through the Federal Highway Administration Highway Bridge Program and administered by California Department of Transportation (Caltrans). The bridge was determined to be functionally obsolete as recently as 2013 and currently has a sufficiency rating of 43.1.

The project site is located within the northwestern corner of Yolo County, west of Highway 16. County Road 49 is a rural local roadway that extends from CR 59 to the south to its terminus roughly 3 miles to the northwest. Within the project vicinity, CR 49 varies between paved, dirt, and gravel roadway, with an approximate width of 18 feet and no shoulders. The bridge, with an Average Daily Traffic count of 106 vehicles, serves 10 agricultural and rural properties, some which are developed with residential home sites, located on the northwest side of Hamilton Creek. Four (4) of the properties immediately adjacent to the bridge will require permanent and/or temporary right-of-way acquisition to construct and complete the project. There are no posted speed limits within the project vicinity.

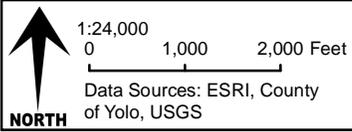
The existing bridge (Bridge No. 22C0095) was constructed in 1911 and is approximately 26 feet long and 20 feet wide. The structure consists of a single-span, earth-filled concrete arch. The bridge has rock pockets and spalling with exposed rebar on the arch soffit. Additionally, the bridge abutment footings are exposed along their entire lengths.

The proposed project will construct a new bridge along a similar alignment as the existing structure. The bridge will accommodate two (2) 10-foot travel lanes and two-



 Project Boundary - (1.49 acres)

USGS 7.5' Quad: Guinda
T11N, R03W, Section 4
UTM Zone 10



County Road 49 Over Hamilton Creek
Regional Location Map
Figure 1





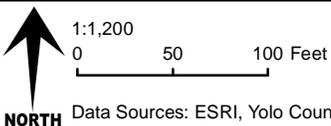
38.8319,
-122.2043

County Road 49

Hamilton Creek

38.8314,
-122.2026

 Project Boundary - (1.49 acres)



County Road 49 Over Hamilton Creek
Project Location
Figure 2

gallaway
ENTERPRISES

GE: #17-013C Map Date: 01/06/21

Data Sources: ESRI, Yolo County 04/13/2018

foot shoulders. The new bridge is anticipated to be a single-span structure approximately 61 feet long. The structure type is expected to consist of cast-in-place post-tensioned concrete slab. The roadway and bridge profile will be raised slightly and is expected to clear a 30- to 40-year storm event.

Construction of the bridge will involve excavation for and construction of concrete abutments, founded on driven piles. Construction of the roadway approaches will involve the removal of existing pavement and placement of new roadway fill material, aggregate base, hot mix asphalt pavement, and installation of guard rail. Tree removal and removal of other vegetation along the creek will be necessary for the project. Temporary work within Hamilton Creek includes removal of the existing structure, falsework erection and removal, and installation of scour countermeasures at the abutments.

Relocation of overhead electrical and communication lines, including two (2) utility poles, and underground telecommunication lines are anticipated as part of the project. Permanent right-of-way acquisition will be needed from the parcels identified as Assessor's Parcel Numbers (APNs) 060-090-010 and 060-090-007. Temporary construction easements will be needed from all four (4) adjacent parcels (APNs 060-090-010, -007, -006, and -003) to facilitate driveway conforms, utility relocations, and allow construction access.

During construction, vehicular traffic through the project site will be maintained with a temporary crossing north of the existing bridge. The temporary crossing is anticipated to consist of pipe culverts to convey stream flow. Gravel backfill will be placed on top of the pipe culverts to provide a drivable surface. Following completion of construction, all material will be removed and the creek will be restored to pre-construction topography. Construction is anticipated to begin in Spring 2023 and to have a duration of approximately 8 months.

Chapter 2 – Study Methods

Biological and botanical surveys were conducted by Gallaway Enterprises after consulting the United States Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPaC) species list, National Oceanic and Atmospheric Administration (NOAA) National Marine Fisheries Service (NMFS) official species list, NOAA NMFS Essential Fish Habitat (EFH) mapper database, California Natural Diversity Database (CNDDDB) records, and the California Native Plant Society's (CNPS) list of rare and endangered plants gathered for the Biological Study Area (BSA) (**Appendix A: Species Lists, Figure 3: Biological Study Area**). Additionally, a map was obtained from the CNDDDB Geographic Information System (GIS) database, which provided general locations of species that had recorded CNDDDB occurrences within a quarter-mile radius of the project location (**Figure 4: CNDDDB Occurrences**). This quarter-mile buffer was utilized based on project proximity requirements implemented in the Yolo HCP/NCCP. Based on the results of the species lists and CNDDDB map, appropriate biological, and botanical, and planning-level surveys were conducted.

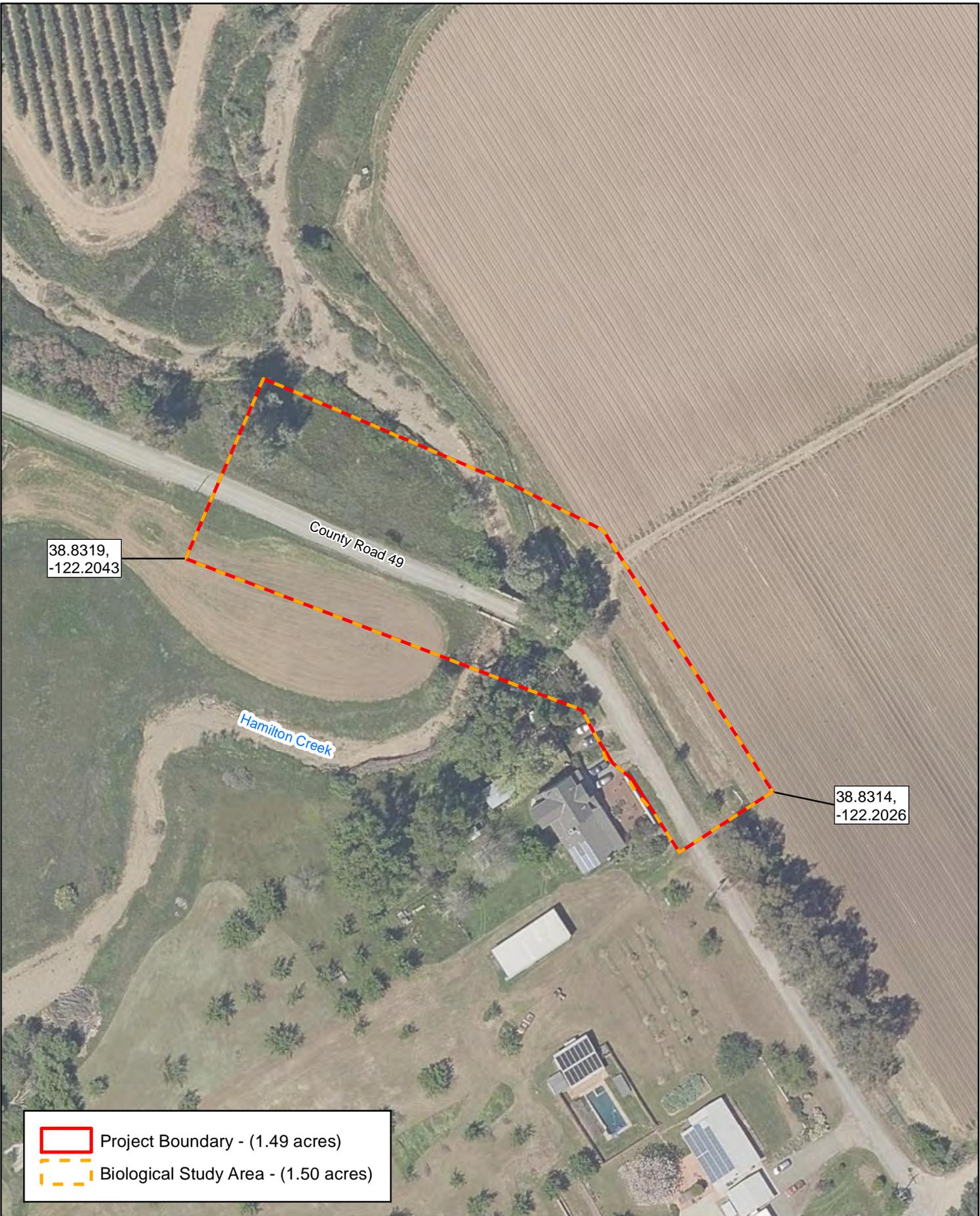
Regulatory Requirements

The following describes federal, state, and local environmental laws and policies that are relevant to the National Environmental Policy Act (NEPA) and California Environmental Quality Act (CEQA) review processes and documents compliance with the Yolo HCP/NCCP Implementation Handbook: Permitting Guide (February 2020).

Federal

Federal Endangered Species Act

The United States Congress passed the federal Endangered Species Act (ESA) in 1973 to protect species that are endangered or threatened with extinction. The ESA is intended to operate in conjunction with the NEPA to help protect the ecosystems upon which endangered and threatened species depend. The ESA makes it unlawful to “take” a listed animal without a permit. Take is defined as “to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect or attempt to engage in any such conduct.” Through regulations, the term “harm” is defined as “an act which actually kills or injures wildlife. Such an act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering.”



38.8319,
-122.2043

County Road 49

Hamilton Creek

38.8314,
-122.2026

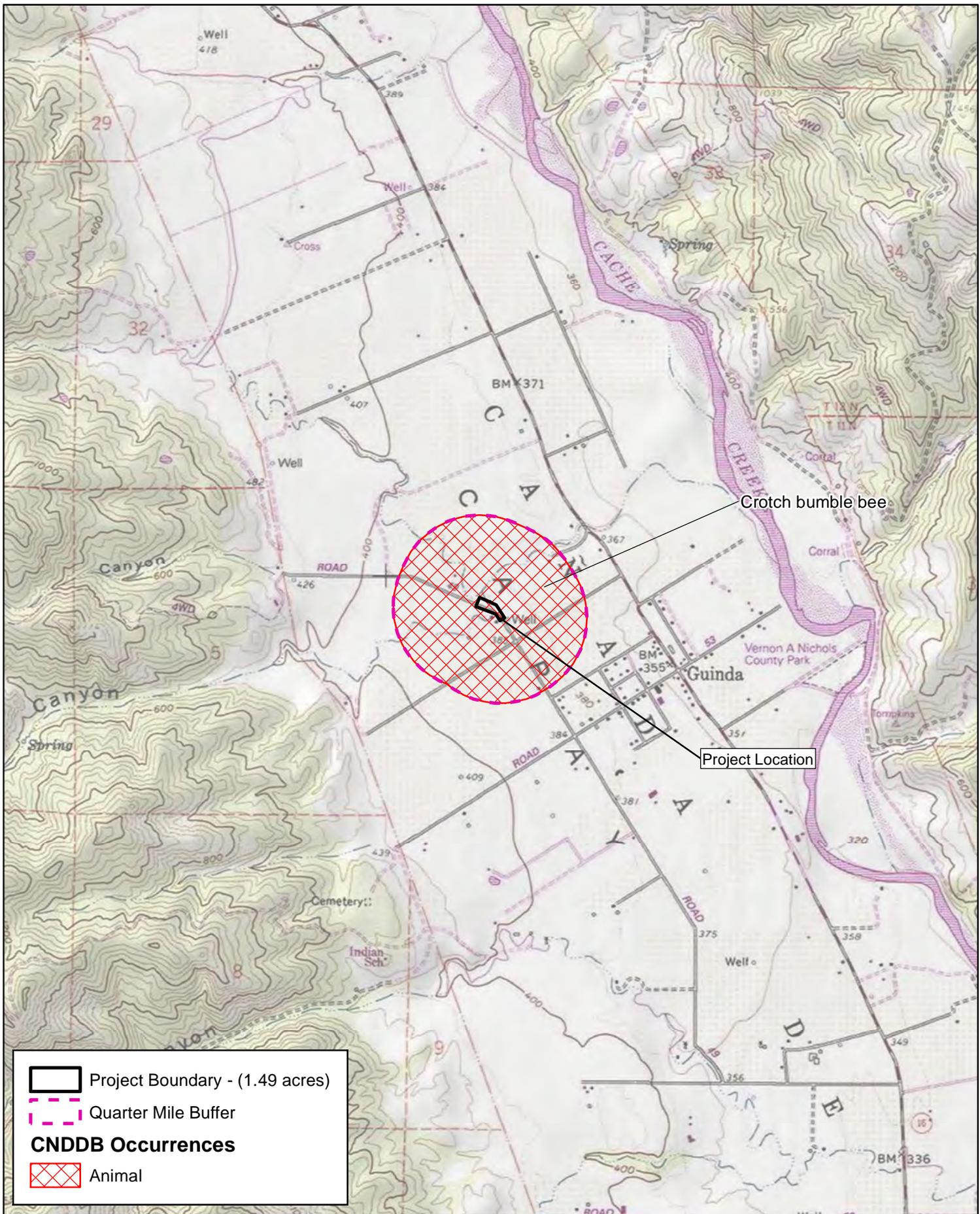
 Project Boundary - (1.49 acres)
 Biological Study Area - (1.50 acres)

 1:1,200
 0 50 100 Feet
 NORTH Data Sources: ESRI, Yolo County 04/13/2018

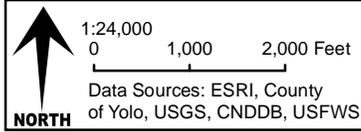
County Road 49 Over Hamilton Creek
 Biological Study Area
 Figure 3

gallaway
 ENTERPRISES

GE: #17-013C Map Date: 01/06/21



 Project Boundary - (1.49 acres)
 Quarter Mile Buffer
CNDDB Occurrences
 Animal



County Road 49 Over Hamilton Creek
 CNDDB Occurrences
 Figure 4

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) (16 USC §703) prohibits the killing of migratory birds or the destruction of their occupied nests and eggs except in accordance with regulations prescribed by the USFWS. The bird species covered by the MBTA includes nearly all of those that breed in North America, excluding introduced (i.e., exotic) species (50 Code of Federal Regulations (CFR) §10.13). Activities that involve the removal of vegetation including trees, shrubs, grasses, and forbs or ground disturbance has the potential to affect bird species protected by the MBTA. Thus, vegetation removal and ground disturbance in areas with breeding birds should be conducted outside of the breeding season (approximately March 1 through August 31 in the Central Valley). If vegetation removal or ground disturbance activities are conducted during the breeding season, then a qualified biologist must determine if there are any active nests of bird species protected under the MBTA present in the construction area prior to commencement of construction. If active nests are located or presumed present, then appropriate avoidance measures (e.g., spatial or temporal buffers) must be implemented.

Waters of the United States, Clean Water Act, Section 404

The U.S. Army Corps of Engineers (Corps) and the U.S. Environmental Protection Agency (EPA) regulate the discharge of dredged or fill material into jurisdictional waters of the United States (WOTUS), under the Clean Water Act (§404). The term “waters of the United States” is an encompassing term that includes “wetlands” and “tributaries.” Wetlands have been defined for regulatory purposes as follows: “those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions (33 CFR 328.3, 40 CFR 230.3). Wetlands generally include swamps, marshes, bogs, and similar areas.” Tributary means a river, stream, or similar naturally occurring surface water flow to a territorial sea, and waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce (33 CFR 328.3(a)).

The Corps may issue either individual permits on a case-by-case basis or general permits on a program level. General permits are pre-authorized and are issued to cover similar activities that are expected to cause only minimal adverse environmental effects. Nationwide permits are general permits issued to cover particular fill activities. All nationwide permits have general conditions that must be met for the permits to apply to a particular project, as well as specific conditions that apply to each nationwide permit.

Executive Orders 13112; Prevention and Control of Invasive Species

On Feb 3, 1999, Executive Order 13112 was signed establishing the National Invasive Species Council. Executive Order 11312 directs all federal agencies to prevent and control introductions of invasive nonnative species in a cost-effective and environmentally sound manner to minimize their economic, ecological, and human health impacts. Executive Order 11312 established a national Invasive Species Council made up of federal agencies and departments and a supporting Invasive Species Advisory Committee composed of state, local, and private entities. The Invasive Species Council and Advisory Committee oversees and facilitates implementation of the Executive Order, including preparation of a National Invasive Species Management Plan.

Section two (2) of the Executive Order states:

- (a) Each Federal agency whose actions may affect the status of invasive species shall, to the extent practicable and permitted by law, (1) identify such actions; (2) subject to the availability of appropriations, and within Administration budgetary limits, use relevant programs and authorities to: (i) prevent the introduction of invasive species; (ii) detect and respond rapidly to and control populations of such species in a cost-effective and environmentally sound manner; (iii) monitor invasive species populations accurately and reliably; (iv) provide for restoration of native species and habitat conditions in ecosystems that have been invaded; (v) conduct research on invasive species and develop technologies to prevent introduction and provide for environmentally sound control of invasive species; and (vi) promote public education on invasive species and the means to address them; and (3) not authorize, fund, or carry out actions that it believes are likely to cause or promote the introduction or spread of invasive species in the United States or elsewhere unless, pursuant to guidelines that it has prescribed, the agency has determined and made public its determination that the benefits of such actions clearly outweigh the potential harm caused by invasive species; and that all feasible and prudent measures to minimize risk of harm will be taken in conjunction with the actions.

- (b) Federal agencies shall pursue the duties set forth in this section in consultation with the Invasive Species Council, consistent with the Invasive Species Management Plan and in cooperation with stakeholders, as appropriate, and, as approved by the Department of State, when Federal agencies are working with international organizations and foreign nations.

State of California

California Endangered Species Act

The California Endangered Species Act (CESA) is similar to the ESA, but pertains to state-listed endangered and threatened species. The CESA requires state agencies to consult with the California Department of Fish and Wildlife (CDFW) when preparing documents to comply with the CEQA. The purpose is to ensure that the actions of the lead agency do not jeopardize the continued existence of a listed species or result in the destruction, or adverse modification of habitat essential to the continued existence of those species. In addition to formal listing under the federal and state endangered species acts, “Species of Special Concern” receive consideration by CDFW. Species of Special Concern are those whose numbers, reproductive success, or habitat may be threatened.

California Fish and Game Code

The California Fish and Game Code (CFGC) (§3503.5) states that it is “unlawful to take, possess, or destroy any birds in the order Falconiformes (i.e., hawks, eagles, and falcons) or Strigiformes or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto.” Take includes the disturbance of an active nest resulting in the abandonment or loss of young. The CFGC (§3503) also 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.”

Clean Water Act, Section 401

The Clean Water Act (CWA) (§401) requires water quality certification and authorization for placement of dredged or fill material in wetlands and Other Waters of the United States. In accordance with the CWA (§401), criteria for allowable discharges into surface waters have been developed by the State Water Resources Control Board (SWRCB), Division of Water Quality. The resulting requirements are used as criteria in granting National Pollutant Discharge Elimination System (NPDES) permits or waivers, which are obtained through the Regional Water Quality Control Board (RWQCB) per the CWA (§402). Any activity or facility that will discharge waste (such as soils from construction) into surface waters, or from which waste may be discharged, must obtain an NPDES permit or waiver from the RWQCB. The RWQCB evaluates an NPDES permit application to determine whether the proposed discharge is consistent with the adopted water quality objectives of the basin plan.

Streambed Alteration Agreement

The CDFW is a trustee agency that has jurisdiction under the CFGC (§1600 et seq.). The CFGC (§1602), requires that a state or local government agency, public utility, or private

entity must notify CDFW if a proposed project will “substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake designated by the department, or use any material from the streambeds... except when the department has been notified pursuant to Section 1601.” If an existing fish or wildlife resource may be substantially adversely affected by the activity, CDFW may propose reasonable measures that will allow protection of those resources. If these measures are agreeable to the parties involved, they may enter into an agreement with CDFW identifying the approved activities and associated mitigation measures.

Rare and Endangered Plants

The CNPS maintains a list of plant species native to California with low population numbers, limited distribution, or otherwise threatened with extinction. This information is published in the Inventory of Rare and Endangered Vascular Plants of California. Potential impacts to populations of CNPS-listed plants receive consideration under CEQA review. The CNPS California Rare Plant Rank (CRPR) categorizes plants as the following:

- Rank 1A: Plants presumed extinct in California;
- Rank 1B: Plants rare, threatened, or endangered in California or elsewhere;
- Rank 2: Plants rare, threatened, or endangered in California, but more numerous elsewhere;
- Rank 3: Plants about which we need more information; and
- Rank 4: Plants of limited distribution.

The California Native Plant Protection Act (CFGC §1900-1913) prohibits the taking, possessing, or sale within the state of any plants with a state designation of rare, threatened, or endangered as defined by CDFW. An exception to this prohibition allows landowners, under specific circumstances, to take listed plant species, provided that the owners first notify CDFW and give the agency at least 10 days to retrieve (and presumably replant) the plants before they are destroyed. Fish and Game Code §1913 exempts from the ‘take’ prohibition ‘the removal of endangered or rare native plants from a canal, lateral ditch, building site, or road, or other right of way.’”

California Environmental Quality Act Guidelines §15380

Although threatened and endangered species are protected by specific federal and state statutes, CEQA Guidelines §15380(d) provides that a species not listed on the federal or state list of protected species may be considered rare or endangered if the species can be shown to meet certain specified criteria. These criteria have been modeled based on the definition in the ESA and the section of the CFGC dealing with rare, threatened, and endangered plants and animals. The CEQA Guidelines (§15380) allows a public agency to

undertake a review to determine if a significant effect on species that have not yet been listed by either the USFWS or CDFW (e.g. candidate species, species of concern) would occur. Thus, CEQA provides an agency with the ability to protect a species from a project's potential impacts until the respective government agencies have an opportunity to designate the species as protected, if warranted.

Yolo County

Yolo Habitat Conservation Plan/Natural Community Conservation Plan

The Yolo HCP/NCCP is a 50-year regional plan that proposes to protect endangered species and natural resources while allowing for orderly development in Yolo County consistent with local General Plans. The plan covers 12 wildlife and plant species and implements guidelines for identifying and minimizing potential impacts to species that are covered under the plan. The NES has been prepared in accordance with the Yolo HCP/NCCP Implementation Handbook: Permitting Guide (February 2020).

Studies Required

Gallaway Enterprises conducted biological and botanical habitat assessments within the BSA. Gallaway Enterprises' qualified biologist Melissa Murphy and senior botanist Elena Gregg conducted planning level surveys and field verified Yolo HCP/NCCP mapped land cover types. Planning level surveys are conducted during the project planning and permitting process. There are two types of planning level surveys: 1) surveys conducted to assess land cover types and covered species habitat, and 2) surveys to determine the presence/absence of covered species through species-specific, protocol-level surveys. Information collected during planning level surveys is used to determine land cover impacts, mitigation fees, and applicable avoidance and minimization measures.

Planning level surveys were conducted following review of the Yolo HCP/NCCP, USFWS IPaC report, CNDDDB Rarefind 5 report, CNPS list, and the CNDDDB occurrence map (**Figure 4: CNDDDB Occurrences**). The United States Geological Survey (USGS) "Guinda" 7.5-minute quadrangle and the project boundary were used to derive the agency species lists (**Appendix A: Species Lists**). Based on the results of these inquiries, Gallaway Enterprises conducted planning level surveys and protocol-level surveys to identify any Yolo HCP/NCCP-covered, rare, endangered, threatened, or sensitive species and their habitats that may have the potential to occur within the BSA. The Yolo HCP/NCCP covers 12 species and their habitats; however, Gallaway biologists conducted habitat assessments and pre-screening surveys for all sensitive wildlife and plant species that could be impacted by project activities.

On May 29, 2020, biologists approved by the Yolo HCP/NCCP conducted planning level surveys for land cover types, covered species habitat, and when applicable, species-

specific surveys were completed. Ms. Murphy and Mrs. Gregg verified the location of the BSA within the Yolo HCP/NCCP designated planning units and the acreage of land cover types present (**Figure 2: Project Location**).

A delineation of waters of the United States (WOTUS) was completed for the BSA. The BSA was surveyed on-foot by Gallaway Enterprises staff on May 29, 2020 to identify potentially jurisdictional features. The surveys involved an examination of botanical resources, soils, hydrological features, and determination of wetland characteristics based on the *Corps of Engineers Wetlands Delineation Manual* (1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0)* (2008). The boundaries of non-tidal, non-wetland waters, when present, were delineated at the Ordinary High Water Mark (OHWM) as defined in 33 Code of Federal Regulations (CFR) 328.3(c)7 and further described in the U.S. Army Corps of Engineers' *Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States* (2008). The OHWM represents the limit of Corps jurisdiction over non-tidal waters (e.g., streams and ponds) in the absence of adjacent wetlands (Curtis et al. 2011).

Personnel and Survey Dates

Gallaway Enterprises visited the BSA on May 29, 2020. During the visit, senior biologist Melissa Murphy and senior botanist Elena Gregg conducted planning level surveys as prescribed by the Yolo HCP/NCCP. (**Appendix B: Observed Species List, Appendix C: Project Site Photos**).

Ms. Murphy has over 8 years of experience surveying at the protocol and general level for listed reptiles and amphibians including giant garter snake, California red-legged frog, foothill yellow-legged frog, and western pond turtle. Ms. Murphy has extensive experience PIT tagging reptiles, assisting in de-watering activities including fish relocation, surveying for nesting birds and raptors, capturing and banding waterfowl, and conducting habitat assessments for listed species. She regularly conducts habitat assessments and develops and implements mitigation measures for a variety of private and public works projects throughout northern California. Ms. Murphy is approved by the Yolo Conservancy (Conservancy) to conduct surveys prescribed by the Yolo HCP/NCCP.

Mrs. Gregg has over 15 years of experience conducting rare plant surveys, wetland delineations, and habitat assessments in California. She has a working knowledge of CNPS, CDFW, and USFWS survey protocols and holds a CDFW collection permit for listed plant species. Through her extensive field experience in a wide array of habitats and eco-regions in northern California, Mrs. Gregg has gained knowledge of locally invasive

plants species and noxious weeds. Mrs. Gregg is approved by the Conservancy to conduct surveys prescribed by the Yolo HCP/NCCP.

Land Cover Mapping and Covered Species Habitat Assessment Verification

The Land Cover Mapping and Covered Species Habitat Assessment and a Planning Level Survey for Land Cover Types and Covered Species Habitat were conducted by walking the entire BSA and identifying specific habitat types and elements. Land within 1,320 feet of the project limits was evaluated for land cover types and the presence of suitable habitat for species covered under the Yolo HCP/NCCP. If suitable habitat was observed for special-status species it was then evaluated for quality based on vegetation composition and structure, physical features (e.g., water, soils), micro-climate, surrounding area, presence of predatory species and available resources (e.g., prey items, nesting substrates).

Botanical Habitat Assessment

A botanical habitat assessment was conducted on May 29, 2020 by senior botanist Elena Gregg to assess potential for special-status plant species to occur within the BSA. The assessment was conducted by walking in all accessible areas of the BSA and noting the habitat elements present (e.g., soils, geology, hydrology, topography, aspect, elevation, etc.) and vegetation communities present. If present, natural and man-made disturbance patches were noted as well as the successional stage of vegetation within the BSA. Botanical species observed within the BSA during this field visit are listed in **Appendix A**.

Limitations That May Influence Results

Only lands where Yolo County secured a right of entry were surveyed. Lands outside of the BSA that required analysis by the Yolo HCP/NCCP were done so remotely. There were no other limitations that may influence results of the Land Cover Mapping and Covered Species Habitat Assessment and planning level surveys within the BSA.

Chapter 3 – Results: Environmental Setting

Description of the Existing Biological and Physical Conditions

Study Area

The BSA is the area where the focus of biological surveys is conducted and where all construction and staging will occur (**Figure 3: Biological Study Area**). The BSA includes all anticipated right of way acquisition areas and encompasses the entire existing CR 49 over Hamilton Creek Bridge project area, including staging areas. The total area of the BSA is 1.5 acres. In accordance with the Yolo HCP/NCCP, land within 1,320 feet of the project limits was evaluated for land cover types and the presence of suitable habitat for species covered under the plan.

Physical Conditions

The BSA is located within the Capay Valley, in Guinda, Yolo County, California. The BSA is composed primarily of the paved roadway, an intermittent drainage, grasslands, and active agricultural land. Soils within the BSA consist of loam. The average annual precipitation for the area is 19.49 inches and the average temperature is 60.95° F (Western Regional Climate Center 2020) in the region where the project site is located. The BSA occurs at an elevation of approximately 380 feet above sea level. The overall area is sloped between 0 and 2 percent; however, the channel banks were highly channelized and had slopes of 70 percent or greater.

Biological Conditions in the Biological Study Area

Land cover types delineated by the Yolo HCP/NCCP within the BSA are Riverine: Open Water, Valley Foothill Riparian: Great Valley Oak Riparian, Blue Oak Woodland: Blue Oak Alliance, Grassland Natural Community: Annual Grassland, Cultivated Lands: Grain and Hay Crops, Semiagricultural: Incidental to Agriculture, Barren: Anthropogenic, Developed: Urban, and Developed: Vegetated Corridor. (**Figure 5: Impacts to Land Cover**).

Land cover types were mapped within the BSA, including the area where construction will occur and a 10 foot buffer from the areas of permanent impact which is referred to as the “Fee Buffer.” The Yolo HCP/NCCP requires that permanent impacts to land cover types and the Fee Buffer areas be calculated and entered into the application form for coverage under the Yolo HCP/NCCP, thus **Figure 5** includes a column that depicts the permanent impacts to land cover types and well as the Fee Buffer areas.

Impacts to Land Cover		
Land Cover	Permanent Impacts Acres	Fee Buffer Acres
Riverine: Open Water	0.019	0.042
Valley Foothill Riparian: Great Valley Oak Riparian	0.060	0.029
Blue Oak Woodland: Blue Oak Alliance	0.000	0.000
Grassland Natural Community: Annual Grassland	0.111	0.095
Cultivated Lands: Grain and Hay Crops	0.000	0.000
Developed: Urban	0.193	0.020
Developed: Vegetated Corridor	0.065	0.035
Semiagricultural: Incidental to Agriculture	0.000	0.018
Barren: Anthropogenic	0.030	0.022
Totals =	0.478	0.261



Project Boundary - (1.49 acres)
 Biological Survey Area - (1.50 acres)
 Permanent Impact Area
 Fee Buffer

Land Cover Types

- Riverine: Open Water - (0.099 acres)
- Valley Foothill Riparian: Great Valley Oak Riparian - (0.123 acres)
- Blue Oak Woodland: Blue Oak Alliance- (0.028 acres)
- Grassland Natural Community: Annual Grassland - (0.619 acres)
- Cultivated Lands: Grain and Hay Crops - (0.111 acres)
- Developed: Urban - (0.227 acres)
- Developed: Vegetated Corridor - (0.118 acres)
- Semiagricultural: Incidental to Agriculture - (0.097 acres)
- Barren: Anthropogenic - (0.075 acres)

County Rd 49

1:780
 0 25 50 Feet
 Data Sources: ESRI, Yolo Conservancy,
 Yolo County 04/13/2018

County Road 49 Over Hamilton Creek
 Impacts to Land Cover Types
 Figure 5

Yolo HCP/NCCP Land Cover Types

Riverine

The Lacustrine and Riverine land cover type is defined by the Yolo HCP/NCCP as a Sensitive Natural Community (SNC) and is comprised of the open water portions of lakes, rivers, and streams. Within the BSA, there is one (1) intermittent drainage that qualifies as Riverine habitat: Hamilton Creek (**Figure 5**). Hamilton Creek is a naturally occurring, intermittent stream with a surface flow to a navigable water. Intermittent drainages typically flow for more than 3 months of the year. Hamilton Creek was dry during the May 29, 2020 field visit. Riverine habitat provides food for waterfowl, herons (*Ardeidae* sp.), and many species of insectivorous birds, hawks, and their prey. Riverine habitats support many species of fish, amphibians, reptiles, birds, and mammals (Meyer and Laudenslayer 1988).

Valley Foothill Riparian Natural Community: Great Valley Oak Riparian

The Great Valley Oak Riparian land cover type is a subset of the Valley Foothill Riparian Natural Community, which is designated as a SNC by the Yolo HCP/NCCP. The Great Valley Oak Riparian land cover type consists of deciduous trees along streams and rivers, dominated by valley oaks (*Quercus lobata*), cottonwoods (*Populus* spp.), and willows (*Salix* spp.), and areas dominated by herbaceous or shrubby riparian vegetation if less than 1 acre in size. Valley foothill riparian habitats provide food, water, migration, and dispersal corridors for fish species, and escape, nesting, and thermal cover for an abundance of other wildlife species. Within the BSA, Great Valley Oak Riparian land cover occurs in small patches that were dominated by a tree canopy of valley oak and black walnut (*Juglans hindsii*) in association with Hamilton Creek.

Blue Oak Woodland: Blue Oak Alliance

There is a small patch of blue oak-foothill pine woodland located in the far northwestern corner of the BSA. The dominant tree species observed were blue oak (*Quercus douglasii*) and foothill pine (*Pinus sabiniana*). Many of the oaks within the BSA contained large cavities, presumably caused by decay and heavy woodpecker activity. Typical of blue oak woodland in inland areas, the shrub layer was relatively sparse with scattered clusters of white-leaved manzanita (*Arctostaphylos viscida* ssp. *viscida*) and buckbrush (*Ceanothus cuneatus* var. *cuneatus*). The herbaceous layer was comprised of annual grassland species, with the most dominant species observed being wild oats (*Avena fatua*), soft chess (*Bromus hordeaceus*), ripgut brome (*Bromus diandrus*), and hedgehog dogtail (*Cynosurus echinatus*). This habitat type provides foraging and breeding habitat for a variety of terrestrial reptiles, nesting birds, and mammals.

Grassland Natural Community: Grassland Alliance

The California Annual Grassland Alliance land cover type is a subset of the Grassland Natural Community and is characterized by grassland dominated by annual grasses and forbs. Within the BSA, the dominant species present included wild oat, yellow star-thistle (*Centaurea solstitialis*), wall hare barley (*Hordeum murinum*), soft chess, ripgut brome and winter vetch (*Vicia villosa*). Annual grasslands occur on open, flat to gently rolling lands and are dominated by grasses and annual plants, with the dominant species varying depending on the climate and soils. A variety of ground-nesting avian species, reptiles, and small mammals use grassland habitat for breeding, while many other wildlife species only use it for foraging and require other habitat characteristics such as rocky outcroppings, cliffs, caves, or ponds in order to find shelter and cover for escapement (Mayer and Laudenslayer 1988). Common species found utilizing this habitat type include western fence lizards (*Sceloporus occidentalis*), common garter snakes (*Thamnophis elegans*), California ground squirrels (*Otospermophilus beecheyi*), jackrabbits (*Lepus californicus*), and a variety of migratory bird and raptor species. Per the Yolo HCP/NCCP, the Grassland Natural Community is suitable foraging habitat for Swainson's hawk, white-tailed kite, and tricolored blackbird.

Cultivated Lands : Grain and Hay Crops

The Cultivated Lands: Grain and Hay Crops land cover type consists of irrigated and dryland grain and hay crops; predominately wheat, barley, rye, and oat hay. Grain and hay crops do not conform to normal habitat stages and are regulated by the crop cycle in California. Rodents, birds, and some mammals have adapted to field crops and are often controlled by fencing, trapping, and poisoning (Mayer and Laudenslayer 1988). The Grain and Hay Crops land cover type may support foraging habitat for Swainson's hawk, white-tailed kite, and tricolored blackbird per the Yolo HCP/NCCP.

Developed: Urban

The Developed: Urban land cover type consists of areas dominated by pavement and building structures, including barren lands graded for development. This environment can present a mosaic of vegetation, including primarily ornamental landscaping, but can also incorporate native tree species. Generalist and invasive species often occupy urban habitat such as common raven (*Corvus corax*), house sparrow (*Passer domesticus*), scrub-jay (*Aphelocoma californica*), and Brewer's blackbird (*Euphagus cyanocephalus*), as well as small to medium mammals (e.g., raccoon, opossum, striped skunk) (Mayer and Laudenslayer 1988).

Developed : Vegetated Corridor

The Developed: Vegetated Corridor land cover type consists of areas planted in ornamental vegetation maintained adjacent to highways or in association with houses and developed areas, or other vegetated corridors associated with developed areas and isolated from intact stream channels. The vegetated corridor land cover type occurs along the sides of CR 49, primarily in the southern portion of the BSA where black walnuts have been planted, and in association with the adjacent residential building where fruit trees and a variety of ornamental vegetation has been planted. The planted walnut trees along CR 49 are mature, and trees over 20 feet in height can support nesting by the Yolo HCP/NCCP-covered Swainson’s hawk and white-tailed kite.

Semiagricultural/Incidental to Agriculture

Semiagricultural areas include livestock feedlots, farmsteads, and miscellaneous semiagricultural features such as small roads, ditches, and unplanted areas of cropped fields (e.g., field edges). The Semiagricultural land cover type provides marginal potential habitat for wildlife.

Regional Species and Habitats and Natural Communities of Concern

The following special-status species were identified under the Yolo HCP/NCCP, USFWS IPaC species list, NOAA-NMFS official species list, CNDDDB Rarefind 5, and the CNPS inventory of rare and endangered plants as having potential to occur within the vicinity of the BSA and/or having recorded observations within or within close proximity of the BSA. Not all special-status species listed under federal and state species lists have potential to occur within the BSA due to unsuitable habitat or lack of observations in the area. A summary of special-status species listed in the Yolo HCP/NCCP, USFWS IPaC, CNDDDB, and the CNPS species lists derived from the “Guinda” USGS 7.5-minute quadrangle and their potential to occur within the BSA is described in **Table 1**.

Table 1: Listed and Proposed Species, Natural Communities, and Critical Habitat Potentially Occurring or Known to Occur in the CR 49 over Hamilton Creek Bridge Replacement Project Area

Common Name	Scientific Name	Status Fed/State/CNPS/HCP	General Habitat Description	Habitat Present/ Absent	Rationale
SENSITIVE NATURAL COMMUNITIES					
Riverine		HCP	The open water portions of lakes, rivers, and streams.	HP	There is Riverine Natural Community present within the BSA.

Valley Foothill Riparian		HCP	Scrubby vegetation, deciduous trees, and alder, willow, and oak forests associated with streams and riparian areas.	HP	There is Valley Foothill Riparian Natural Community present within the BSA.
PLANTS					
Keck's checkerbloom	<i>Sidalcea keckii</i>	FE/1B.1	Grassy slopes in blue oak woodland. On serpentine-derived, clay soils, at least sometimes. Found at elevations between 85-505 meters. (BP: Apr-May)	A	The BSA is outside of the species known elevational range. Species not observed during protocol level rare plant survey within the BSA on May 29, 2020. No effect.
Palmete-bracted bird's beak	<i>Chloropyron palmatum</i>	FE/SE/1.B1/HCP	Alkali prairie land cover type. (BP: May - Oct)	A	There is no suitable habitat within 250 feet of the BSA. Species not observed during protocol level rare plant survey within the BSA on May 29, 2020. No effect.
INVERTEBRATES					
Crotch bumble bee	<i>Bombus crotchii</i>	SC	Grassland and scrub habitats. Nests underground. Forages at open flowers with short corollas.	A	There is disturbed grassland within the BSA; however, floral resources are limited due to past and present agricultural practices within the BSA. No effect.
Valley elderberry longhorn beetle	<i>Desmocerus californicus dimorphus</i>	FT/HCP	Blue elderberry shrubs usually associated with riparian areas.	HP	Elderberry shrubs were observed within and adjacent to the BSA during the field visit.
Vernal pool fairy shrimp	<i>Branchinecta lynchi</i>	FT	Moderately turbid, deep, cool-water vernal pool.	A	There are no vernal pools within the BSA. No effect.
Vernal pool tadpole shrimp	<i>Lepidurus packardi</i>	FE	Vernal pools, swales, and ephemeral freshwater habitat.	A	There are no vernal pools within the BSA. No effect.
AMPHIBIANS AND REPTILES					
California red-legged frog	<i>Rana draytonii</i>	FT/SSC	Inhabits quiet pools of streams, marshes, and occasionally ponds.	A	None. California red-legged frogs have been extirpated from the valley floor since the 1960s (USFWS 2002). There are no CNDDDB occurrences within 20 miles of the BSA. No effect.
Giant garter snake	<i>Thamnophis gigas</i>	FT/ST/HCP	Agricultural wetlands and ricelands and other wetlands such as irrigation and drainage canals, low gradient streams, marshes ponds, sloughs, small lakes, and their associated uplands located east of Highway 113 and Interstate 5.	A	Per the HCP/NCCP, there is no suitable habitat for giant garter snake west of Highway 113 and Interstate 5 where the BSA is located. There is no suitable habitat within 500 feet of the BSA. No effect.

FISH					
Delta smelt	<i>Hypomesus transpacificus</i>	FT/SE	Sacramento-San Joaquin Delta. Seasonally in Suisun Bay, Carquinez Strait & San Pablo Bay.	A	The BSA is outside of this species known range. There is no suitable habitat within the BSA. No effect.
BIRDS					
Bank swallow	<i>Riparia riparia</i>	ST/HCP	Barren- gravel and sand bars land cover types in Planning Units 6, 7, 12, 14, or 17.	A	There is no suitable habitat present within or adjacent to the BSA.
Northern spotted owl	<i>Strix occidentalis caurina</i>	FT/ST	Forests characterized by dense canopy closure of mature and old-growth trees, abundant logs, standing snags, and live trees with broken tops.	A	There is no suitable habitat present within or adjacent to the BSA. No effect.
Swainson's hawk	<i>Buteo swainsoni</i>	ST/HCP	Open grasslands, shrublands and agricultural fields, often near riparian forests.	HP	There is suitable nesting and foraging habitat within the BSA.
Tricolored blackbird	<i>Agelaius tricolor</i>	ST/HCP	Colonial nester in large freshwater marshes. Requires open, accessible water source and does most of its foraging in open habitats such as farm fields, pastures, cattle pens, large lawns.	A	The BSA is located within what is modeled as tricolored blackbird habitat by the Yolo HCP/NCCP; however, there is no open, accessible water source present during the breeding period, which is a steadfast habitat requirement for this species (CDFW 2018).
White-tailed kite	<i>Elanus leucurus</i>	FP/HCP	Rolling foothills and valley margins with scattered oaks and river bottomlands or marshes often next to deciduous woodlands.	HP	There are suitable nesting trees and foraging habitat within the BSA.
MAMMALS					
Western red bat	<i>Lasiurus blossevillii</i>	SSC	Roosts primarily in trees, 2-40 ft above ground, from sea level up through mixed conifer forests. Prefers habitat edges and mosaics with trees that are protected from above and open below with open areas for foraging.	HP	There is suitable roosting and foraging habitat within the BSA.

Absent [A] - no habitat present and no further work needed. Habitat Present [HP] -habitat is, or may be present. Present [P] - the species is present. Critical Habitat [CH] - project footprint is located within a designated critical habitat unit, but does not necessarily mean that appropriate habitat is present. Status: Federal Endangered (FE); Federal Threatened (FT); Federal Proposed (FP, FPE, FPT); Federal Candidate (FC), Federal Species of Concern (FSC); State Endangered (SE); State Threatened (ST); Fully Protected (FP); State Candidate (SC); State Rare (SR); State Species of Special Concern (SSC); California Native Plant Society (CNPS) California Rare Plant Rank (CRPR) 1B = Rare or Endangered in California or elsewhere; CRPR 2 = Rare or Endangered in California, more common elsewhere; CRPR 3 = More information is needed; CRPR 4 = Plants with limited distribution; 0.1=Seriously Threatened; 0.2= Fairly Threatened; 0.3= Not very Threatened; Covered under the Yolo Habitat Conservation Plan/Natural Community Conservation Plan (Yolo HCP/NCCP).

Chapter 4 – Results: Biological Resources, Discussion of Impacts and Mitigation

Waters of the United States

A delineation of WOTUS was performed for the entire project (**Appendix D: Draft Delineation of Waters of the US Map**). Project impacts to potentially jurisdictional WOTUS were determined by overlaying the project plans over the delineation map. **Figure 6** depicts the anticipated impacts to WOTUS. There will be 0.019 acres of permanent impacts to Hamilton Creek, a jurisdictional intermittent drainage. No impacts to wetlands as currently defined by the Clean Water Act will occur. Mitigation for impacts to jurisdictional WOTUS will be addressed through the purchase of credits at a Corps-approved mitigation bank or payment to a Corps-approved in-lieu fund.

Habitats and Natural Communities of Special Concern

All land cover types that occur within the BSA, require mitigation fees for impacts. In this section, only land cover types designated as Sensitive Natural Communities by the Yolo HCP/NCCP are discussed.

Riverine

The Riverine land cover type is identified as a SNC by the Yolo HCP/NCCP and is defined as the open water portions of rivers and streams. Within the BSA, Hamilton Creek provides Riverine habitat. Hamilton Creek is a naturally occurring, intermittent stream. The section of Hamilton Creek that flows through the BSA is highly channelized.

Perennially aquatic natural communities usually support fish, which may affect suitability for invertebrates, amphibians, and some reptiles. Turbidity, water temperature, and oxygen content affect the quality of habitat for many plant and animal species, including covered species. The concentration and characteristics of the particles that cause turbidity within the water column affect the quantity and quality of light penetration, which affects plant and algal growth rates. Water temperature varies by season and depth within the water column. Riverine habitat also provides food for waterfowl, herons (*Ardeidae* sp.), and many species of insectivorous birds, hawks, and their prey.

Survey Results

Hamilton Creek provides Riverine SNC within the BSA.

Impacts to Jurisdictional Waters								
Permanent Impacts to Other Waters								
Label	Cowardin	Description	Location (Lat/Long)		Width (ft)*	Length (ft)	Area (sq ft)	Acres
OW01	R4	Intermittent	38.831794	-122.20341	26.6	26.1	695.6	0.016
OW01	R4	Intermittent	38.831822	-122.20332	1.8	36.0	63.1	0.001
OW01	R4	Intermittent	38.831706	-122.20337	0.9	84.4	77.5	0.002
Permanent Impacts to Other Waters Totals =						84.4	836.2	0.019

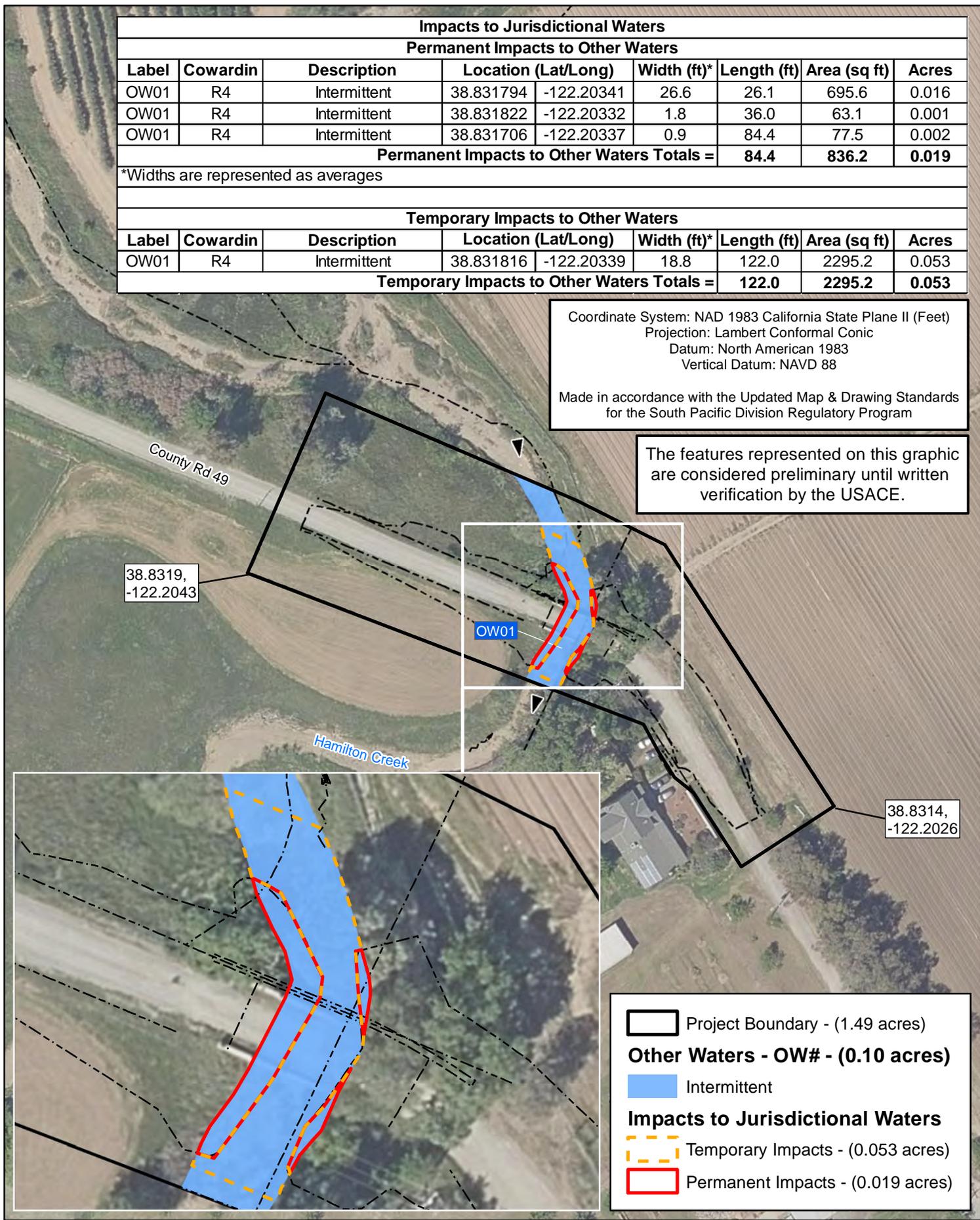
*Widths are represented as averages

Temporary Impacts to Other Waters								
Label	Cowardin	Description	Location (Lat/Long)		Width (ft)*	Length (ft)	Area (sq ft)	Acres
OW01	R4	Intermittent	38.831816	-122.20339	18.8	122.0	2295.2	0.053
Temporary Impacts to Other Waters Totals =						122.0	2295.2	0.053

Coordinate System: NAD 1983 California State Plane II (Feet)
 Projection: Lambert Conformal Conic
 Datum: North American 1983
 Vertical Datum: NAVD 88

Made in accordance with the Updated Map & Drawing Standards for the South Pacific Division Regulatory Program

The features represented on this graphic are considered preliminary until written verification by the USACE.



	Project Boundary - (1.49 acres)
Other Waters - OW# - (0.10 acres)	
	Intermittent
Impacts to Jurisdictional Waters	
	Temporary Impacts - (0.053 acres)
	Permanent Impacts - (0.019 acres)

1:1,200
 0 50 100 Feet
 Data Sources: ESRI, County of Yolo, Yolo County 04/13/2018

County Road 49 Over Hamilton Creek
 Impacts to Waters of the U.S.
 Figure 6

Project Impacts

The proposed project is anticipated to permanently impact approximately 0.019 acres of Riverine SNC with the placement of bridge abutments and rock slope protection (RSP). The project will temporarily impact 0.053 acres of Riverine SNC due to construction occurring within the channel, including the construction of a temporary water crossing to the north of the existing bridge that will be utilized during construction and removed following the completion of construction. Avoidance and minimization measures will be implemented to ensure effects are minimized.

Avoidance and Minimization Efforts

Avoidance and minimization measures (AMMs) for Sensitive Natural Communities are designated by the HCP/NCCP.

AMM1, Establish Buffers. Project proponents will design projects to avoid and minimize direct and indirect effects of permanent development on the sensitive natural communities and covered species habitat by providing buffers, as stipulated in the relevant sensitive natural community AMMs and covered species AMMs. On lands owned by the project proponent, the project proponent will establish a conservation easement, consistent with Yolo HCP/NCCP Section 6.4.1.3, Land Protection Mechanisms, to protect the buffer permanently if that land is being offered in lieu of development fees, as described in Yolo HCP/NCCP Section 4.2.2.6, Item 6: HCP/NCCP Fees or Equivalent Mitigation. The project proponent will design buffer zones adjacent to permanent residential development projects to control access by humans and pets (AMM2, Design Developments to Minimize Indirect Effects at Urban-Habitat Interfaces).

Where existing development is already within the stipulated buffer distance (i.e., existing uses prevent establishment of the full buffer), the development will not encroach farther into the space between the development and the sensitive natural community.

This AMM does not apply to seasonal construction buffers for covered species, which are detailed for each species in Yolo HCP/NCCP Section 4.3.4, Covered Species.

A lesser buffer than is stipulated in the AMMs may be approved by the Conservancy, USFWS, and CDFW if they determine that the sensitive natural community or covered species is avoided to an extent that is consistent with the project purpose (e.g., if the purpose of the project is to provide a stream crossing or replace a bridge, the project may encroach into the buffer and the natural community or species habitat to the extent that is necessary to fulfill the project purpose).

AMM9, Establish Buffers around Sensitive Natural Communities

Lacustrine and riverine: Outside urban planning units, 100 feet from the top of banks (defined as the area within which water is contained in a channel). Within urban planning units, 25 feet from the top of the banks. If avoidance is infeasible, a lesser buffer or encroachment into the sensitive natural community may be allowed if approved by the Conservancy and the wildlife agencies, based on the criteria listed in AMM1. Transportation or utility crossings may encroach into this sensitive natural community provided effects are minimized and all other applicable AMMs are followed.

AMM10, Avoid and Minimize Effects on Wetlands and Waters. Project proponents will comply with stormwater management plans that regulate development as part of compliance with regulations under National Pollutant Discharge Elimination System (NPDES) permit requirements. Covered activities that result in any fill of waters or wetlands will also comply with requirements under Section 404 of the Clean Water Act, State Water Resources Control Board (State Board), Fish and Game Code Section 1602, and Regional Board regulations. Other than requirements for buffers, minimizing project footprint, and species-specific measures for wetland-dependent covered species, this HCP/NCCP does not include specific best management practices (BMPs) for protecting wetlands and waters because they may conflict with measures required by the Corps, State Board, Regional Board, and CDFW.

Cumulative Impacts

There are no current or planned projects that will have cumulative effects on Riverine habitat within the project BSA.

Compensatory Mitigation

Impacts to 0.019 acres of Riverine land cover type will be mitigated for in accordance with the Yolo HCP/NCCP (**Appendix E: Yolo HCP/NCCP Application Form 4**). Additionally, mitigation for impacts to jurisdictional WOTUS will be addressed through the purchase of credits at a Corps-approved mitigation bank or payment to a Corps-approved in-lieu fund.

Valley Foothill Riparian

The Valley Foothill Riparian Natural Community includes the Great Valley Oak Riparian land cover type and is identified as a SNC by the Yolo HCP/NCCP. The BSA contains Great Valley Oak Riparian land cover type along the banks of Hamilton Creek. The Valley Foothill Riparian SNC consists of a multilayered woodland plant community with a tree overstory and diverse shrub layer. Canopy species typically include mature valley oak, Fremont cottonwood (*Populus fremontii*), ash (*Fraxinus* sp.), and willows (*Salix* spp.). In

a mature riparian forest, canopy heights reach approximately 100 feet, and canopy cover ranges from 20 to 80 percent. Elderberry (*Sambucus* spp.), California rose (*Rosa californica*), poison oak (*Toxicodendron diversilobum*), and blackberry (*Rubus* sp.) may form dense thickets in the understory of mature riparian forests. California grape (*Vitis californica*) creates a dense network of vines in the canopy. In areas that are disturbed by frequent flooding, fire, or human activity, this natural community often consists of smaller trees, more shrubs, and more invasive nonnative species.

The Valley Foothill Riparian SNC supports a diversity of plant and animal species and a variety of specialized plant and animal species that are restricted to this natural community for all or important parts of their life cycle. It provides nesting habitat and cover for many wildlife species. It also provides continuous corridors and isolated matrix stopover habitat that facilitates movement between habitat areas for many wildlife species. Riparian natural communities are the most productive among California's natural communities because they receive abundant water during the hot, dry summers of California's Mediterranean climate.

Some of the common wildlife species found in the Valley Foothill Riparian SNC include the red-shouldered hawk (*Buteo lineatus*), downy woodpecker (*Picoides pubescens*), bushtit (*Psaltriparus minimus*), oak titmouse (*Baeolophus inornatus*), and various rodents.

Survey Results

There is 0.123 acres of Great Valley Oak Riparian land cover type within the Valley Foothill Riparian SNC that occurs within the BSA in association with Hamilton Creek.

Project Impacts

There will be permanent impacts to 0.06 acres of Great Valley Oak Riparian land cover type within the BSA. Impacts to this land cover type will be mitigated for in accordance with the Yolo HCP/NCCP and avoidance and minimization measures will be implemented to ensure effects are minimized.

Avoidance and Minimization Efforts

AMM8, Avoid and Minimize Effects of Construction Staging Areas and Temporary Work Areas. Project proponents should locate construction staging and other temporary work areas for covered activities in areas that will ultimately be a part of the permanent project development footprint. If construction staging and other temporary work areas must be located outside of permanent project footprints, they will be located either in areas that do not support habitat for covered species or are easily restored to prior or improved ecological functions (e.g., grassland and agricultural land). Construction

staging and other temporary work areas located outside of project footprints will be sited in areas that avoid adverse effects on the valley foothill riparian land cover type.

Project proponents will follow specific AMMs for sensitive natural communities (Section 4.3.3, Sensitive Natural Communities) and covered species (Section 4.3.4, Covered Species) in temporary staging and work areas. For establishment of temporary work areas outside of the project footprint, project proponents will conduct surveys to determine if any of the biological resources listed above are present.

Within one year following removal of land cover, project proponents will restore temporary work and staging areas to a condition equal to or greater than the covered species habitat function of the affected habitat.

Restoration of vegetation in temporary work and staging areas will use clean, native seed mixes approved by the Conservancy.

AMM9, Establish Buffers around Sensitive Natural Communities

Valley Foothill Riparian: One hundred feet from canopy dripline. If avoidance is infeasible, a lesser buffer or encroachment into the sensitive natural community may be allowed if approved by the Conservancy and the wildlife agencies, based on the criteria listed in AMM1. Transportation or utility crossings may encroach into this sensitive natural community provided effects are minimized and all other applicable AMMs are followed.

Cumulative Impacts

There are no current or planned projects that will have cumulative effects on Valley Foothill Riparian SNC within the project BSA.

Compensatory Mitigation

Impacts to 0.06 acres of Great Valley Oak Riparian land cover type within the Valley Foothill Riparian SNC will be mitigated for in accordance with the Yolo HCP/NCCP (**Appendix E: Yolo HCP/NCCP Application Form 4**).

Special Status Plant Species

There is no potential for special-status plant species to occur within the BSA. All plant species from the federal and state species lists and the Yolo HCP/NCCP do not have potential to occur within the BSA due to lack of suitable habitat elements. No special-status plant species were observed during the protocol-level rare plant survey and no further botanical surveys are recommended.

Special Status Animal Species Occurrences

There is suitable habitat within the BSA for valley elderberry longhorn beetle (VELB), Swainson’s hawk, white-tailed kite, western red bat, and migratory birds and raptors protected under the Migratory Bird Treaty Act (MBTA) and California Fish and Game Code (CFG). There is Yolo HCP/NCCP modeled habitat for tricolored blackbird within the BSA.

Valley Elderberry Longhorn Beetle (VELB)

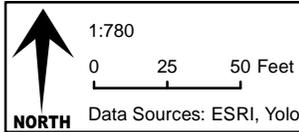
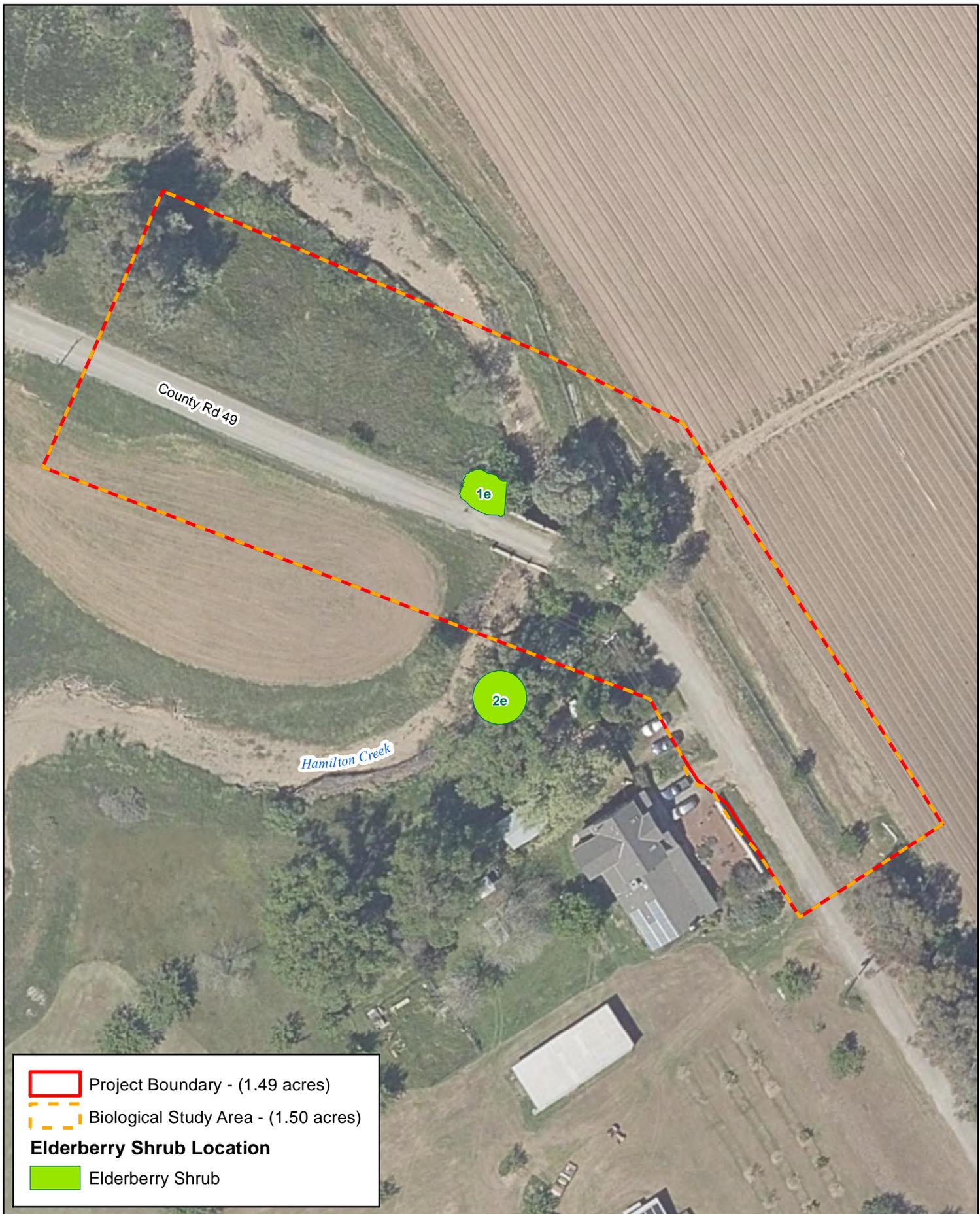
The VELB is listed as threatened under the federal ESA and is a covered species under the Yolo HCP/NCCP. The VELB is a small (0.5 - 0.8 inch long) wood-boring beetle that is endemic to the Central Valley of California. The beetle is found only in association with its host plant, elderberry. Adults feed on the foliage and flowers of elderberry shrubs and are present from March through early June. During this period the beetles mate and females lay eggs on living elderberry plants. The first instar larvae bore to the center of elderberry stems where they feed on the pith of the plant for one to two years as they develop. Prior to forming their pupae, the elderberry wood-boring larvae chew through the bark and then plug the holes with wood shavings. In the pupal chamber, the larvae metamorphose into their pupae and then into adults where upon they emerge between mid-March through June (Barr 1991). Current threats to VELB consist primarily of riparian habitat destruction which causes extirpation, fragmentation, and isolation of beetle populations (Barr 1991).

Survey Results

Two (2) blue elderberry (*Sambucus cerulea*) shrubs were identified within and adjacent to the BSA during the planning-level survey. Both shrubs are located on the banks of Hamilton Creek: one shrub along the north side of CR 49 (1e) and one shrub approximately 12 feet south of the BSA (2e). The protocol-level survey consisted of quantifying the number of elderberry stems that will be impacted and the presence of exit holes. **Table 2** provides the results of the VELB survey and **Figure 7** depicts the location of the elderberry shrubs.

Table 2. Number of elderberry stems and presence of exit holes

Elderberry Shrub	Location	Exit Holes	Stems (maximum diameter at ground level)	# of Stems
1e	Riparian	Yes	Stems > = 1" & < 3"	24
			Stems > = 3" & < 5"	3
			Stems > = 5"	1
2e	Riparian	Stem and exit hole count was not conducted due to lack of access to adjacent parcel.		



County Road 49 Over Hamilton Creek
 Elderberry Shrub Location Map
 Figure 7

Project Impacts

One (1) elderberry shrub (shrub 1e) is located within the area of permanent impact within the BSA, thus there is potential for impacts to VELB.

It is anticipated that shrub 1e will be transplanted per the AMM12 of the Yolo HCP/NCCP. Due to the location of shrub 2e, transplantedation will not be feasible. Shrub 2e is located approximately 12 feet south of the southern edge of the BSA and therefore the 100-foot minimum buffer will not be enforceable (**Figure 7**). Per AMM1, the project purpose of bridge replacement allows for the encroachment into a resource protection buffer to the extent that is necessary to fulfill the project purpose. Impacts to shrub 2e will be avoided by placing orange barrier fencing around the shrub and establishing a no-work area.

Avoidance and minimization measures addressing VELB, including guidance for elderberry shrub transplantedation, are designated by the Yolo HCP/NNCP. The project may affect but is not likely to adversely affect VELB.

Avoidance and Minimization Efforts

AMM12, Minimize Take and Adverse Effects on Habitat of Valley Elderberry Longhorn Beetle. The project proponent will retain a qualified biologist who is familiar with VELB and evidence of its presence (i.e. exit holes in elderberry shrubs) to map all elderberry shrubs in and within 100 feet of the project footprint with stems that are greater than 1 inch in diameter at ground level. To fully avoid take of VELB, the project proponent will maintain a buffer of at least 100 feet from any elderberry shrubs with stems greater than 1 inch in diameter at ground level. *AMM1, Establish Buffers,* above, describes circumstances in which a lesser buffer may be applied. For elderberry shrubs that cannot be avoided with a designated buffer distance as described above, the qualified biologist will quantify the number of stems 1 inch or greater in diameter to be affected, and the presence or absence of exit holes. The conservancy will use this information to determine the number of plants or cuttings to plant on a riparian restoration site to help offset the loss, consistent with Yolo HCP/NCCP Section 6.4.2.4.1, *Valley Elderberry Longhorn Beetle.*

Additionally, prior to construction, the project proponent will transplant elderberry shrubs identified within the project footprint that cannot be avoided.

Transplantedation will only occur if a shrub cannot be avoided and, if indirectly affected, the indirect effects would otherwise result in the death of stems or the entire shrub. If the project proponent chooses, in coordination with a qualified biologist, not to transplant the shrub because the activity would not likely result in death of stems of the

shrub, then the qualified biologist will monitor the shrub annually for a five-year monitoring period. The monitoring period may be reduced with concurrence from the wildlife agencies if the latest research and best available information at the time indicates that a shorter monitoring period is warranted.

If death of stems at least 1 inch in diameter occurs within the monitoring period, and the qualified biologist determines that the shrub is sufficiently healthy to transplant, the project proponent will transplant the shrub as described in the following paragraph, in coordination with the qualified biologist. If the shrub dies during the monitoring period, or the qualified biologist determines that the shrub is no longer healthy enough to survive transplanting, then the Conservancy will offset the shrub loss consistent with the preceding paragraph.

The project proponent will transplant the shrubs into a location in the HCP/NCCP reserve system that has been approved by the Conservancy. Elderberry shrubs outside the project footprint but within the 100-foot buffer will not be transplanted.

Transplanting will follow the following measures:

1. Monitor: A qualified biologist will be on-site for the duration of the transplanting of the elderberry shrubs to ensure the effects on elderberry shrubs are minimized.
2. Timing: The project proponent will transplant elderberry plants when the plants are dormant, approximately November through the first two weeks of February, after they have lost their leaves. Transplanting during the non-growing season will reduce shock to the plant and increase transplantation success.
3. Transplantation procedure:
 - a. Cut the plant back three to six feet from the ground or to 50 percent of its height (whichever is taller) by removing branches and stems above this height. Replant the trunk and stems measuring one inch or greater in diameter. Remove leaves that remain on the plants.
 - b. Relocate plant to approved location in the reserve system, and replant as described in Yolo HCP/NCCP Section 6.4.2.4.1, *Valley Elderberry Longhorn Beetle*.

Cumulative Impacts

There are no current or planned projects that will have cumulative effects on VELB or VELB habitat within the project BSA.

Compensatory Mitigation

Impacts to 0.06 acres of Great Valley Oak Riparian land cover type, which is designated as VELB habitat by the Yolo HCP/NCCP, will be mitigated for in accordance with the Yolo HCP/NCCP (**Appendix D: Yolo HCP/NCCP Application Form 4**). Additionally, one (1) shrub (1e) will be transplanted as described in AMM 12.

Swainson's Hawk

Swainson's hawks are threatened in the State of California and are a covered species under the Yolo HCP/NCCP. They are found throughout the western part of the United States and from Canada to Mexico. Swainson's hawks are a fairly large, slender hawk with three different color morph displays. The most common morph in northern California is the dark morph which demonstrates black to dark brown under coverts and flight feathers. Suitable habitat includes open grasslands or agricultural fields that are adjacent to a riparian forest or oak woodland. Swainson's hawks primarily nest in riparian forests next to open fields that provide foraging opportunities. Nesting and courtship begin in April. Current threats facing the Swainson's hawk are loss of nesting and foraging habitat, change in agricultural regimes, pesticides, poaching and human disturbances (CDFW 1994).

Survey Results

There are suitable nesting trees and foraging habitat in the form of open agricultural fields within and adjacent to the BSA. There were no active Swainson's hawk nests observed during the biological evaluation; however, based on the size of the trees within the BSA there is potential for future nest establishment. There is one (1) CNDDDB occurrence (#2098) within 5 miles of BSA. The occurrence is approximately 1.5 miles north of the BSA and was recorded in 2007. There are no active (i.e., nesting activity observed within the last 5 years) Swainson's hawk nests within 10 miles of the BSA.

There is potential for Swainson's hawk to occur within the BSA due to the presence of suitable nesting and foraging habitat within and adjacent to the BSA.

Project Impacts

The project will impact 0.06 acres of Great Valley Oak Riparian land cover type that could potentially serve as Swainson's hawk nesting habitat and 0.111 acres of Annual Grassland land cover type that could potentially serve as Swainson's hawk foraging habitat as defined by the Yolo HCP/NCCP. The BSA contains Swainson's hawk foraging habitat and nest trees, which triggers avoidance and minimization measures per the Yolo HCP/NCCP. There will be no impacts to Swainson's hawk individuals with the implementation of avoidance and minimization measures.

Avoidance and Minimization Efforts for Swainson's Hawk and White-tailed Kite

The following are recommended avoidance and minimization measures for Swainson's hawk and white-tailed kite as specified by the Yolo HCP/NCCP:

AMM16, Minimize Take and Adverse Effects on Habitat of Swainson's Hawk and White-tailed Kite. The project proponent will retain a qualified biologist to conduct planning-level surveys and identify any nesting habitat present within 1,320 feet of the project footprint.

Adjacent parcels under different land ownership will be surveyed only if access is granted or if the parcels are visible from authorized areas.

If a construction project cannot avoid potential nest trees (as determined by the qualified biologist) by 1,320 feet, the project proponent will retain a qualified biologist to conduct preconstruction surveys for active nests consistent with guidelines provided by the Swainson's Hawk Technical Advisory Committee (2000), between March 15 and August 30, within 15 days prior to the beginning of the construction activity. The results of the survey will be submitted to the Conservancy and CDFW. If active nests are found during preconstruction surveys, a 1,320-foot initial temporary nest disturbance buffer shall be established. If project related activities within the temporary nest disturbance buffer are determined to be necessary during the nesting season, then the qualified biologist will monitor the nest and will, along with the project proponent, consult with CDFW to determine the best course of action necessary to avoid nest abandonment or take of individuals. Work may be allowed only to proceed within the temporary nest disturbance buffer if Swainson's hawk or white-tailed kite are not exhibiting agitated behavior, such as defensive flights at intruders, getting up from a brooding position, or flying off the nest, and only with the agreement of CDFW and USFWS. The designated on-site biologist/monitor shall be on-site daily while construction-related activities are taking place within the 1,320-foot buffer and shall have the authority to stop work if raptors are exhibiting agitated behavior. Up to 20 Swainson's hawk nest trees (documented nesting within the last 5 years) may be removed during the permit term, but they must be removed when not occupied by Swainson's hawks.

For covered activities that involve pruning or removal of a potential Swainson's hawk or white-tailed kite nest tree, the project proponent will conduct preconstruction surveys that are consistent with the guidelines provided by the Swainson's Hawk Technical Advisory Committee (2000). If active nests are found during preconstruction surveys, no tree pruning or removal of the nest tree will occur during the period between March 1 and August 30 within 1,320 feet of an active nest, unless a qualified biologist determines that the young have fledged and the nest is no longer active.

Cumulative Impacts

There are no current or planned projects that will have cumulative effects on Swainson's hawk or Swainson's hawk foraging habitat within the project BSA.

Compensatory Mitigation

The project is proposed to impact 0.06 acres of Great Valley Oak Riparian land cover type that could potentially serve as Swainson's hawk nesting habitat and 0.111 acres of Annual Grassland land cover type that could potentially serve as Swainson's hawk foraging habitat. Impacts to Swainson's hawk suitable habitat land cover types will be mitigated for in accordance with the Yolo HCP/NCCP (**Appendix E: Yolo HCP/NCCP Application Form 4**).

White-tailed Kite

The white-tailed kite (*Elanus leucurus*) was listed as Fully Protected by the State of California in 1957. White-tailed kites are also protected under the MBTA (16 USC §703) and CFGC §3503, and are a covered species under the Yolo HCP/NCCP. They are yearlong residents in coastal and valley lowlands; frequently found near agricultural areas. White-tailed kites also inhabit herbaceous and open stages of most habitats in cismontane California. They forage in undisturbed, open grasslands, meadows, farmlands, and emergent wetlands; however, they will rarely dive into tall cover. They use a variety of tree species to perch and roost, preferring to place their nests near tops of dense oak, willow, or other tree stands. Nests are usually located near an open foraging area that supports dense vole populations.

Survey Results

Despite the presence of Yolo HCP/NCCP modeled habitat within the BSA, there are no CNDDDB occurrences of white-tailed kite within 25 miles of the BSA. There is suitable nesting and foraging habitat present within and adjacent to the BSA. There are large trees that line CR 49 and Hamilton Creek that provide suitable nesting habitat. Dryland grain crops and annual grasslands provide foraging habitat. There were no active white-tailed kite nests observed during the biological evaluation; however, based on the presence of suitable trees within the BSA, there is potential for future nest establishment.

Project Impacts

The project will impact 0.06 acres of Great Valley Oak Riparian land cover type that could potentially serve as white-tailed kite nesting habitat and 0.111 acres of Annual Grassland land cover type that could potentially serve as white-tailed kite foraging habitat as defined by the Yolo HCP/NCCP. The BSA contains white-tailed kite foraging

habitat and nest trees, which triggers avoidance and minimization measures per the Yolo HCP/NCCP. There will be no impacts to white-tailed kite individuals with the implementation of avoidance and minimization measures.

Avoidance and Minimization Efforts for Swainson’s Hawk and White-tailed Kite

The following are recommended avoidance and minimization measures for Swainson’s hawk and white-tailed kite as specified by the Yolo HCP/NCCP:

AMM16, Minimize Take and Adverse Effects on Habitat of Swainson’s Hawk and White-tailed Kite. The project proponent will retain a qualified biologist to conduct planning-level surveys and identify any nesting habitat present within 1,320 feet of the project footprint.

Adjacent parcels under different land ownership will be surveyed only if access is granted or if the parcels are visible from authorized areas.

If a construction project cannot avoid potential nest trees (as determined by the qualified biologist) by 1,320 feet, the project proponent will retain a qualified biologist to conduct preconstruction surveys for active nests consistent with guidelines provided by the Swainson’s Hawk Technical Advisory Committee (2000), between March 15 and August 30, within 15 days prior to the beginning of the construction activity. The results of the survey will be submitted to the Conservancy and CDFW. If active nests are found during preconstruction surveys, a 1,320-foot initial temporary nest disturbance buffer shall be established. If project related activities within the temporary nest disturbance buffer are determined to be necessary during the nesting season, then the qualified biologist will monitor the nest and will, along with the project proponent, consult with CDFW to determine the best course of action necessary to avoid nest abandonment or take of individuals. Work may be allowed only to proceed within the temporary nest disturbance buffer if Swainson’s hawk or white-tailed kite are not exhibiting agitated behavior, such as defensive flights at intruders, getting up from a brooding position, or flying off the nest, and only with the agreement of CDFW and USFWS. The designated on-site biologist/monitor shall be on-site daily while construction-related activities are taking place within the 1,320-foot buffer and shall have the authority to stop work if raptors are exhibiting agitated behavior. Up to 20 Swainson’s hawk nest trees (documented nesting within the last 5 years) may be removed during the permit term, but they must be removed when not occupied by Swainson’s hawks.

For covered activities that involve pruning or removal of a potential Swainson’s hawk or white-tailed kite nest tree, the project proponent will conduct preconstruction surveys that are consistent with the guidelines provided by the Swainson’s Hawk Technical Advisory Committee (2000). If active nests are found during preconstruction surveys, no

tree pruning or removal of the nest tree will occur during the period between March 1 and August 30 within 1,320 feet of an active nest, unless a qualified biologist determines that the young have fledged and the nest is no longer active.

Cumulative Impacts

There are no current or planned projects that will have cumulative effects on white-tailed kite or white-tailed kite habitat within the project BSA.

Compensatory Mitigation

The project is proposed to impact 0.06 acres of Great Valley Oak Riparian land cover type that could potentially serve as white-tailed kite nesting habitat and 0.111 acres of Annual Grassland land cover type that could potentially serve as white-tailed kite foraging habitat. Impacts to white-tailed kite suitable habitat land cover types will be mitigated for in accordance with the Yolo HCP/NCCP (**Appendix D: Yolo HCP/NCCP Application Form 4**).

Tricolored Blackbird

Tricolored blackbirds are listed as threatened under the CESA, are also protected under the MBTA (16 USC §703) and CFGC §3503, and are a covered species under the Yolo HCP/NCCP. They range from southern Oregon through the Central Valley, and coastal regions of California into the northern part of Mexico. Tricolored blackbirds are medium-size birds with black plumage and distinctive red marginal coverts, bordered by whitish feathers. Tricolored blackbirds nest in large colonies within agricultural fields, marshes with thick herbaceous vegetation, or in clusters of large blackberry bushes near a source of water and suitable foraging habitat. They are nomadic migrators, so documenting occurrence at any location does not mean that they will necessarily return to that area. Current threats facing tricolored blackbird includes colonial breeding in regards to small population size, habitat loss, overexploitation, predation, contaminants, extreme weather events and drought, water availability, and climate change (CDFW 2018).

Survey Results

Although the BSA contains modeled habitat for tricolored blackbird according to the Yolo HCP/NCCP, the BSA lacks suitable habitat elements required to support this species. The BSA does not provide suitable habitat for tricolored blackbird as there is no open, accessible water source in the vicinity of the BSA during the tricolored blackbird breeding season (typically Mid-March through early August), which is a requirement for the species (CDFW 2018). Additionally, there are no CNDDDB occurrences within 12 miles of the BSA.

Project Impacts

There will be no impacts to tricolored blackbird as a result of the project.

Avoidance and Minimization Efforts

As the BSA does not contain suitable western tricolored blackbird breeding habitat, no AMMs are proposed.

Cumulative Impacts

There are no current or planned projects that will have cumulative effects on tricolored blackbird habitat within the project BSA.

Compensatory Mitigation

There will be no impacts to tricolored blackbird and no compensatory mitigation is proposed.

Western Red Bat

Western red bat is designated as a CDFW SSC. Western red bats are typically solitary, roosting primarily in the foliage of trees or shrubs. Day roosts are commonly in edge habitats adjacent to streams or open fields, in orchards, and sometimes in urban areas. There may be an association with intact riparian habitat (particularly willows, cottonwoods, and sycamores). Roost sites are generally hidden from view from all directions except below; lack obstruction beneath, allowing the bat to drop downward for flight; lack lower perches that would allow visibility by predators; have dark ground cover to minimize solar reflection; have nearby vegetation to reduce wind and dust; and are generally located on the south or southwest side of a tree. Red bats generally begin to forage one to two hours after sunset. Although some may forage all night, most typically have an initial foraging period corresponding to the early period of nocturnal insect activity, and a minor secondary activity period corresponding to insects that become active several hours before sunrise. Red bats mate in late summer or early fall. Females become pregnant in spring and have a pregnancy of 80-90 days. Females may have litters of up to five pups per year. This species is considered to be highly migratory. Although generally solitary, red bats appear to migrate in groups and forage in close association with one another in summer. The timing of migration and the summer ranges of males and females seem to be different. Winter behavior of this species is poorly understood (Western Bat Working Group 2020).

Survey Results

The riparian habitat associated with Hamilton Creek contains mature oaks that provide suitable roosting habitat for western red bats. There is one (1) CNDDB occurrence (#91) within five miles of the BSA. The occurrence is approximately 3 miles north of the BSA

and was recorded in 1954. The majority of bats are not recorded on the CNDDDB due to low detectability and widespread abundance.

Project Impacts

There will be no impacts to western red bat individuals with the implementation of avoidance and minimization measures.

Avoidance and Minimization Efforts

To minimize impacts to bat species protected by the CFGC the following are recommended avoidance and minimization measures:

- Mature trees should be removed and/or fallen between September 16 – March 15 outside of the bat maternity season. Trees should be removed at dusk to minimize impacts to roosting bats.
- If tree removal cannot be performed outside of the maternity season a qualified biologist shall conduct a preconstruction survey of suitable roosting habitat within seven (7) days prior to tree removal.
 - If bats are found, consult with CDFW.
 - If no bats are found tree removal can proceed.

Cumulative Impacts

There are no current or planned projects that will have cumulative effects on western red bat within the project BSA.

Compensatory Mitigation

As there will be no impacts to western red bats, no compensatory mitigation will be required.

Migratory Birds and Raptors

Nesting birds are protected under the MBTA (16 USC 703) and the CFGC (3503). The MBTA (16 USC §703) prohibits the killing of migratory birds or the destruction of their occupied nests and eggs except in accordance with regulations prescribed by the USFWS. The bird species covered by the MBTA includes nearly all of those that breed in North America, excluding introduced (i.e., exotic) species (50 Code of Federal Regulations §10.13). Activities that involve the removal of vegetation including trees, shrubs, grasses, and forbs or ground disturbance has the potential to affect bird species protected by the MBTA.

The CFGC (§3503.5) states that it is “unlawful to take, possess, or destroy any birds in the order Falconiformes (hawks, eagles, and falcons) or Strigiformes (owls) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by

this code or any regulation adopted pursuant thereto.” Take includes the disturbance of an active nest resulting in the abandonment or loss of young. The CFGC (§3503) also 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.”

Survey Results

There is suitable nesting habitat within the BSA for migratory birds and raptors protected under the MBTA and CFGC. There are suitable trees, shrubs, and structures that offer nesting habitat for a variety of avian species.

There is potential for a variety of migratory birds and raptors to occur within the BSA due to the presence of suitable nesting habitat.

Project Impacts

There will be no impacts to migratory birds and raptors with the implementation of avoidance and minimization measures.

Avoidance and Minimization Efforts

The following are recommended avoidance and minimization measures for migratory birds and raptors:

- Project activities and vegetation removal within the BSA shall be initiated outside of the bird nesting season (February 1 – August 31).
- If project activities and vegetation removal cannot be initiated outside of the bird nesting season than the following will occur:
 - A qualified biologist will conduct a pre-construction survey within 7 days prior to the initiation of project activities.
 - If an active avian nest (i.e., with egg[s] or young) is observed within 250 feet of the BSA during the pre-construction survey, then a species protection buffer will be established. The species protection buffer will be defined by the qualified biologist in consultation with CDFW. Construction activity shall be prohibited within the buffer zones until the young have fledged or the nest fails. Nests shall be monitored once per week and a report submitted to the lead agency weekly.

Cumulative Impacts

There are no current or planned projects that will have cumulative effects on migratory birds and raptors within the project BSA.

Compensatory Mitigation

As there will be no impacts to nesting migratory birds and raptors, no compensatory mitigation will be required.

Chapter 5 – Conclusions and Regulatory Determinations

Federal Endangered Species Act Consultation Summary

The USFWS and NMFS were consulted on May 28, 2020 for lists of endangered, threatened, sensitive, and rare species and their habitats with potential to occur within the BSA. The list was later referenced to determine appropriate biological and botanical surveys and potential species occurrence.

Essential Fish Habitat Consultation Summary

Capay Dam on Cache Creek, south of the BSA, is the upstream distributional limit of Chinook salmon (Yoshiyama et al. 2001). As there are no perennial drainages that could support anadromous fish species, there is no Essential Fish Habitat present within the BSA.

California Endangered Species Act Consultation Summary

The CDFW and CNPS were consulted on May 28, 2020 for lists of State endangered, threatened, sensitive, and rare species and their habitats with potential to occur within the BSA. The list was later referenced to determine appropriate biological and botanical surveys and potential species occurrence.

Wetlands and Other Waters Coordination Summary

A delineation of WOTUS was conducted by Gallaway Enterprises on May 29, 2020. The results of the delineation will be summarized in the *Draft Delineation of Waters of the United States* report, which will be submitted to the Corps as part of the permitting process (**Appendix D**).

There will be 0.019 acres of permanent impacts to Hamilton Creek, an intermittent tributary (**Figure 6: Anticipated Impacts to Waters of the U.S.**). The project will not impact wetlands as defined by the Clean Water Act. As there are jurisdictional waters that will be impacted by project activities, a CDFW §1602 Streambed Alteration Agreement, RWQCB §401 Water Quality Certification permit, and a Corps Nationwide §404 14 permit are necessary. Mitigation for impacts to jurisdictional WOTUS will be addressed through the purchase of credits at a Corps-approved mitigation bank or payment to a Corps-approved in-lieu fund.

Invasive Species

Many non-native plant species occur in California’s natural lands. Some of these non-natives have become naturalized and are relatively benign; however, there are a number of these non-natives that are considered highly invasive. The non-native plants that are considered invasive are tracked and ranked by their invasiveness by the United State Department of Agricultural (USDA) Natural Resource Conservation Service (NRCS) and the California Invasive Plant Council (Cal-IPC). Within the BSA, ten (10) invasive plant species were observed that are included on the USDA and/or Cal-IPC invasive and noxious weed plant list as having a moderate or higher degree of invasiveness in California (**Table 3**).

Table 3. Invasive Plant Species Identified within the CR 49 Over Hamilton Creek Bridge Replacement BSA

Scientific Name	Common Name	Cal-IPC Rating
<i>Avena fatua</i>	Wild oats	Moderate
<i>Bromus diandrus</i>	Rip-gut brome	Moderate
<i>Carduus pycnocephalus</i>	Italian thistle	Moderate
<i>Centaurea solstitialis</i>	Yellow star thistle	High
<i>Cynosurus echinatus</i>	Hedgehog dogtail	Moderate
<i>Festuca perennis</i>	Rye-grass	Moderate
<i>Hordeum murinum</i>	Wall hare barley	Moderate

It is recommended that general BMPs be implemented prior and during construction activities as recommended under the Cal-IPC *Preventing the Spread of Invasive Plants: Best Management Practices for Transportation and Utility Corridors* (2012). The following are the general BMPs recommended by Cal-IPC:

- Provide prevention training to staff and contractors prior to starting work.
- Schedule activities to minimize potential for introduction and spread of invasive plants.
- Designate specific areas for cleaning tools, vehicles, equipment, clothing, and gear.
- Plan travel routes to avoid areas infested with invasive plants.
- Clean tools, equipment, vehicles, and animals before transporting materials and before entering and leaving worksites.
- Clean clothing, footwear, and gear before leaving infested areas.
- Prepare worksites to limit the introduction and spread of invasive plants.
- Minimize soil and vegetation disturbance.

Chapter 6 – References

- Barr, C.B. 1991. The Distribution, Habitat, and Status of the Valley Elderberry Longhorn Beetle *Desmocerus californicus dimorphus* Fisher (Insecta: Coleoptera: Cerambycidae). U.S. Fish and Wildlife Service; Sacramento, California. 134 pp.
- California Department of Fish and Wildlife (CDFW) 2020 California Natural Diversity Database (CNDDDB), Rarefind version 5. United States Geological Survey (USGS) “Guinda” 7.5 minute quadrangle.
- California Department of Fish and Wildlife (CDFW). 1994. Staff Report Regarding Mitigation for Impacts to Swainson’s Hawks. CDFW. Sacramento, CA.
- CDFW. 2018. Report to the Fish and Game Commission: A Status Review of the Tricolored Blackbird (*Agelaius tricolor*) in California.
- Cal-IPC. 2012. Preventing the Spread of Invasive Plants: Best Management Practices for Transportation and Utility Corridors. Cal-IPC Publication 2012-01. California Invasive Plant Council, Berkeley, CA. Available at www.cal-ipc.org.
- Curtis, K.E., Lichvar, R., & Dixon, L. 2011. Ordinary High Flows and the Stage-Discharge Relationship in the Arid West Region. Wetland Regulatory Assistance Program, U.S. Army Corps of Engineers. Washington, D.C.
- Mayer, K.E and Laudenslayer, W.F. 1988. A guide to Wildlife Habitats of California. California Department of Forestry and Fire Protection. Sacramento, California.
- Moyle, P.B. 2002. Inland fishes of California. University of California Press, Berkeley, CA. 502 pp.
- Shuford, W. D., and Gardali, T., editors. 2008. California Bird Species of Special Concern: A ranked assessment of species, subspecies, and distinct populations of birds of immediate conservation concern in California. Studies of Western Birds 1. Western Field Ornithologists, Camarillo, California, and California Department of Fish and Game, Sacramento.
- USFWS. 2002. Recovery Plan for the California Red-legged Frog (*Rana aurora draytonii*). U.S. Fish and Wildlife Service, Portland, Oregon.
- Western Bat Working Group. 2021. Western Bat Species Accounts. <http://wbwg.org/western-bat-species/>

Western Regional Climate Center, Desert Research Institute. 2020. <http://www.wrcc.dri.edu>. Local Climate Summary for the Davis 2 WSW Exp Farm, California (042294) NOAA Cooperative Station.

Xerces Society for Invertebrate Conservation, Defenders of Wildlife, Center for Food Safety. 2018. A Petition to the State of California Fish and Game Commission to List the Crotch Bumble Bee (*Bombus crotchii*), Franklin's Bumble Bee (*Bombus franklini*), Suckley Cuckoo Bumble Bee (*Bombus suckleyi*), and Western Bumble Bee (*Bombus occidentalis occidentalis*) as Endangered under the California Endangered Species Act. The Xerces Society, Portland Oregon.

Yoshiyama, Ronald & Gerstung, Eric & Fisher, Frank & Moyle, Peter. 2001. Historical and Present Distribution of Chinook Salmon in the Central Valley Drainage of California. California Department of Fish and Game Fish Bulletin. 179.

Zeiner, D.C., W.F.Laudenslayer, Jr., K.E. Mayer, and M. White, eds. 1990. California's Wildlife. Vol. I-III. California Department of Fish and Game, Sacramento, California.

Appendix A – Species Lists



United States Department of the Interior



FISH AND WILDLIFE SERVICE
Sacramento Fish And Wildlife Office
Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846
Phone: (916) 414-6600 Fax: (916) 414-6713

In Reply Refer To:

January 06, 2021

Consultation Code: 08ESMF00-2021-SLI-0681

Event Code: 08ESMF00-2021-E-01965

Project Name: CR 49 Over Hamilton Creek Bridge Replacement Project

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, under the jurisdiction of the U.S. Fish and Wildlife Service (Service) that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the Service under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

Please follow the link below to see if your proposed project has the potential to affect other species or their habitats under the jurisdiction of the National Marine Fisheries Service:

http://www.nwr.noaa.gov/protected_species/species_list/species_lists.html

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to

utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

<http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF>

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (<http://www.fws.gov/windenergy/>) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at:

<http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm>;

<http://www.towerkill.com>; and

www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

<http://>

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
-

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Sacramento Fish And Wildlife Office

Federal Building

2800 Cottage Way, Room W-2605

Sacramento, CA 95825-1846

(916) 414-6600

Project Summary

Consultation Code: 08ESMF00-2021-SLI-0681

Event Code: 08ESMF00-2021-E-01965

Project Name: CR 49 Over Hamilton Creek Bridge Replacement Project

Project Type: BRIDGE CONSTRUCTION / MAINTENANCE

Project Description: bridge replacement

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@38.831762499999996,-122.20355634206445,14z>



Counties: Yolo County, California

Endangered Species Act Species

There is a total of 6 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

1. [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.

Birds

NAME	STATUS
Northern Spotted Owl <i>Strix occidentalis caurina</i> There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/1123	Threatened

Reptiles

NAME	STATUS
Giant Garter Snake <i>Thamnophis gigas</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4482	Threatened

Amphibians

NAME	STATUS
California Red-legged Frog <i>Rana draytonii</i> There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/2891	Threatened

Fishes

NAME	STATUS
Delta Smelt <i>Hypomesus transpacificus</i> There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/321	Threatened

Crustaceans

NAME	STATUS
Vernal Pool Fairy Shrimp <i>Branchinecta lynchi</i> There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/498	Threatened
Vernal Pool Tadpole Shrimp <i>Lepidurus packardii</i> There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/2246	Endangered

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

From: [Samantha Morford](#)
To: ["nmfswcrca.specieslist@noaa.gov"](mailto:nmfswcrca.specieslist@noaa.gov)
Subject: Bridge Replacement on County Road 49 Over Hamilton Creek
Date: Wednesday, August 05, 2020 9:04:00 AM

Quad Name **Guinda**

Quad Number **38122-G2**

ESA Anadromous Fish

SONCC Coho ESU (T) -
CCC Coho ESU (E) -
CC Chinook Salmon ESU (T) -
CVSR Chinook Salmon ESU (T) -
SRWR Chinook Salmon ESU (E) -
NC Steelhead DPS (T) -
CCC Steelhead DPS (T) -
SCCC Steelhead DPS (T) -
SC Steelhead DPS (E) -
CCV Steelhead DPS (T) -
Eulachon (T) -
sDPS Green Sturgeon (T) -

ESA Anadromous Fish Critical Habitat

SONCC Coho Critical Habitat -
CCC Coho Critical Habitat -
CC Chinook Salmon Critical Habitat -
CVSR Chinook Salmon Critical Habitat -
SRWR Chinook Salmon Critical Habitat -
NC Steelhead Critical Habitat -
CCC Steelhead Critical Habitat -
SCCC Steelhead Critical Habitat -
SC Steelhead Critical Habitat -
CCV Steelhead Critical Habitat -
Eulachon Critical Habitat -
sDPS Green Sturgeon Critical Habitat -

ESA Marine Invertebrates

Range Black Abalone (E) -
Range White Abalone (E) -

ESA Marine Invertebrates Critical Habitat

Black Abalone Critical Habitat -

ESA Sea Turtles

East Pacific Green Sea Turtle (T) -
Olive Ridley Sea Turtle (T/E) -

Leatherback Sea Turtle (E) -
North Pacific Loggerhead Sea Turtle (E) -

ESA Whales

Blue Whale (E) -
Fin Whale (E) -
Humpback Whale (E) -
Southern Resident Killer Whale (E) -
North Pacific Right Whale (E) -
Sei Whale (E) -
Sperm Whale (E) -

ESA Pinnipeds

Guadalupe Fur Seal (T) -
Steller Sea Lion Critical Habitat -

Essential Fish Habitat

Coho EFH -
Chinook Salmon EFH - **X**
Groundfish EFH -
Coastal Pelagics EFH -
Highly Migratory Species EFH -

MMPA Species (See list at left)

ESA and MMPA Cetaceans/Pinnipeds

**See list at left and consult the NMFS Long Beach office
562-980-4000**

MMPA Cetaceans -
MMPA Pinnipeds -

Samantha Morford

Biologist
Gallaway Enterprises, Inc.
117 Meyers Street, Suite 120
Chico, CA 95928
(530) 332-9909 office
(530) 332-9905 fax

www.gallawayenterprises.com

A DBE certified business dedicated to exceptional client services.



Selected Elements by Common Name
California Department of Fish and Wildlife
California Natural Diversity Database



Query Criteria: QuadIS (Guinda (3812272))

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
bank swallow <i>Riparia riparia</i>	ABPAU08010	None	Threatened	G5	S2	
Crotch bumble bee <i>Bombus crotchii</i>	IIHYM24480	None	Candidate Endangered	G3G4	S1S2	
Keck's checkerbloom <i>Sidalcea keckii</i>	PDMAL110D0	Endangered	None	G2	S2	1B.1
Swainson's hawk <i>Buteo swainsoni</i>	ABNKC19070	None	Threatened	G5	S3	
valley elderberry longhorn beetle <i>Desmocerus californicus dimorphus</i>	IICOL48011	Threatened	None	G3T2	S3	
western red bat <i>Lasiurus blossevillei</i>	AMACC05060	None	None	G5	S3	SSC

Record Count: 6

*The database used to provide updates to the Online Inventory is under construction. [View updates and changes made since May 2019 here.](#)

Plant List

2 matches found. *Click on scientific name for details*

Search Criteria

Found in Quad 3812272

[Modify Search Criteria](#) [Export to Excel](#) [Modify Columns](#) [Modify Sort](#) [Display Photos](#)

Scientific Name	Common Name	Family	Lifeform	Blooming Period	CA Rare Plant Rank	State Rank	Global Rank
Harmonia nutans	nodding harmonia	Asteraceae	annual herb	Mar-May	4.3	S3	G3
Malacothamnus helleri	Heller's bush-mallow	Malvaceae	perennial deciduous shrub	May-Jul	3.3	S3	G3Q

Suggested Citation

California Native Plant Society, Rare Plant Program. 2020. Inventory of Rare and Endangered Plants of California (online edition, v8-03 0.39). Website <http://www.rareplants.cnps.org> [accessed 10 December 2020].

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Contributors

[The Calflora Database](#)
[The California Lichen Society](#)
[California Natural Diversity Database](#)
[The Jepson Flora Project](#)
[The Consortium of California Herbaria](#)
[CalPhotos](#)

Questions and Comments

rareplants@cnps.org

Appendix B – Observed Species List

Plant Species Observed within the Hamilton Creek BSA on May 29, 2020

Scientific Name	Common Name
<i>Aesculus californica</i>	California buckeye
<i>Amsinkia intermedia</i>	Common fiddleneck
<i>Artemisia douglasiana</i>	California mugwort
<i>Avena fatua</i>	Wild oats
<i>Baccharis salicifolia</i> ssp. <i>salicifolia</i>	Mule's-fat
<i>Bromus diandrus</i>	Rip-gut brome
<i>Carduus pycnocephalus</i>	Italian thistle
<i>Centaurea solstitialis</i>	Yellow star thistle
<i>Convolvulus arvensis</i>	Bindweed
<i>Cynosurus echinatus</i>	Hedgehog dogtail
<i>Erodium botrys</i>	Long-beaked stork's-bill
<i>Festuca perennis</i>	Rye-grass
<i>Galium parisiense</i>	Wall bedstraw
<i>Hordeum marinum</i> ssp. <i>gussoneanum</i>	Mediterranean barley
<i>Hordeum murinum</i>	Wall hare barley
<i>Juglans hindsii</i>	Black walnut
<i>Kickxia elatine</i>	Sharp-leaved fluellin
<i>Lactuca serriola</i>	Prickly lettuce
<i>Marrubium vulgare</i>	Horehound
<i>Medicago praecox</i>	Mediterranean bur-clover
<i>Olea europaea</i>	Olive
<i>Phyla nodiflora</i>	Common lippia
<i>Pinus sabiniana</i>	Gray pine
<i>Plantago lanceolata</i>	English plantain
<i>Populus fremontii</i>	Fremont's cottonwood
<i>Prunus dulcis</i>	Almond
<i>Quercus lobata</i>	Valley oak
<i>Rumex crispus</i>	Curly dock
<i>Sambucus nigra</i> ssp. <i>caerulea</i>	Blue elderberry
<i>Silene gallica</i>	Common catchfly
<i>Sisymbrium officinale</i>	Hedge mustard
<i>Trifolium glomeratum</i>	Sessile-headed clover
<i>Trifolium hirtum</i>	Rose clover
<i>Vicia villosa</i>	Winter vetch
<i>Vinca</i> sp.	Periwinkle
<i>Vitis californica</i>	Wild grape
<i>Xanthium strumarium</i>	Rough cocklebur

Wildlife Species Observed within the Hamilton Creek BSA on May 29, 2020

Scientific Name	Common Name
<i>Aphelocoma californica</i>	California scrub-jay
<i>Baeolophus inornatus</i>	Oak titmouse
<i>Buteo lineatus</i>	Red-shouldered hawk

Scientific Name	Common Name
<i>Callipepla californica</i>	California quail
<i>Calypte anna</i>	Anna's hummingbird
<i>Cathartes aura</i>	Turkey vulture
<i>Charadrius vociferus</i>	Killdeer
<i>Dryobates nuttallii</i>	Nuttall's woodpecker
<i>Melanerpes formicivorus</i>	Acorn woodpecker
<i>Mimus polyglottos</i>	Northern mockingbird
<i>Odocoileus hemionus columbianus</i>	Columbian black-tailed deer
<i>Otospermophilus beecheyi</i>	California ground squirrel
<i>Sceloporus occidentalis</i>	Western fence lizard
<i>Streptopelia decaocto</i>	Eurasian collared-dove
<i>Sturnus vulgaris</i>	European starling
<i>Thryomanes bewickii</i>	Bewick's wren
<i>Zenaida macroura</i>	Mourning dove

Appendix C – Project Site Photos

Taken May 29, 2020



Overview of Hamilton Creek, looking southwest.



Overview of Hamilton Creek, looking southeast.



Overview of Hamilton Creek and current bridge, looking southeast.



Overview of BSA, looking slightly southeast.



Overview of BSA, looking southeast.

Appendix D – Draft Delineation of Waters of the U.S. Map

Draft Delineation of Waters of the U.S.

Other Waters

Label	Cowardin	Description	Location (Lat/Long)		Width (ft)*	Length (ft)	Area (sq ft)	Acres
OW01	R4	Intermittent	38.831851	-122.20341	23.0	186.5	4289.7	0.10
Other Waters Totals =						186.5	4289.7	0.10

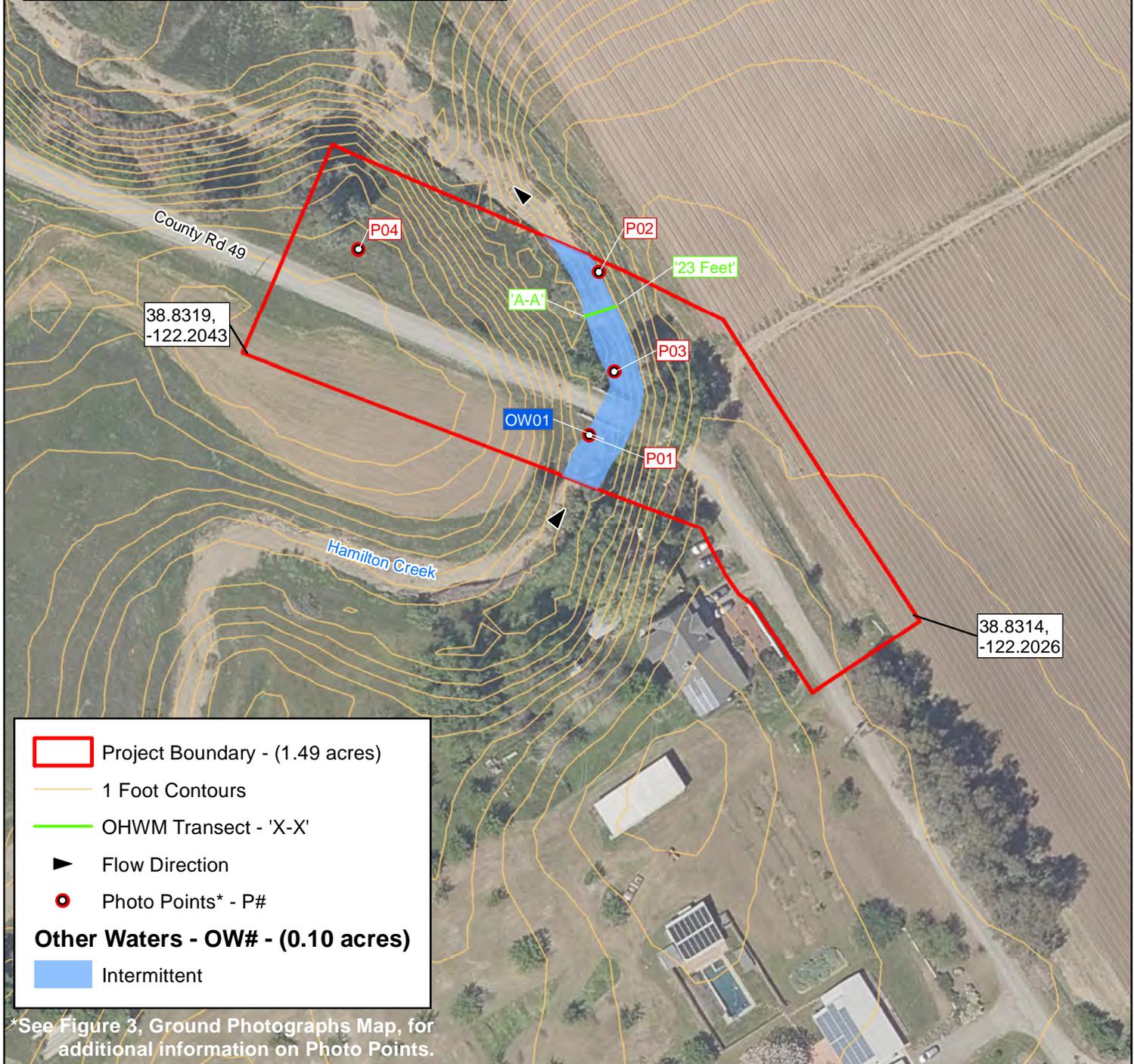
*Widths are represented as averages

Coordinate System: NAD 1983 California State Plane I (Feet)
 Projection: Lambert Conformal Conic
 Datum: North American 1983
 Vertical Datum: NAVD 88

Made in accordance with the Updated Map & Drawing Standards for the South Pacific Division Regulatory Program

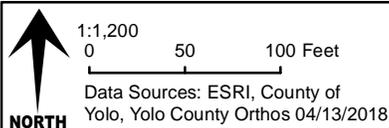
The features represented on this graphic are considered preliminary until written verification by the USACE.

All features identified as Non-Jurisdictional by Rule may still fall under State jurisdiction per section 401 of the Clean Water Act.



- Project Boundary - (1.49 acres)
- 1 Foot Contours
- OHWM Transect - 'X-X'
- Flow Direction
- Photo Points* - P#
- Other Waters - OW# - (0.10 acres)**
- Intermittent

*See Figure 3, Ground Photographs Map, for additional information on Photo Points.



**County Road 49 Over Hamilton Creek
 Draft Delineation of Waters of the U.S.
 Figure 4**

Delineation by: E. Gregg & M. Murphy
 Map by: C. Davis
 GE: #17-013C Map Date: 01/21/21

Appendix E – Yolo HCP/NCCP Application Form 4

REPORTING FORM



PURPOSE

Complete this form to report coverage under the Yolo Habitat Conservation Plan/Natural Community Conservation Plan (Yolo HCP/NCCP) as a Permittee. Chapter 4 of the Permitting Guide, available on the Yolo Habitat Conservancy’s (“Conservancy”) web site under the “Permitting” tab, provides instructions for form completion. The form requirements are minimum requirements; the Conservancy may request more information to clarify or complete the form. Submittal of a preliminary reporting form to the Conservancy is encouraged to ensure timely and accurate completion. If an application fee is required (see Screening Form, Box Y), the Permittee should submit this fee to the Conservancy early in the application process. The Permitting Guide and additional resources are available on the Conservancy’s web site under the “Permitting” tab. The Conservancy automatically adjusts mitigation fees on or around March 15th of each year to reflect current land prices and other expenses. If an applicant does not complete their application and issue payment prior to the fee update, the new fees will apply. The applicant may, however, pay mitigation fees early at the previous year’s rate consistent with the Conservancy’s Early Payment of Mitigation Fees Policy.

Regional-scale data related land cover, sensitive natural communities, and covered species habitats in Yolo is made available through the Yolo HCP/NCCP GeoMapper online mapping tool. The GeoMapper tool is accessible via the Resources tab of the Yolo Habitat Conservancy website identified below, although it is intended for informational purposes only. All HCP/NCCP permit applicants must have site-specific planning level surveys by a qualified biologist to determine actual land cover and sensitive natural communities and species habitats in and around a project site to determine the correct amount of land cover mitigation fees and project specific Avoidance and Minimization Measures (AMMs).

<https://www.yolohabitatconservancy.org/resources>

BOX A: Preliminary/Final Application Form

Check one box.

Preliminary Form (signature not required)

Final Form (complete form and signature required)

BOX B: APPLICATION DETAILS

1 Project name

2 Submittal date

3 Member agency internal tracking number

4 YHC internal tracking #

5 Member agency

- Yolo County
- City of Davis
- City of Woodland
- City of West Sacramento
- City of Winters

BOX C: MEMBER AGENCY CONTACT INFORMATION			
1 Member agency			
1.a Member agency name			
1.b Mailing address			
1.c Phone (home/office)		1.d Phone (Cellular)	
1.e Email			

BOX D: PROJECT INFORMATION			
1 Project address and location			
2 Assessor parcel number(s) APNs and acreage by parcel (not applicable for linear projects)			
3 Total acreage of parcel(s) (not applicable for linear projects)			
4 Using the GeoMapper's Spatially Defined Planning Unit Map, find your proposed project site. Check the Planning Unit in which your project lies.	<table style="width: 100%; border: none;"> <tr> <td style="vertical-align: top;"> Yolo County Planning Units <input type="checkbox"/> 1 – Little Blue Ridge <input type="checkbox"/> 2 – North Blue Ridge <input type="checkbox"/> 3 – South Blue Ridge <input type="checkbox"/> 4 – Capay Hills <input type="checkbox"/> 5 – Dunnigan Hills <input type="checkbox"/> 6 – Upper Cache Creek <input type="checkbox"/> 7 – Lower Cache Creek <input type="checkbox"/> 8 – Upper Putah Creek <input type="checkbox"/> 9 – Lower Putah Creek <input type="checkbox"/> 10 – Hungry Hollow Basin <input type="checkbox"/> 11 – Willow Slough Basin </td> <td style="vertical-align: top; padding-left: 20px;"> <input type="checkbox"/> 12 – Colusa Basin <input type="checkbox"/> 13 – Colusa Basin Plains <input type="checkbox"/> 14 – North Yolo Basin <input type="checkbox"/> 15 – South Yolo Basin <input type="checkbox"/> 16 – Yolo Basin Plains <input type="checkbox"/> 17 – North Yolo Bypass <input type="checkbox"/> 18 – South Yolo Bypass Cities <input type="checkbox"/> 19 – City of Woodland <input type="checkbox"/> 20 – City of Davis <input type="checkbox"/> 21 – City of West Sacramento <input type="checkbox"/> 22 – City of Winters </td> </tr> </table>	Yolo County Planning Units <input type="checkbox"/> 1 – Little Blue Ridge <input type="checkbox"/> 2 – North Blue Ridge <input type="checkbox"/> 3 – South Blue Ridge <input type="checkbox"/> 4 – Capay Hills <input type="checkbox"/> 5 – Dunnigan Hills <input type="checkbox"/> 6 – Upper Cache Creek <input type="checkbox"/> 7 – Lower Cache Creek <input type="checkbox"/> 8 – Upper Putah Creek <input type="checkbox"/> 9 – Lower Putah Creek <input type="checkbox"/> 10 – Hungry Hollow Basin <input type="checkbox"/> 11 – Willow Slough Basin	<input type="checkbox"/> 12 – Colusa Basin <input type="checkbox"/> 13 – Colusa Basin Plains <input type="checkbox"/> 14 – North Yolo Basin <input type="checkbox"/> 15 – South Yolo Basin <input type="checkbox"/> 16 – Yolo Basin Plains <input type="checkbox"/> 17 – North Yolo Bypass <input type="checkbox"/> 18 – South Yolo Bypass Cities <input type="checkbox"/> 19 – City of Woodland <input type="checkbox"/> 20 – City of Davis <input type="checkbox"/> 21 – City of West Sacramento <input type="checkbox"/> 22 – City of Winters
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5 <input type="checkbox"/> Provide a project description. Please refer to the Permitting Guide for details to include in the project description. Label as Attachment 1 or indicate in this box the document name and page numbers of the report where this information can be found, and attach report or relevant excerpts.			
6 <input type="checkbox"/> Provide a legible vicinity map of the project site and surrounding area (PDF). Refer to the Permitting Guide for more information about details to include on the vicinity map. Label as Attachment 2 . Rather than a separate PDF, applicant may include the site plan in the planning level survey report or other report. If so, provide report name and page number here, and attach report or relevant excerpts:			
7 <input type="checkbox"/> Provide a site plan that shows the proposed project site and surrounding area. (PDF and CAD or GIS-compatible). Refer to the Permitting Guide (Page 7-2) for more information about details to include in the site plan. Label as Attachment 3 . Rather than a separate PDF, applicant may include the site plan in the planning level survey report or other report. if so, provide report name and page number here, and attach report or relevant excerpt:			

BOX E: NATURAL COMMUNITY AND LAND COVER IMPACTS AND MITIGATION FEES

Complete Items 1-26 below, referring to the Permitting Guide for calculation methods.

- Total fee amount for each land cover type will be auto-generated based on acreage amount (and for recurring temporary impacts, number of years out of the 50-year permit term the impact will occur).
- Temporary impact fee formula = land cover fee x area of temporary effect in acres x (F/50) where F = the number of years in which the activity will occur during the rest of the permit term (until 2069).
- Must include required land cover fee buffer area associated with the project. This is generally 10 feet for linear projects (e.g. roads, utility corridors, pipelines) and 50 feet for all other projects. See Chapter 4 of the Permitting Guide under Box E instructions regarding the option of lumping land cover categories for the fee buffer calculations for linear projects.
- Fees will be updated annually, typically mid-March.
- Wetland fees are in addition to land cover fees.

Submit a planning-level survey, including a field-verified land cover map and the name and qualifications of the qualified biologist(s) responsible for preparation of the report. Label as **Attachment 4**. Mapped areas shown on the site plan (**Attachment 3** in Box D, Item 7) should be consistent with the acreages entered below. Include photographs of temporary impact areas. Label photos as **Attachment 5**.

Land Cover Types	Land Cover Permanently Impacted by Project (in acres)			Land Cover Temporarily Impacted by Project (in acres)	Years of Recurring Temporary Impact	Fees (Auto Generated)				
	Permanent Impact (acres)	Fee Buffer (acres)	TOTAL			Land Cover Fee (per acre)	Wetland Fee (per acre)	Permanent Impact, Land Cover Fee	Temporary Impact, Land Cover Fee	Wetland Fee
1 <input type="checkbox"/> Developed (including ruderal with no covered species habitat) ^a						\$0	\$0	\$	\$	\$
2 <input type="checkbox"/> Ruderal with covered species habitat ^a						\$15,169	\$0	\$	\$	\$
3 <input type="checkbox"/> Barren, No Covered Species Habitat						\$0	\$0	\$	\$	\$
4 <input type="checkbox"/> Barren, With Covered Species Habitat						\$15,169	\$0	\$	\$	\$
5 <input type="checkbox"/> Vegetated Corridor with Covered Species Habitat						\$15,169	\$0	\$	\$	\$
6 <input type="checkbox"/> Grassland (all types)						\$15,169	\$0	\$	\$	\$
7 <input type="checkbox"/> Alkali Prairie						\$15,169	\$0	\$	\$	\$
8 <input type="checkbox"/> Fresh Emergent Wetland (all types)						\$15,169	\$77,366	\$	\$	\$
9 <input type="checkbox"/> Valley Foothill Riparian						\$15,169	\$85,683	\$	\$	\$

Land Cover Types	Land Cover Permanently Impacted by Project (in acres)			Land Cover Temporarily Impacted by Project (in acres)	Years of Recurring Temporary Impact	Fees (Auto Generated)				
	Permanent Impact (acres)	Fee Buffer (acres)	TOTAL			Land Cover Fee (per acre)	Wetland Fee (per acre)	Permanent Impact, Land Cover Fee	Temporary Impact, Land Cover Fee	Wetland Fee
10 <input type="checkbox"/> Lacustrine and Riverine						\$15,169	\$62,048	\$	\$	\$
11 <input type="checkbox"/> Cultivated Land (all types)						\$15,169	\$0	\$	\$	\$
12 <input type="checkbox"/> Citrus/Subtropical						\$15,169	\$0	\$	\$	\$
13 <input type="checkbox"/> Deciduous Fruits/Nuts						\$15,169	\$0	\$	\$	\$
14 <input type="checkbox"/> Vineyards						\$15,169	\$0	\$	\$	\$
15 <input type="checkbox"/> Turf Farm						\$15,169	\$0	\$	\$	\$
16 <input type="checkbox"/> Flowers/Nursery/Tree Farms						\$15,169	\$0	\$	\$	\$
17 <input type="checkbox"/> Semiag/Incidental to Agriculture						\$15,169	\$0	\$	\$	\$
18 <input type="checkbox"/> Eucalyptus						\$15,169	\$0	\$	\$	\$
19 <input type="checkbox"/> Linear buffers (combine non-fee-paying land cover types)	N/A			N/A	N/A	\$0	\$0	\$	\$	\$
20 <input type="checkbox"/> Linear buffers (combine fee-paying land cover types ^b)	N/A			N/A	N/A	\$15,169	\$0	\$	\$	\$
TOTAL:						TOTAL:		\$	\$	\$
21	TOTAL LAND COVER IMPACTS AND MITIGATION FEES							\$		
22	APPLICATION FEE							\$		
	(The application fee is credited towards the cost of the mitigation fees if the application fee is paid prior to the submittal of the mitigation fee payment . Application fee as of January 1, 2020: \$1,981)									
23	OTHER CREDITS							\$		
	(Advanced fee payment or in lieu fee credit – must be verified by Conservancy). Add Attachment 6									
24	TOTAL LAND COVER IMPACTS AND MITIGATION FEES DUE							\$		
	(Mitigation fees due are determined at the time of payment unless they were paid in accordance with the Yolo HCP/NCCP Early Payment of Mitigation Fees Policy. See www.yolohabitatconservancy.org for current fee schedule.)									
^a Land cover fees may be applicable if covered species habitat is present.										
^b Fresh Emergent Wetland, Valley Foothill Riparian, and Lacustrine and Riverine land cover types cannot be lumped with other land cover types and must be entered in the fee buffer columns.										

BOX F: CONDITIONS OF APPROVAL: CONDUCT PLANNING LEVEL SURVEYS

Based on a planning level survey conducted by a qualified biologist using the land cover definitions described in the Permitting Guide in Table 2-1, indicate which sensitive natural communities and covered species are relevant to your project. Indicate below whether suitable covered species habitats are present (Column A) and, where applicable, if there is a need to conduct a pre-construction survey, a more focused survey(s) for covered species (Column B) to confirm presence. Complete species-specific planning level survey as needed consistent with protocols provided in Appendix A of the Permitting Guide. Alternatively, covered species presence can be assumed, which would require adherence to applicable AMMs and implementation of avoidance measures or pre-construction surveys. Attach all species-specific planning level surveys as **Attachment 6**. Describe, map, and tabulate impacts the project will have on each natural community and each species for which habitat is present. Impact calculations must correspond to the permanent and temporary impact calculations in Box E. Label as **Attachment 7**. Alternatively, the impact assessment can be incorporated into the planning level survey. **Important: Be aware of the timing requirements for conducting a species-specific planning-level survey (Table 6-1 in the Permitting Guide) to avoid project delays.**

	A. Project Site Conditions Requiring Planning-Level Survey	B. Species-Specific Planning Level Survey Results	C. Documentation
Sensitive Natural Communities			
1 Alkali prairie and vernal pool complex	<p>Are vernal pools or alkali seasonal wetlands present within 250 feet of project footprint?</p> <p><input type="checkbox"/> Yes. <i>Design project to avoid vernal pools or alkali seasonal wetlands by 250 feet or lesser buffer if approved by wildlife agencies. Check Box G, AMMs 9 and 10. Go to Column C.</i></p> <p><input type="checkbox"/> No</p>	N/A	<p>Map attached? (Attachment 4 or 6?)</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>If vernal pools or alkali seasonal wetlands are present on or near the site, provide map showing how project avoids these wetlands.</p>
2 Valley foothill riparian	<p>Is valley foothill riparian present within 100 feet of the project site boundary?</p> <p><input type="checkbox"/> Yes. <i>Design project to avoid valley foothill riparian by 100 feet or count all portions within 100 feet in the impact acreage (see Permitting Guide Table 2-1). Check Box G, AMMs 9 and 10. Go to Column C and provide map.</i></p> <p><input type="checkbox"/> No</p>	N/A	<p>Map attached? (Attachment 4 or 6?)</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>Provide map showing the valley foothill riparian in relation to the project footprint.</p>
3 Lacustrine and riverine	<p>Are any streams, rivers, lakes, or ponds within 25 feet of project footprint inside urban planning units, or within 100 feet of project footprint outside urban planning units?</p> <p><input type="checkbox"/> Yes. <i>Design project to avoid these resources by 25 feet inside urban planning units or 100 feet outside urban planning units, or count all portions within these distances in the impact acreage, unless a variance is allowed. Check Box G, AMMs 9 and 10. Go to Column C and provide map.</i></p> <p><input type="checkbox"/> No</p>	N/A	<p>Map attached? (Attachment 4 or 6?)</p> <p><input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>Provide map showing any streams, rivers, lakes, or ponds in relation to the project footprint.</p>

BOX F: CONDITIONS OF APPROVAL: CONDUCT PLANNING LEVEL SURVEYS			
	A. Project Site Conditions Requiring Planning-Level Survey	B. Species-Specific Planning Level Survey Results	C. Documentation
Sensitive Natural Communities			
4	<p>Fresh emergent wetlands</p> <p>Are there any fresh emergent wetlands within 50 feet of project footprint outside urban planning units?</p> <p><input type="checkbox"/> Yes. <i>Design project to avoid these resources by 50 feet, or count all portions within 50 feet in the impact acreage. Check Box G, AMMs 9 and 10. Go to Column C and provide map). Survey period: May 31–September 30</i></p> <p><input type="checkbox"/> No</p>	N/A	<p>Map attached? (Attachment 4 or 6?)</p> <p><input type="checkbox"/> Yes</p> <p><input type="checkbox"/> No</p> <p>Provide map of fresh emergent wetlands in relation to the project footprint.</p>
Plants			
5	<p>Palmate-bracted bird's beak</p> <p>Is suitable habitat present within 250 feet of the project site boundary?</p> <p><input type="checkbox"/> Yes. <i>Survey for palmate-bracted bird's beak consistent with Permitting Guide Appendix A. Check Box G, AMM 11. Go to Column B. Survey period: May 31–September 30</i></p> <p><input type="checkbox"/> No</p>	<p>Is palmate-bracted bird's beak present?</p> <p><input type="checkbox"/> Yes. <i>Design project to avoid occupied habitat as described in AMM 11. Go to Column C.</i></p> <p><input type="checkbox"/> No. <i>Go to Column C.</i></p>	<p>Species-Specific Planning-Level Survey attached? (Attachment 6)</p> <p><input type="checkbox"/> Yes</p> <p><input type="checkbox"/> No</p> <p><i>Include Species-Specific Planning-Level Survey and map of habitat and any plants found in relation to project footprint.</i></p>
Invertebrates			
6	<p>Valley elderberry longhorn beetle</p> <p>Is there presence of elderberry shrubs in the project site or within 100 feet outside of the project site boundary that could be impacted by the project?</p> <p><input type="checkbox"/> Yes. <i>Identify and map all elderberry shrubs in and within 100 feet of project footprint with stems greater than one inch in diameter at ground level. For mapped shrubs that cannot be avoided, quantify the number of stems greater than one inch in diameter at ground level, and identify any such stems with valley elderberry longhorn beetle exit holes. Check Box G, AMM 12. Go to Column C and provide survey report. Survey period: Year-round</i></p> <p><input type="checkbox"/> No</p>	N/A	<p>Species-Specific Planning-Level Survey attached? (Attachment 6)</p> <p><input type="checkbox"/> Yes</p> <p><input type="checkbox"/> No</p>

BOX F: CONDITIONS OF APPROVAL: CONDUCT PLANNING LEVEL SURVEYS			
	A. Project Site Conditions Requiring Planning-Level Survey	B. Species-Specific Planning Level Survey Results	C. Documentation
Amphibians			
7	<p>California tiger salamander</p> <p>Is there presence of California tiger salamander aquatic or upland habitat in the project footprint, or aquatic habitat within 500 feet of the project footprint?</p> <p><input type="checkbox"/> Yes. Check box G, AMM 13. Is the habitat within designated critical habitat for California tiger salamander, as determined using the GeoMapper?</p> <p><input type="checkbox"/> Yes. Design project to avoid designated critical habitat.</p> <p><input type="checkbox"/> No. If aquatic habitat cannot be avoided by 500 feet, either conduct surveys as described in the Permitting Guide Appendix A, or assume species presence. Survey period: After rainfall, November 1 to May 15. Go to Column B.</p> <p><input type="checkbox"/> No</p>	<p>Are California tiger salamanders present or assumed to be present in aquatic habitat?</p> <p><input type="checkbox"/> Yes. If the species is present or assumed to be present, the Yolo HCP/NCCP will not allow any loss of occupied aquatic habitat until at least four new occupied breeding pools are discovered or established and protected in the Plan Area. Contact Yolo Habitat Conservancy. Go to Column C.</p> <p><input type="checkbox"/> No</p>	<p>Species-Specific Planning-Level Survey attached? (Attachment 6)</p> <p><input type="checkbox"/> Yes</p> <p><input type="checkbox"/> No</p>
Reptiles			
8	<p>Western pond turtle</p> <p>Is western pond turtle habitat present in the project footprint?</p> <p><input type="checkbox"/> Yes. Check Box G, AMM 14. A qualified biologist is required to evaluate whether there is moderate to high likelihood of western pond turtle presence. Go to Columns B and C.</p> <p><input type="checkbox"/> No</p>	<p>Moderate to high likelihood of western pond turtle presence?</p> <p><input type="checkbox"/> Yes: Check Box F for western pond turtle Pre-construction surveys.</p> <p><input type="checkbox"/> No</p>	<p>Habitat evaluation attached? (Attachment 6)</p> <p><input type="checkbox"/> Yes</p> <p><input type="checkbox"/> No</p>
9	<p>Giant garter snake</p> <p>Is there any giant garter snake habitat within the project footprint?</p> <p><input type="checkbox"/> Yes. Design project to avoid or minimize impact on giant garter snake habitat to the extent practicable. If habitat cannot be avoided, see AMM 15. Check Box F for giant garter snake Pre-construction surveys, and check Box G, AMM 15.</p> <p><input type="checkbox"/> No</p>	N/A	N/A

BOX F: CONDITIONS OF APPROVAL: CONDUCT PLANNING LEVEL SURVEYS			
	A. Project Site Conditions Requiring Planning-Level Survey	B. Species-Specific Planning Level Survey Results	C. Documentation
Birds			
10 Swainson's hawk and white-tailed kite	<p>Are there suitable Swainson's hawk or white-tailed kite nest trees within 1,320 feet of the project footprint?</p> <p><input type="checkbox"/> Yes. <i>If nest trees cannot be avoided by 1,320 feet, check Box F for hawk and kite Pre-construction surveys, and Box G, AMM 16.</i></p> <p><input type="checkbox"/> No</p>	N/A	N/A
11 Western yellow-billed cuckoo	<p>Is suitable habitat present within 500 feet of the project site boundary?</p> <p><input type="checkbox"/> Yes. <i>If there are breeding records for the western yellow-billed cuckoo within ¼ mile of the project site from the previous three years (as determined by GeoMapper), then assume species is present. If there are no breeding records with ¼ mile, then either assume species is present or survey consistent with Chapter 6 of the Permitting Guide. See columns B and C. Check Box F for western yellow-billed cuckoo Pre-construction surveys and Check Box G, AMM 17.</i></p> <p>Survey period: June 1–August 30.</p> <p><input type="checkbox"/> No</p>	<p>Is western yellow-billed cuckoo present or assumed to be present?</p> <p><input type="checkbox"/> Yes. <i>If project cannot avoid occupied habitat by 500 feet, avoid take of nesting birds as described in AMM 17.</i></p> <p><input type="checkbox"/> No.</p>	<p>Species-Specific Planning-Level Survey attached? (Attachment 6)</p> <p><input type="checkbox"/> Yes</p> <p><input type="checkbox"/> No</p>
12 Western burrowing owl	<p>Is western burrowing owl habitat present on the project site, or within 500 feet of the project site?</p> <p><input type="checkbox"/> Yes. <i>Conduct planning-level surveys for occupied habitat as described in Permitting Guide Appendix A. Go to Columns B and C. Survey period: February 1–August 31 during the breeding season; September 1–January 31 during nonbreeding season.</i></p> <p><input type="checkbox"/> No</p>	<p>Are burrowing owls present?</p> <p><input type="checkbox"/> Yes. <i>Check Box G, AMM18. If burrows cannot be avoided, consistent with Permitting Guide Chapter 5, Check Box F for western burrowing owl Pre-construction surveys.</i></p> <p><input type="checkbox"/> No</p>	<p>Species-Specific Planning-Level Survey attached? (Attachment 6)</p> <p><input type="checkbox"/> Yes</p> <p><input type="checkbox"/> No</p>

BOX F: CONDITIONS OF APPROVAL: CONDUCT PLANNING LEVEL SURVEYS			
	A. Project Site Conditions Requiring Planning-Level Survey	B. Species-Specific Planning Level Survey Results	C. Documentation
13 Least Bell's vireo	<p>Is least Bell's vireo habitat present in and within 500 feet of project footprint?</p> <p><input type="checkbox"/> Yes. Check Box G, AMM 19. Are there nesting records for the species within ¼ mile of the site from the previous three years (determined using the GeoMapper)?</p> <p><input type="checkbox"/> Yes. Assume species is present. See Column B.</p> <p><input type="checkbox"/> No. Conduct planning-level surveys, as described in Permitting Guide Appendix A. See Columns B and C. Survey period: April 1–July 15</p> <p><input type="checkbox"/> No</p>	<p>Are least Bell's vireo nests present or assumed to be present?</p> <p><input type="checkbox"/> Yes. Check Box F for least Bell's vireo Pre-construction surveys. Avoid take of birds as described in AMM 19.</p> <p><input type="checkbox"/> No.</p>	<p>Species –Specific Planning-Level Survey attached? (Attachment 6)</p> <p><input type="checkbox"/> Yes</p> <p><input type="checkbox"/> No</p>
14 Bank swallow	<p>Is bank swallow nesting habitat present on the project site, or within 500 feet of the project site?</p> <p><input type="checkbox"/> Yes. Check Box G, AMM 20. Conduct planning-level surveys as described in Permitting Guide Appendix A. Go to Columns B and C. Survey period: March 1–August 15</p> <p><input type="checkbox"/> No</p>	<p>Are nesting bank swallows present?</p> <p><input type="checkbox"/> Yes. Check Box F for bank swallow Pre-construction surveys. Avoid take of birds as described in AMM 19.</p> <p><input type="checkbox"/> No.</p>	<p>Species-Specific Planning-Level Survey attached? (Attachment 6)</p> <p><input type="checkbox"/> Yes</p> <p><input type="checkbox"/> No</p>
15 Tricolored blackbird	<p>Is tricolored blackbird nesting habitat present on the project site, or within 1,300 feet of the project site?</p> <p><input type="checkbox"/> Yes. Conduct planning-level surveys as described in Permitting Guide Appendix A. Check Box G, AMM 21. Go to Column C. Survey period: March 1–July 30</p> <p><input type="checkbox"/> No</p>	N/A	<p>Species-Specific Planning-Level Survey attached? (Attachment 6)</p> <p><input type="checkbox"/> Yes</p> <p><input type="checkbox"/> No</p>

BOX G: CONDITIONS OF APPROVAL: CONDUCT PRE-CONSTRUCTION SURVEYS	
<p>Indicate which species in Items 1-7 are relevant to your project. Important: Refer to Chapter 4 of the Permitting Guide for information about survey purpose, the land cover types and site conditions requiring pre-construction surveys, survey area size, and survey timing.</p>	
Birds	
1 <input type="checkbox"/> Swainson's hawk	4 <input type="checkbox"/> Western burrowing owl
2 <input type="checkbox"/> White-tailed kite	5 <input type="checkbox"/> Least Bell's vireo
3 <input type="checkbox"/> Western yellow-billed cuckoo	
Reptiles	
6 <input type="checkbox"/> Giant garter snake	7 <input type="checkbox"/> Western pond turtle

BOX H: CONDITIONS OF APPROVAL: AVOIDANCE AND MINIMIZATION MEASURES (AMMs)

Check the avoidance and minimization measures below that apply to your project. Refer to the Permitting Guide for assistance. Describe how you will fulfill the requirements of each required condition. Plan your construction carefully around the translocation or other dates required by the AMMs. Label as **Attachment 8**.

- 1 AMM1: *Establish Resource Protection Buffers*
- 2 AMM 2: *Design Developments to Minimize Indirect Effects at Urban-Habitat Interfaces (this AMM does not apply to new development where it is immediately adjacent to existing developed lands)*
- 3 AMM 3: *Confine and Delineate Work Area*
- 4 AMM 4: *Cover Trenches and Holes during Construction and Maintenance*
- 5 AMM 5: *Control Fugitive Dust*
- 6 AMM 6: *Conduct Worker Training*
- 7 AMM 7: *Control Nighttime Lighting of Project Construction Sites*
- 8 AMM 8: *Avoid and Minimize Effects of Construction Staging Areas and Temporary Work Areas*
- 9 AMM 9: *Establish Resource Protection Buffers around Sensitive Natural Communities*
- 10 AMM 10: *Avoid and Minimize Effects on Wetlands and Waters*
- 11 AMM 11: *Minimize Take and Adverse Effects on Palmate-Bracted Bird's Beak*
- 12 AMM 12: *Minimize Take and Adverse Effects on Habitat of Valley Elderberry Longhorn Beetle*
- 13 AMM 13: *Minimize Take and Adverse Effects on Habitat of California Tiger Salamander*
- 14 AMM 14: *Minimize Take and Adverse Effects on Habitat of Western Pond Turtle*
- 15 AMM 15: *Minimize Take and Adverse Effects on Habitat of Giant Garter Snake*
- 16 AMM 16: *Minimize Take and Adverse Effects on Habitat of Swainson's Hawk and White-Tailed Kite*
- 17 AMM 17: *Minimize Take and Adverse Effects on Habitat of Western Yellow-Billed Cuckoo*
- 18 AMM 18: *Minimize Take and Adverse Effects on Western Burrowing Owl*
- 19 AMM 19: *Minimize Take and Adverse Effects on Least Bell's Vireo*
- 20 AMM 20: *Minimize Take and Adverse Effects on Habitat of Bank Swallow*
- 21 AMM 21: *Minimize Take and Adverse Effects on Habitat of Tricolored Blackbird*

BOX I: ATTACHMENT CHECKLIST

Indicate which attachments are provided below. **Note:** Attachments [must meet the requirements](#) described in [Permitting Guide](#). If these requirements are not met, your application may be delayed.

All Projects

- Attachment 1.** Project Description (Box C). Attach separately or indicate attached report page #s here:
- Attachment 2.** Vicinity map PDF (Box C). Attach separately or indicate report page # here:
- Attachment 3.** Site Plan (Box C). Attach separately or indicate report page # here:

BOX I: ATTACHMENT CHECKLIST	
Projects with Impacts	
<input type="checkbox"/>	Attachment 4. Planning level survey (Box D)
<input type="checkbox"/>	Attachment 5. Photos of temporary impact areas. Attach separately or indicate report page #s here:
<input type="checkbox"/>	Attachment 6. Species-specific planning level survey(s) (Box E). Attach separately or indicate report page #s here:
<input type="checkbox"/>	Attachment 7. Unavoidable impacts on covered species. Attach separately or indicate report page #s here:
<input type="checkbox"/>	Attachment 8. Description of compliance with Avoidance and Minimization Measures (Box G). Attach separately or indicate report page #s here:

BOX J: SIGNATURES			
<input type="checkbox"/> By checking the box and signing below I certify all information in the application is true and correct to the best of my knowledge. I also certify I understand the requirements of the AMMs, including dates for elderberry translocation or other dates that may affect construction timing.			
1	Member agency contact name and contact information	Name	
		Phone	Email
2	Member agency signature		Date

FORM SUBMITTAL INSTRUCTIONS
Submit this form electronically to the Yolo Habitat Conservancy at the PO Box provided below. Provide a copy to the applicable planning office contact below, for informational purposes.

LOCAL AGENCY PLANNING OFFICE CONTACT INFORMATION				
Yolo County Stephanie Cormier Planning Division Department of Community Services 292 West Beamer Street, Woodland (530) 666-8041	City of West Sacramento David Tilley Community Development Department 1110 West Capitol Ave., 2 nd Floor, West Sacramento (916) 617-4645	City of Davis Sherri Metzker Community Development & Sustainability 23 Russell Blvd., Suite 2, Davis (530) 757-5610 ext. 7239	City of Woodland Cindy Norris Planning Division 300 First Street, Woodland (530) 661-5911	City of Winters Dave Dowswell Community Development Department 318 First Street, Winters (530) 794-6714

YOLO HABITAT CONSERVANCY CONTACT INFORMATION	
Address: PO Box 2202, Woodland, CA 95776 Phone: 530-666-8150 Email: info@yolohabitatconservancy.org	

Appendix D

Draft Delineation of Waters of the U.S. Map

Draft Delineation of Waters of the U.S.

Other Waters

Label	Cowardin	Description	Location (Lat/Long)		Width (ft)*	Length (ft)	Area (sq ft)	Acres
OW01	R4	Intermittent	38.831851	-122.20341	23.0	186.5	4289.7	0.10
Other Waters Totals =						186.5	4289.7	0.10

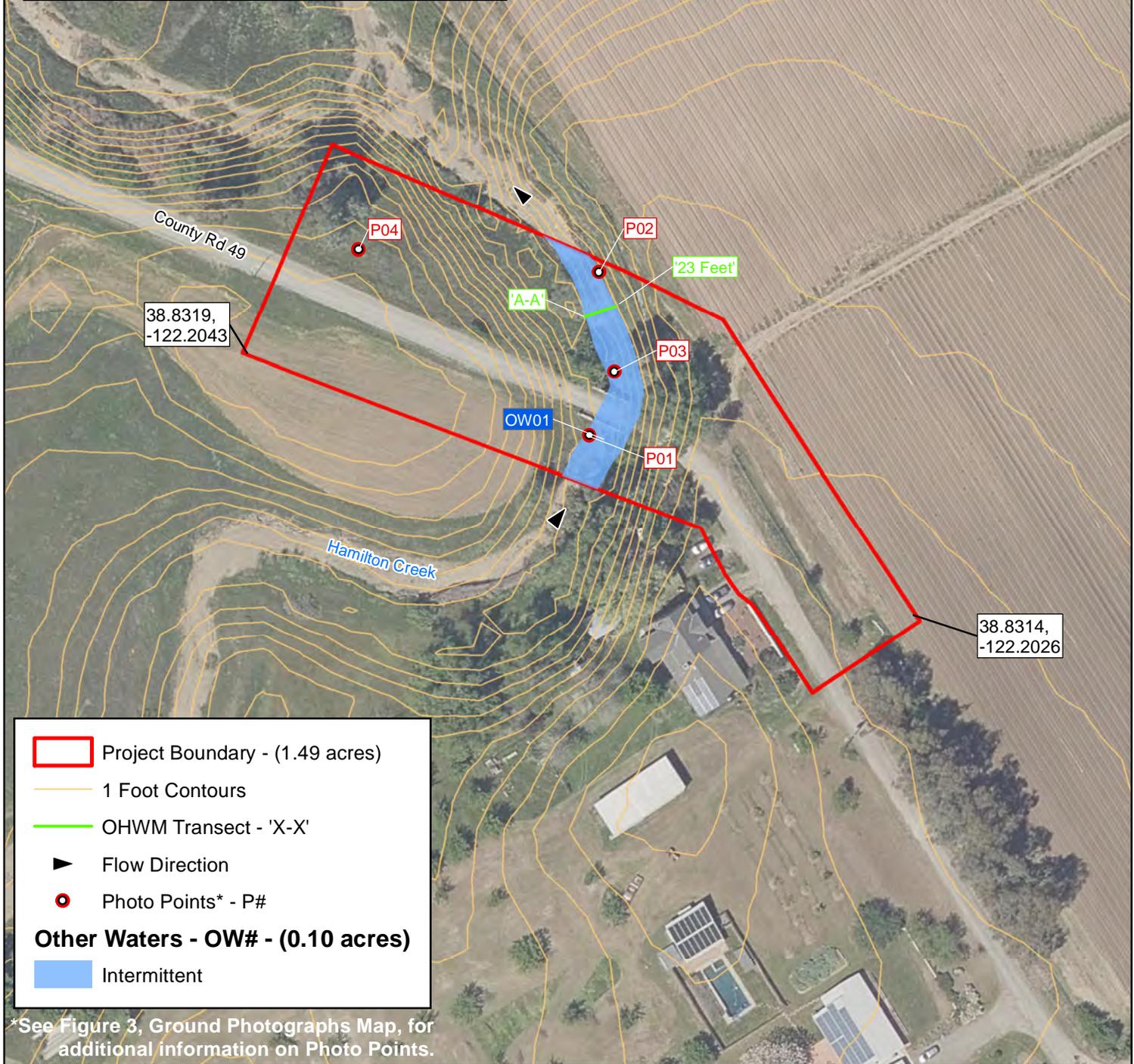
*Widths are represented as averages

Coordinate System: NAD 1983 California State Plane I (Feet)
 Projection: Lambert Conformal Conic
 Datum: North American 1983
 Vertical Datum: NAVD 88

Made in accordance with the Updated Map & Drawing Standards for the South Pacific Division Regulatory Program

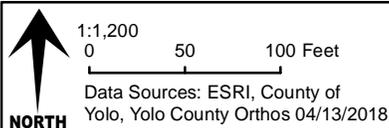
The features represented on this graphic are considered preliminary until written verification by the USACE.

All features identified as Non-Jurisdictional by Rule may still fall under State jurisdiction per section 401 of the Clean Water Act.



- Project Boundary - (1.49 acres)
- 1 Foot Contours
- OHWM Transect - 'X-X'
- Flow Direction
- Photo Points* - P#
- Other Waters - OW# - (0.10 acres)**
- Intermittent

*See Figure 3, Ground Photographs Map, for additional information on Photo Points.



**County Road 49 Over Hamilton Creek
 Draft Delineation of Waters of the U.S.
 Figure 4**

Appendix E

Archaeological Survey Report / Historic Property Survey Report

HISTORIC PROPERTY SURVEY REPORT**1. UNDERTAKING DESCRIPTION AND LOCATION**

<i>District</i>	<i>County</i>	<i>Federal Project Number. (Prefix, Agency Code, Project No.)</i>	<i>Location</i>
3	YOL	BRLO – 5922 (111)	CR 49 over Hamilton Creek

The environmental review, consultation, and any other actions required by applicable Federal environmental laws for this project are being, or have been, carried out by Caltrans pursuant to 23 U.S.C. 327 and the Memorandum of Understanding dated December 23, 2016, and executed by FHWA and Caltrans.

The studies for this undertaking were carried out in a manner consistent with Caltrans' regulatory responsibilities under Section 106 of the National Historic Preservation Act (36 CFR Part 800) and pursuant to the January 2014 *First Amended Programmatic Agreement among the Federal Highway Administration, the Advisory Council on Historic Preservation, the California State Historic Preservation Officer, and the California Department of Transportation Regarding Compliance with Section 106 of the National Historic Preservation Act* (Section 106 PA), as well as under Public Resources Code 5024 and pursuant to the January 2015 *Memorandum of Understanding Between the California Department of Transportation and the California State Historic Preservation Office Regarding Compliance with Public Resources Code Section 5024 and Governor's Executive Order W-26-92, addended 2019* (5024 MOU) as applicable

Project Description:

Yolo County proposes to replace the existing bridge on County Road (CR) 49 crossing over Hamilton Creek with funding made available through the FHWA Highway Bridge Program and administered by Caltrans. The bridge was determined to be functionally obsolete as recently as 2013 and currently has a sufficiency rating of 43.1.

The project site is located within the northwestern corner of Yolo County, west of Highway 16. CR 49 is a rural local roadway that extends from CR 59 on the south to its terminus roughly three miles to the northwest. Within the project vicinity, CR 49 varies between a paved and a dirt and gravel roadway with an approximate width of 18 feet and no shoulders. The bridge, with an Average Daily Traffic count of 106 vehicles, serves 10 agricultural/ rural properties, some which are developed with residential home sites, located on the northwest side of Hamilton Creek. Four of the properties immediately adjacent to the bridge will require permanent and/or temporary right of way acquisition to construct and complete the project.

During construction, vehicular traffic through the project site will be maintained with a temporary crossing north of the existing bridge. The temporary crossing is anticipated to consist of pipe culverts to convey stream flow. Gravel backfill will be placed on top of the pipe culverts to provide a drivable surface. Following completion of construction, all this material will be removed. Construction is anticipated to begin in spring 2023 with a duration of approximately eight months.

See full project description in the attached Archaeological Survey Report (ASR), attachment 1.

2. AREA OF POTENTIAL EFFECTS

In accordance with Section 106 PA Stipulation VIII.A, the Area of Potential Effects (APE) for the project was established in consultation with William Larson, Caltrans Associate Environmental Planner – Archaeology, Vlad Popko, the District 3 Local Assistance Engineer, and Mark Christison, Senior Civil Engineer, on September 8, 2021. The APE map is located in the attached ASR, Figure 3.

The APE is approximately 1.49 acres and includes a portion of CR 49, including a new bridge length of approximately 61 feet and approximately 200 feet of roadway on each approach of the

HISTORIC PROPERTY SURVEY REPORT

bridge. The APE includes approximately 180 linear feet of Hamilton Creek, running south to north through the project. A staging area is included within the APE in the north/northeast portion of the APE.

Construction of the bridge will involve excavation for and construction of concrete abutments, founded on driven piles. Construction of the roadway approaches will involve the removal of existing pavement and placement of new roadway fill material and installation of guard rail. Relocation of overhead electrical and communication lines, including two utility poles and underground telecommunication lines are anticipated as part of the project. A detailed description of the APE can be found in the attached Archaeological Survey Report (ASR), attachment 1.

3. CONSULTING PARTIES / PUBLIC PARTICIPATION Local Government

Mark Christison, Senior Civil Engineer Yolo County Department of Community Services

 Native American Heritage Commission

The Native American Heritage Commission (NAHC) was contacted on October 20, 2020 to request a sacred lands file search and contact list. A result was received on October 27, 2020. The sacred lands file search was negative. See appendix b in attachment 1 for consultation record.

 Native American Tribes, Groups and Individuals

Contact letters were sent to all parties listed on the contact list received from the NAHC on October 30, 2020. One response was received by the Yocha Dehe Wintun Nation. The project boundary lies within the aboriginal territories of the Yocha Dehe Wintun Nation and claimed authority over the proposed project area. Laverne Bill, the point of contact, expressed concern over potential cultural resources due to the proximity of gathering material and local waterways. A recommendation was made for monitors during initial ground disturbance and cultural sensitivity training. A log of the correspondence is located in the attached Archaeological Survey Report (ASR), attachment 1.

 Local Historical Society / Historical Preservation Groups

In support of the ASR and HPSR completed for this project, Gallaway Enterprises contacted the Archives and Records Center of the Yolo County Library, Historical Resources Management Commission, Davis Historical Society, Friends of Davis Historical Resources, Yolo County Historical Society, Davis Branch Library, and the Davis Friends of Hattie Webber Museum on July 29, 2021 for input, comments and information regarding potential historic resources that may be affected by the project. (See Appendix B of Attachment 2)

HISTORIC PROPERTY SURVEY REPORT**4. SUMMARY OF IDENTIFICATION EFFORTS**

- | | |
|--|--|
| <input checked="" type="checkbox"/> National Register of Historic Places (NRHP) | <input checked="" type="checkbox"/> California Points of Historical Interest |
| <input checked="" type="checkbox"/> California Register of Historical Resources (CRHR) | <input checked="" type="checkbox"/> California Historical Resources Information System (CHRIS) |
| <input checked="" type="checkbox"/> National Historic Landmark (NHL) | <input checked="" type="checkbox"/> Caltrans Historic Bridge Inventory |
| <input checked="" type="checkbox"/> California Historical Landmarks (CHL) | |
| <input checked="" type="checkbox"/> Other Sources consulted: | |
| BLM GLO Records, historic aerial imagery, historic USGS topographic quadrangles | |

- Results: A record search of the Northwest Information Center (NWIC) at Sonoma State University was performed by NWIC staff on November 19, 2020 (Record Search No. 20-0777). Results of the record search indicated one previous cultural resource is recorded within the APE and five cultural resources are recorded within a half mile of the project boundary. One cultural resource report is recorded within the project boundary and two reports have been recorded within a half mile of the project boundary. The cultural resource recorded within the project boundary consists of the bridge over Hamilton Creek. The bridge has been referred to as the Guinda Bridge and was recorded as part of the Yolo County Historic Resources Survey compiled by Les & Thomas Associates and Howard Moore and prepared by the Yolo County Community Development Agency in 1986. The bridge has also been assessed as part of the Caltrans statewide historic bridge inventory program. The bridge at CR 49 over Hamilton Creek, bridge # 22C0095, was determined not eligible for the national register as a category 5 bridge. No properties were listed on the NRHP or CRHR. No other resources were identified within the APE. A detailed description of record search results can be found in the attached Archaeological Survey Report (ASR), attachment 1

5. PROPERTIES IDENTIFIED

- Caltrans, in accordance with Section 106 PA Stipulation VIII.C.5 has determined there are cultural resources within the APE that were **previously determined not eligible** for inclusion in the NRHP with SHPO concurrence and those determinations remain valid. Copy of SHPO/Keeper correspondence is attached.

HISTORIC PROPERTY SURVEY REPORT

- Bridges listed as **Category 5** (previously determined not eligible for listing in the NRHP) in the Caltrans Historic Bridge Inventory are present within the APE and those determinations remain valid. Appropriate pages from the Caltrans Historic Bridge Inventory are attached.

County Road 49 over Hamilton Creek/ Guinda Bridge, Bridge No. 22C0095
(see appendix C of the ASR for the Caltrans Historic Bridge Inventory Sheet)

6. FINDING FOR THE UNDERTAKING

- Caltrans, pursuant to Section 106 PA Stipulation IX.A, has determined a Finding of **No Historic Properties Affected** is appropriate for this undertaking because there are no historic properties within the APE.

7. CEQA CONSIDERATIONS

- Not applicable; **Caltrans is not the lead agency under CEQA.**

8. LIST OF ATTACHED DOCUMENTATION

- Project Regional, Location, and APE Maps Location, and APE Maps: Figures 1, 2 and 3, respectively, within the attached ASR – Attachment 1
- Caltrans Historic Bridge Inventory Sheet
Appendix C of the ASR
- Archaeological Survey Report (ASR) Catherine Davis, February 2021. Archaeological Survey Report for County Road (CR) 49 Over Hamilton Creek Bridge Replacement Project, *Yolo County, California* - Attachment 1

HISTORIC PROPERTY SURVEY REPORT

9. HPSR PREPARATION AND CALTRANS APPROVAL

Prepared by:  9/27/2021
 Catherine Davis, Archaeology/Anthropology Date
 PQS Archaeology, Gallaway Enterprises, Chico, CA

Reviewed for
 Approval by: William E. Larson 9/28/21
 William Larson, District 3 Caltrans PQS PI – Prehistoric Archaeology Date

Approval by: Laura Loeffler 10/08/21
 Laura Loeffler, District 3 Caltrans Environmental Branch Chief Date

Attachment 1

**ARCHAEOLOGICAL SURVEY REPORT
FOR
County Road 49 Over Hamilton Creek Bridge Replacement Project
Yolo County, California**

California Department of Transportation District 3
Yolo County, California

Prepared by:  Date 9/27/2021
Catherine Davis, M.A., RPA
Gallaway Enterprises
Chico, California 95928

Reviewed by: *William E. Larson* Date 9/28/21
William Larson, PQS: PI - Prehistoric Archaeology
Environmental Planner – Archaeology,
California Department of Transportation
District 3, Marysville

Approved by: *Laura Loeffler* Date 10/08/21
Laura Loeffler, Environmental Branch Chief
California Department of Transportation
District 3, Marysville

USGS Guinda 7.5'
Circa 1.49 acres
February 2021

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APPENDICES

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Appendix B	Native American and Historical Society Outreach
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Summary of Findings

Yolo County proposes to replace the existing bridge on County Road (CR) 49 crossing over Hamilton Creek (Project) with funding made available through the Federal Highway Administration Highway Bridge Program and administered by California Department of Transportation. The Project site is located within the northwestern corner of Yolo County, west of Highway 16. CR 49 is a rural local roadway that extends from CR 59 on the south to its terminus roughly 3 miles to the northwest. Within the Project vicinity, the base road substrate varies between paved, dirt, and gravel.

The existing bridge (Bridge No. 22C0095) was constructed in 1911 and is approximately 26 feet long and 20 feet wide. The bridge was determined to be functionally obsolete as recently as 2013 and currently has a sufficiency rating of 43.1. The structure consists of a single-span, earth-filled concrete arch. The bridge has rock pockets and spalling with exposed rebar on the arch soffit. Additionally, the bridge abutment footings are exposed along their entire lengths.

The proposed Project will construct a new bridge along a similar alignment as the existing structure. The new bridge is anticipated to be a single-span structure approximately 61 feet long. Construction of the bridge will involve excavation to a depth of 22 feet for the construction of concrete abutments, founded on driven piles. Construction of the roadway approaches will involve the removal of existing pavement and placement of new roadway fill material, aggregate base, hot mix asphalt pavement, and installation of guard rail. Tree removal and removal of other vegetation along the creek will be necessary for the Project. Temporary work within Hamilton Creek includes removal of the existing structure, falsework erection and removal, and installation of scour countermeasures at the abutments. Temporary creek diversion through a temporary crossing is anticipated in order to complete activities within the waterway. Relocation of overhead electrical and communication lines, including two utility poles and underground telecommunication lines are anticipated as part of the Project.

Cultural resources identification efforts for this report included survey of the entire Area of Potential Effects (APE), a records search at the Northwest Information Center (NWIC), and archival research. As a result of the record search at the NWIC, one cultural resource was identified within the Project APE. This resource, the Guinda Bridge, was determined to be a category 5 bridge during the Caltrans historic bridge inventory program. The pedestrian survey resulted in a finding of no additional cultural resources identified within the APE.

It is Caltrans' policy to avoid cultural resources whenever possible. Further investigations may be needed if the site[s] cannot be avoided by the Project. If buried cultural materials are encountered during construction, it is Caltrans' policy that work stop in that area until a qualified archaeologist can evaluate the nature and significance of the find. Additional survey will be required if the Project changes to include areas not previously surveyed.

Archaeological Survey Report

Project Location:

Yolo County, California

Section 4, T11N; R03W,

7.5 USGS Quadrangle Guinda

1 INTRODUCTION

Gallaway Enterprises conducted an Archaeological Survey Report County Road (CR) 49 over Hamilton Creek Bridge Replacement Project (Project) consisting of an approximately 1.49-acre survey area located in Guinda, a census-designated place in Yolo County, California. The Project site is located at latitude 38.831737 and longitude -122.203375, on section 4 of T11N; R03W of the Guinda 7.5' USGS quad (**Figures 1 and 2**). The Project currently proposed on the site is the construction of a new bridge along a similar alignment as the existing structurally deficient bridge being replaced.

To access the site from the Sacramento area, take I-5 N toward Woodland. From I-5 N, take exit 537 for Main Street. Turn left onto E Main Street and continue on E main Street/CA-16. Follow the signs to stay on CA-16 for approximately 31.3 miles and turn left onto Forest Avenue. Continue on Forest Avenue for approximately 0.4 miles and turn right onto CR 49. Continue on CR 49 for approximately 0.4 miles you will arrive at the CR 49 Bridge. The survey area encompasses the entire existing CR 49 over Hamilton Creek Bridge and approaches on both sides on the bridge.

1.1 Project Description

Yolo County proposes to replace the existing bridge on CR 49 crossing over Hamilton Creek with funding made available through the FHWA Highway Bridge Program and administered by Caltrans. The bridge was determined to be functionally obsolete as recently as 2013 and currently has a sufficiency rating of 43.1.

The Project site is located within the northwestern corner of Yolo County, west of Highway 16. CR 49 is a rural local roadway that extends from CR 59 on the south to its terminus roughly three miles to the northwest. Within the Project vicinity, CR 49 varies between a paved and a dirt and gravel roadway with an approximate width of 18 feet and no shoulders. The bridge, with an Average Daily Traffic count of 106 vehicles, serves 10 agricultural/ rural properties, some which are developed with residential home sites, located on the northwest side of Hamilton Creek. Four of the properties immediately adjacent to the bridge will require permanent and/or temporary right of way acquisition to construct and complete the Project. There are no posted speed limits within the Project vicinity.

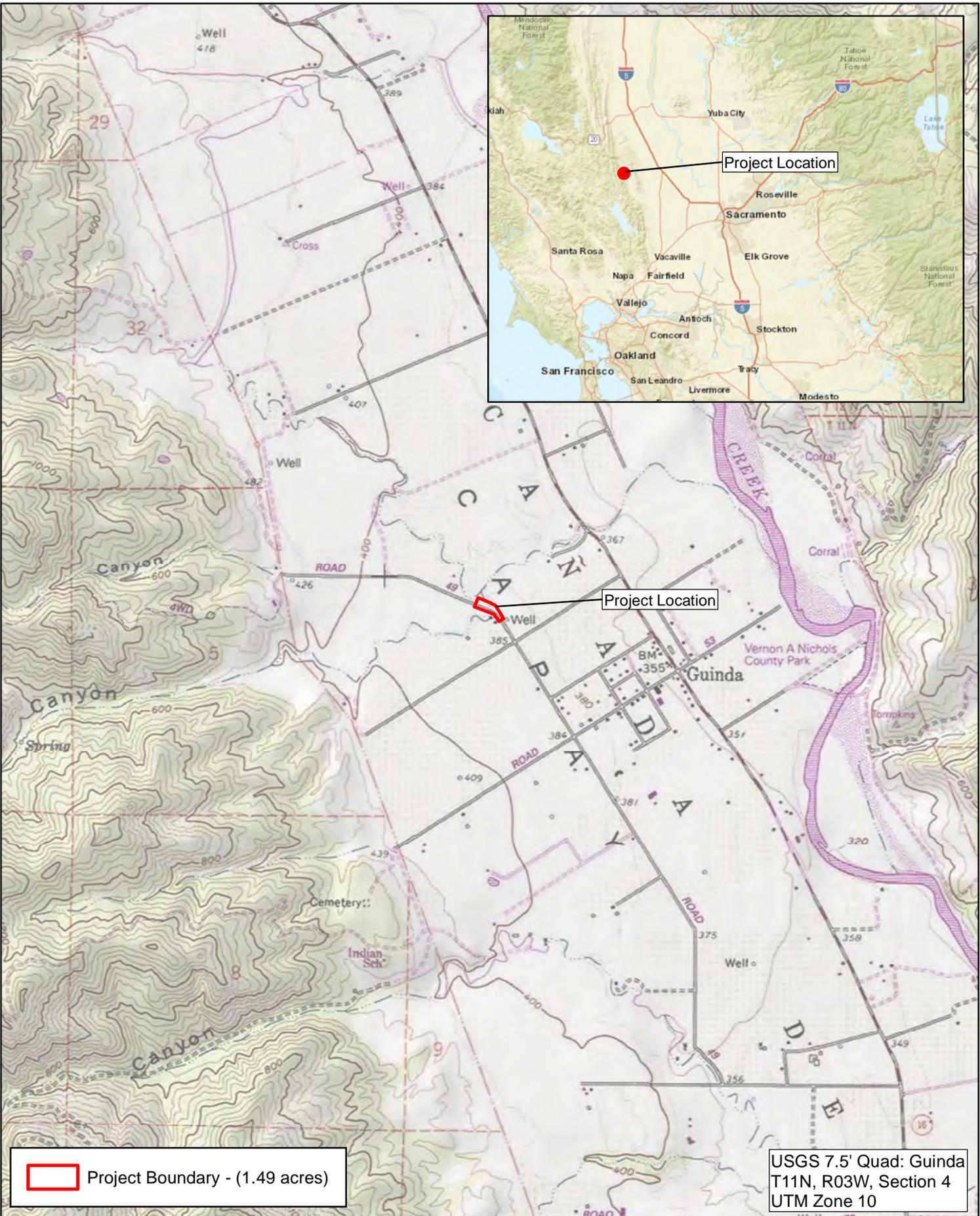
The existing bridge (Bridge No. 22C0095) was constructed in 1911 and is approximately 26 feet long and 20 feet wide. The structure consists of a single-span, earth-filled concrete arch. The bridge has rock pockets and spalling with exposed rebar on the arch soffit. Additionally, the bridge abutments footings are exposed along their entire lengths.

The proposed Project will construct a new bridge along a similar alignment as the existing structure. The bridge will accommodate two 10-foot travel lanes and two-foot shoulders. The new bridge is anticipated to be a single-span, structure approximately 61 feet long. The structure type is expected to consist of cast-in-place post tensioned concrete slab. The roadway and bridge profile will be raised slightly and is expected to clear a 30- to 40-year storm event.

Construction of the bridge will involve excavation to a depth of 22 feet for the construction of concrete abutments, founded on driven piles. Construction of the roadway approaches will involve the removal of existing pavement and placement of new roadway fill material, aggregate base, hot mix asphalt pavement, and installation of guard rail. Tree removal and removal of other vegetation along the creek will be necessary for the Project. Temporary work within Hamilton Creek includes removal of the existing structure, falsework erection and removal, and installation of scour countermeasures at the abutments. Temporary creek diversion through a temporary crossing is anticipated in order to complete activities within the waterway.

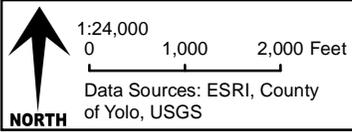
Relocation of overhead electrical and communication lines, including two utility poles, and underground telecommunication lines are anticipated as part of the Project. Permanent right of way acquisition will be needed from the parcels identified as Assessor's Parcel Numbers (APNs) 060-090-010 and 060-090-007. Temporary construction easements will be needed from all four adjacent parcels (APNs 060-090-010, -007, -006, and -003) to facilitate driveway conforms, utility relocations, and allow construction access.

During construction, vehicular traffic through the Project site will be maintained with a temporary crossing north of the existing bridge. The temporary crossing is anticipated to consist of pipe culverts to convey stream flow. Gravel backfill will be placed on top of the pipe culverts to provide a drivable surface. Following completion of construction, all this material will be removed. Construction is anticipated to begin in spring 2023 with a duration of approximately eight months.



 Project Boundary - (1.49 acres)

USGS 7.5' Quad: Guinda
T11N, R03W, Section 4
UTM Zone 10



County Road 49 Over Hamilton Creek
Regional Location Map
Figure 1





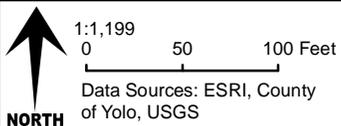
38.8319,
-122.2043

County Road 49

Hamilton Creek

38.8314,
-122.2026

 Project Boundary - (1.49 acres)



County Road 49 Over Hamilton Creek
Project Location Map
Figure 2

gallaway
ENTERPRISES

GE: #17-013C Map Date: 09/28/20

1.2 Area of Potential Effects

The Area of Potential Effects (APE) for the Project was established in consultation with and signed by William Larson, PQS: PI - Prehistoric Archaeology, Mark Christison, Senior Civil Engineer, and Local Assistance Engineer, Vlad Popko; approved on September 8, 2021. The APE is approximately 1.49 acres and includes a portion of CR 49, including a new bridge length of approximately 50 feet and approximately 200 feet of roadway on either side of the bridge. The APE includes approximately 180 linear feet of Hamilton Creek, running south to north through the Project. A staging area is included within the APE.

The proposed Project will construct a new bridge along a similar alignment as the existing structure. The bridge will accommodate two 10-foot travel lanes and two-foot shoulders. The new bridge is anticipated to be a single-span, structure approximately 40 to 50 feet long. Within the Project vicinity, CR 49 varies between a paved and a dirt and gravel roadway with an approximate width of 18 feet and no shoulders. Four of the properties immediately adjacent to the bridge will require permanent and/or temporary right of way acquisition to construct and complete the Project. The roadway and bridge profile will be raised slightly.

Construction of the bridge will involve excavation to a depth of 22 feet for the construction of concrete abutments, founded on driven piles. Construction of the roadway approaches will involve the removal of existing pavement and placement of new roadway fill material and installation of guard rail. Relocation of overhead electrical and communication lines, including two utility poles, and underground telecommunication lines are anticipated as part of the Project.

During construction, vehicular traffic through the Project site will be maintained with a temporary crossing north of the existing bridge. The temporary crossing is anticipated to consist of pipe culverts to convey stream flow (**Figure 3**).

1.3 Regulatory Context

The proposed Project is considered a federal undertaking subject to 36 CFR Part 800, implementing regulations for Section 106 of the National Historic Preservation Act (NHPA) and conducted under the guidelines of the January 1, 2014, First Amended Programmatic Agreement among the Federal Highway Administration, the Advisory Council on Historic Preservation, the California State Historic Preservation Officer, and the California Department of Transportation Regarding Compliance with Section 106 of the National Historic Preservation Act (January 1, 2014) (PA). In addition, the Project is subject to state historic preservation laws and regulations set forth in the California Environmental Quality Act (PRC§21000 et seq.).



LOCAL AGENCY APPROVAL

Mark Christison

Printed Name

Mark T. Christison 9/1/21

Yolo County

Date

CALTRANS APPROVAL

William Larson

Printed Name

William E. Larson 9/8/21

Caltrans District 3

Date

Professionally Qualified Staff

CALTRANS APPROVAL

Vlad Popko

Printed Name

Vlad Popko 9/8/21

Caltrans District 3

Date

Local Assistance Engineer

Area of Potential Effects - (1.49 acres)



1:1,200
0 50 100 Feet

Data Sources: ESRI, Yolo County 04/13/2018

County Road 49 Over Hamilton Creek
Area of Potential Effects
Figure 3

gallaway
ENTERPRISES

GE: #17-013C Map Date: 02/25/21

1.4 Personnel

Archaeological background research and fieldwork for the Project and preparation of this ASR was completed by:

- Catherine Davis; M.A. in Anthropology from California State University Chico, Chico; RPA certified; 6+ years archaeological experience in California; 4 years in cultural resource management.

2 SOURCES CONSULTED

2.1 Summary of Methods and Results

Archaeological survey report efforts included a pedestrian survey, a records search, Native American outreach, and archival research. One cultural resource was identified within the Project boundary as a result of the NWIC record search. No additional cultural resources were identified as a result of the pedestrian survey. Native American outreach indicated potential impacts to cultural resources and the Tribe recommends a cultural resource monitor and sensitivity training. No information about any historical resources resulted from consultation with historical groups; at the time of writing this document, no responses from the historical society have been received in regard to this Project.

2.1.1 Records Search and Results

A record search of the Northwest Information Center (NWIC) at Sonoma State University was performed by NWIC staff on November 19, 2020 (Record Search No. 20-0777). The search included all previously recorded cultural resources and reports within a half mile radius of the APE (see Appendix A). The record search was conducted to determine if any portion of the Project has been previously surveyed and if any cultural resources have been previously recorded within the Project APE.

Results of the record search indicated one previous cultural resource is recorded within the APE and five cultural resources are recorded within a half mile of the Project boundary. One cultural resource report is recorded within the Project boundary and two reports have been recorded within a half mile of the Project boundary. Four reports classified as “other” reports have been conducted on geographical boundaries that include the Project boundary. These reports are general research reports or thesis research that generally include large portions of land and do not include pedestrian survey. Cultural resources recorded within a half mile radius of the APE consist of historic structures associated with Guinda and one prehistoric midden site. The site lies just under half a mile to the northeast of the current Project location.

The cultural resource recorded within the Project boundary consists of the bridge over Hamilton Creek. The bridge has been referred to as the Guinda Bridge and was recorded as part of the Yolo County Historic Resources Survey compiled by Les & Thomas Associates and Howard Moore and prepared by the Yolo County Community Development Agency in 1986. The bridge has also been assessed as part of the Caltrans statewide historic bridge inventory program. The bridge at CR 49 over Hamilton Creek,

bridge #22C0095, was determined not eligible for the National Register of Historic Places (NRHP) as a category 5 bridge (see Appendix C).

Archival research indicates the Project location has been cultivated for agricultural beginning in the early 1900s. There are no sites listed within the NRHP or California Register of Historical Resources (CRHR). The Project site lies half a mile northwest of the town of Guinda. In the Guinda and surrounding area, five buildings and structures have been determined to meet the criteria for listing in the NRHP and/or the CRHR, or have local designation. None have been formally nominated and listed in the NRHP.

2.1.2 Summary of Native American Consultation

Native American outreach was initiated on October 20, 2020 with a record search and sacred land files request sent to the Native American Heritage Commission. A result of the sacred lands file returned a negative result. All parties listed on the contact list were sent notification letters on October 30, 2020.

One response was received by the Yocha Dehe Wintun Nation Tribal Historic Preservation Officer (THPO). The letter indicated the Yocha Dehe Wintun Nation have cultural interest in the Project location and assigned the Tribe as the authority in the proposed Project area. The response also indicated potential impacts to cultural resources. The recommendation for a cultural monitor during initial ground disturbing activity and cultural sensitivity training was made. Should any new information or items be discovered as result of Project related activity, the Yocha Dehe Wintun Nation requests notification. Laverne Bill, Cultural Resources Manager, was assigned the person of contact. In communications with Mr. Bill, he expressed a concern for potential impacts to unknown cultural resources due to the proximity of the site to water and tribal lands. Mr. Bill also noted gathering material was present within the area of the Project (personal communication, February 17, 2021). The assigned contact information is also provided and available in Appendix B.

2.1.3 Summary of Historical Group Consultation

Gallaway Enterprises contacted local historical groups consisting of the Archives and Records Center of the Yolo County Library, Historical Resources Management Commission, Davis Historical Society, Friends of Davis Historical Resources, Yolo County Historical Society, Davis Branch Library, and the Davis Friends of Hattie Webber Museum on July 29, 2021 for input, comments and information regarding potential historic resources that may be affected by the project. No responses to the initial outreach were received by August 12, 2021. Gallaway Enterprises made additional attempts to contact the historical groups by phone and email on August 13 and 16, 2021. At the time of writing this document, no responses from the historical groups have been received in regard to this Project.

3 BACKGROUND

3.1 Environment

The Project site is located within the Capay Valley in Guinda, Yolo County, California. The site is primarily composed of the paved roadway, an intermittent drainage, Hamilton Creek, and active agricultural land. The site is the location of an existing structurally deficient bridge, the CR 49 Bridge over Hamilton Creek.

The stretch of Hamilton Creek within the Project site is highly channelized. The Project site is surrounded by rural residential homes to the south/southwest, disturbed annual grassland to the west/northwest and actively farmed agricultural land to the east.

The average annual precipitation is 19.49 inches and the average annual temperature is 60.95° F (WRCC 2020) in the region where the Project site is located. The Project site occurs at an average elevation of 380 feet above sea level. The overall area is sloped between 0 and 2 percent; however, the channel banks were highly channelized and had slopes of 70 percent or greater. Soils within the site were loams with a restrictive layer typically occurring more than 80 inches deep.

3.2 Ethnography

The APE is located in the traditional territory of the Patwin. The Patwin belong to the Wintuan family of Penutian speakers, a linguistic language family whose members are found throughout California (Moratto 1984). Wintuan language subgroups consist of Wintu (Northern Wintuan), Nomlaki (Central Wintuan) and Patwin (Southern Wintuan) (Kroeber 1925). The Patwin are traditionally subdivided into two groups, the Hill Patwin and the River Patwin. The APE lies in the traditional territory of the River Patwin who inhabited areas of high ground along the Sacramento River. Patwin were said to have had one of the largest nations of the state, consisting of the triplets (Powers 1877).

The Patwin subsistence patterns consisted of hunting, fishing, and gathering. Acorns are considered to have been a staple of the Patwin and were used for gruel, soup, and bread. Other goods gathered included berries, roots, nuts, seeds, wild honey, and greens. Hunting sources included aquatic birds, quail, tule elk, rabbits, beaver, deer, fishing, and shellfish collecting. Deer were an important resource and typically caught using snares, or by community drives. Fish were another important resource to the River Patwin and salmon runs and fishing rights were regulated by the River Patwin. Fish were consumed fresh and dried to be consumed during winter months (Johnson 1978).

Villages contained several structures including houses, the menstrual hut, dance houses, granaries, and sweat houses (Kroeber 1925). Villages typically contained anywhere from four to five, to several dozen houses. Patwin technology included ground and flaked stone tools, mortars and sinew backed bows, basketry, nets, and leather working. Trade was conducted with surrounding tribes and included obsidian, marine shells, acorns, and chert tools.

At the time of contact, Native Americans in the Sacramento Valley suffered devastating consequences. Euro-American presence in the region including fur trapping expeditions through the region in 1832-33 resulted in the introduction of devastating diseases. As a result, large population and territory losses were suffered by the Patwin and neighboring Native American groups.

3.3 Prehistory

Archaeological data has shown human occupation in California, including the Sacramento Valley, for at least the past 10,000–12,000 years. Due to the varied environmental conditions throughout California, technological adaptations are greatly varied both geographically and temporally. The following cultural chronology has been synthesized from work by Moratto (1984), and Rosenthal, White, and Sutton (2007). The prehistory of this region is defined in five major periods, the Paleo-Indian, Lower Archaic, Middle Archaic, Upper Archaic, and Emergent.

The Paleo-Indian Period (11,500 BC–8550 BC) – Represented by relatively few known sites. Sites are located along the shores of large lakes. Traditionally, Paleo-Indian subsistence and land use has been tied to the hunting. Fluted projectile points and concave base points.

The Lower Archaic Period (8550 BC–5550 BC) - Generally, drier conditions prevailed bringing about a reduction in the size and number of large pluvial lakes. Subsistence focus shifted to the consumption of plant foods. Assemblages represented by stemmed points, chipped stone crescents, and other flaked stone. Valley floor assemblages also seem to vary from the Coast Range foothills where unlike the absence of milling implements in valley floor assemblages, the Coast Range Foothills sites often contain accumulations of milling slabs, handstones, and other milling implements.

The Middle Archaic Period (5550 BC– 550 BC) – this period is represented by a marked change in environmental temperature to a warmer drier climate resulting in the declines of lakes throughout the region. Along with the shrinking of lakes came the birth of the Sacramento- San Joaquin Delta. Research done on this period has led to the identification of two settlement-subsistence adaptations, those being the foothills and valley floor adaptations. Foothill Traditions are marked by expedient cobble-based pounding, chopping, scraping, and mulling tools. Assemblages are composed of flaked and ground stone tools. Valley Traditions assemblages are rare in number especially compared to those associated with the foothill tradition. The assemblages of this tradition are marked by increasing year round settlement along the river corridors of the Sacramento and San Joaquin Rivers marked by an archaeological assemblage of specialized tools and trade objects.

Upper Archaic Period (550 BC–1100 AD) - Upper Archaic environmental conditions are marked by cooler, wetter weather, and a more stable climate. Archaeological assemblages represent more cultural diversity evidenced by differences in burials and material cultures. Bone tools, beads, ceremonial blades, polished ground stone plummets are all common in this period. Substantial village settlements evidenced by mound sites in the region.

Emergent Period (1000 AD– Historic) – The emergent period is marked by the Sweetwater and Shasta Complexes in the northern Sacramento Valley. This period is also representative of the most substantial artifact assemblage. Several technological and social changes distinguish this period. The bow and arrow were introduced. Territorial boundaries between groups became well established and settlement patterns were highly sedentary. Exchange of goods between groups is more regular with more

resources, including raw materials, entering into the exchange networks. During the latter years of this period, large-scale European settlement began to greatly impact traditional Native American lifeways.

3.4 History

The Project boundary lies within the County of Yolo, one of the original 27 counties of California. Yolo is bounded by Colusa County to the north, Solano County to the south Napa County and Lake County to the west and Sutter County and Sacramento County to the East. The Sacramento River comprises of the eastern boundary of the county and a majority of the western boundary is comprised of ridgeline. Yolo County, within in the Sacramento Valley, contained land with rich soil and many came to area to take advantage of the fertile soil. Settlement of Yolo County began with towns concentrated near the Sacramento River. The first County seat, Fremont, was founded in 1849 at the confluence of the Sacramento and Feather Rivers.

Originally, Yolo County was divided into several Mexican Land Grants. Settlement patterns in the County continued to grow through the 1800s as farmers and ranchers flocked to the county in pursuit of the rich soil and land. John Wolfskill acquired a grant of four leagues along Putah Creek approximately 4 miles southwest of the APE in 1842. Wolfskill introduced vines and orchards to his rancho and provided cuttings to new immigrants. In 1845 the Mexican government granted Rancho Laguna de Santos Calle east of Wolfskill's grant, to Marcos Vaca and Victor Prudon. Immigrant Joseph B. Chiles purchased a portion of the grant, upon which Davis sits, in 1849 (Larkey and Walters, 1987). In the Capay Valley, where the Project is located, several Mexican Land Grants spurred on settlement of the valley. In 1842 a Mexican Land Grant was granted to William Gordon containing lands on both sides of Cache Creek near the Project location. Adjacent to this grant, on land in which the Project is located, the Rancho Canada De Capay Land Grant was granted to Nemesio, Francisco, and Santiago Berryessa in 1846.

The Rancho Canada De Capay Land Grant was acquired by Jasper O'Farrell in 1847 and the land was quickly divided up and sold to settlers coming into the region. Cache Creek, the major creek running through the Capay Valley aided in the establishment of agriculture and livestock industries that began to thrive in the region (EIP 1995; Larkey 1980).

During the next several decades factors that increased stability for the residents along Putah and Cache Creek in Yolo County included a growing concern over transportation. Prior to 1862, Washington (later known as Broderick), a town on the western bank of the Sacramento River, had served as the county seat. On the Eastern bank of the Sacramento River, just east of Washington, laid the City of Sacramento. The first bridge crossing the Sacramento River was built in 1857 and connected Washington and Sacramento. In 1869, the bridge was rebuilt to accommodate the transcontinental railroad (Kyle 1990). With the introduction of the rail line growth in the region was largely influenced by the railroad and as the route diverted traffic away from Washington and through the greater Sacramento area, Washington was incorporated into West Sacramento.

The introduction of the railroad is also credited with the establishment Guinda. In 1887, Capay Valley Land Company established the Guinda townsite adjacent to the railroad depot. Named the Guinda

Colony Tract, approximately 1,380 acres were allocated for a subdivision that included rural lots of 10 and 20 acres. Agricultural endeavors, such as packing and shipping orchard products, were staples of the town's economy until the 1920s. By the 1980s, the town consisted of a small settled residential area and local businesses. The Project site is located on land that appears to have been used for agricultural purposes as early as the early 1900s.

4 FIELD METHODS

4.1 Survey Methods and Coverage

A pedestrian survey was completed on December 10, 2020 by Gallaway Enterprises Archaeologist, Catherine Davis. Due to the narrow Project boundary, the pedestrian survey covered the entire APE (**Figure 4**). The weather was sunny with no cloud cover. The entire APE is comprised of paved road, land adjacent to agriculture, or private residence approaches. The roadway within the APE is very narrow. The APE abuts a private residence on the southwest portion of the Project and is surrounded by agricultural land on other sides.

The APE includes land adjacent to agriculture on the north/northeastern portion of the APE. This portion of the Project had dense land cover and surface scrapes were utilized to aid in visibility. Very little trash or debris was present within the APE. The bridge itself is concrete with metal railings with a mildly steep profile down to the creek bed. No water was present in the creek bed during the pedestrian survey and very little debris was present under the bridge. No additional archaeological sites were identified during the pedestrian survey. The bridge at CR 49 over Hamilton Creek, bridge #22C0095, was previously determined not eligible for the National Register of Historic Places (NRHP) as a category 5 bridge (see Appendix C).

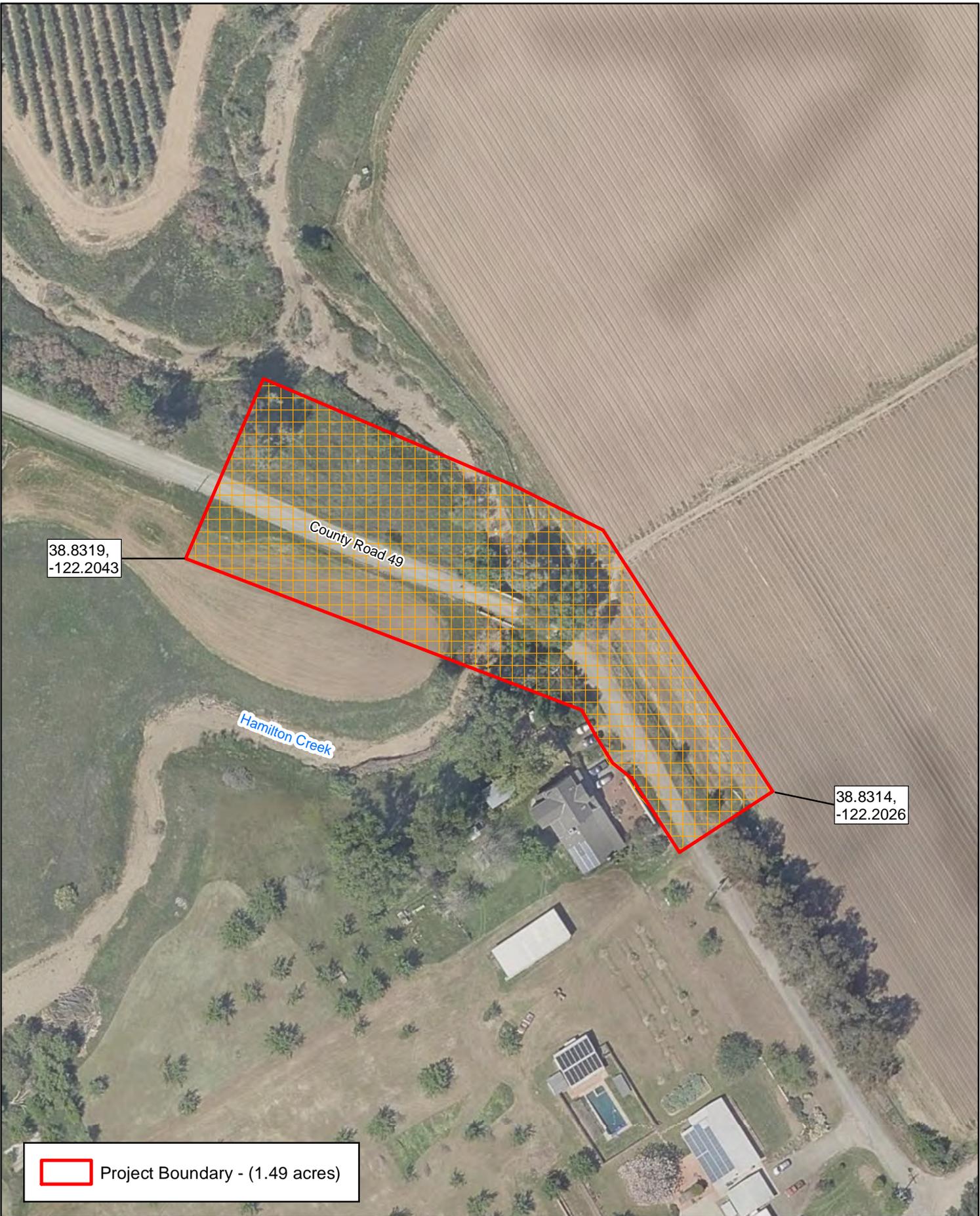
5 STUDY FINDINGS AND CONCLUSIONS

As a result of the pedestrian survey no previously unidentified archaeological sites were identified. The previously recorded archaeological site within the Project boundary, the Guinda Bridge, was previously determined not eligible for the National Register of Historic Places (NRHP) during the Caltrans historic bridge inventory as a category 5 bridge. A record search returned a finding of one previously recorded archaeological site within the Project boundary and five resources previously identified within a half mile of the Project location.

Native American outreach indicated gathering material are within the vicinity of the Project location and the Project site is considered sensitive for cultural resources due to the proximity of local waterways and Tribal property. As a result of outreach efforts in conjunction with archival research and the pedestrian survey, the site is considered to have a moderate sensitivity for unidentified cultural resources.

5.1 Unidentified Cultural Materials

If previously unidentified cultural materials are unearthed during construction, it is Caltrans' policy that work be halted in that area until a qualified archaeologist can assess the significance of the find. Additional archaeological survey will be needed if Project limits are extended beyond the present survey limits.



38.8319,
-122.2043

County Road 49

Hamilton Creek

38.8314,
-122.2026

 Project Boundary - (1.49 acres)



1:1,201
0 50 100 Feet

Data Sources: ESRI, Yolo County 04/13/2018

County Road 49 Over Hamilton Creek
Archaeological Survey Coverage
Figure 4

gallaway
ENTERPRISES

GE: #17-013C Map Date: 02/18/21

5.2 Site Photos Taken on December 10, 2020



Figure 5. Bridge profile, viewing northeast



Figure 6. Project overview, viewing northwest

6 REFERENCES

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Appendix A

Northwest Information Center Record Search and DPR Forms

CALIFORNIA
HISTORICAL
RESOURCES
INFORMATION
SYSTEM



ALAMEDA
COLUSA
CONTRA COSTA
DEL NORTE

HUMBOLDT
LAKE
MAREN
MENDOCINO
MONTEREY
NAPA
SAN BENITO

SAN FRANCISCO
SAN MATEO
SANTA CLATA
SANTA CRUZ
SOLANO
SONOMA
YOLO

Northwest Information Center
Sonoma State University
150 Professional Center Drive, Suite E
Rohnert Park, California 94928-3609
Tel: 707.588.8455
nwic@sonoma.edu
<http://www.sonoma.edu/nwic>

11/19/2020

NWIC File No.: 20-0777

Catherine Davis
Gallaway Enterprises
117 Meyers Street, Suite 120
Chico, CA 95928

Re: County Road 49 Over Hamilton Creek

The Northwest Information Center received your record search request for the project area referenced above, located on the Guinda USGS 7.5' quad(s). The following reflects the results of the records search for the project area and a 0.5 mi. radius:

Resources within project area:	P-57-001479
Resources within 0.5 mi. radius:	P-57-000018, P-57-000132, P-57-000602, P-57-000715, P-57-001481
Reports within project area:	S-595*, 9795*, 17835*, 30204*, 30906
Reports within 0.5 mi. radius:	S-35042, 48930

- 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 Built Environment Resources Directory:** enclosed not requested nothing listed
- Archaeological Determinations of Eligibility:** enclosed not requested nothing listed
- CA Inventory of Historic Resources (1976):** enclosed not requested nothing listed
- Caltrans Bridge Survey:** enclosed not requested nothing listed
- Ethnographic Information:** enclosed not requested nothing listed

Historical Literature:

enclosed not requested nothing listed

Historical Maps:

enclosed not requested nothing listed

Local Inventories:

enclosed not requested nothing listed

GLO and/or Rancho Plat Maps:

enclosed not requested nothing listed

Notes:

*These are in our "Other Reports" category, no PDFs requested.

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 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 California Historical Resources Information System (CHRIS).

Sincerely,

Annette Neal

Researcher

State of California & The Resources Agency
 DEPARTMENT OF PARKS AND RECREATION
PRIMARY RECORD

Primary #
 HRI #
 Trinomial
NRHP Status Code

Other
 Review Code

Reviewer

Date

Listings

Page 1 of 1 *Resource Name or #: (Assigned by recorder) P-57-001479

P1. Other Identifier: Guinda Bridge

***P2. Location:** Not for Publication Unrestricted

***a. County** Yolo and (P2c, P2e, and P2b or P2d. Attach a Location Map as necessary.)

***b. USGS 7.5' Quad** Guinda **Date** 2018 **T11N; R 03W; 04** of **Sec** ; **MD** **B.M.**

c. Address CR 49 over Hamilton Creek **City** Guinda **Zip** 95637

d. UTM: (Give more than one for large and/or linear resources) **Zone** 10, 569064 mE/ 4298423 mN

e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, decimal degrees, etc., as appropriate)

***P3a. Description:** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)

This is an update for the Guinda Bridge was recorded by Les & Thomas Associates and Howard Moore as a historic structure on CR 49 in 1986. The bridge was also assessed as part of the Caltrans historic bridge survey. The bridge was rated as a category 5 bridge. The bridge is 26ft long, 20 ft wide, and 22 ft in height. The structure consists of a single-span, earth-filled concrete arch. The bridge has rock pockets and spalling with exposed rebar on the arch soffit. Additionally, the bridge abutments footings are exposed along their entire lengths.

P5a. Photograph or Drawing (Photograph required for buildings, structures, and objects.)



***P3b. Resource Attributes:** (List attributes and codes) HP11

***P4. Resources Present:** Building Structure Object Site District Element of District Other (Isolates, etc.)

P5b. Description of Photo: (view, date, accession #) bridge, northeast

***P6. Date Constructed/Age and Source:** Historic Prehistoric Both

***P7. Owner and Address:**
Yolo county

***P8. Recorded by:** (Name, affiliation, and address) cate davis

***P9. Date Recorded:** 2/22/2021

***P10. Survey Type:** (Describe)

pedestrian

***P11. Report Citation:** (Cite survey report and other sources, or enter "none.")

Archaeological Survey Report for the County Road 49 over Hamilton Creek Bridge Replacement

***Attachments:** NONE Location Map Continuation Sheet Building, Structure, and Object Record Archaeological Record District Record Linear Feature Record Milling Station Record Rock Art Record Artifact Record Photograph Record Other (List): _____

Appendix B

Native American and Historical Society Outreach

NATIVE AMERICAN HERITAGE COMMISSION

October 27, 2020

Catherine Davis, MA, RPA
Gallaway Enterprises

Via Email to: cate@gallawayenterprises.com

Re: County Road 96 Over Hamilton Creek Project, Yolo County

Dear Ms. Davis:

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: Sarah.Fonseca@nahc.ca.gov.

Sincerely,



Sarah Fonseca
Cultural Resources Analyst

Attachment



CHAIRPERSON
Laura Miranda
Luiseño

VICE CHAIRPERSON
Reginald Pagaling
Chumash

SECRETARY
Merri Lopez-Keifer
Luiseño

PARLIAMENTARIAN
Russell Attebery
Karuk

COMMISSIONER
Marshall McKay
Wintun

COMMISSIONER
William Mungary
Paiute/White Mountain
Apache

COMMISSIONER
Julie Tumamait-Stenslie
Chumash

COMMISSIONER
[Vacant]

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

**Native American Heritage Commission
Native American Contact List
Yolo County
10/27/2020**

***Cachil Dehe Band of Wintun
Indians of the Colusa Indian
Community***

Daniel Gomez, Chairman
3730 Highway 45 Wintun
Colusa, CA, 95932
Phone: (530) 458 - 8231
dgomez@colusa-nsn.gov

Yocha Dehe Wintun Nation

Isaac Bojorquez, Director of
Cultural Resources
PO Box 18 Brooks, CA 95606 Patwin
Phone: (530) 796 - 0103
ibojorquez@yochadehe-nsn.gov

***Cachil Dehe Band of Wintun
Indians of the Colusa Indian
Community***

Clifford Mota, Tribal Preservation
Liaison
3730 Highway 45 Wintun
Colusa, CA, 95932
Phone: (530) 458 - 8231
cmota@colusa-nsn.gov

***Cortina Rancheria - Kletsel
Dehe Band of Wintun Indians***

Charlie Wright, Chairperson
P.O. Box 1630 Wintun
Williams, CA, 95987
Phone: (530) 473 - 3274
Fax: (530) 473-3301

Yocha Dehe Wintun Nation

Anthony Roberts, Chairperson
P.O. Box 18 Patwin
Brooks, CA, 95606
Phone: (530) 796 - 3400
aroberts@yochadehe-nsn.gov

Yocha Dehe Wintun Nation

Leland Kinter, THPO
P.O. Box 18 Patwin
Brooks, CA, 95606
Phone: (530) 796 - 3400
thpo@yochadehe-nsn.gov

Yocha Dehe Wintun Nation

Laverne Bill, Site Protection
Manager
P.O. Box 18 Patwin
Brooks, CA, 95606
Phone: (530) 796 - 3400
lbill@yochadehe-nsn.gov

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 County Road 96 Over Hamilton Creek Project, Yolo County.

Communication Log

	Initial Outreach Letter	Follow-up Email	Phone Call
Daniel Gomez, Chairperson, Cachil Dehe Band of Wintun Indians of the Calusa Indian Community	30-Oct-20	18-Feb-21	18-Feb-21
Clifford Mota, Tribal preservation Liasion, Cachil Dehe Band of Wintun Indians of the Colusa Indian Community	30-Oct-20	NA	NA
Charlie Wright, Chairperson, Cortina Rancheria - Kletsel Dehe Band of Wintun Indians	30-Oct-20	NA	NA
Anthony Roberts, Chairperson, Yocha Dehe Wintun Nation	30-Oct-20	NA	NA
Leland Kinter, THPO, Yocha Dehe Wintun Nation	30-Oct-20	NA	NA
Laverne Bill, Site Protection Manager, Yocha Dehe Wintun Nation	30-Oct-20	NA	NA
Isaac Bojorquez, Director of Cultural Resources, Yocha Dehe Wintun Nation	30-Oct-20	NA	NA

gallaway **ENTERPRISES**

117 Meyers Street • Suite 120 • Chico CA 95928 • 530-332-9909

October 30, 2020

Charlie Wright, Chairperson
Cortina Rancheria-Kletsel Dehe Band of Wintun Indians
P.O. Box 1630
Williams, CA., 95987

RE: County Road 49 over Hamilton Creek Bridge Replacement Project

Dear Mr. Wright;

Gallaway Enterprises has been requested to conduct an archaeological survey of the County Road 49 over Hamilton Creek Bridge Replacement Project (Project) consisting of approximately 1.49 acres. The project site is located within the northwestern corner of Yolo County, west of Highway 16. County Road 49 is a rural local roadway that extends from County Road 59 on the south to its terminus roughly three miles to the northwest. Within the project vicinity, County Road 49 varies between a paved and a dirt and gravel roadway. The existing bridge (Bridge No. 22C0095) was constructed in 1911 and is approximately 26 feet long and 20 feet wide. The structure consists of a single-span, earth-filled concrete arch. The bridge has rock pockets and spalling with exposed rebar on the arch soffit. Additionally, the bridge abutments footings are exposed along their entire lengths. The proposed project will construct a new bridge along a similar alignment as the existing structure. The new bridge is anticipated to be a single-span, structure approximately 40 to 50 feet long.

Gallaway Enterprises is contacting the Cortina Rancheria-Kletsel Dehe Band of Wintun Indians to aid in the identification of any cultural resources within the project boundary or any initial concerns with the proposed project. Please notify us within 14 days with any pertinent information you may have regarding the project location. We value your assistance and look forward to your response. Please contact Catherine Davis at Gallaway Enterprises with any questions or concerns you may have. Thank you for your attention to this matter.

Sincerely,

Catherine Davis, M. A., RPA
Gallaway Enterprises, Inc.
530.332.9909 ext. 206
Cate@gallawayenterprises.com
117 Meyers St. Suite 120
Chico, Ca. 95928

Encl. *County Road 49 over Hamilton Creek Bridge Replacement Project Project Location Map.*

gallaway ENTERPRISES

117 Meyers Street • Suite 120 • Chico CA 95928 • 530-332-9909

October 30, 2020

Anthony Roberts, Chairperson
Yocha Dehe Wintun Nation
P.O. Box 18
Brooks, CA, 95606

RE: County Road 49 over Hamilton Creek Bridge Replacement Project

Dear Mr. Roberts;

Gallaway Enterprises has been requested to conduct an archaeological survey of the County Road 49 over Hamilton Creek Bridge Replacement Project (Project) consisting of approximately 1.49 acres. The project site is located within the northwestern corner of Yolo County, west of Highway 16. County Road 49 is a rural local roadway that extends from County Road 59 on the south to its terminus roughly three miles to the northwest. Within the project vicinity, County Road 49 varies between a paved and a dirt and gravel roadway. The existing bridge (Bridge No. 22C0095) was constructed in 1911 and is approximately 26 feet long and 20 feet wide. The structure consists of a single-span, earth-filled concrete arch. The bridge has rock pockets and spalling with exposed rebar on the arch soffit. Additionally, the bridge abutments footings are exposed along their entire lengths. The proposed project will construct a new bridge along a similar alignment as the existing structure. The new bridge is anticipated to be a single-span, structure approximately 40 to 50 feet long.

Gallaway Enterprises is contacting the Yocha Dehe Wintun Nation to aid in the identification of any cultural resources within the project boundary or any initial concerns with the proposed project. Please notify us within 14 days with any pertinent information you may have regarding the project location. We value your assistance and look forward to your response. Please contact Catherine Davis at Gallaway Enterprises with any questions or concerns you may have. Thank you for your attention to this matter.

Sincerely,

Catherine Davis, M. A., RPA
Gallaway Enterprises, Inc.
530.332.9909 ext. 206
Cate@gallawayenterprises.com
117 Meyers St. Suite 120
Chico, Ca. 95928

Encl. *County Road 49 over Hamilton Creek Bridge Replacement Project Project Location Map.*

gallaway ENTERPRISES

117 Meyers Street • Suite 120 • Chico CA 95928 • 530-332-9909

October 30, 2020

Leland Kinter, THPO
Yocha Dehe Wintun Nation
P.O. Box 18
Brooks, CA, 95606

RE: County Road 49 over Hamilton Creek Bridge Replacement Project

Dear Mr. Kinter;

Gallaway Enterprises has been requested to conduct an archaeological survey of the County Road 49 over Hamilton Creek Bridge Replacement Project (Project) consisting of approximately 1.49 acres. The project site is located within the northwestern corner of Yolo County, west of Highway 16. County Road 49 is a rural local roadway that extends from County Road 59 on the south to its terminus roughly three miles to the northwest. Within the project vicinity, County Road 49 varies between a paved and a dirt and gravel roadway. The existing bridge (Bridge No. 22C0095) was constructed in 1911 and is approximately 26 feet long and 20 feet wide. The structure consists of a single-span, earth-filled concrete arch. The bridge has rock pockets and spalling with exposed rebar on the arch soffit. Additionally, the bridge abutments footings are exposed along their entire lengths. The proposed project will construct a new bridge along a similar alignment as the existing structure. The new bridge is anticipated to be a single-span, structure approximately 40 to 50 feet long.

Gallaway Enterprises is contacting the Yocha Dehe Wintun Nation to aid in the identification of any cultural resources within the project boundary or any initial concerns with the proposed project. Please notify us within 14 days with any pertinent information you may have regarding the project location. We value your assistance and look forward to your response. Please contact Catherine Davis at Gallaway Enterprises with any questions or concerns you may have. Thank you for your attention to this matter.

Sincerely,

Catherine Davis, M. A., RPA
Gallaway Enterprises, Inc.
530.332.9909 ext. 206
Cate@gallawayenterprises.com
117 Meyers St. Suite 120
Chico, Ca. 95928

Encl. *County Road 49 over Hamilton Creek Bridge Replacement Project Project Location Map.*

gallaway **ENTERPRISES**

117 Meyers Street • Suite 120 • Chico CA 95928 • 530-332-9909

October 30, 2020

Daniel Gomez, Chairman
Cachil Dehe Band of Wintun Indians of the Colusa Indian Community
3730 Highway 45
Colusa, CA, 95932

RE: County Road 49 over Hamilton Creek Bridge Replacement Project

Dear Mr. Gomez;

Gallaway Enterprises has been requested to conduct an archaeological survey of the County Road 49 over Hamilton Creek Bridge Replacement Project (Project) consisting of approximately 1.49 acres. The project site is located within the northwestern corner of Yolo County, west of Highway 16. County Road 49 is a rural local roadway that extends from County Road 59 on the south to its terminus roughly three miles to the northwest. Within the project vicinity, County Road 49 varies between a paved and a dirt and gravel roadway. The existing bridge (Bridge No. 22C0095) was constructed in 1911 and is approximately 26 feet long and 20 feet wide. The structure consists of a single-span, earth-filled concrete arch. The bridge has rock pockets and spalling with exposed rebar on the arch soffit. Additionally, the bridge abutments footings are exposed along their entire lengths. The proposed project will construct a new bridge along a similar alignment as the existing structure. The new bridge is anticipated to be a single-span, structure approximately 40 to 50 feet long.

Gallaway Enterprises is contacting the Cachil Dehe Band of Wintun Indians of the Colusa Indian Community to aid in the identification of any cultural resources within the project boundary or any initial concerns with the proposed project. Please notify us within 14 days with any pertinent information you may have regarding the project location. We value your assistance and look forward to your response. Please contact Catherine Davis at Gallaway Enterprises with any questions or concerns you may have. Thank you for your attention to this matter.

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Chico, Ca. 95928

Encl. *County Road 49 over Hamilton Creek Bridge Replacement Project Project Location Map.*

gallaway ENTERPRISES

117 Meyers Street • Suite 120 • Chico CA 95928 • 530-332-9909

October 30, 2020

Clifford Mota, Tribal Preservation Liaison
Cachil Dehe Band of Wintun Indians of the Colusa Indian Community
3730 Highway 45
Colusa, CA, 95932

RE: County Road 49 over Hamilton Creek Bridge Replacement Project

Dear Mr. Mota;

Gallaway Enterprises has been requested to conduct an archaeological survey of the County Road 49 over Hamilton Creek Bridge Replacement Project (Project) consisting of approximately 1.49 acres. The project site is located within the northwestern corner of Yolo County, west of Highway 16. County Road 49 is a rural local roadway that extends from County Road 59 on the south to its terminus roughly three miles to the northwest. Within the project vicinity, County Road 49 varies between a paved and a dirt and gravel roadway. The existing bridge (Bridge No. 22C0095) was constructed in 1911 and is approximately 26 feet long and 20 feet wide. The structure consists of a single-span, earth-filled concrete arch. The bridge has rock pockets and spalling with exposed rebar on the arch soffit. Additionally, the bridge abutments footings are exposed along their entire lengths. The proposed project will construct a new bridge along a similar alignment as the existing structure. The new bridge is anticipated to be a single-span, structure approximately 40 to 50 feet long.

Gallaway Enterprises is contacting the Cachil Dehe Band of Wintun Indians of the Colusa Indian Community to aid in the identification of any cultural resources within the project boundary or any initial concerns with the proposed project. Please notify us within 14 days with any pertinent information you may have regarding the project location. We value your assistance and look forward to your response. Please contact Catherine Davis at Gallaway Enterprises with any questions or concerns you may have. Thank you for your attention to this matter.

Sincerely,

Catherine Davis, M. A., RPA
Gallaway Enterprises, Inc.
530.332.9909 ext. 206
Cate@gallawayenterprises.com
117 Meyers St. Suite 120
Chico, Ca. 95928

Encl. *County Road 49 over Hamilton Creek Bridge Replacement Project Project Location Map.*

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October 30, 2020

Isaac Bojorquez, Director of Cultural Resources
Yocha Dehe Wintun Nation
P.O. Box 18
Brooks, CA, 95606

RE: County Road 49 over Hamilton Creek Bridge Replacement Project

Dear Mr. Bojorquez;

Gallaway Enterprises has been requested to conduct an archaeological survey of the County Road 49 over Hamilton Creek Bridge Replacement Project (Project) consisting of approximately 1.49 acres. The project site is located within the northwestern corner of Yolo County, west of Highway 16. County Road 49 is a rural local roadway that extends from County Road 59 on the south to its terminus roughly three miles to the northwest. Within the project vicinity, County Road 49 varies between a paved and a dirt and gravel roadway. The existing bridge (Bridge No. 22C0095) was constructed in 1911 and is approximately 26 feet long and 20 feet wide. The structure consists of a single-span, earth-filled concrete arch. The bridge has rock pockets and spalling with exposed rebar on the arch soffit. Additionally, the bridge abutments footings are exposed along their entire lengths. The proposed project will construct a new bridge along a similar alignment as the existing structure. The new bridge is anticipated to be a single-span, structure approximately 40 to 50 feet long.

Gallaway Enterprises is contacting the Yocha Dehe Wintun Nation to aid in the identification of any cultural resources within the project boundary or any initial concerns with the proposed project. Please notify us within 14 days with any pertinent information you may have regarding the project location. We value your assistance and look forward to your response. Please contact Catherine Davis at Gallaway Enterprises with any questions or concerns you may have. Thank you for your attention to this matter.

Sincerely,

Catherine Davis, M. A., RPA
Gallaway Enterprises, Inc.
530.332.9909 ext. 206
Cate@gallawayenterprises.com
117 Meyers St. Suite 120
Chico, Ca. 95928

Encl. *County Road 49 over Hamilton Creek Bridge Replacement Project Project Location Map.*

gallaway ENTERPRISES

117 Meyers Street • Suite 120 • Chico CA 95928 • 530-332-9909

October 30, 2020

Laverne Bill, Site Protection Manager
Yocha Dehe Wintun Nation
P.O. Box 18
Brooks, CA, 95606

RE: County Road 49 over Hamilton Creek Bridge Replacement Project

Dear Mr. Bill;

Gallaway Enterprises has been requested to conduct an archaeological survey of the County Road 49 over Hamilton Creek Bridge Replacement Project (Project) consisting of approximately 1.49 acres. The project site is located within the northwestern corner of Yolo County, west of Highway 16. County Road 49 is a rural local roadway that extends from County Road 59 on the south to its terminus roughly three miles to the northwest. Within the project vicinity, County Road 49 varies between a paved and a dirt and gravel roadway. The existing bridge (Bridge No. 22C0095) was constructed in 1911 and is approximately 26 feet long and 20 feet wide. The structure consists of a single-span, earth-filled concrete arch. The bridge has rock pockets and spalling with exposed rebar on the arch soffit. Additionally, the bridge abutments footings are exposed along their entire lengths. The proposed project will construct a new bridge along a similar alignment as the existing structure. The new bridge is anticipated to be a single-span, structure approximately 40 to 50 feet long.

Gallaway Enterprises is contacting the Yocha Dehe Wintun Nation to aid in the identification of any cultural resources within the project boundary or any initial concerns with the proposed project. Please notify us within 14 days with any pertinent information you may have regarding the project location. We value your assistance and look forward to your response. Please contact Catherine Davis at Gallaway Enterprises with any questions or concerns you may have. Thank you for your attention to this matter.

Sincerely,

Catherine Davis, M. A., RPA
Gallaway Enterprises, Inc.
530.332.9909 ext. 206
Cate@gallawayenterprises.com
117 Meyers St. Suite 120
Chico, Ca. 95928

Encl. *County Road 49 over Hamilton Creek Bridge Replacement Project Project Location Map.*



YOCHA DEHE
CULTURAL RESOURCES

November 10, 2020

Gallaway Enterprises
Attn: Catherine Davis, M.A., R.P.A
117 Meyers Street, Suite 120
Chico, CA 95928

RE: CR49 Hamilton Creek Bridge Project YD-02042020-03

Dear Ms. Davis:

Thank you for your project notification letter dated, October 30, 2020, regarding cultural information on or near the proposed CR 49 Hamilton Creek Bridge Project, Yolo County. We appreciate your effort to contact us and wish to respond.

The Cultural Resources Department has reviewed the project and concluded it is within the aboriginal territories of the Yocha Dehe Wintun Nation. Therefore, we have a cultural interest and authority in the proposed project area.

Based on the information provided, the Tribe has concerns that the project could impact known cultural resources. Yocha Dehe Wintun Nation highly recommends including cultural monitors during development and ground disturbance. In addition, we recommend cultural sensitivity training for any pre-project personnel.

To schedule cultural sensitivity training, please contact the following individual:

Laverne Bill, Cultural Resources Manager
Yocha Dehe Wintun Nation
Office: (530) 723-3891
Email: lbill@yochadehe-nsn.gov

Please refer to identification number YD-02042020-03 in any correspondence concerning this project.

Thank you for providing us the opportunity to comment.

Sincerely,

Tribal Historic Preservation Officer

Organizations/ Individuals Receiving Letter Soliciting Input Regarding Historic Resources

Ike Nijoku, Staff Planner
Historical Resources Management Commission
City of Davis
23 Russell Blvd Suite 2
Davis, CA 95616

Mark Fink
Yolo County Archives
226 Buckeye Street
Woodland, CA 95695

John Lofland,
Davis Historical Society
jlofland@dcn.org

Tim Allis
Friends of Davis Historical Resources
timallis@ucdavis.edu

Kathy Harryman, President
Yolo County Historical Society
PO Box 1447
Woodland, CA 95776

Mary L. Stephens - Davis Branch Library
315 E 14th Street
Davis, CA 95616

Jim Becket
Davis Friends of Hattie Webber Museum
jimbecket@sbcglobal.net

Communication Log

Mailed/Emailed

CR 49 Bridge - Hamilton Creek	Initial Outreach Letter	Follow Ups
Ike Nijoku, Staff Planner, Historical Resources Management Commission, City of Davis	Mailed 7/29/2021	Ike Nijoku called on 8/16/21 and no comments
Mark Fink- Yolo County Archives	Mailed 7/29/2021	Mark called on 8/16/21 and no comments
John Lofland, Davis Historical Society	Emailed 7/29/2021	John emailed on 8/16/21 and no comments
Tim Allis, Friends of Davis Historical Resources	Emailed 7/29/2021	Email Undeliverable-receipt in project file
Kathy Harryman, President, Yolo County Historical Society	Mailed 7/29/2021	Left Msg 8/13/21 and 8/16/2021
Mary L. Stephens - Davis Branch Library	Mailed 7/29/2021	Left Msg 8/16/2021
Jim Becket, Davis Friends of Hattie Webber Museum	Emailed 7/29/2021	Left Msg 8/16/2021

Appendix C

Caltrans Historic Bridge Inventory Sheet



Historical Significance - Local Agency Bridges

District 03

Yolo County

Bridge Number	Bridge Name	Location	Historical Significance	Year Built
22C0075	COTTONWOOD SLOUGH	1.78 MI W OF CO RD 86A	5. Bridge not eligible for NRHP	1932 1956
22C0076	WILLOW SLOUGH BYPASS	Just North of CR #29	5. Bridge not eligible for NRHP	1997
22C0078	CHICKAHOMINY SLOUGH	0.7 MI W OF C.R. #95	5. Bridge not eligible for NRHP	1983
22C0079	DRY SLOUGH	JUST EAST OF C.R. #95	5. Bridge not eligible for NRHP	1959
22C0080	DRY SLOUGH	0.2 MI WEST OF C.R. #96	5. Bridge not eligible for NRHP	1959
22C0081	WEST ADAMS CANAL	1 MILE NORTH OF CAPAY	5. Bridge not eligible for NRHP	1930
22C0082	GOODNOW SLOUGH	3.0 MI NORTH OF CAPAY	5. Bridge not eligible for NRHP	1925
22C0083	SOUTH FORK OAT CREEK	0.4 MI N OF CR # 13	5. Bridge not eligible for NRHP	2006
22C0084	SYCAMORE SLOUGH	0.10 Mi S of Route 45	5. Bridge not eligible for NRHP	1961
22C0085	BRANCH PUTAH CREEK	0.1 MI E OF C.R. #103	5. Bridge not eligible for NRHP	1921
22C0086	UNION SCHOOL SLOUGH	0.2 MI N OF C.R. #29	5. Bridge not eligible for NRHP	1980
22C0087	SOUTH FORK WILLOW SLOUGH	0.71 MI N OF C.R. 27	5. Bridge not eligible for NRHP	1980
22C0088	WILLOW SLOUGH	1.5 MI W OF CO RD 98	5. Bridge not eligible for NRHP	1987
22C0091	CACHE CREEK	0.12 MI FR S.H. 16	5. Bridge not eligible for NRHP	1930
22C0094	PINE CREEK	0.14 MI N/O SH 16	5. Bridge not eligible for NRHP	1960
22C0095	HAMILTON CREEK	0.11 MI N/O C. R. 50	5. Bridge not eligible for NRHP	1911
22C0096	SALT CREEK	0.60 MI N/O SH 16	5. Bridge not eligible for NRHP	1940
22C0098	WINTERS CANAL	0.32 MI E OF C.R. 85B	5. Bridge not eligible for NRHP	1939
22C0100	WINTERS CANAL	0.64 MI S C.R. #23	5. Bridge not eligible for NRHP	1950
22C0102	COTTONWOOD SLOUGH	0.14 MI W OF C.R. #86A	5. Bridge not eligible for NRHP	1917
22C0103	WINTERS CANAL	0.24 MI E/O CR #87	5. Bridge not eligible for NRHP	1955
22C0105	CHICKAHOMINY SLOUGH	2.53 MI W OF C. R. 88	5. Bridge not eligible for NRHP	1917
22C0106	CREEK S14	0.01 MI S OF S.H. 128	5. Bridge not eligible for NRHP	1930
22C0107	COTTONWOOD SLOUGH	0.55 MI S OF C. R. 23	5. Bridge not eligible for NRHP	1930
22C0108	UNION SCHOOL SLOUGH	0.57 MI W/O CR #88	5. Bridge not eligible for NRHP	1955
22C0109	UNION SCHOOL SLOUGH	0.96 MI S OF C.R. #27	5. Bridge not eligible for NRHP	1916
22C0110	WINTERS CANAL	0.15 MI N OF C.R. #29	5. Bridge not eligible for NRHP	1930
22C0111	UNION SCHOOL SLOUGH	0.67 MI W OF C.R. #91B	5. Bridge not eligible for NRHP	1940
22C0112	WINTERS CANAL	0.13 MI E OF C.R. #88	5. Bridge not eligible for NRHP	1920
22C0113	CHICKAHOMINY SLOUGH	0.51 MI N OF C.R. #31	5. Bridge not eligible for NRHP	1957
22C0115	SOUTH FORK WILLOW SLOUGH	0.29 E OF C.R.93	5. Bridge not eligible for NRHP	1930
22C0116	NORTH FORK WILLOW SLOUGH	0.22 MI E OF C.R. #95	5. Bridge not eligible for NRHP	1930
22C0117	DRY SLOUGH	0.77 MI W OF C.R. #98	5. Bridge not eligible for NRHP	1930
22C0118	CHICKAHOMINY SLOUGH	0.27 MI W OF C.R. 91A	5. Bridge not eligible for NRHP	1976
22C0119	DRY SLOUGH	0.77 MI N OF I 505 RAMP	5. Bridge not eligible for NRHP	1970
22C0120	DRY SLOUGH	0.83 MI N OF SR 128	5. Bridge not eligible for NRHP	1947
22C0121	DRY SLOUGH	0.06 MI N OF C.R. #32	5. Bridge not eligible for NRHP	1913
22C0125	DRY SLOUGH	0.06 MI N OF C.R. #31	5. Bridge not eligible for NRHP	1930
22C0126	UNION SCHOOL SLOUGH	1.38 MI S OF C.R. #27	5. Bridge not eligible for NRHP	1930
22C0127	DRY SLOUGH	0.45 MI N OF C.R. #31	5. Bridge not eligible for NRHP	1929
22C0128	DRY SLOUGH	0.34 MI N OF C.R.29	5. Bridge not eligible for NRHP	1975
22C0129	BRETONA CREEK	0.50 MI E OF C.R. #91B	5. Bridge not eligible for NRHP	1940
22C0131	WILLOW SPRING CREEK	0.04 Mi West of CR #94	5. Bridge not eligible for NRHP	1940

Appendix F

Floodplain Evaluation Report

**CR 49 Bridge Replacement Over Hamilton Creek Project
Yolo County, California
Federal-Aid Project No. BRLO-5922(111)
Existing Bridge No. 22C0095**

Floodplain Evaluation Report



Prepared for:



Prepared by:



March 2021

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**CR 49 Bridge Replacement Over Hamilton Creek Project
Yolo County, California
Federal-Aid Project No. BRLO-5922(111)
Existing Bridge No. 22C0095**

Floodplain Evaluation Report

Submitted to:
Yolo County

This report has been prepared by or under the supervision of the following Registered Engineer. The Registered Civil Engineer attests to the technical information contained herein and has judged the qualifications of any technical specialists providing engineering data upon which recommendations, conclusions, and decisions are based.



Han-Bin Liang, Ph.D., P.E.
Registered Civil Engineer

3/5/2021

Date



March 2021

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Executive Summary

Yolo County is proposing to replace the existing bridge on County Road (CR) 49 crossing over Hamilton Creek. The CR49 Bridge Replacement over Hamilton Creek Project (Project) is located approximately 0.5 miles northwest outside of the Town of Guinda in Yolo County.

The existing bridge (Bridge No. 22C0095) was constructed in 1911 and is approximately 26-feet (ft)-long and 20-ft-wide. The existing structure is a reinforced concrete (RC) earth-filled arch on RC abutment with assumed spread footing.

The proposed Project will construct a new bridge along a similar alignment as the existing structure that will be removed. The bridge will accommodate two, 10-ft travel lanes and 2-ft shoulders. The new bridge is a single-span structure approximately 61-ft-long and 27.5-ft-wide. The structure type is cast-in-place (CIP) post-tensioned concrete slab. The roadway and bridge approach profile will be raised slightly and the bridge is expected to clear a 30- to 40-year storm event.

The purpose of this *Floodplain Evaluation Report* is to examine and analyze the existing floodplain within the Project limits, and to determine any potential impacts to recommend any avoidance, minimization, or mitigation measures that may be required to address the impacts.

The Project site is located within Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) Special Flood Hazard Area (SFHA) Zone A, which represents areas subject to flooding by the 100-year flood event determined by approximate methods where base flood elevations (BFE) are not shown.

The selected design flows for Hamilton Creek were based on a rainfall/runoff model to estimate the design discharges using HEC-HMS software, and following the Soil Conservation Service (SCS) Unit Hydrograph Method. The peak discharge calculated using the rainfall/runoff model is recommended for use in the hydraulic analysis because the SCS unit hydrograph method provides a detailed analysis of the watershed. The 100-year flow is 2,630 cubic feet per second (cfs).

The hydraulic assessment was performed using the United States Army Corps of Engineers' (USACE) Hydrologic Engineering Center's River Analysis System (HEC-RAS) modeling software. The hydraulic analysis indicates the proposed bridge replacement would result in a decrease in WSEs of 0.4 ft for the 100-year storm at the bridge site and a localized increase in WSEs of 0.2 ft downstream of the bridge. The WSEs are shown in the table below.

100-year WSE for existing and proposed bridge

River Station	Description	100-Year Water Surface Elevation (ft NAVD 88)		Difference (ft)
		Existing	Proposed	
956	508 ft upstream of bridge face	387.3	387.0	-0.3
780	326 ft upstream of bridge face	387.2	386.9	-0.3
561	108 ft upstream of bridge face	387.0	386.6	-0.4
449	Immediately upstream of the bridge	386.4	386.0	-0.4
428.5 BR U	Upstream face of the bridge	386.4	386.0	-0.4
428.5 BR D	Downstream face of the bridge	385.8	386.0	0.2
408	Immediately downstream of the bridge	384.6	384.6	0.0

The Project is not proposing to change the overall land uses within the watershed. The Project is anticipated to add impervious area. The proposed bridge replacement will provide additional fill along the roadway approach to the bridge. Based on the hydraulic model, the roadway approaches for the existing condition and the west roadway approach for the proposed condition result in overtopping. Therefore, the existing and proposed bridge replacement would be expected to experience traffic interruptions during a 100-year flow.

In the area upstream of the existing bridge, there would be reduced backwater effects as a result of the proposed bridge replacement. The Project has been designed to minimize floodplain impacts and special mitigation measures are not proposed. The Project would not trigger incompatible floodplain development. The Project would maintain local and regional access, and would not create new access routes to developed or undeveloped lands.

Potential short-term adverse effects to natural and beneficial floodplain values during the removal and replacement of the bridge include loss of vegetation during construction activity, and temporary disturbances to vegetation, waters, or sensitive habitats. With proposed measures, long-term adverse effects to the natural and beneficial floodplain values are not anticipated from the Project. Temporary environmental impacts from construction activities for the proposed Project could be minimized with standard measures that meet the requirements of the Project’s permit conditions. Yolo County will coordinate with local, state, and federal water resources and floodplain management agencies as necessary during all aspects of the proposed Project.

Acronyms

ADT	average daily traffic
AASHTO	American Association of State Highway and Transportation Officials
APN	Assessor's Parcel Numbers
BFE	Base Flood Elevations
BIR	Bridge Inspection Report
Caltrans	California Department of Transportation
CDFW	California Department of Fish and Wildlife
CFR	Code of Federal Regulations
cfs	cubic feet per second
CIP	Cast-In-Place
County	Yolo County
CR	County Road
CVFPB	Central Valley Flood Protection Board
DWR	Department of Water Resources
ESRI	Environmental Systems Research Institute
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
FIS	Flood Insurance Study
ft	feet, foot
HDM	Highway Design Manual
HEC-RAS	Hydrologic Engineering Centers River Analysis System
LRFD	Load and Resistance Factor Design
NAVD 88	North American Vertical Datum of 1988
NFIP	National Flood Insurance Program
Project	County Road 49 Bridge Replacement over Hamilton Creek Project
RC	Reinforced Concrete
RS	river station
SCS	Soil Conservation Service
SFHA	Special Flood Hazard Area
USACE	United States Army Corps of Engineers
USGS	United States Geological Survey
WSE	water surface elevation

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LOCATION HYDRAULIC STUDY FORM

Dist. 03 Co. Yolo Rte. CR 49 Project ID _____
Federal-Aid Project Number: BRLO-5922(111)

Floodplain Description:

The Project site is located within Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) Special Flood Hazard Area (SFHA) Zone A, which represents areas subject to flooding by the 100-year flood event determined by approximate methods where base flood elevations (BFE) are not shown.

1. Description of Proposal *(include any physical barriers i.e. concrete barriers, sound walls, etc. and design elements to minimize floodplain impacts)*
The proposed project will construct a new bridge along a similar alignment as the existing structure that will be removed. The bridge will accommodate two, 10-ft travel lanes and 2-ft shoulders. The new bridge is a single-span structure approximately 61-ft-long and 27.5-ft-wide. The structure type is cast-in-place (CIP) post-tensioned concrete slab. The roadway and bridge approach profile will be raised slightly and the bridge is expected to clear a 30- to 40-year storm event.

2. ADT: Current 106 (2003) Projected 117 (2035)

3. Hydraulic Data: Base Flood Q100=2,630 CFS
WSE100=386.4 *The flood of record, if greater than Q100:*
Q=N/A CFS WSE=N/A
Overtopping flood Q=2,100 CFS WSE=385.0

Are NFIP maps and studies available? NO _____ YES ✓

4. Is the highway location alternative within a regulatory floodway?
NO ✓ YES _____

5. Attach map with flood limits outlined showing all buildings or other improvements within the base floodplain.

Potential Q100 backwater damages:

A. Residences? NO ✓ YES _____
B. Other Bldgs? NO ✓ YES _____
C. Crops? NO ✓ YES _____
D. Natural and beneficial Floodplain values? NO ✓ YES _____

"Natural and beneficial flood-plain values" shall include but are not limited to fish, wildlife, plants, open space, natural beauty, scientific study, outdoor recreation, agriculture, aquaculture, forestry, natural moderation of floods, water quality maintenance, and groundwater recharge.

6. Type of Traffic:

A. Emergency supply or evacuation route? NO _____ YES ✓
B. Emergency vehicle access? NO _____ YES ✓
C. Practicable detour available? NO ✓ YES _____
D. School bus or mail route? NO _____ YES ✓

7. Estimated duration of traffic interruption for 100-year event hours: 10 hours

8. Estimated value of Q100 flood damages (if any) – moderate risk level.

A. Roadway \$ N/A
B. Property \$ N/A
Total \$ N/A

9. Assessment of Level of Risk Low ✓
Moderate _____
High _____

For High Risk projects, during design phase, additional Design Study Risk Analysis may be necessary to determine design alternative.

LOCATION HYDRAULIC STUDY FORM cont.

Dist. 03 Co. Yolo Rte. CR 49 P.M. _____
Federal-Aid Project Number: BRLO-5922(111)
Project ID _____ Bridge No. 22C0095

PREPARED BY:

Signature:

I certify that I have conducted a Location Hydraulic Study consistent with 23 CFR 650 and that the information summarized in items numbers 3, 4, 5, 7, and 9 of this form is accurate.

_____ Date _____
District Hydraulic Engineer (capital and 'on' system projects)

 _____ Date 3/5/2021
Local Agency/Consulting Hydraulic Engineer (local assistance projects)

Is there any longitudinal encroachment, significant encroachment, or any support of incompatible Floodplain development?
NO YES _____

If yes, provide evaluation and discussion of practicability of alternatives in accordance with 23 CFR 650.113

Information developed to comply with the Federal requirement for the Location Hydraulic Study shall be retained in the project files.

I certify that item numbers 1, 2, 6 and 8 of this Location Hydraulic Study Form are accurate and will ensure that Final PS&E reflects the information and recommendations of said report:

_____ Date _____
District Project Engineer (capital and 'on' system projects)

 _____ Date 5/11/2021
Local Agency Project Engineer (local assistance projects)

CONCURRED BY:

I have reviewed the quality and adequacy of the floodplain submittal consistent with the attached checklist, and concur that the submittal is adequate to meet the mandates of 23 CFR 650.

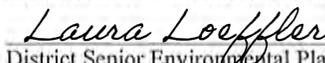
_____ Date _____
District Project Manager (capital and 'on' system projects)

 _____ Date 5/11/2021
Local Agency Project Manager (Local Assistance projects)

 _____ Date 6/11/2021

District Local Assistance Engineer (or District Hydraulic Branch for very complex projects or when required expertise is unavailable. Note: District Hydraulic Branch review of local assistance projects shall be based on reasonableness and concurrence with the information provided).

I concur that the natural and beneficial floodplain values are consistent with the results of other studies prepared pursuant to 23 CFR 771, and that the NEPA document or determination includes environmental mitigation consistent with the Floodplain analysis.

 _____ Date 06/21/21
District Senior Environmental Planner (or Designee)

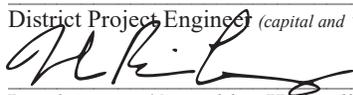
Note: If a significant floodplain encroachment is identified as a result of floodplains studies, FHWA will need to approve the encroachment and concur in the Only Practicable Alternative Finding.

SUMMARY FLOODPLAIN ENCROACHMENT REPORT

Dist. 03 Co. Yolo Rte. CR 49 K.P. _____
Federal-Aid Project Number (Local Assistance) BRLO-5922(111)
Project No.: _____ Bridge No. 22C0095
Limits: The approximate limits of the Project are 100 ft east and 100 ft west of the County Route 49 crossing over Hamilton Creek.
Floodplain Description: The Project site is located within Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) Special Flood Hazard Area (SFHA) Zone A, which represents areas subject to flooding by the 100-year flood event determined by approximate methods where base flood elevations (BFE) are not shown.

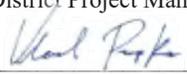
	No	Yes
1. Is the proposed action a longitudinal encroachment of the base floodplain?	<u>✓</u>	___
2. Are the risks associated with the implementation of the proposed action significant?	<u>✓</u>	___
3. Will the proposed action support probable incompatible floodplain development?	<u>✓</u>	___
4. Are there any significant impacts on natural and beneficial floodplain values?	<u>✓</u>	___
5. Routine construction procedures are required to minimize impacts on the floodplain. Are there any special mitigation measures necessary to minimize impacts or restore and preserve natural and beneficial floodplain values? If yes, explain.	<u>✓</u>	___
6. Does the proposed action constitute a significant floodplain encroachment as defined in 23 CFR, Section 650.105(q).	<u>✓</u>	___
7. Are Location Hydraulic Studies that document the above answers on file? If not explain.	___	<u>✓</u>

PREPARED BY:

District Project Engineer (capital and 'on' system projects) Date _____


Local Agency/Consulting Hydraulic Engineer (local assistance projects) Date 3/5/2021

CONCURRED BY:

District Project Manager (capital and 'on' system projects) Date _____


District Local Assistance Engineer (Local Assistance projects) Date 6/11/2021

I concur that impacts to natural and beneficial floodplain values are consistent with the results of other studies prepared pursuant to 23 CFR 771, and that the NEPA document or determination includes environmental mitigation consistent with the Floodplain analysis.



District Senior Environmental Planner (or Designee) Date 06/21/21

Note: If a significant floodplain encroachment is identified as a result of floodplains studies, FHWA will need to approve the encroachment and concur in the Only Practicable Alternative Finding.

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1 GENERAL DESCRIPTION

Yolo County (County) is proposing to replace the existing bridge on County Road (CR) 49 crossing over Hamilton Creek. The CR 49 Bridge Replacement over Hamilton Creek Project (Project) is located approximately 0.5 miles northwest outside of the Town of Guinda in Yolo County. See Figure 1 for the Project Location Map, Figure 2 for the Project Vicinity Map, and Figure 3 for the Project Aerial Map.

1.1 Project Description

Yolo County proposes to replace the existing bridge on CR 49 crossing over Hamilton Creek with funding made available through the Federal Highway Administration (FHWA) Highway Bridge Program and administered by California Department of Transportation (Caltrans). The bridge was determined to be functionally obsolete as recently as 2013 and currently has a sufficiency rating of 43.1.

The Project site is located within the northwestern corner of Yolo County, west of Highway 16. CR 49 is a rural local roadway that extends from CR 59 on the south to its terminus roughly 3 miles to the northwest. Within the Project vicinity, CR 49 varies between a paved and a dirt and gravel roadway with an approximate width of 18 feet (ft) and no shoulders. The bridge, with an Average Daily Traffic count of 106 vehicles, serves 10 agricultural/rural properties, some which are developed with residential home sites, located on the northwest side of Hamilton Creek. Four of the properties immediately adjacent to the bridge will require permanent and/or temporary right-of-way acquisition to construct and complete the project. There are no posted speed limits within the Project vicinity.

1.2 Existing Bridge

The existing bridge (Bridge No. 22C0095) was constructed in 1911 and is approximately 26-ft-long and 20-ft-wide. The structure consists of a single-span, earth-filled concrete arch. The bridge has rock pockets and spalling with exposed rebar on the arch soffit. Additionally, the bridge abutments footings are exposed along their entire lengths.

1.3 Proposed Bridge

The proposed Project will construct a new bridge along a similar alignment as the existing structure. The bridge will accommodate two 10-foot travel lanes and two-foot shoulders. The new bridge will be a 61 ft long single-span structure. The structure type will be a cast-in-place, post-tensioned concrete slab. The roadway and bridge profile will be raised slightly and is expected to clear a 30- to 40-year storm event.

Construction of the bridge will involve excavation for and construction of concrete abutments, founded on driven piles. Construction of the roadway approaches will involve the removal of existing pavement and placement of new roadway fill material, aggregate base, hot mix asphalt pavement, and installation of a guardrail. Tree removal and removal

of other vegetation along the creek will be necessary for the Project. Temporary work within Hamilton Creek includes removal of the existing structure, falsework erection and removal, and installation of scour countermeasures at the abutments. Temporary creek diversion through a temporary crossing is anticipated in order to complete activities within the waterway.

Relocation of overhead electrical and communication lines, including two utility poles, and underground telecommunication lines are anticipated as part of the Project. Permanent right-of-way acquisition will be needed from the parcels identified as Assessor's Parcel Numbers (APN) 060-090-010 and 060-090-007. Temporary construction easements will be needed from all four adjacent parcels (APNs 060-090-010, -007, -006, and -003) to facilitate driveway conforms, utility relocations, and allow construction access.

During construction, vehicular traffic through the Project site will be maintained with a temporary crossing north of the existing bridge. The temporary crossing is anticipated to consist of pipe culverts to convey stream flow. Gravel backfill will be placed on top of the pipe culverts to provide a drivable surface. Following completion of construction, all this material will be removed. Construction is anticipated to begin in Spring 2023 and have a duration of approximately 8 months.

1.4 Study Purpose

The purpose of this *Floodplain Evaluation Report* is to examine and analyze the existing floodplain within the Project limits, and to determine any potential impacts to recommend any avoidance, minimization, or mitigation measures that may be required to address the impacts.

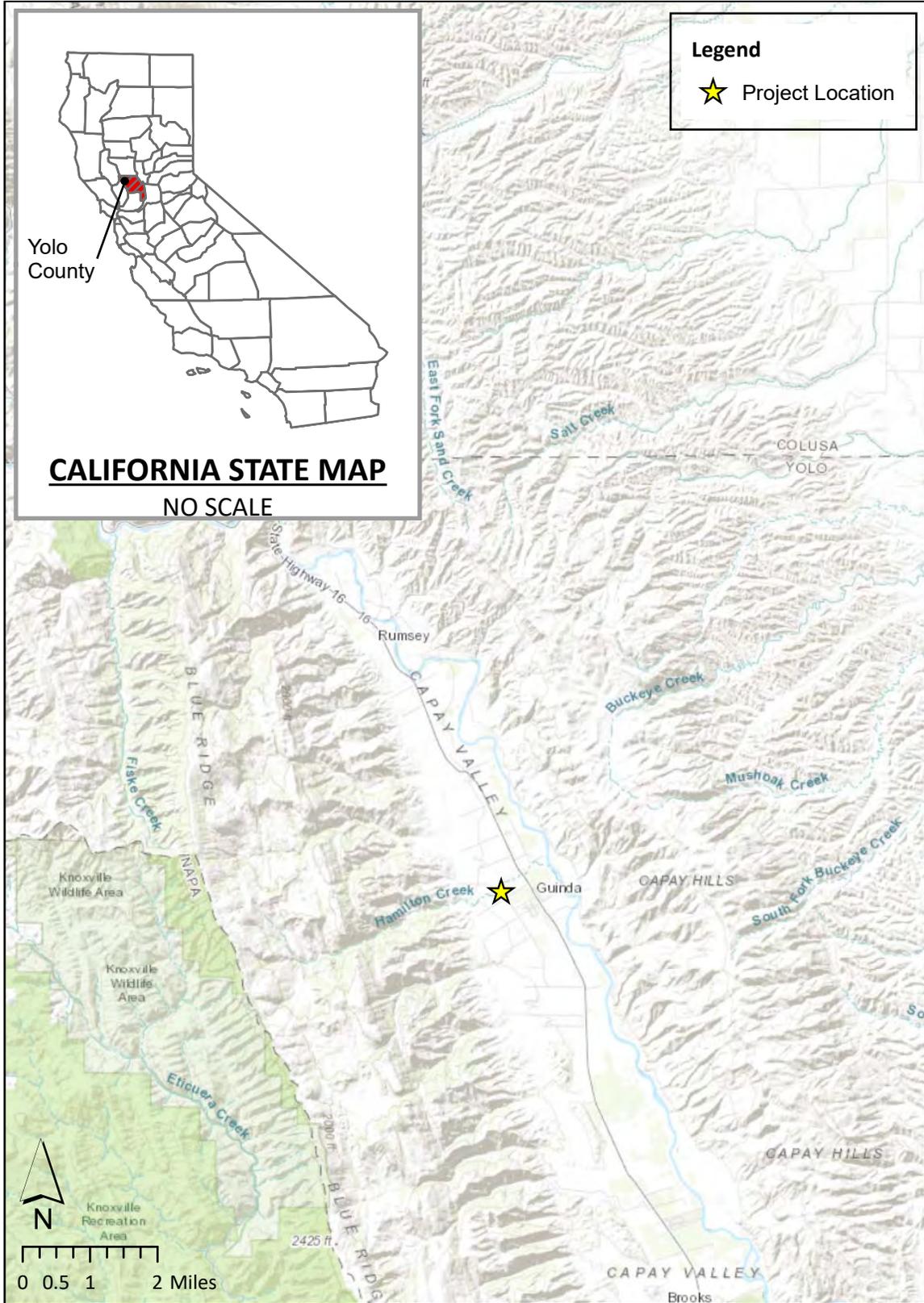


Figure 1. Project Location Map

Source: United States Geological Survey (USGS)

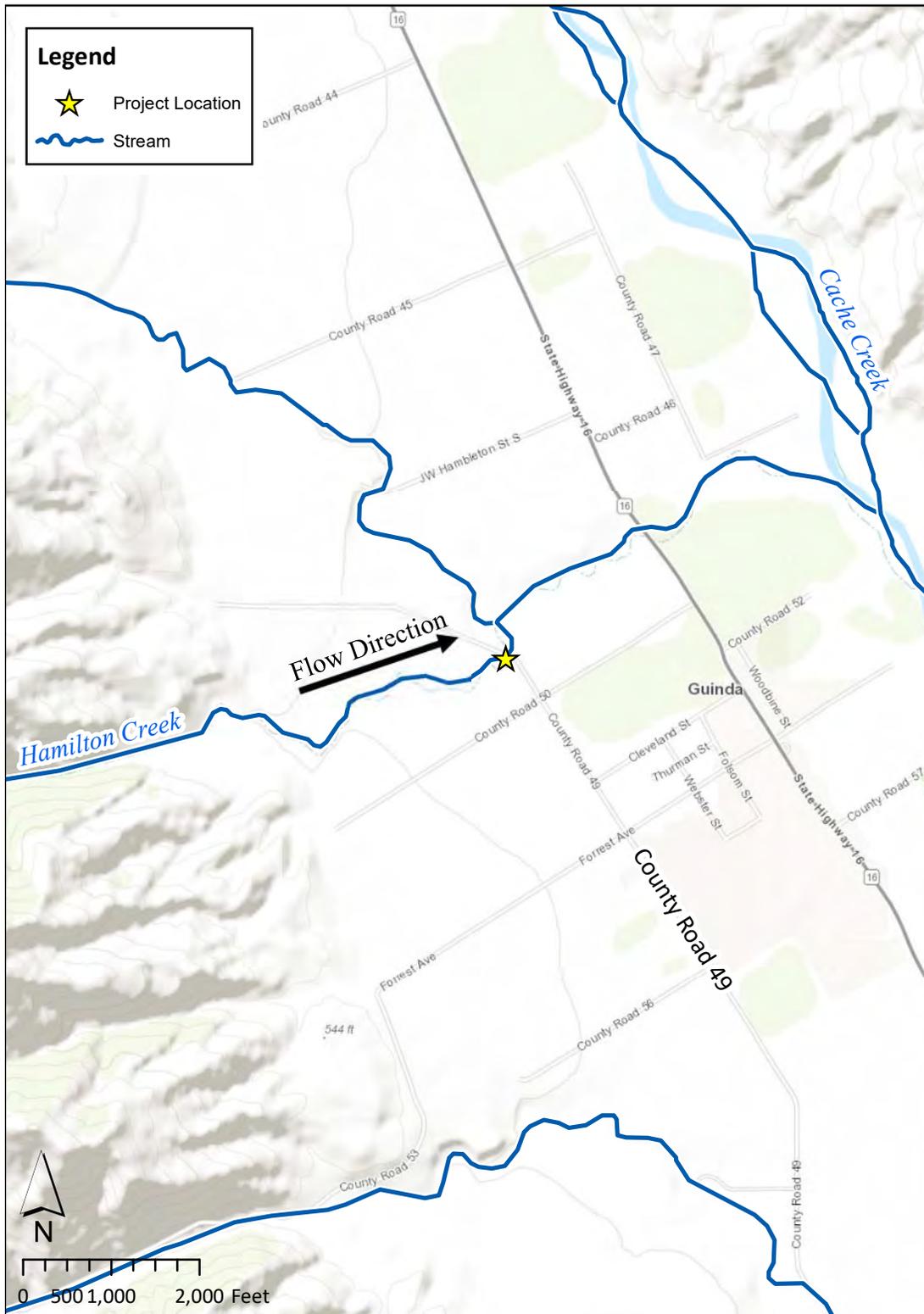


Figure 2. Project Vicinity Map

Source: USGS



Figure 3. Project Aerial Map

Source: Environmental Systems Research Institute (ESRI)

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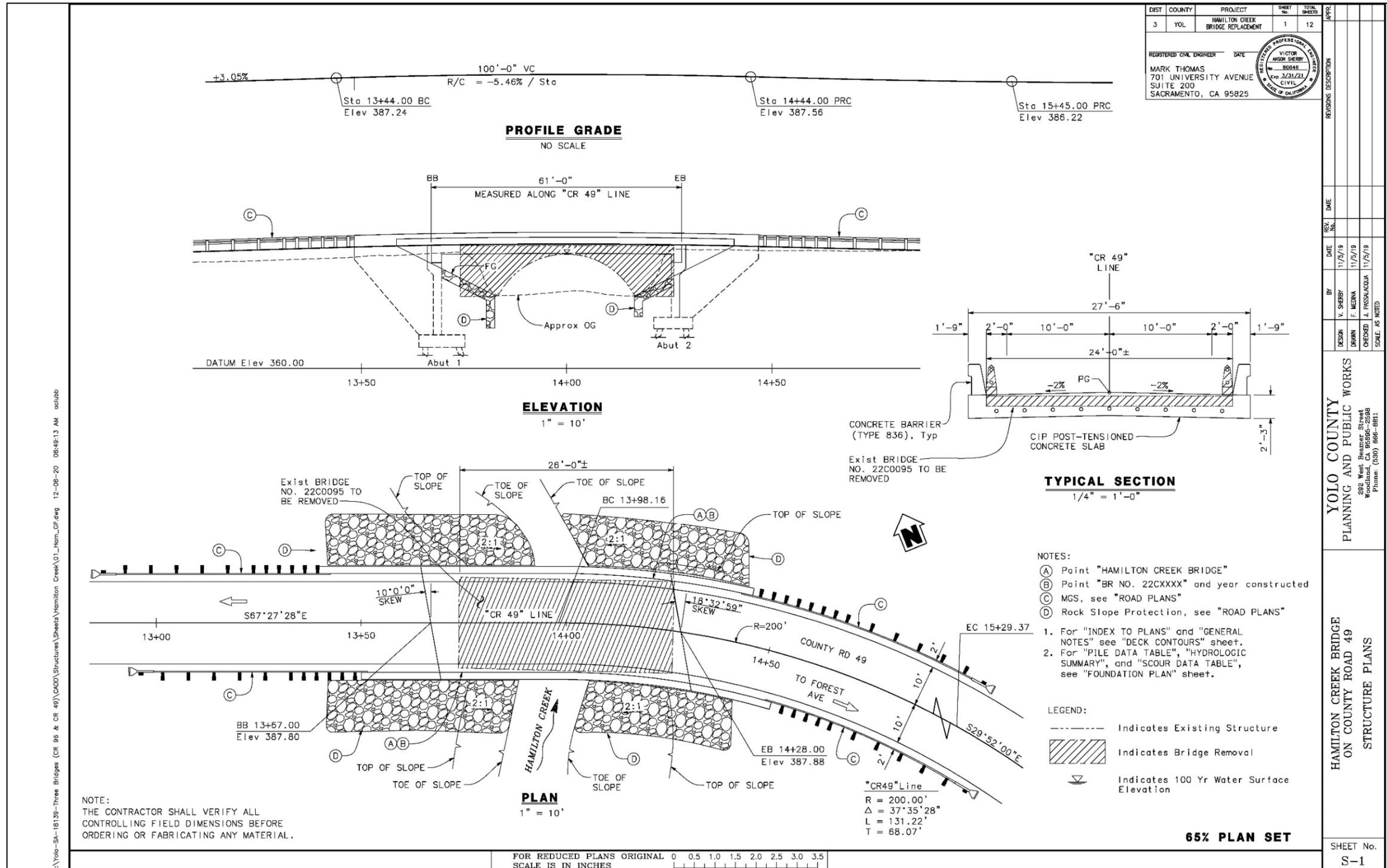


Figure 4. General Plan

Source: Mark Thomas

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1.5 Regulatory Setting

1.5.1 Executive Order 11988 (Floodplain Management, 1977)

Executive Order 11988 (Floodplain Management) directs all federal agencies to avoid, to the extent possible, long- and short-term adverse impacts associated with the occupancy and modification of floodplains, and to avoid direct and indirect support of floodplain development wherever there is a practicable alternative (1977). Requirements for compliance are outlined in Title 23, Code of Federal Regulations, Part 650, Subpart A (23 CFR 650A) titled “Location and Hydraulic Design of Encroachment on Floodplains” (United States, Federal Highway Administration, Department of Transportation, 2019).

If the preferred alternative involves significant encroachment onto the floodplain, the final environmental document (final Environmental Impact Statement or finding of no significant impact) must include:

- The reasons why the proposed action must be located in the floodplain,
- The alternatives considered and why they were not practicable, and
- A statement indicating whether the action conforms to applicable state or local floodplain protection standards.

1.5.2 California’s National Flood Insurance Program

The Federal Emergency Management Agency (FEMA) is the nationwide administrator of the National Flood Insurance Program (NFIP), which is a program that was established by the National Flood Insurance Act of 1968 to protect lives and property, and to reduce the financial burden of providing disaster assistance. Under the NFIP, FEMA has the lead responsibility for flood hazard assessment and mitigation, and it offers federally backed flood insurance to homeowners, renters, and business owners in communities that choose to participate in the program. FEMA has adopted the 100-year floodplain as the base flood standard for the NFIP. FEMA is also concerned with construction that would be within a 500-year floodplain for proposed projects that are considered “critical actions,” which are defined as any activities where even a slight chance of flooding is too great. FEMA issues the Flood Insurance Rate Maps (FIRM) for communities that participate in the NFIP. These FIRMs present delineations of flood hazard zones.

In California, nearly all of the State’s flood-prone communities participate in the NFIP, which is locally administered by the California Department of Water Resources’ (DWR) Division of Flood Management. Under California’s NFIP, communities have a mutual agreement with the State and federal governments to regulate floodplain development according to certain criteria and standards, which are further detailed in the NFIP.

1.5.3 Yolo County Floodplain Data

As part of the NFIP, typically, each county (or community) has a Flood Insurance Study (FIS), which is used to locally develop FIRMs and Base Flood Elevations (BFE). The County FIS Number is 06113CV000.

1.6 Design Standards

1.6.1 FEMA Standards

FEMA standards are employed for design, construction, and regulation to reduce flood loss and to protect resources. Two types of standards are often employed: design criteria and performance standards.

A design criteria or specified standard dictates that a provision, practice, requirement, or limit be met; e.g., using the 1% flood and establishing floodway boundaries so as not to cause more than a 1-ft increase in flood stages.

A performance standard dictates that a goal is to be achieved, leaving it to the individual application as to how to achieve the goal; e.g., providing protection to the regulatory flood, keeping post-development stormwater runoff the same as pre-development, or maintaining the present quantity and quality of water in a wetland.

The 1% annual chance flood and floodplain have been adopted as a common design and regulatory standard in the United States. The NFIP adopted it in the early 1970s, and it was adopted as a standard for use by all federal agencies with the issuance of Executive Order 11988. States or local agencies are free to impose a more stringent standard within their jurisdiction.

1.6.2 Hydraulic Design Criteria

1.6.2.1 FHWA Standards

According to the *California Amendments to the American Association of State Highway and Transportation Officials (AASHTO) Load and Resistance Factor Design (LRFD) Bridge Design Specifications (2017)*, the FHWA mandated that LRFD be used on all new bridge design commencing on or after October 1, 2007 (Department of Transportation State of California, 2019). In 2011, the *California Amendments to the AASHTO LRFD Bridge Design Specifications (Fourth Edition)* updated certain sections of the guidance, including Section 2 in its entirety.

From Section 2 of the *California Amendments to the AASHTO LRFD Bridge Design Specifications*, the proposed bridge profile should provide adequate freeboard to pass anticipated drift for the 50-year design flood, to pass the 100-year base flood without freeboard, or the flood of record without freeboard, whichever is greater (Department of Transportation State of California, 2011).

Subsequent revisions to the *California Amendments to the AASHTO LRFD Bridge Design Specifications* in 2014 and 2019 did not include changes to Section 2. The sections that are not revised in subsequent versions of the *California Amendments to the AASHTO LRFD Bridge Design Specifications* are still in effect.

1.6.2.2 Caltrans Standards

From Chapter 820 of the Caltrans' *Highway Design Manual* (HDM), the criteria for the hydraulic design of bridges is that they be designed to pass the 2% probability of annual exceedance flow (50-year design discharge) with adequate freeboard to pass anticipated drift and debris (2020). Two (2) ft of freeboard is commonly used in bridge designs. Alternatively, the bridge can also be designed to pass the 1% probability of annual exceedance flow (100-year design discharge, or base flood). No freeboard is added to the base flood.

1.6.2.3 Central Valley Flood Protection Board Standards

Streams regulated by the Central Valley Flood Protection Board (CVFPB) must adhere to the design criteria from Title 23 of the California Code of Regulations. Hamilton Creek is not included the CVFPB's list of regulated streams.

1.6.2.4 Yolo County Standard

Per the Yolo County *City/County Drainage Design* criteria, a minimum of 2 ft of freeboard for the 100-year event and 1 ft of freeboard for the 200-year event shall be provided for bridges at crossings (Yolo County, 2010).

1.7 Traffic

Based on the Caltrans' Bridge Inspection Report (BIR), the existing bridge has a functional classification as a major collector rural road. Based on the 2019 BIR, traffic data, the Average Daily Traffic (ADT) in 2013 was 106 vehicles per day. The future ADT is projected to be 117 vehicles per day in 2035 (Caltrans, 2019)

1.8 Public Works). Vertical Datum

The Project references the North American Vertical Datum of 1988 (NAVD 88).

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2 AFFECTED ENVIRONMENT

2.1 Geographic Location

The Project is located in Yolo County 38.831770°N and -122.203372°W and is approximately 0.5 miles northwest from Guinda, which is a community in Yolo County. Hamilton Creek is a small tributary of Cache Creek in the northwestern part of Yolo County. Hamilton Creek originates from the Blue Ridge Mountains and flows east into the valley of Cache Creek.

2.2 Watershed Description

USGS StreamStats is a web-based geographic information system (GIS) tool produced by USGS that allows users to obtain watershed delineations, flow paths, and other hydrologically relevant variables related to the spatial distribution of the watershed. The watershed area obtained by StreamStats was adjusted to split the flow of the Hamilton Creek tributary. Hamilton Creek drains a watershed area of approximately 5.5 square miles at CR 49 Bridge over Hamilton Creek, and there is no imperviousness within the area, which indicates this watershed is underdevelopment. The percent forested area is 13.5 percent and percent developed area is 0.6 percent. The mean annual precipitation for the watershed is 24.2 inches. See Figure 5 for Project watershed map.

2.3 FEMA Floodplains

The Project is within FEMA FIRM Number 06113C0225G Panel 225 of 785 (Appendix A). The Project site is located in Special Flood Hazard Area (SFHA) Zone A, which represents areas subject to flooding by the 100-year flood event determined by approximate methods where BFEs are not shown.

Portions of the Project site are within an unshaded Zone X area, which represents areas that have a moderate to minimal flood hazard. Unshaded Zone X represents areas that have a minimal flood hazard, which is above the 500-year flood level. The FEMA Flood map at the Project site is shown in Figure 6.

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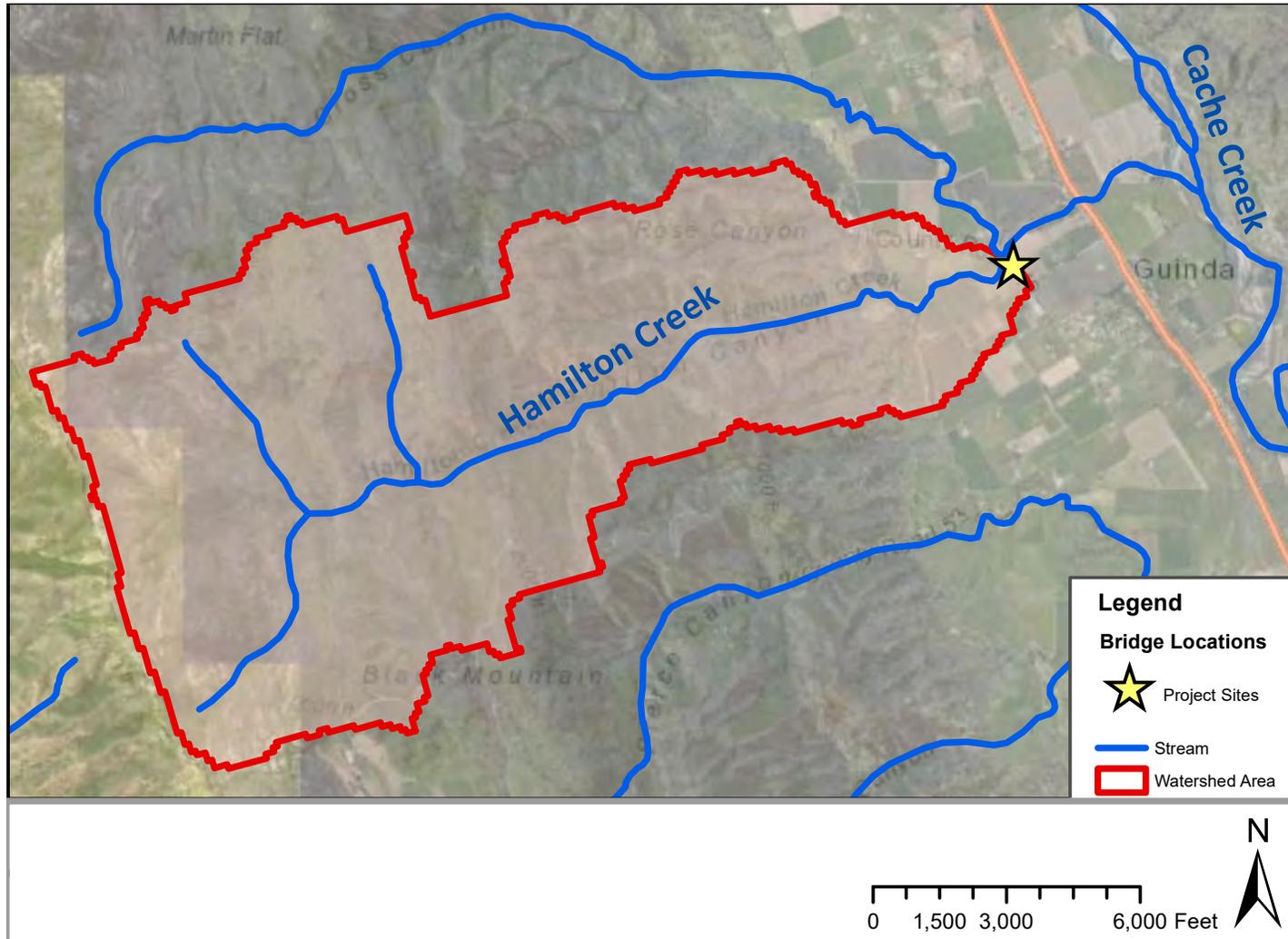


Figure 5. Project Watershed Map

Source: USGS

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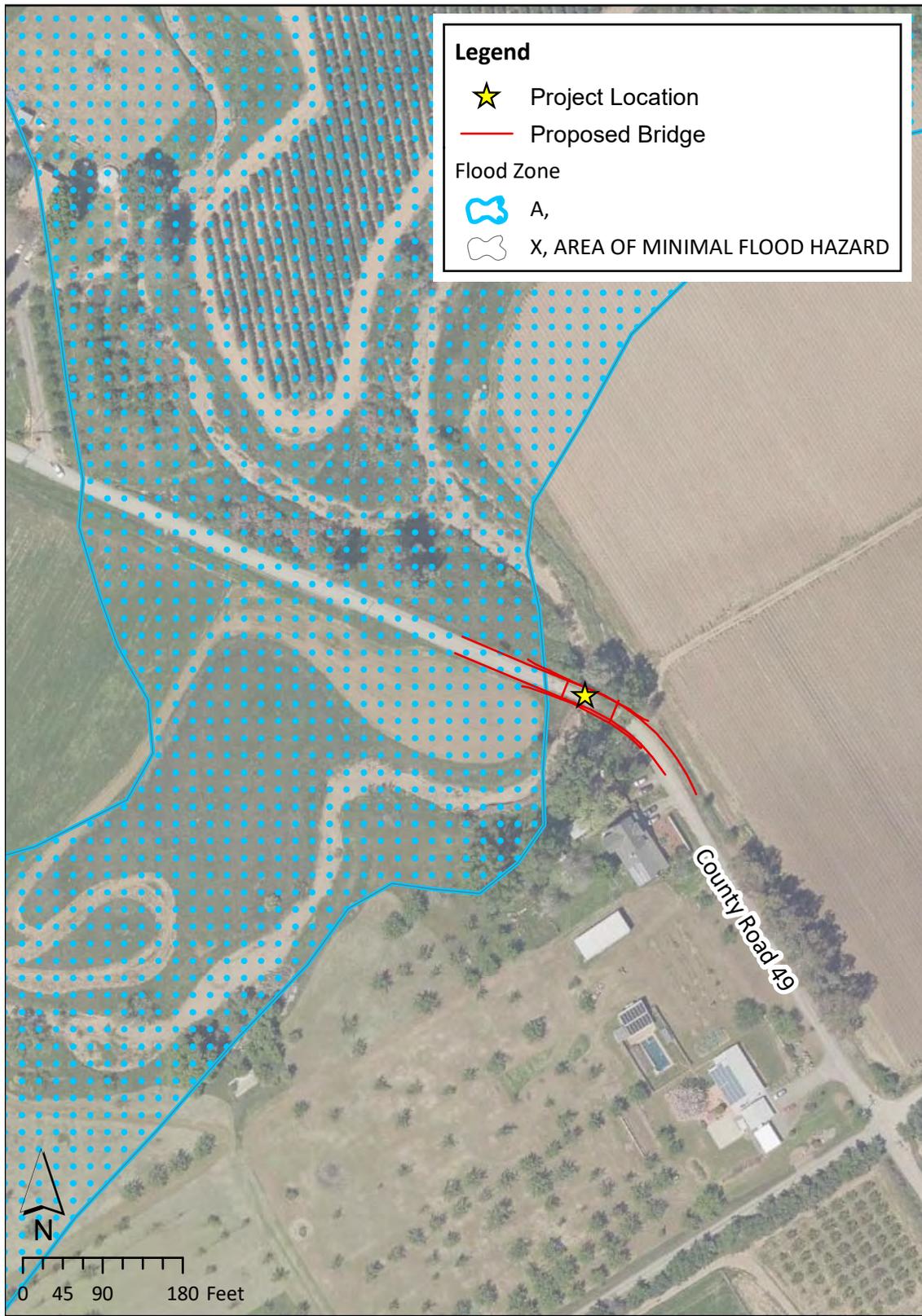


Figure 6. FEMA Flood Map with Proposed Bridge

Source: FEMA, ESRI

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3 HYDROLOGY AND HYDRAULICS

3.1 Hydrologic Assessment

The following sub-sections describe the hydrologic data sources that were used to estimate the flows for the Project site. WRECO evaluated the hydrology at the Project site using the following hydrologic design methods:

1. USGS Regional Regression Equations
2. Development of a rainfall/runoff model using the U.S. Army Corps of Engineers (USACE) Hydrologic Engineering Center's Hydrologic Modeling System (HEC-HMS)

3.1.1 Design Discharges

The USGS Regional Regression Equations method follows the equations outlined in Caltrans' HDM Section 819.2(2). Flood-frequency equations were developed by the USGS and based on analysis of data from gaging stations. California is divided into six regions; the Project site is within the North Coast region (Region 1). These flood-frequency equations are generally used to estimate stream flow for ungaged sites that are not affected by substantial urban development and that are natural (unregulated) streams. The 100-year flow from the regional regression equation is 1,250 cfs.

WRECO developed a rainfall/runoff model to estimate the 100-year recurrence interval design discharges using the USACE's HEC-HMS software, and following the Soil Conservation Service's (SCS) Unit Hydrograph Method. The rainfall/runoff model simulates the rainfall/runoff process and generates discharge hydrographs. The 100-year flows were estimated to be 2,630 cfs.

3.1.2 Selected Design Discharge

The peak discharge calculated using the rainfall/runoff model is recommended for use in the hydraulic analysis because the SCS unit hydrograph method provides a detailed analysis of the watershed. The design discharges calculated following the SCS Unit Hydrograph Method are greater than the flows estimated using the USGS regional regression equations and are more conservative. The selected 100-year peak discharge using this method recommended for design at the Project site was 2,630 cfs.

3.2 Hydraulic Assessment

The following sections discuss the development of the hydraulic models and summarize the results for the existing and proposed conditions. The water surface profile plots, hydraulic summary tables, and channel cross sections are included in Appendix B for the existing bridge and Appendix C for the proposed bridge.

3.2.1 Design Tools

The hydraulic analyses were performed for the existing and proposed conditions using the USACE HEC-RAS modeling software, Version 5.0.7. The hydraulic model was evaluated using the steady state flow analysis with subcritical flow regime.

3.2.2 Hydraulic Model Development

3.2.2.1 Cross Section Data

The channel cross sections used in the hydraulic modeling were based on survey data provided by Mark Thomas (2018). The locations of the surveyed cross sections are depicted in Figure 7.

3.2.2.2 Modeled Hydraulic Structures

The existing bridge geometry was modeled based on survey data provided by Mark Thomas (2018). The bridge is modeled at River Station (RS) 428.5. Based on the survey data and BIR and as-built, the existing structure is arched and the highest point in the soffit is at an elevation of 385.5 ft.

The proposed bridge was modeled based on the general plan (see Figure 4) provided by Mark Thomas (2020). The proposed bridge soffit has a maximum soffit elevation of 358.6 ft, which is designed to be above the design WSE and conform to the FHWA and Caltrans' freeboard criteria. The bridge was modeled with a soffit elevation higher than the design flow WSE and wider than the existing structure.

3.2.2.3 Model Boundary Condition

A normal depth slope of 0.0051 ft/ft was used as the downstream boundary condition, and it was based the section surveys of Hamilton Creek downstream of the bridge.

3.2.2.4 Manning's Roughness Coefficients

Manning's roughness coefficients were used in the hydraulic model to estimate energy losses in the flow due to friction. A roughness coefficient ranging from 0.040 to 0.055 was used to describe the channel depending on depth and location of islands, and a roughness coefficient ranging from 0.065 to 0.200 but primarily 0.080 was used to describe the overbank areas. These values were selected based on survey and aerial images.

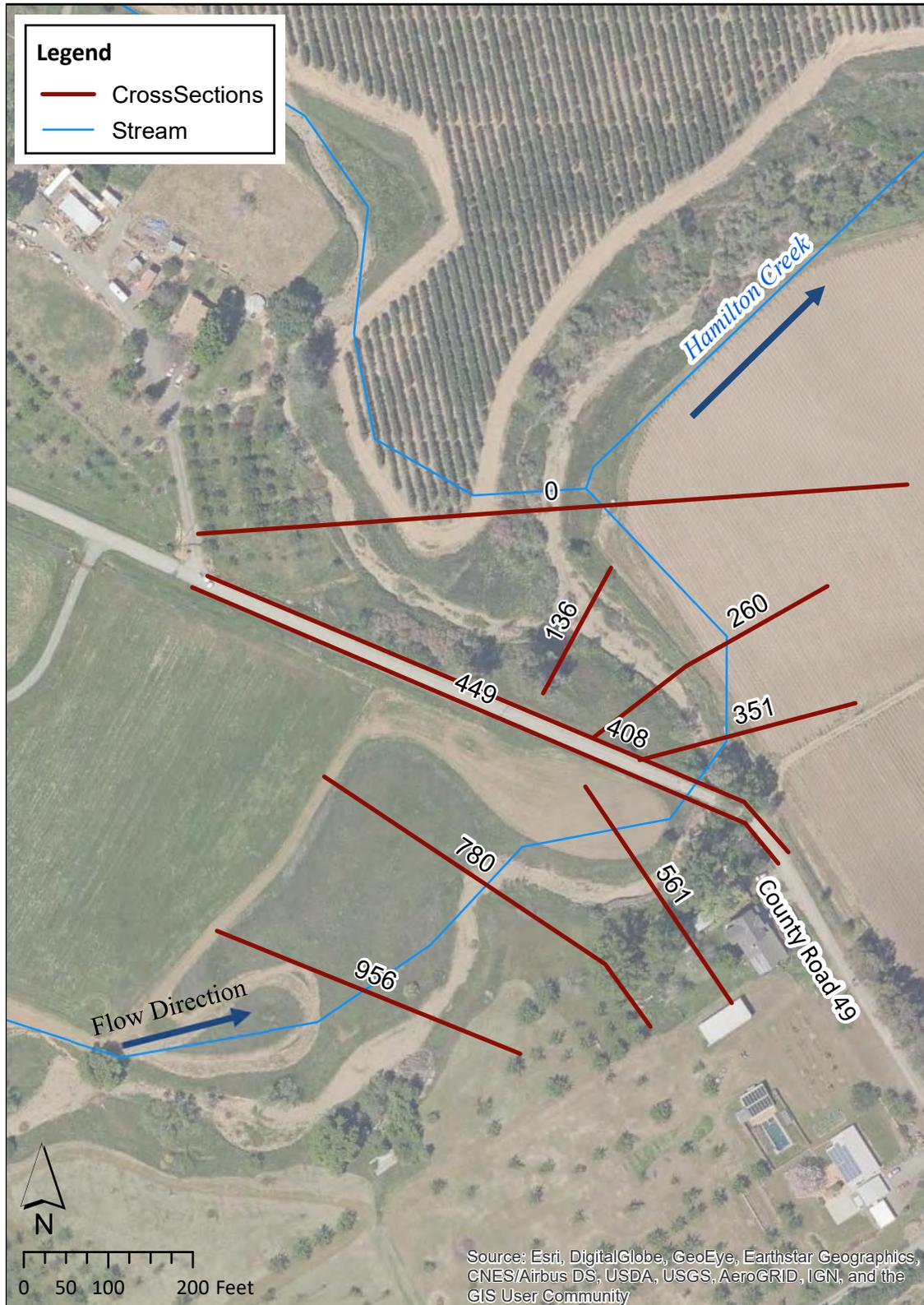


Figure 7. Cross Section Locations

Source: HEC-RAS & USGS

3.2.2.5 Expansion and Contraction Coefficients

Expansion and contraction coefficients were used in the hydraulic model to represent energy losses in the channel. An expansion coefficient of 0.3 and a contraction coefficient of 0.1 were used to represent the channel. These values represent a channel with gradual transitions between cross sections. The upstream and downstream cross sections have an expansion and contraction of 0.5 and 0.3, respectively. These represent the contraction of the channel before getting to the bridge. The expansion and contraction coefficients used in the vicinity of the bridges were 0.7 and 0.5, respectively. These values represent the flow interference caused by the bridge.

3.2.3 Hydraulic Model Results

3.2.3.1 Water Surface Elevations

The WSEs were estimated for the existing and proposed conditions using the hydraulic model for the Project as described in Section 3.2.2. The WSEs in the immediate vicinity of the bridges are compared in Table 1 for the 100-year storm event. The cross sections at the upstream faces of the existing and proposed structures are shown Figure 8 and Figure 9. The 100-year water surface profiles comparing the existing and proposed condition model results are depicted in Figure 10.

The hydraulic analysis indicates the proposed bridge replacement would result in a decrease in WSEs of 0.4 ft for the 100-year storms at and upstream of the bridge site and a local increase in WSEs of 0.2 ft downstream of the bridge. Both the existing and the proposed conditions result in overtopping of the west roadway approach.

Table 1. Hamilton Creek 100-Year Water Surface Elevations

River Station	Description	100-Year Water Surface Elevation (ft NAVD 88)		Difference (ft)
		Existing	Proposed	
956	508 ft upstream of bridge face	387.3	387.0	-0.3
780	326 ft upstream of bridge face	387.2	386.9	-0.3
561	108 ft upstream of bridge face	387.0	386.6	-0.4
449	Immediately upstream of the bridge	386.4	386.0	-0.4
428.5 BR U	Upstream face of the bridge	386.4	386.0	-0.4
428.5 BR D	Downstream face of the bridge	385.8	386.0	0.2
408	Immediately downstream of the bridge	384.6	384.6	0.0

Notes:

BR U = upstream face of the bridge

BR D = downstream face of the bridge

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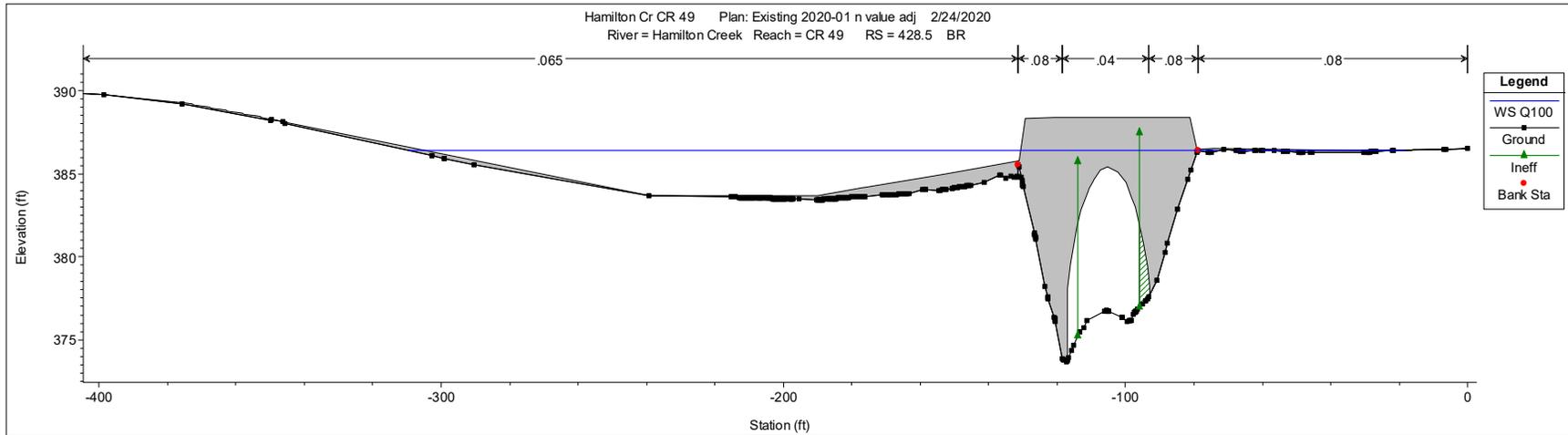


Figure 8. Upstream Face of Existing Bridge, Looking Downstream (Northeast)

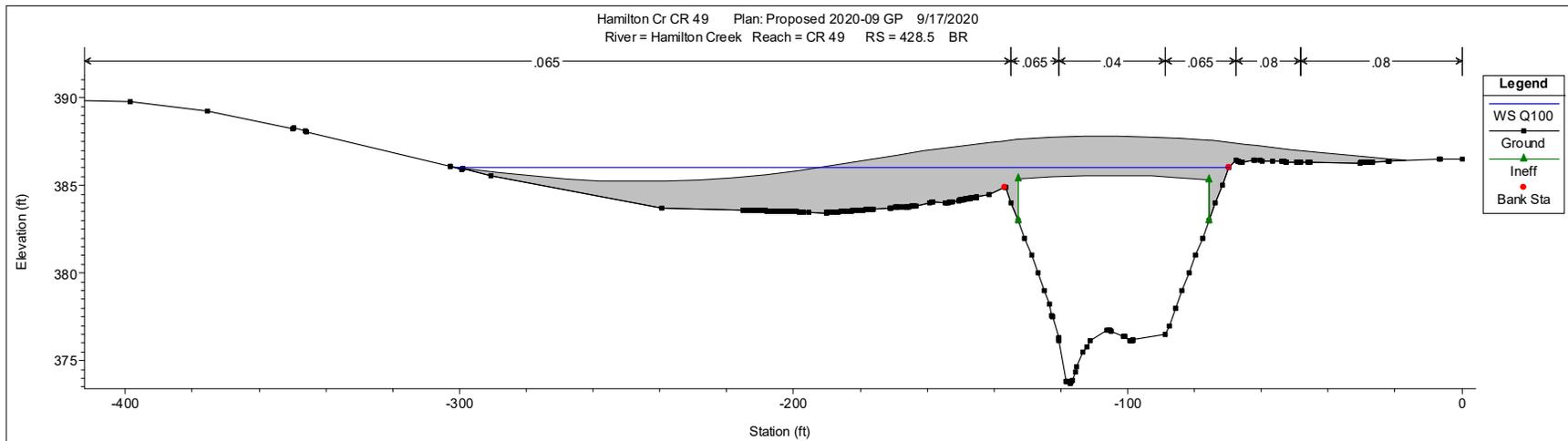


Figure 9. Upstream Face of Proposed Bridge, Looking Downstream (Northeast)

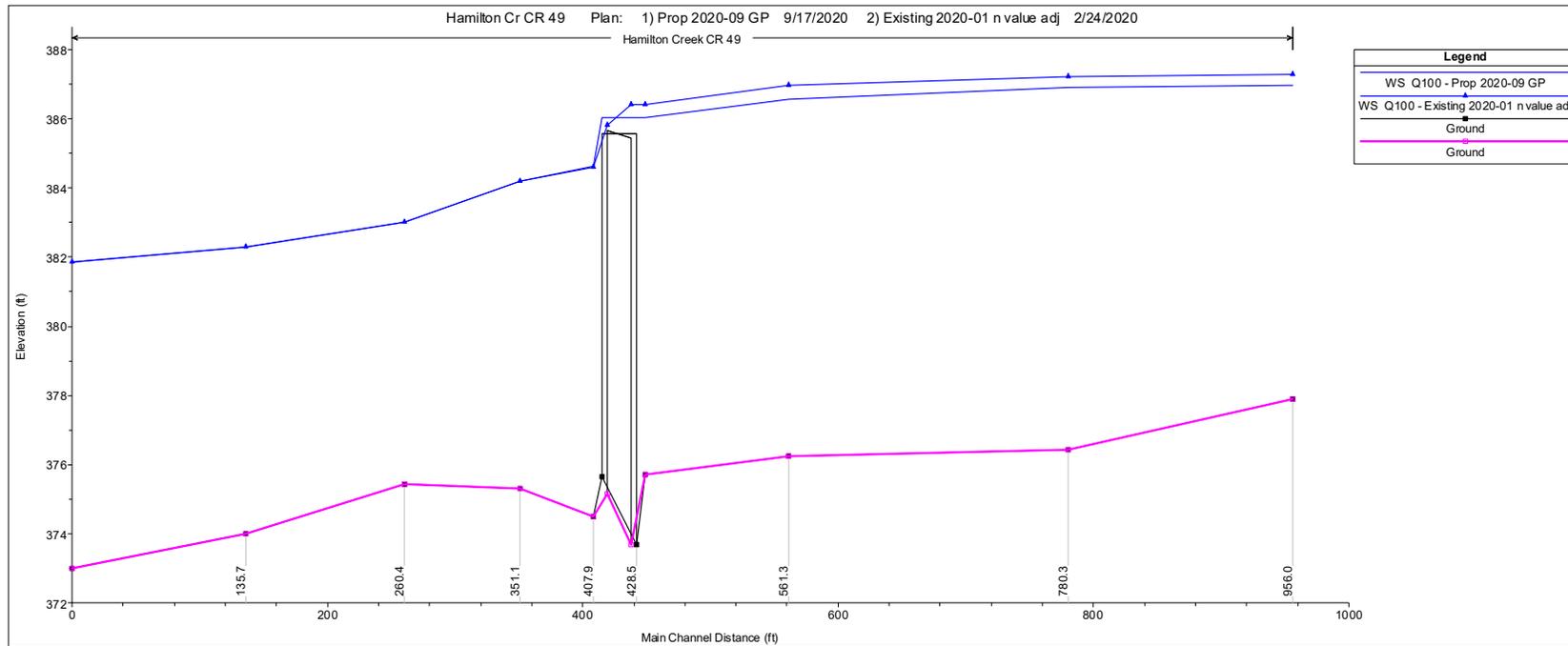


Figure 10. Hamilton Creek 100-Year Water Surface Profile at CR 49

4 PROJECT EVALUATION

Executive Order 11988 requires federal agencies to avoid to the maximum extent possible the long- and short-term adverse impacts associated with the occupancy and modification of floodplains and to avoid direct and indirect support of floodplain development wherever there is a practicable alternative. This section analyzes the impacts associated with this Project.

4.1 Risk Associated with the Proposed Action

As defined by the FHWA, risk shall mean the consequences associated with the probability of flooding attributable to an encroachment. It shall include the potential for property loss and hazard to life during the service life of the bridge and roadway.

The potential risk associated with the implementation of the proposed action includes but is not limited to: 1) change in land use, 2) change in impervious surface area, 3) fill inside the floodplain, or 4) change in the 100-year water surface elevation. The measures to minimize the potential floodplain impacts associated with the action are summarized in Section 5.

4.1.1 Change in Land Use

According to the Yolo County *2030 Countywide General Plan*, the land around CR 49 crossing over Hamilton Creek within the Project limits consists of largely agricultural uses (County of Yolo, 2009). The Project proposes to replace the existing bridge structure. Due to the nature of the work proposed, the Project would not change the overall land use within the watershed basin.

4.1.2 Change in Impervious Surface Area

The Project is anticipated to have 0.24 acres of added impervious area. The Project will result in a net increase in impervious surface area.

4.1.3 Fill Inside the Floodplain

The proposed bridge replacement will provide additional fill along the roadway approach to the bridge. The replacement bridge will however increase the conveyance area under the bridge and allow for an overall decrease in WSE.

4.1.4 Change in the 100-Year Water Surface Elevation

As demonstrated by the HEC-RAS hydraulic model, the proposed bridge would result in A decrease in the WSE upstream of the bridge up to 0.4 ft for the 100-year design flow and local increase of 0.2 ft downstream of the bridge.

4.2 Summary of Potential Encroachments

The FHWA defines a significant encroachment as a highway encroachment, and any direct support of likely base floodplain development, that would involve one or more of the following construction or flood-related impacts: 1) significant potential for

interruption or termination of a transportation facility that is needed for emergency vehicles or provides a community's only evacuation route, 2) a significant risk, or 3) a significant adverse impact on the natural and beneficial floodplain values (FHWA, 1994). The following sections discuss the potential impacts to the floodplain that may result from the proposed action. The risk associated with implementation of the action is discussed in Section 4.1.

4.2.1 Potential Traffic Interruptions for the Base Flood

The base flood is that flood that has a 1% chance of occurrence in any given year (100-year flood). Potential flooding conditions for the proposed Project were evaluated based on the hydraulic modeling of the existing and proposed conditions using HEC-RAS. The hydraulic modeling shows that the bridge roadway approaches on both sides for the existing condition and on the west roadway approach for the proposed condition are overtopped during the 100-year storm event. Therefore, the existing and proposed bridge replacement would be expected to experience traffic interruptions during a 100-year flow.

Both the existing roadway approaches are overtopped during the 100-year storm events. Since the bridge would not be accessible due to overtopping of the approach roadway during these events, raising the bridge to meet the standard design criteria is not recommended. Adding more fill to raise the bridge profile would block more of the flow. The proposed bridge passes more than a 25-year storm but less than a 50-year storm. It passed an approximately 30- to 40-year storm.

4.2.2 Potential Impacts on Natural and Beneficial Floodplain Values

Natural and beneficial floodplain values include, but are not limited to: fish, wildlife, plants, open space, natural beauty, scientific study, outdoor recreation, agriculture, aquaculture, forestry, natural moderation of floods, water quality maintenance, and groundwater recharge (United States, FHWA, Department of Transportation, 2019).

The *Water Quality Control Plan (Basin Plan)* from the California Regional Water Quality Control Board Central Valley Region (2018) lists beneficial uses for Cache Creek. Hamilton Creek is a tributary of Cache Creek, which is approximately 0.5 mi east of the Project site. In general, the beneficial uses of the specifically identified water body in the *Basin Plan* applies to its tributary streams, but are also evaluated on a case-by-case basis. In the case of Hamilton Creek, the beneficial uses of the Cache Creek section from Clear Lake to the Yolo Bypass also exist at the Project site. Table 2 shows the beneficial uses related to the Cache Creek and the Project area.

Potential short-term adverse effects during the removal and replacement of the bridge to natural and beneficial floodplain values include: 1) loss of vegetation during construction activity; and 2) temporary disturbance to aquatic and/or wildlife habitat. With proposed measures (see Section 5.1), long-term adverse effects to the natural and beneficial floodplain values are not anticipated from the Project.

Table 2. Beneficial Uses

Beneficial Use	Cache Creek (Clear Creek to Yolo Bypass)
Municipal and Domestic Supply	E
Agriculture Irrigation	E
Agriculture Stock Watering	E
Industry Process Supply	E
Industry Service Supply	E
Water Contact Recreation	E
Canoeing and Rafting Recreation	E
Other Non-Water Contact Recreation	E
Warm Freshwater Habitat	E
Cold Freshwater Habitat	P
Warm Water Spawning	E
Cold Water Spawning	E
Wildlife Habitat	E

Notes:

- Beneficial uses include but are not limited to these uses
- E = Existing beneficial uses
- P =Potential beneficial uses

4.2.3 Support of Probable Incompatible Floodplain Development

As defined by the FHWA, the support of incompatible base floodplain development will encourage, allow, serve, or otherwise facilitate incompatible base floodplain development, such as commercial development or urban growth.

The Project would not trigger incompatible floodplain development. The Project proposes to replace an already existing bridge. The proposed bridge would not create new access route to developed or undeveloped lands.

4.2.4 Longitudinal Encroachments

As defined by the FHWA, a longitudinal encroachment is an action within the limits of the base floodplain that is longitudinal to the normal direction of the floodplain.

A longitudinal encroachment is “[a]n encroachment that is parallel to the direction of flow. Example: A highway that runs along the edge of a river is usually considered a longitudinal encroachment.”

Because the proposed bridge replacement would be approximately perpendicular to the direction of the flow for the 100-year flood, the Project would not be considered a longitudinal encroachment.

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5 AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

The proposed Project would not change the overall land use within the Project watershed. There would be an increase in impervious area. However, based on the results of the hydraulic analysis, the proposed bridge result in reduced backwater upstream of the existing bridge. The Project has been designed to minimize floodplain impacts and special mitigation measures are not proposed.

5.1 Restore and Preserve Natural and Beneficial Floodplain Values

Temporary environmental impacts from construction activities for the proposed Project could be minimized with standard best management practice measures to reduce erosion such as protection of existing vegetation with erosion and sediment controls, stabilization of exposed soils, and revegetation. Other avoidance, minimization, and mitigation measures will be identified in the Project's Biological Assessment report or Natural Environmental Study to ensure sensitive areas within the Project limit will not be disturbed during construction. Regulatory permits and approvals are expected to be required from the RWQCB, USACE, and California Department of Fish and Wildlife (CDFW). A Section 401 Water Quality Certification from the RWQCB, a Section 404 Nationwide Permit from the USACE, and a Section 1602 Streambed Alteration Agreement from the CDFW are expected to be required for the Project.

5.2 Alternatives to Significant Encroachments

The Project would not be a significant encroachment to the base floodplain. Therefore, alternatives to significant encroachments were not analyzed.

5.3 Coordination with Local, State, and Federal Water Resources and Floodplain Management Agencies

Yolo County will coordinate with local, state, and federal water resources and floodplain management agencies as necessary during all aspects of the proposed Project.

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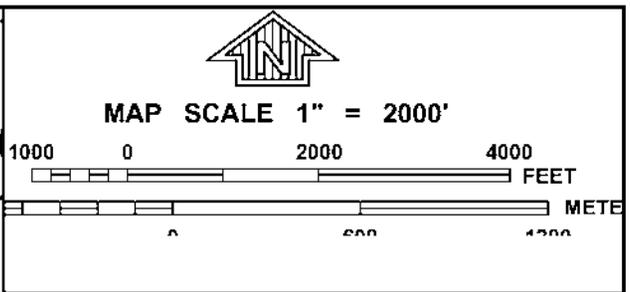
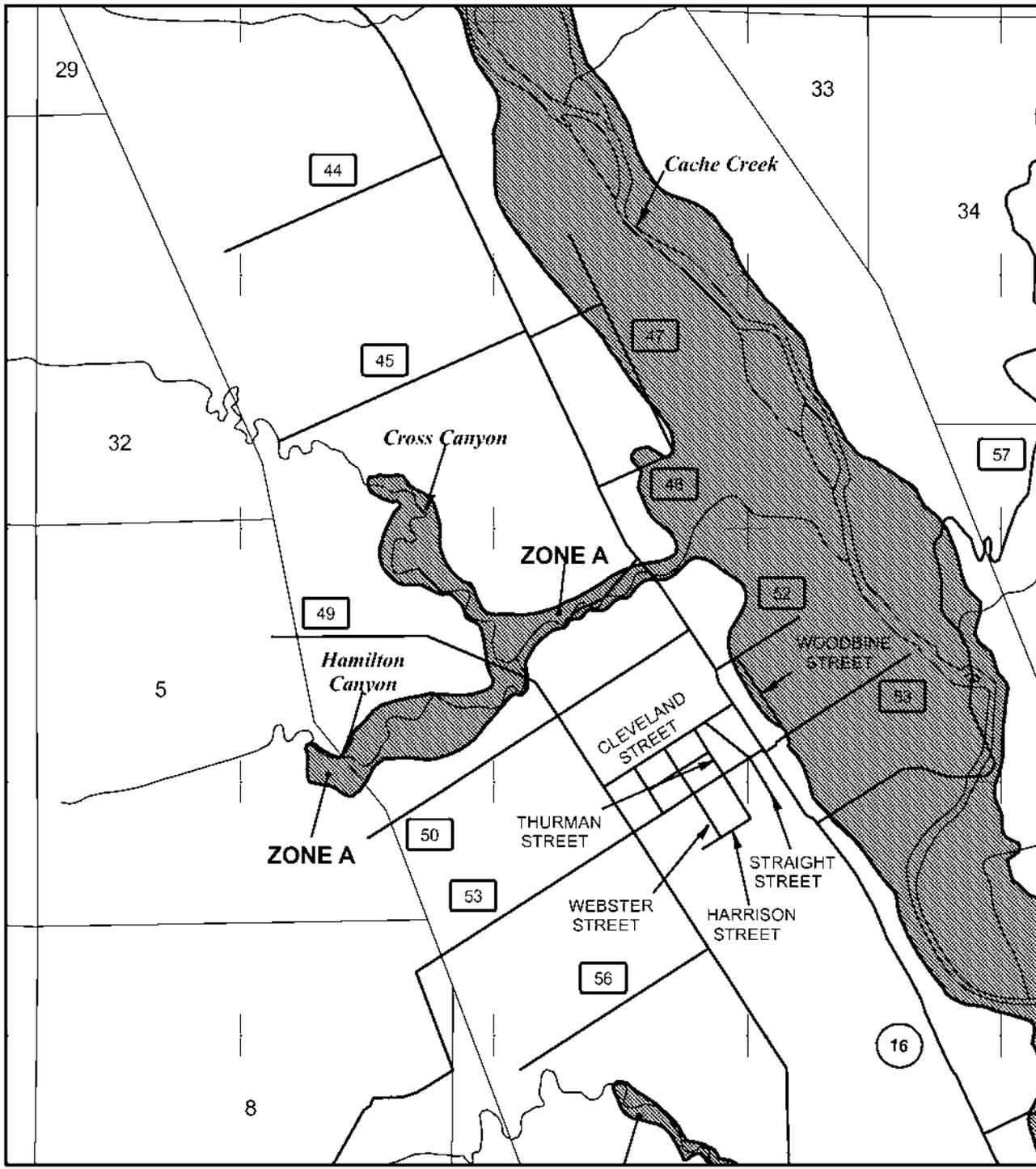
6 REFERENCES

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Appendix A Federal Emergency Management Agency Flood Insurance Rate Maps

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NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0225G

FIRM
FLOOD INSURANCE RATE MAP

YOLO COUNTY,
CALIFORNIA
AND INCORPORATED AREAS

PANEL 225 OF 785

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

<u>COMMUNITY</u>	<u>NUMBER</u>	<u>PANEL</u>	<u>SUFFIX</u>
YOLO COUNTY	060423	0225	G

Notice to User: The Map Number shown below should be used when placing map orders; the Community Number shown above should be used on insurance applications for the subject community.



MAP NUMBER
06113C0225G

EFFECTIVE DATE
JUNE 18, 2010

Federal Emergency Management Agency

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov

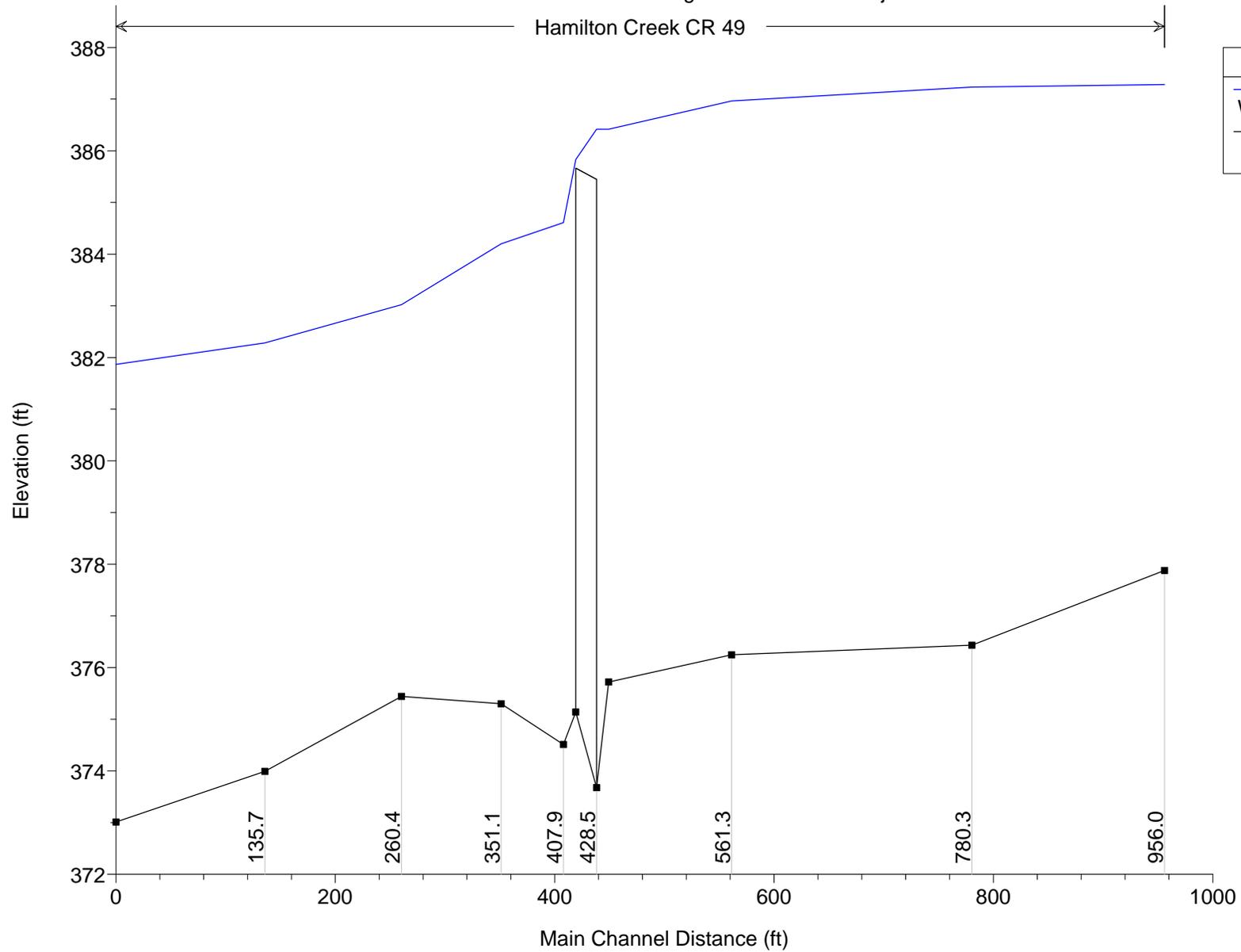
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Appendix B HEC-RAS Results Output: Existing Condition

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Hamilton Cr CR 49 Plan: Existing 2020-01 n value adj 2/24/2020

Hamilton Creek CR 49

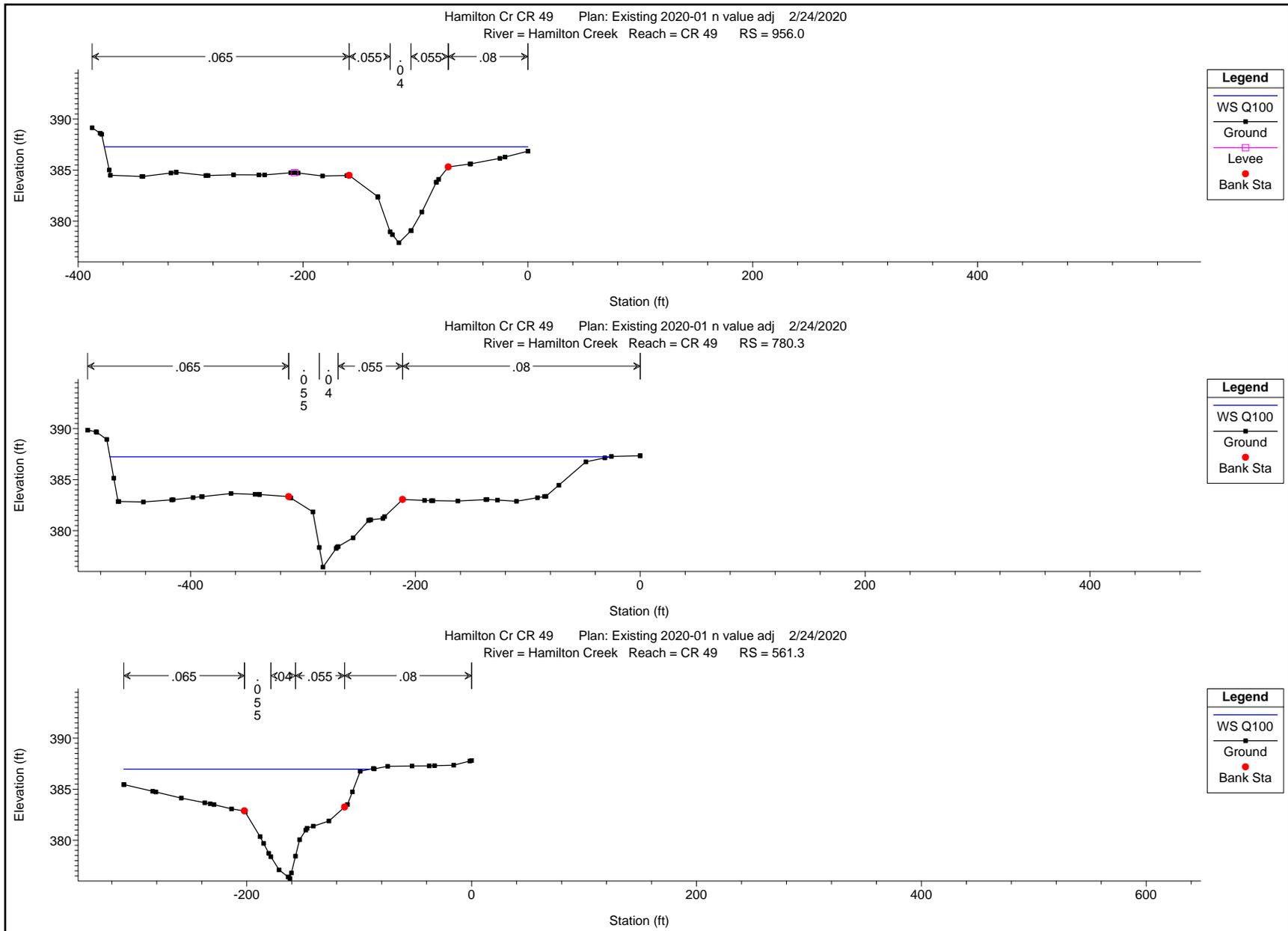


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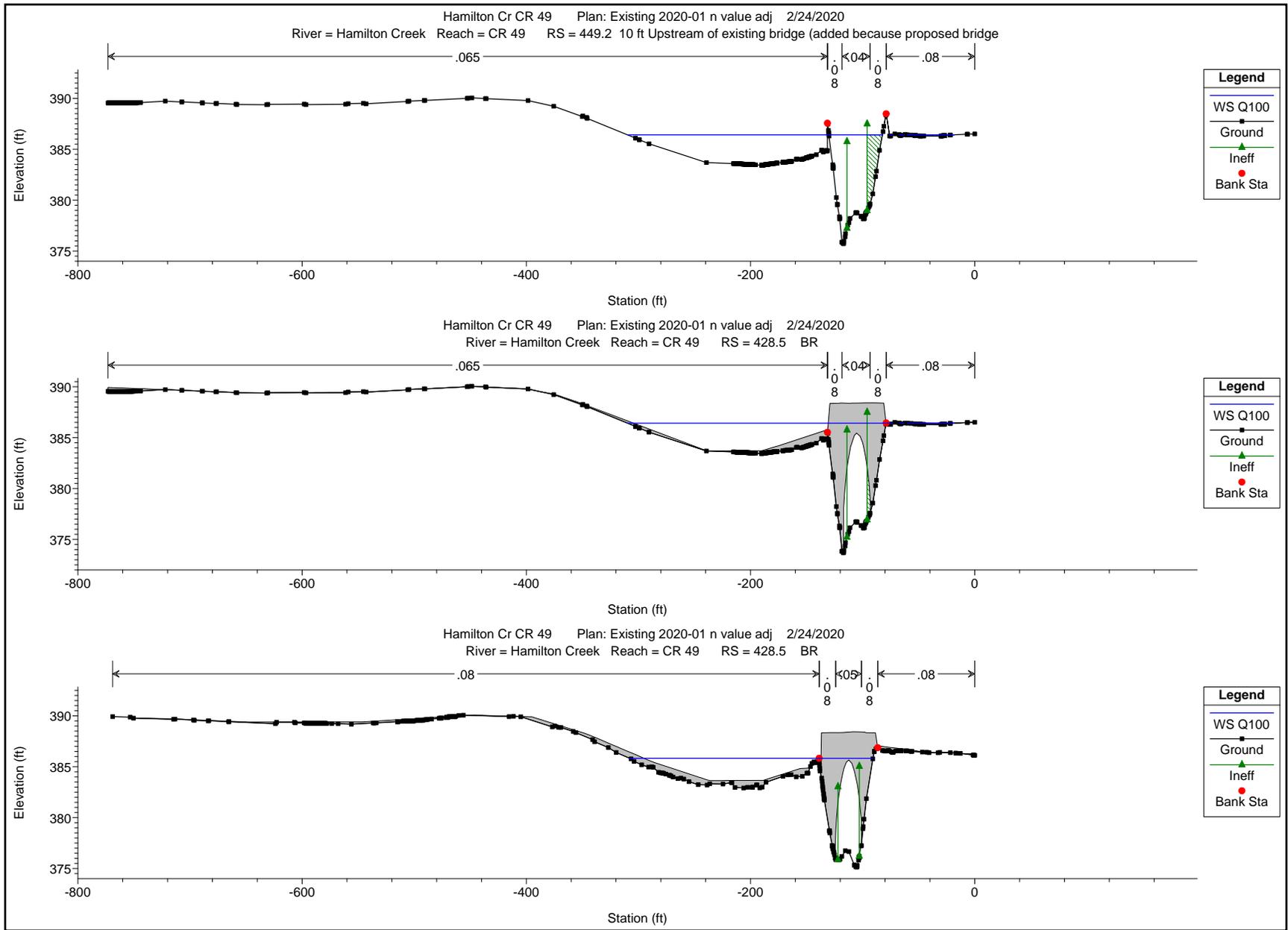
- WS Q100
- Ground

HEC-RAS Plan: Existing 2020-01 n value adj River: Hamilton Creek Reach: CR 49 Profile: Q100

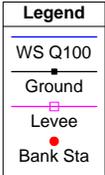
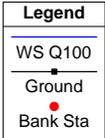
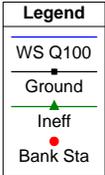
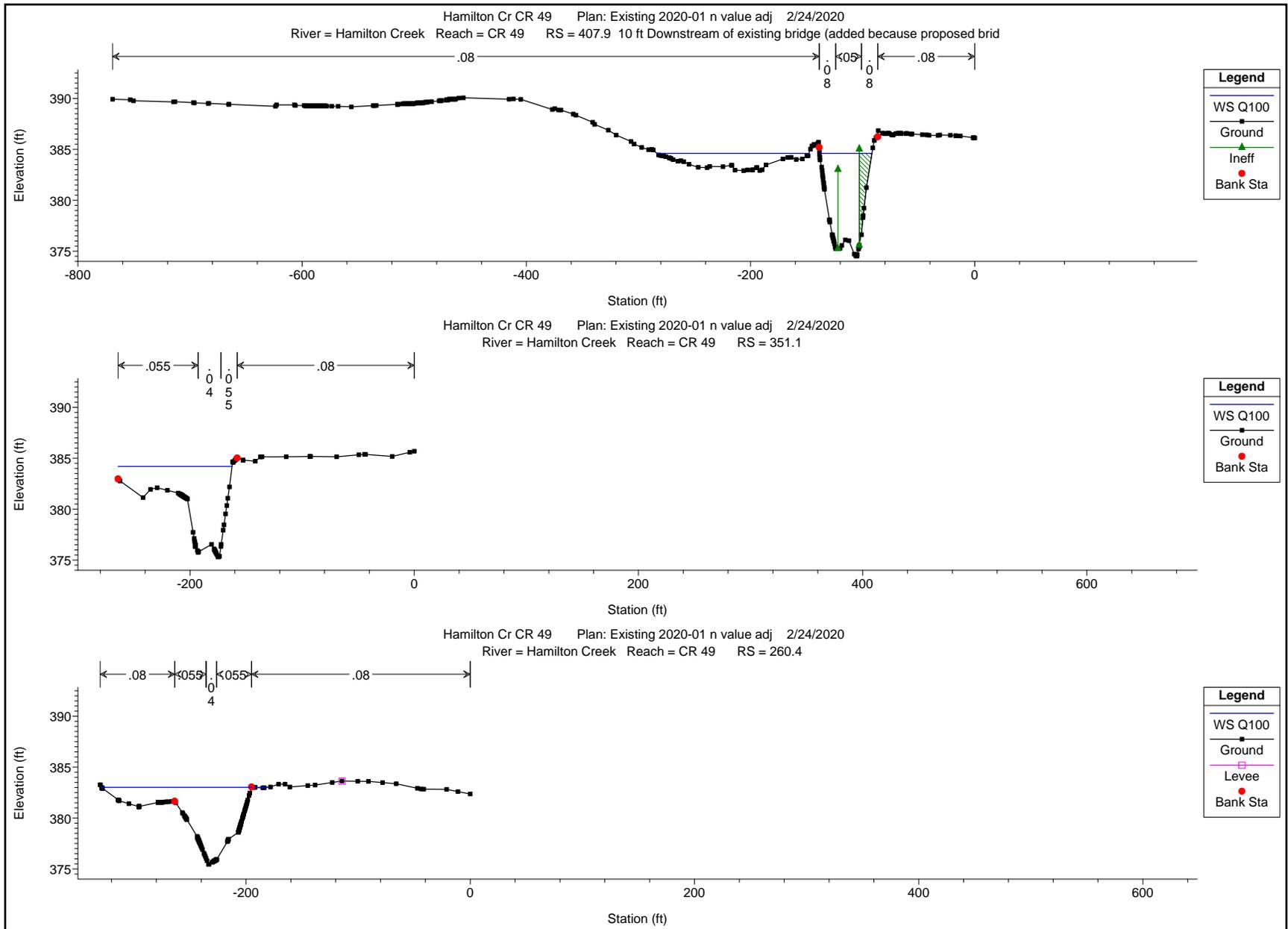
Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
CR 49	956.0	Q100	2630.00	377.88	387.28	385.12	387.41	0.001100	3.42	1177.68	376.67	0.25
CR 49	780.3	Q100	2630.00	376.43	387.23		387.28	0.000382	2.12	1921.77	444.46	0.14
CR 49	561.3	Q100	2630.00	376.25	386.96		387.14	0.000994	3.62	935.65	218.92	0.25
CR 49	449.2	Q100	2630.00	375.72	386.42	385.76	386.85	0.005196	6.38	631.01	275.29	0.42
CR 49	428.5		Bridge									
CR 49	407.9	Q100	2630.00	374.51	384.61	383.04	385.69	0.010973	8.79	405.59	182.38	0.56
CR 49	351.1	Q100	2630.00	375.30	384.20		384.83	0.008450	6.39	411.66	101.59	0.56
CR 49	260.4	Q100	2630.00	375.44	383.02	382.25	383.90	0.010739	7.80	399.28	144.75	0.65
CR 49	135.7	Q100	3990.00	373.99	382.28		383.00	0.005310	6.83	609.31	135.22	0.49
CR 49	0	Q100	3990.00	373.01	381.87	380.03	382.17	0.005092	4.51	1033.68	354.75	0.45



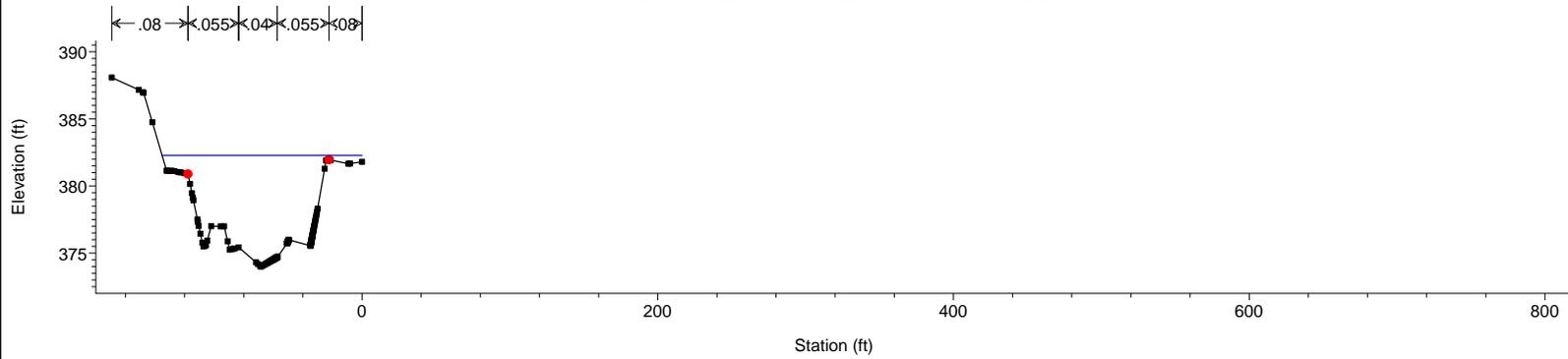
1 in Horiz. = 127 ft 1 in Vert. = 14 ft



1 in Horiz. = 127 ft 1 in Vert. = 14 ft

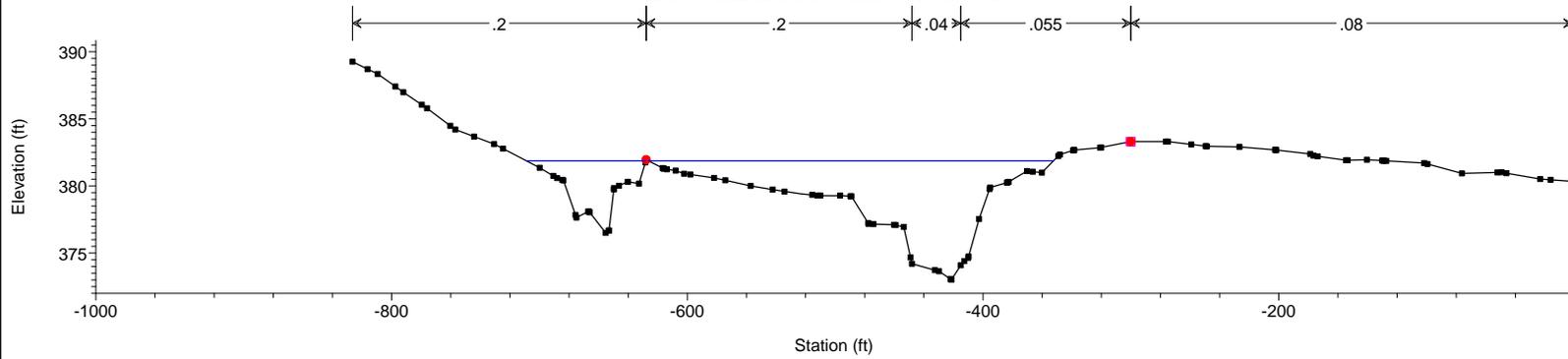


Hamilton Cr CR 49 Plan: Existing 2020-01 n value adj 2/24/2020
 River = Hamilton Creek Reach = CR 49 RS = 135.7



Legend	
—	WS Q100
■	Ground
●	Bank Sta

Hamilton Cr CR 49 Plan: Existing 2020-01 n value adj 2/24/2020
 River = Hamilton Creek Reach = CR 49 RS = 0



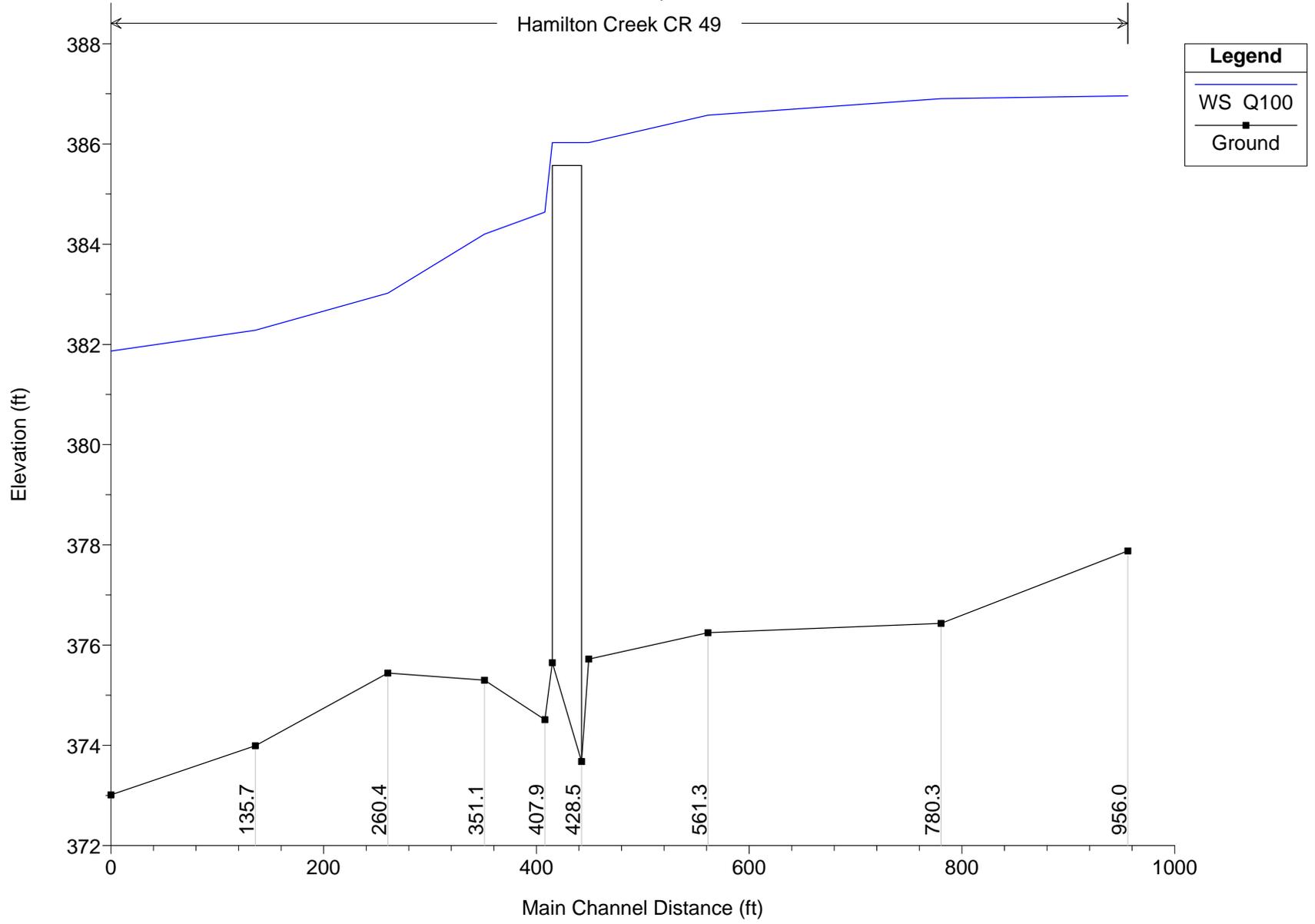
Legend	
—	WS Q100
■	Ground
□	Levee
●	Bank Sta

1 in Horiz. = 127 ft 1 in Vert. = 14 ft

Appendix C HEC-RAS Results Output: Proposed

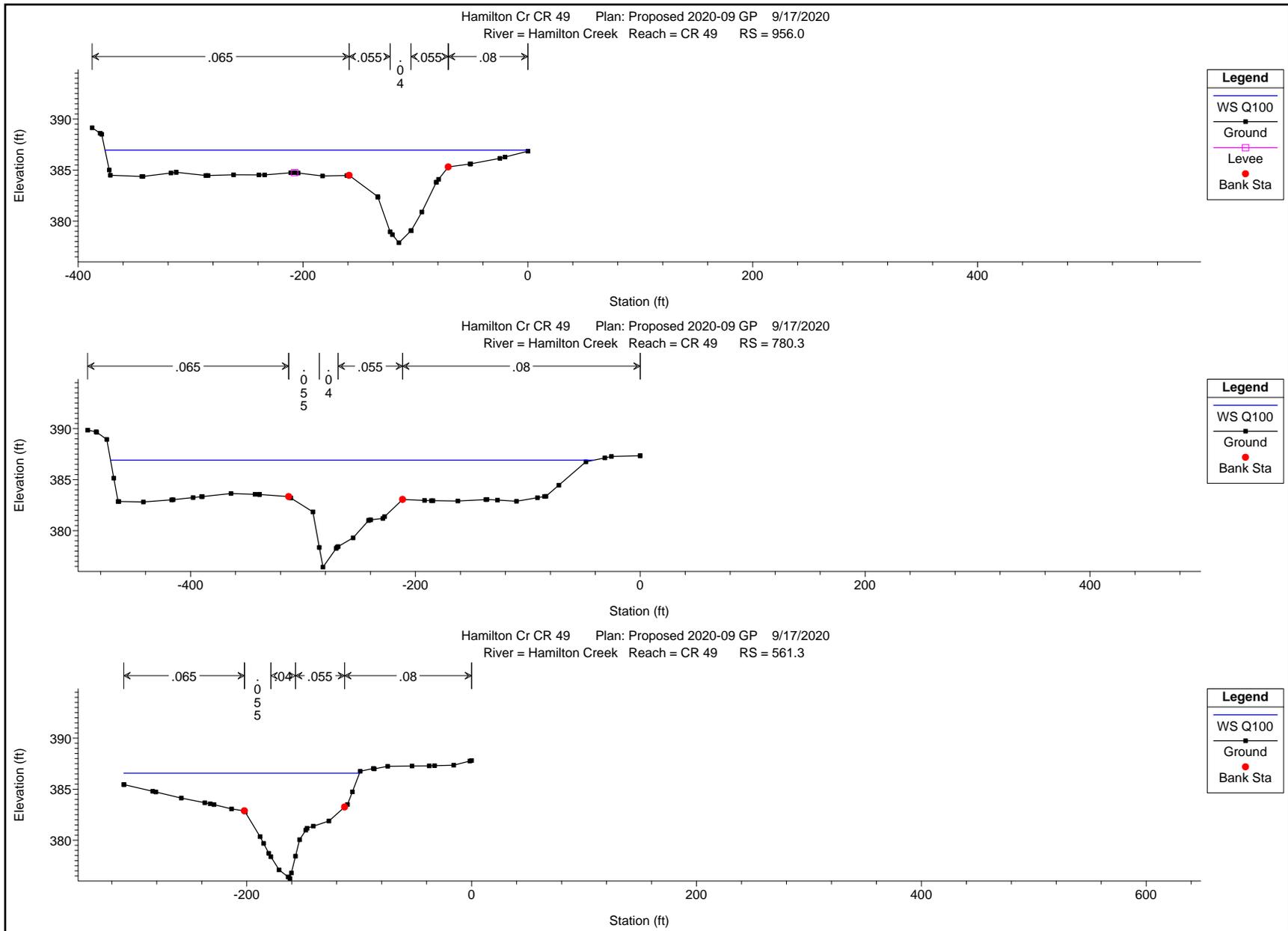
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Hamilton Creek CR 49

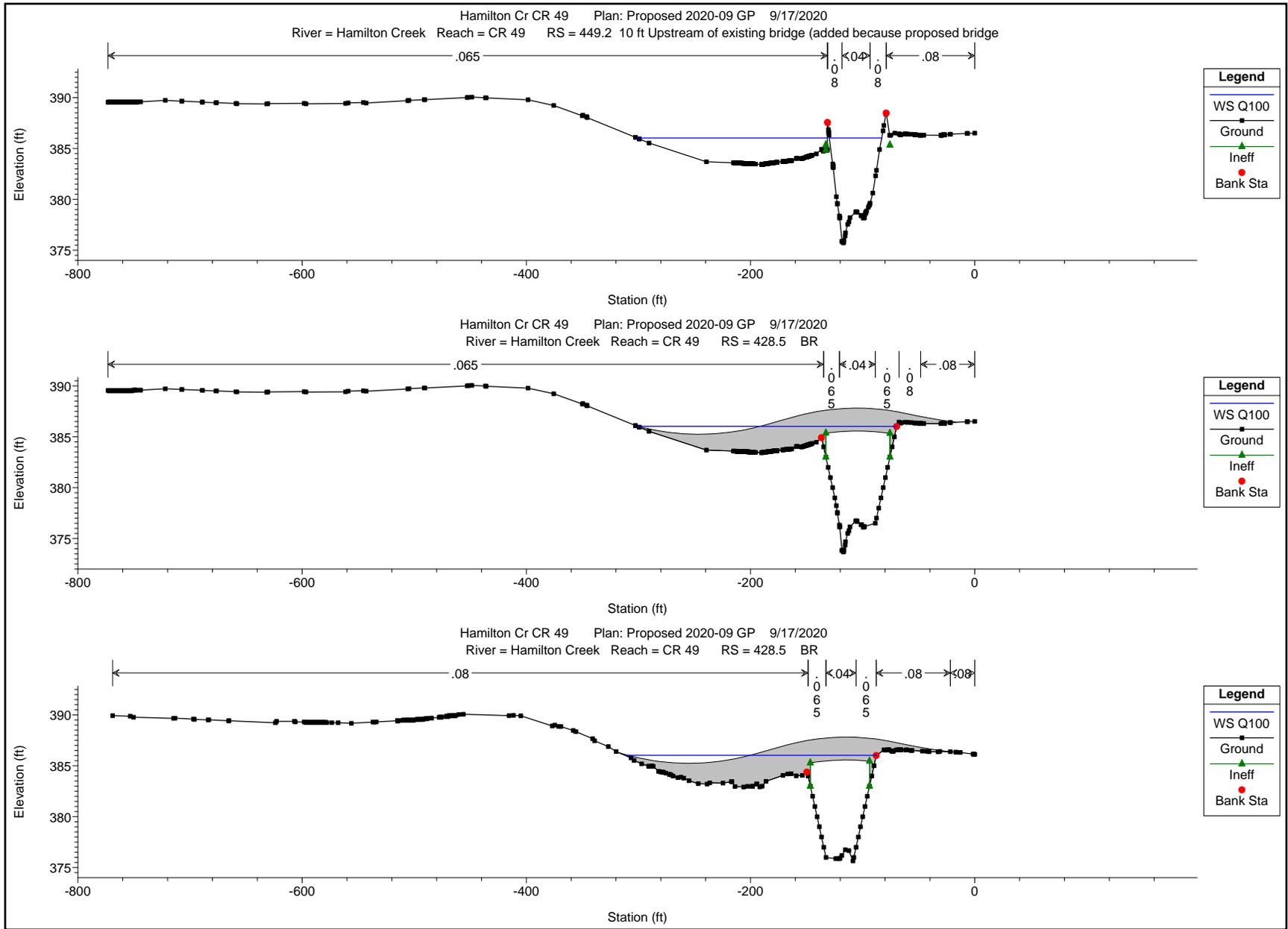


HEC-RAS Plan: Prop 2020-09 GP River: Hamilton Creek Reach: CR 49 Profile: Q100

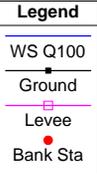
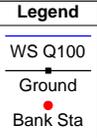
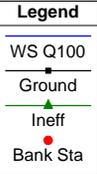
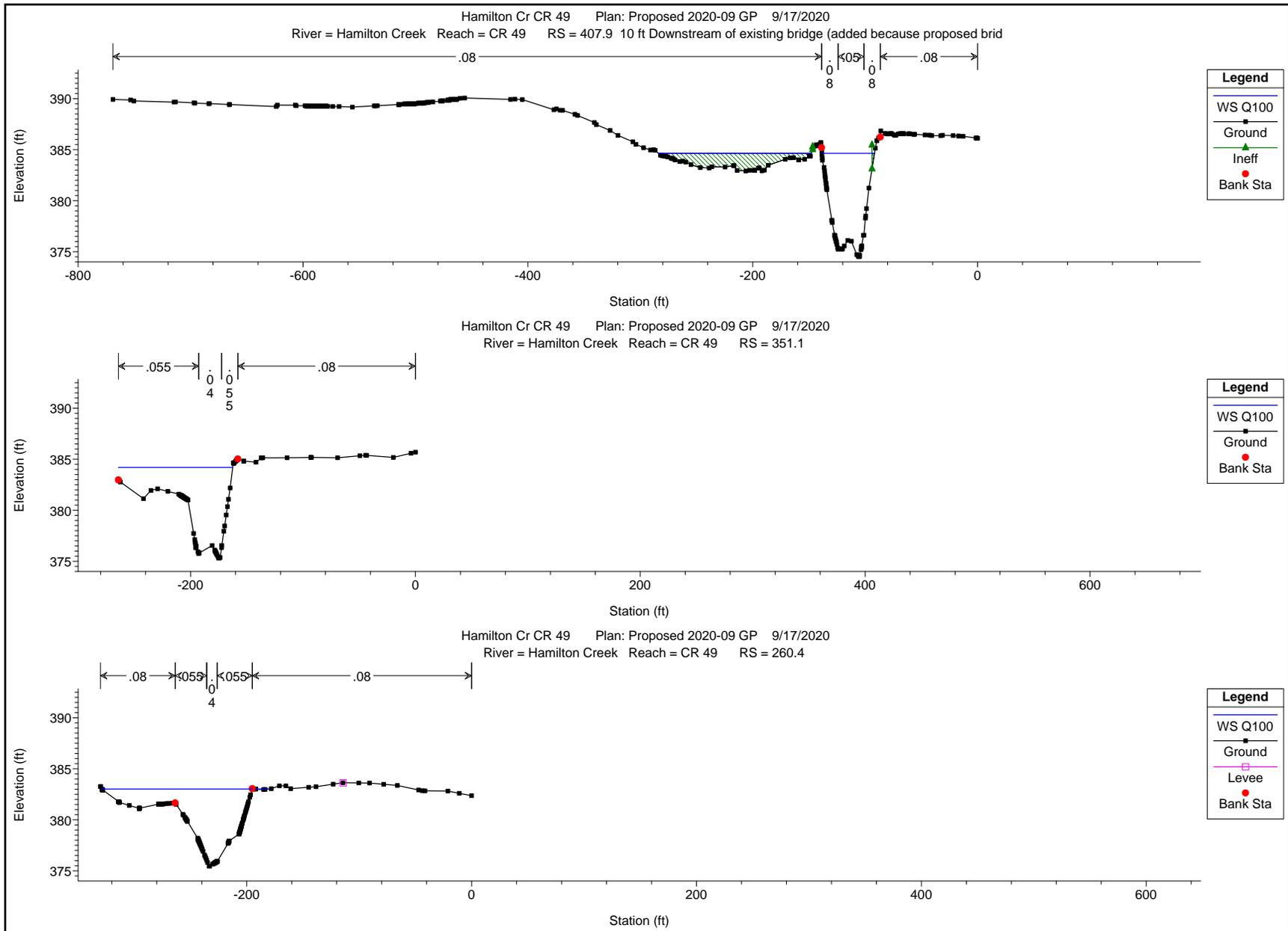
Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
CR 49	956.0	Q100	2630.00	377.88	386.96	385.12	387.12	0.001441	3.80	1056.45	376.05	0.29
CR 49	780.3	Q100	2630.00	376.43	386.90		386.96	0.000469	2.28	1777.51	429.55	0.16
CR 49	561.3	Q100	2630.00	376.25	386.57		386.78	0.001250	3.93	852.75	209.69	0.28
CR 49	449.2	Q100	2630.00	375.72	386.03	384.17	386.45	0.006714	6.05	603.16	216.62	0.43
CR 49	428.5		Bridge									
CR 49	407.9	Q100	2630.00	374.51	384.64	381.97	385.70	0.012074	8.27	317.83	182.84	0.55
CR 49	351.1	Q100	2630.00	375.30	384.20		384.83	0.008450	6.39	411.66	101.59	0.56
CR 49	260.4	Q100	2630.00	375.44	383.02	382.25	383.90	0.010739	7.80	399.28	144.75	0.65
CR 49	135.7	Q100	3990.00	373.99	382.28		383.00	0.005310	6.83	609.31	135.22	0.49
CR 49	0	Q100	3990.00	373.01	381.87	380.03	382.17	0.005092	4.51	1033.68	354.75	0.45



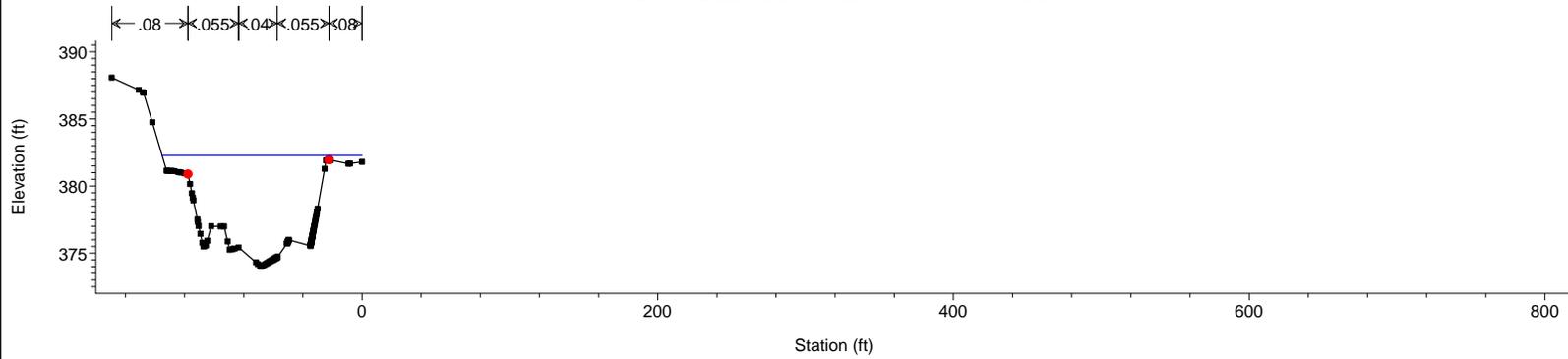
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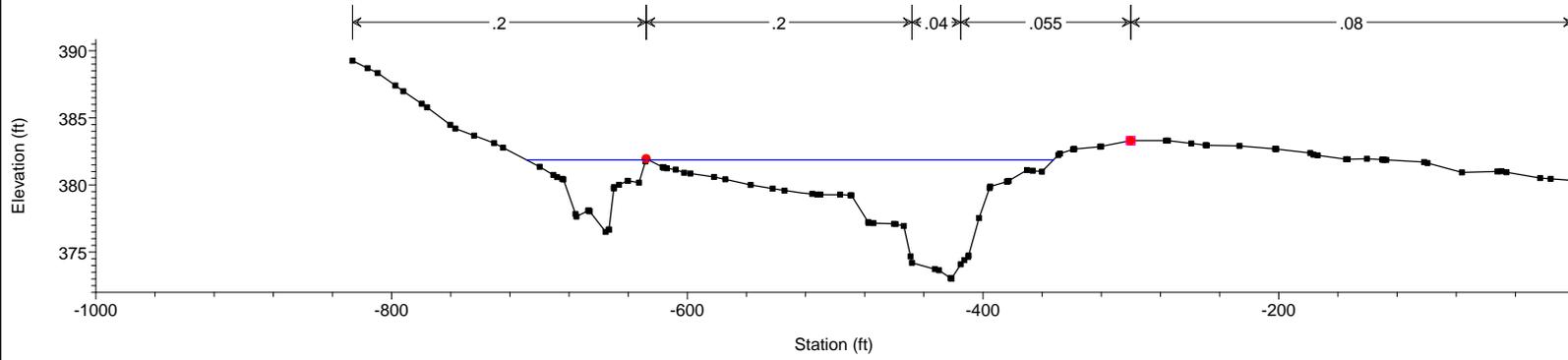
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Hamilton Cr CR 49 Plan: Proposed 2020-09 GP 9/17/2020
 River = Hamilton Creek Reach = CR 49 RS = 135.7



Hamilton Cr CR 49 Plan: Proposed 2020-09 GP 9/17/2020
 River = Hamilton Creek Reach = CR 49 RS = 0



1 in Horiz. = 127 ft 1 in Vert. = 14 ft

Appendix G

Water Quality Study Memorandum



Memorandum

Date: March 5, 2021
To: Julie Passalacqua, Victor Sherby - Mark Thomas
From: Analette Ochoa, Catherine Villarosa - WRECO
Subject: Water Quality Study Memorandum for the CR 49 Over Hamilton Creek Bridge

1 GENERAL DESCRIPTION

1.1 Introduction

This memorandum summarizes the water quality requirements for the County Road (CR) 49 Over Hamilton Creek Bridge Project (Project).

1.2 Project Description

Yolo County proposes to replace the existing bridge on CR 49 crossing over Hamilton Creek with funding made available through the Federal Highway Administration (FHWA) Highway Bridge Program and administered by California Department of Transportation (Caltrans). The bridge was determined to be functionally obsolete as recently as 2013 and currently has a sufficiency rating of 43.1.

The Project site is located within the northwestern corner of Yolo County, west of Highway 16. CR 49 is a rural local roadway that extends from CR 59 on the south to its terminus roughly three miles to the northwest. See Figure 1 for the Project Vicinity Map, Figure 2 for the Project Location Map, and Figure 3 for the Project Aerial Map. Within the Project vicinity, CR 49 varies between a paved and a dirt and gravel roadway with an approximate width of 18 feet and no shoulders. The bridge, with an Average Daily Traffic count of 106 vehicles, serves 10 agricultural/ rural properties, some which are developed with residential home sites, located on the northwest side of Hamilton Creek. Four of the properties immediately adjacent to the bridge will require permanent and/or temporary right of way acquisition to construct and complete the Project. There are no posted speed limits within the Project vicinity.

The existing bridge (Bridge No. 22C0095) was constructed in 1911 and is approximately 26 feet long and 20 feet wide. The structure consists of a single-span, earth-filled concrete arch. The bridge has rock pockets and spalling with exposed rebar on the arch soffit. Additionally, the bridge abutments footings are exposed along their entire lengths.

The proposed Project will construct a new bridge along a similar alignment as the existing structure. The bridge will accommodate two 10-foot travel lanes and 2-foot shoulders. The new bridge will be a 61-foot-long, single-span structure. The structure type will be a cast-in-place,



post-tensioned concrete slab. The roadway and bridge profile will be raised slightly and is expected to clear a 30- to 40-year storm event.

Construction of the bridge will involve excavation for and construction of concrete abutments, founded on driven piles. Construction of the roadway approaches will involve the removal of existing pavement and placement of new roadway fill material, aggregate base, hot mix asphalt pavement, and installation of guard rail. Tree removal and removal of other vegetation along the creek will be necessary for the Project. Temporary work within Hamilton Creek includes removal of the existing structure, falsework erection and removal, and installation of scour countermeasures at the abutments. Temporary creek diversion through a temporary crossing is anticipated in order to complete activities within the waterway.

Relocation of overhead electrical and communication lines, including two utility poles, and underground telecommunication lines are anticipated as part of the Project. Permanent right of way acquisition will be needed from the parcels identified as Assessor's Parcel Numbers (APN) 060-090-010 and 060-090-007. Temporary construction easements will be needed from all four adjacent parcels (APNs 060-090-010, -007, -006, and -003) to facilitate driveway conforms, utility relocations, and allow construction access.

During construction, vehicular traffic through the Project site will be maintained with a temporary crossing north of the existing bridge. The temporary crossing is anticipated to consist of pipe culverts to convey stream flow. Gravel backfill will be placed on top of the pipe culverts to provide a drivable surface. Following completion of construction, all this material will be removed. Construction is anticipated to begin in Spring 2023 and have a duration of approximately eight months.

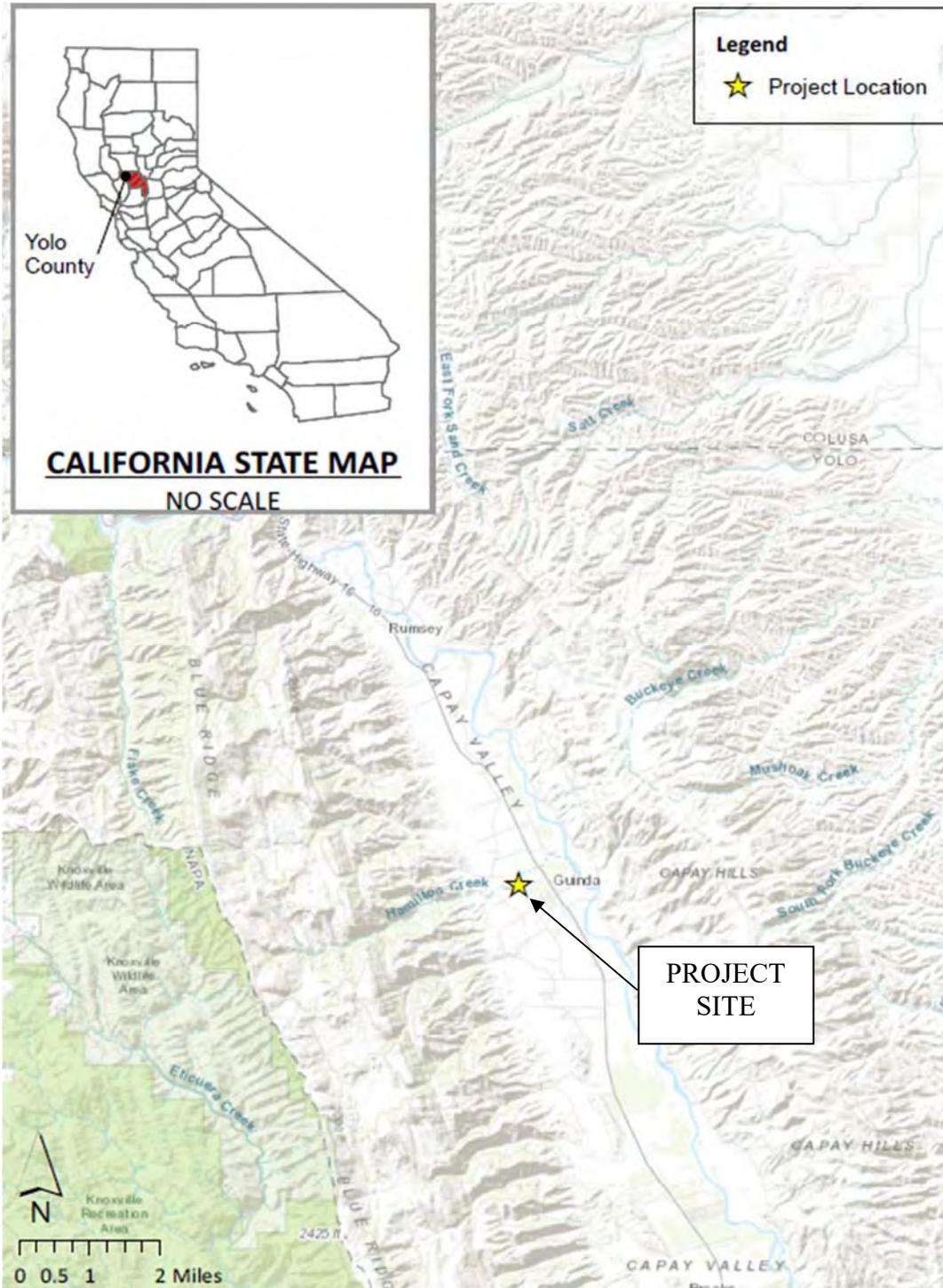


Figure 1. Project Vicinity Map

Source: United States Geological Survey (USGS), 2018

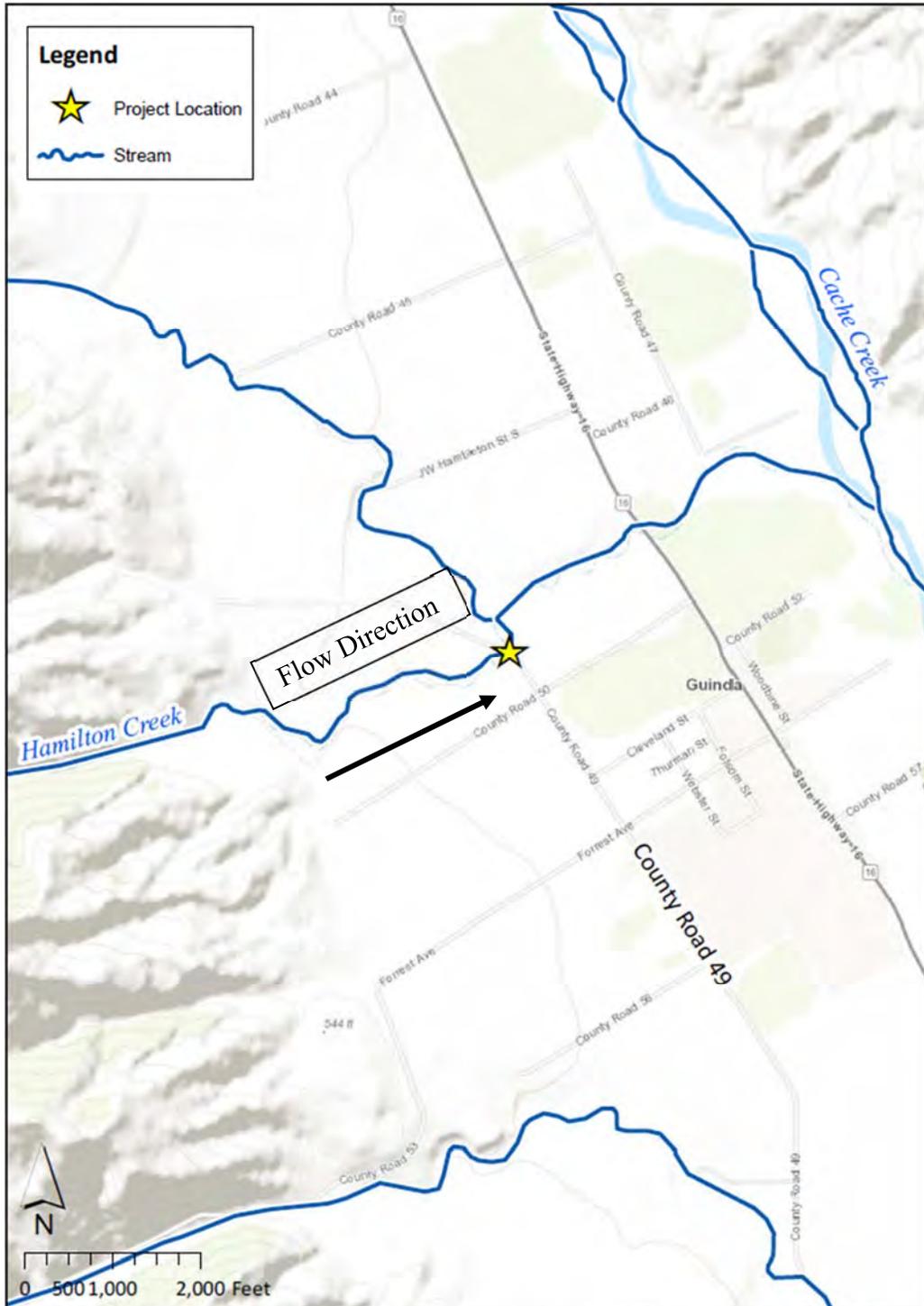


Figure 2. Project Location Map

Source: USGS. 2018

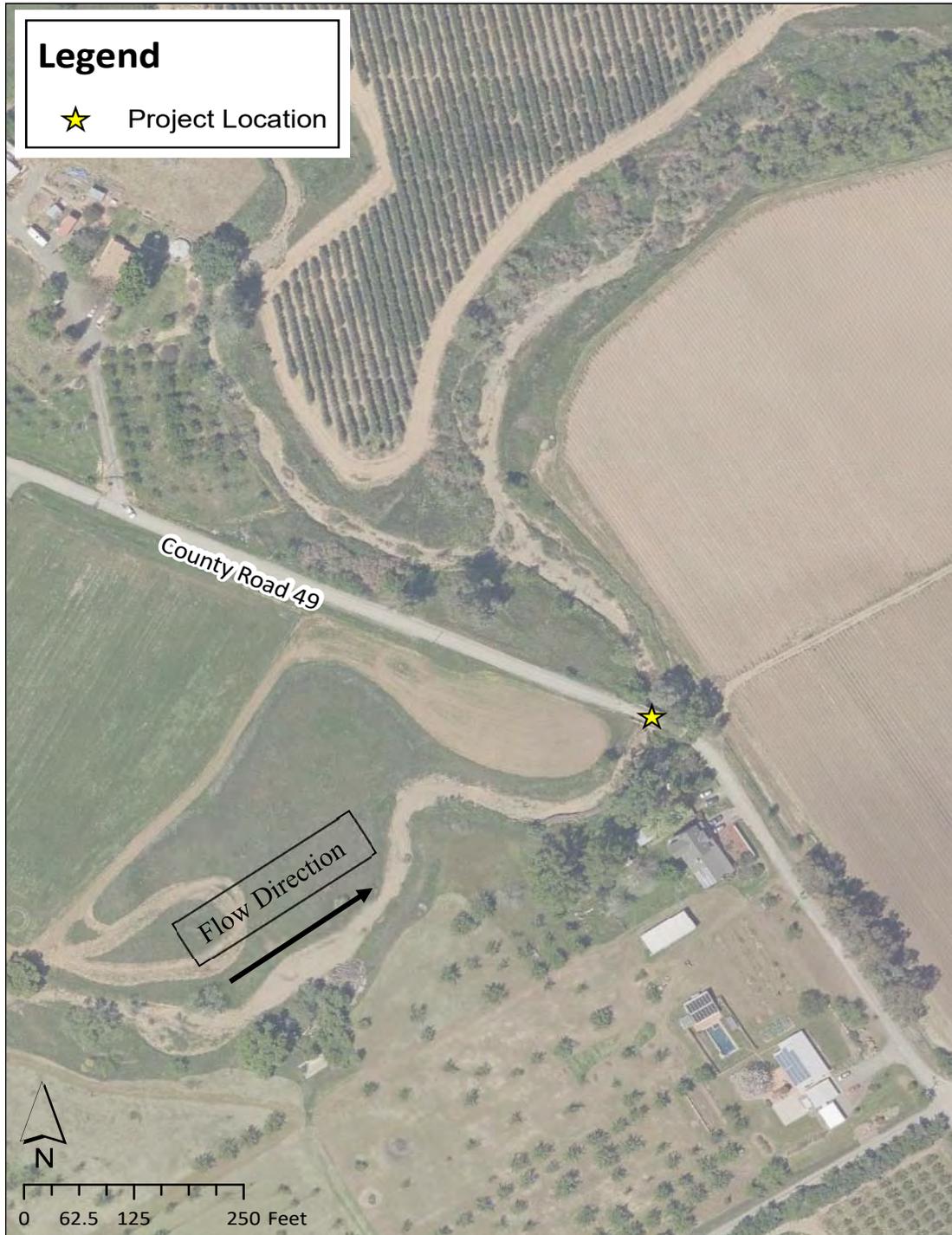


Figure 3. Project Aerial Map

Source: ESRI, 2019



2 ENVIRONMENTAL CONDITIONS

2.1 Topography

The Project area is relatively flat, sloping west to east towards Cache Creek. Along CR 49, the elevations in North American Vertical datum of 1988 (NAVD 88) range between 360 to 400 feet (United States Geological Survey [USGS], 2018).

2.2 Climate

The Project area has a Mediterranean climate, characterized by mild, moist winters and hot, dry summers. According to the Western Regional Climate Center (2020), for the Brooks Farnham RCH station (041112) in California, the average yearly rainfall is 19.49 inches with the most rainfall occurring between October to April. Between July 1921 to November 1985, the annual temperatures range from an average high temperature of 98.6 degrees Fahrenheit to an average low temperature of 34.0 degrees Fahrenheit. The highest temperatures occur between the months of June to October, and the lowest temperatures occur between December to May.

2.3 Soil Characteristics

According to the *Draft Foundation Report for County Road 49 Bridge Replacement over Hamilton Creek* (2020), prepared by Crawford and Associates Inc., the immediate vicinity of the Project site is underlain by Tehama loam with hydrologic soil group (HSG) rating C. HSG C soils are classified as having a slow infiltration rate and a slow rate of water transmission.

The soils that were encountered in test borings completed for the study showed earth materials encountered in the borings separated into two units considered significant to the proposed Project. Unit 1 soil is classified as loose to medium dense poorly-graded sand with silt, well-graded sand with silt and gravel, and very stiff to hard lean clay and hard sandy lean clay. Unit 2 soil is classified as dense to very dense clayey gravel with sand, silty sand, poorly-graded gravel with clay and sand, well-graded sand with silt and gravel, well-graded gravel with silt and sand, poorly-graded gravel with sand, and poorly-graded sand.

2.4 Land Use

The U.S Census Bureau determined the population of Yolo County to be approximately 220,500 (2019). According to the *Yolo County 2030 Countywide General Plan* (2009), the land around CR 96 crossing over Hamilton Creek within the Project limits consists of largely agricultural uses. Other larger acreage uses include: open space, public and quasi-public uses, and specific plan uses. (County of Yolo, 2009)

2.5 Watershed Hydrologic Units / Hydrologic Sub-Areas

According to the *Yolo County 2030 Countywide General Plan Environmental Impact Report* (EIR) prepared by LSA Associates, Inc., within the unincorporated County, there is about 7,300 acres covered in surface water. The surface water in Yolo County drains from west to east and is eventually received by the Yolo Bypass. The four major watersheds located in Yolo County include: the Sacramento River, Cache Creek, Putah Creek, and Willow Slough watersheds.



Hamilton Creek is a small tributary of Cache Creek in the northwestern part of Yolo County and contains the same beneficial uses as listed in Section 3.3.3.

The Yolo Bypass carries flood flows generated by runoff from the Sacramento River watershed and their associated tributary watersheds. Cache Creek is a tributary of the Yolo Bypass, however flow in the creek reaches the Bypass during the wet years due to damming and diversion of the stream's waters.

2.6 Crossings

2.6.1 Receiving Waterbodies

Hamilton Creek is the receiving water body for the Project. Hamilton Creek is a small tributary of Cache Creek, less than 0.5 miles away from the Project area and in the northwestern part of Yolo County. Hamilton Creek originates from the Blue Ridge Mountains and flows east into the valley of Cache Creek.

2.6.2 Drinking Water Facilities

According to the *Yolo County Stormwater Management Program (SWMP)* (2003), Yolo County relies on the cities of Davis and Woodland to satisfy some of its permit obligations. The City of Davis Public Works Department maintains the water supply systems.



3 PRELIMINARY WATER QUALITY ASSESSMENT

3.1 Regulatory Settings Federal

3.1.1 Clean Water Act

In 1972, Congress amended the Federal Water Pollution Control Act, making the addition of pollutants to the waters of the United States (U.S.) from any point source unlawful unless the discharge is in compliance with a National Pollutant Discharge Elimination System (NPDES) permit. Known today as the Clean Water Act (CWA), Congress has amended it several times.

In the 1987 amendments, Congress directed dischargers of stormwater from municipal and industrial/construction point sources to comply with the NPDES permit program. Important CWA sections are:

- Sections 303 and 304 require states to promulgate water quality standards, criteria, and guidelines.
- Section 401 requires an applicant for a federal license or permit to conduct any activity, which may result in a discharge to waters of the U.S., to obtain certification from the State that the discharge will comply with other provisions of the act (most frequently required in tandem with a Section 404 permit request. See below.).
- Section 402 establishes the NPDES, a permitting system for the discharges (except for dredge or fill material) of any pollutant into waters of the U.S. The U.S. Environmental Protection Agency (EPA) delegated to the California State Water Resources Control Board (SWRCB) the implementation and administration of the NPDES program in California. The SWRCB established nine Regional Water Quality Control Boards (RWQCB). The SWRCB enacts and enforces the Federal NPDES program and all water quality programs and regulations that cross Regional boundaries. The nine RWQCBs enact, administer and enforce all programs, including NPDES permitting, within their jurisdictional boundaries. Section 402(p) requires permits for discharges of stormwater from industrial, construction, and Municipal Separate Storm Sewer Systems (MS4).
- Section 404 establishes a permit program for the discharge of dredge or fill material into waters of the U.S, including wetlands. This permit program is administered by the U.S. Army Corps of Engineers (USACE).

3.2 State Laws and Requirements

3.2.1 Porter-Cologne Water Quality Control Act

California's Porter-Cologne Act, enacted in 1969, provides the legal basis for water quality regulation within California. This Act requires a "Report of Waste Discharge" for any discharge of waste (liquid, solid, or gaseous) to land or surface waters that may impair beneficial uses for surface and/or groundwater of the state. It predates the CWA and regulates discharges to waters



of the State. Waters of the State include more than just waters of the U.S., like groundwater and surface waters not considered waters of the U.S. Additionally, it prohibits discharges of “waste” as defined and this definition is broader than the CWA definition of “pollutant.” Discharges under the Porter-Cologne Act are permitted by Waste Discharge Requirements (WDR) and may be required even when the discharge is already permitted or exempt under the CWA.

3.2.2 State Waters Resources Control Board and Regional Water Quality Control Boards

The SWRCB adjudicates water rights, sets water pollution control policy, issues water board orders on matters of statewide application, and oversees water quality functions throughout the state by approving Basin Plans, TMDLs, and NPDES permits. RWCQBs are responsible for protecting beneficial uses of water resources within their regional jurisdiction using planning, permitting, and enforcement authorities to meet this responsibility.

3.2.3 National Pollutant Discharge Elimination System Program

3.2.3.1 Construction General Permit (CGP)

CGP (NPDES No. CAS000002, SWRCB Order No. 2009-0009-DWQ, adopted on November 16, 2010) became effective on February 14, 2011 and was amended by Order No. 2010-0014-DWQ and Order No. 2012-0006-DWQ. The permit regulates stormwater discharges from construction sites that result in a Disturbed Soil Area (DSA) of one acre or greater, and/or are smaller sites that are part of a larger common plan of development.

The Project would not be required to adhere to the CGP because the Project site does not disturb more than one acre or more of land.

3.2.3.2 Waste Discharge Requirements

If dewatering is required, then the Project would have to comply with the Central Valley Region’s Order R5-2016-0076-01 NPDES No. CAG9950002 Waste Discharge Requirements Limited Threat Discharges to Surface Water. This permit discusses effluent limits that is allowed for volatile organic compounds (VOC), fuel compounds, and other wastes in extraction and treatment of polluted groundwater during dewatering activities.

3.2.3.3 Municipal Separate Storm Sewer System (MS4)

Section 402(p) of the CWA requires the issuance of NPDES permits for five categories of stormwater dischargers, including MS4s. The U.S. EPA defines an MS4 as:

any conveyance or system of conveyances (roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, human-made channels, and storm drains) owned or operated by a state, city, town, county, or other public body having jurisdiction over storm water, that are designed or used for collecting or conveying stormwater.

The Project lies within Yolo County’s right-of-way. According to the Yolo County Boundary Map, the Project area is not within the incorporated cities of Yolo County, therefore the Phase II



permit would not apply to the Project as it adheres to Projects within any incorporated or urbanized areas.

The *Yolo County Stormwater Management Program (SWMP) Planning Document (2003)* provides guidance for addressing stormwater quality within the County's jurisdiction. The SWMP will address a wide variety of activities conducted in urbanized areas of Yolo County that are sources of pollutants in stormwater. The construction activities element of the SWMP describes the controls to reduce the discharge of pollutants associated with construction activities. It will require construction sites to implement adequate water quality control measures by enforcing the implementation of the requirements through construction site inspections. Control measures address construction activities from the land development process to the completion of construction activities. The Project does not disturb more than one acre or more of land therefore these measures would not apply to the Project.

3.3 Regional and Local Requirements

3.3.1 Anticipated Permits

The Project may be required to obtain a Section 401 Certification from the Central Valley RWQCB and a Section 404 permit from the USACE since aquatic resources within the Project area would also potentially be regulated if work is to be anticipated in the water bodies. Work within waterways would require a Streambed Alteration Agreement (Fish and Game Code section 1602) from the California Fish and Wildlife Services.

3.3.2 RWQCB Basin Plan

The Project is under the jurisdiction of the Central Valley RWQCB. The RWQCB implements the Region 5 *Central Valley Basin Plan (Basin Plan) (2018)* which states the goals and policies, beneficial uses, and water quality objectives that apply to water bodies through the Central Valley region, which includes the Project area. The Basin Plan has been adopted by the SWRCB, U.S EPA, and Office of Administrative Law.

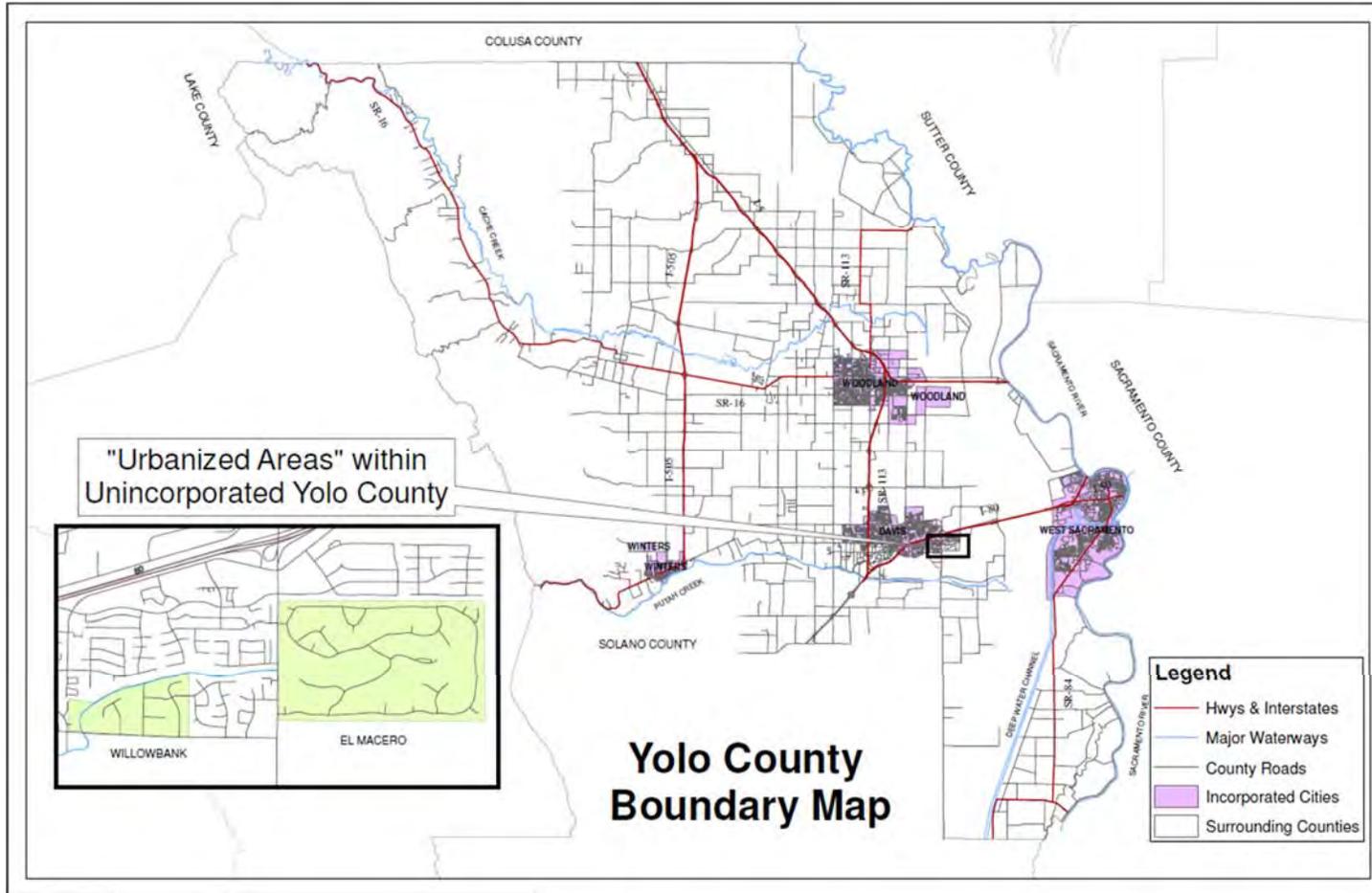


Figure 4. Yolo County Boundary Map

Source: Yolo County Planning and Public Works, 2013

3.3.3 Surface Water

Surface Water Quality Objectives/Standards and Beneficial Uses

Water quality objectives are numeric and narrative objectives used to define the appropriate levels of environmental quality, to protect beneficial uses, and to manage activities that can impact aquatic environments. The *Basin Plan* (2018) lists the following narrative and numeric water quality objectives for the region’s surface waters: bacteria, biostimulatory substances, chemical constituents, cryptosporidium and giardia, color, dissolved oxygen, floating material, mercury, methylmercury, oil and grease, pesticides, pH, water temperature, toxicity, and turbidity.

Protection and enhancement of existing and potential beneficial uses are primary goals of water quality planning. The *Basin Plan* (2018) lists beneficial uses for Cache Creek. Hamilton Creek is a tributary of Cache Creek which is approximately 0.5 miles east of the Project site. In general, the beneficial uses of the specifically identified water body in the Basin Plan applies to its tributary streams, but are also evaluated on a case-by-case basis. In the case of Hamilton Creek, the beneficial uses of the Cache Creek section from Clear Lake to the Yolo Bypass also exist at the Project site. Table 1 shows the beneficial uses related to the Cache Creek and the Project area.

Table 1. Beneficial Uses

Beneficial Use	Cache Creek (Clear Creek to Yolo Bypass)
Municipal and Domestic Supply	E
Agriculture Irrigation	E
Agriculture Stock Watering	E
Industry Process Supply	E
Industry Service Supply	E
Water Contact Recreation	E
Canoeing and Rafting Recreation	E
Other Non-Water Contact Recreation	E
Warm Freshwater Habitat	E
Cold Freshwater Habitat	P
Warm Water Spawning	E
Cold Water Spawning	E
Wildlife Habitat	E

Source: Basin Plan, 2018

Notes:

- Beneficial uses include but are not limited to these uses
- E = Existing beneficial uses
- P =Potential beneficial uses

Water Quality Impairments and Total Maximum Daily Loads

The *2014/2016 California Integrated Report (Clean Water Act Section 303[d] List/305[b] Report)* (SWRCB, 2018) lists Cache Creek as having a total maximum daily load (TMDL) for boron, mercury and toxicity. Boron is listed as having an unknown source with an expected TMDL completion date of 2021. Mercury is listed as having a source from resource extraction with an expected TMDL completion date of February 6, 2007. Toxicity is listed as having an unknown source with an expected TMDL completion date of 2019.

3.4 Groundwater Quality Objectives / Standards and Beneficial Uses

The Project is located within the Sacramento Valley Groundwater Basin Yolo Subbasin (5-21.67). Based on California's Groundwater Bulletin 118 (DWR, 2016), the Yolo Subbasin is located on the southern portion of the Sacramento Valley Basin primarily within Yolo County. It is bounded on the east by the Sacramento River, on the west by the Coast Range, on the north by Cache Creek, and on the south by Putah Creek.

According to the *Basin Plan* (2018), the Sacramento Valley Groundwater Basin Yolo Subbasin is not listed as having beneficial uses for groundwater.

3.5 Environmental Consequences and Project Impacts

3.5.1 Project Impacts

The Project is anticipated to have a DSA of 0.37 acres and 0.24 acres of added impervious area. Because the Project does not lie within the incorporated cities of Yolo County, the Phase II permit would not apply to the Project. The Project also does not disturb more than one acre or more of land, therefore it would not adhere to the CGP. Because of these criteria, the Project may be exempt from treatment BMPs. Temporary best management practices (BMP) and Permanent Erosion Control BMPs are project features that will be proposed to address water quality impacts of the Project.

3.5.2 Temporary Impacts and Project Features

Disturbed soils can result in sediment laden flows and increase the potential for erosion. Generally, as the DSA increases, the potential for temporary water quality impacts also increases. Routinely used temporary BMPs are included to protect water quality. These include preservation of existing vegetation, temporary drainage inlet protection, and temporary construction entrances and exits.

3.5.3 Permanent Impacts and Project Features

Long-term impacts from the Project could result from fill placed in environmentally sensitive areas, potential increases to the velocity and volume of downstream flows due to added impervious areas, and sediment transported from erosion. Stormwater runoff from the study area can potentially carry pollutants into naturally flowing streams, as well as into adjacent jurisdictional biotic/aquatic areas.

Yolo County's SWMP establishes a program for requiring permanent stormwater BMPs for major development and redevelopment projects. The Project's goal is to require the installation of permanent water quality control measures during the development application approval process. The design of the control measures would then be verified during the development application approval process.

3.6 Avoidance, Minimization, and/or Mitigation Measures

3.6.1 Water Resources

The goal of the Project is to avoid or minimize the impacts to creeks, streams, riparian habitats, wetlands, and Waters of the United States and State.

3.6.2 Temporary Dewatering Activities

According to the *Draft Foundation Report for County Road 49 Bridge Replacement over Hamilton Creek* (Crawford & Associates, Inc., 2020), construction dewatering is expected to be achievable during the creek's dry season. A creek diversion may be needed during construction and all construction would be performed during the summer months per regulatory requirements and therefore the need for a diversion or dewatering would be minimized. If needed the Project would have to obtain a dewatering permit and applicable non-stormwater BMPs would be required to manage the water quality levels in Dry Slough. The Central Valley Region's Order R5-2016-0076-01 NPDES No. CAG9950002 Waste Discharge Requirements Limited Threat Discharges to Surface Water discusses the permit for dewatering.

Dewatering would be achieved through diking/diversion of surface water and if present the use of sump pumps. The use of coarse, granular soils at the base of excavation would be expected to provide an appropriate working surface. During the winter and spring season, construction can expect a high-water surface level in the slough and may also encounter high groundwater levels that may require additional control.

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Appendix H

Construction Noise Technical Memorandum

MEMORANDUM

To: Thaleena Bhattal, Caltrans District 3 Associate Environmental Planner Project No.: SA-18139
Cc: Mark Christison, Yolo County
From: Julie Passalacqua, Mark Thomas
Date: August 6, 2021
RE: BRLO-5922(111) - Hamilton Creek Bridge Construction Noise Technical Memorandum

PURPOSE

The purpose of this construction noise technical memorandum is to demonstrate the noise generated from the construction of the County Road (CR) 49 over Hamilton Creek Replacement Project will result in less than significant impacts to the area residents.

PROJECT DESCRIPTION

Project Need

The existing bridge (Bridge No. 22C0095) has been given a sufficiency rating of 43.1 and has a status of functionally obsolete. The bridge has rock pockets and spalling with exposed rebar on the arch soffit. Additionally, the bridge abutments footings are exposed along their entire lengths. The bridge has been programmed for replacement in the Highway Bridge Program (HBP).

Existing Conditions

CR 49 is a rural local roadway that extends from CR 59 on the south to its terminus roughly three miles to the northwest. Within the project vicinity, CR 49 varies between a paved and a dirt and gravel roadway with an approximate width of 18 feet and no shoulders. The bridge, with an Average Daily Traffic count of 106 vehicles, serves 10 agricultural/ rural properties, some which are developed with residential home sites, located on the northwest side of Hamilton Creek. The bridge, built in 1911, is a 26-foot-long single span earth-filled arch.

Proposed Improvements

The proposed project will construct a new bridge along a similar alignment as the existing structure. The bridge will accommodate two 10-foot travel lanes and two-foot shoulders. The new bridge will be a 61 feet long single-span structure. The structure type will be a cast-in-place, post-tensioned concrete slab. The roadway and bridge profile will be raised slightly and is expected to clear a 30- to 40-year storm event.

Construction of the bridge will involve excavation for and construction of concrete abutments, founded on driven steel HP piles. Other temporary work within Hamilton Creek includes removal of the existing structure, falsework erection and removal, and installation of scour countermeasures at the abutments. Temporary creek diversion is anticipated to complete activities within the waterway. Construction of the

roadway approaches will involve the removal of existing pavement and placement of roadway fill material, aggregate base, and hot mix asphalt pavement.

Relocation of overhead electrical and communication lines, including two utility poles, and underground telecommunication lines are anticipated as part of the project. Permanent right of way acquisition will be needed from the parcels identified as Assessor’s Parcel Numbers (APNs) 060-090-010 and 060-090-007. Temporary construction easements will be needed from all four adjacent parcels (APNs 060-090-010, -007, -006, and -003) to facilitate driveway conforms, utility relocations, and allow construction access.

CONSTRUCTION NOISE

Project construction would generate noise that could affect sensitive receptors within the project vicinity. The FHWA defines a noise sensitive receptor as a property where frequent outside human use occurs and where a lowered noise level would be beneficial.

The table below shows typical equipment noise levels for various construction equipment and activities, including measured sound levels at 50 feet from the source. Noise sources associated with the project construction would include excavation, construction truck traffic, and other noises typically associated with a construction site.

Construction Equipment Noise Levels

Construction Equipment	Maximum Noise Level dBA at 50 feet
Backhoe	78
Compactor (ground)	83
Compressor (air)	78
Concrete Mix Truck	79
Concrete Pump Truck	81
Crane	81
Dozer	82
Drill Rig Truck	79
Dump Truck	76
Excavator	81
Front End Loader	79
Generator	81
Paver	77
Pneumatic Tools	85
Pumps	81
Roller	80
Scraper	84

Source: FHWA Roadway Construction Noise Model User’s Guide, 2006

There are a couple of sensitive receptors bordering the project area. These include two residential properties located approximately 100 feet and 450 south of the bridge.

Yolo County does not currently have a Noise Ordinance. The Caltrans Standard Specifications will govern the allowable level of noise. Section 14-8.02 titled "Noise Control" of the Standard Specifications states "Control and monitor noise resulting from work activities. Do not exceed 86 dBA at 50 feet from the job site from 9:00 p.m. to 6:00 a.m."

EQUIPMENT NOISE CONTROL

To avoid substantial construction-period noise impacts to nearby sensitive receptors, the best practices listed below will be included during project construction. With implementation of these standard construction-period specifications, the project will not result in excessive construction-period noise effects.

1. Project-related noise-generating activities at, or adjacent to, the construction site shall comply with the Caltrans standard specifications section 14-8.02. "Control and monitor noise resulting from work activities. Do not exceed 86 dBA at 50 feet from the job site from 9:00 p.m. to 6:00 a.m."
2. All internal combustion engine driven equipment shall be equipped with the appropriate intake and exhaust mufflers, which are in good condition.
3. "Unnecessary" idling of internal combustion engines shall be strictly prohibited.
4. Avoid staging construction equipment within 200 feet of residences and locate all stationary noise-generating construction equipment as far as practical from existing noise receptors. Construct temporary barriers to screen noise generating equipment when located in areas adjoining noise-sensitive land uses.
5. "Quiet" air compressors and other stationary noise sources shall be used when applicable.
6. All construction traffic shall be routed to and from the project site via designated truck routes. Construction-related heavy truck traffic shall be prohibited in residential areas where feasible. Construction truck traffic shall be prohibited in the project vicinity during non-allowed hours.
7. The businesses, residents and schools in the project area shall be notified in writing by the County of the construction schedule.
8. The County shall designate a "noise disturbance coordinator" who will be responsible for responding to any local complaints about construction noise. The disturbance coordinator will determine the cause of the noise complaint and implement reasonable measures to correct the problem. The contractor shall visibly post the telephone number for the disturbance coordinator at the construction site. The County shall include the telephone number in the notice sent to residents regarding the construction schedule.

Appendix I

Initial Site Assessment

INITIAL SITE ASSESSMENT

County Road 49 Bridge Replacement over Hamilton Creek Yolo County, California

Bridge No. 22C0095

Prepared By:



1100 Corporate Way, Suite 230
Sacramento, CA 95831

Project No. 18-474.3

May 17, 2021

Prepared For:



MARK THOMAS
701 University Ave, Suite 200
Sacramento, CA 95825

18-474.3
May 17, 2021

Ms. Julie Passalacqua, PE
Mark Thomas
701 University Ave, Ste 200
Sacramento CA 95825

Subject: **Initial Site Assessment**
County Road 49 Bridge Replacement over Hamilton Creek
Yolo County, California
Bridge No. 22C0095

Dear Ms. Passalacqua:

Crawford & Associates, Inc. has prepared this Initial Site Assessment for the County Road 49 Bridge Replacement over Hamilton Creek in Yolo County, California. The purpose of this assessment is to identify and provide a preliminary assessment of the potential impacts from known or potential Recognized Environmental Conditions within the study area that may influence design and construction of the project.

We include an executive summary, property information, summary of a records review, reconnaissance observations, findings and recommendations, and limitations in this report.

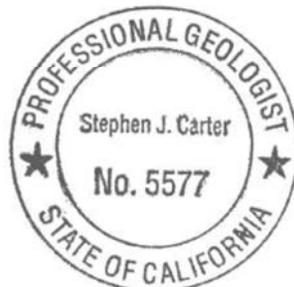
We appreciate the opportunity to be on your team for the County Road 49 Bridge Replacement over Hamilton Creek. Please call us if you have questions or comments.

Sincerely,

CRAWFORD & ASSOCIATES, INC.

Reviewed by:


Stephen J. Carter
P.G. #5577
Senior Geologist



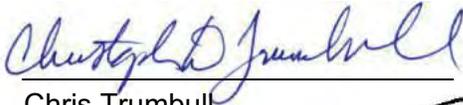

Chris Trumbull
G.E. #2494
Senior Project Manager



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- APPENDIX F – NAL Report and Laboratory Analytical Results**
- APPENDIX G – Caltrans Unknown Hazards Procedure**

1 EXECUTIVE SUMMARY

Crawford & Associates, Inc. (CAInc) performed an Initial Site Assessment (ISA) for the County Road (CR) 49 Bridge Replacement at Hamilton Creek in Yolo County, California. The existing bridge is approximately 26 feet long and 20 feet wide, and consists of a single-span, earth-filled concrete arch. The proposed project will construct a new bridge along a similar alignment as the existing structure. The bridge will accommodate two 10-foot travel lanes and 2-foot shoulders. The new bridge is anticipated to be a single-span, structure approximately 61 feet long. The structure type has not yet been determined but is expected to consist of cast-in-place, post-tensioned concrete slab.

The purpose of this ISA is to identify recognized soil or groundwater contamination and hazardous material issues that may affect the planned project improvements. Based on the records reviewed and a site reconnaissance, CAInc makes the following observations:

- The project site was not identified in the database records reviewed.
- The database records search and historical topographic maps reviewed did not identify any Recognized Environmental Conditions (RECs) or historical RECs (HRECs) that have potentially impacted the project site.
- Historical aerial photographs indicate that properties in the immediate vicinity of the bridge were utilized for agriculture from at least 1937 to 2016.
- A reconnaissance of the project site identified conditions indicating the potential presence of RECs that might impact the project:
 - Asbestos-containing construction material (ACCM) was not encountered at the bridge structure.
 - Soil samples were collected to evaluate concentrations of Aerially Deposited Lead (ADL).
 - Property adjacent to the east side of the bridge is under active agricultural cultivation.
 - Chemically treated fencing was observed adjacent to the project site.
- Evidence of naturally occurring asbestos (NOA), including serpentine or ultramafic rock, was not observed at the project site.
- There were no painted traffic markings observed on the asphalt pavement.
- Utility poles and electrical transformers are present near the project site.

The proposed project will impact CR 49. The following general hazardous materials or environmental concerns are typical of similar projects and have been evaluated in this assessment. A detailed discussion is provided in Section 7 that considers the following:

- Asbestos Containing Construction Material
- Lead-based Paint
- Aerially Deposited Lead
- Agricultural Chemicals (Pesticides/Herbicides)
- Chemically Treated Wood
- Naturally Occurring Asbestos
- Petroleum Hydrocarbons
- Thermoplastic Traffic Striping
- Electrical Transformers

Based on the public records, historical aerial photographs, and historical topographic maps reviewed for this project, and the site reconnaissance performed on April 15, 2020, CAInc offers the following recommendations:

- A lead compliance plan that protects workers and the environment from lead exposure will need to be prepared prior to implementation of demolition and construction activities. Painted bridge components will need to be removed, transported, and recycled or disposed of in a manner consistent with the lead compliance plan and applicable State and Federal law. Additional sampling and analysis of the paint may be required to insure proper disposal of the painted components.
- The temporary detour installed north of the bridge will impact the fence along the boundary of APN 060-090-010. Fencing material may include chemically treated wood. Treated wood waste (TWW) will need to be handled in accordance with California 2018 Standard Special provision (SSP) 14-11.14, which requires the contractor to follow the Alternative management standards (AMS), including providing training to all personnel that may come in contact with TWW. Training must include, at a minimum, safe handling; sorting and segregating; storage; labeling (including date); and proper disposal methods.
- The temporary detour and construction easements will impinge on land that has the potential to be impacted by agricultural chemicals (APN 060-090-003, 060-090-006 and 060-090-010). Soil from these parcels should be tested to evaluate if residual agricultural chemicals are present at concentrations that might pose and exposure risk to construction workers, or require special handling for re-use or off-site disposal.

This report identifies RECs and general hazardous materials issues that may be present at the site, and provides recommendations for further investigation, as warranted. Additional research and assessment may provide more certainty on conditions to be encountered during demolition and construction.

2 INTRODUCTION

2.1 PURPOSE

The following report summarizes an ISA performed by CAInc for the CR 49 Bridge Replacement at Hamilton Creek in Yolo County, California. This ISA was prepared for use by Yolo County for this specific project in accordance with the agreement between Mark Thomas (MT) and CAInc, dated July 20, 2018. The purpose of this ISA is to help identify potential or known hazardous materials and hazardous waste impacts that have the potential to impact the project site.

We use the term Recognized Environmental Condition consistent with ASTM E1527-13, which defines REC as:

“The presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: (1) due to release to the environment; (2) under conditions indicative of a release to the environment; or (3) under conditions that pose a material threat of a future release to the environment. De minimis conditions are not recognized environmental conditions.”

2.2 SCOPE OF SERVICES

CAInc completed the following tasks to prepare this ISA:

- Reviewed available project documents, reports, plans and figures, including the project description, Strip Map (undated) and site plan (undated) prepared by MT, site geology and groundwater data.
- Contracted with GeoSearch to review federal, state, and local regulatory agency databases to determine whether areas of environmental concern exist on or near the project site. Search distances ranged between 1/8 and one mile from the project site, depending on the database.
- Reviewed the following online databases for information associated with the project alignment and vicinity:
 - State Water Resources Control Board (SWRCB) GeoTracker website;
 - California Department of Toxic Substances Control (DTSC) EnviroStor website;
 - California Department of Resources Recycling and Recovery (CalRecycle) Solid Waste Information System (SWIS) facility database; and
 - California Department of Conservation, Geologic Energy Management Division (CalGEM) online mapping application, Well Finder.
- Reviewed historical aerial photographs, topographic maps, and soil maps of the site and surrounding properties for indications of site use and potential sources of contamination.
- Conducted a limited site reconnaissance to observe current land use and indications of potential contamination at the site, and to view publicly accessible portions of the adjacent properties.
- Arranged for a certified asbestos consultant (CAC) and a certified lead technician to evaluate the bridge for the presence of asbestos and lead.
- Conducted a screening-level program for ADL that included the collection of soil samples and testing (by an analytical laboratory) for total lead. Contacted the Yolo County Division of Environmental Health (DEH) and CalRecycle for help filling data gaps in the GeoSearch report.
- Contacted the Yolo County Agriculture Department to discuss pesticide use in the project vicinity.

2.3 PROJECT DESCRIPTION

Yolo County proposes to replace the existing bridge on CR 49 crossing over Hamilton Creek with funding made available through the FHWA Highway Bridge Program. Within the project vicinity, CR 49 varies between a paved and a dirt and gravel roadway with an approximate width of 18 feet and no shoulders.

The proposed project will construct a new bridge along a similar alignment as the existing structure. The bridge will accommodate two 10-foot travel lanes and two-foot shoulders. The new bridge is anticipated to be a single-span structure approximately 61 feet long. The structure type has not yet been determined but is expected to consist of a cast-in-place, post-tensioned concrete slab. The roadway and bridge profile will be raised slightly to clear a 30- to 40-year storm event.

Construction of the bridge will involve excavation for and construction of concrete abutments, founded on deep foundations. Construction of the roadway approaches will involve the removal of existing pavement and placement of new roadway fill material, aggregate base, hot mix asphalt pavement, and installation of guard rails. Temporary work within Hamilton Creek

includes removal of the existing structure, falsework erection and removal, and installation of scour countermeasures at the abutments. Temporary creek diversion through a temporary crossing is anticipated in order to complete activities within the waterway.

Relocation of overhead electrical and communication lines, including two utility poles, and underground telecommunication lines are anticipated as part of the project. Permanent right of way acquisition will be needed from the APNs 060-090-010 and 060-090-007. Temporary construction easements will be needed from all four adjacent parcels (APNs 060-090-010, -007, -006, and -003) to facilitate driveway conforms, utility relocations, and allow construction access.

During construction, vehicular traffic through the project site will be maintained with a temporary crossing north of the existing bridge (APN 060-090-010, currently utilized for agriculture). The temporary crossing is anticipated to consist of pipe culverts to convey stream flow. Gravel backfill will be placed on top of the pipe culverts to provide a drivable surface.

Site maps are provided in Appendix A; site photographs are provided in Appendix B. Refer to Figure 5 in Appendix A for a site plan that identifies areas of impact, including the project site, easements and bypass detour areas.

2.4 PROJECT LOCATION

The project site is located within the northwestern corner of Yolo County in Capay Valley, on CR 49, approximately 3,000 feet northwest of the community of Guinda, California. CR 49 is a rural local roadway that extends from CR 59 on the south to its terminus roughly three miles to the northwest. The bridge is located ± 550 feet northeast of CR 50 and $\pm 2,000$ feet east of Highway 16 at a latitude of approximately 38.8318° north and a longitude of 121.2034° west.

2.5 GEOLOGIC CONDITIONS

Based on mapping by Wagner and Bortugno (1982)¹, the Capay Valley is a tectonically controlled depression bounded by the Coast Ranges on the west and the Capay Hills to the east. The valley appears to have formed as a down-dropped block between the pre-Quaternary Sweitzer fault to the east, and an un-named pre-Quaternary fault to the west. The floor of Capay Valley is mapped as Quaternary-age Modesto-Riverbank Formation (arkosic sediments); outcrops of Tehama Formation (sand, silt, and volcaniclastic rocks) are present on the valley floor.

Mapping by the California Department of Mines and Geology² indicates there are no ultramafic rocks (rocks likely to contain naturally occurring asbestos) within a mile of the project site.

The site is not located within an Alquist-Priolo Earthquake Fault Zone³. The nearest quaternary-age fault⁴ appears to be the Mysterious Ridge segment of the Great Valley thrust, located ± 3.8 miles east-northeast of the project site. No evidence of faulting, springs or seeps was observed

¹ Wagner, D.L., and Bortugno, E.J., 1982, Geologic map of Santa Rosa Quadrangle, California: California Division of Mines and Geology, Regional Geologic Map Series, Map 2A, scale 1:250,000.

² Churchill, R.K., and Hill, R.L., 2000, A generalized location guide for ultramafic rock in California—areas more likely to contain naturally occurring asbestos: California Division of Mines and Geology, Open-File Report 2000-19.

³ Natural Hazards Disclosure Report for 600 Rush Landing Road, Novato, Marin County, CA 95945. Prepared by JCP-LGS Hazard Disclosures. Report date November 26, 2019.

⁴ <https://earthquake.usgs.gov/hazards/qfaults/>

within or immediately adjacent to the project site during reconnaissance. Regional fault activity is shown on Figure 4 of Appendix A.

CAInc advanced three soil borings at this site in November 2018 and January 2019⁶. The soils encountered in the exploratory borings consist of stiff to hard, clay and loose, sand in the upper 8 feet below ground surface. The clays and sands are underlaid by dense to very dense, sands and gravels with some layers of hard, clay to a depth of 76 bgs. These materials were interpreted as consistent with Quaternary-age sediments of the Modesto-Riverbank Formation.

2.6 HYDROGEOLOGIC CONDITIONS

The project site is located within the Sacramento Valley groundwater basin (Capay Valley Subbasin). Based on the Department of Water Resources’ Bulletin 118⁷, groundwater levels within most of the Capay Valley Subbasin vary from approximately 10 to 40 feet below ground surface and remain relatively stable, even through dry years.

According to the Federal Emergency Management Agency’s (FEMA) flood insurance rate map 06113C0225G⁸ dated June 8, 2010, the project site is mapped as within Zone A, defined as special flood hazard area subject to inundation by the 1% annual change flood (no base flood elevation determined).

2.7 CURRENT LAND USE

Lands adjacent to the project site are predominantly developed for agricultural uses. Land uses immediately adjacent to the project site are provided in Table 1.

Table 1. Adjacent Land Uses

Direction	APN	Current Land Use
North	060-090-003 060-090-010	Agricultural
East	060-090-010	Agricultural
South	060-090-007	Residential
West	060-090-003 060-090-006	Agricultural

3 RECORDS REVIEW

3.1 HISTORICAL LAND USE

Properties in the vicinity of the project site have been predominantly agricultural to the current day. A multitude of crop conversions occurred on adjacent properties over the 79 years of photographic history.

3.1.1 HISTORICAL AERIAL PHOTOGRAPHS

Aerial photographs were provided by GeoSearch for the years shown in Table 2. The photographs were reviewed for information about historical conditions and land use within the

⁶ CAInc, Preliminary Foundation Memorandum, dated November 1, 2019.

⁷ <https://water.ca.gov/Programs/Groundwater-Management/Bulletin-118>

⁸ <https://msc.fema.gov/portal/search#searchresultsanchor>

study area. The photos are described in chronological order below. Aerial photographs are included in Appendix C.

Table 2. Historical Aerial Photographs

Year	Source	Scale
1937	ASCS	1 in = 500 feet
1954	AMS	1 in = 500 feet
1957	USGS	1 in = 500 feet
1964	ASCS	1 in = 1,320 feet
1970	USGS	1 in = 500 feet
1974	USGS	1 in = 500 feet
1982	USGS	1 in = 500 feet
1987	USGS	1 in = 500 feet
1993	USGS	1 in = 500 feet
2003	USDA	1 in = 500 feet
2004	USDA	1 in = 500 feet
2005	USDA	1 in = 500 feet
2006	USDA	1 in = 500 feet
2009	USDA	1 in = 500 feet
2010	USDA	1 in = 500 feet
2012	USDA	1 in = 500 feet
2014	USDA	1 in = 500 feet
2016	USDA	1 in = 500 feet

1937 Hamilton Creek, CR 49 and CR50 are visible. A patch of riparian vegetation is visible at the southwest corner of the bridge. There is no riparian vegetation visible on the east side of the bridge to ±1,000 feet downstream, beyond which appears to be dense riparian vegetation on both sides of the channel. Two structures are visible adjacent to the southwest corner of the bridge, apparently a home site (APN 060-090-007). Generally, all other lands in the vicinity are utilized for agriculture (fields and orchards). Land north-northwest of the bridge where the banks are denuded (APN 060-090-002) does not appear to be under cultivation.

1954 The field on the northeast corner of the bridge (060-990-010) has been converted to orchard. There are no other substantive changes from the 1937 photo.

1957 No substantive changes from the 1954 photo.

1964 Low quality photo; orchards west of the bridge (060-090-006) appear to have been removed.

1970 A field ±200 feet southwest of the bridge (060-090-007) and a field ±400 north-northwest of the bridge (APN 060-090-002) have been converted to orchard.

1974 Low quality photo; no discernable changes in the project vicinity.

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1982 Orchards have been removed from the northeast side of the bridge (060-990-010). Riparian vegetation is developing along the north bank of the formerly denuded channel section north of the bridge. Property to the west of the bridge (060-090-006) has been recently graded for a new crop.

1987 Low quality photo; no discernable changes in the project vicinity.

1993 The orchard southwest of the home site (APN 060-090-007) appears to be fallow, with many small and missing trees. A new structure of unknown use is evident on this property. The riparian vegetation that appeared to be regenerating on the north side of the bridge appears sparse.

2003 New structures in the project vicinity include a cluster of buildings ± 800 feet northwest of the bridge (APN 060-090-003); a long, narrow building ± 900 feet south of the bridge (APN 060-080-002); and a house and garage in the center of a field $\pm 1,000$ feet west of the bridge (APN 060-090-006). The structures are presumed to be for commercial agriculture use or single-family residences. The orchard north-northwest of the project site (APN 060-090-002) has been removed and the riparian vegetation is regenerating along the north bank.

2004 No substantive changes from the 2003 photo.

2005 A house and pool are evident ± 350 feet south of the bridge on the same property as the existing home site. Riparian vegetation continues to develop in the formerly denuded area.

2006 No substantive changes from the 2005 photo.

2009 Property to the west is in the process of being graded, potentially for a new crop (APN 060-090-006). Property to the north-northwest appears to have been converted to a different crop.

2010 No substantive changes from the 2009 photo.

2012 - 2016 The crop conversion on property to the north-northwest (APN 060-090-002) appears to be vineyard.

3.1.2 HISTORICAL TOPOGRAPHIC MAPS

Historical topographic maps were provided by GeoSearch for the years shown in Table 3 and are discussed in chronological order below. Maps were reviewed for significant changes in topography or property improvements. Topographic maps are included in Appendix D.

Table 3. Historical Topographic Maps

Year	Quad	Scale
1945	Rumsey, CA	1 in = 5,208 feet
1959	Guinda, CA	1 in = 2,000 feet
1959 (Photorevised 1980)	Guinda, CA	1 in = 2,000 feet

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Year	Quad	Scale
1959 (Revised 1993)	Guinda, CA	1 in = 2,000 feet
2012	Guinda, CA	1 in = 2,000 feet

1945 Hamilton Creek, CR 50, CR 49 and Highway 16 are depicted. The nearest structure is ± 700 feet northwest of the site. There are no other man-made features depicted in the project site vicinity. No topographic contours are shown in project site vicinity (50-foot contour interval).

1959 Two structures are located directly southwest of the project site on the south bank of Hamilton Creek. A well is depicted on the east side of CR49 approximately 250 feet southeast of the project site. Orchards are depicted surrounding the project site except in the southeast corner. A single topographic contour is shown along the creek only (40-foot contour interval).

1980 A structure is depicted southwest of the project site, ± 375 feet upstream on the south bank of Hamilton Creek. Orchards are no longer depicted on the west and east sides of the project site. The configuration appears to match current conditions.

1993 No substantive changes are evident from the 1980 map.

2012 No man-made features beside streets are shown on this map. No substantive changes are evident from the 1993 map.

4 DATABASE SEARCH AND RECORDS REVIEW

4.1 DATABASE SEARCH

Databases and site lists maintained by environmental regulatory agencies were searched for properties within the study area to identify sites with known releases of hazardous materials or petroleum products, and sites with the potential for such releases. Each of the databases and site lists was searched for sites within the ASTM standard search radius relative to the project site. Refer to the GeoSearch Radius Report (dated April 1, 2020) in Appendix E for descriptions of the databases and lists searched and the dates they were last updated.

4.2 SUMMARY OF RECORDS SEARCH

The project site was not identified in any of the lists or databases reviewed by Geosearch. Two facilities were identified within the search area. Refer to the Radius Report included in Appendix E for additional information regarding the identified facilities summarized below and for a map showing their locations. Information from the GeoSearch report is summarized below.

- Map ID #1 - De Maria Landfill (no file number). Located at CR 16 & CR 44 in Guinda; $\pm 1,067$ feet east-northeast of the project site; identified by GeoSearch in the Solid Waste Information System (SWIS) database; not located in the online SWIS database. According to the Yolo County Division of Environmental Health (DEH)⁹ the site is an inactive, illegal disposal site. There are no documents on record with DEH. CAInc

⁹ Hasan, Moushumi, Supervising Hazardous Materials Specialist, Yolo County Department of Community Services Environmental Health Division, May 18, 2020.

contacted CalRecycle, who entered the case and supporting documents into the SWIS database¹⁰. The case (SWIS #57-CR-0003) was an illegal dumpsite that was cleaned up and considered closed by DEH and CalRecycle in 1992. The site is not visible from the available aerial photos. Due to the clean closed status of the site and its location over 1,000 feet downstream of the bridge, it is unlikely that the illegal dumpsite has impacted the project site.

- Map ID #2 – James Murray (File #HM 347). Located at 16475 Cleveland in Guinda; ±1,625 feet southeast of the project site; identified in the Yolo County Leaking Storage Tanks database. Inspections conducted by DEH between 1993 and 1999 found the occupant to be accumulating and burying solid waste on the property in addition to disposing of waste oil and diesel on the ground when performing automotive repair. Abandoned vehicles, two drums and an empty aboveground tank were also observed on the property. The occupant was ordered to abate the solid and hazardous waste violations, however the cleanup was not performed. The property was foreclosed and the buyer was ordered to complete the cleanup in October 1999. According to DEH, the site was cleaned up and the case resolved on September 9, 1996; however documents viewed on the DEH OnBase public access document viewer¹¹ indicate a continuing problem to October 1999. DEH has no documentation of the site being abated a second time following the October 1999 order. Due to the age of the case and the fact that DEH has no current records of an active case on this property, the site may have been abated and documentation was not archived to provide evidence. The site is identified in the Yolo County database, but is not identified in any of the State environmental databases. Based on the characterization of the Cleveland site and the distance between it and the bridge, it appears unlikely that activities occurring on the Cleveland property have impacted the project site.

As a result of our inquiry, CalRecycle brought another site to our attention. The site (SWIS# 57-CR-0004) is located approximately one mile southeast of the bridge site at 17150 CR 57 at Nichols Park (APN060-190-01-1). This site is the location of the former Guinda Landfill, reportedly operating prior to 1974 by the Yolo County Department of Public Works. The site was closed by 1993. Due to the distance of this site from the project site, and the clean closed status, the former Guinda Landfill is unlikely to have impacted the project site¹².

4.2.1 ADDITIONAL DATABASE SEARCHES

On May 18, 2020, CAInc reviewed the State of California's GeoTracker¹³, EnviroStor¹⁴, and SWIS¹⁵ websites to identify additional facilities that might have recently been added since GeoSearch updated their databases (database version dates are listed in the Radius Report, Appendix E). No additional facilities were identified within over two miles of the project site.

¹⁰ Liang, Dawn, Environmental Scientist, Closed, Illegal & Abandoned Sites, Department of Resources Recycling and Recovery, May 26, 2020.

¹¹ <http://docs.yolocounty.org/PublicAccess-EHE/>

¹² <https://www2.calrecycle.ca.gov/swfacilities/Directory/57-CR-0004/>

¹³ <http://geotracker.waterboards.ca.gov>

¹⁴ <https://www.envirostor.dtsc.ca.gov/>

¹⁵ <https://www2.calrecycle.ca.gov/SWFacilities/Directory/>

CAInc reviewed the State of California's Well Finder website¹⁶ (May 18, 2020) to identify gas, petroleum or geothermal wells in the site vicinity. No operating or abandoned wells were identified within one mile of the project site.

4.2.2 UNLOCATED FACILITIES

GeoSearch did not identify any records that could not be mapped due to limited or incomplete address information.

4.3 INTERVIEWS

Because the site is bounded by active and historic agricultural lands, CAInc contacted the Yolo County Department of Agriculture by telephone and by email on May 7, 2020, to inquire about pesticide application in the project vicinity. On May 8, 2020, Jack Dewit, Deputy Agricultural Commissioner, responded with pesticide use reports on adjacent properties for the most recent twelve months. Twelve different pesticides were reportedly applied in the project vicinity over a one-year period between May 8, 2019 and May 8, 2020¹⁷. California began requiring full reporting of agricultural pesticide use in 1990¹⁸, however early reporting was minimal and incomplete¹⁷.

CAInc also contacted DEH and CalRecycle in search of information to fill data gaps as described in Section 4.2.

5 SITE RECONNAISSANCE

A reconnaissance of the project site was performed on April 15, 2020 by Mr. Steve Carter. The reconnaissance consisted of a walking and driving traverse along CR 49 in the vicinity of the bridge, and included visual observations of the roadway, properties adjacent to the project site, and conditions on and underneath the bridge. These observations were intended to identify the land uses and activities on adjacent properties, and the presence, or likely presence, of hazardous substances or petroleum products at the project site and on adjacent properties. During site reconnaissance, the following conditions in lands adjacent to the bridge site were noted:

- One-lane, concrete arch bridge with an asphalt deck and concrete abutments.
- The guard rails consist of concrete stanchions with steel piping between. Traces of white paint are visible on the stanchions.
- Steel reflector signs on steel posts are present at each corner of the bridge.
- Asphalt paving on the bridge deck and approach road; no painted traffic markings were observed on the asphalt. CR 49 becomes unpaved ± 25 feet northwest of the bridge.
- No water was present in Hamilton Creek.
- An unpainted steel conduit is attached to the west side of the bridge.
- Overhead electrical lines run parallel to the west/northwest side of CR49 and the bridge.
- Pole-mounted electrical transformers are located ± 35 feet south of the bridge, ± 235 feet northwest of the bridge, and ± 250 south of the bridge. These transformers appeared to be in good repair; no staining was observed on the equipment, pole or ground surface. A

¹⁶ <https://maps.conservation.ca.gov/doggr/wellfinder/>

¹⁷ Dewit, Jack, Deputy Agricultural Commissioner and Sealer, Yolo County Agricultural Commissioner, May 8, 2020.

¹⁸ <http://www.cdpr.ca.gov/docs/pur/purmain.htm>

utility pole is located near the eastern corner of the bridge; this pole is attached to the pole at the southern corner of the bridge by an overhead guy wire.

- Signage indicates underground communications lines run along the west/northwest side of CR 49.
- Vegetation adjacent to CR 49 and the creek channel appeared seasonally healthy; no unexplained absence of vegetation was observed.
- Fence posts adjacent to APN 060-090-010 appeared to be chemically treated wood.

During the reconnaissance CAInc did not observe evidence of:

- Aboveground or underground storage tanks
- Stockpiled soil
- Piles of trash/illegal dumping
- Staining of the ground surface
- Discarded tires or automotive batteries
- Medical or drug lab waste
- Mining activity
- Rock outcrops
- Serpentine, ultramafic rocks, or evidence of naturally-occurring asbestos
- Drums or hazardous materials storage containers
- Evidence of storage or mixing of agricultural chemicals
- Ponds, lagoons, or standing water
- Unusual or suspicious odors
- Thermoplastic or painted traffic striping

Observations made during the site reconnaissance generally support the research and background data. Photographs from the site reconnaissance are provided in Appendix B.

6 ENVIRONMENTAL ANALYSIS

6.1 ASBESTOS CONTAINING CONSTRUCTION MATERIAL (ACCM)

CAInc contracted with National Analytical Laboratory, Inc. (NAL) to inspect the bridge for the presence of asbestos containing construction material (ACCM). This inspection was performed on April 16, 2020. A copy of the NAL report is included as Appendix F.

According to the NAL report, the asbestos inspection was performed by a certified asbestos consultant, in conformance with the Environmental Protection Agency's (EPA) Asbestos Containing Building Materials In-School Rule; CFR 763.85. During the inspection, six bulk samples were collected for later analysis by ESML Analytical, Inc. NAL reported that asbestos was not detected in any of the six samples analyzed. The bridge inspection and analytical results indicate that no asbestos is present in the area that is being removed.

6.2 AERIALLY DEPOSITED LEAD (ADL)

Soil samples were collected from four locations (ADL1 through ADL4) at the corners of the bridge on April 15, 2020, to evaluate if ADL had impacted soil within the project alignment. Sample collection procedures and analytical results are presented below. Sample locations are presented on Figure 2 in Appendix A.

At each of the ADL sample locations, discrete samples were collected from 0 to 6 inches, 12 to 18 inches, and 24 to 30 inches bgs. A hand auger was used to advance a shallow boring at each sample location; samples from the selected intervals were collected from the hand auger. Soil from each sampled interval was homogenized in the field then placed into a sample container provided by the laboratory. The boreholes were backfilled with cuttings and adjacent native material as necessary to return the excavation to approximately original grade.

To prevent incidental and cross contamination, all sampling equipment (hand auger and hand tools) was washed with a weak detergent bath and rinsed with water before moving to a new sample location. Wash and rinse water from the cleaning process was disposed of at the site away from drainage inlets or known environmentally sensitive areas.

Following collection, each sample was labeled, placed in an ice chest, and then transported to the laboratory under chain-of-custody (COC) documentation to BC Laboratories, Inc. (ELAP Certification #1186) for analysis.

6.2.1 HAZARDOUS WASTE CLASSIFICATION CRITERIA

Regulatory criteria to classify a waste as “California hazardous” for handling and disposal purposes are contained in the California Code of regulations (CCR), Title 22, Division 4.5, Chapter 11, Article 3, §66261.24. Criteria to classify a waste as “Resource, Conservation and Recovery Act (RCRA) hazardous” are contained in Chapter 40 of the Code of Federal Regulations (40 CFR), §261.

For a waste containing lead, the waste is classified as “California hazardous” when: (1) the total lead content exceeds 1,000 milligrams per kilogram (mg/kg), the Total Threshold Limit Concentration (TTLIC); or (2) the soluble lead content exceeds 5.0 milligrams per liter (mg/l), the Soluble Threshold Limit Concentration (STLC) based on the Waste Extraction Test (WET). A waste may have the potential of exceeding the STLC when the waste’s total lead content is greater than or equal to ten times the STLC value, since the WET uses a 1:10 dilution ratio. When the total lead concentration is greater than or equal to 50 mg/kg (ten times the respective STLC, and assuming that 100 percent of the total lead is soluble), soluble lead analysis is performed.

A material is classified as “RCRA hazardous” when the soluble lead content exceeds the Federal Regulatory Level based on the Toxicity Characteristic Leaching Procedure (TCLP). The RCRA hazardous threshold for lead is also 5.0 mg/l. The WET and TCLP methodologies are similar, but they use different extractant reagents, and the WET method extractant is applied for a longer period of time, typically resulting in higher concentrations.

The above regulatory criteria are based on toxicity. Wastes may also be classified as hazardous based on other criteria such as ignitability, corrosivity, and reactivity. For the purposes of ADL investigations, toxicity and corrosivity (e.g., chemical concentrations and soil pH values, respectively) are the primary factors considered for waste classification. Waste that is classified as either “California hazardous” or “RCRA hazardous” requires management as a hazardous waste and disposal at an appropriately permitted disposal facility.

6.2.2 SOIL SAMPLE ANALYTICAL RESULTS

Analytical results for lead analyses are summarized below in Table 4. Laboratory reports and COC documentation are included in Appendix F. Refer to the laboratory reports for reporting limits and analytical methods.

Table 4. Summary of ADL Analytical Data

Sample Location	Sample Depth (in)	Total Lead (mg/kg)	pH
ADL1A	0 - 6	4.8 J	---
ADL1B	12 - 18	5.4	---
ADL1C	24 - 30	4.1 J	7.41
ADL2A	0 - 6	2.9 J	---
ADL2B	12 - 18	5.1	---
ADL2C	24 - 30	18	---
ADL3A	0 - 6	11	---
ADL3B	12 - 18	5.7	---
ADL3C	24 - 30	4.7	---
ADL4A	0 - 6	8.4	---
ADL4B	12 - 18	5.8	---
ADL4C	24 - 30	5.7	---
Hazardous limits		1,000	<2 or >12.5

mg/kg = milligrams per kilogram J = estimated value
 --- = Sample not analyzed

Total lead concentrations in all samples ranged from 2.9 to 18 mg/kg. None of the reported lead concentrations exceeded the hazardous waste threshold, or the threshold requiring additional analysis. The pH result did not exceed the hazardous waste threshold. Further evaluation of the soil for ADL is not warranted.

6.3 LEAD-BASED PAINT

CAInc contracted with National Analytical Laboratory, Inc. (NAL) to inspect the bridge for the presence of lead-based paint (LBP). This inspection was performed on April 16, 2020. A copy of the NAL report is included as Appendix F.

The lead inspection was performed by a certified lead sampling technician in conformance with EPA and Cal-OSHA protocol. Three samples of the white painted concrete surfaces on the bridge was collected and analyzed for lead using a Thermo Scientific Portable X-ray Fluorescent analyzer. NAL reported lead at concentrations between 0.1% to 0.14% mg/cm² by weight. The white paint is considered to be a lead-containing material (LCM). Further analysis of paint on the bridge is not warranted.

7 FINDINGS

The purpose of this report is to identify recognized soil or groundwater contamination or hazardous material issues that could impact the project. The assessment identified the following potential hazardous materials issues that should be considered in the planning of project improvements.

7.1 POTENTIAL HAZARDOUS MATERIALS SITES

Based on the records search and site reconnaissance described above, CAInc makes the following observations.

- The project site was not identified in the database records reviewed.
- The database records, aerial photographs, and historical topographic maps search did not identify any RECs or historical RECs that have potentially impacted the project site.
- Reconnaissance did not identify any other suspect sites in the project site vicinity.

7.2 GENERAL HAZARDOUS MATERIALS ISSUES

7.2.1 ASBESTOS CONTAINING CONSTRUCTION MATERIAL (ACCM)

There is a potential for asbestos to be present in concrete used for transportation structures (bridge piers, footings, abutments, decks, sidewalks). ACCM, as defined in the California Code of Regulations, Title 8, Section 1529 of the Construction Safety Orders, may also be present in construction materials such as bridge joint seals, bearing pads, shims, deck drains or other less obvious materials such as pipe conduits for utilities.

Under the federal asbestos National Emissions Standards for Hazardous Air Pollutants regulations (NESHAP, 40 CFR Part 61, Subpart M), a Certified Asbestos Consultant (CAC) must make definitive conclusions regarding the presence of ACCM. Prior to demolition or reconstruction, existing structures are required to have an asbestos survey completed to determine the appropriate method of handling and disposal of demolition debris. Written notification to the Air Quality Management District of demolition or renovation operations on structures is required at least 10 business days prior to conducting the work, regardless of the presence or absence of asbestos in the bridge materials.

A bridge inspection was completed by NAL on April 16, 2020. According to the NAL report, ACCM was not identified in the bridge components. An Asbestos Demolition and Renovation Notification Form for submittal to the Yolo-Solano Air Quality Management District is included in Appendix F.

7.2.2 LEAD-BASED PAINT

Transportation structures are often painted, and this paint has the potential to contain lead at concentrations that may require abatement or special handling. A Certified Lead Inspector/Assessor (CLA) must collect and analyze samples from painted surfaces when the likelihood of flaking, peeling, or paint dust exists. If lead is identified at concentrations above threshold limits, painted surfaces must be disposed of in accordance with Caltrans 2018 Standard Specification Section 14-11.13, Disturbance of Existing Paint Systems on Bridges, and SSP 14-11.13. The presence, or likely presence, of lead in the project site requires preparation of a Lead Compliance Plan (SSP section 7-1.02K(6)(j)(ii), Lead Compliance Plan, and SSP 7-1.02K(6)(j)(iii)), and a Health & Safety Plan for workers in accordance with Cal OSHA Title 8, Section 1532.1.

A bridge inspection was completed by NAL on April 16, 2020. According to the NAL report provided in Appendix F, lead is present in the white paint on the bridge side rail supports. The bridge side rail supports will be dismantled and should either be disposed of or recycled in accordance with the Caltrans SS and SSP outlined above.

7.2.3 AERIALLY DEPOSITED LEAD (ADL)

Generally, ADL may be an issue on roads which have historically experienced significant traffic volume, particularly where vehicles would be stopping and idling, i.e., at a stop sign or a high congestion area. Leaded gasoline was used from the 1920s through the 1980s. ADL is also a concern in areas adjacent to structures where paint containing lead was used.

Based on the ADL analyses, lead does not appear to be present at hazardous concentrations in soil adjacent to the bridge. Excavated soil may be reused at this site without restriction, and would not require special handling for off-site disposal. Further evaluation of lead in soil does not appear warranted.

7.2.4 AGRICULTURAL CHEMICALS

The earliest known pesticides were based on naturally occurring chemicals. Those that persisted in the environment contained metals, such as lead arsenate commonly used in orchards from the 1800s until the 1940s. The second generation of pesticides was introduced during World Wars I and II, originating from chemicals and technologies developed for warfare and later applied to farms. This generation of pesticides largely included synthetic carbon-based (organic) compounds, and included organochlorines and organophosphates. The first important organochlorine pesticide (OCP) was DDT, discovered in 1939, and subsequently found to persist in the environment for decades. DDT was banned for agricultural purposes in 1974, and the elimination of the remaining persistent OCPs soon followed. Agricultural pesticides used today have shorter half-lives than their predecessors. Pesticide residue is most commonly found in areas of chemical storage, mixing and disposal, and where pesticide application equipment was cleaned. Pesticides may also accumulate in surface water features such as drainage ditches and swales^{19, 20}.

Based on aerial photographs dating back to 1937, properties surrounding the project site have been utilized for agriculture at least since that time. Land east of Hamilton Creek and the bridge (APN 060-090-006) is currently under cultivation, and lands north of the bridge (APNs 060-090-003 and 060-090-010) have been utilized for agriculture in the past. While no evidence of agricultural chemical mixing or storage was observed on the adjacent properties, it is possible that chemical applications could have resulted in overspray that affected the project site and areas that will be utilized for the temporary easements and detour.

CAInc recommends testing site soils for the following classes of biocides: organochlorine pesticides (EPA Method 8081), chlorinated herbicides (EPA Method 8151) and organophosphorus pesticides (EPA Method 8141) to determine whether these chemicals exist at concentrations that would present an exposure risk to construction workers. Testing should be performed prior to construction to include the most recent pesticide applications.

7.2.5 CHEMICALLY TREATED WOOD

Chemically treated wood must be handled as TWW and disposed of as hazardous waste. Section 66261.9.5 of DTSC regulations provide AMS for treated wood waste. SSP 14-11.14 for TWW is based on AMS regulations. This special standard provision directs the contractor to follow the AMS, including providing training to all personnel that may come in contact with

¹⁹ *Interim Guidance for Sampling Agricultural Properties (Third Revision)*, California Department of Toxic Substances Control, California Environmental Protection Agency, August 7, 2008.

²⁰ *Guidance for Evaluating Residual Pesticides on Lands Formerly Used for Agricultural Production*, Oregon Department of Environmental Quality, January 2006 (updated June 2019).

TWW. Training must include, at a minimum, safe handling; sorting and segregating; storage; labeling (including date); and proper disposal methods. Relocation of treated wood utility poles is generally the responsibility of the utility owner.

Chemically treated wood was observed in fencing material at the boundary with APN 060-090-010. This fencing will be disturbed by the temporary detour.

7.2.6 NATURALLY OCCURRING ASBESTOS (NOA)

The geologic mapping reviewed as part of this study does not indicate ultramafic rocks or rocks suspected to contain NOA are present within the study area. CAInc did not observe rock outcrops or rock fragments that are suspected to contain NOA during site reconnaissance. Although NOA can be associated with faults, no mapped faults are depicted within the study area. The potential for NOA in the study area is considered low and no further study with respect to NOA is warranted.

7.2.7 PETROLEUM HYDROCARBONS

Site reconnaissance did not observe or encounter direct or indirect evidence of spills or releases of oil or motor vehicle fuel within the project area. Further study with respect to petroleum hydrocarbons is not warranted.

7.2.8 THERMOPLASTIC TRAFFIC STRIPING

Thermoplastic traffic striping may contain heavy metals, including lead and chromium, at concentrations in excess of the hazardous waste thresholds established by the California Code of Regulations, and may produce toxic fumes when heated. Consequently, the traffic striping within the project area should be tested to determine whether hazardous concentrations of heavy metals are present. Alternatively, if the volume of striping material to be removed by grinding or planing is anticipated to be small, it could be assumed to be hazardous waste and disposed of accordingly, at a Class 1 disposal facility. If painted paving material is removed and recycled, testing for heavy metals would not be required.

No striping paint or thermoplastic material was observed on the roadway. No further action is required.

7.2.9 TRANSFORMERS

Polychlorinated biphenyls (PCBs) were used as transformer oil in the United States until 1979 when manufacturing was banned due to concerns about the toxicity of PCBs. Although no longer commercially produced domestically, PCBs may be present in products and materials, including electrical transformers, produced prior to 1979.

Overhead electrical lines traverse the project site and may need to be relocated. Pole-mounted transformer was observed ± 35 feet south, ± 235 feet south, and ± 250 feet north of the bridge. The scope of this assessment did not include an inventory of past and present transformers. Identification and remediation of old transformers is the responsibility of the utility owner.

7.2.10 UNKNOWN HAZARDOUS CONDITIONS

In case unknown hazardous conditions are encountered during construction activities, the Caltrans Unknown Hazards Procedure provided in Appendix G should be followed.

7.3 SUMMARY OF FINDINGS

Review of available public records, historical aerial photographs, and historical topographic maps, and a site reconnaissance conducted on April 15, 2020, CAInc makes the following findings related to hazardous materials within or adjacent to the project site:

- Lead-based paint was identified on bridge rail supports (REC).
- Fencing material adjacent to APN 060-090-010 appears to be chemically treated wood.
- Proposed construction easements and temporary detour will impact soil that may contain elevated concentrations of agricultural chemicals.

8 RECOMMENDATIONS

Based on the public records, historical aerial photographs, and historical topographic maps reviewed for this project, and the site reconnaissance performed on April 15, 2020, CAInc makes the following recommendations:

- A lead compliance plan that protects workers and the environment from lead exposure will need to be prepared prior to implementation of demolition and construction activities. Painted bridge components will need to be removed, transported, and recycled or disposed of in a manner consistent with the lead compliance plan and applicable State and Federal law. Additional sampling and analysis of the paint may be required to insure proper disposal of the painted components.
- The temporary detour installed north of the bridge will impact the fence along the boundary of APN 060-090-010. Fencing material may include chemically treated wood. TWW will need to be handled in accordance with SSP 14-11.14, which requires the contractor to follow the AMS, including providing training to all personnel that may come in contact with TWW. Training must include, at a minimum, safe handling; sorting and segregating; storage; labeling (including date); and proper disposal methods.
- The temporary detour and construction easements will impinge on land that has the potential to be impacted by agricultural chemicals (APN 060-090-003, 060-090-006 and 060-090-010). Soil from these parcels should be tested to evaluate if residual agricultural chemicals are present at concentrations that might pose and exposure risk to construction workers, or require special handling for on-site re-use or off-site disposal.

9 LIMITATIONS

This report summarizes the findings and opinions of CAInc, with regard to the potential for the presence of contamination/hazardous materials within the project area at concentrations likely to warrant mitigation under current statutes and guidelines. Findings and opinions within this report are based on information obtained on given dates, or provided by specified individuals, through record reviews, site review, and related activities. CAInc's information is only as good as the information provided by these sources. Site conditions may change after documented observations have been made. A warrant or guarantee cannot be made that hazardous materials do not exist at the site. To further help reduce risk, an extensive invasive exploration could be completed prior to project implementation.

This report was prepared for the specific use of Mark Thomas and their agents for this project and applies only to the area identified as the project site. CAInc is not responsible for interpretations by others of data presented in this report. This report does not represent a legal opinion. No warranty is expressed or implied. Conclusions in this report are based on

INITIAL SITE ASSESSMENT

County Road 49 Bridge Replacement over Hamilton Creek
Yolo County, California

May 17, 2021
Project No. 18-474.3

professional judgment and experience. Work for this assessment was performed in accordance with generally accepted standards of practice in northern California at the time of the assessment.

The scope of this investigation did not include determining the presence of radon. Identifying endangered species, geologic hazards, archeological sites, or ecologically sensitive areas are also beyond the scope of this report.

The governmental records summary within this report is derived from public records, which are updated on a continual basis. For this reason, it is not advisable to use this information to base a decision after 180 days of the issue date of this report. Conditions at the site can and will change over time. Please contact CAInc to revise this report to reflect new information.

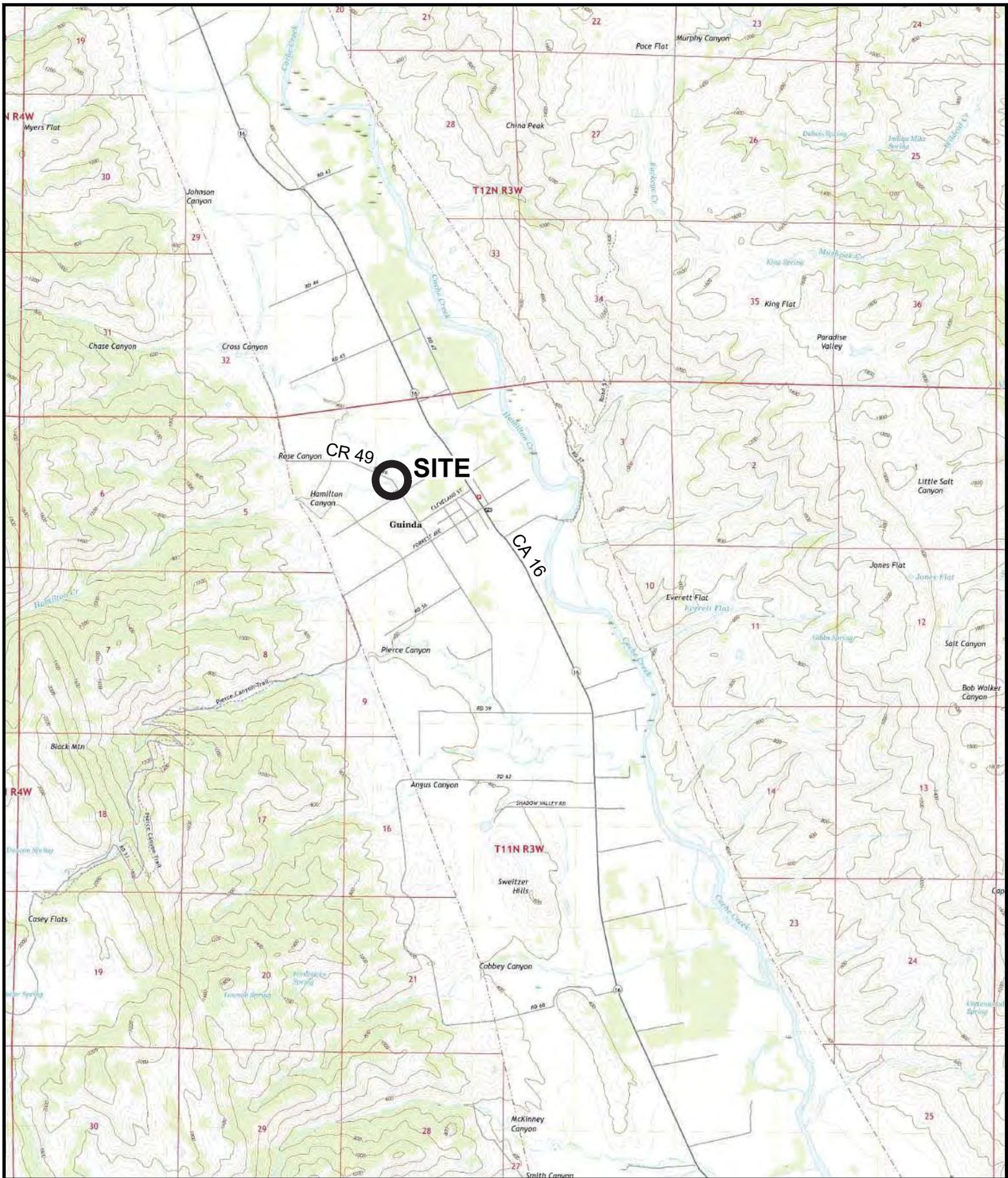
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County Road 49 Bridge Replacement over Hamilton Creek
Yolo County, California

May 17, 2021
Project No. 18-474.3

APPENDIX A

- Figure 1. Vicinity Map**
- Figure 2. Sample Location Map**
- Figure 3. Geology Map**
- Figure 4. Fault Map**
- Figure 5. Site Plan**



Source: Guinda, CA. 1:24,000. USGS, 2018.



North

Crawford & Associates, Inc.
 Geotechnical Engineering, Design
 and Construction Services
Taber
 Since 1954

1100 Corporate Way
 Suite 230
 Sacramento, CA 95831
 (916) 455-4225

**CR 49 OVER HAMILTON
 CREEK**

YOLO COUNTY, CA

Figure 1
 Vicinity Map

Proj. No: 18-474.3

Scale: 1"=4,000'

Date: 2/22/19



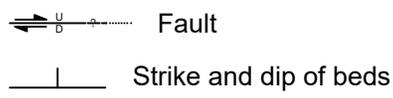
Source:
Basemap: Google Earth

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 Geotechnical Engineering, Design
 and Construction Services
Taber Since 1954
 1100 Corporate Way
 Suite 230
 Sacramento, CA 95831
 (916) 455-4225

**CR 49 OVER HAMILTON
 CREEK**
 YOLO COUNTY, CA

Figure 2
 Sample
 Location Map
 Proj. No: 18-474.3
 Scale: 1"=50'
 Date: 5/28/20

- Q** Alluvium
- Qls** Landslide Deposits
- Qo** Older Alluvium
- Qmr** Modesto-Riverbank Formations (Arkosic alluvium)
- Qrb** Red Bluff Formation (Gravel in reddish silty or sandy matrix)
- Pt** Tehama Formation (Sand, silt, and volcanoclastic rocks)
- Ppt** Putah Tuff Member
- Ec** Capay Formation
- Ku** Upper Cretaceous (Undifferentiated marine rocks)
- Kfo** Forbes Formation (Marine shale and siltstone)
- Kg** Guinda Formation (Marine sandstone and mudstone)
- Kf** Funks Formation (Marine shale and sandstone)
- Ks** Sites Formation (Marine sandstone)
- Ky** Yolo Formation (Marine shale and sandstone)
- Kv** Venado Formation (Marine sandstone and conglomerate)
- Kl** Lower Cretaceous Great Valley Sequence (Marine mudstone, sandstone, and conglomerate)
- KJu** Lower Cretaceous-Upper Jurassic Great Valley Sequence (Marine mudstone, siltstone, sandstone, and conglomerate)



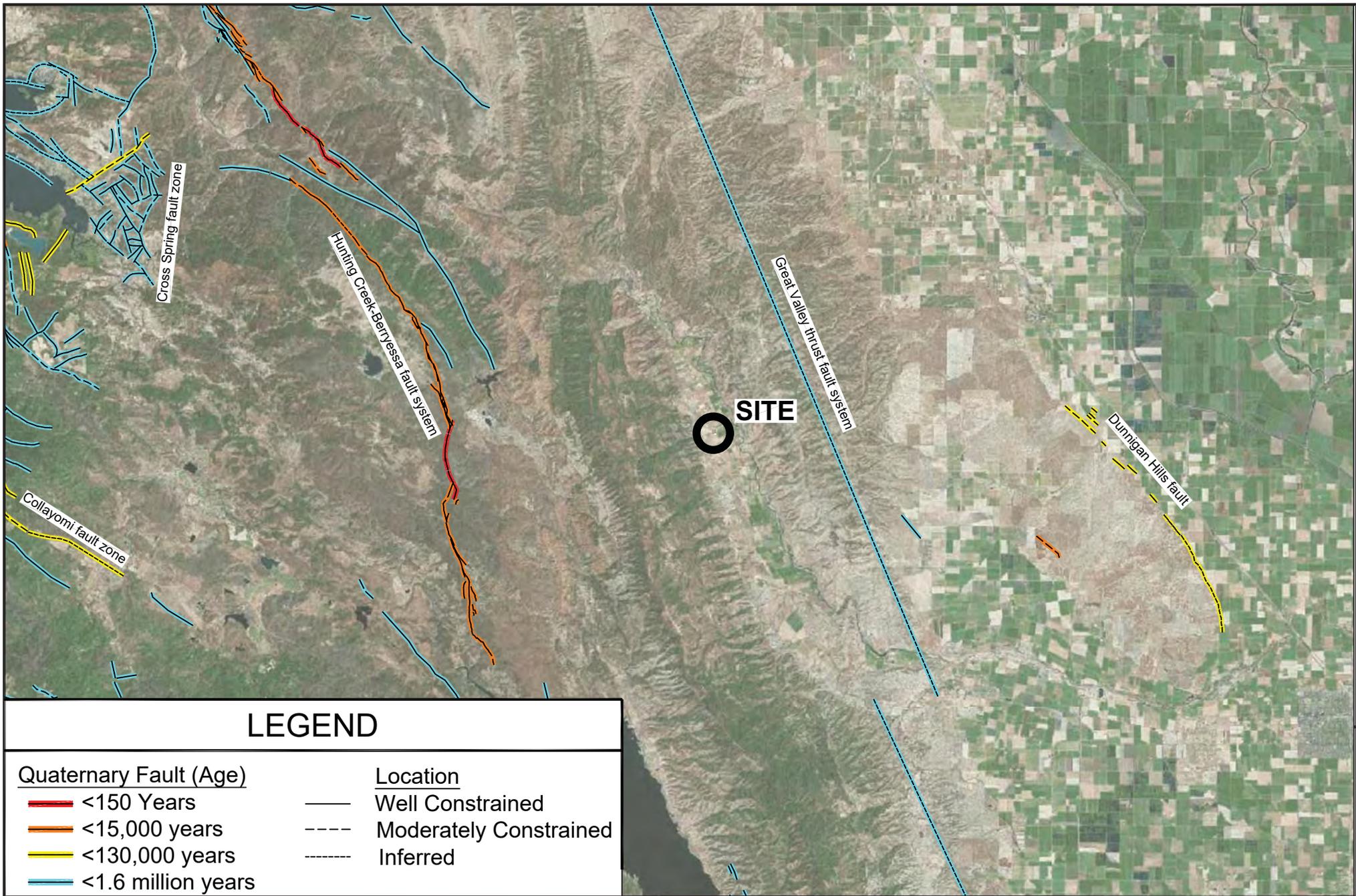
Source: Wagner, D.L., and Bortugno, Geologic map of the Santa Rosa quadrangle. 1:250,000. California: California Division of Mines and Geology, 1982.

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 Geotechnical Engineering, Design and Construction Services
Taber
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 Suite 230
 Sacramento, CA 95831
 (916) 455-4225

CR 49 OVER HAMILTON CREEK
 YOLO COUNTY, CA

Figure 3	
Geology Map	
Proj. No:	18-474.3
Scale:	1"=9,000'
Date:	2/20/19



LEGEND

Quaternary Fault (Age)

- <150 Years
- <15,000 years
- <130,000 years
- <1.6 million years

Location

- Well Constrained
- Moderately Constrained
- Inferred

Sources:

Basemap: AutoCAD Civil3D Geolocation tool, using Bing Maps

Fault data: USGS GIS data



North



CR 49 OVER HAMILTON CREEK

YOLO COUNTY, CA

Figure 4
Fault Activity Map

Proj. No: 18-474.3
Scale: 1"=25,000'
Date: 2/20/19



COUNTY ROAD 49 BRIDGE OVER HAMILTON CREEK

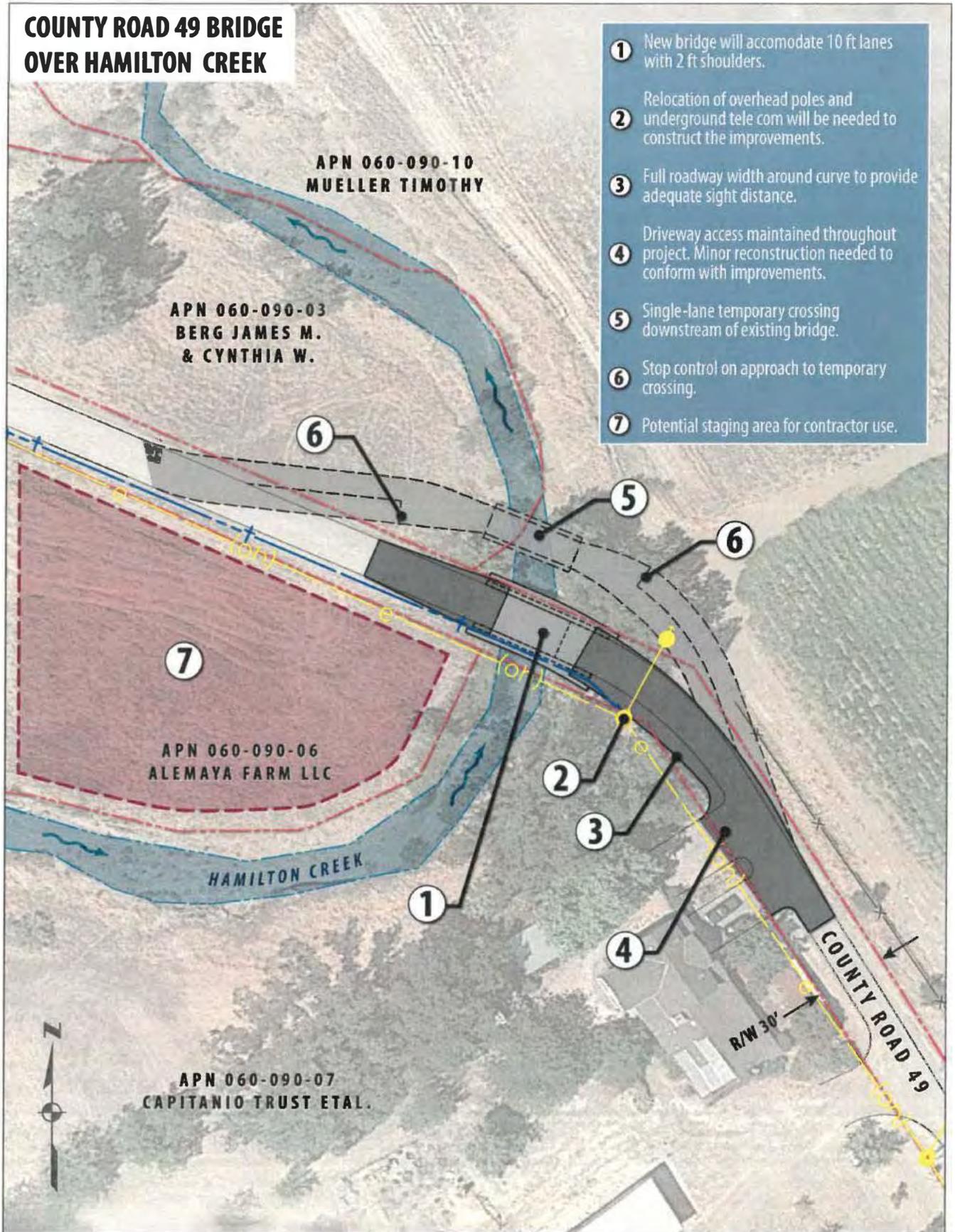


Figure 5. Site Plan

INITIAL SITE ASSESSMENT

County Road 49 Bridge Replacement over Hamilton Creek
Yolo County, California

May 17, 2021
Project No. 18-474.3

APPENDIX B

Site Photographs

INITIAL SITE ASSESSMENT

County Road 49 Bridge Replacement over Hamilton Creek
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Photo 1. View of bridge toward the southeast.



Photo 2. View of bridge toward the northwest.



Photo 3. View of bridge toward the northeast.

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County Road 49 Bridge Replacement over Hamilton Creek
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Photo 4. APN 060-090-003.



Photo 5. APN 060-090-006.

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County Road 49 Bridge Replacement over Hamilton Creek
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May 17, 2021
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Photo 6. APN 060-090-002; treated wood fencing.



Photo 7. APN 060-090-010; treated wood fencing.



Photo 8. APN 060-090-007 (hose behind bushes).

INITIAL SITE ASSESSMENT

County Road 49 Bridge Replacement over Hamilton Creek
Yolo County, California

May 17, 2021
Project No. 18-474.3

APPENDIX C

GeoSearch Historical Aerial Photographs

Order Number: 144394

Date: April 3, 2020

Historical Aerial Photographs

NEW: GeoLens by Geosearch

Target Property:

CR 49 over Hamilton Creek

Yolo County, California

Prepared For:

Crawford & Associates

Order #: 144394

Job #: 346835

Project #: 18-474.3

Date: 4/3/2020

Target Property Summary

CR 49 over Hamilton Creek

Yolo County, California

USGS Quadrangle: **Guinda**

Target Property Geometry: **Area**

Target Property Longitude(s)/Latitude(s):

**(-122.203542000, 38.831795000), (-122.203255000, 38.831684000), (-122.203210000, 38.831657000),
(-122.203165000, 38.831609000), (-122.203006000, 38.831403000), (-122.202939000, 38.831425000),
(-122.203012000, 38.831520000), (-122.203121000, 38.831667000), (-122.203169000, 38.831713000),
(-122.203518000, 38.831858000)**

Aerial Research Summary

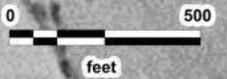
<i>Date</i>	<i>Source</i>	<i>Scale</i>	<i>Frame</i>
2016	USDA	1" = 500'	N/A
2014	USDA	1" = 500'	N/A
2012	USDA	1" = 500'	N/A
2010	USDA	1" = 500'	N/A
2009	USDA	1" = 500'	N/A
2006	USDA	1" = 500'	N/A
2005	USDA	1" = 500'	N/A
2004	USDA	1" = 500'	N/A
2003	USDA	1" = 500'	N/A
07/06/1993	USGS	1" = 500'	N/A
06/30/1987	USGS	1" = 500'	517-70
08/16/1982	USGS	1" = 500'	261-45
08/09/1974	USGS	1" = 500'	1-79
05/14/1970	USGS	1" = 500'	3-131
06/18/1964	ASCS	1" = 1320'	PI-3
06/28/1957	USGS	1" = 500'	2-155
09/23/1954	AMS	1" = 500'	4165
10/10/1937	ASCS	1" = 500'	113-65

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CR 49 over Hamilton Creek
ASCS
10/10/1937

GeoSearch



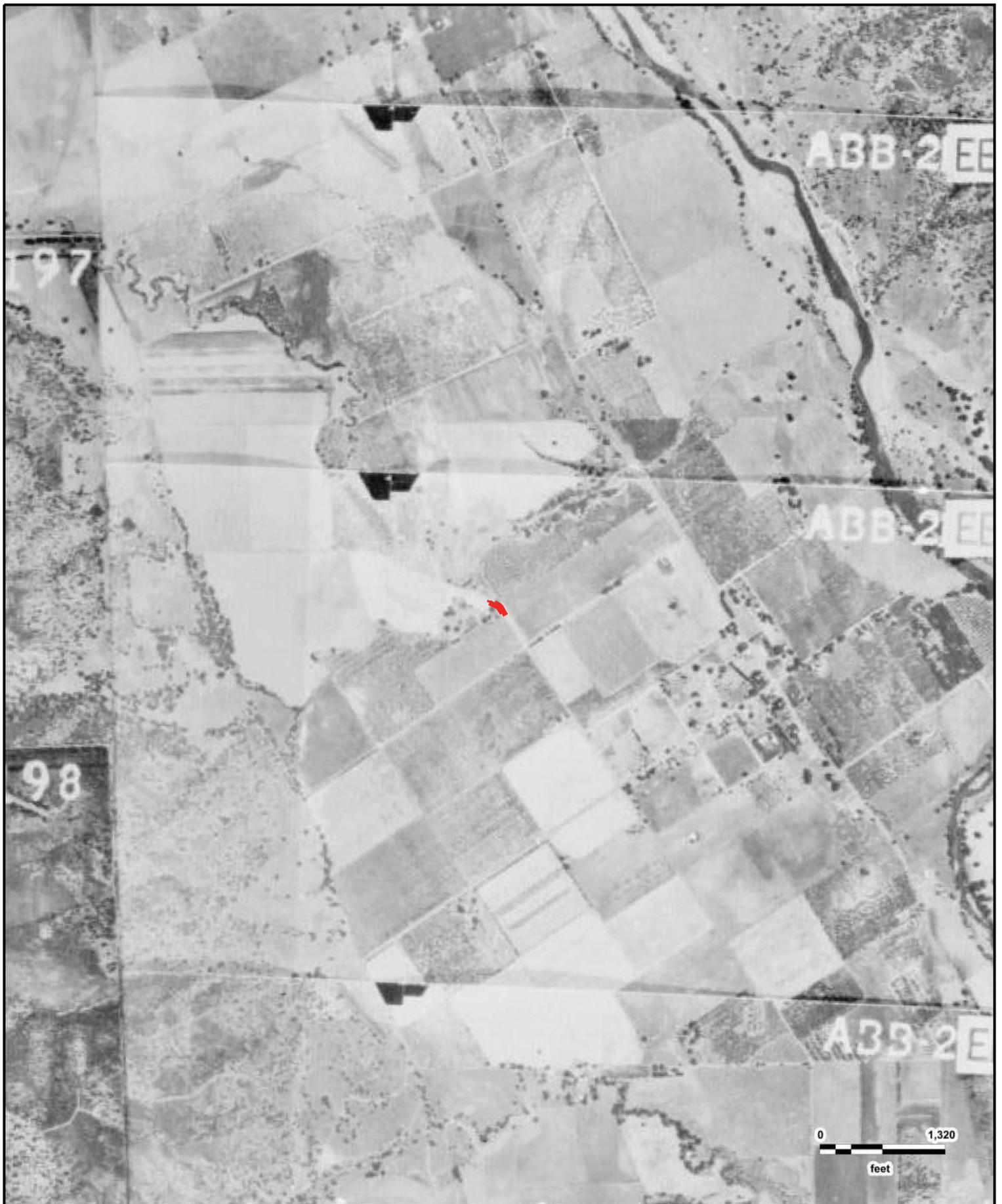
CR 49 over Hamilton Creek
AMS
09/23/1954

GeoSearch



CR 49 over Hamilton Creek
USGS
06/28/1957

GeoSearch



CR 49 over Hamilton Creek
ASCS
06/18/1964

GeoSearch



0 500
feet



CR 49 over Hamilton Creek
USGS
05/14/1970

GeoSearch



0 500
feet



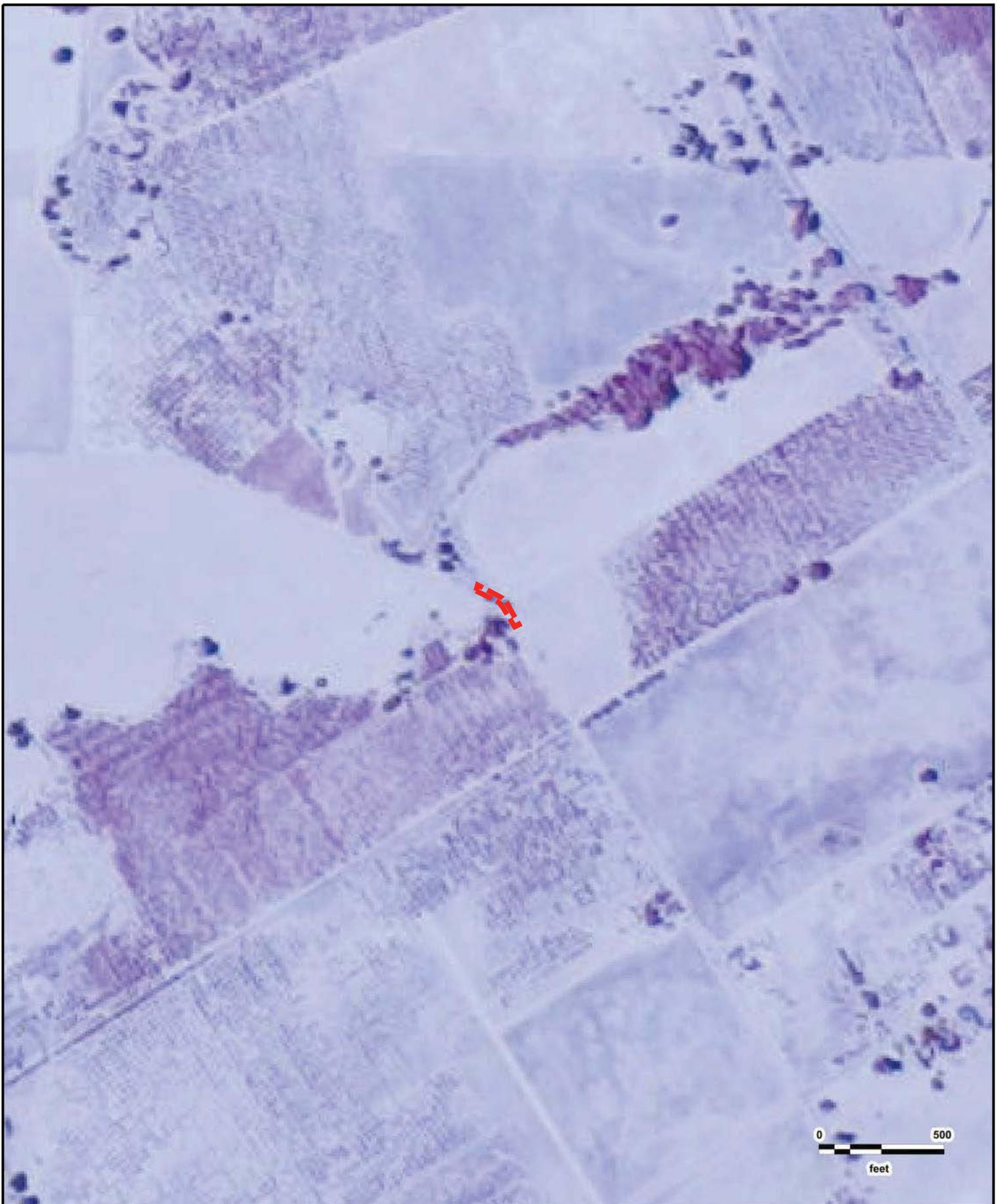
CR 49 over Hamilton Creek
USGS
08/09/1974

GeoSearch



CR 49 over Hamilton Creek
USGS
08/16/1982

GeoSearch



0 500
feet



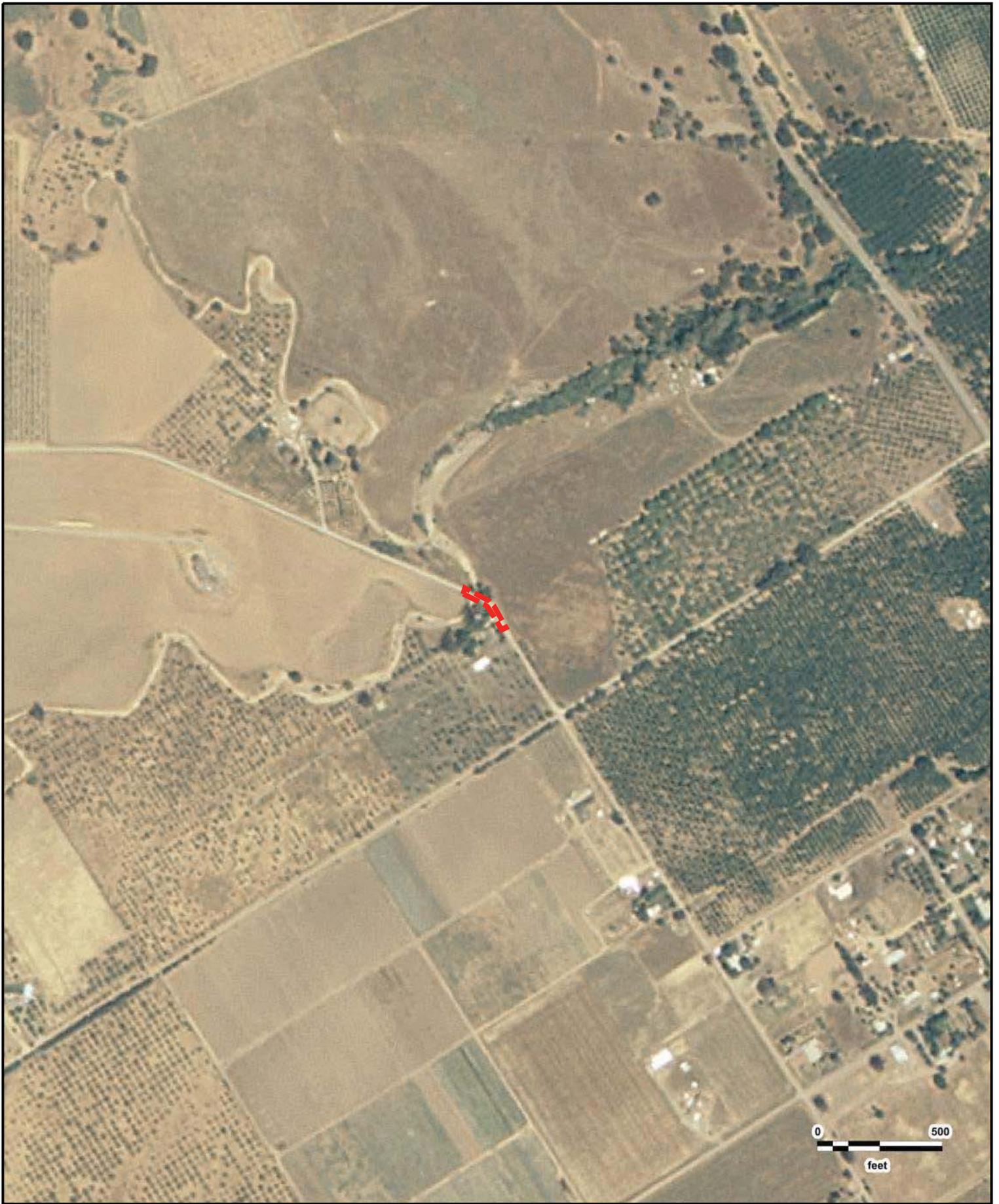
CR 49 over Hamilton Creek
USGS
06/30/1987

GeoSearch



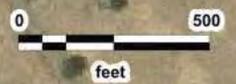
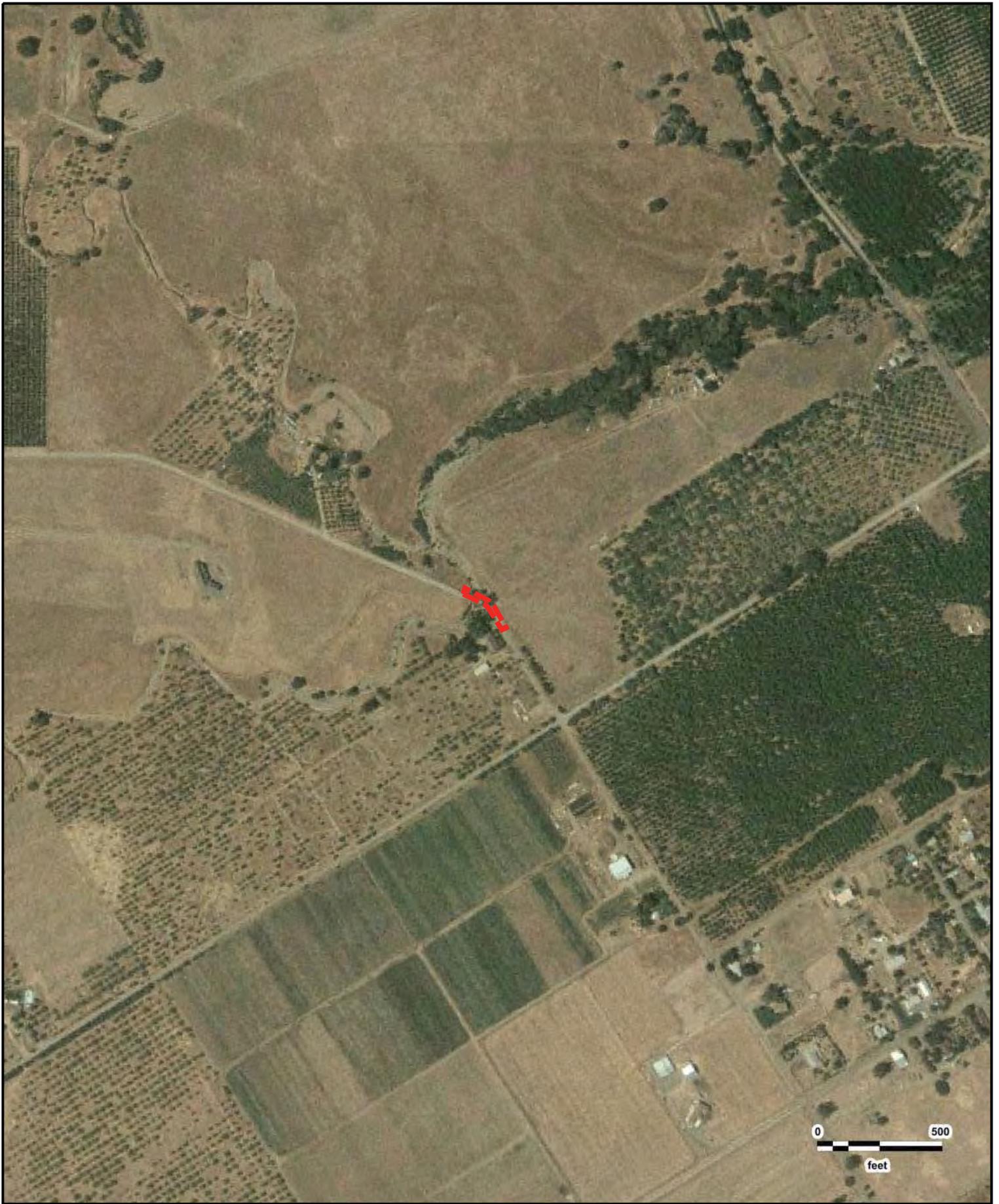
CR 49 over Hamilton Creek
USGS
07/06/1993

GeoSearch



CR 49 over Hamilton Creek
USDA
2003

GeoSearch



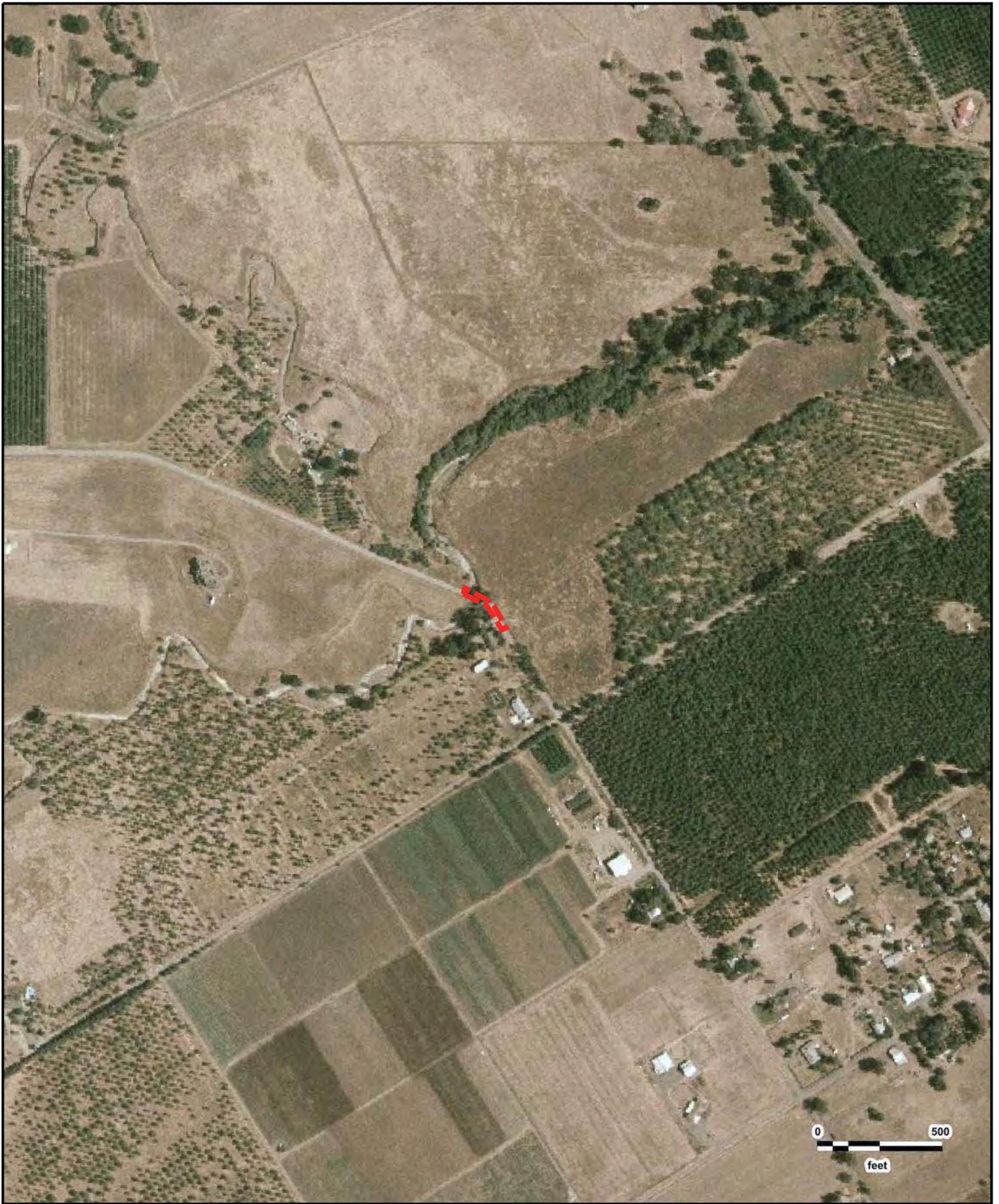
CR 49 over Hamilton Creek
USDA
2004





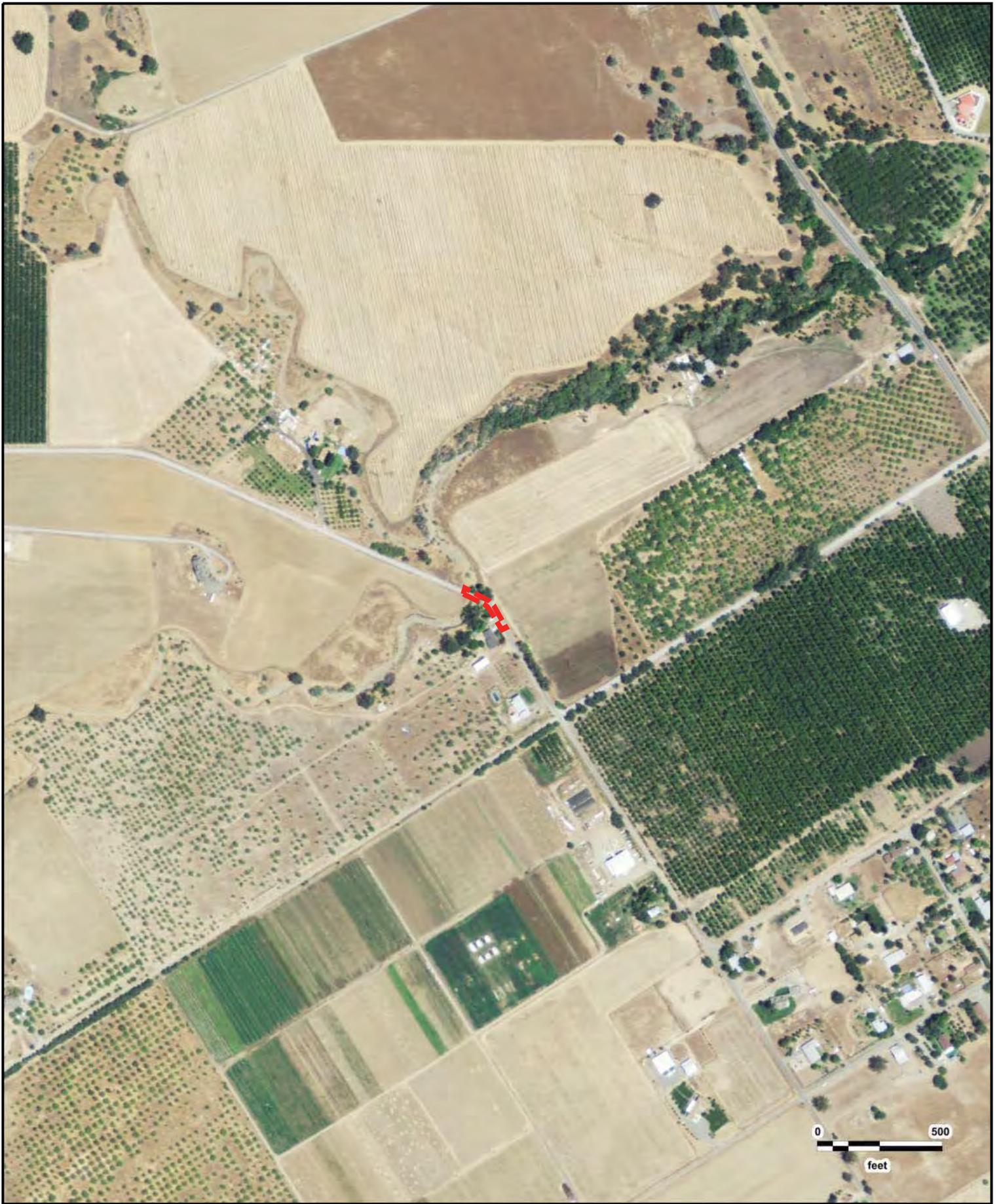
CR 49 over Hamilton Creek
USDA
2005

GeoSearch



CR 49 over Hamilton Creek
USDA
2006



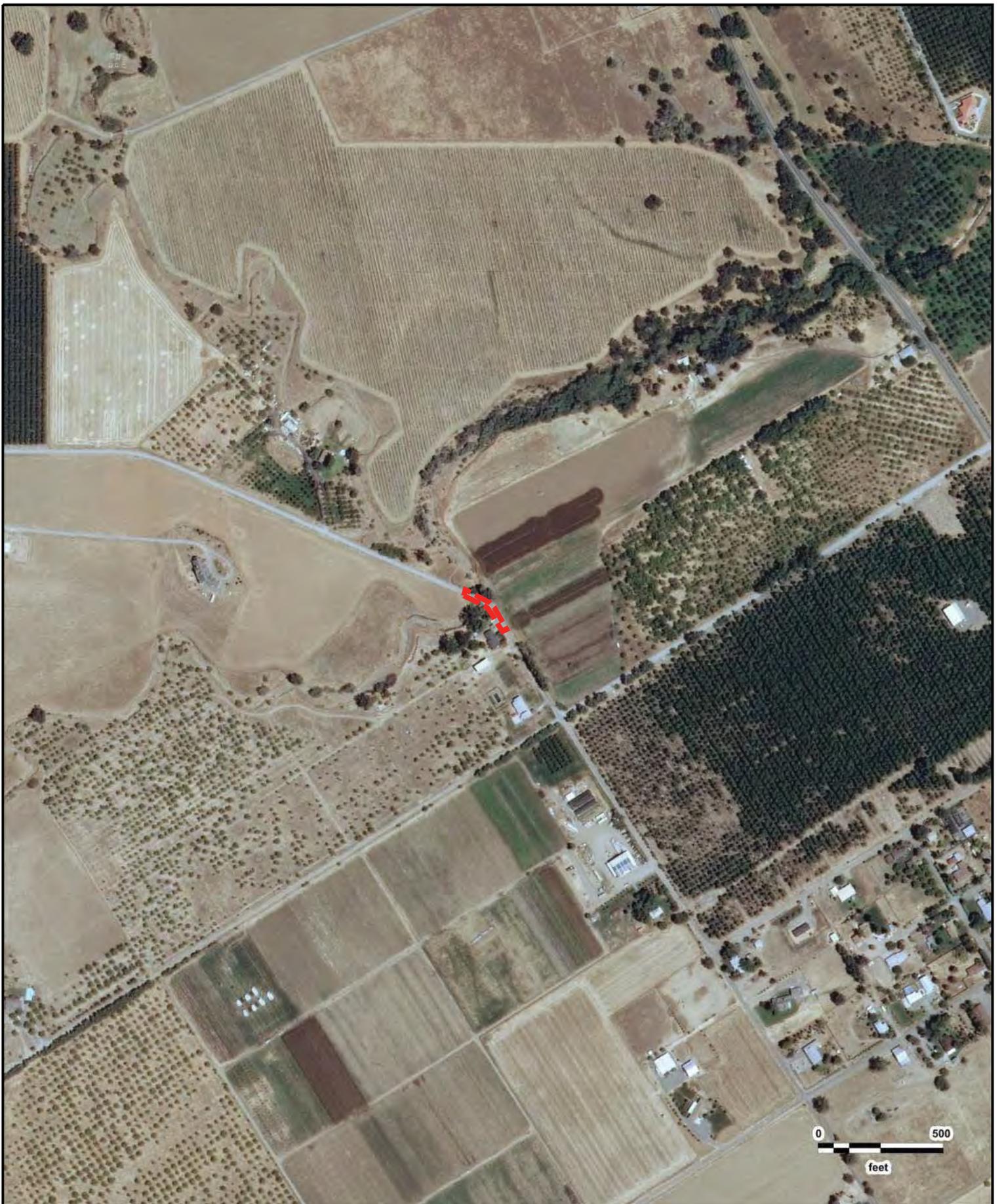


0 500
feet



CR 49 over Hamilton Creek
USDA
2009

GeoSearch

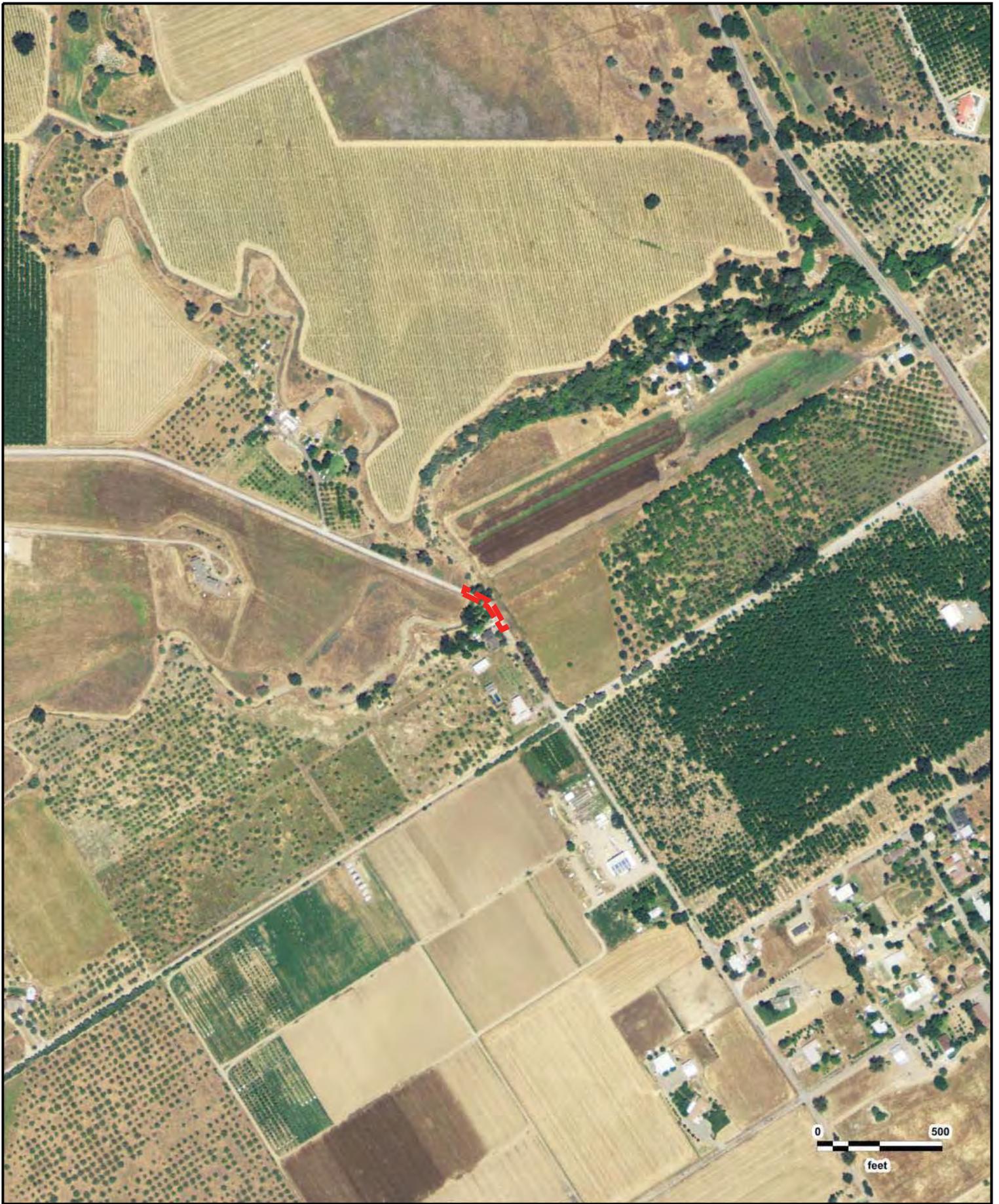


0 500
feet



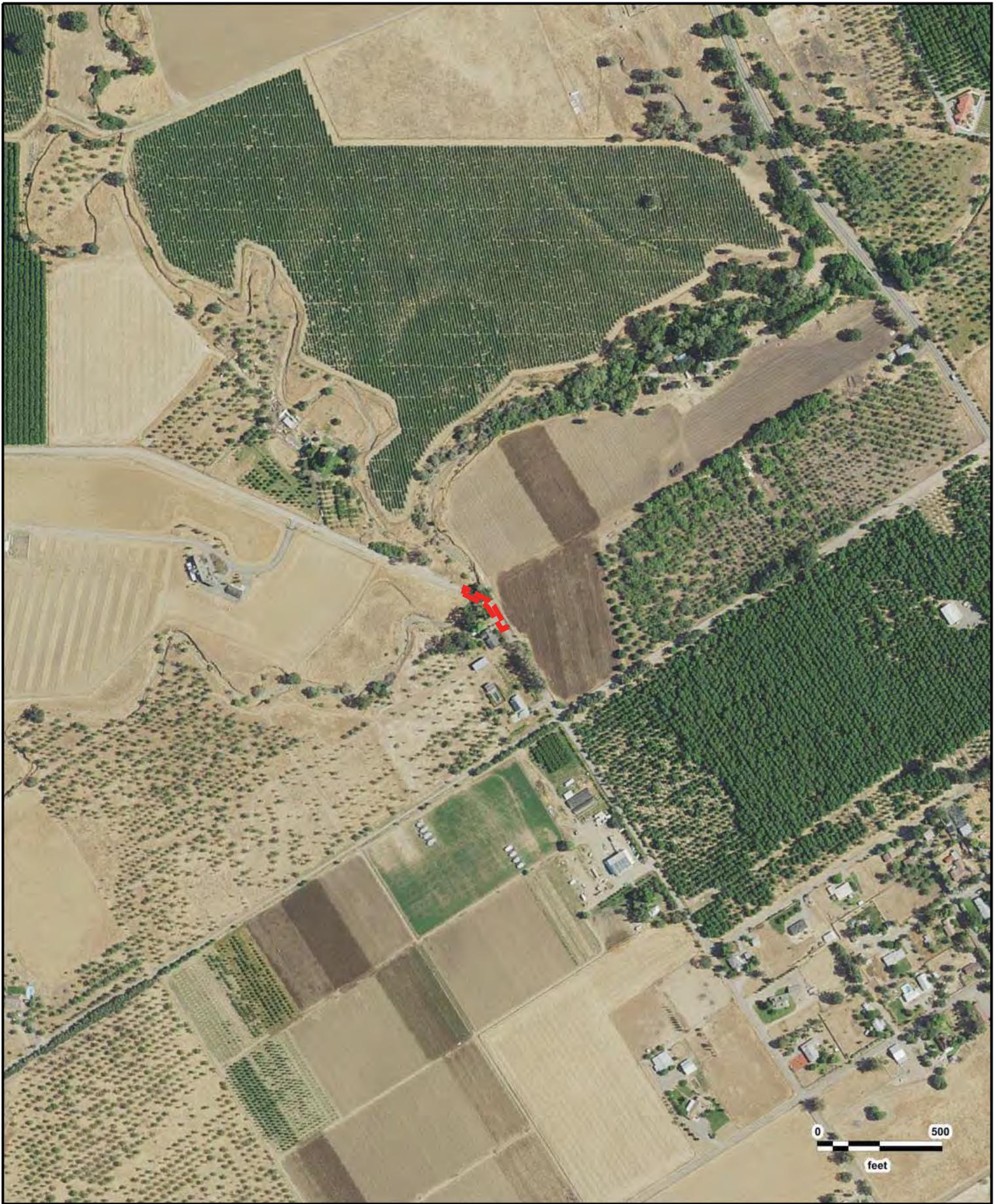
CR 49 over Hamilton Creek
USDA
2010

GeoSearch



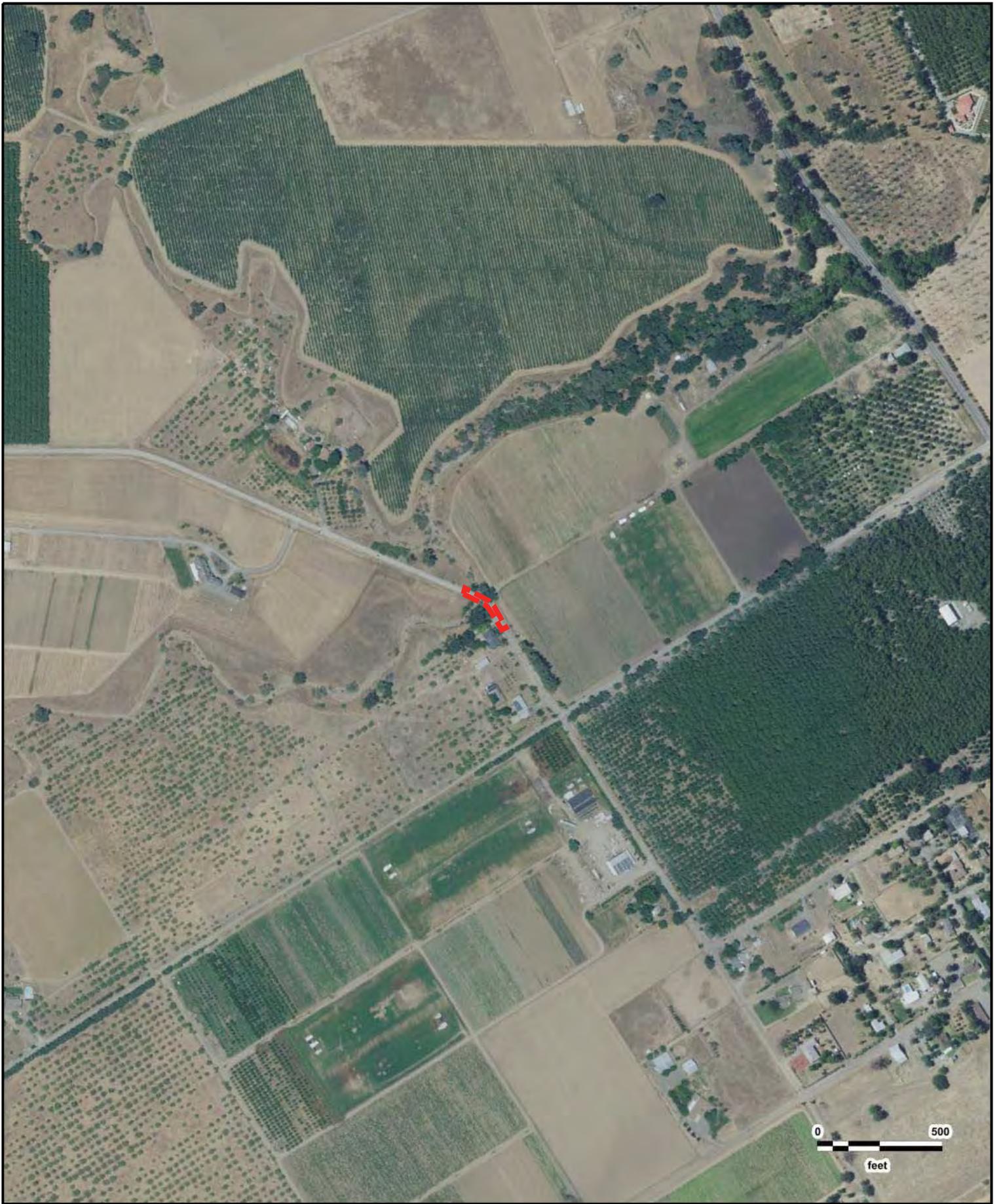
CR 49 over Hamilton Creek
USDA
2012

GeoSearch



CR 49 over Hamilton Creek
USDA
2014

GeoSearch



CR 49 over Hamilton Creek
USDA
2016



INITIAL SITE ASSESSMENT

County Road 49 Bridge Replacement over Hamilton Creek
Yolo County, California

May 17, 2021
Project No. 18-474.3

APPENDIX D

GeoSearch Historical Topographic Maps

Order Number: 144394

Date: April 2, 2020

Historical Topographic Maps

NEW: GeoLens by Geosearch

Target Property:
CR 49 over Hamilton Creek
Yolo County, California

Prepared For:
Crawford & Associates

Order #: 144394
Job #: 346834
Project #: 18-474.3
Date: 4/2/2020

Target Property Summary

CR 49 over Hamilton Creek

Yolo County, California

USGS Quadrangle: **Guinda**

Target Property Geometry: **Area**

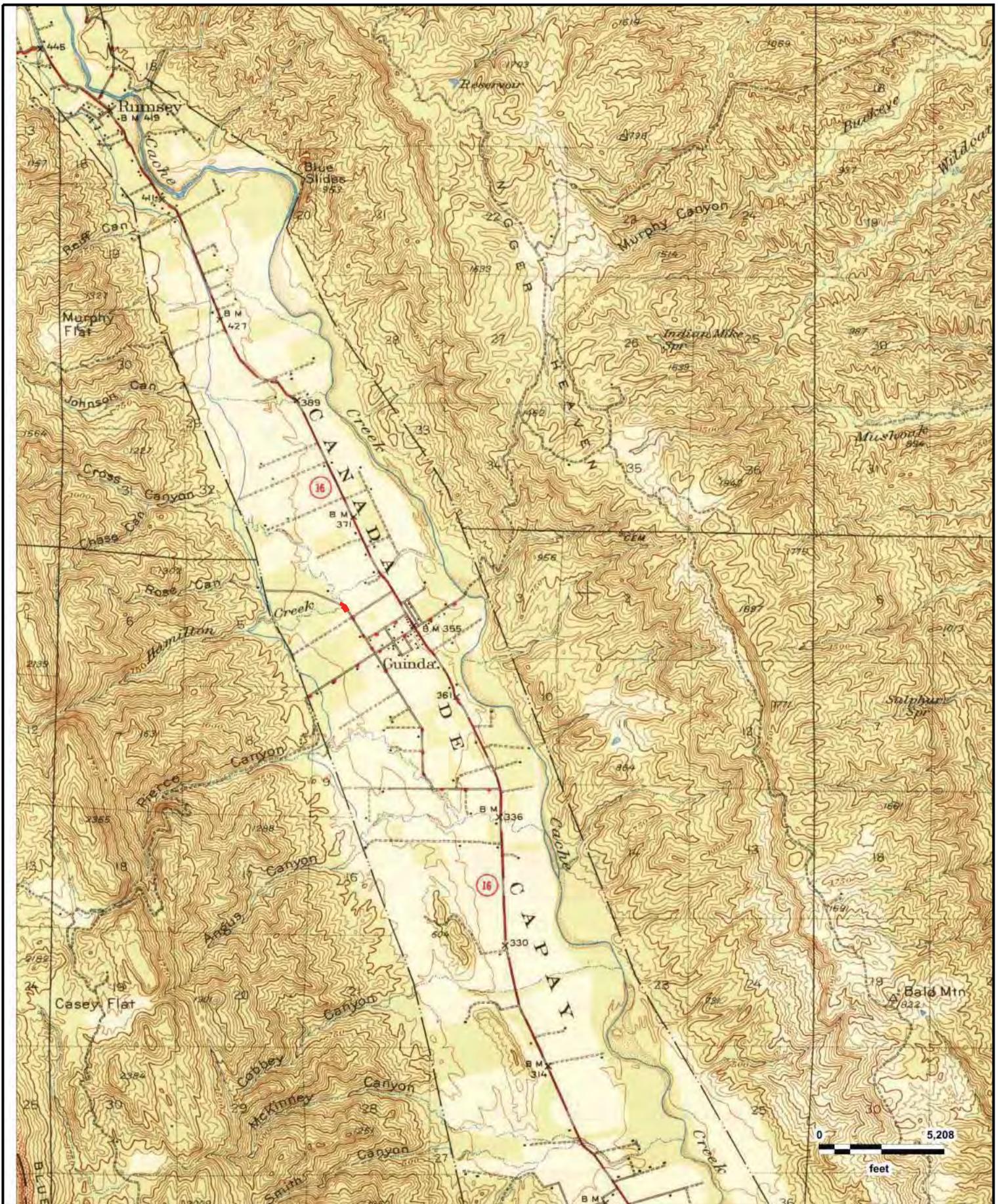
Target Property Longitude(s)/Latitude(s):

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(-122.203165000, 38.831609000), (-122.203006000, 38.831403000), (-122.202939000, 38.831425000),
(-122.203012000, 38.831520000), (-122.203121000, 38.831667000), (-122.203169000, 38.831713000),
(-122.203518000, 38.831858000)**

Topographic Map Summary

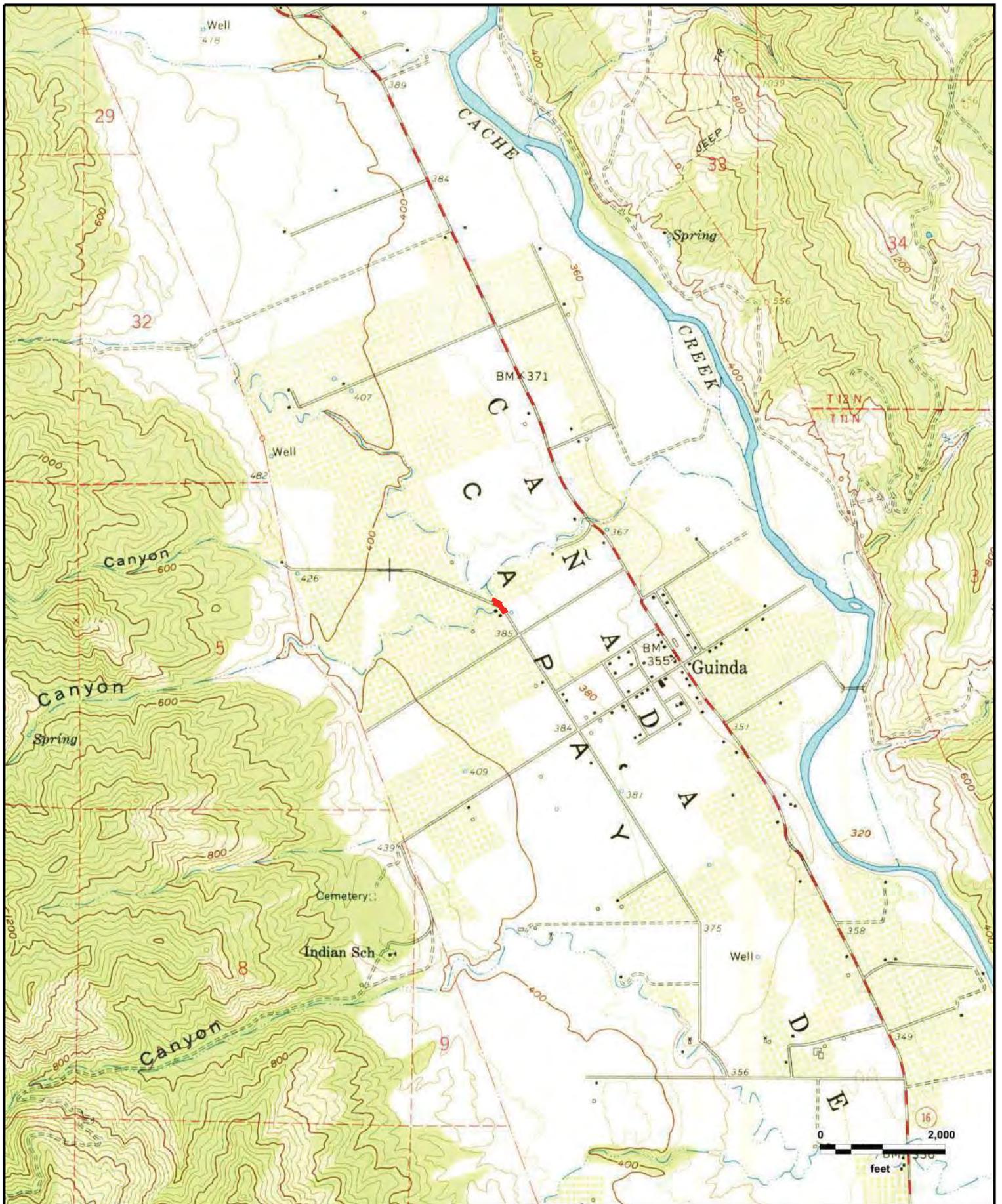
<i>Date</i>	<i>Quadrangle</i>	<i>Scale</i>
2012	GUINDA, CA	1" = 2000'
1959 REVISED 1993	GUINDA, CA	1" = 2000'
1959 PHOTOREVISED 1980	GUINDA, CA	1" = 2000'
1959	GUINDA, CA	1" = 2000'
1945	RUMSEY, CA	1" = 5208'

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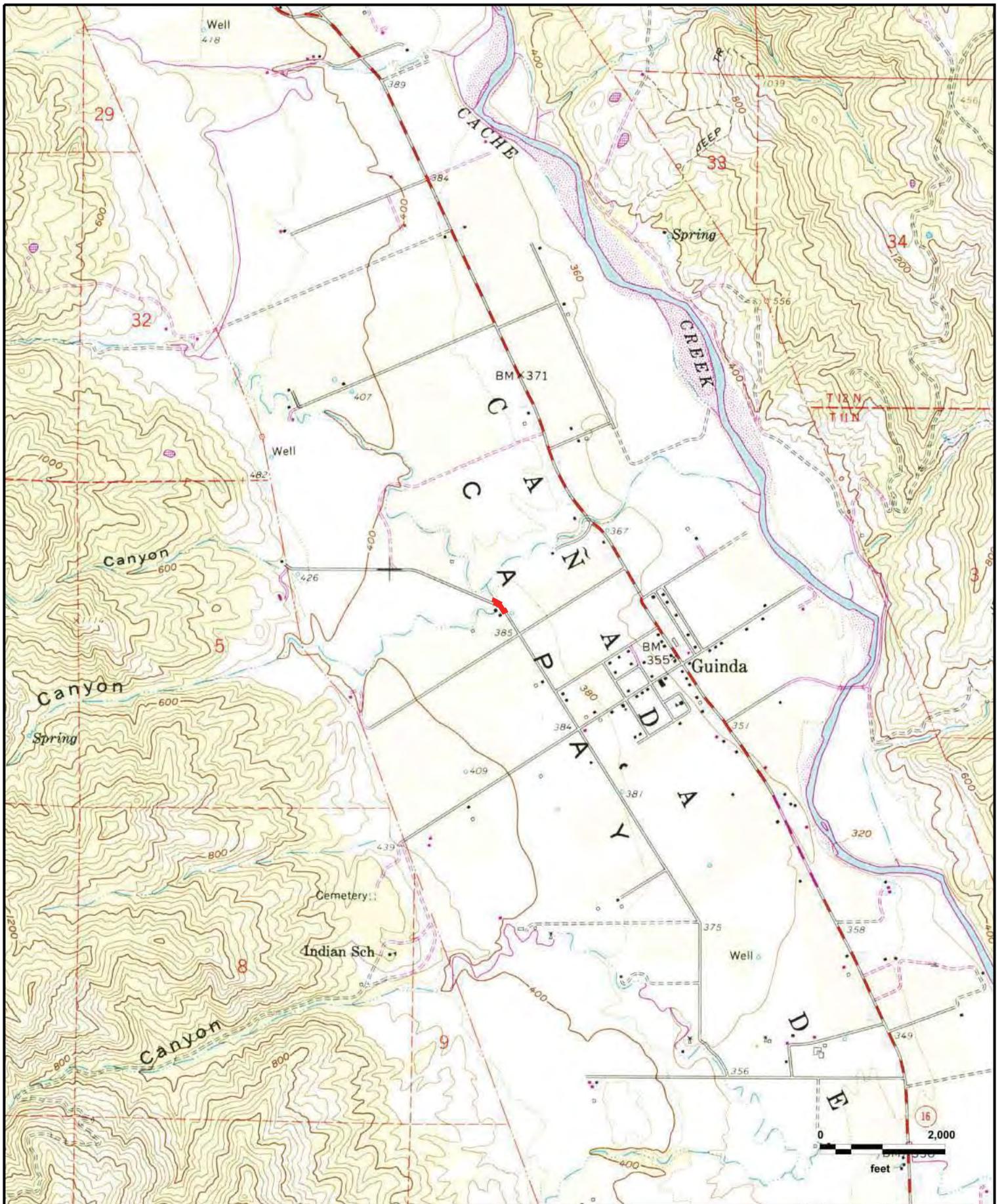
**CR 99 over Hamilton Creek
RUMSEY, CA (1945)**





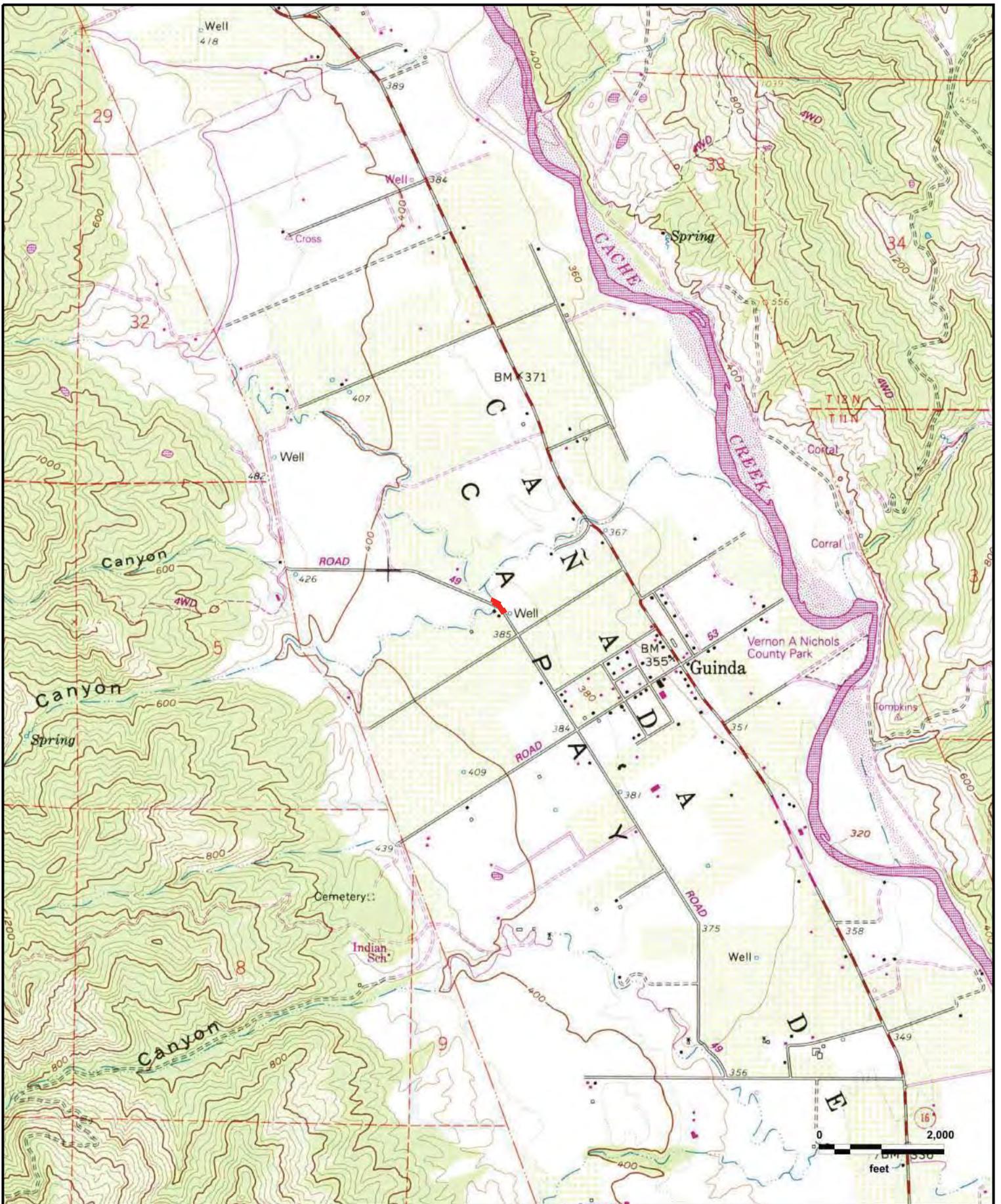
**CR 99 over Hamilton Creek
GUINDA, CA (1959)**





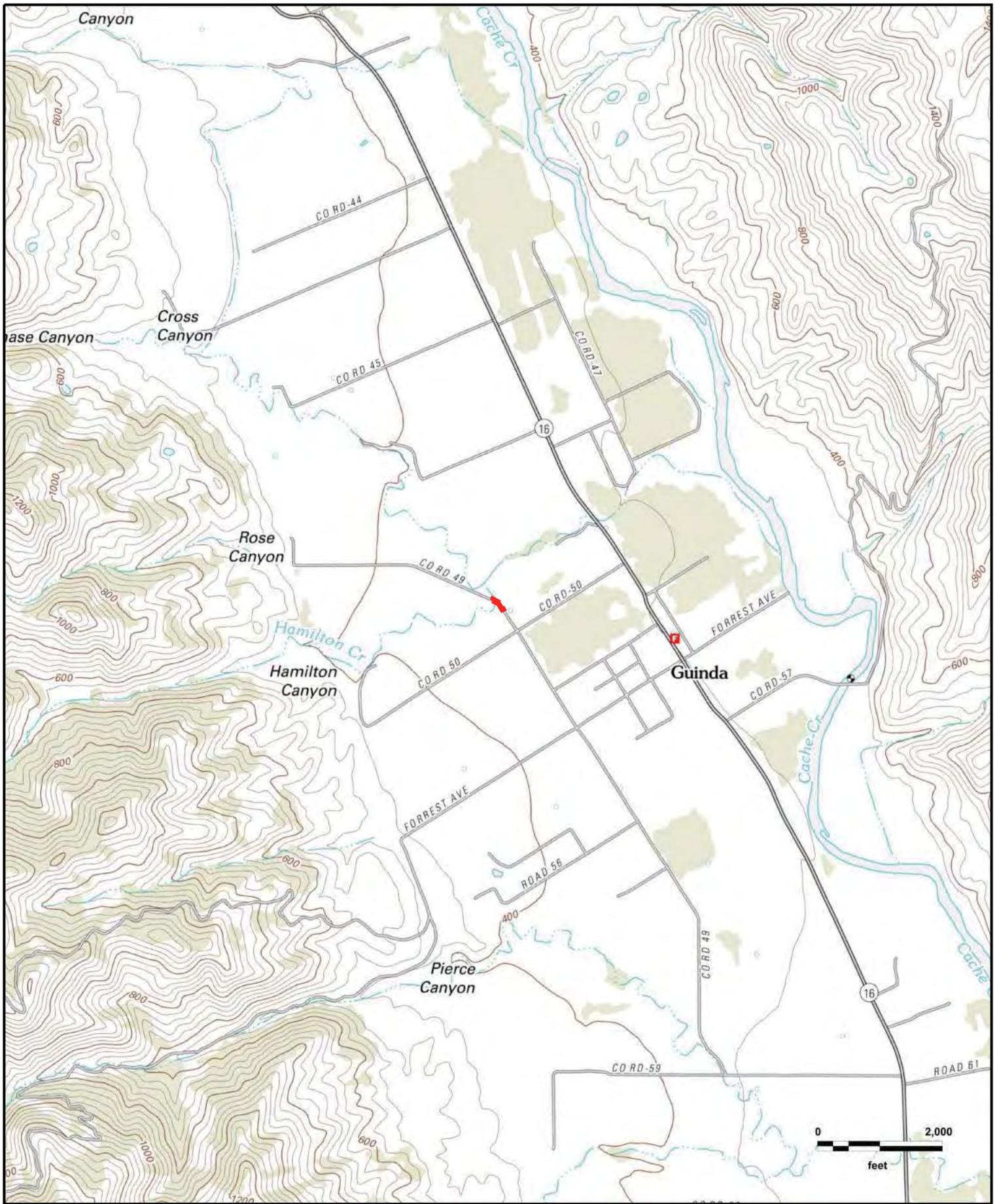
**CR 99 over Hamilton Creek
GUINDA, CA (1980)**





**CR 49 over Hamilton Creek
GUINDA, CA (1993)**





**CR 49 over Hamilton Creek
GUINDA, CA (2012)**



INITIAL SITE ASSESSMENT

County Road 49 Bridge Replacement over Hamilton Creek
Yolo County, California

May 17, 2021
Project No. 18-474.3

APPENDIX E

GeoSearch Radius Report

Order Number: 144394

Date: April 1, 2020

Radius Report

[GeoLens by GeoSearch](#)

Target Property:
CR 49 over Hamilton Creek
Yolo County, California

Prepared For:
Crawford & Associates

Order #: 144394
Job #: 346833
Project #: 18-474.3
Date: 04/01/2020

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<i>Unlocatable Report</i>	See Attachment
<i>Zip Report</i>	See Attachment

Disclaimer

This report was designed by GeoSearch to meet or exceed the records search requirements of the All Appropriate Inquiries Rule (40 CFR § 312.26) and the current version of the ASTM International E1527, Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process or, if applicable, the custom requirements requested by the entity that ordered this report. The records and databases of records used to compile this report were collected from various federal, state and local governmental entities. It is the goal of GeoSearch to meet or exceed the 40 CFR § 312.26 and E1527 requirements for updating records by using the best available technology. GeoSearch contacts the appropriate governmental entities on a recurring basis. Depending on the frequency with which a record source or database of records is updated by the governmental entity, the data used to prepare this report may be updated monthly, quarterly, semi-annually, or annually.

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Target Property Summary

Target Property Information

CR 49 over Hamilton Creek
Yolo County, California

Coordinates

Area centroid (-122.20321, 38.8316556)
388 feet above sea level

USGS Quadrangle

Guinda, CA

Geographic Coverage Information

County/Parish: Yolo (CA)

ZipCode(s):

Brooks CA: 95606

Guinda CA: 95637

Dunnigan CA: 95937

Database Summary

FEDERAL LISTING

Standard Environmental Records

Database	Acronym	Locatable	Unlocatable	Search Radius (miles)
EMERGENCY RESPONSE NOTIFICATION SYSTEM	ERNSCA	0	0	TP/AP
FEDERAL ENGINEERING INSTITUTIONAL CONTROL SITES	EC	0	0	TP/AP
LAND USE CONTROL INFORMATION SYSTEM	LUCIS	0	0	TP/AP
RCRA SITES WITH CONTROLS	RCRASC	0	0	TP/AP
RESOURCE CONSERVATION & RECOVERY ACT - GENERATOR	RCRAGR09	0	0	0.1250
RESOURCE CONSERVATION & RECOVERY ACT - NON-GENERATOR	RCRANGR09	0	0	0.1250
BROWNFIELDS MANAGEMENT SYSTEM	BF	0	0	0.5000
DELISTED NATIONAL PRIORITIES LIST	DNPL	0	0	0.5000
NO LONGER REGULATED RCRA NON-CORRACTS TSD FACILITIES	NLRRCRAT	0	0	0.5000
RESOURCE CONSERVATION & RECOVERY ACT - NON-CORRACTS TREATMENT, STORAGE & DISPOSAL FACILITIES	RCRAT	0	0	0.5000
SUPERFUND ENTERPRISE MANAGEMENT SYSTEM	SEMS	0	0	0.5000
SUPERFUND ENTERPRISE MANAGEMENT SYSTEM ARCHIVED SITE INVENTORY	SEMSARCH	0	0	0.5000
NATIONAL PRIORITIES LIST	NPL	0	0	1.0000
NO LONGER REGULATED RCRA CORRECTIVE ACTION FACILITIES	NLRRCRAC	0	0	1.0000
PROPOSED NATIONAL PRIORITIES LIST	PNPL	0	0	1.0000
RESOURCE CONSERVATION & RECOVERY ACT - CORRECTIVE ACTION FACILITIES	RCRAC	0	0	1.0000
RESOURCE CONSERVATION & RECOVERY ACT - SUBJECT TO CORRECTIVE ACTION FACILITIES	RCRASUBC	0	0	1.0000
SUB-TOTAL		0	0	

Additional Environmental Records

Database	Acronym	Locatable	Unlocatable	Search Radius (miles)
AEROMETRIC INFORMATION RETRIEVAL SYSTEM / AIR FACILITY SUBSYSTEM	AIRSAFS	0	0	TP/AP
BIENNIAL REPORTING SYSTEM	BRS	0	0	TP/AP
CERCLIS LIENS	SFLIENS	0	0	TP/AP
CLANDESTINE DRUG LABORATORY LOCATIONS	CDL	0	0	TP/AP
EPA DOCKET DATA	DOCKETS	0	0	TP/AP
ENFORCEMENT AND COMPLIANCE HISTORY INFORMATION	ECHOR09	0	0	TP/AP
FACILITY REGISTRY SYSTEM	FRSCA	0	0	TP/AP

Database Summary

Database	Acronym	Locatable	Unlocatable	Search Radius (miles)
HAZARDOUS MATERIALS INCIDENT REPORTING SYSTEM	HMIRSR09	0	0	TP/AP
HAZARDOUS WASTE COMPLIANCE DOCKET FACILITIES	HWCD	0	0	TP/AP
INTEGRATED COMPLIANCE INFORMATION SYSTEM (FORMERLY DOCKETS)	ICIS	0	0	TP/AP
INTEGRATED COMPLIANCE INFORMATION SYSTEM NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM	ICISNPDES	0	0	TP/AP
MATERIAL LICENSING TRACKING SYSTEM	MLTS	0	0	TP/AP
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM	NPDESR09	0	0	TP/AP
PCB ACTIVITY DATABASE SYSTEM	PADS	0	0	TP/AP
PERMIT COMPLIANCE SYSTEM	PCSR09	0	0	TP/AP
SEMS LIEN ON PROPERTY	SEMCLIENS	0	0	TP/AP
SECTION SEVEN TRACKING SYSTEM	SSTS	0	0	TP/AP
TOXIC SUBSTANCE CONTROL ACT INVENTORY	TSCA	0	0	TP/AP
TOXICS RELEASE INVENTORY	TRI	0	0	TP/AP
ALTERNATIVE FUELING STATIONS	ALTFUELS	0	0	0.2500
FEMA OWNED STORAGE TANKS	FEMAUST	0	0	0.2500
HISTORICAL GAS STATIONS	HISTPST	0	0	0.2500
INTEGRATED COMPLIANCE INFORMATION SYSTEM DRYCLEANERS	ICISCLEANERS	0	0	0.2500
MINE SAFETY AND HEALTH ADMINISTRATION MASTER INDEX FILE	MSHA	0	0	0.2500
MINERAL RESOURCE DATA SYSTEM	MRDS	0	0	0.2500
OPEN DUMP INVENTORY	ODI	0	0	0.5000
SURFACE MINING CONTROL AND RECLAMATION ACT SITES	SMCRA	0	0	0.5000
URANIUM MILL TAILINGS RADIATION CONTROL ACT SITES	USUMTRCA	0	0	0.5000
DEPARTMENT OF DEFENSE SITES	DOD	0	0	1.0000
FORMER MILITARY NIKE MISSILE SITES	NMS	0	0	1.0000
FORMERLY USED DEFENSE SITES	FUDS	0	0	1.0000
FORMERLY UTILIZED SITES REMEDIAL ACTION PROGRAM	FUSRAP	0	0	1.0000
RECORD OF DECISION SYSTEM	RODS	0	0	1.0000
SUB-TOTAL		0	0	

Database Summary

STATE (CA) LISTING

Standard Environmental Records

Database	Acronym	Locatable	Unlocatable	Search Radius (miles)
DTSC DEED RESTRICTIONS	DTSCDR	0	0	TP/AP
ABOVE GROUND STORAGE TANKS	ABST	0	0	0.2500
ABOVEGROUND STORAGE TANKS PRIOR TO JANUARY 2008	AST2007	0	0	0.2500
HISTORICAL UNDERGROUND STORAGE TANKS	HISTUST	0	0	0.2500
STATEWIDE ENVIRONMENTAL EVALUATION AND PLANNING SYSTEM	SWEEPS	0	0	0.2500
UNDERGROUND STORAGE TANKS	USTCUPA	0	0	0.2500
BROWNFIELD SITES	BF	0	0	0.5000
CALSITES DATABASE	CALSITES	0	0	0.5000
GEOTRACKER CLEANUP SITES	CLEANUPSITES	0	0	0.5000
LEAKING UNDERGROUND STORAGE TANKS	LUST	0	0	0.5000
SOLID WASTE INFORMATION SYSTEM SITES	SWIS	1	0	0.5000
VOLUNTARY CLEANUP PROGRAM	VCP	0	0	0.5000
ENVIROSTOR CLEANUP SITES	ENVIROSTOR	0	0	1.0000
ENVIROSTOR PERMITTED AND CORRECTIVE ACTION SITES	ENVIROSTORPCA	0	0	1.0000
SUB-TOTAL		1	0	

Additional Environmental Records

Database	Acronym	Locatable	Unlocatable	Search Radius (miles)
CALIFORNIA HAZARDOUS MATERIAL INCIDENT REPORT SYSTEM	CHMIRS	0	0	TP/AP
CLANDESTINE DRUG LABS	CDL	0	0	TP/AP
EMISSIONS INVENTORY DATA	EMI	0	0	TP/AP
HAZARDOUS WASTE TANNER SUMMARY	HWTS	0	0	TP/AP
LAND DISPOSAL SITES	LDS	0	0	TP/AP
MILITARY CLEANUP SITES	MCS	0	0	TP/AP
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM FACILITIES	NPDES	0	0	TP/AP
RECORDED ENVIRONMENTAL CLEANUP LIENS	LIENS	0	0	TP/AP
CALIFORNIA MEDICAL WASTE MANAGEMENT PROGRAM FACILITY LIST	MWMP	0	0	0.2500
DTSC REGISTERED HAZARDOUS WASTE TRANSPORTERS	DTSCHWT	0	0	0.2500
DRY CLEANER FACILITIES	CLEANER	0	0	0.2500
MINES LISTING	MINES	0	0	0.2500

Database Summary

Database	Acronym	Locatable	Unlocatable	Search Radius (miles)
SPILLS, LEAKS, INVESTIGATION & CLEANUP RECOVERY LISTING	SLIC	0	0	0.2500
CORTESE LIST	CORTESE	0	0	0.5000
EXPEDITED REMOVAL ACTION PROGRAM SITES	ERAP	0	0	0.5000
HISTORICAL CORTESE LIST	HISTCORTESE	0	0	0.5000
LISTING OF CERTIFIED DROPOFF, COLLECTION, AND COMMUNITY SERVICE PROGRAMS	DROP	0	0	0.5000
LISTING OF CERTIFIED PROCESSORS	PROC	0	0	0.5000
NO FURTHER ACTION DETERMINATION	NFA	0	0	0.5000
RECYCLING CENTERS	SWRCY	0	0	0.5000
REFERRED TO ANOTHER LOCAL OR STATE AGENCY	REF	0	0	0.5000
SITES NEEDING FURTHER EVALUATION	NFE	0	0	0.5000
WASTE MANAGEMENT UNIT DATABASE	WMUDS	0	0	0.5000
TOXIC PITS CLEANUP ACT SITES	TOXPITS	0	0	1.0000
SUB-TOTAL		0	0	

Database Summary

LOCAL LISTING

Standard Environmental Records

<i>Database</i>	<i>Acronym</i>	<i>Locatable</i>	<i>Unlocatable</i>	<i>Search Radius (miles)</i>
YOLO COUNTY UNDERGROUND STORAGE TANKS	YCUST	0	0	0.2500
YOLO COUNTY LEAKING STORAGE TANKS	YCLST	1	0	0.5000
<i>SUB-TOTAL</i>		1	0	

Database Summary

TRIBAL LISTING

Standard Environmental Records

Database	Acronym	Locatable	Unlocatable	Search Radius (miles)
UNDERGROUND STORAGE TANKS ON TRIBAL LANDS	USTR09	0	0	0.2500
ILLEGAL DUMP SITES ON THE TORRES MARTINEZ RESERVATION	TORRESDUMPSITES	0	0	0.5000
LEAKING UNDERGROUND STORAGE TANKS ON TRIBAL LANDS	LUSTR09	0	0	0.5000
OPEN DUMP INVENTORY ON TRIBAL LANDS	ODINDIAN	0	0	0.5000

SUB-TOTAL		0	0	
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Additional Environmental Records

Database	Acronym	Locatable	Unlocatable	Search Radius (miles)
INDIAN RESERVATIONS	INDIANRES	0	0	1.0000

SUB-TOTAL		0	0	
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TOTAL		2	0	
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Database Radius Summary

FEDERAL LISTING

Standard environmental records are displayed in **bold**.

Acronym	Search Radius (miles)	TP/AP (0 - 0.02)	1/8 Mile (> TP/AP)	1/4 Mile (> 1/8)	1/2 Mile (> 1/4)	1 Mile (> 1/2)	> 1 Mile	Total
AIRSAFS	0.0200	0	NS	NS	NS	NS	NS	0
BRS	0.0200	0	NS	NS	NS	NS	NS	0
CDL	0.0200	0	NS	NS	NS	NS	NS	0
DOCKETS	0.0200	0	NS	NS	NS	NS	NS	0
EC	0.0200	0	NS	NS	NS	NS	NS	0
ECHOR09	0.0200	0	NS	NS	NS	NS	NS	0
ERNSCA	0.0200	0	NS	NS	NS	NS	NS	0
FRSCA	0.0200	0	NS	NS	NS	NS	NS	0
HMIRSR09	0.0200	0	NS	NS	NS	NS	NS	0
HWCD	0.0200	0	NS	NS	NS	NS	NS	0
ICIS	0.0200	0	NS	NS	NS	NS	NS	0
ICISNPDES	0.0200	0	NS	NS	NS	NS	NS	0
LUCIS	0.0200	0	NS	NS	NS	NS	NS	0
MLTS	0.0200	0	NS	NS	NS	NS	NS	0
NPDESR09	0.0200	0	NS	NS	NS	NS	NS	0
PADS	0.0200	0	NS	NS	NS	NS	NS	0
PCSR09	0.0200	0	NS	NS	NS	NS	NS	0
RCRASC	0.0200	0	NS	NS	NS	NS	NS	0
SEMSLIENS	0.0200	0	NS	NS	NS	NS	NS	0
SFLIENS	0.0200	0	NS	NS	NS	NS	NS	0
SSTS	0.0200	0	NS	NS	NS	NS	NS	0
TRI	0.0200	0	NS	NS	NS	NS	NS	0
TSCA	0.0200	0	NS	NS	NS	NS	NS	0
RCRAGR09	0.1250	0	0	NS	NS	NS	NS	0
RCRANGR09	0.1250	0	0	NS	NS	NS	NS	0
ALTFUELS	0.2500	0	0	0	NS	NS	NS	0
FEMAUST	0.2500	0	0	0	NS	NS	NS	0
HISTPST	0.2500	0	0	0	NS	NS	NS	0
ICISCLEANERS	0.2500	0	0	0	NS	NS	NS	0
MRDS	0.2500	0	0	0	NS	NS	NS	0
MSHA	0.2500	0	0	0	NS	NS	NS	0
BF	0.5000	0	0	0	0	NS	NS	0
DNPL	0.5000	0	0	0	0	NS	NS	0
NLRRCRAT	0.5000	0	0	0	0	NS	NS	0
ODI	0.5000	0	0	0	0	NS	NS	0

Database Radius Summary

Acronym	Search Radius (miles)	TP/AP (0 - 0.02)	1/8 Mile (> TP/AP)	1/4 Mile (> 1/8)	1/2 Mile (> 1/4)	1 Mile (> 1/2)	> 1 Mile	Total
RCRAT	0.5000	0	0	0	0	NS	NS	0
SEMS	0.5000	0	0	0	0	NS	NS	0
SEMSARCH	0.5000	0	0	0	0	NS	NS	0
SMCRA	0.5000	0	0	0	0	NS	NS	0
USUMTRCA	0.5000	0	0	0	0	NS	NS	0
DOD	1.0000	0	0	0	0	0	NS	0
FUDS	1.0000	0	0	0	0	0	NS	0
FUSRAP	1.0000	0	0	0	0	0	NS	0
NLRRCRAC	1.0000	0	0	0	0	0	NS	0
NMS	1.0000	0	0	0	0	0	NS	0
NPL	1.0000	0	0	0	0	0	NS	0
PNPL	1.0000	0	0	0	0	0	NS	0
RCRAC	1.0000	0	0	0	0	0	NS	0
RCRASUBC	1.0000	0	0	0	0	0	NS	0
RODS	1.0000	0	0	0	0	0	NS	0
SUB-TOTAL		0	0	0	0	0	0	0

Database Radius Summary

STATE (CA) LISTING

Standard environmental records are displayed in **bold**.

Acronym	Search Radius (miles)	TP/AP (0 - 0.02)	1/8 Mile (> TP/AP)	1/4 Mile (> 1/8)	1/2 Mile (> 1/4)	1 Mile (> 1/2)	> 1 Mile	Total
CDL	0.0200	0	NS	NS	NS	NS	NS	0
CHMIRS	0.0200	0	NS	NS	NS	NS	NS	0
DTSCDR	0.0200	0	NS	NS	NS	NS	NS	0
EMI	0.0200	0	NS	NS	NS	NS	NS	0
HWTS	0.0200	0	NS	NS	NS	NS	NS	0
LDS	0.0200	0	NS	NS	NS	NS	NS	0
LIENS	0.0200	0	NS	NS	NS	NS	NS	0
MCS	0.0200	0	NS	NS	NS	NS	NS	0
NPDES	0.0200	0	NS	NS	NS	NS	NS	0
ABST	0.2500	0	0	0	NS	NS	NS	0
AST2007	0.2500	0	0	0	NS	NS	NS	0
CLEANER	0.2500	0	0	0	NS	NS	NS	0
DTSCHWT	0.2500	0	0	0	NS	NS	NS	0
HISTUST	0.2500	0	0	0	NS	NS	NS	0
MINES	0.2500	0	0	0	NS	NS	NS	0
MWMP	0.2500	0	0	0	NS	NS	NS	0
SLIC	0.2500	0	0	0	NS	NS	NS	0
SWEEPS	0.2500	0	0	0	NS	NS	NS	0
USTCUPA	0.2500	0	0	0	NS	NS	NS	0
BF	0.5000	0	0	0	0	NS	NS	0
CALSITES	0.5000	0	0	0	0	NS	NS	0
CLEANUPSITES	0.5000	0	0	0	0	NS	NS	0
CORTESE	0.5000	0	0	0	0	NS	NS	0
DROP	0.5000	0	0	0	0	NS	NS	0
ERAP	0.5000	0	0	0	0	NS	NS	0
HISTCORTESE	0.5000	0	0	0	0	NS	NS	0
LUST	0.5000	0	0	0	0	NS	NS	0
NFA	0.5000	0	0	0	0	NS	NS	0
NFE	0.5000	0	0	0	0	NS	NS	0
PROC	0.5000	0	0	0	0	NS	NS	0
REF	0.5000	0	0	0	0	NS	NS	0
SWIS	0.5000	0	0	1	0	NS	NS	1
SWRCY	0.5000	0	0	0	0	NS	NS	0
VCP	0.5000	0	0	0	0	NS	NS	0
WMUDS	0.5000	0	0	0	0	NS	NS	0

Database Radius Summary

Acronym	Search Radius (miles)	TP/AP (0 - 0.02)	1/8 Mile (> TP/AP)	1/4 Mile (> 1/8)	1/2 Mile (> 1/4)	1 Mile (> 1/2)	> 1 Mile	Total
ENVIROSTOR	1.0000	0	0	0	0	0	NS	0
ENVIROSTORPCA	1.0000	0	0	0	0	0	NS	0
TOXPITS	1.0000	0	0	0	0	0	NS	0
SUB-TOTAL		0	0	1	0	0	0	1

Database Radius Summary

LOCAL LISTING

Standard environmental records are displayed in **bold**.

Acronym	Search Radius (miles)	TP/AP (0 - 0.02)	1/8 Mile (> TP/AP)	1/4 Mile (> 1/8)	1/2 Mile (> 1/4)	1 Mile (> 1/2)	> 1 Mile	Total
YCUST	0.2500	0	0	0	NS	NS	NS	0
YCLST	0.5000	0	0	0	1	NS	NS	1
SUB-TOTAL		0	0	0	1	0	0	1

Database Radius Summary

TRIBAL LISTING

Standard environmental records are displayed in **bold**.

Acronym	Search Radius (miles)	TP/AP (0 - 0.02)	1/8 Mile (> TP/AP)	1/4 Mile (> 1/8)	1/2 Mile (> 1/4)	1 Mile (> 1/2)	> 1 Mile	Total
USTR09	0.2500	0	0	0	NS	NS	NS	0
LUSTR09	0.5000	0	0	0	0	NS	NS	0
ODINDIAN	0.5000	0	0	0	0	NS	NS	0
TORRESDUMPSITES	0.5000	0	0	0	0	NS	NS	0
INDIANRES	1.0000	0	0	0	0	0	NS	0
SUB-TOTAL		0	0	0	0	0	0	0

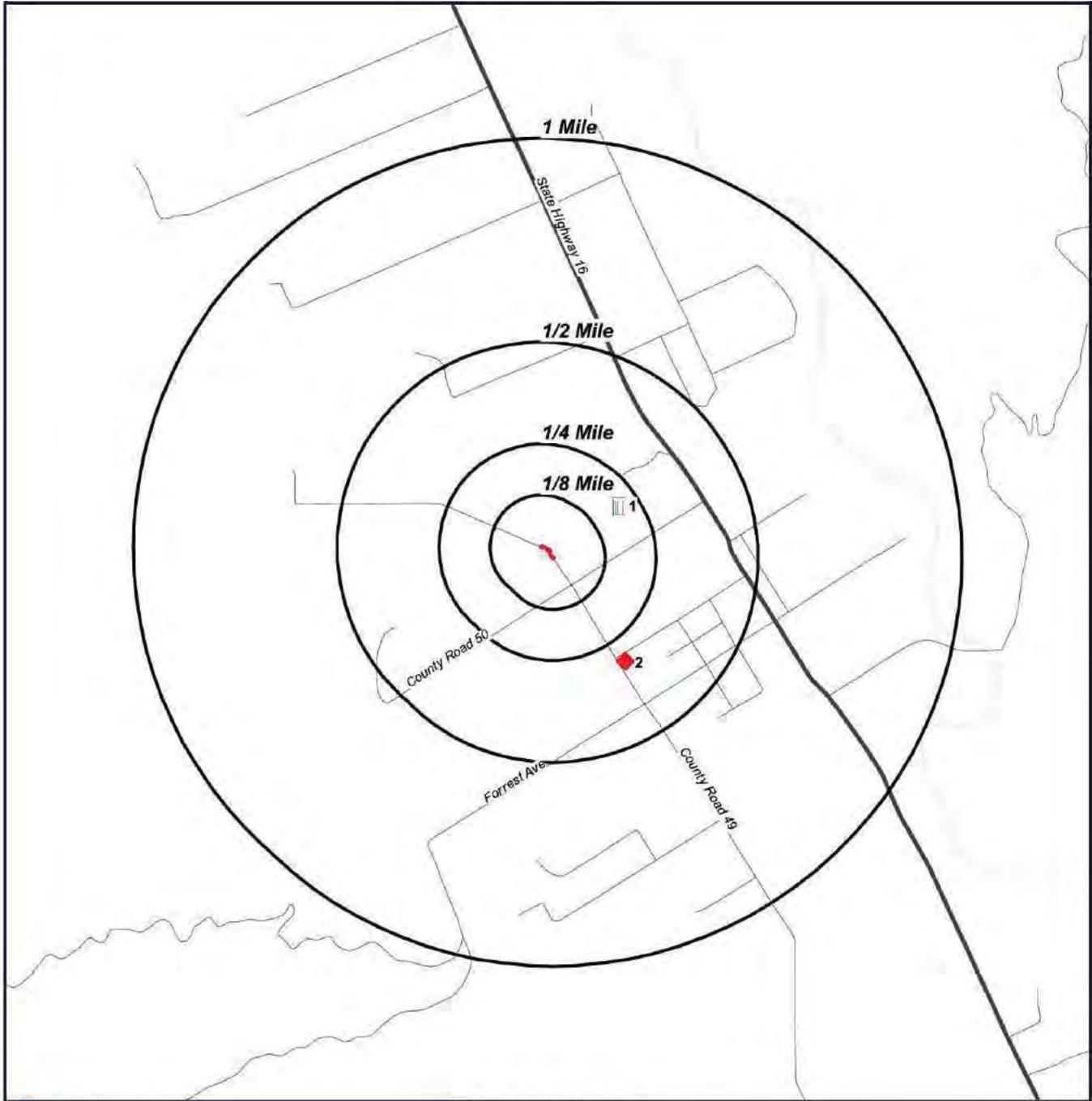
TOTAL		0	0	1	1	0	0	2
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NOTES:

NS = NOT SEARCHED

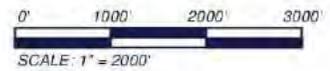
TP/AP = TARGET PROPERTY/ADJACENT PROPERTY

Radius Map 1

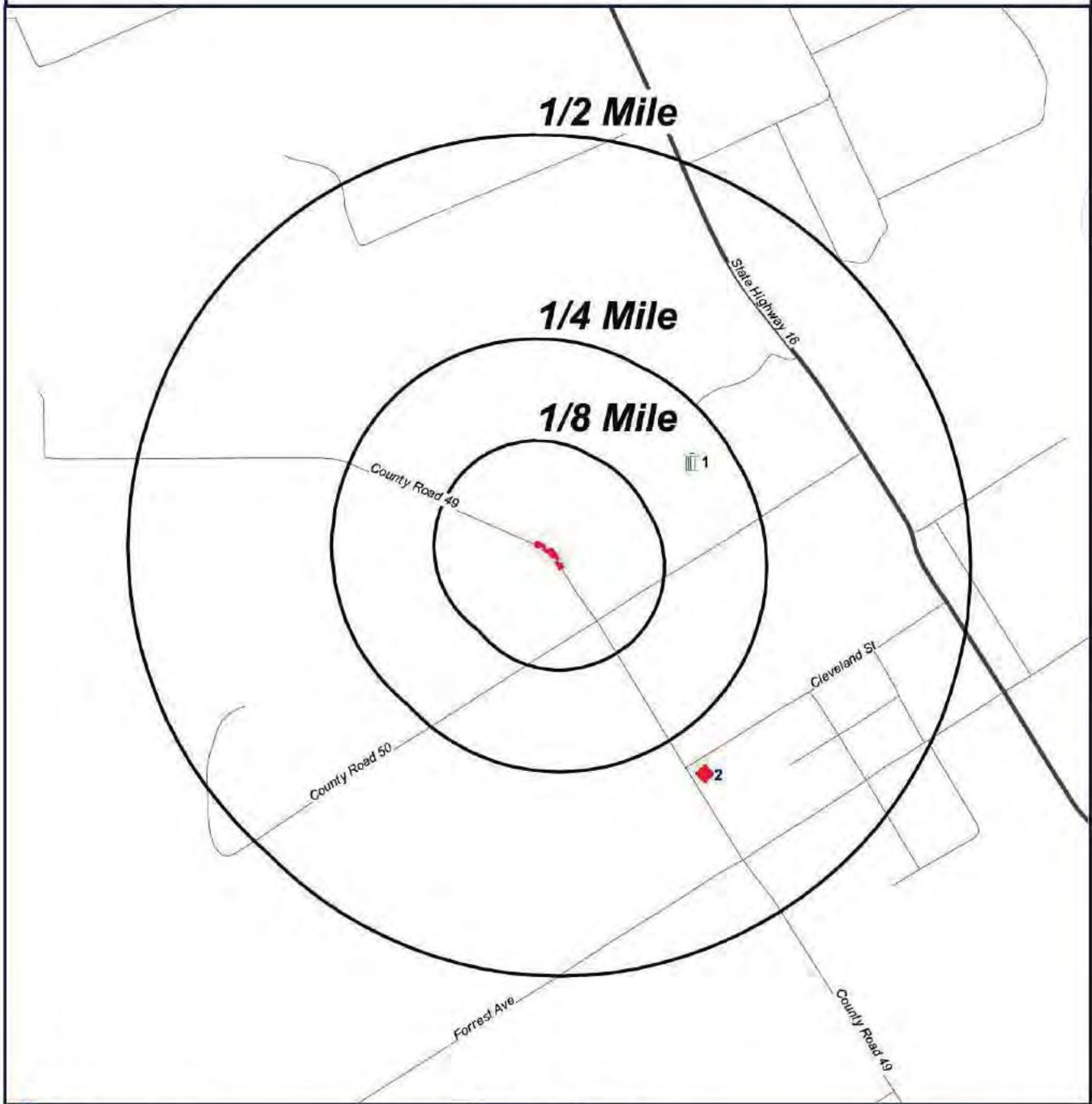


- Target Property (TP)
- SWIS
- YCLST

**CR 49 over Hamilton
Creek
County, California**

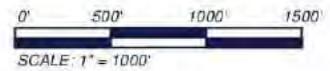


Radius Map 2

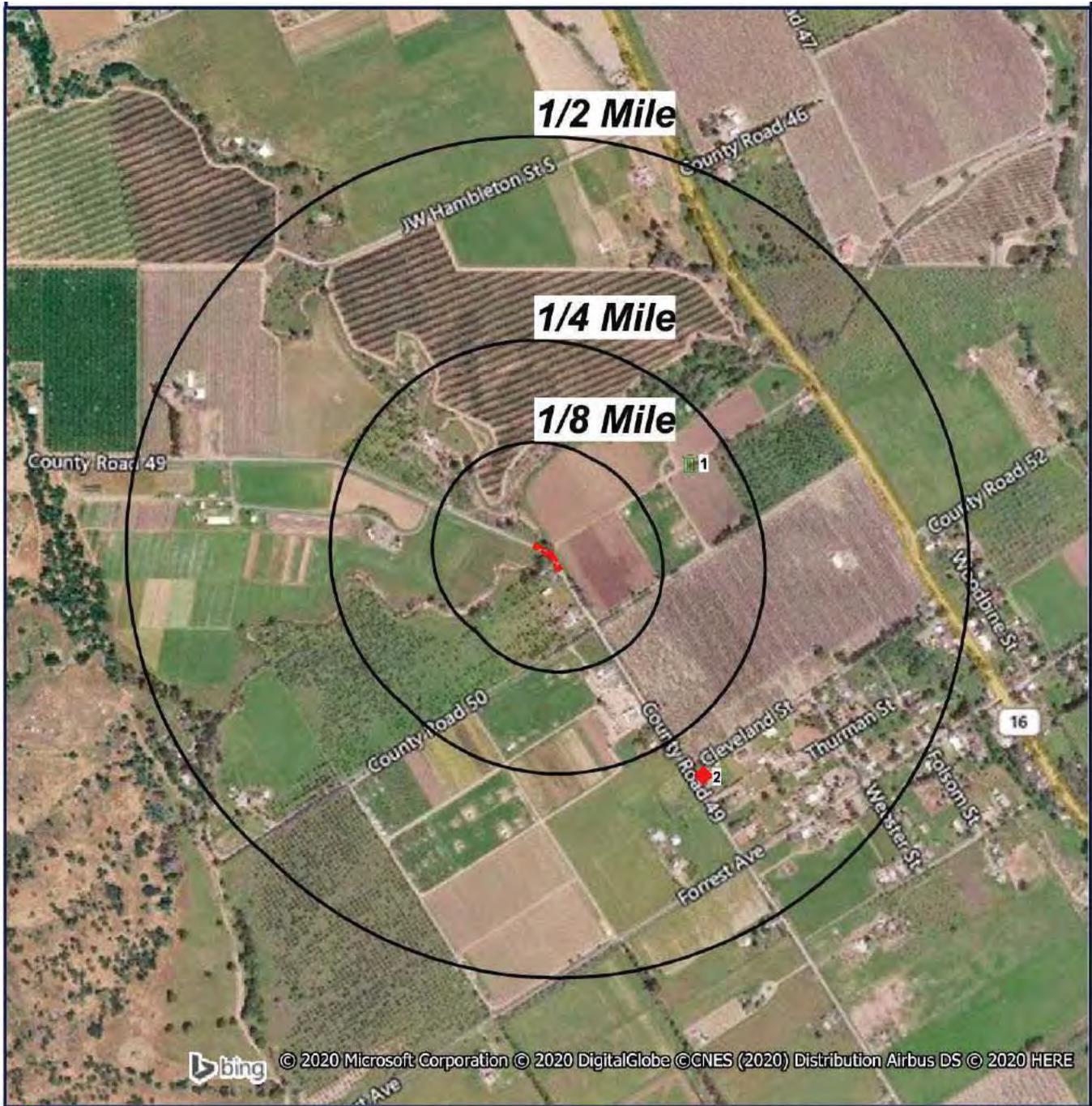


- Target Property (TP)
- SWIS
- YCLST

**CR 49 over Hamilton
Creek
County, California**

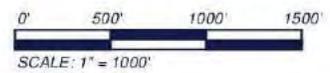


Ortho Map

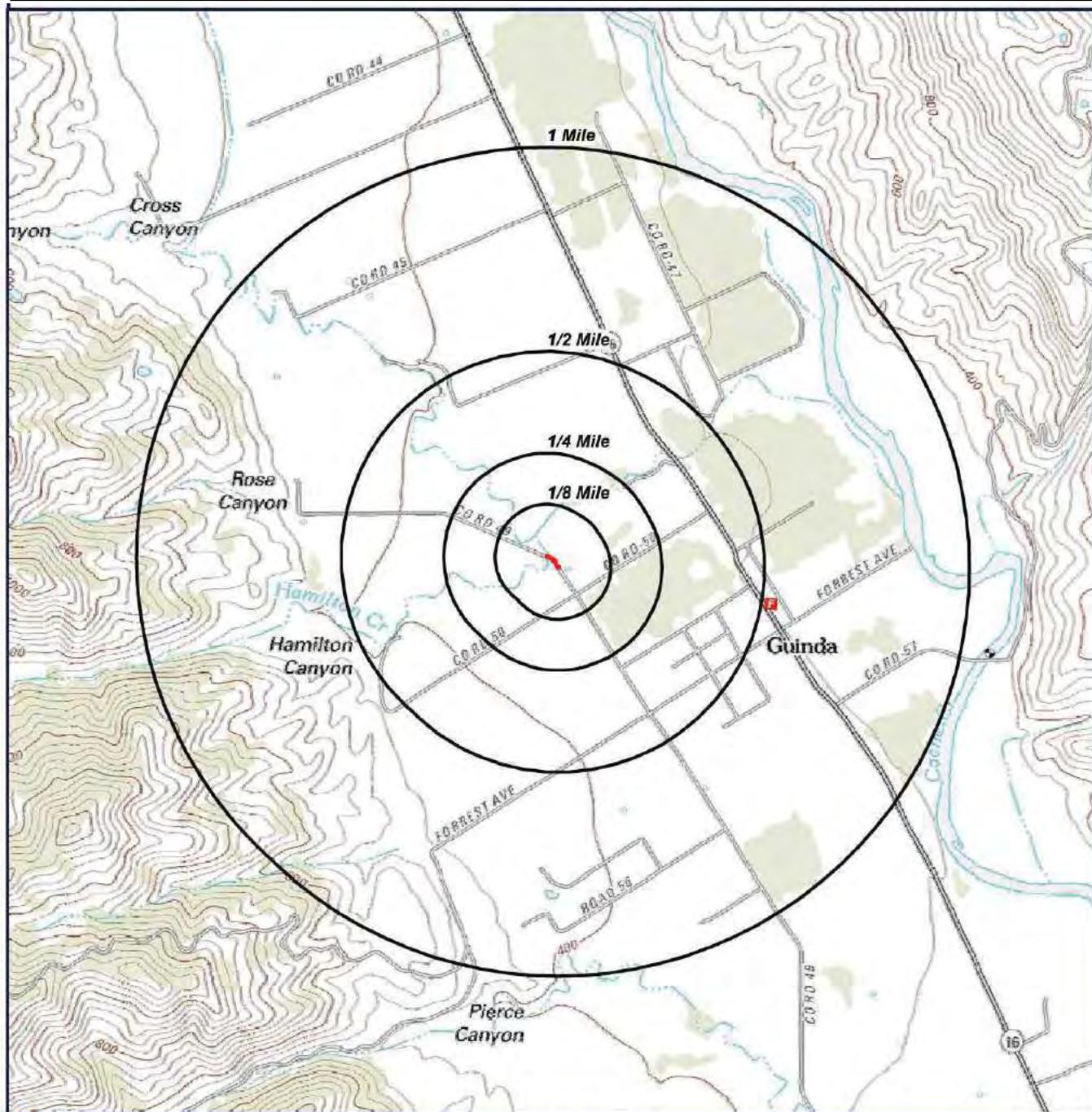


- Target Property (TP)
- SWIS
- YCLST

**Quadrangle(s): Guinda
CR 49 over Hamilton
Creek
County, California**



Topographic Map



 Target Property (TP)

Quadrangle(s): Guinda
Source: USGS,
02/13/2012
CR 49 over Hamilton
Creek
County, California



0' 1000' 2000' 3000'
SCALE: 1" = 2000'

Located Sites Summary

NOTE: Standard environmental records are displayed in **bold**.

Map ID#	Database Name	Site ID#	Relative Elevation	Distance From Site	Site Name	Address	PAGE #
1	SWIS	57-CR-0003SWIS	Lower (380 ft.)	0.202 mi. ENE (1067 ft.)	DEMARIA LANDFILL	GUINDA, CA 95606	20
2	YCLST	3372928221	Higher (394 ft.)	0.308 mi. SE (1626 ft.)	MURRAY, JAMES	16475 CLEVELAND, GUINDA, CA	21

Site Summary By Database

NOTE: Standard environmental records are displayed in **bold**.

Map ID#	Database Name	Site ID#	Relative Elevation	Distance From Site	Site Name	Address
1	SWIS	57-CR-0003SWIS	Lower (380 ft.)	0.202 mi. ENE (1067 ft.)	DEMARIA LANDFILL	GUINDA, CA 95606
2	YCLST	3372928221	Higher (394 ft.)	0.308 mi. SE (1626 ft.)	MURRAY, JAMES	16475 CLEVELAND, GUINDA, CA

Solid Waste Information System Sites (SWIS)

MAP ID# 1

Distance from Property: 0.202 mi. (1,067 ft.) ENE
Elevation: 380 ft. (Lower than TP)

FACILITY INFORMATION

GEOSEARCH ID: 57-CR-0003SWIS
ID NUMBER: 57-CR-0003
NAME: DEMARIA LANDFILL
LOCATION: NOT REPORTED
GUINDA, CA 95606
COUNTY: YOLO
LATITUDE: 38.833300000
LONGITUDE: -122.200000000

OWNER INFORMATION

- NO OWNER INFORMATION REPORTED -

OPERATOR INFORMATION

NAME: DEMARIA, ANTHONY & CHRISTINE
ADDRESS: 135 BANBURY WY
BENICIA CA 94510

FACILITY DETAILS

SITE ID: NOT REPORTED
LAND USE: NOT REPORTED
PERMIT DATE: NOT REPORTED
PERMIT STATUS: NOT REPORTED
ENFORCEMENT AGENCY: NOT REPORTED

UNIT

CATEGORY: NOT REPORTED
UNIT #: NOT REPORTED
REGULATORY STATUS: UNPERMITTED
OPERATIONAL STATUS: UNPERMITTED
ACTIVITY: SOLID WASTE DISPOSAL SITE
INSPECTION: NOT REPORTED
ACCEPTED WASTE: NOT REPORTED
CAPACITY: NOT REPORTED
REMAINING CAPACITY: NOT REPORTED
THROUGHPUT: NOT REPORTED
DISPOSAL ACREAGE: NOT REPORTED
CLOSURE DATE: NOT REPORTED

[Back to Report Summary](#)

Yolo County Leaking Storage Tanks (YCLST)

MAP ID# 2

Distance from Property: 0.308 mi. (1,626 ft.) SE

Elevation: 394 ft. (Higher than TP)

[Back to Report Summary](#)

Unlocated Sites Summary

This list contains sites that could not be mapped due to limited or incomplete address information.

No Records Found

Environmental Records Definitions - FEDERAL

AIRSAFS Aerometric Information Retrieval System / Air Facility Subsystem

VERSION DATE: 10/20/14

The United States Environmental Protection Agency (EPA) modified the Aerometric Information Retrieval System (AIRS) to a database that exclusively tracks the compliance of stationary sources of air pollution with EPA regulations: the Air Facility Subsystem (AFS). Since this change in 2001, the management of the AIRS/AFS database was assigned to EPA's Office of Enforcement and Compliance Assurance.

BRS Biennial Reporting System

VERSION DATE: 12/31/15

The United States Environmental Protection Agency (EPA), in cooperation with the States, biennially collects information regarding the generation, management, and final disposition of hazardous wastes regulated under the Resource Conservation and Recovery Act of 1976 (RCRA), as amended. The Biennial Report captures detailed data on the generation of hazardous waste from large quantity generators and data on waste management practices from treatment, storage and disposal facilities. Currently, the EPA states that data collected between 1991 and 1997 was originally a part of the defunct Biennial Reporting System and is now incorporated into the RCRAInfo data system.

CDL Clandestine Drug Laboratory Locations

VERSION DATE: 11/26/19

The U.S. Department of Justice ("the Department") provides this information as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments. The Department does not establish, implement, enforce, or certify compliance with clean-up or remediation standards for contaminated sites; the public should contact a state or local health department or environmental protection agency for that information.

DOCKETS EPA Docket Data

VERSION DATE: 12/22/05

The United States Environmental Protection Agency Docket data lists Civil Case Defendants, filing dates as far back as 1971, laws broken including section, violations that occurred, pollutants involved, penalties assessed and superfund awards by facility and location. Please refer to ICIS database as source of current data.

EC Federal Engineering Institutional Control Sites

VERSION DATE: 02/26/20

This database includes site locations where Engineering and/or Institutional Controls have been identified as part

Environmental Records Definitions - FEDERAL

of a selected remedy for the site as defined by United States Environmental Protection Agency official remedy decision documents. The data displays remedy component information for Superfund decision documents issued in fiscal years 1982-2017, and it includes final and deleted NPL sites as well as sites with a Superfund Alternative Approach (SAA) agreement in place. The only sites included that are not on the NPL, proposed for NPL, or removed from proposed NPL, are those with an SAA Agreement in place. A site listing does not indicate that the institutional and engineering controls are currently in place nor will be in place once the remedy is complete; it only indicates that the decision to include either of them in the remedy is documented as of the completed date of the document. Institutional controls are actions, such as legal controls, that help minimize the potential for human exposure to contamination by ensuring appropriate land or resource use. Engineering controls include caps, barriers, or other device engineering to prevent access, exposure, or continued migration of contamination.

ECHOR09 Enforcement and Compliance History Information

VERSION DATE: 10/27/19

The U.S. Environmental Protection Agency's Enforcement and Compliance History Online (ECHO) database, provides compliance and enforcement information for facilities nationwide. This database includes facilities regulated as Clean Air Act stationary sources, Clean Water Act direct dischargers, Resource Conservation and Recovery Act hazardous waste handlers, Safe Drinking Water Act public water systems along with other data, such as Toxics Release Inventory releases.

ERNSCA Emergency Response Notification System

VERSION DATE: 10/06/19

This National Response Center database contains data on reported releases of oil, chemical, radiological, biological, and/or etiological discharges into the environment anywhere in the United States and its territories. The data comes from spill reports made to the U.S. Environmental Protection Agency, U.S. Coast Guard, the National Response Center and/or the U.S. Department of Transportation.

FRSCA Facility Registry System

VERSION DATE: 10/09/19

The United States Environmental Protection Agency's Office of Environmental Information (OEI) developed the Facility Registry System (FRS) as the centrally managed database that identifies facilities, sites or places subject to environmental regulations or of environmental interest. The Facility Registry System replaced the Facility Index System or FINDS database.

HMIRSR09 Hazardous Materials Incident Reporting System

VERSION DATE: 11/20/19

The HMIRS database contains unintentional hazardous materials release information reported to the U.S. Department of Transportation located in EPA Region 9. This region includes the following states: Arizona, California, Hawaii, Nevada, and the territories of Guam and American Samoa.

Environmental Records Definitions - FEDERAL

HWCD Hazardous Waste Compliance Docket Facilities

VERSION DATE: 04/29/19

This list of the Federal Agency Hazardous Waste Compliance Docket Facilities is maintained by the United States Environmental Protection Agency (EPA). According to the EPA, Section 120(c) of CERCLA requires EPA to establish a listing, known as the Federal Facility Hazardous Waste Compliance Docket (Docket), of Federal facilities which are managing or have managed hazardous waste; or have had a release of hazardous waste. Thus, the Docket identifies all Federal facilities that must be evaluated to determine whether they pose a risk to human health and the environment and it makes this information available to the public. In order for the Docket to remain current and accurate it requires periodic updating.

ICIS Integrated Compliance Information System (formerly DOCKETS)

VERSION DATE: 09/21/19

ICIS is a case activity tracking and management system for civil, judicial, and administrative federal Environmental Protection Agency enforcement cases. ICIS contains information on federal administrative and federal judicial cases under the following environmental statutes: the Clean Air Act, the Clean Water Act, the Resource Conservation and Recovery Act, the Emergency Planning and Community Right-to-Know Act - Section 313, the Toxic Substances Control Act, the Federal Insecticide, Fungicide, and Rodenticide Act, the Comprehensive Environmental Response, Compensation, and Liability Act, the Safe Drinking Water Act, and the Marine Protection, Research, and Sanctuaries Act.

ICISNPDES Integrated Compliance Information System National Pollutant Discharge Elimination System

VERSION DATE: 09/22/19

Authorized by the Clean Water Act, the National Pollutant Discharge Elimination System (NPDES) permit program controls water pollution by regulating point sources that discharge pollutants into waters of the United States. This database is provided by the U.S. Environmental Protection Agency.

LUCIS Land Use Control Information System

VERSION DATE: 09/01/06

The LUCIS database is maintained by the U.S. Department of the Navy and contains information for former Base Realignment and Closure (BRAC) properties across the United States.

MLTS Material Licensing Tracking System

VERSION DATE: 06/29/17

MLTS is a list of approximately 8,100 sites which have or use radioactive materials subject to the United States Nuclear Regulatory Commission (NRC) licensing requirements. Disclaimer: Due to agency regulations and policies, this database contains applicant/licensee location information which may or may not be related to the physical location per MLTS site.

Environmental Records Definitions - FEDERAL

NPDES09 National Pollutant Discharge Elimination System

VERSION DATE: 04/01/07

Authorized by the Clean Water Act, the National Pollutant Discharge Elimination System (NPDES) permit program controls water pollution by regulating point sources that discharge pollutants into waters of the United States. The NPDES database was collected from the U.S. Environmental Protection Agency (EPA) from December 2002 through April 2007. Refer to the PCS and/or ICIS-NPDES database as source of current data. This database includes permitted facilities located in EPA Region 9. This region includes the following states: Arizona, California, Hawaii, Nevada, and the territories of Guam and American Samoa.

PADS PCB Activity Database System

VERSION DATE: 10/09/19

PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of Polychlorinated Biphenyls (PCB) who are required to notify the U.S. Environmental Protection Agency of such activities.

PCSR09 Permit Compliance System

VERSION DATE: 08/01/12

The Permit Compliance System is used in tracking enforcement status and permit compliance of facilities controlled by the National Pollutant Discharge Elimination System (NPDES) under the Clean Water Act and is maintained by the United States Environmental Protection Agency's Office of Compliance. PCS is designed to support the NPDES program at the state, regional, and national levels. This database includes permitted facilities located in EPA Region 9. This region includes the following states: Arizona, California, Hawaii, Nevada, and the territories of Guam and American Samoa. PCS has been modernized, and no longer exists. National Pollutant Discharge Elimination System (ICIS-NPDES) data can now be found in Integrated Compliance Information System (ICIS).

RCRASC RCRA Sites with Controls

VERSION DATE: 02/21/20

The Resource Conservation and Recovery Act (RCRA) gives the U.S. Environmental Protection Agency (EPA) the authority to control hazardous waste from the "cradle-to-grave." This includes the generation, transportation, treatment, storage, and disposal of hazardous waste. RCRA also set forth a framework for the management of non-hazardous solid wastes. The 1986 amendments to RCRA enabled EPA to address environmental problems that could result from underground tanks storing petroleum and other hazardous substances. This listing refers to facilities with institutional controls in place.

SEMSLIENS SEMS Lien on Property

VERSION DATE: 10/18/19

The U.S. Environmental Protection Agency's (EPA) Office of Solid Waste and Emergency Response, Office of

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Superfund Remediation and Technology Innovation (OSRTI), has implemented The Superfund Enterprise Management System (SEMS), formerly known as CERCLIS (Comprehensive Environmental Response, Compensation and Liability Information System) to track and report on clean-up and enforcement activities taking place at Superfund sites. SEMS represents a joint development and ongoing collaboration between Superfund's Remedial, Removal, Federal Facilities, Enforcement and Emergency Response programs. This is a listing of SEMS sites with a lien on the property.

SFLIENS CERCLIS Liens

VERSION DATE: 06/08/12

A Federal CERCLA ("Superfund") lien can exist by operation of law at any site or property at which United States Environmental Protection Agency has spent Superfund monies. These monies are spent to investigate and address releases and threatened releases of contamination. CERCLIS provides information as to the identity of these sites and properties. This database contains those CERCLIS sites where the Lien on Property action is complete. Please refer to the SEMSLIENS database as source of current data.

SSTS Section Seven Tracking System

VERSION DATE: 02/01/17

The United States Environmental Protection Agency tracks information on pesticide establishments through the Section Seven Tracking System (SSTS). SSTS records the registration of new establishments and records pesticide production at each establishment. The Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) requires that production of pesticides or devices be conducted in a registered pesticide-producing or device-producing establishment. ("Production" includes formulation, packaging, repackaging, and relabeling.)

TRI Toxics Release Inventory

VERSION DATE: 12/31/17

The Toxics Release Inventory, provided by the United States Environmental Protection Agency, includes data on toxic chemical releases and waste management activities from certain industries as well as federal and tribal facilities. This inventory contains information about the types and amounts of toxic chemicals that are released each year to the air, water, and land as well as information on the quantities of toxic chemicals sent to other facilities for further waste management.

TSCA Toxic Substance Control Act Inventory

VERSION DATE: 12/31/16

The Toxic Substances Control Act (TSCA) was enacted in 1976 to ensure that chemicals manufactured, imported, processed, or distributed in commerce, or used or disposed of in the United States do not pose any unreasonable risks to human health or the environment. TSCA section 8(b) provides the United States Environmental Protection Agency authority to "compile, keep current, and publish a list of each chemical substance that is manufactured or processed in the United States." This TSCA Chemical Substance Inventory contains non-confidential information on the production amount of toxic chemicals from each manufacturer and

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importer site.

RCRAGR09 Resource Conservation & Recovery Act - Generator

VERSION DATE: 12/30/19

The Resource Conservation and Recovery Act (RCRA) gives the U.S. Environmental Protection Agency (EPA) the authority to control hazardous waste from the "cradle-to-grave." This includes the generation, transportation, treatment, storage, and disposal of hazardous waste. RCRA also set forth a framework for the management of non-hazardous solid wastes. The 1986 amendments to RCRA enabled EPA to address environmental problems that could result from underground tanks storing petroleum and other hazardous substances. This listing refers to facilities currently generating hazardous waste. EPA Region 9 includes the following states: Arizona, California, Hawaii, Nevada, and the territories of Guam and American Samoa.

RCRANGR09 Resource Conservation & Recovery Act - Non-Generator

VERSION DATE: 12/30/19

The Resource Conservation and Recovery Act (RCRA) gives the U.S. Environmental Protection Agency (EPA) the authority to control hazardous waste from the "cradle-to-grave." This includes the generation, transportation, treatment, storage, and disposal of hazardous waste. RCRA also set forth a framework for the management of non-hazardous solid wastes. The 1986 amendments to RCRA enabled EPA to address environmental problems that could result from underground tanks storing petroleum and other hazardous substances. This listing refers to facilities classified as non-generators. Non-Generators do not presently generate hazardous waste. EPA Region 9 includes the following states: Arizona, California, Hawaii, Nevada, and the territories of Guam and American Samoa.

ALTFUELS Alternative Fueling Stations

VERSION DATE: 09/24/19

Nationwide list of alternative fueling stations made available by the U.S. Department of Energy's Office of Energy Efficiency & Renewable Energy. Includes Bio-diesel stations, Ethanol (E85) stations, Liquefied Petroleum Gas (Propane) stations, Ethanol (E85) stations, Natural Gas stations, Hydrogen stations, and Electric Vehicle Supply Equipment (EVSE).

FEMAUST FEMA Owned Storage Tanks

VERSION DATE: 12/01/16

This is a listing of FEMA owned underground and aboveground storage tank sites. For security reasons, address information is not released to the public according to the U.S. Department of Homeland Security.

HISTPST Historical Gas Stations

VERSION DATE: NR

Environmental Records Definitions - FEDERAL

This historic directory of service stations is provided by the Cities Service Company. The directory includes Cities Service filling stations that were located throughout the United States in 1930.

ICISCLEANERS Integrated Compliance Information System Drycleaners

VERSION DATE: 09/21/19

This is a listing of drycleaner facilities from the Integrated Compliance Information System (ICIS). The U.S. Environmental Protection Agency (EPA) tracks facilities that possess NAIC and SIC codes that classify businesses as drycleaner establishments. The following Primary SIC Codes are included in this data: 7211, 7212, 7213, 7215, 7216, 7217, 7218, and/or 7219; the following Primary NAICS Codes are included in this data: 812320, 812331, and/or 812332.

MRDS Mineral Resource Data System

VERSION DATE: 03/15/16

MRDS (Mineral Resource Data System) is a collection of reports describing metallic and nonmetallic mineral resources throughout the world. Included are deposit name, location, commodity, deposit description, geologic characteristics, production, reserves, resources, and references. This database contains the records previously provided in the Mineral Resource Data System (MRDS) of USGS and the Mineral Availability System/Mineral Industry Locator System (MAS/MILS) originated in the U.S. Bureau of Mines, which is now part of USGS.

MSHA Mine Safety and Health Administration Master Index File

VERSION DATE: 09/20/19

The Mine dataset lists all Coal and Metal/Non-Metal mines under MSHA's jurisdiction since 1/1/1970. It includes such information as the current status of each mine (Active, Abandoned, NonProducing, etc.), the current owner and operating company, commodity codes and physical attributes of the mine. Mine ID is the unique key for this data. This information is provided by the United States Department of Labor - Mine Safety and Health Administration (MSHA).

BF Brownfields Management System

VERSION DATE: 10/15/19

Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties takes development pressures off of undeveloped, open land, and both improves and protects the environment. The United States Environmental Protection Agency maintains this database to track activities in the various brown field grant programs including grantee assessment, site cleanup and site redevelopment. This database included tribal brownfield sites.

DNPL Delisted National Priorities List

VERSION DATE: 01/27/20

Environmental Records Definitions - FEDERAL

This database includes sites from the United States Environmental Protection Agency's Final National Priorities List (NPL) where remedies have proven to be satisfactory or sites where the original analyses were inaccurate, and the site is no longer appropriate for inclusion on the NPL, and final publication in the Federal Register has occurred.

NLRRCRAT No Longer Regulated RCRA Non-CORRACTS TSD Facilities

VERSION DATE: 12/30/19

This database includes RCRA Non-Corrective Action TSD facilities that are no longer regulated by the United States Environmental Protection Agency or do not meet other RCRA reporting requirements. This listing includes facilities that formerly treated, stored or disposed of hazardous waste.

ODI Open Dump Inventory

VERSION DATE: 06/01/85

The open dump inventory was published by the United States Environmental Protection Agency. An "open dump" is defined as a facility or site where solid waste is disposed of which is not a sanitary landfill which meets the criteria promulgated under section 4004 of the Solid Waste Disposal Act (42 U.S.C. 6944) and which is not a facility for disposal of hazardous waste. This inventory has not been updated since June 1985.

RCRAT Resource Conservation & Recovery Act - Non-CORRACTS Treatment, Storage & Disposal Facilities

VERSION DATE: 12/30/19

The Resource Conservation and Recovery Act (RCRA) gives the U.S. Environmental Protection Agency (EPA) the authority to control hazardous waste from the "cradle-to-grave." This includes the generation, transportation, treatment, storage, and disposal of hazardous waste. RCRA also set forth a framework for the management of non-hazardous solid wastes. The 1986 amendments to RCRA enabled EPA to address environmental problems that could result from underground tanks storing petroleum and other hazardous substances. This listing refers to facilities recognized as hazardous waste treatment, storage, and disposal sites (TSD).

SEMS Superfund Enterprise Management System

VERSION DATE: 01/27/20

The U.S. Environmental Protection Agency's (EPA) Office of Solid Waste and Emergency Response, Office of Superfund Remediation and Technology Innovation (OSRTI), has implemented The Superfund Enterprise Management System (SEMS), formerly known as CERCLIS (Comprehensive Environmental Response, Compensation and Liability Information System) to track and report on clean-up and enforcement activities taking place at Superfund sites. SEMS represents a joint development and ongoing collaboration between Superfund's Remedial, Removal, Federal Facilities, Enforcement and Emergency Response programs.

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SEMSARCH Superfund Enterprise Management System Archived Site Inventory

VERSION DATE: 01/27/20

The U.S. Environmental Protection Agency's (EPA) Superfund Enterprise Management System Archived Site Inventory (List 8R Archived) replaced the CERCLIS NFRAP reporting system in 2015. This listing reflects sites at which the EPA has determined that assessment has been completed and no further remedial action is planned under the Superfund program.

SMCRA Surface Mining Control and Reclamation Act Sites

VERSION DATE: 11/26/19

An inventory of land and water impacted by past mining (primarily coal mining) is maintained by the Office of Surface Mining Reclamation and Enforcement (OSMRE) to provide information needed to implement the Surface Mining Control and Reclamation Act of 1977 (SMCRA). The inventory contains information on the location, type, and extent of AML impacts, as well as, information on the cost associated with the reclamation of those problems. The inventory is based upon field surveys by State, Tribal, and OSMRE program officials. It is dynamic to the extent that it is modified as new problems are identified and existing problems are reclaimed.

USUMTRCA Uranium Mill Tailings Radiation Control Act Sites

VERSION DATE: 03/04/17

The Legacy Management Office of the Department of Energy (DOE) manages radioactive and chemical waste, environmental contamination, and hazardous material at over 100 sites across the U.S. The L.M. Office manages this database of sites registered under the Uranium Mill Tailings Control Act (UMTRCA).

DOD Department of Defense Sites

VERSION DATE: 12/01/14

This information originates from the National Atlas of the United States Federal Lands data, which includes lands owned or administered by the Federal government. Army DOD, Army Corps of Engineers DOD, Air Force DOD, Navy DOD and Marine DOD areas of 640 acres or more are included.

FUDS Formerly Used Defense Sites

VERSION DATE: 12/31/18

The Formerly Used Defense Sites (FUDS) inventory includes properties previously owned by or leased to the United States and under Secretary of Defense Jurisdiction, as well as Munitions Response Areas (MRAs). The remediation of these properties is the responsibility of the Department of Defense. This data is provided by the U.S. Army Corps of Engineers (USACE), the boundaries/polygon data are based on preliminary findings and not all properties currently have polygon data available. **DISCLAIMER:** This data represents the results of data collection/processing for a specific USACE activity and is in no way to be considered comprehensive or to be used in any legal or official capacity as presented on this site. While the USACE has made a reasonable effort to

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insure the accuracy of the maps and associated data, it should be explicitly noted that USACE makes no warranty, representation or guaranty, either expressed or implied, as to the content, sequence, accuracy, timeliness or completeness of any of the data provided herein. For additional information on Formerly Used Defense Sites please contact the USACE Public Affairs Office at (202) 528-4285.

FUSRAP Formerly Utilized Sites Remedial Action Program

VERSION DATE: 03/04/17

The U.S. Department of Energy (DOE) established the Formerly Utilized Sites Remedial Action Program (FUSRAP) in 1974 to remediate sites where radioactive contamination remained from the Manhattan Project and early U.S. Atomic Energy Commission (AEC) operations. The DOE Office of Legacy Management (LM) established long-term surveillance and maintenance (LTS&M) requirements for remediated FUSRAP sites. DOE evaluates the final site conditions of a remediated site on the basis of risk for different future uses. DOE then confirms that LTS&M requirements will maintain protectiveness.

NLRRCRAC No Longer Regulated RCRA Corrective Action Facilities

VERSION DATE: 12/30/19

This database includes RCRA Corrective Action facilities that are no longer regulated by the United States Environmental Protection Agency or do not meet other RCRA reporting requirements.

NMS Former Military Nike Missile Sites

VERSION DATE: 12/01/84

This information was taken from report DRXTH-AS-IA-83A016 (Historical Overview of the Nike Missile System, 12/1984) which was performed by Environmental Science and Engineering, Inc. for the U.S. Army Toxic and Hazardous Materials Agency Assessment Division. The Nike system was deployed between 1954 and the mid-1970's. Among the substances used or stored on Nike sites were liquid missile fuel (JP-4); starter fluids (UDKH, aniline, and furfuryl alcohol); oxidizer (IRFNA); hydrocarbons (motor oil, hydraulic fluid, diesel fuel, gasoline, heating oil); solvents (carbon tetrachloride, trichloroethylene, trichloroethane, stoddard solvent); and battery electrolyte. The quantities of material a disposed of and procedures for disposal are not documented in published reports. Virtually all information concerning the potential for contamination at Nike sites is confined to personnel who were assigned to Nike sites. During deactivation most hardware was shipped to depot-level supply points. There were reportedly instances where excess materials were disposed of on or near the site itself at closure. There was reportedly no routine site decontamination.

NPL National Priorities List

VERSION DATE: 01/27/20

This database includes United States Environmental Protection Agency (EPA) National Priorities List sites that fall under the EPA's Superfund program, established to fund the cleanup of the most serious uncontrolled or abandoned hazardous waste sites identified for possible long-term remedial action.

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PNPL Proposed National Priorities List

VERSION DATE: 01/27/20

This database contains sites proposed to be included on the National Priorities List (NPL) in the Federal Register. The United States Environmental Protection Agency investigates these sites to determine if they may present long-term threats to public health or the environment.

RCRAC Resource Conservation & Recovery Act - Corrective Action Facilities

VERSION DATE: 12/30/19

The Resource Conservation and Recovery Act (RCRA) gives the U.S. Environmental Protection Agency (EPA) the authority to control hazardous waste from the "cradle-to-grave." This includes the generation, transportation, treatment, storage, and disposal of hazardous waste. RCRA also set forth a framework for the management of non-hazardous solid wastes. The 1986 amendments to RCRA enabled EPA to address environmental problems that could result from underground tanks storing petroleum and other hazardous substances. This listing refers to facilities with corrective action activity.

RCRASUBC Resource Conservation & Recovery Act - Subject to Corrective Action Facilities

VERSION DATE: 12/30/19

The Resource Conservation and Recovery Act (RCRA) gives the U.S. Environmental Protection Agency (EPA) the authority to control hazardous waste from the "cradle-to-grave." This includes the generation, transportation, treatment, storage, and disposal of hazardous waste. RCRA also set forth a framework for the management of non-hazardous solid wastes. The 1986 amendments to RCRA enabled EPA to address environmental problems that could result from underground tanks storing petroleum and other hazardous substances. This listing refers to facilities subject to corrective actions.

RODS Record of Decision System

VERSION DATE: 01/27/20

These decision documents maintained by the United States Environmental Protection Agency describe the chosen remedy for NPL (Superfund) site remediation. They also include site history, site description, site characteristics, community participation, enforcement activities, past and present activities, contaminated media, the contaminants present, and scope and role of response action.

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CDL Clandestine Drug Labs

VERSION DATE: 12/31/18

The California Department of Toxic Substance Control (DTSC) maintains this listing of illegal drug laboratories. DTSC maintains a limited cost-tracking database to manage and pay appropriate contractor invoices for removal costs. The data source is an expenditure report with the contractors' invoice information and the reported removal action locations. The reported location information may or may not include the actual location of the illegal drug lab for several reasons. First, DTSC receives the location information verbally from law enforcement or local environmental health officials in the initial request for emergency support. Second, DTSC does not verify the information received and does not perform "data cleaning" or other measures to ensure data quality. Third, the location information may not be the actual location of an illegal drug lab or any hazardous substance release to the environment. The initial report may have provided the location of the nearest identifiable address to an illegal drug lab or mobile lab or abandonment of illegal drug lab wastes, or a nearby meeting location for the contractor. Please note the DTSC does not guarantee the accuracy of the address or location information or the condition of the location listed. The listing of an address or location in this database does not indicate that any illegal drug lab materials were or were not present there, and does not constitute a determination that the address or location either requires or does not require additional cleanup work or mitigation action.

CHMIRS California Hazardous Material Incident Report System

VERSION DATE: 12/24/19

The California Hazardous Material Incident Report System list is maintained by the California Governor's Office of Emergency Services (OES). This list contains all spills called in to the California OES Warning Center for a specific year since 1993.

DTSCDR DTSC Deed Restrictions

VERSION DATE: 12/25/19

The California Department of Toxic Substances Control (DTSC) maintains this list of sites with deed restrictions. According to the DTSC, restricted land use indicates whether the site or area within the site has an environmental restriction recorded and/or other institutional control preventing certain types of land use or activities. The land use restrictions listed under the site management requirements are only an abbreviated summary of the land use restrictions, and may not encompass all restrictions and notification requirements placed on a property. For complete land use restriction information please contact the DTSC to review associated Land Use Restriction documents.

EMI Emissions Inventory Data

VERSION DATE: 12/31/17

This list of Emissions Inventory Data is maintained by the California Environmental Protection Agency California Environmental Agency Air Resources Board. This list includes criteria pollutant data and toxic data. Please note gas stations, print shops, autobody shops, and dry cleaners are not included in this list.

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HWTS Hazardous Waste Tanner Summary

VERSION DATE: 12/31/17

The Hazardous Waste Tanner Summary is maintained by the California Department of Toxic Substances Control (DTSC). This list includes data extracted from the copies of hazardous waste manifests received each year by the DTSC.

LDS Land Disposal Sites

VERSION DATE: 01/02/20

This list of Land Disposal sites (Landfills) is a subset of the GeoTracker Cleanup Sites database, maintained by the California State Water Resources Control Board. Sites are queried from GeoTracker by case type = Land Disposal Site.

LIENS Recorded Environmental Cleanup Liens

VERSION DATE: 11/18/19

The California Department of Toxic Substance Control (DTSC) maintains this list of liens placed upon real properties. A lien is utilized by the DTSC to obtain reimbursement from responsible parties for costs associated with the remediation of contaminated properties.

MCS Military Cleanup Sites

VERSION DATE: 01/02/20

This list of Military sites is a subset of the GeoTracker Cleanup Sites database maintained by the California State Water Resources Control Board. Sites are queried from GeoTracker by case type = Military Cleanup Sites. This list includes : Military UST sites; Military Privatized sites; and Military Cleanup sites (formerly known as DoD non UST).

NPDES National Pollutant Discharge Elimination System Facilities

VERSION DATE: 02/19/20

This list of active, historical, and terminated National Pollutant Discharge Elimination System Facilities permits is maintained by the California Environmental Protection Agency State Water Resources Control Board. This data includes storm water general permit enrollees that are active or have been active within the past three years. Please note there can be multiple listings for a single permit due to multiple dischargers, multiple facilities, and/or multiple address listings. Please use the Regulatory Measure ID to identify duplicates, as this is a unique identifier for each permit.

ABST Above Ground Storage Tanks

VERSION DATE: 03/02/20

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This database, provided by the California Environmental Protection Agency's (CalEPA) Regulated Site Portal, contains aboveground petroleum storage tank facilities originating from the California Environmental Reporting System (CERS). These facilities store petroleum in aboveground storage tanks with oversight by local agencies. As of January 1, 2008, Assembly Bill No. 1130 of the Aboveground Petroleum Storage Act (APSA) authorized the Certified Unified Program Agencies to implement and administer the requirements of the APSA. CalEPA Data Disclaimer: Information displayed in the portal is collected from separate agency databases and displayed unaltered. Information that is considered confidential, trade secret, or is otherwise protected by the agency that manages the database is not loaded into the portal. For more detail about information displayed in the portal, please visit the data source sites. Please refer to AST2007 database for aboveground storage tank information obtained from the California State Water Resources Control Board prior to 2008 APSA requirements.

AST2007 Aboveground Storage Tanks Prior to January 2008

VERSION DATE: 12/01/07

This database contains aboveground storage tank facilities registered with the California State Water Resources Control Board (SWRCB) between 2007 and 2003. Since 2006, tanks were required to contain a minimum (even as cumulative) of 1320 gallons to be in the program. As of January 1, 2008, the SWRCB no longer maintains a list of registered aboveground storage tanks, due to effective Assembly Bill No. 1130 (Laird) of the Aboveground Petroleum Storage Act (APSA). This Bill authorized the Certified Unified Program Agencies to implement and administer the requirements of the APSA. Please refer to ABST database as a current source for aboveground petroleum storage tank data.

CLEANER Dry Cleaner Facilities

VERSION DATE: 06/13/19

This list of dry cleaners is maintained by the California Department of Toxic Substances Control (DTSC). Data is extracted from the DTSC Hazardous Waste Tracking System. This list includes dry cleaner facilities that have registered EPA identification numbers. These facilities are categorized by SIC codes (7211, 7212, 7213, 7215, 7216, 7217, 7218, 7219). This database may also include facilities other than dry cleaners who also register with these same NAICS Codes. Not all companies report their NAICS/SIC Codes to the DTSC, therefore this database may exclude registered dry cleaner facilities with incomplete classification information.

DTSCHWT DTSC Registered Hazardous Waste Transporters

VERSION DATE: 01/26/20

The California Department of Toxic Substances Control maintains this list of Registered Hazardous Waste Transporters.

HISTUST Historical Underground Storage Tanks

VERSION DATE: 12/31/87

The Hazardous Substance Storage Container Database is a historical list of Underground Storage Tank sites,

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compiled from tank survey and registration information collected at one time between 1984 and 1987 by the State Water Resources Control Board. The hazardous substances stored within these tanks includes, but not restricted to, petroleum products, industrial solvents, and other materials.

MINES Mines Listing

VERSION DATE: 01/20/20

This list includes mine site locations extracted from the Mines Online database, maintained by the California Department of Conservation. Mines Online (MOL) is an interactive web map designed with GIS features that provide information such as the mine name, mine status, commodity sold, location, and other mine specific data. Please note: Mine location information is provided to assist experts in determining the location of mine operators in accordance with California Civil Code section 1103.4 and reflects information reported by mine operators in annual reports provided under Public Resources Code section 2207. While the Division of Mine Reclamation (DMR) attempts to populate MOL with accurate location information, the DMR cannot guarantee the accuracy of operator reported location information.

MWMP California Medical Waste Management Program Facility List

VERSION DATE: 10/04/19

This list of Medical Waste Management Program Facilities is maintained by the California Department of Public Health. The Medical Waste Management Program (MWMP) regulates the generation, handling, storage, treatment, and disposal of medical waste by providing oversight for the implementation of the Medical Waste Management Act (MWMA). The MWMP permits and inspects all medical waste off-site treatment facilities, medical waste transporters, and medical waste transfer stations. This list contains transporters, treatment, and transfer facilities.

SLIC Spills, Leaks, Investigation & Cleanup Recovery Listing

VERSION DATE: 02/12/20

This list of Spills, Leaks, Investigation & Cleanup Recovery sites is maintained by the California Regional Water Quality Control Board (RWQCB). This list all "non-federally owned" sites that are regulated under the State Water Resources Control Board's Site Cleanup Program and/or similar programs conducted by each of the nine Regional Water Quality Control Boards. Cleanup Program Sites are also commonly referred to as "Site Cleanup Program sites". Cleanup Program Sites are varied and include but are not limited to pesticide and fertilizer facilities, rail yards, ports, equipment supply facilities, metals facilities, industrial manufacturing and maintenance sites, dry cleaners, bulk transfer facilities, refineries, mine sites, landfills, RCRA/CERCLA cleanups, and some brownfields. Unauthorized releases detected at Cleanup Program Sites are highly variable and include but are not limited to hydrocarbon solvents, pesticides, perchlorate, nitrate, heavy metals, and petroleum constituents, to name a few.

SWEEPS Statewide Environmental Evaluation and Planning System

VERSION DATE: 10/01/94

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The Statewide Environmental Evaluation and Planning System (SWEEPS) contains a historical listing of active and inactive underground storage tank locations from the State Water Resources Control Board. The hazardous substances stored within these tanks includes, but not restricted to, petroleum products, industrial solvents, and other materials. Refer to CUPA listing for source of current data.

USTCUPA Underground Storage Tanks

VERSION DATE: 01/15/20

The California State Water Resources Control Board maintains this list of permitted underground storage tanks. Permitted Underground Storage Tank (UST) Facilities includes facilities at which the owner or operator has been issued a permit to operate one or more USTs by the local permitting agency. Permitted UST Facilities are imported weekly from the California Environmental Reporting System (CERS).

BF Brownfield Sites

VERSION DATE: 02/18/20

This database of Brownfield Memorandum of Agreement (MOA) sites is maintained by the California Environmental Protection Agency. The California Department of Toxic Substances Control (CTSC), the State Water Resources Control Board, and the Regional Water Quality Control Boards (RWQCBs) agreed to a Brownfield Memorandum of Agreement (MOA). The MOA limits the oversight of a brownfields site to one agency, establishes procedures and guidelines for identifying the lead agency, calls for a single uniform site assessment procedure, requires all cleanups to address the requirements of the agencies, defines roles and responsibilities, provides for ample opportunity for public involvement, commits agencies to review time frames, and commits agencies to coordinate and communicate on brownfields issues. The Brownfield MOA site list is obtained from the State Water Resources Control Board GeoTracker online database. This list contains both open and completed sites.

CALSITES CALSITES Database

VERSION DATE: 05/01/04

This historical database was maintained by the Department of Toxic Substance Control for more than a decade. CALSITES contains information on Brownfield properties with confirmed or potential hazardous contamination. In 2006, DTSC introduced EnviroStor as the latest Brownfields site database.

CLEANUPSITES GeoTracker Cleanup Sites

VERSION DATE: 01/02/20

This list of GeoTracker Cleanup Sites is maintained by the California State Water Resources Control Board. The database contains contaminated sites that impact groundwater or have the potential to impact ground water, including sites that require cleanup, such as Leaking Underground Storage Tank Sites, Department of Defense Sites, and Cleanup Program Sites. GeoTracker also contains records for various unregulated projects as well as permitted facilities including: Irrigated Lands, Oil and Gas production, operating Permitted USTs, and Land Disposal Sites. GeoTracker portals retrieve records and view integrated data sets from multiple State Water

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Board programs and other agencies.

CORTESE Cortese List

VERSION DATE: 01/13/20

This list of hazardous waste and substances sites (Cortese List) is maintained by the California Department of Toxic Substances Control (DTSC). DTSC's Brownfields and Environmental Restoration Program (Cleanup Program) EnviroStor database provides DTSC's component of Cortese List data by identifying Annual Workplan (now referred to State Response and/or Federal Superfund), and Backlog sites listed under Health and Safety Code section 25356. In addition, DTSC's Cortese List includes Certified with Operation and Maintenance sites. The list, or a site's presence on the list, has bearing on the local permitting process as well as on compliance with the California Environmental Quality Act (CEQA). Because this statute was enacted over twenty years ago, some of the provisions refer to agency activities that were conducted many years ago and are no longer being implemented and, in some cases, the information to be included in the Cortese List does not exist.

DROP Listing of Certified Dropoff, Collection, and Community Service Programs

VERSION DATE: 12/29/19

This list of Certified Dropoff, Collection, and Community Service Programs (non-buyback) operating under the state of California's Beverage Container Recycling Program is maintained by the California Department of Resources Recycling and Recovery.

ERAP Expedited Removal Action Program Sites

VERSION DATE: 01/09/20

This list of Expedited Removal Action Program Sites is a subset of the EnviroStor database, maintained by the California Department of the Toxic Substance Control. Sites are queried from Envirostor by site type = State Response ERAP.

HISTCORTESE Historical Cortese List

VERSION DATE: 11/02/02

This historical listing includes hazardous waste and substances sites designated by the State Water Resources Control Board, the Integrated Waste Board, and the Department of Toxic Substance Control. The Cortese List was utilized by the State, local agencies and developers to comply with the California Environmental Quality Act requirements in providing information about the location of hazardous materials release sites. See CACORTESE for an updated version of this database.

LUST Leaking Underground Storage Tanks

VERSION DATE: 01/02/20

This list of leaking underground storage tanks is a subset of the GeoTracker Cleanup Sites database maintained

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by the California State Water Resources Control Board. Sites are queried from GeoTracker by case type = LUST Cleanup Site.

NFA No Further Action Determination

VERSION DATE: 09/09/19

This list of No Further Action (NFA) sites is maintained by the California Department of Toxic Substances Control. NFA identifies sites where a Phase I Environmental Assessment was completed and resulted in a no action required determination. Please refer to ENVIROSTOR for current No Further Action sites.

NFE Sites Needing Further Evaluation

VERSION DATE: 03/03/20

This list of Inactive - Needs Evaluation sites is maintained by the California Department of Toxic Substances Control. These are unconfirmed contaminated properties that need further assessment. This data is queried from the Department of Toxic Substances Control Envirostor online database.

PROC Listing of Certified Processors

VERSION DATE: 02/03/20

This list of Certified Processors that are operating under the state of California's Beverage Container Recycling Program is maintained by the California Department of Resources Recycling and Recovery.

REF Referred to Another Local or State Agency

VERSION DATE: 03/06/20

This Referred to Another Local or State Agency list, maintained by the California Department of Toxic Substances Control (DTSC), contains properties where contamination has not been confirmed and which were determined as not requiring direct Department of Toxic Substance Control Site Mitigation Program action or oversight. Accordingly, these sites have been referred to another state or local regulatory agency. This data is extracted from the DTSC Envirostor online database and is queried by Status = "Refer state and local agencies".

SWIS Solid Waste Information System Sites

VERSION DATE: 12/30/19

This list of Solid Waste Information System Sites is extracted from the Solid Waste Information System (SWIS) database, maintained by the California Department of Resources Recycling and Recovery. The SWIS database includes information on solid waste facilities, operations, and disposal sites located in California. The types of facilities found in this database include landfills, transfer stations, material recovery facilities, composting sites, transformation facilities, waste tire sites, and closed disposal sites.

Environmental Records Definitions - STATE (CA)

SWRCY Recycling Centers

VERSION DATE: 02/05/20

This list of Certified Recycling Centers that are operating under the state of California's Beverage Container Recycling Program is maintained by the California Department of Resources Recycling and Recovery.

VCP Voluntary Cleanup Program

VERSION DATE: 01/09/20

This list of Voluntary Cleanup Sites is a subset of the Envirostor database maintained by the California Department of Toxic Substance Control. Sites are queried from Envirostor by site type = Voluntary Cleanup.

WMUDS Waste Management Unit Database

VERSION DATE: 01/01/00

The Waste Management Unit Database System tracks and inventories waste management units. CCR Title 27 contains criteria stating that Waste Management Units are classified according to their ability to contain wastes. Containment shall be determined by geology, hydrology, topography, climatology, and other factors relating to the ability of the Unit to protect water quality. Water Code Section 13273.1 requires that operators submit a water quality solid waste assessment test (SWAT) report to address leak status. The WMUDS was last updated by the State Water Resources control board in 2000.

ENVIROSTOR EnviroStor Cleanup Sites

VERSION DATE: 01/09/20

This list of Envirostor Cleanup Sites is maintained by the California Department of Toxic Substances Control (DTSC). DTSC has developed the EnviroStor database system to evaluate and track sites with confirmed or potential contamination and sites where further investigation may be necessary. This EnviroStor database of cleanup sites contains the following: Federal Superfund sites (National Priorities List (NPL)); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites.

ENVIROSTORPCA EnviroStor Permitted and Corrective Action Sites

VERSION DATE: 01/16/20

The California Department of Toxic Substance Control maintains this list of Hazardous Waste sites in their Envirostor online database. This list contains: 1) data pertaining to the Hazardous Waste Sites tracked in Envirostor; 2) the completed activities for Hazardous Waste Units; 3) the completed activities for Hazardous Waste Units undergoing closure; 4) completed maintenance activities; 5) the various "aliases" for a project (Some examples are: alt project name, alt address, EPA ID, etc.).

Environmental Records Definitions - STATE (CA)

TOXPITS Toxic Pits Cleanup Act Sites

VERSION DATE: 07/01/95

Toxic Pits are sites with possible contamination of hazardous substances where cleanup is necessary. This listing is no longer updated by the State Water Resources Control Board.

Environmental Records Definitions - LOCAL

YCUST Yolo County Underground Storage Tanks

VERSION DATE: 10/31/19

This list of active and inactive underground storage tanks in Yolo County is maintained by the Yolo County Environmental Health Department. The Yolo County Environmental Health Department regulates the construction, operation, repair and removal of underground storage tank systems throughout Yolo County.

YCLST Yolo County Leaking Storage Tanks

VERSION DATE: 04/16/08

This list of Leaking Underground Storage Tanks in Yolo County is maintained by the Yolo County Environmental Health Division and the Central Valley Regional Water Quality Control Board. Data from April 2008 was maintained by Yolo County Environmental Health Department and is still available for review, but leaky storage tanks have since been transferred to the State Water Resources Control Board's GeoTracker database system. Please refer to the State CLEANUPSITES and State LUST databases as source of current data for Yolo County Leaking USTs.

Environmental Records Definitions - TRIBAL

USTR09 Underground Storage Tanks On Tribal Lands

VERSION DATE: 10/04/19

This database, provided by the United States Environmental Protection Agency (EPA), contains underground storage tanks on Tribal lands located in EPA Region 9. This region includes the following states: Arizona, California, Hawaii, Nevada, and the territories of Guam and American Samoa.

LUSTR09 Leaking Underground Storage Tanks On Tribal Lands

VERSION DATE: 10/04/19

This database, provided by the United States Environmental Protection Agency (EPA), contains leaking underground storage tanks on Tribal lands located in EPA Region 9. This region includes the following states: Arizona, California, Hawaii, Nevada, and the territories of Guam and American Samoa.

ODINDIAN Open Dump Inventory on Tribal Lands

VERSION DATE: 11/08/06

This Indian Health Service database contains information about facilities and sites on tribal lands where solid waste is disposed of, which are not sanitary landfills or hazardous waste disposal facilities, and which meet the criteria promulgated under section 4004 of the Solid Waste Disposal Act (42 U.S.C. 6944).

TORRESDUMPSITES Illegal Dump Sites on the Torres Martinez Reservation

VERSION DATE: 10/29/07

This listing of illegal dump site locations on the Torres Martinez Reservation is maintained by the United States Environmental Protection Agency, Region IX. These dump sites contain unlawfully discarded household waste such as landscaping and wood wastes with no known soil or groundwater contamination. A majority of the sites have already been cleaned up through the collaborative efforts of the EPA, The California Integrated Waste Management Board and the Torres Martinez Tribe.

INDIANRES Indian Reservations

VERSION DATE: 01/01/00

The Department of Interior and Bureau of Indian Affairs maintains this database that includes American Indian Reservations, off-reservation trust lands, public domain allotments, Alaska Native Regional Corporations and Recognized State Reservations.

INITIAL SITE ASSESSMENT

County Road 49 Bridge Replacement over Hamilton Creek
Yolo County, California

May 17, 2021
Project No. 18-474.3

APPENDIX F

Laboratory Analytical Results

Asbestos and Lead Bridge
Inspection/Survey

Bridge Replacement over Hamilton Creek
38.8318°N and longitude 122.2034 °W

County Road 96
Yolo County, CA

Presented to:

Julie Price

Crawford & Associates
1165 Scenic Drive, Suite B
Modesto, CA 95350

Inspection Date:

April 16, 2020

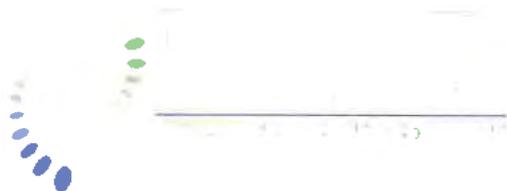
Reviewed by:

Michael J. Lee
Certified Asbestos Consultant
Certified Lead Inspector/Assessor
Registered Environmental Property Assessor

Conducted by:

Roland Plumb
Certified Asbestos Consultant
Certified Lead Sampling Technician

National Analytical Laboratories, Inc.
2201 Francisco Dr. Ste.140-261
El Dorado Hills, CA 95762
Office: (916) 361-0555 | Fax: (916) 361-0540
E-Mail: NAL1@NAL1.com | Web Page: www.NAL1.com



April 23, 2020

Julie Price
Crawford & Associates
1165 Scenic Drive, Suite B
Modesto, CA 95350

RE: Asbestos and Lead Bridge Inspection/Survey –
Bridge Replacement: over Hamilton Creek
38.5679°N, 121.8403°W
County Road 96
Yolo County, CA

Dear Ms. Price,

This report is in regards to the bridge inspection conducted at the above location. Of the six (6) suspected asbestos containing samples collected, none (0) were found to contain asbestos. Of the three (3) suspected lead containing samples collected three (3) were found to contain Lead Containing Material (LCM). Roland Plumb, Certified Asbestos Consultant and Certified Lead Sampling Technician for National Analytical Laboratories, Inc. (N.A.L.), conducted the inspection on April 16, 2020. Michael J. Lee, Certified Lead Inspector/Assessor review and submitted the report.

SUMMARY OF FINDINGS -

The bridge inspection and analytical results indicate that no Asbestos is present in the area that is being renovated.

The Lead Inspection and sample results from the White Concrete surfaces were found to contain LCM levels above the Cal-OSHA Limit of Detection.

SECTION II: ASBESTOS INSPECTION –

The inspection was completed according to the EPA's Asbestos Containing Building Materials (ACBM) In-Schools Rule; 40 CFR 763.85 (Inspection and Re-Inspection). Currently, EPA regulations classify ACBM as materials containing more than 1-percent (1%) of asbestos. Cal-OSHA currently regulates asbestos to 1/10th of 1% (0.1%) and requires that a certified asbestos worker conduct this work.

Upon completion of the visual inspection, the suspect asbestos bulk sample materials were collected in accordance with EPA and Cal-OSHA protocol. They were placed into new, airtight, plastic bags, sealed, and identified with unique identification numbers. The bulk samples were transported to the laboratory under the chain of custody protocol for analysis.

Breathe easy.....

Although minor destructive sampling was conducted during the site visit, in the event that demolition work reveals any unforeseen suspect materials or if any future renovation work is to be conducted in other areas at the site; the contractor shall cease all work and contact the contractor for further testing.

EMSL Analytical, Inc. (EMSL) in Carle Place, New York, analyzed the bulk suspect asbestos containing samples utilizing the Polarized Light Microscopy (PLM) Method. National Voluntary Laboratory Accreditation Program (NVLAP) Certification #10148-10 and California Environmental Laboratory Accreditation Program (CAELAP) Certification #2339, certifies EMSL.

The location and results from this sampling are as follows:

Sample ID#	Material	Location	Results
96-01	White Coating	South West Corner (~300 sf)	None Detected
96-02	White Coating	North East Corner	None Detected
96-03	White Coating	South East Corner	None Detected
49-01	Concrete	North Side, Rail Support System, Multi Hit Composite	None Detected
49-02	Concrete	South Side, Pier System, Multi Hit Composite	None Detected
49-03	Concrete	Under Bridge, South Side Arch System, Multi Hit Composite	None Detected

Sf=Square Feet

ASBESTOS CONCLUSION -

No asbestos was detected in the above listed samples/materials, therefore, the contractor, his employees and/or his sub-contractors, can complete their work, in the specific areas tested, without any health or safety concerns in regards to the exposure of airborne asbestos fibers.

SECTION II: LEAD INSPECTION –

Upon completion of the visual inspection, suspect painted finishes and/or materials were sampled for potential lead content, in accordance with EPA and Cal-OSHA protocol. They were labeled with a unique identification number and analyzed.

Ron Plumb, utilizing the Thermo Scientific Portable X-ray Fluorescent (XRF) analyzer, analyzed the lead samples. When a sample is measured using XRF, each element present in the sample emits its own unique fluorescent x-ray energy spectrum. By simultaneously measuring the fluorescent x-rays emitted by the different elements in the sample, we can rapidly determine the presence of lead in the sample.

Once the determination is made on where the LCM is located, the In-place Management or the Abatement of the LCM can commence. If the In-Place Management method is to be used, prior to the repainting of the effected surface areas, the loose flaky paint must be removed until the remaining paint adheres smoothly to the substrate. Once this task is completed, the surface area can be repainted without the possibility of paint being dislodged and falling.



If the Abatement method of all surfaces is to be completed, then the debris and any loose flaky paint must be bagged or burrito wrapped prior to the removal of the debris from the work area(s) and subsequently the site. Because the paint samples listed below were found to contain LCM, all areas where the LCM will be disturbed will require abatement, encapsulation, and/or prep work by a certified lead worker. Therefore, the employer must ensure that the worker is properly trained in accordance with Title 8 (Cal/OSHA 8 CCR 1532 (1) (2) and shall produce evidence that the worker is not being exposed above the Action Level (AL) and/or the Permissible Exposure Limit (PEL). In the event that no current data is readily available for the worker(s), then the employer shall conclude that the worker is being exposed above the PEL. This SHALL trigger the employer to provide advanced training and certifications for the employees working with LCM.

The locations and results of the suspect samples found to be LCM are as follows:

Sample ID#	Material	Location	Mg/cm ² - Determination
01L	White Concrete	Bridge, West End, North Side Rail Support	0.14% - LCM
02L	White Concrete	Bridge, West End, South Side Rail Support	0.1% - LCM
03L	White Concrete	Bridge, East End, South Side Rail Support	0.12% - LCM

Prior to the demolition work being completed and/or the transporting of the debris from the site, Health and Safety Code 25157.8 (AB 2784 National Resources) requires that all lead debris be sampled for Waste Characterization. This will assist the Contractor in making a determination of whether or not the material is to be considered Hazardous or Non-Hazardous Lead waste or general construction debris. The sequence of testing to be completed by the Contractor is as follows:

- ♥ Total Threshold Limit concentration (TTL) with a result of 50 mg/kg or more but less than 1,000 mg/kg of lead must be retested using the Soluble Threshold Limit concentration (STLC) method;
- ♥ A STLC result of 5.0 mg/L or greater is considered California Hazardous Waste;
- ♥ Total Characteristic Leaching Procedure (TCLP) testing shall only be accomplished when approved by the Owners Representative; This procedure shall be generally reserved for out-of-state shipments; and A TCLP result of 5.0 mg/L or more deems the waste Federal RCRA materials; and
- ♥ The California hazardous waste threshold for total lead using STLC is 5 mg/L and
- ♥ Lead paint that is intact on a surface does not permit the material to be classed as non-hazardous. Waste profiling shall be accomplished if the paint contains more than 350 ppm by Flame AAS. Exception: Metals that are coated with paint are to be recycled.



LEAD RECOMMENDATION:

In order to stabilize the current lead conditions, N.A.L. recommends Lead Certified Workers certified by The California Department of Public Health or/a EPA certified Renovator, Repair and Painting (RRP) designation, conduct in-place management work of the LCM surfaces scheduled for renovation/demolition. Once the abatement, in-place management, and/or prep work is completed and the areas are stabilized, the existing surfaces will be in good condition and not create a health or safety concern to the workers conducting the general construction work at the site. A Scope of Work and/or specifications should be utilized to conduct the lead work at the site.

Included at the end of this report are the laboratory analytical results, chain of custody form(s) and site map. If you have any questions regarding this report or if we can be of further assistance, please contact our office.

Conducted by:



Roland Plumb
Certified Asbestos Consultant
DOSH# 18-6416
Certified Lead Sampling Technician
CDPH# LRC-00004102



Reviewed and Submitted by:



Michael J. Lee
Certified Asbestos Consultant
DOSH# 06-4047
Certified Lead Inspector/Assessor
CDPH# 10531
Registered Environmental Property Assessor
REPA# 716352750





Photograph#:	1
Subject:	Bridge Deck Looking Northwest



Photograph#:	2
Subject:	Southwest Support



Photograph#:	3
Subject:	South View of Arch



Photograph#:	4
Subject:	Southeast Support





EMSL Analytical, Inc.

528 Mineola Avenue Carle Place, NY 11514

Tel/Fax: (516) 997-7251 / (516) 997-7528

<http://www.EMSL.com> / carleplacelab@emsl.com

EMSL Order: 062006518

Customer ID: NAL51

Customer PO:

Project ID:

Attention: Paula Lee
National Analytical Laboratories (NAL)
2201 Francisco Dr.
Ste. 140-261
El Dorado Hills, CA 95762

Phone: (916) 361-0555

Fax: (916) 361-0540

Received Date: 04/21/2020 10:20 AM

Analysis Date: 04/21/2020

Collected Date: 04/20/2020

Project: County Road 49 (CR 49): Bridge Replacement over Hamilton Creek, Yolo County, KS 10370, Login #42746

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
49-01 <small>062006518-0001</small>	North Side/Rail Support Concrete	Gray Non-Fibrous Homogeneous	3% Cellulose	53% Quartz 24% Ca Carbonate 20% Gypsum	None Detected
49-02 <small>062006518-0002</small>	South Side/Top of Pier Concrete	Gray Non-Fibrous Homogeneous	3% Cellulose	52% Quartz 25% Ca Carbonate 20% Gypsum	None Detected
49-03 <small>062006518-0003</small>	Under Bridge South Side/Arch Concrete	Gray Non-Fibrous Homogeneous	3% Cellulose	54% Quartz 33% Ca Carbonate 10% Gypsum	None Detected

Analyst(s)

Omatie Ramrattan-Scarallo (3)

Daniel Clarke, Asbestos Laboratory Manager
or Other Approved Signatory

EMSL maintains liability limited to cost of analysis. The above analyses were performed in general compliance with Appendix E to Subpart E of 40 CFR (previously EPA 600/M4-82-020 "Interim Method"), but augmented with procedures outlined in the 1993 ("final") version of the method. This report relates only to the samples reported above, and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. All samples received in acceptable condition unless otherwise noted. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the federal government. EMSL recommends gravimetric reduction for all non-friable organically bound materials prior to analysis. Estimation of uncertainty is available on request.

Samples analyzed by EMSL Analytical, Inc. Carle Place, NY NVLAP Lab Code 101048-10, CA ELAP 2339, NYS ELAP 11469

Initial report from: 04/21/2020 13:23:56



NAL LOG-IN RECORD

Login # 42746

Ph: 916.361.0555 Fx: 916.361.0540

National Analytical Laboratories, Inc.

Job Site/Job #:

Client#-Lot# 4734 / 53

County Road 49 (CR 49):
 Bridge Replacement over Hamilton Creek,
 Yolo County

 KS 10370

Date 4/14/2020

Crawford & Associates

Sampling Date: 4/20/2020

Phone Number

Sampling Time 12:00:00 PM

FAX Number

Type Of Work: PLM-BI *(Signature)*

Contact Julie Price

No. of Samples 3

E-Mail Address

Turnaround: 6 hours *(Signature)*

Num.	Sample ID#	Location/Description
1	49-01	North Side / Rail Support Concrete
2	49-02	South Side / Top of Pier Concrete
3	49-03	Under Bridge South Side / Arch Concrete

*IF RESULTS ARE LESS THAN 1%, PLEASE 400 POINT COUNT *(Signature)*

RECEIVED
 EMISL ANALYTICAL, INC.
 CARLE PLACE, NY
 20 APR 21 AM 10:20

062006518

Chain of Custody Information

Released By Signature	Date/Time	Received By Signature	Date/Time	Due: 10:20 AM
<i>(Signature)</i>	4/20/20	<i>(Signature)</i>	4/21/20	
Released By Signature	Date/Time	Received By Signature	Date/Time	At:

(Signature)
 4/21/20



Login #: 42747

Julie Price
Crawford & Associates
 1165 Scenic Drive, Suite B
 Modesto, CA 95350

Phone #
 Fax #:

Attention: Julie Price
 Email:

Job Site:
 County Road 49 (CR 49)
 Bridge Replacement over Hamilton Creek,
 Yolo County
 CA

Date Samples Taken:
 Date Report Submitted: 4/14/2020

Lab Tracking #: 42747

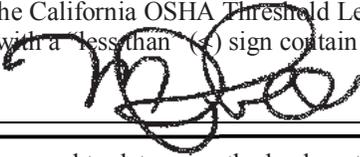
Total Samples: 3

Job Number
 KS 10370

LEAD BULK BUILDING INSPECTION

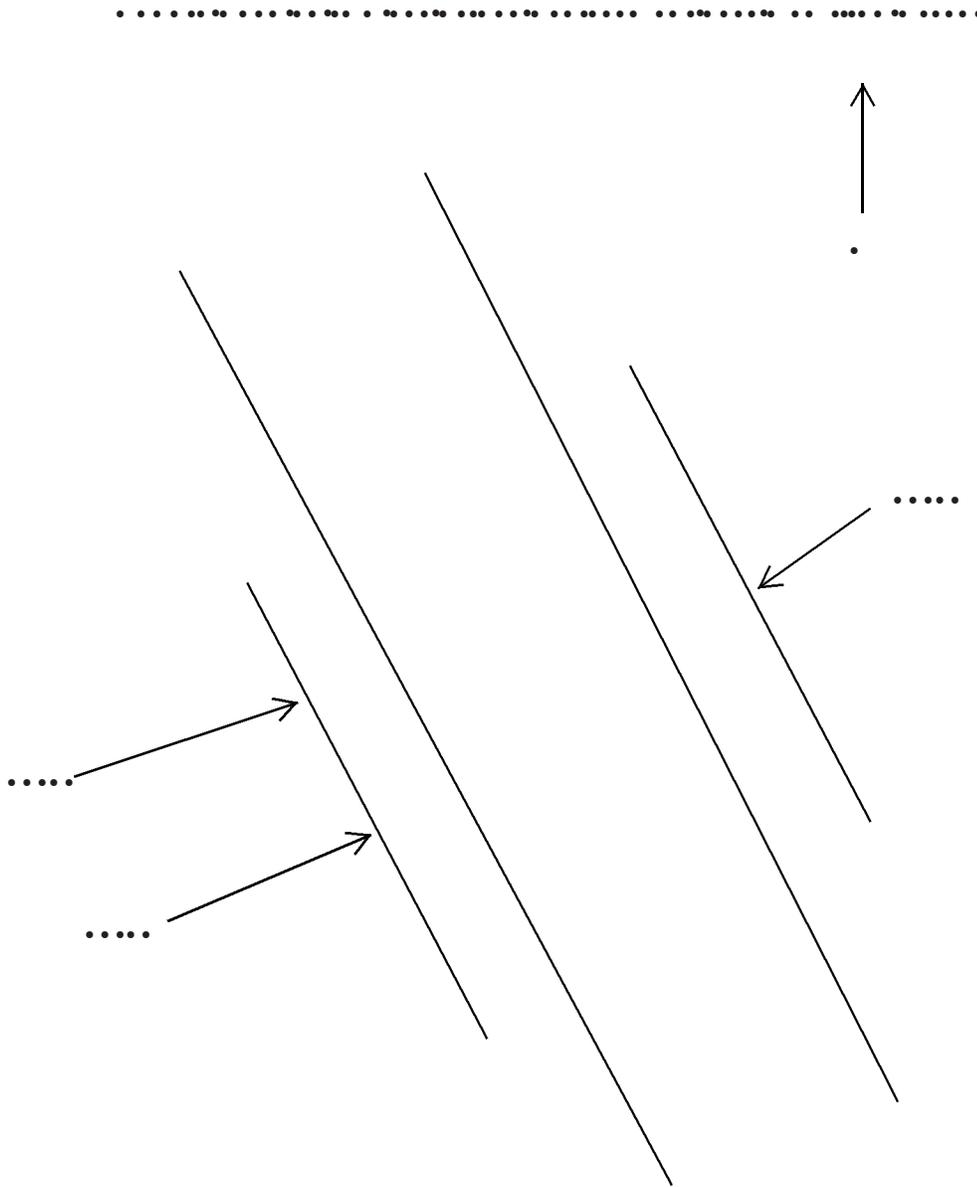
Sample ID #	Material	Location	Mg/cm2
Sample ID #: 01L NAL ID: 4734-54-1	White Concrete	Bridge, West End, North Side Rail Support	0.14
Sample ID #: 02L NAL ID: 4734-54-2	White Concrete	Bridge, West End, South Side Rail Support	0.1
Sample ID #: 03L NAL ID: 4734-54-3	White Concrete	Bridge, East End, South Side Rail Support	0.12

KEY: *Samples above the California OSHA Threshold Level of 0.06% or 600 ppm's or .06 mg/cm2 are considered lead containing. Sample results denoted with a less than (<) sign contain less than .059 mg/cm2 total lead based on sample volume or XRF reading.

Reviewed by: 

Niton XLP3 Analyzer was used to determine the lead content of the different systems and paint materials

National Analytical Laboratories, Inc. 2201 Francisco Dr. Ste.140-261, El Dorado Hills, CA 95762
 Phone (916) 361-0555 Fax (916) 361-0540 Website www.NAL1.com



ASBESTOS SAMPLE LOCATION MAP	Site Name: Co. Rd. 49 Bridge over Hamilton Creek	Project #: 10370	
	Survey Date: 04/16/20	Site Address:	
Area: Bridge	Latitude 38.8318'N Longitude 122.2034'W	Legend: - Non-ACCM Samples + ACCM Samples	



Yolo-Solano Air Quality Management District
1947 Galileo Court, Suite 103; Davis, CA 95618

District Assigned Notification #

ASBESTOS DEMOLITION AND RENOVATION NOTIFICATION FORM

SEND WITH CHECK, MONEY ORDER TO THE ADDRESS LISTED ABOVE, OR PAY BY CREDIT CARD AT YSAQMD.ORG/PAYMENTS. If paying by credit card (service fees apply) you may send completed form to payments@ysaqmd.org or fax to (530) 757-3670. If a 10 working day wait period applies, the wait period does not begin until both payment confirmation and the notification form is received by the District. Fee table is included in the instructions.

1. APPLICATION TYPE
Check the type of project

- Renovation (10 working day waiting period)
Demolition (10 working day waiting period)
Emergency Renovation (see below)
Emergency/Ordered Demolition (see below)
Demolition: Fire Training Exercise

Check if this a revised notification: Original Notification. No.: Date Submitted:

2. OWNER INFORMATION

Name
Address City, State, Zip
Contact Name Phone Email

3. CONTRACTOR INFORMATION

Name Building Permit No.
Address City, State, Zip
Contact Name Phone Email

4. FACILITY INFORMATION

Facility/Structure Name No. of Floors
Description
Address City Zip
Site Contact Phone Email

5. CERTIFIED ASBESTOS CONSULTANT (CAC) PERFORMING SURVEY

Name Ron Plumb DOSH No. 18-6416
Address 2201 Francisco Drive, Suite 140-261 City, State, Zip El Dorado Hills, CA 95672
Contact Name Terrena Tilford Phone (916) 361-0555 Email terrena@na1.com

6. ASBESTOS ABATEMENT CONTRACTOR INFORMATION

Name _____ DOSH No. _____
Address _____ City, State, Zip _____
Contact Name _____ Phone _____ Email _____

7. PROJECT INFORMATION

Is asbestos present? YES NO If so, a copy of your survey must be attached to this form.

Abatement Dates _____ to _____ Factor in the 10 working day waiting period.

Renovation/Demolition Dates _____ to _____ Factor in the 10 working day waiting period.

RACM To Be Removed | Describe and include the amount

Removal Method

Non-RACM To Be Removed | Describe and include the amount

Category I _____
Category II _____
Removal Method

8. WASTE DISPOSAL INFORMATION

Transporter Name _____
Address _____ City, State, Zip _____
EPA ID No. _____ Phone _____

Disposal Site _____ Phone _____
Address _____ City, State, Zip _____

9. EMERGENCY RENOVATION OR DEMOLITION

Complete only if seeking waiting period waiver due to emergency.

Describe the emergency: _____

Emergency Date _____ Time _____

10. ORDERED DEMOLITION

Complete only if seeking waiting period waiver due to an ordered demolition.

Agency ordering demolition: _____ Date of Order _____

Contact Name _____ Title _____ Phone _____

11. I certify that an individual trained in the provisions of this Regulation (40 CFR Part 61, Subpart M) and familiar with District Rule 9.9 will be on site during the abatement process associated with this demolition/renovation notification, and evidence that the required training has been accomplished by this person will be available for inspection during normal business hours. If paying by credit card signed application may be transmitted by facsimile (fax) or electronic mail (email), and any such signature shall have the same legal effect as an original.

Signature of Owner/Contractor

Date

12. MUST BE SIGNED

I certify that the above information is correct. If paying by credit card signed application may be transmitted by facsimile (fax) or electronic mail (email), and any such signature shall have the same legal effect as an original.

Signature of Owner/Contractor

Date

13. The District will provide notification on the start of the 10-day waiting period, if applicable.

How do you prefer to be notified? EMAIL FAX TO: _____
Email address or fax number

DISTRICT USE ONLY:

Payment Amt. _____ (check, credit card) Your Initials _____

Notes: _____
.....

Project No. _____ Date Approved _____ Initials _____

Date Notified Applicant (10-day) _____ Initials _____ /Entered Database Initials Scan Initials



Date of Report: 04/28/2020

Steve Carter

Crawford & Associates, Inc.
1100 Corporate Way, Suite 230
Sacramento, CA 95831

Client Project: 18-474.3 CR49 at Hamilton Creek
BCL Project: Soil Samples
BCL Work Order: 2011689
Invoice ID: B378547

Enclosed are the results of analyses for samples received by the laboratory on 4/21/2020. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Contact Person: Felicia Johnson
Client Service Rep

Stuart Buttram
Technical Director

Certifications: CA ELAP #1186; NV #CA00014; OR ELAP #4032-001; AK UST101

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

All results listed in this report are for the exclusive use of the submitting party. BC Laboratories, Inc. assumes no responsibility for report alteration, separation, detachment or third party interpretation.



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Laboratories, Inc.

Environmental Testing Laboratory Since 1949

Chain of Custody

LABORATORIES
4100 Atlas Court Bakersfield, Ca. 93308
(661) 327-4911 • FAX (661) 327-1918 • www.bclabs.com

Client Company Name: Crawford & Assoc. Inc.
Report Attention: Steve Carter
Address: 1100 Corporate Way #230 Sacramento CA 95831
City: Sacramento **State:** CA **Zip:** 95831
Project Information: 18-474.3 CR49 at Hamilton Creek
NO #: _____ **BCL Order #:** _____
How would you like your completed results sent? E-Mail Fax EDI Mail Only

Sample Name Printed / Signature: Steve Carter
OC Request: STD Level II Level III
Result Request ** Surcharge: STD Day ** Day ** Day **

Matrix Types: RSW - Raw Surface Water CW - Chemical Wash Water BW - Bottled Water
RGW - Raw Ground Water FW - Finished Water W - Waste Water SW - Storm Water DW - Drinking Water SO - Solid

TEMP: _____
Phone *: 916-813-3778 **FAX *:** _____
Email: steve.carter@crawford-inc.com

Carbox Cycles: CMS Fusion Co IPA
Mered Co Tabor Co
Other: _____

Regulatory Compliance Electronic Data Transfer System No.: Y N

Sample #	# Bottles	Sample Date	Time	Sample Description / Location	Matrix	Container / Station Code
-1		4/15/20	14:00	ADL1A	SO	
-2		4/15/20	14:05	ADL1B	SO	
-3		4/15/20	14:10	ADL1C	SO	
-4		4/15/20	14:50	ADL2A	SO	
-5		4/15/20	14:55	ADL2B	SO	
-6		4/15/20	15:00	ADL2C	SO	
-7		4/15/20	15:05	ADL3A	SO	
-8		4/15/20	15:10	ADL3B	SO	
-9		4/15/20	15:15	ADL3C	SO	
-10		4/15/20	15:35	ADL4A	SO	
-11		4/15/20	15:40	ADL4B	SO	

Requisitioned by: (Signature and Printed Name) Steve Carter **Company:** CAInc
Received by: (Signature and Printed Name) Wendy Gault **Company:** CAInc
Received by: (Signature and Printed Name) Wendy Gault **Company:** CAInc

Shipping Method: TRACKER **CAO UPS-GSO WALK-IN SVC FEDEX OTHER**

Payment Received at Delivery: 4/16/20 **Amount:** 41162.00 **Check/ Cash/ Card/ P.A.Y:** _____

Received by: (Signature and Printed Name) Wendy Gault **Company:** CAInc

Received by: (Signature and Printed Name) Wendy Gault **Company:** CAInc

Received by: (Signature and Printed Name) Wendy Gault **Company:** CAInc

Shipping Method: WET BLUE NONE

Checked/ Cash/ Card/ P.A.Y: _____

Packing Material: _____

Date: 4/21/2020

CHK BY: Wendy Gault **DISTRIBUTION:** _____

Sub OUT: _____

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Chain of Custody

ANALYSIS REQUESTED

4100 Atlas Court Bakersfield, Ca. 93308 (661) 327-4911 • FAX (661) 327-1918 • www.bclabs.com

TEMP: 20-11689

* Required Fields

Client/Company Name: Crawford & Assoc. Inc. Report Attention: Steve Carter Phone: 916-813-3778 FAX: 916-813-3778 E-mail: steve.carter@crawford-inc.com

Address: 1100 Corporate Way #230 Sacramento CA 95831 City: Sacramento State: CA Zip: 95831 Project Information: 18-474.3 CR49 at Hamilton Creek

Table with columns: Sample #, Bottles, Date, Time, Sample Description / Location, Matrix, Comments / Station Code. Rows 1-11.

Relinquished by: Steve Carter, CA Inc. Date: 4/15/20 18:00. Received by: Mark Cavulba, CA Inc. Date: 4/16/20 09:59.

Received for Lab by: Steve Carter and Prized Name. Shipping Method: CAO UPS-GSO WALK-IN SYVC FED EX OTHER. Packing Material: WET BLUE NONE.

P.O.L: Bill Bender / BENSON 4/16/20 09:30

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BC Laboratories, Inc.

Environmental Testing Laboratory Since 1949

Chain of Custody

ANALYSIS REQUESTED

4100 Atlas Court Bakersfield, Ca. 93308 (661) 327-4911 • FAX (661) 327-1918 • www.bclabs.com

Required Fields 20-11689

TEMP: _____

Client/Company Name: Crawford & Assoc. Inc. Report Attention: Steve Carter Phone: #916-813-3778 FAX: # E-mail: steve.carter@crawford-inc.com

Address: 1100 Corporate Way #230 Sacramento CA 95831 City: Sacramento State: CA Zip: 95831 Project Information: 18-474.3 CR49 at Hamilton Creek

How would you like your completed results sent? [X] E-Mail [] Fax [] EDD [] Mail Only Sampler Name Printed / Signature: Steve Carter

Matrix Types: RSW - Raw Surface Water CFW - Chlorinated Finished Water CWW - Chlorinated Waste Water BW - Bottled Water RCW - Raw Ground Water FW - Finished Water WW - Waste Water SW - Storm Water DW - Drinking Water SO - Solid

Table with columns for Sample #, Bottles, Date, Time, Sample Description / Location, Matrix, and a grid of checkboxes for analysis results.

Relinquished by: Steve Carter (Signature and Printed Name) Date: 4/15/20 Time: 15:45 Company: CA Inc. Received by: Marchese (Signature and Printed Name) Date: 4/16/20 Time: 08:54 Company: BC LABS

Shipping Method: CAO UPS GSO WALK-IN SVC FED EX OTHER Packing Material: WET BLUE NONE Cooling Method: _____

Handwritten notes: RGL: Ball/Benson / Benson 4-16-20 8:30

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BC LABORATORIES INC. COOLER RECEIPT FORM Page 1 of 2

Submission #: 20-11689

SHIPPING INFORMATION: Fed Ex, UPS, Ontrac, Hand Delivery, BC Lab Field Service, Other (Specify) GUS. SHIPPING CONTAINER: Ice Chest, None, Box, Other (Specify). FREE LIQUID: YES, NO, W/S.

Refrigerant: Ice, Blue Ice, None, Other. Comments: NO ICE

Custody Seals: Ice Chest, Containers, None. Comments:

All samples received? Yes, No. All samples containers intact? Yes, No. Description(s) match COC? Yes, No.

COC Received: YES, NO. Emissivity: 97. Container: glass. Thermometer ID: 274. Date/Time: 4-17-2010. Analyst Init: TKS. Temperature: (A) 19.1, (C) 18.9.

Table with columns for SAMPLE CONTAINERS and SAMPLE NUMBERS (1-10). Rows include various sample types like QT PE UNPRES, QT INORGANIC CHEMICAL METALS, etc. Handwritten 'A' marks are present in the sample number columns for several rows.

Comments: -10 was received broken. Sample Numbering Completed By: [Signature]. Date/Time: 4/21/10 1039. Rev 21 05/23/2016.



BC LABORATORIES INC. COOLER RECEIPT FORM Page 2 Of 2

Submission #: 20-11689

SHIPPING INFORMATION: Fed Ex UPS Ontrac Hand Delivery BC Lab Field Service Other (Specify) GLS

SHIPPING CONTAINER: Ice Chest None Box Other (Specify) _____

FREE LIQUID: YES NO W / S _____

Refrigerant: Ice Blue Ice None Other Comments: NO ICE

Custody Seals: Ice Chest Containers None Intact? Yes No Intact? Yes No Comments: _____

All samples received? Yes No All samples containers intact? Yes No Description(s) match COC? Yes No

COC Received: YES NO Emissivity: 97 Container: GLASS Thermometer ID: 274 Date/Time: 4-17-2010
 Temperature: (A) 19.1 °C / (C) 18.9 °C Analyst Init: TKJ

SAMPLE CONTAINERS	SAMPLE NUMBERS									
	1	2	3	4	5	6	7	8	9	10
QT PR UNPRES										
4oz / 8oz / 16oz PE UNPRES										
2oz Cr*										
QT INORGANIC CHEMICAL METALS										
INORGANIC CHEMICAL METALS 4oz / 8oz / 16oz										
PT CYANIDE										
PT NITROGEN FORMS										
PT TOTAL SULFIDE										
2oz. NITRATE / NITRITE										
PT TOTAL ORGANIC CARBON										
PT CHEMICAL OXYGEN DEMAND										
PTA PHENOLICS										
40ml VOA VIAL TRAVEL BLANK										
40ml VOA VIAL										
QT EPA 1664										
PT ODOR										
RADIOLOGICAL										
BACTERIOLOGICAL										
40 ml VOA VIAL- 504										
QT EPA 508/608/808										
QT EPA 515.1/8150										
QT EPA 525										
QT EPA 525 TRAVEL BLANK										
40ml EPA 547										
40ml EPA 531.1										
8oz EPA 548										
QT EPA 549										
QT EPA 8015M										
QT EPA 8270										
8oz / 16oz / 32oz AMBER										
8oz / 16oz / 32oz JAR		A	A							
SOIL SLEEVE										
PCB VIAL										
PLASTIC BAG										
TEDLAR BAG										
FERROUS IRON										
ENCORE										
SMART KIT										
SUMMA CANISTER										

Comments: -10 was received broken

Sample Numbering Completed By: TKJ Date/Time: 4/21/20 1039

= Actual / C = Corrected

Rev 21 05/23/2016
 (S:\WP\Doc\WashPerfor\LAB_DOCS\FORMS\SAMRECrev 201



Crawford & Associates, Inc.
1100 Corporate Way, Suite 230
Sacramento, CA 95831

Reported: 04/28/2020 18:26
Project: Soil Samples
Project Number: 18-474.3 CR49 at Hamilton Creek
Project Manager: Steve Carter

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information			
2011689-01	COC Number:	---	Receive Date:	04/21/2020 09:00
	Project Number:	---	Sampling Date:	04/15/2020 14:00
	Sampling Location:	---	Sample Depth:	---
	Sampling Point:	ADL1A	Lab Matrix:	Solids
	Sampled By:	---	Sample Type:	Soil
	<hr/>			
2011689-02	COC Number:	---	Receive Date:	04/21/2020 09:00
	Project Number:	---	Sampling Date:	04/15/2020 14:05
	Sampling Location:	---	Sample Depth:	---
	Sampling Point:	ADL1B	Lab Matrix:	Solids
	Sampled By:	---	Sample Type:	Soil
	<hr/>			
2011689-03	COC Number:	---	Receive Date:	04/21/2020 09:00
	Project Number:	---	Sampling Date:	04/15/2020 14:10
	Sampling Location:	---	Sample Depth:	---
	Sampling Point:	ADL1C	Lab Matrix:	Solids
	Sampled By:	---	Sample Type:	Soil
	<hr/>			
2011689-04	COC Number:	---	Receive Date:	04/21/2020 09:00
	Project Number:	---	Sampling Date:	04/15/2020 14:50
	Sampling Location:	---	Sample Depth:	---
	Sampling Point:	ADL2A	Lab Matrix:	Solids
	Sampled By:	---	Sample Type:	Soil
	<hr/>			
2011689-05	COC Number:	---	Receive Date:	04/21/2020 09:00
	Project Number:	---	Sampling Date:	04/15/2020 14:55
	Sampling Location:	---	Sample Depth:	---
	Sampling Point:	ADL2B	Lab Matrix:	Solids
	Sampled By:	---	Sample Type:	Soil
	<hr/>			
2011689-06	COC Number:	---	Receive Date:	04/21/2020 09:00
	Project Number:	---	Sampling Date:	04/15/2020 15:00
	Sampling Location:	---	Sample Depth:	---
	Sampling Point:	ADL2C	Lab Matrix:	Solids
	Sampled By:	---	Sample Type:	Soil
	<hr/>			
2011689-07	COC Number:	---	Receive Date:	04/21/2020 09:00
	Project Number:	---	Sampling Date:	04/15/2020 15:05
	Sampling Location:	---	Sample Depth:	---
	Sampling Point:	ADL3A	Lab Matrix:	Solids
	Sampled By:	---	Sample Type:	Soil
	<hr/>			

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Crawford & Associates, Inc.
1100 Corporate Way, Suite 230
Sacramento, CA 95831

Reported: 04/28/2020 18:26
Project: Soil Samples
Project Number: 18-474.3 CR49 at Hamilton Creek
Project Manager: Steve Carter

Laboratory / Client Sample Cross Reference

Laboratory	Client Sample Information			
2011689-08	COC Number:	---	Receive Date:	04/21/2020 09:00
	Project Number:	---	Sampling Date:	04/15/2020 15:10
	Sampling Location:	---	Sample Depth:	---
	Sampling Point:	ADL3B	Lab Matrix:	Solids
	Sampled By:	---	Sample Type:	Soil
2011689-09	COC Number:	---	Receive Date:	04/21/2020 09:00
	Project Number:	---	Sampling Date:	04/15/2020 15:15
	Sampling Location:	---	Sample Depth:	---
	Sampling Point:	ADL3C	Lab Matrix:	Solids
	Sampled By:	---	Sample Type:	Soil
2011689-10	COC Number:	---	Receive Date:	04/21/2020 09:00
	Project Number:	---	Sampling Date:	04/15/2020 15:35
	Sampling Location:	---	Sample Depth:	---
	Sampling Point:	ADL4A	Lab Matrix:	Solids
	Sampled By:	---	Sample Type:	Soil
2011689-11	COC Number:	---	Receive Date:	04/21/2020 09:00
	Project Number:	---	Sampling Date:	04/15/2020 15:40
	Sampling Location:	---	Sample Depth:	---
	Sampling Point:	ADL4B	Lab Matrix:	Solids
	Sampled By:	---	Sample Type:	Soil
2011689-12	COC Number:	---	Receive Date:	04/21/2020 09:00
	Project Number:	---	Sampling Date:	04/15/2020 15:45
	Sampling Location:	---	Sample Depth:	---
	Sampling Point:	ADL4C	Lab Matrix:	Solids
	Sampled By:	---	Sample Type:	Soil

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1100 Corporate Way, Suite 230
Sacramento, CA 95831

Reported: 04/28/2020 18:26
Project: Soil Samples
Project Number: 18-474.3 CR49 at Hamilton Creek
Project Manager: Steve Carter

Total Concentrations (TTLC)

BCL Sample ID: 2011689-01	Client Sample Name: ADL1A, 4/15/2020 2:00:00PM
----------------------------------	---

Constituent	Result	Units	PQL	MDL	Method	TTLC Limits	Lab Quals	Run #
Lead	4.8	mg/kg	5.0	0.56	EPA-6010B	1000	J,A07	1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-6010B	04/21/20 17:15	04/22/20 08:53	JCC	PE-OP4	2	B076051	EPA 3050B

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Crawford & Associates, Inc.
1100 Corporate Way, Suite 230
Sacramento, CA 95831

Reported: 04/28/2020 18:26
Project: Soil Samples
Project Number: 18-474.3 CR49 at Hamilton Creek
Project Manager: Steve Carter

Total Concentrations (TTLC)

BCL Sample ID: 2011689-02	Client Sample Name: ADL1B, 4/15/2020 2:05:00PM
----------------------------------	---

Constituent	Result	Units	PQL	MDL	Method	TTLC Limits	Lab Quals	Run #
Lead	5.4	mg/kg	5.0	0.56	EPA-6010B	1000	A07	1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-6010B	04/21/20 17:15	04/22/20 09:04	JCC	PE-OP4	1.923	B076051	EPA 3050B

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Sacramento, CA 95831

Reported: 04/28/2020 18:26
Project: Soil Samples
Project Number: 18-474.3 CR49 at Hamilton Creek
Project Manager: Steve Carter

Chemical Analysis

BCL Sample ID: 2011689-03	Client Sample Name: ADL1C, 4/15/2020 2:10:00PM
----------------------------------	---

Constituent	Result	Units	PQL	MDL	Method	MB Bias	Lab Quals	Run #
pH	7.41	pH Units	0.05	0.05	EPA-9045D	ND	pH1:1	1
pH Measurement Temperature	24.1	C	0.1	0.1	EPA-9045D	ND		1

Run #	Method	Prep Date	Run		Analyst	Instrument	Dilution	QC	
			Date/Time					Batch ID	Prep Method
1	EPA-9045D	04/28/20 14:20	04/28/20	14:20	RT1	MANUAL	1	B076632	EPA 9045

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Crawford & Associates, Inc.
1100 Corporate Way, Suite 230
Sacramento, CA 95831

Reported: 04/28/2020 18:26
Project: Soil Samples
Project Number: 18-474.3 CR49 at Hamilton Creek
Project Manager: Steve Carter

Total Concentrations (TTLC)

BCL Sample ID: 2011689-03	Client Sample Name: ADL1C, 4/15/2020 2:10:00PM
----------------------------------	---

Constituent	Result	Units	PQL	MDL	Method	TTLC Limits	Lab Quals	Run #
Lead	4.1	mg/kg	5.0	0.56	EPA-6010B	1000	J,A07	1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-6010B	04/21/20 17:15	04/22/20 09:05	JCC	PE-OP4	1.942	B076051	EPA 3050B

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Crawford & Associates, Inc.
1100 Corporate Way, Suite 230
Sacramento, CA 95831

Reported: 04/28/2020 18:26
Project: Soil Samples
Project Number: 18-474.3 CR49 at Hamilton Creek
Project Manager: Steve Carter

Total Concentrations (TTLC)

BCL Sample ID: 2011689-04	Client Sample Name: ADL2A, 4/15/2020 2:50:00PM
----------------------------------	---

Constituent	Result	Units	PQL	MDL	Method	TTLC Limits	Lab Quals	Run #
Lead	2.9	mg/kg	5.0	0.56	EPA-6010B	1000	J,A07	1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-6010B	04/21/20 17:15	04/22/20 09:23	JCC	PE-OP4	2	B076050	EPA 3050B

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Crawford & Associates, Inc.
1100 Corporate Way, Suite 230
Sacramento, CA 95831

Reported: 04/28/2020 18:26
Project: Soil Samples
Project Number: 18-474.3 CR49 at Hamilton Creek
Project Manager: Steve Carter

Total Concentrations (TTLC)

BCL Sample ID: 2011689-05	Client Sample Name: ADL2B, 4/15/2020 2:55:00PM
----------------------------------	---

Constituent	Result	Units	PQL	MDL	Method	TTLC Limits	Lab Quals	Run #
Lead	5.1	mg/kg	5.0	0.56	EPA-6010B	1000	A07	1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-6010B	04/21/20 17:15	04/22/20 09:07	JCC	PE-OP4	1.923	B076051	EPA 3050B

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Crawford & Associates, Inc.
1100 Corporate Way, Suite 230
Sacramento, CA 95831

Reported: 04/28/2020 18:26
Project: Soil Samples
Project Number: 18-474.3 CR49 at Hamilton Creek
Project Manager: Steve Carter

Total Concentrations (TTLC)

BCL Sample ID: 2011689-06	Client Sample Name: ADL2C, 4/15/2020 3:00:00PM
----------------------------------	---

Constituent	Result	Units	PQL	MDL	Method	TTLC Limits	Lab Quals	Run #
Lead	18	mg/kg	5.0	0.56	EPA-6010B	1000	A07	1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-6010B	04/21/20 17:15	04/22/20 09:08	JCC	PE-OP4	1.818	B076051	EPA 3050B

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Crawford & Associates, Inc.
1100 Corporate Way, Suite 230
Sacramento, CA 95831

Reported: 04/28/2020 18:26
Project: Soil Samples
Project Number: 18-474.3 CR49 at Hamilton Creek
Project Manager: Steve Carter

Total Concentrations (TTLIC)

BCL Sample ID: 2011689-07	Client Sample Name: ADL3A, 4/15/2020 3:05:00PM
----------------------------------	---

Constituent	Result	Units	PQL	MDL	Method	TTLIC Limits	Lab Quals	Run #
Lead	11	mg/kg	5.0	0.56	EPA-6010B	1000	A07	1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-6010B	04/21/20 17:15	04/22/20 09:09	JCC	PE-OP4	1.887	B076051	EPA 3050B

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Crawford & Associates, Inc.
1100 Corporate Way, Suite 230
Sacramento, CA 95831

Reported: 04/28/2020 18:26
Project: Soil Samples
Project Number: 18-474.3 CR49 at Hamilton Creek
Project Manager: Steve Carter

Total Concentrations (TTLC)

BCL Sample ID: 2011689-08	Client Sample Name: ADL3B, 4/15/2020 3:10:00PM
----------------------------------	---

Constituent	Result	Units	PQL	MDL	Method	TTLC Limits	Lab Quals	Run #
Lead	5.7	mg/kg	5.0	0.56	EPA-6010B	1000	A07	1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-6010B	04/21/20 17:15	04/22/20 09:11	JCC	PE-OP4	1.869	B076051	EPA 3050B

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Crawford & Associates, Inc.
1100 Corporate Way, Suite 230
Sacramento, CA 95831

Reported: 04/28/2020 18:26
Project: Soil Samples
Project Number: 18-474.3 CR49 at Hamilton Creek
Project Manager: Steve Carter

Total Concentrations (TTLIC)

BCL Sample ID: 2011689-09	Client Sample Name: ADL3C, 4/15/2020 3:15:00PM
----------------------------------	---

Constituent	Result	Units	PQL	MDL	Method	TTLIC Limits	Lab Quals	Run #
Lead	4.7	mg/kg	5.0	0.56	EPA-6010B	1000	J,A07	1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-6010B	04/21/20 17:15	04/22/20 09:12	JCC	PE-OP4	1.961	B076051	EPA 3050B

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Crawford & Associates, Inc.
1100 Corporate Way, Suite 230
Sacramento, CA 95831

Reported: 04/28/2020 18:26
Project: Soil Samples
Project Number: 18-474.3 CR49 at Hamilton Creek
Project Manager: Steve Carter

Total Concentrations (TTLC)

BCL Sample ID: 2011689-10	Client Sample Name: ADL4A, 4/15/2020 3:35:00PM
----------------------------------	---

Constituent	Result	Units	PQL	MDL	Method	TTLC Limits	Lab Quals	Run #
Lead	8.4	mg/kg	5.0	0.56	EPA-6010B	1000	A07	1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-6010B	04/21/20 17:15	04/22/20 09:13	JCC	PE-OP4	1.980	B076051	EPA 3050B

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Crawford & Associates, Inc.
1100 Corporate Way, Suite 230
Sacramento, CA 95831

Reported: 04/28/2020 18:26
Project: Soil Samples
Project Number: 18-474.3 CR49 at Hamilton Creek
Project Manager: Steve Carter

Total Concentrations (TTLC)

BCL Sample ID: 2011689-11	Client Sample Name: ADL4B, 4/15/2020 3:40:00PM
----------------------------------	---

Constituent	Result	Units	PQL	MDL	Method	TTLC Limits	Lab Quals	Run #
Lead	5.8	mg/kg	5.0	0.56	EPA-6010B	1000	A07	1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-6010B	04/21/20 17:15	04/22/20 09:14	JCC	PE-OP4	1.942	B076051	EPA 3050B

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Crawford & Associates, Inc.
1100 Corporate Way, Suite 230
Sacramento, CA 95831

Reported: 04/28/2020 18:26
Project: Soil Samples
Project Number: 18-474.3 CR49 at Hamilton Creek
Project Manager: Steve Carter

Total Concentrations (TTLC)

BCL Sample ID: 2011689-12	Client Sample Name: ADL4C, 4/15/2020 3:45:00PM							
Constituent	Result	Units	PQL	MDL	Method	TTLC Limits	Lab Quals	Run #
Lead	5.7	mg/kg	5.0	0.56	EPA-6010B	1000	A07	1

Run #	Method	Prep Date	Run Date/Time	Analyst	Instrument	Dilution	QC Batch ID	Prep Method
1	EPA-6010B	04/21/20 17:15	04/22/20 09:15	JCC	PE-OP4	1.835	B076051	EPA 3050B

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Sacramento, CA 95831

Reported: 04/28/2020 18:26
Project: Soil Samples
Project Number: 18-474.3 CR49 at Hamilton Creek
Project Manager: Steve Carter

Chemical Analysis

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: B076632						
pH	B076632-BLK1	ND	pH Units	0.05	0.05	
pH Measurement Temperature	B076632-BLK1	ND	C	0.1	0.1	

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Project: Soil Samples
Project Number: 18-474.3 CR49 at Hamilton Creek
Project Manager: Steve Carter

Chemical Analysis

Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control Limits		Lab
								Percent Recovery	RPD	
QC Batch ID: B076632										
pH	B076632-BS1	LCS	7.0330	7.0000	pH Units	100		95	105	

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Project Manager: Steve Carter

Chemical Analysis

Quality Control Report - Precision & Accuracy

Constituent	Source Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Percent Recovery	Control Limits		Lab
									RPD	Percent Recovery	
QC Batch ID: B076632		Used client sample: Y - Description: ADL1C, 04/15/2020 14:10									
pH	DUP	2011689-03	7.4090	7.4110		pH Units	0.0		20		

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Project: Soil Samples
Project Number: 18-474.3 CR49 at Hamilton Creek
Project Manager: Steve Carter

Total Concentrations (TTL)

Quality Control Report - Method Blank Analysis

Constituent	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
QC Batch ID: B076050						
Lead	B076050-BLK1	ND	mg/kg	2.5	0.28	
QC Batch ID: B076051						
Lead	B076051-BLK1	ND	mg/kg	2.5	0.28	

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Project Manager: Steve Carter

Total Concentrations (TTLC)

Quality Control Report - Laboratory Control Sample

Constituent	QC Sample ID	Type	Result	Spike Level	Units	Percent Recovery	RPD	Control Limits		Lab	Quals
								Percent Recovery	RPD		
QC Batch ID: B076050											
Lead	B076050-BS1	LCS	96.922	100.00	mg/kg	96.9		75	125		
QC Batch ID: B076051											
Lead	B076051-BS1	LCS	93.834	100.00	mg/kg	93.8		75	125		

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Project: Soil Samples
Project Number: 18-474.3 CR49 at Hamilton Creek
Project Manager: Steve Carter

Total Concentrations (TTLC)

Quality Control Report - Precision & Accuracy

Constituent	Type	Source Sample ID	Source Result	Result	Spike Added	Units	RPD	Control Limits		Lab Quals
								Percent Recovery	RPD	
QC Batch ID: B076050		Used client sample: Y - Description: ADL2A, 04/15/2020 14:50								
Lead	DUP	2011689-04	2.8892	2.4379		mg/kg	16.9		20	J
	MS	2011689-04	2.8892	89.818	100.00	mg/kg		86.9		75 - 125
	MSD	2011689-04	2.8892	86.522	100.00	mg/kg	3.7	83.6	20	75 - 125
QC Batch ID: B076051		Used client sample: Y - Description: ADL1A, 04/15/2020 14:00								
Lead	DUP	2011689-01	4.8326	4.8400		mg/kg	0.2		20	J
	MS	2011689-01	4.8326	90.341	100.00	mg/kg		85.5		75 - 125
	MSD	2011689-01	4.8326	91.389	100.00	mg/kg	1.2	86.6	20	75 - 125

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Notes And Definitions

- J Estimated Value (CLP Flag)
- MDL Method Detection Limit
- ND Analyte Not Detected
- PQL Practical Quantitation Limit
- A07 Detection and quantitation limits were raised due to sample dilution caused by high analyte concentration or matrix interference.
- pH1:1 pH result reported on a 1:1 dilution of sample

INITIAL SITE ASSESSMENT

County Road 49 Bridge Replacement over Hamilton Creek
Yolo County, California

May 17, 2021
Project No. 18-474.3

APPENDIX G

Caltrans Unknown Hazards Procedure

Figure 7-1.1. Unknown Hazards Procedure

