APPENDIX A

FARMLANDS IMPACT MEMORANDUM

BERKELEY
CARLSBAD
FRESNO
IRVINE
PALM SPRINGS
POINT RICHMOND
RIVERSIDE
ROCKLIN
SAN LUIS OBISPO

MEMORANDUM

DATE: December 8, 2016

TO: Caltrans District 5

FROM: Pam Reading, LSA

SUBJECT: Farmlands Impact Memorandum – Gonzales River Road Bridge Replacement Project (BRLS-5944[098)] Caltrans Bridge No.44C0035, County Bridge No. 309 at the Salinas River.

1.0 INTRODUCTION

The Monterey County Public Works Department (County) proposes to replace the existing two lane Gonzales River Road Bridge (Bridge No. 44C0035) (proposed project) over the Salinas River in unincorporated Monterey County, California with a wider bridge that meets current American Association of State Highway and Transportation Officials (AASHTO) requirements. The proposed project would address existing structural deficiencies, such as cracks, exposed reinforcing bars, and failing joints in the superstructure and improve the conditions for conveying flood flows. The proposed project would also widen the roadway approaches on the north and south ends of the bridge to conform to the replacement bridge width and profile. After construction, both the bridge and roadway approaches would contain two 12-foot (ft) lanes (one in each direction) and two 8-ft shoulders and would meet current AASHTO minimum speed standards.

The purpose of this farmland impact memorandum is to fulfill the requirements of the National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA) by determining if and to what extent the proposed project would convert Important Farmlands[1] or Williamson Act Contract Lands to nonagricultural use, or involve other changes in the existing environment which, due to their location or nature, could result in conversion of Important Farmland to nonagricultural use.

[1] For the purpose of this analysis, Important Farmland includes: Prime Farmland, Farmland of Statewide Importance, Unique Farmland, and Farmland of Local Importance as defined by the Farmland Mapping and Monitoring Program (FMMP) which is administered by the California Department of Conservation (DOC).

2.0 PROJECT DESCRIPTION

2.1 PURPOSE AND NEED

2.1.1 Existing Facility

The project area is located in unincorporated Monterey County 3 miles (mi) southeast of the City of Gonzales mid-way between Salinas to the north and Soledad to the South. The Gonzales River Road Bridge (bridge) is approximately 0.2 mi east of River Road and 2 mi west of U.S. Route 101 (US-101) (refer to Figure 1, Project Location). The bridge runs generally in a north-south direction with the Salinas River flowing under the bridge in an east to west direction (refer to Figure 2, Project Area). The surrounding land uses are in agriculture.

The bridge was originally constructed in 1930. The bridge is 1,661-ft long and 23-ft wide with two 10-ft travel lanes and no shoulders. In 2001, the bridge underwent a seismic retrofit that included the construction of new foundations and substructures; however, the seismic retrofit did not include replacing the superstructure[1] (i.e. bridge deck), which is the focus of the proposed project. According to the California Department of Transportation (Caltrans) California Road System Map, Gonzales River Road is classified as a Major Collector (Rural Roadway).

2.1.2 Purpose

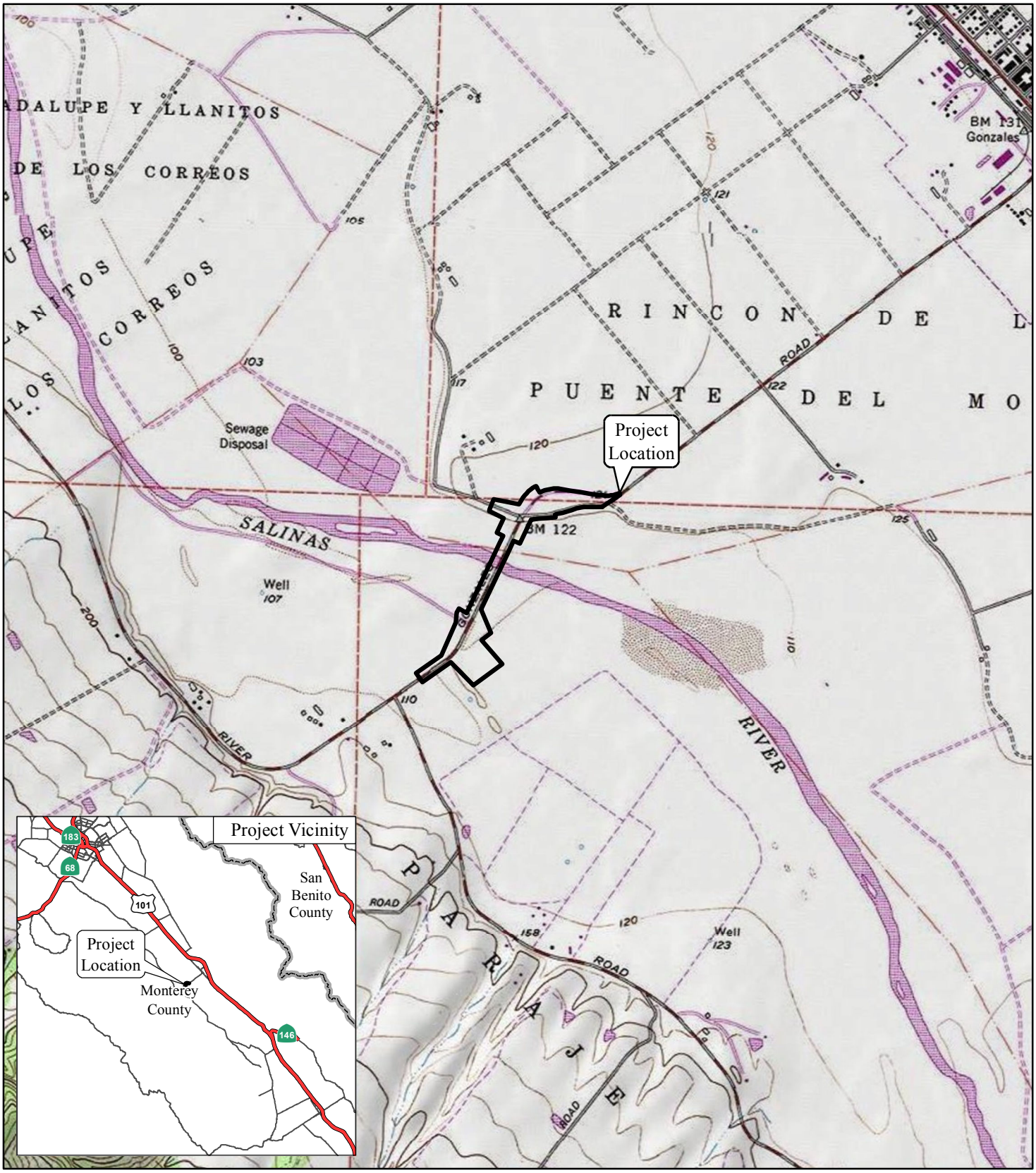
The purpose of this project is to:

- Provide for wider travel lanes and shoulders that comply with current AASHTO bridge and road design standards;
- Bring the bridge up to current Caltrans structural standards;
- Improve access for trucks and non-motorized users; and
- Increase the bridge opening, both vertically and horizontally, to improve flood flows and prevent backwater during flood events.

2.1.3 Need

The existing bridge has 10-ft travel lanes, no shoulders, and does not meet AASHTO minimum lane and shoulder width standards for Rural Roads with a future average daily traffic (ADT) of more than 2,000 which is 12 ft and 8 ft, respectively. In addition, the existing roadway approaches have no shoulders, which do not meet the AASHTO 8-ft minimum shoulder width standard for a Local Road. The existing bridge is structurally deficient (Caltrans Bridge Inspection Report, 2010) and does not pass code mandated flood-flow requirements.

[1] Due to the relatively recent replacement of the foundation and substructure to address seismic issues, only the existing superstructure needs to be replaced at this time.



LEGEND

Project Area

FIGURE 1

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Gonzales River Road Bridge Replacement Project
Monterey County, California
Federal Project Number BRLS-5944(098)

Project Location

SOURCE: USGS 7.5' Quad., *Palo Escrito Peak, CA* (1984); TRC (6/2016)

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LEGEND

Project Area

FIGURE 2

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0 250 500

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Gonzales River Road Bridge Replacement Project
Monterey County, California
Federal Project Number BRLS-5944(098)

Project Area

SOURCE: Bing Aerial (2011); TRC (6/2016)

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2.1.4 Funding

Funding for the bridge project would come from the Federal Highway Bridge Program (HBP) and local matching funds. It is anticipated that the local match would come from the State Transportation Improvement Program (STIP) funds allocated by the Transportation Agency for Monterey County (TAMC).

2.2 PROJECT ALTERNATIVES

The environmental documentation for the proposed project evaluates one Build Alternative. A No Project/No Build Alternative is also evaluated as required by CEQA and the NEPA.

2.2.1 No Build Alternative

In the No Build Alternative, no improvements to the bridge or Gonzales River Road would be implemented. The bridge would remain functionally obsolete in that neither the bridge nor the roadway approaches would meet AASHTO lane width and/or shoulder width standards, the bridge would continue to be structurally deficient, and would remain in non-compliance with code mandated flood flows.

2.2.2 Build Alternative

Bridge Replacement. As part of the Build Alternative, the existing 1,661-ft-long, approximately 23-ft-wide bridge superstructure (i.e., bridge deck) would be replaced with a new 1,701-ft-long and approximately 43-ft-wide bridge superstructure. The replacement bridge deck would have two 12 ft travel lanes and 8 ft shoulders along each side of the travel lanes. The superstructure would be replaced with prestressed Wide-Flange Girders with a cast-in-place reinforced concrete deck (refer to Figure 3, Typical Cross Section). Because the girders are precast, falsework would not be required to be placed in the river for construction of the superstructure. The bridge widening would be symmetrical about the existing centerline. The bridge would include new California ST-10 Bridge Rail, two-bar curb-mountain steel bridge rails, along the bridge. On the south end of the bridge, the terminus of the bridge rail would be protected with guardrails engineered for larger passenger vehicles (Midwest Guardrail System). On the north end of the bridge, the terminus of the bridge rail would be protected with 25 ft of crash cushion guardrail (TRACC system). The profile on the south end of the bridge would be raised approximately 10 ft to meet the grade of the replacement bridge.

The bridge abutment on the south end of the bridge (Abutment 1) would be replaced and rebuilt approximately 40 ft south of its existing location (refer to Figure 4, Bridge General Plan). The bridge abutment on the north end of the bridge (Abutment 30) would be replaced and rebuilt in its existing location. The replacement bridge abutments would be made of reinforced concrete.

Piers 2 and 4, along with Abutment 1, would be rebuilt (i.e., raised) to meet the profile of the new, higher, elevation of the bridge at the southern end. Minor modifications to the remaining piers, such as adding a small amount of concrete on top, would also be required. In addition, eight (8) existing bridge piers (3, 5, 7, 9, 11, 13, 15 and 29) would be completely removed. Removing 8 piers reduces

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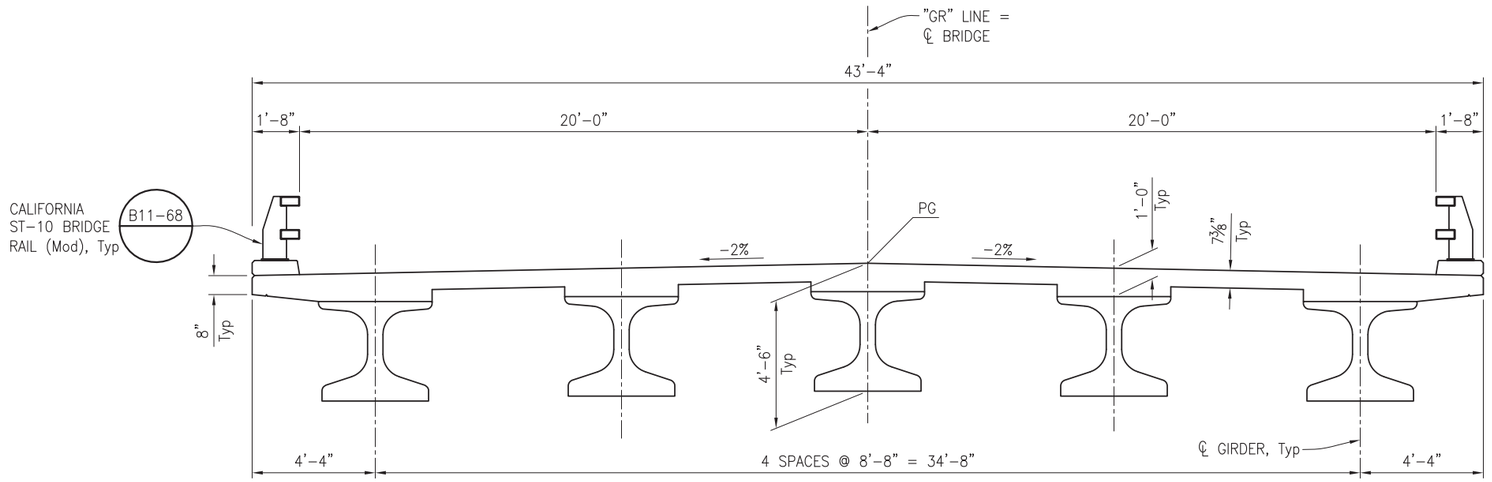
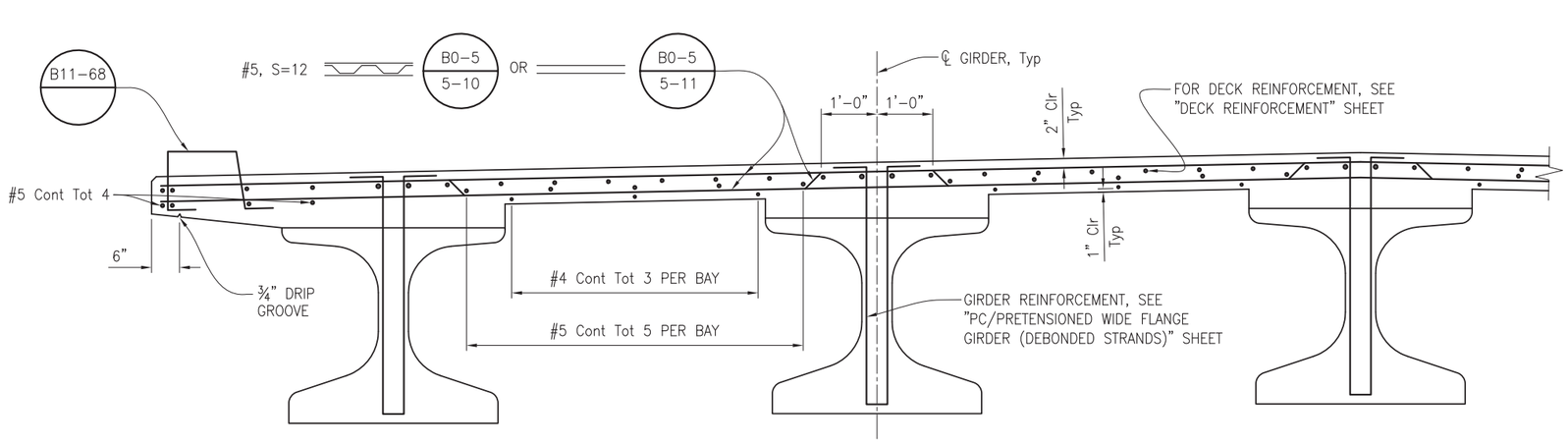


TYPICAL SECTION



PART TYPICAL SECTION

FIGURE 3

Gonzales River Road Bridge Replacement Project
Monterey County, California
Federal Project Number BRLS-5944(098)

Typical Cross Section

SOURCE: TRC

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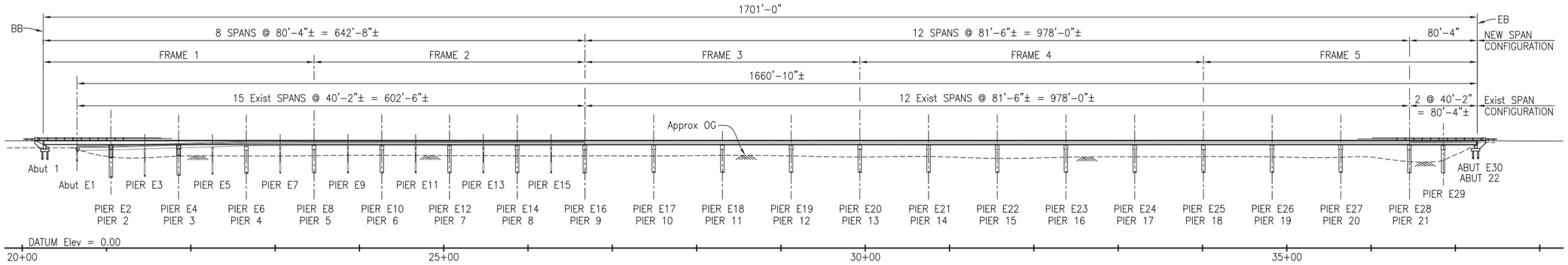
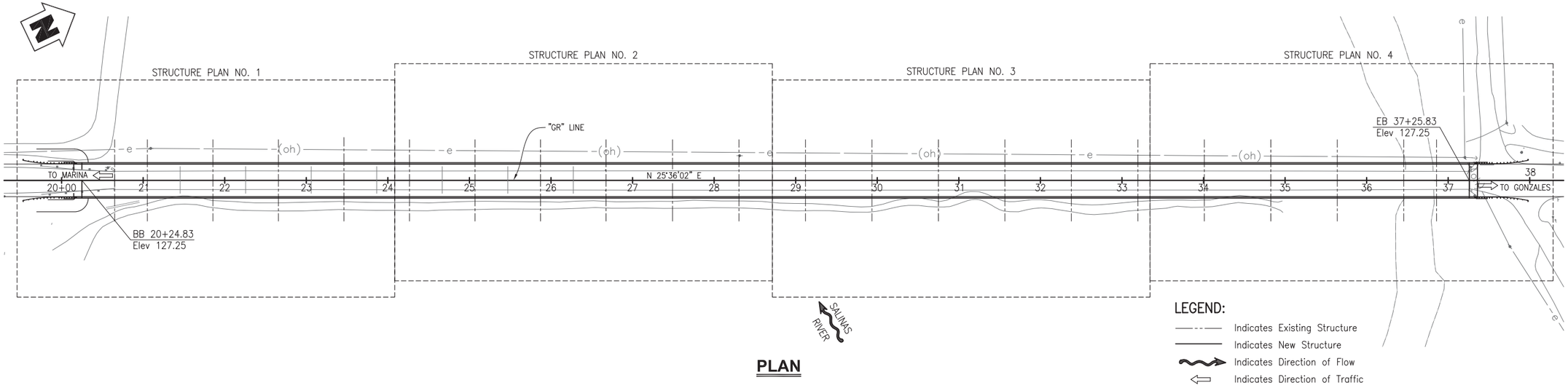
PROFILE GRADE

NO SCALE



ELEVATION



PLAN

FIGURE 4
(Sheet 1 of 2)

Gonzales River Road Bridge Replacement Project
Monterey County, California
Federal Project Number BRLS-5944(098)

Bridge General Plan

SOURCE: TRC

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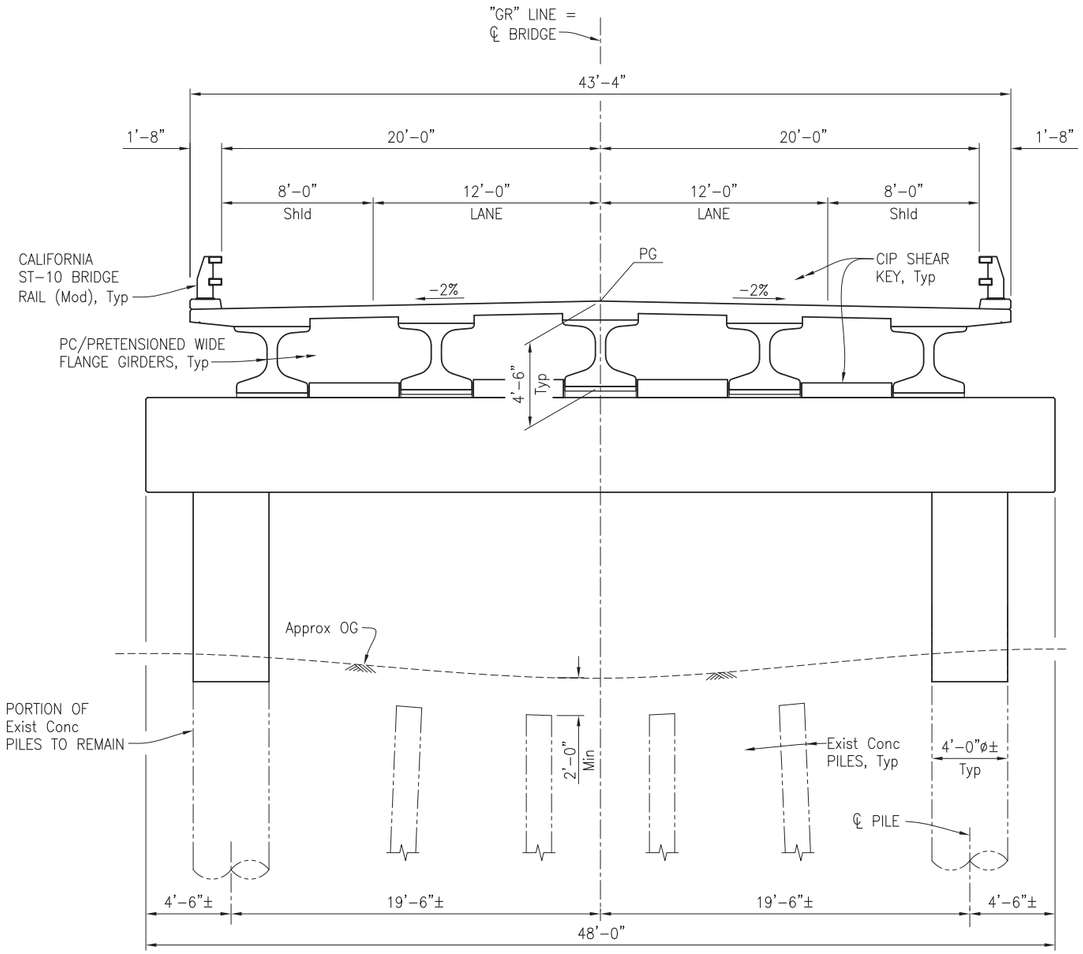
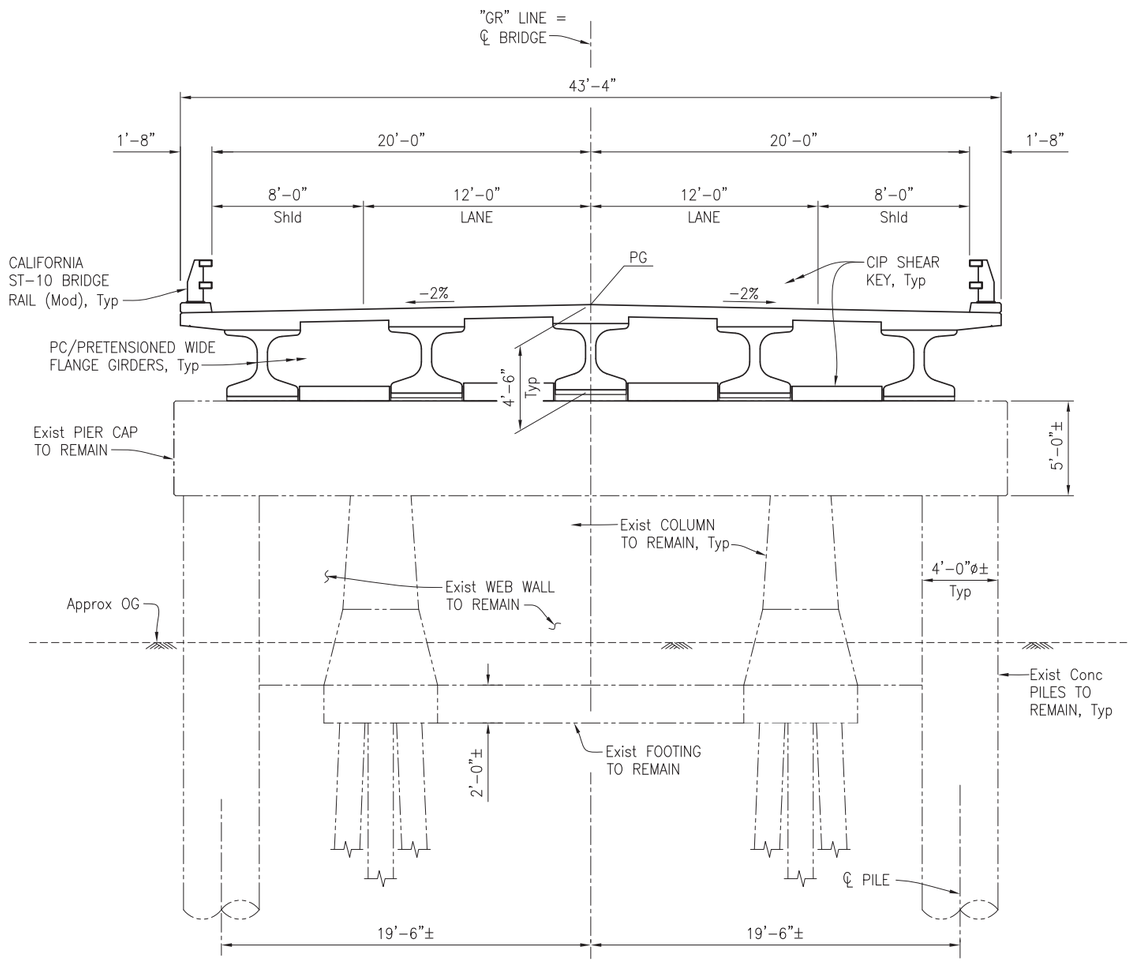


PIER E2 SHOWN, PIER E4 SIMILAR

PIERS 2 & 3



PIER E17 SHOWN, OTHERS SIMILAR

PIERS 4 THRU 21

LEGEND:

Indicates Existing Structure

Indicates New Structure

TYPICAL SECTIONS

FIGURE 4
(Sheet 2 of 2)

Gonzales River Road Bridge Replacement Project
Monterey County, California
Federal Project Number BRLS-5944(098)

Bridge General Plan

SOURCE: TRC

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the total number of spans and increases the distance between them, which would increase the hydraulic conveyance capacity beneath the bridge. The new span configuration would start at Abutment 1 on the south end of the bridge and end at Abutment 22 on the north, which is currently Abutment 30.

Roadway Approaches. As part of the Build Alternative, the roadway approaches on either end of the replacement bridge would be widened to 12-ft travel lanes and 8-ft shoulders to match the width of the travel lanes and shoulders on the bridge. The roadway would then be tapered back to 10-ft travel lanes and no shoulders within a few hundred feet of the bridge to conform to the existing width of Gonzales River Road. Approximately 1,025 ft of approach work would be required on the south end of the bridge and 400 ft of approach work would be required on the north end.

On the east side of Gonzales River Road, at the southern approach to the bridge, there is an existing 3 ft to 8 ft deep earth lined ditch with 2:1 side slopes that drains to the Salinas River. This ditch would be impacted by the proposed widening of the roadway. Approximately 1,100 ft of this ditch, with the same shape and 2:1 side slope, would be realigned east of its current location to accommodate the widened roadway.

Within the project area, the existing pavement of Gonzales River Road would be excavated or recycled and a new roadway section would be constructed. The new roadway would be constructed with 3-ft shoulder backing (a strip of granular material used to protect the outside edge of the roadway pavement) and side slopes of 4:1. As with the bridge, the roadway-approach widening would be symmetrical relative to the existing centerline of the road.

Access Roads. There are two access roads, Short Road and an unnamed river access road, that intersect Gonzales River Road at the north end of the bridge. Short Road would be realigned farther north so it meets Gonzales River Road north of the new guard rail. Short Road and the unnamed river access road would be modified to meet the new profile grade of Gonzales River Road in this location (refer to Figure 5, Construction Staging Areas and Access Roads).

A 10-ft-wide farm access road is located on the south end of the bridge along the west side of, and parallel to, Gonzales River Road. A new 10-ft-wide farm access road would be constructed west of its current location and outside the roadway fill limits, parallel to Gonzales River Road in order to maintain access around the agricultural property.

Utility Rerouting. Overhead electrical and telephone lines are located within the project area. There are three utility poles that would need to be relocated. One pole is located on the west side of the bridge on the south approach and would need to be moved approximately 11 ft west from its current location, outside of the edge of pavement. The telephone line that is located on this pole goes underground and is carried in a conduit along the west side of the bridge. The second pole is located 335 ft south of the bridge on the west side and would need to be moved approximately 7 ft west of its current location. The third pole is located 930 ft south of the south approach to the bridge located on the east side of the roadway and would need to be relocated approximately 10 ft east of its current location (refer to Figure 5, Construction Staging Areas and Access Roads).

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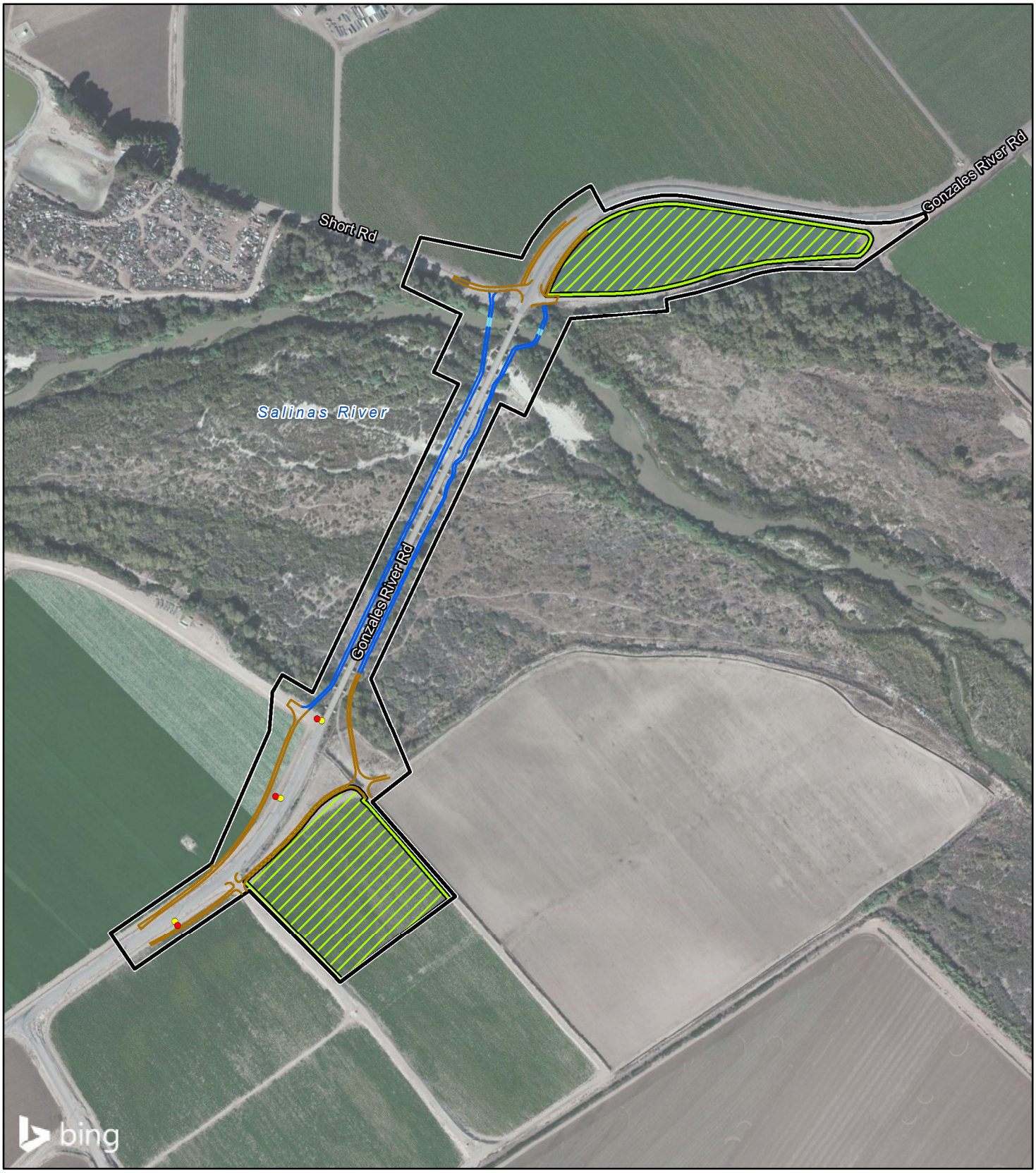

FIGURE 5

LEGEND

- Project Area
- Staging Areas
- Temporary Access Road
- Relocated Farm Road / Driveway
- Low Water Crossing
- Utility Pole to be Relocated
- Approximate Location of Relocated Utility Pole

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SOURCE: Bing Aerial (2011); TRC (6/2016)

Gonzales River Road Bridge Replacement Project
Monterey County, California
Federal Project Number BRLS-5944(098)

Construction Staging Areas and Access Roads

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Construction Details. Construction is expected to occur during the summers of 2019 and 2020, with completion by fall of 2020. Although construction would span two seasons, the total duration for construction is anticipated to be 16 months. Construction activities within the river are planned to occur outside of the rainy season, when surface water within the Salinas River is at its seasonal minimum. Construction within the river is anticipated to take a total of approximately 3.5 months per year for a total duration of 7 months.

Traffic Rerouting. The bridge and the roadway approaches would be closed during construction. Vehicles traveling north on US-101 would be notified by advanced warning signage that Gonzales River Road is closed to through traffic and would be routed northwest on Arroyo Seco Road to Fort Romie Road and River Road. Vehicles traveling south on US-101 would be notified by advanced warning signage that Gonzales River Road is closed and they would be routed southwest on Chualar River Road to River Road. Vehicles traveling from the north and south to access Gonzales Road Bridge from the west, would be routed to Arroyo Seco Road or Chualar River Road accordingly. The total detour to the north via Chualar River Road is approximately 17 mi in length and the total detour to the south via Arroyo Seco Road is approximately 24 mi in length. (Refer to Figure 6, Construction Detour Route).

Construction Access, River Access and Staging. Construction materials and equipment would be staged in two locations within the project limits. One staging area is located southeast of Abutment 1 and the other staging area is located northeast of Abutment 30, which would be numbered Abutment 22 after the proposed project has been completed (refer to Figure 5, Construction Staging Areas and Access Roads). A 30-foot wide low-water crossing bridge over the low flow channel would be constructed to connect these two staging areas and provide support for the construction and removal of the old superstructure. A construction equipment access road would also be constructed on the downstream (west) side of the bridge. Grading and excavation would be required to construct the temporary bridge and access road on the east and west side of the bridge (Refer to Figure 5, Construction Staging Areas and Access Routes).

Bridge Demolition. Once the bridge is closed to traffic, the contractor will remove the existing bridge superstructure using the construction access road located on the east side of the bridge. After the superstructure has been removed, the odd numbered piers from Pier 3 to Pier 15 and Pier 29 would be removed and minor grading would take place around the removed piers.

Project Site Dewatering. Construction in the river is scheduled from July to October outside of the rainy season when the riverbed is dry. However, if water is encountered, the river would be channelized during construction so that it is shifted away from the location of any pier/abutment work. If the river is flowing during the time of construction, the contractor would construct a temporary low water crossing across the low flow channel. This crossing would require placing large storm drain pipes in the channel and backfilling the sides and top with soil material. Sand bags may

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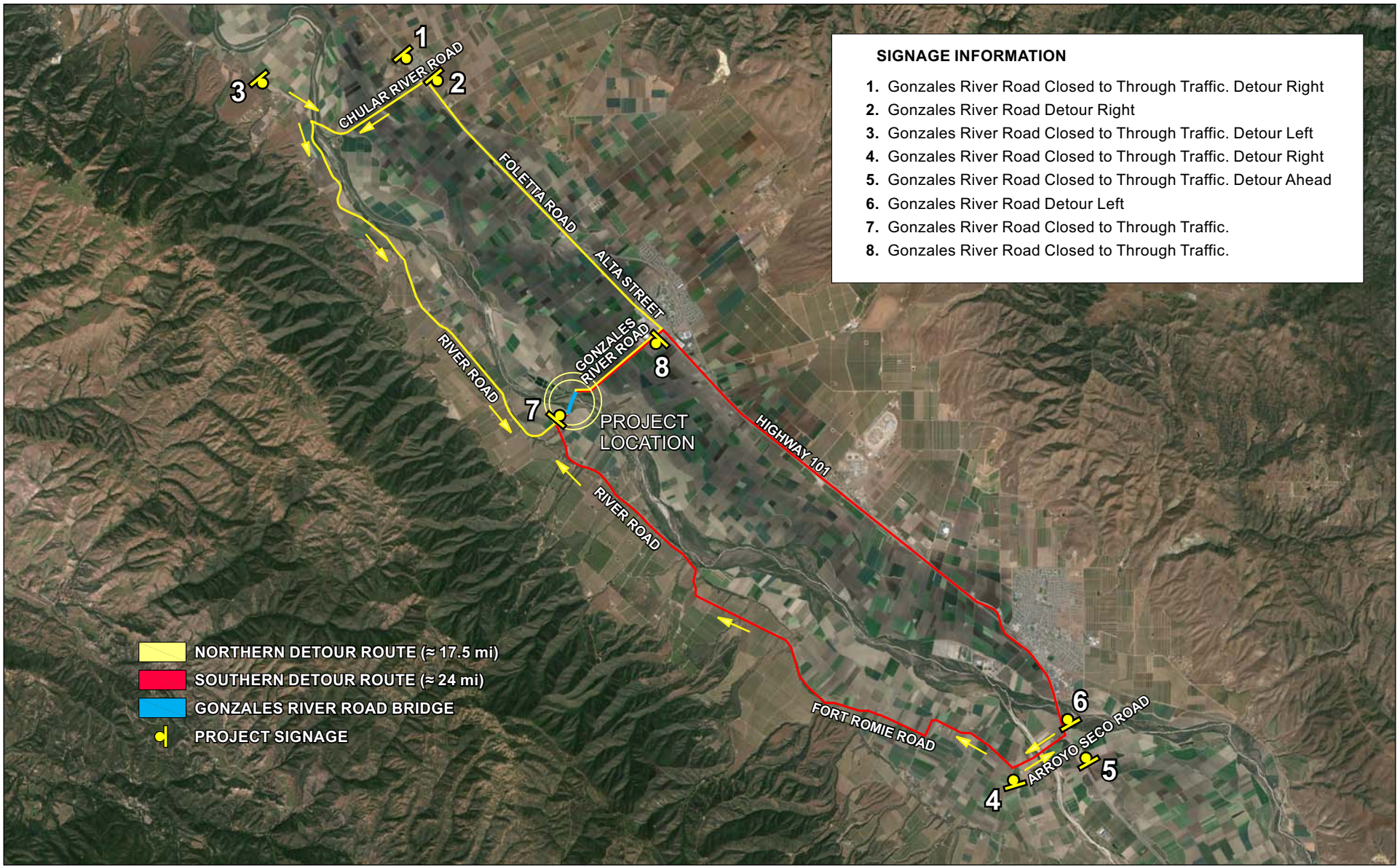

FIGURE 6

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MILES

SOURCE: TRC (2016)

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Gonzales River Road Bridge Replacement Project
Monterey County, California
Federal Project Number BRLS-5944(098)

Construction Detour Route

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be placed just upstream of the pipe in order to channelize the river water into the pipes if necessary. The size of the storm drain pipes would be dependent on the amount of water flowing at the time of construction.

Construction Equipment. Standard excavators and earthmoving equipment would be used on the proposed project and near and within the river channel. In addition, it is likely that a drill rig, a large pile driving rig, and a supporting crane would be required. Heavy cranes, concrete pump trucks, and other heavy construction equipment would travel along the length of the access road parallel to the bridge during the construction process.

3.0 REGULATORY SETTING

3.1 FEDERAL REGULATIONS

3.1.1 Farmland Protection Policy Act (7 U.S.C. Section 4201)

The Farmland Protection Policy Act (FPPA) was enacted by Congress as part of the 1981 Agriculture and Food Act (Farm Bill), and the final rule was published in 1994. The United States Department of Agriculture's (USDAs) Natural Resources Conservation Service (NRCS) is charged with oversight of the FPPA. The purpose of the law is to minimize the extent to which federal activities contribute to the unnecessary and irreversible conversion of agricultural land to nonagricultural uses. It also seeks to ensure that federal programs are administered in a manner to be compatible with State, local, and private efforts to protect farmland. For the purposes of the law, federal programs include construction projects such as highways, airports, dams, and federal buildings sponsored or financed in whole or in part by the federal government, and the management of federal lands. The FPPA does not cover private construction subject to federal permitting and licensing, projects planned and completed without any assistance from a federal agency, federal projects related to national defense during a national emergency, and projects proposed on land already committed to urban development.

The proposed project is being financed, in part, with federal funds and is therefore, subject to the requirements of the FPPA.

For the purpose of the FPPA, farmland includes prime farmland, unique farmland, and farmland of statewide or local importance, and is defined, per United States Code (U.S.C.) Section 4201, as follows:

Prime Farmland. Prime farmland is land that has the best combination of physical and chemical characteristics for producing food, feed, fiber, forage, oilseed, and other agricultural crops with minimum inputs of fuel, fertilizer, pesticides, and labor, and without intolerable soil erosion, as determined by the USDA. Prime farmland includes land that possesses the above characteristics but is being used currently to produce livestock and timber. It does not include land already in or committed to urban development or water storage;

Unique Farmland. Unique farmland is land other than prime farmland that is used for production of specific high-value food and fiber crops, as determined by the USDA. It has the special combination of soil quality, location, growing season, and moisture supply needed to economically produce sustained high quality or high yields of specific crops when treated and managed according to acceptable farming methods. Examples of such crops include citrus, tree nuts, olives, cranberries, fruits, and vegetables; and

Farmland of Statewide or Local Importance. Farmland, other than prime or unique farmland, that is of statewide or local importance for the production of food feed, fiber, forage, or oilseed crops, as determined by the appropriate State or unit of local government agency or agencies, and that the USDA determines should be considered as farmland for the purposes of this subtitle.

3.2 STATE POLICIES AND REGULATIONS

3.2.1 California Land Conservation Act (Williamson Act)

The California Land Conservation Act of 1965, also known as the Williamson Act, is a non-mandated State program administered by counties and cities to preserve agricultural lands by discouraging the premature conversion of farmland to urban uses. Participation in the program is voluntary. The Williamson Act program allows individual property owners to have their property assessed on the basis of its agricultural production rather than at its current market value provided that the land is used for agricultural or related open space uses. Williamson Act contracts have an initial term of ten years, with an automatic renewal occurring each year unless a notice of nonrenewal is filed or a contract cancellation is approved by the local government.

3.2.2 Farmland Mapping and Monitoring Program

Pursuant to California Government Code, Section 65570, the California Department of Conservation (DOC) Farmland Mapping and Monitoring Program (FMMP) reports biennially on the conversion of farmland and grazing land, and compiles important farmland maps and data for each county within the State. Farmland maps utilize data from the USDA NRCS soil survey and current county land use information. Maps and statistics are produced biannually using a process that integrates aerial photo interpretation, field mapping, a computerized mapping system, and public review. These maps categorize land use into nine different mapping categories as defined by State and federal agencies to describe farmland and non-farmland as follows:

1. Prime Farmland. Irrigated land with the best combination of physical and chemical features able to sustain long-term production of agricultural crops. This land has the soil quality, growing season, and moisture supply needed to produce sustained high yields.

2. Farmland of Statewide Importance. Irrigated land similar to Prime Farmland that has a good combination of physical and chemical characteristics for the production of agricultural crops. This land has minor shortcomings, such as greater slopes or less ability to store soil moisture than Prime Farmland.

3. Unique Farmland. Lesser quality soils used for the production of the State's leading agricultural crops. This land is usually irrigated, but may include non-irrigated orchards or vineyards as found in some climatic zones in California.

4. Farmland of Local Importance. Land of importance to the local agricultural economy as determined by each county's board of supervisors and a local advisory committee.

5. Grazing Land. Land on which the existing vegetation is suited to the grazing of livestock. This category is used only in California and was developed in cooperation with the California Cattlemen's Association, the University of California Cooperative Extension, and other groups interested in the extent of grazing activities.

6. Urban and Built Up Land. Land occupied by structures with a building density of at least 1 unit to 1.5 acres, or approximately 6 structures to a 10 acre parcel.

7. Other Land. Land which does not meet the criteria of any other category. Typical uses include low density rural development, heavily forested land, mined land, or government land with restrictions on use.

8. Water. Water areas with an extent of at least 40 acres.

9. Area Not Mapped. Area which falls outside of the NRCS soil survey.

The DOC has a minimum mapping unit of 10 acres for the FMMP, with parcels that are smaller than 10 acres being absorbed into the surrounding classifications.

3.2.3 Farmland Security Zone Act

The Farmland Security Zone Act is similar to the Williamson Act and was passed by the California State Legislature in 1999 to ensure that long-term farmland preservation is part of public policy (Government Code Sections 51296–51297.4). Similar to the Williamson Act, under the Farmland Security Zone Act, landowners enter into a contract with the County that enforceably restricts land to agricultural uses. However, unlike the initial 10-year term required under the Williamson Act, Farmland Security Zone contracts must be for an initial term of at least 20 years. In exchange for the longer contract term, the landowner receives a greater property tax reduction than would be received with a Williamson Act contract.

3.3 MONTEREY COUNTY POLICIES AND REGULATIONS

3.3.1 Monterey County General Plan

The Monterey County General Plan (adopted October 26, 2010), acknowledges that considerable development pressure exists to convert valuable agricultural lands to urban uses, particularly around Salinas. Therefore, through the goals, objectives, and policies provided within the document, the County's intent is "to protect all viable farmlands, designated as Prime, of Statewide

Importance, Unique, or of Local Importance from conversion to and encroachment of nonagricultural uses." The following goals from the Agricultural Element of the General Plan are applicable to the proposed project:

- Promote the long-term protection, conservation, and enhancement of productive and potentially productive agricultural land. (Goal AG-1)
- Assure that the County's land use policies do not inappropriately limit or constrain "routine and ongoing agricultural activities." (Goal AG-3)
- Develop and maintain a circulation system that supports the County's agricultural industry. (Goal AG-6)

3.3.2 Monterey County Zoning Ordinance Title 21 (For Inland Areas)

The agricultural lands within the proposed project area are zoned Farmlands (F/40). Roadways within the proposed project area are zoned public/quasi-public. Monterey County Zoning Ordinance Title 21 allows for "public and quasi-public uses" as an Allowable Use, subject to a Use Permit within areas zoned F/40 (Section 21.30.050B).

3.3.3 Monterey County Right-To-Farm Ordinance

The County seeks to conserve, protect, and encourage agricultural operations within its boundaries. The intent of the Monterey County Right-To-Farm Ordinance is to minimize potential conflict between agricultural and nonagricultural land uses within the County.

Paragraph "b" of Section 16.40.020 (Findings) states:

> *Where nonagricultural land uses, especially residential development, extend into agricultural lands or are located in the vicinity of agricultural lands, agricultural operations may be the subject of nuisance complaints. Such complaints may cause the curtailment of agricultural operations and discourage investments for the improvement of agricultural land to the detriment of the economic viability of the agricultural industry of the County. It is the purpose and intent of this Chapter to prevent the loss to the County of its agricultural resources by limiting the circumstances under which agricultural operations may be considered a nuisance.*

California Civil Code Section 3479 defines a "nuisance" as anything that is injurious to health, is indecent or offensive to the senses, or is an obstruction to the use of property, so as to interfere with the comfortable enjoyment of life or property. It is the intent of Monterey County, as detailed in Chapter 16.40.020, to prevent the loss to the County of its agricultural resources by limiting the circumstances under which agricultural operations may be considered a nuisance. Therefore, the proposed project is, and would continue to be, subject to those "nuisances" (i.e., inconveniences or discomforts) arising from adjacent and surrounding agricultural operations, which if conducted in a manner consistent with State law and County code, shall not be or become a nuisance.

4.0 AFFECTED ENVIRONMENT

4.1 GEOGRAPHIC SETTING

The proposed project is located in unincorporated Monterey County. The project site is approximately 0.2 mi east of River Road and 2 mi west of US-101. The project site, which extends across the broad flood plain of the Salinas River, is essentially flat with an elevation between 110 and 120 ft above mean sea level (amsl). The surrounding land uses are in agriculture.

The County, known as the "salad bowl of the world," is the state of California's third largest agricultural producer. The temperate climate, rich soils, and infrastructure support system make the County ideal for growing cool season vegetables, wine grapes, strawberries, and flowers. According to the 2015 Monterey County Crop Report, the top crop produced in the County is leaf lettuce. Along with leaf lettuce, the County's other top 10 crops in 2015 include strawberries, head lettuce, broccoli, nursery stock, cauliflower, celery, wine grapes, spinach, and miscellaneous vegetables.

4.2 CLIMATE

The climate of Monterey County is characterized as Mediterranean, with warm, dry summers and cool moist winters. The average annual temperature range in the project area is approximately 55 degrees Fahrenheit (°F) in the winter to 62 °F in the summer[1]. Average annual rainfall in the project area is approximately 12.8 inches[2]. Most of the precipitation and storms occur from October to April.

4.3 AGRICULTURAL LANDS

The project area is approximately 33.9 acres in size and includes the area that would be permanently and/or temporarily impacted by the proposed project. The project area contains the following acreages of farmlands and non-farmlands (refer to Table 1 and Figure 7, Important Farmland and Williamson Act Contract Land) per the County, the DOC, and the USDA's nine land mapping categories. A total of 7.96 acres of Prime Farmland in the project area are a under Williamson Act contract (refer to Figure 7, Important Farmland and Williamson Act Contract Land).

[1] https://temperature.weatherdb.com/l/10150/Gonzales-California, last accessed October 14, 2016.
[2] https://rainfall.weatherdb.com/l/10349/Gonzales-California, last accessed October 14, 2016.

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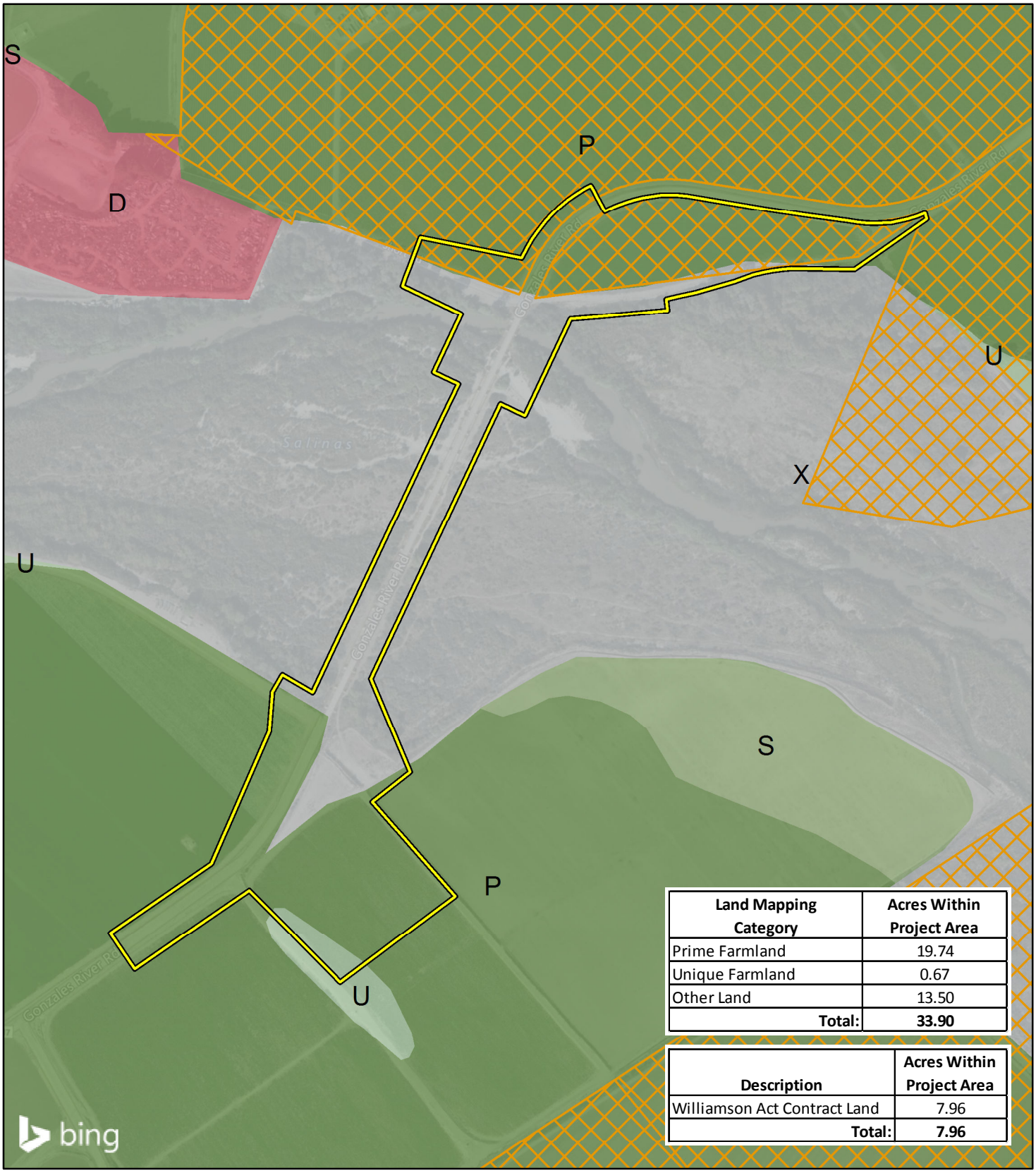

Land Mapping Category	Acres Within Project Area
Prime Farmland	19.74
Unique Farmland	0.67
Other Land	13.50
Total:	**33.90**

Description	Acres Within Project Area
Williamson Act Contract Land	7.96
Total:	**7.96**

LEGEND

- Project Area
- P — Prime Farmland
- S — Farmland of Statewide Importance
- U — Unique Farmland
- D — Urban and Built-Up Land
- X — Other Land
- Williamson Act Contract Land

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FIGURE 7

Gonzales River Road Bridge Replacement Project
Monterey County, California
Federal Project Number BRLS-5944(098)

Important Farmland and Williamson Act Contract Land

SOURCE: Bing Aerial (2011); LSA (7/2016); Monterey County FMMP (2014); Cal. Dept. of Conservation (2014)

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Table 1: Farmland Acres by Category within the Project Area

Land Mapping Category	Acres within the Project Area
Prime Farmland	19.74
Farmland of Statewide Importance	0
Unique Farmland	0.67
Farmland of Local Importance	N/A[1]-
Grazing Land	0
Urban and Built Up Land	0
Other Land	13.50
Total	**33.90**

Source: Monterey County Farmland Mapping & Monitoring Program (2010).
[1] Monterey County has no Farmland of Local Importance.
N/A = not applicable

4.4 SOILS

The USDA Soil Conservation Service surveys soils and assigns a soil capability classification that is used to determine whether the soil is a prime or non-prime agricultural soil. Soils are ranked with a capability of Class I through Class VII. The numerals indicate progressively greater limitations and narrower choices for practical agricultural uses of the land. For example, soils with a capability Class of I or II are generally considered to be “prime agricultural soils.” Soils with a capability Class of III or IV have severe and very severe limitations, respectively, that reduce the choice of plants, require special conservation practices, or both. Soils with a capability Class V through Class VII have severe or very severe limitations that make them unsuited for cultivation and that restricts their use largely to pasture, range, woodland, or wildlife food and cover.

The USDA Soil Survey for Monterey County, California, was utilized to determine the soil units occurring within the project area. There are 8 different soil units that occur within the project area (refer to Table 2 and Figure 8, Soils). A detailed description of each soil unit follows.

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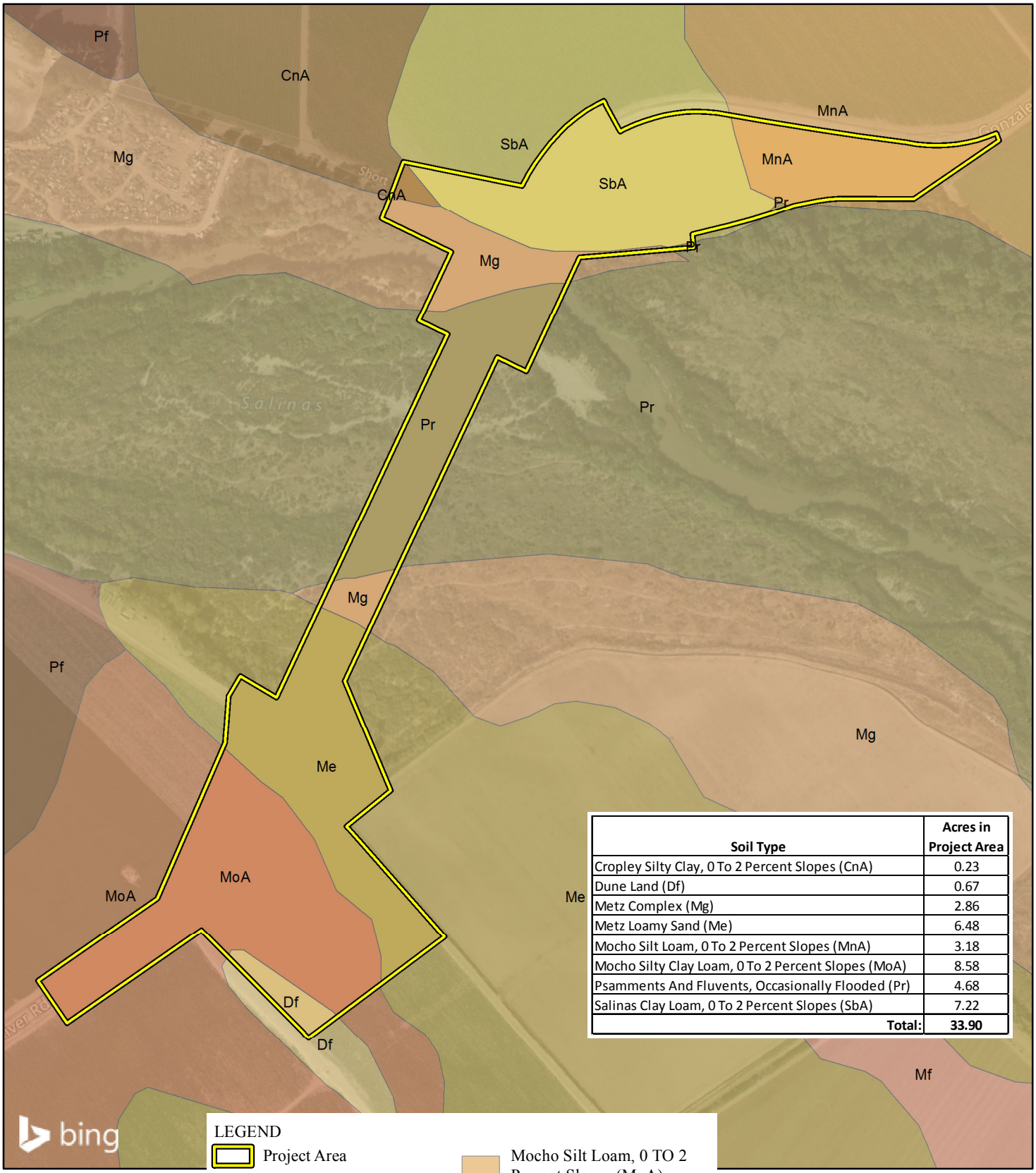

Soil Type	Acres in Project Area
Cropley Silty Clay, 0 To 2 Percent Slopes (CnA)	0.23
Dune Land (Df)	0.67
Metz Complex (Mg)	2.86
Metz Loamy Sand (Me)	6.48
Mocho Silt Loam, 0 To 2 Percent Slopes (MnA)	3.18
Mocho Silty Clay Loam, 0 To 2 Percent Slopes (MoA)	8.58
Psamments And Fluvents, Occasionally Flooded (Pr)	4.68
Salinas Clay Loam, 0 To 2 Percent Slopes (SbA)	7.22
Total:	**33.90**

LEGEND

- Project Area
- Cropley Silty Clay, 0 TO 2 Percent Slopes (CnA)
- Dune Land (Df)
- Metz Loamy Sand (Me)
- Metz Fine Sandy Loam (Mf)
- Metz Complex (Mg)
- Mocho Silt Loam, 0 TO 2 Percent Slopes (MnA)
- Mocho Silty Clay Loam, 0 TO 2 Percent Slopes (MoA)
- Pico Fine Sandy Loam (Pf)
- Psamments and Fluvents, Occasionally Flooded (Pr)
- Salinas Clay Loam, 0 TO 2 Percent Slopes (SbA)

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SOURCE: Bing Aerial (2011); LSA (7/2016); USDA, NRCS (2006)

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FIGURE 8

Gonzales River Road
Bridge Replacement Project
Monterey County, California
Federal Project Number BRLS-5944(098)

Soils

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Table 2: Soils within the Project Area

Map Unit Name	Map Unit Symbol	Acres within the Project Area	Land Capability Classification
Cropley Silty Clay, 0-2% Slopes	CnA	0.23	IIs-5
Dune Land	Df	0.67	VIIIe-1
Metz Complex	Mg	2.86	IVe-4
Metz Loamy Sand	Me	6.48	IIIs-4
Mocho Silt Loam, 0-2% Slopes	MnA	3.18	I, IIIc-1
Mocho Silty Clay Loam, 0-2% Slopes	MoA	8.58	I,IIIc-1
Psamments and Fluvents, Occasionally flooded	Pr	4.68	VIw-1
Salinas Clay Loam, 0-2% Slopes	SbA	7.22	I

Source: United States Department of Agriculture. 1978. *Soil Survey of Monterey County, California*.

- **Map Unit Name: Cropley Silty Clay, 0–2% Slopes (CnA).** Cropley Silty Clay, 0 to 2% slopes, is on alluvial fans, flood plains, and in basins. Runoff is slow, and the erosion hazard is minimal. This soil is used mostly for irrigated row and field crops, especially celery and lettuce.
- **Map Unit Name: Dune Land (Df).** Dune Land consists of gently sloping to steep areas of loose wind-deposited quartz and feldspare sand on hummocks, mounds and hills. Some dunes are partly stabilized by coastal or inland vegetation, and other dunes are blowing, shifting and encroaching onto adjacent lands. Drainage is excessive and permeability is rapid. Runoff is very slow or slow. The soil blowing hazard is high or very high. This land type is mostly used for recreation and some wildlife habitat. It has little or no value for farming.
- **Map Unit Name: Metz Complex (Mg).** Metz Complex consists of undulating to gently rolling soils mainly along drainage ways and on modified sand dunes. These soils were so intermingled that it was not feasible to map them separately at the scale used. Textures include sand, loamy sand, silt loam, and fine sandy loam that is gravelly or cobbly in places. Currently, this complex is rarely flooded, but before dams and other protection were provided, it was flooded every 2 or 3 years. Slopes are 2 to 9%. Runoff is slow, and the erosion hazard is slight. If unprotected, these soils are subject to soil blowing. This complex is used mostly for range land. A few areas are used for dryland grain.
- **Map Unit Name: Metz Loamy Sand (Me).** Metz Loamy Sand is a nearly level soil on floodplains, commonly adjacent to the Salinas and San Antonio Rivers. Runoff is slow, and the erosion hazard is slight. The soil is used for some irrigated row crops and pasture. A few areas are used for dryland grain.
- **Map Unit Name: Mocho Silt Loam, 0–2% Slopes (MnA).** Mocho Silt Loam, 0 to 2% slopes, is on flood plains. Permeability is moderate, and the available water capacity is 10 to 12 inches. Runoff is slow, and the erosion hazard is slight. This soil is used intensively for vegetable and field crops.

- **Map Unit Name: Mocho Silty Clay Loam, 0–2% Slopes (MoA).** Mocho Silty Clay Loam, 0 to 2% slopes, is a nearly level soil on floodplains. Permeability is moderately slow. Runoff is slow, and the erosion hazard is minimal. The soil is used intensively for vegetable and field crops in the Salinas Valley.
- **Map Unit Name: Psamments and Fluvents, Occasionally Flooded (Pr).** Psamments and Fluvents, occasionally flooded, consist of undulating areas of stratified sandy, gravelly, and cobbly sediments on flood plains. These areas are subject to flooding, scouring, and deposition every 3 to 5 years. Drainage is excessive, and permeability is very rapid. Runoff is slow or very slow, and the erosion hazard is moderate. The available water capacity is 2 to 3 inches. This land has very little value for farming. It is used for recreation and for very limited range land.
- **Map Unit Name: Salinas Clay Loam, 0–2% Slopes (SbA).** Salinas Clay Loam, 0 to 2% slopes, is on low terraces. The surface layer is clay loam, silty clay loam, heavy loam, or heavy silt loam. Runoff is slow, and the erosion hazard is minimal. The available water capacity is 11 to 13 inches. This soil is used mostly for irrigated row and field crops in the Salinas Valley.

5.0 ENVIRONMENTAL CONSEQUENCES

The proposed project involves replacing the existing two-lane bridge over the Salinas River with a wider bridge. The proposed project would also widen the roadway approaches on the north and south ends of the bridge to conform to the replacement bridge width and profile (Refer to Section 2.0: Project Description). The land bordering the proposed project is primarily agricultural.

Significance criteria for evaluating the proposed project's impacts on agricultural resources are based on Appendix G of the State CEQA Guidelines and Form NRCS-CPA-106. The proposed project's potential impacts are discussed below.

5.1 CEQA SIGNIFICANCE CRITERIA

5.1.1 Threshold of Significance 5.1

Threshold 5.1	**Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland) as shown on the maps prepared pursuant to the Farmlands Mapping and Monitoring Program of the California Resources Agency, to non-agricultural uses**

Table 3 contains the total acreage of Important Farmland as designated by Monterey County, the DOC, and the USDA, that would be directly impacted by proposed project (refer to Figure 9, Impacts to Important Farmland).

Table 3: Impacts to Important Farmland

Project Impact	Prime Farmland (acres)	Unique Farmland (acres)	Total (acres)
Temporary	11.05	0.58	11.63
Permanent	1.59	--	1.59

Source: LSA. 2016.

The proposed project would temporarily impact 11.05 acres of Prime Farmland and 0.58 acres of Unique Farmland during construction, primarily for construction staging areas. The proposed project would permanently impact 1.59 acres of Prime Farmland, primarily to accommodate the widened roadway approaches on both the north and south side of the bridge and the relocation or modification of existing farm access roads to conform to the new widened roadway approaches. The proposed project would not permanently impact any Unique Farmlands. The proposed project would also not temporarily or permanently impact any Farmlands of Statewide Importance.

As noted above, the proposed project would temporarily impact a total of 11.63 acres of Important Farmland during construction activities for use as construction staging areas. **Mitigation Measure AG-1** shall be implemented to ensure that Important Farmland temporarily impacted by construction activities would be restored and returned to agricultural use after construction of the proposed project is complete. By ensuring that the proposed project would not result in the permanent conversion of Important Farmland to nonagricultural use during construction activities, Mitigation Measure AG-1 would reduce temporary impacts to Important Farmland to a less than significant level. Therefore, temporary impacts to Important Farmland would be less than significant.

As noted above, widening the roadway approaches on the north and south side of the bridge and relocating or modifying existing farm access roads so that they conform to the new, widened roadway approaches would permanently impact 1.59 acres of Important Farmland. Therefore, impacts to agricultural lands would be limited to the land along the edge of the existing roadway. Because the impacted agricultural land is limited to a linear strip of land along the edge of the existing road, impacts to agricultural land would not affect agricultural operations. Nevertheless, the County is California's third largest agricultural producer, and the taking of any Important Farmland is considered a significant impact requiring mitigation. Therefore, **Mitigation Measure AG-2** shall be implemented to reduce potential impacts to Important Farmland to a level below significance.

5.1.2 Threshold of Significance 5.2

Threshold 5.2 Conflict with existing zoning for agricultural use; or a Williamson Act contract

Zoning. The agricultural lands within the project area are zoned Farmlands 40-acre minimum (F/40). Implementation of the proposed project would result in 1.59 acres of permanent direct impacts to farmlands zoned F/40. Roadways within the County are zoned public/quasi-public. The Monterey County Zoning Ordinance Title 21 allows for "public and quasi-public uses" as an Allowable Use, subject to a Use Permit within areas zoned F/40 (Section 21.30.050B). The proposed project

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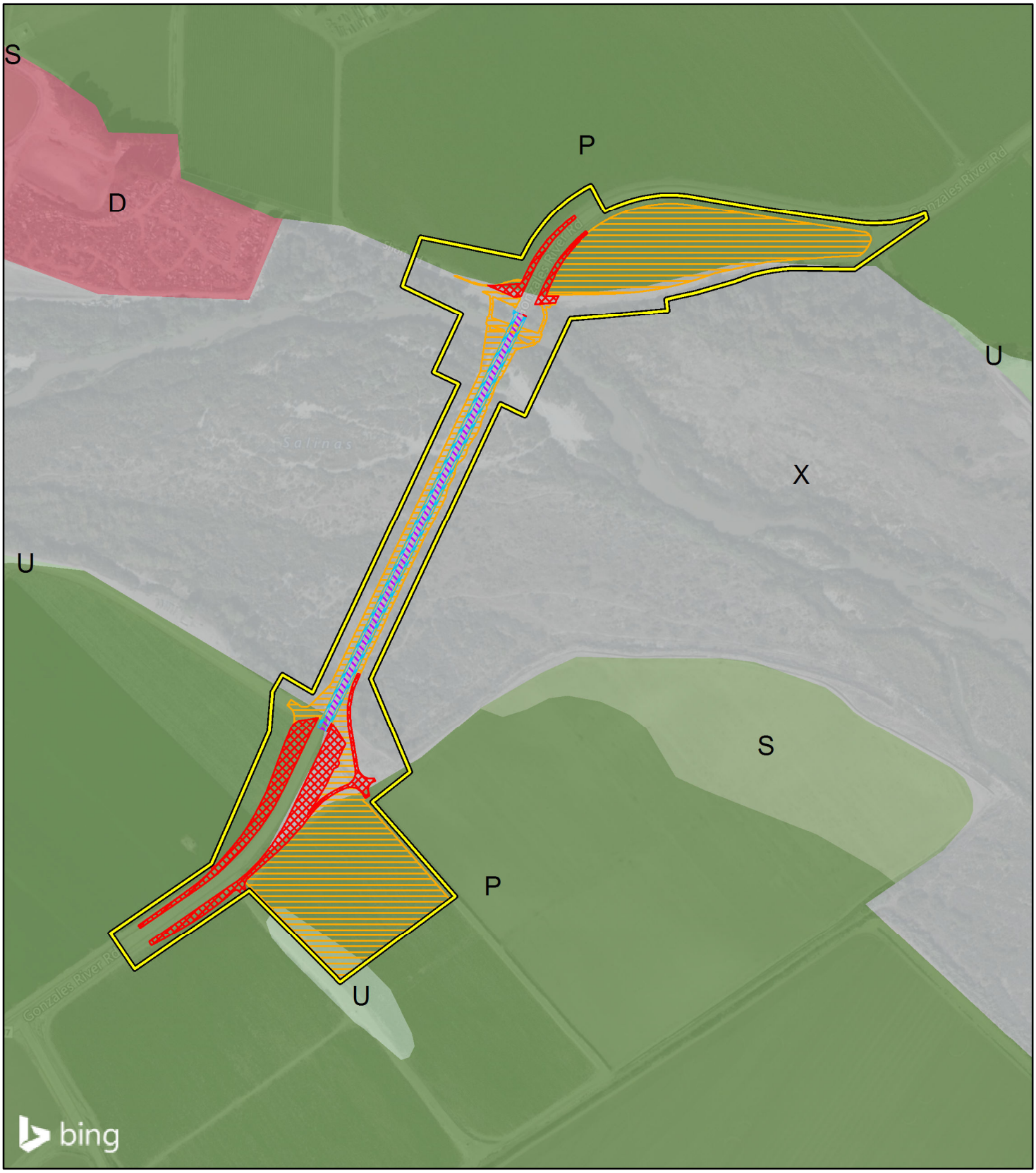

FIGURE 9

LEGEND

- Project Area
- P Prime Farmland
- S Farmland of Statewide Importance
- U Unique Farmland
- D Urban and Built-Up Land
- X Other Land

Impact Type

- Permanent
- Permanent - Bridge Deck Existing
- Permanent - Bridge Deck New
- Temporary

N

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Gonzales River Road Bridge Replacement Project
Monterey County, California
Federal Project Number BRLS-5944(098)

Impacts to Important Farmland

SOURCE: Bing Aerial (2011); LSA (7/2016); Monterey County FMMP (2014)

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involves replacing a bridge and widening an existing road, which is considered to be an allowable use within the existing land use zoning designation. Therefore, the proposed project would not conflict with existing zoning for agricultural use, and impacts associated with zoning conflicts would be less than significant.

Williamson Act Contract Lands. The County has approximately 735,000 acres of land designated as Williamson Act Preserves, including 32,000 acres of land under the Farmland Security Zone (Monterey County General Plan Agricultural Element, 2010). The proposed project would temporarily impact 5.27 acres of Williamson Act Contract Land during project construction, primarily for staging operations. The proposed project would permanently impact (i.e., convert) approximately 0.19 acres of Williamson Act Contract Land to a transportation use to accommodate the widening of the roadway approach on the north side of the bridge (refer to Figure 10, Impacts to Williamson Act Contract Land). The County would be required to follow the DOC's public acquisition notification procedures (refer to **Mitigation Measure AG-3**) to address the conversion of 0.19 acres of land under a Williamson Act contract to a non-agricultural use. The acreage to be removed from Williamson Act protection is minor and would not result in the cancellation of a Williamson Act Contract. With implementation of Mitigation Measure A-3, impacts to Williamson Act Contract Land would be reduced to a less than significant level.

5.1.3 Threshold of Significance 5.3

Threshold 5.3 Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use.

The proposed project would result in temporary and permanent impacts to Prime Farmland and Unique Farmland totaling 11.63 and 1.59 acres respectively. Although the proposed project would require the acquisition of 1.59 acres of Prime Farmland, the farmland impacts would occur in a linear strip along the edge of the existing road, which would not significantly affect the agricultural production or viability of the existing agricultural operations. Because the existing agricultural operations would not be disrupted, the proposed project would not result in the conversion of surrounding farmland to a nonagricultural use. Furthermore, the proposed project would not require additional restrictions or limitations on nearby growers such as limiting the use of water, pesticides, fungicides, and herbicides on crops; or restrictions on noise, burning, and dust. Therefore, the proposed project would not involve other changes in the existing environment that could result in conversion of Farmland to nonagricultural use and such impacts would be considered to be less than significant.

5.2 NEPA CRITERIA

5.2.1 Impacts to Land Under a Williamson Act Contract

There are approximately 7.96 acres of Williamson Act Contract Land in the Project Area. As stated above, the proposed project would temporarily impact 5.27 acres of Williamson Act Contract Land during project construction, primarily for staging operations. The proposed project would

permanently impact (i.e., convert) approximately 0.19 acres of Williamson Act Contract Land to a transportation use to accommodate the widening of the roadway approach on the north side of the bridge (refer to Table 4, Land Under a Williamson Act Contract and Figure 10, Impacts to Williamson Act Contract Land). The acreage to be removed from Williamson Act protection is minor and would not result in the cancellation of a Williamson Act Contract. With implementation of Mitigation Measure A-3, impacts to Williamson Act Contract Land would not have a substantial impact on farmlands.

Table : Land Under a Williamson Act Contract

	Williamson Act Contract Land Temporarily Impacted (acres)	Williamson Act Contract Land Permanently Impacted (acres)	Total Williamson Act Contract Land in the Project Area (acres)
Proposed Project	5.27	0.19	7.96

Source: Department of Conservation and LSA 2016

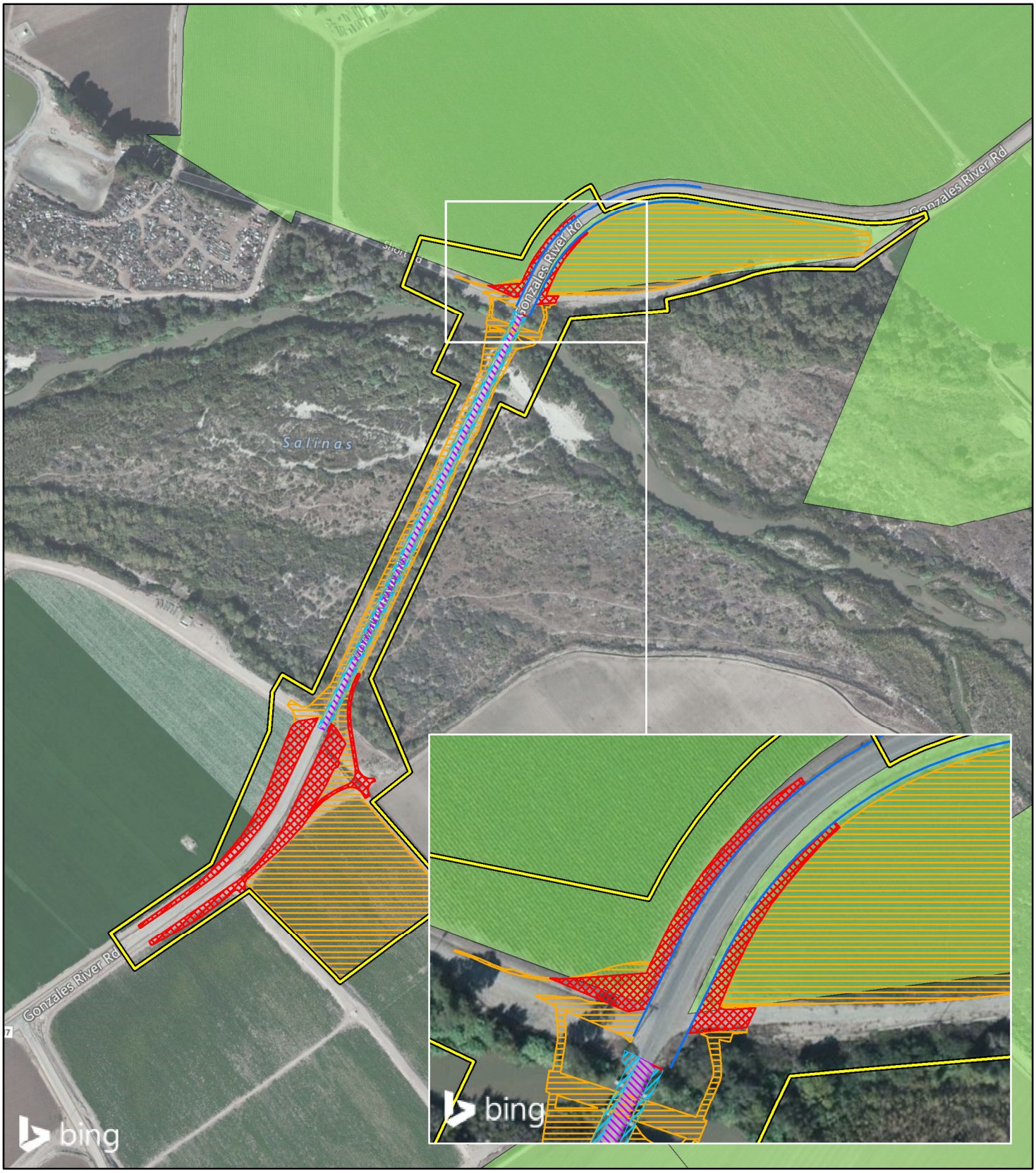
5.2.2 Form NRCS-CPA-106 Results

Form NRCS-CPA-106 uses a point-based approach to assess the relative value of agricultural land resources. The purpose of Form NRCS-CPA-106 is to determine the relative value of the farmland that is subject to the FPPA in the project area on a numerical scale. The completed NRCS-CPA-106 Form can be found in Appendix A. As shown in Table 5, the final score for the proposed project was 149. According to the instructions for completing Form NRCS-CPA-106, for project sites in which the total points equal or exceed 160, alternative actions, as appropriate, should be considered to reduce adverse impacts to farmland. Based on total point calculated on Form NRCS-CPA-106, the proposed project would not have a substantial impact on farmlands, and no further analysis is necessary to ensure that farmlands are protected per the requirements of the FPPA.

Table 5: Form NRCS-CPA-106 Final Scoring

	Land Evaluation Subtotal	Corridor Assessment Subtotal	Final NRCS-CPA-106 Score
Proposed Project	88	26	114

Source: Department of Conservation and LSA 2016



LEGEND

Project Area

Impact Type

Permanent

Permanent - Bridge Deck Existing

Permanent - Bridge Deck New

Temporary

Williamson Act Contract Land

Existing Right-of-Way

FIGURE 10

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Gonzales River Road Bridge Replacement Project
Monterey County, California
Federal Project Number BRLS-5944(098)

Impacts to Williamson Act Contract Land

SOURCE: Bing Aerial (2011); LSA (7/2016); Cal. Dept. of Conservation (2014); TRC (9/2016)

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6.0 AVOIDANCE, MINIMIZATION AND/OR MITIGATION MEASURES

Mitigation Measure AG-1: Prior to construction, Monterey County, Department of Public Works, shall ensure that the project plans incorporate details regarding the restoration of agricultural land following the completion of project construction.

Mitigation Measure AG-2: Prior to construction, Monterey County, Department of Public Works, shall ensure that all permanent impacts to farmlands shall be mitigated by the preservation of equivalent agricultural land at a 2:1 ratio. This may be accomplished by payment of a fee into the Monterey County Agricultural Land Trust's Transaction Bank Account to be used solely for the purpose of acquiring agricultural land and/or agricultural conservation easements to protect equivalent farmland. Documentation of the payment of the fee shall be submitted to Resource Management Agency (RMA)-Planning.

Mitigation Measure AG-3: Prior to acquiring right of way, Monterey County shall notify: (1) affected property owners; (2) the agricultural commissioner's office; and (3) the California Department of Conservation of its intent to acquire land that is under a Williamson Act Contract for a public improvement project. The notification to the California Department of Conservation shall follow the procedures set forth by the California Department of Conservation Public Acquisitions of Williamson Act Contracted Land. The notice shall indicate the amount of land that would need to be acquired to implement the proposed project. The notice shall also indicate that the remaining land not required for project implementation would continue to be under Williamson Act Contract. In addition, prior to acquiring right of way, the Monterey County Board of Supervisors must approve the land acquisition and modification to the existing Williamson Act Contract.

7.0 REFERENCES

Monterey County. Agricultural Commissioner. 2015 Monterey County Crop Report. Available on line at https://www.co.monterey.ca.us/home/showdocument?id=12607. Last accessed October 17, 2016.

Department of Conservation. Division of Land Resource Protection. Public Acquisitions. http://www.conservation.ca.gov/dlrp/lca/basic_contract_provisions/Pages/public_acquisitions.aspx last accessed, October 27, 2016.

Department of Conservation. Division of Land Resource Protection. Public Acquisitions. Public Acquisition Notification Procedures A Step by Step Guide. http://www.conservation.ca.gov/dlrp/lca/basic_contract_provisions/Documents/Public%20Acquisition_A%20Step%20by%20Step%20Guide_Amended%2001.20.2016.pdf last accessed, October 27, 2016.

https://temperature.weatherdb.com/l/10150/Gonzales-California, last accessed October 17, 2016.

https://rainfall.weatherdb.com/l/10349/Gonzales-California, last accessed October 17, 2016.

United States Department of Agriculture. 1978. Soil Survey of Monterey County, California. Available on line at http://www.nrcs.usda.gov/Internet/FSE_MANUSCRIPTS/california/CA053/0/monterey.pdf, last accessed October 18, 2016.

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APPENDIX A

FARMLAND CONVERSION IMPACT RATING FORM

(NRCS-CPA-106)

U.S. DEPARTMENT OF AGRICULTURE
Natural Resources Conservation Service

NRCS-CPA-106
(Rev. 1-91)

FARMLAND CONVERSION IMPACT RATING FOR CORRIDOR TYPE PROJECTS

PART I *(To be completed by Federal Agency)*	3. Date of Land Evaluation Request	4. Sheet 1 of _____
1. Name of Project: Gonzales River Road Bridge Replacement Project	5. Federal Agency Involved: FHWA	
2. Type of Project: Bridge Replacement	6. County and State: Monterey County, California	
PART II *(To be completed by NRCS)*	1. Date Request Received by NRCS: 11/15/2016	2. Person Completing Form: Ken Oster
3. Does the corridor contain prime, unique statewide or local important farmland? (If no, the FPPA does not apply - Do not complete additional parts of this form.) YES ☒ NO ☐		4. Acres Irrigated: 263835 / Average Farm Size: 1076 1076
5. Major Crop(s): Lettuce, Broccoli, Grapes	6. Farmable Land In Government Jurisdiction: Acres: 358294 %16.9	7. Amount of Farmland As Defined in FPPA: Acres: 40184 %18.9
8. Name Of Land Evaluation System Used: CA Revised Storie Index	9. Name of Local Site Assessment System: None	10. Date Land Evaluation Returned by NRCS: 11/17/2016

PART III *(To be completed by Federal Agency)*	Alternative Corridor For Segment			
	Corridor A	Corridor B	Corridor C	Corridor D
A. Total Acres To Be Converted Directly	1.59			
B. Total Acres To Be Converted Indirectly, Or To Receive Services	0			
C. Total Acres In Corridor	1.59			
PART IV *(To be completed by NRCS) Land Evaluation Information*				
A. Total Acres Prime And Unique Farmland	1.57			
B. Total Acres Statewide And Local Important Farmland	0.02			
C. Percentage Of Farmland in County Or Local Govt. Unit To Be Converted	0.004			
D. Percentage Of Farmland in Govt. Jurisdiction With Same Or Higher Relative Value	7.21			
PART V *(To be completed by NRCS) Land Evaluation Information Criterion Relative value of Farmland to Be Serviced or Converted (Scale of 0 - 100 Points)*	88			
PART VI *(To be completed by Federal Agency) Corridor Assessment Criteria (These criteria are explained in 7 CFR 658.5(c))* — Maximum Points				
1. Area in Nonurban Use — 15	15			
2. Perimeter in Nonurban Use — 10	10			
3. Percent Of Corridor Being Farmed — 20	0			
4. Protection Provided By State And Local Government — 20	1			
5. Size of Present Farm Unit Compared To Average — 10	0			
6. Creation Of Nonfarmable Farmland — 25	0			
7. Availablility Of Farm Support Services — 5	0			
8. On-Farm Investments — 20	0			
9. Effects Of Conversion On Farm Support Services — 25	0			
10. Compatibility With Existing Agricultural Use — 10	0			
TOTAL CORRIDOR ASSESSMENT POINTS — 160	26	0	0	0
PART VII *(To be completed by Federal Agency)*				
Relative Value Of Farmland (From Part V) — 100	88	0	0	0
Total Corridor Assessment (From Part VI above or a local site assessment) — 160	26	0	0	0
TOTAL POINTS *(Total of above 2 lines)* — 260	114	0	0	0

1. Corridor Selected:	2. Total Acres of Farmlands to be Converted by Project:	3. Date Of Selection:	4. Was A Local Site Assessment Used?
A	1.59 acres		YES ☐ NO ☒

5. Reason For Selection:

Pamela L Readley
Signature of Person Completing this Part

12/8/16
DATE

NOTE: Complete a form for each segment with more than one Alternate Corridor

CORRIDOR - TYPE SITE ASSESSMENT CRITERIA – GONZALES RIVER ROAD BRIDGE BUILD ALTERNATIVE

(1) How much land is in nonurban use within a radius of 1.0 mile from where the project is intended?
More than 90 percent - 15 points
90 to 20 percent - 14 to 1 point(s)
Less than 20 percent - 0 points

15 Points. The majority of the land area within a radius of one mile of the proposed project is either farmland (with associated residential structures), other land (primarily associated with Salinas River), or part of the roadway network. There is one small urban area northwest of the project site within a radius of one mile. However, more than 90% of the land within one mile radius is considered in non-urban use.

(2) How much of the perimeter of the site borders on land in nonurban use?
More than 90 percent - 10 points
90 to 20 percent - 9 to 1 point(s)
Less than 20 percent - 0 points

10 Points. The proposed project perimeter is bordered entirely by land area that is comprised of farmlands, other land (primarily associated with Salinas River), or is part of the roadway network. Therefore, more than 90% of the perimeter is considered in non-urban use.

(3) How much of the site has been farmed (managed for a scheduled harvest or timber activity) more than five of the last 10 years?
More than 90 percent - 20 points
90 to 20 percent - 19 to 1 point(s)
Less than 20 percent - 0 points

Total Acres in Project Site = 20.5 acres
Total Acres of Farmland to be Converted Directly for Build Alternative = 1.59 acres

0 Points. This analysis assumes that all impacted farmland has been farmed more than 5 of the last 10 years, which represents the worst case scenario and presents conservative calculations. The Build Alternative would directly convert 1.59 acres of farmland, representing approximately 8% percent of all land on the project site (20.5 acres). Based on the ratio of farmland, 0 points have been allocated for the Build Alternative.

(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?
Site is protected - 20 points
Site is not protected - 0 points

1 Point. A total of 0.19 acres of Williamson Act Contract Land would be directly converted by the proposed project. As the percentage of protected farmland within the project site is less than one percent, 1 point has been allocated for the Build Alternative.

(5) Is the farm unit(s) containing the site (before the project) as large as the average - size farming unit in the County? (Average farm sizes in each county are available from the NRCS field offices in each state. Data are from the latest available Census of Agriculture, Acreage or Farm Units in Operation with $1,000 or more in sales.)

As large or larger - 10 points
Below average - deduct 1 point for each 5 percent below the average, down to 0 points if 50 percent or more below average - 9 to 0 points

0 Points. The average farm size in Monterey County is approximately 1,076 acres.[1] The largest parcel within the project area is approximately 250 acres in size. This parcel was used as a conservative benchmark representing the average farm size within the project area and is approximately 23 percent of the average farm size. Therefore, as the average farm size within the project area falls under 50 percent below average, 0 points have been allocated for the Build Alternative.

(6) If the site is chosen for the project, how much of the remaining land on the farm will become non-farmable because of interference with land patterns?

Acreage equal to more than 25 percent of acres directly converted by the project - 25 points
Acreage equal to between 25 and 5 percent of the acres directly converted by the project - 1 to 24 point(s)
Acreage equal to less than 5 percent of the acres directly converted by the project - 0 points

0 Points. All the remaining land in the proposed project site would be farmable. The proposed project would result in indirect impacts and would not affect the production or viability of the farms within the study area.

(7) 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?

All required services are available - 5 points
Some required services are available - 4 to 1 point(s)
No required services are available - 0 points

0 Points. No farm support services are located within the project footprint. Therefore, no required services are available within the project footprint and the proposed project would not impact farm support services.

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[1] https://agcensus.usda.gov/Publications/2012/Full_Report/Volume_1,_Chapter_2_County_Level/California/st06_2_001_001.pdf

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

High amount of on-farm investment - 20 points
Moderate amount of on-farm investment - 19 to 1 point(s)
No on-farm investment - 0 points

0 Points. No farmland structures or infrastructure (including trees/vines) are located within the project footprint. Therefore, the proposed project would not impact on-farm investments.

(9) 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?

Substantial reduction in demand for support services if the site is converted - 25 points
Some reduction in demand for support services if the site is converted - 1 to 24 point(s)
No significant reduction in demand for support services if the site is converted - 0 points

0 Points. The amount of land that would be converted from farmland to support the proposed project would be a nominal amount compared to the total amount of farmland in the area. Therefore, the proposed conversion would not alter the demand for farm support services or otherwise jeopardize the viability of the farms remaining in the area.

(10) 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 use?

Proposed project is incompatible to existing agricultural use of surrounding farmland - 10 points
Proposed project is tolerable to existing agricultural use of surrounding farmland - 9 to 1 point(s)
Proposed project is fully compatible with existing agricultural use of surrounding farmland - 0 points

0 Points. Agriculture activities are currently occurring alongside the existing road. The proposed project involves replacing the existing bridge and modifying the roadway to accommodate the profile of the new bridge. Because existing agricultural activities are occurring within the context of an existing road and bridge, agricultural activities should continue within the context of the proposed project. In addition, the project area is zoned F/40, and allows for “public and quasi-public” uses including roadways. Therefore, it is unlikely that the proposed project would contribute to any eventual conversion of surrounding farmland to nonagricultural use.

APPENDIX B

ROAD CONSTRUCTION EMISSIONS MODEL RESULTS

Road Construction Emissions Model
Data Entry Worksheet

Version 9.0.0

Note: Required data input sections have a yellow background.
Optional data input sections have a blue background. Only areas with a yellow or blue background can be modified. Program defaults have a white background.
The user is required to enter information in cells D10 through D24, E28 through G35, and D38 through D41 for all project types.
Please use "Clear Data Input & User Overrides" button first before changing the Project Type or begin a new project.

To begin a new project, click this button to clear data previously entered. This button will only work if you opted not to disable macros when loading this spreadsheet.

SACRAMENTO METROPOLITAN AIR QUALITY MANAGEMENT DISTRICT

Input Type

Project Name	Gonzales River Road Bridge Rehabilitation Project	
Construction Start Year	2024	Enter a Year between 2014 and 2040 (inclusive)
Project Type	3	1) New Road Construction : Project to build a roadway from bare ground, which generally requires more site preparation than widening an existing roadway 2) Road Widening : Project to add a new lane to an existing roadway 3) Bridge/Overpass Construction : Project to build an elevated roadway, which generally requires some different equipment than a new roadway, such as a crane 4) Other Linear Project Type: Non-roadway project such as a pipeline, transmission line, or levee construction
Project Construction Time	16.00	months
Working Days per Month	22.00	days (assume 22 if unknown)
Predominant Soil/Site Type: Enter 1, 2, or 3 (for project within "Sacramento County", follow soil type selection instructions in cells E18 to E20 otherwise see instructions provided in cells J18 to J22)	1	1) Sand Gravel : Use for quaternary deposits (Delta/West County) 2) Weathered Rock-Earth : Use for Laguna formation (Jackson Highway area) or the Ione formation (Scott Road, Rancho Murieta) 3) Blasted Rock : Use for Salt Springs Slate or Copper Hill Volcanics (Folsom South of Highway 50, Rancho Murieta)
Project Length	0.63	miles
Total Project Area	5.90	acres
Maximum Area Disturbed/Day	5.90	acres
Water Trucks Used?	1	1. Yes 2. No

Please note that the soil type instructions provided in cells E18 to E20 are specific to Sacramento County. Maps available from the California Geologic Survey (see weblink below) can be used to determine soil type outside Sacramento County.

http://www.conservation.ca.gov/cgs/information/geologic_mapping/Pages/googlemaps.aspx#regionalseries

Material Hauling Quantity Input

Material Type	Phase	Haul Truck Capacity (yd^3) (assume 20 if unknown)	Import Volume (yd^3/day)	Export Volume (yd^3/day)
Soil	Grubbing/Land Clearing			
	Grading/Excavation	20.00	75.50	
	Drainage/Utilities/Sub-Grade			
	Paving			
Asphalt	Grubbing/Land Clearing			
	Grading/Excavation			
	Drainage/Utilities/Sub-Grade			
	Paving			

Mitigation Options

On-road Fleet Emissions Mitigation		Select "2010 and Newer On-road Vehicles Fleet" option when the on-road heavy-duty truck fleet for the project will be limited to vehicles of model year 2010 or newer
Off-road Equipment Emissions Mitigation		Select "20% NOx and 45% Exhaust PM reduction" option if the project will be required to use a lower emitting off-road construction fleet. The SMAQMD Construction Mitigation Calculator can be used to confirm compliance with this mitigation measure (http://www.airquality.org/Businesses/CEQA-Land-Use-Planning/Mitigation). Select "Tier 4 Equipment" option if some or all off-road equipment used for the project meets CARB Tier 4 Standard

The remaining sections of this sheet contain areas that can be modified by the user, although those modifications are optional.

Note: The program's estimates of construction period phase length can be overridden in cells D50 through D53, and F50 through F53.

Construction Periods	User Override of Construction Months	Program Calculated Months	User Override of Phase Starting Date	Program Default Phase Starting Date
Grubbing/Land Clearing		1.60		1/1/2024
Grading/Excavation		6.40		2/19/2024
Drainage/Utilities/Sub-Grade		5.60		9/1/2024
Paving		2.40		2/19/2025
Totals (Months)		16		

Note: Soil Hauling emission default values can be overridden in cells D61 through D64, and F61 through F64.

Soil Hauling Emissions User Input	User Override of Miles/Round Trip	Program Estimate of Miles/Round Trip	User Override of Truck Round Trips/Day	Default Values Round Trips/Day	Calculated Daily VMT
Miles/round trip: Grubbing/Land Clearing		30.00		0	0.00
Miles/round trip: Grading/Excavation		30.00	10	4	300.00
Miles/round trip: Drainage/Utilities/Sub-Grade		30.00		0	0.00
Miles/round trip: Paving		30.00		0	0.00

Emission Rates	ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Grubbing/Land Clearing (grams/mile)	0.03	0.41	3.02	0.11	0.05	0.02	1,693.55	0.00	0.27	1,772.92
Grading/Excavation (grams/mile)	0.03	0.41	3.02	0.11	0.05	0.02	1,693.55	0.00	0.27	1,772.92
Draining/Utilities/Sub-Grade (grams/mile)	0.03	0.41	3.03	0.11	0.05	0.02	1,687.57	0.00	0.27	1,766.65
Paving (grams/mile)	0.03	0.41	3.06	0.11	0.05	0.02	1,672.88	0.00	0.26	1,751.28
Grubbing/Land Clearing (grams/trip)	0.00	0.00	4.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grading/Excavation (grams/trip)	0.00	0.00	4.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Draining/Utilities/Sub-Grade (grams/trip)	0.00	0.00	4.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving (grams/trip)	0.00	0.00	4.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling Emissions	**ROG**	**CO**	**NOx**	**PM10**	**PM2.5**	**SOx**	**CO2**	**CH4**	**N2O**	**CO2e**
Pounds per day - Grubbing/Land Clearing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Grubbing/Land Clearing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pounds per day - Grading/Excavation	0.02	0.27	2.10	0.07	0.03	0.01	1,120.09	0.00	0.18	1,172.58
Tons per const. Period - Grading/Excavation	0.00	0.02	0.15	0.01	0.00	0.00	78.85	0.00	0.01	82.55
Pounds per day - Drainage/Utilities/Sub-Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Drainage/Utilities/Sub-Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pounds per day - Paving	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Paving	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total tons per construction project	0.00	0.02	0.15	0.01	0.00	0.00	78.85	0.00	0.01	82.55

Note: Asphalt Hauling emission default values can be overridden in cells D91 through D94, and F91 through F94.

Asphalt Hauling Emissions User Input	User Override of Miles/Round Trip	Program Estimate of Miles/Round Trip	User Override of Truck Round Trips/Day	Default Values Round Trips/Day	Calculated Daily VMT
Miles/round trip: Grubbing/Land Clearing		30.00		0	0.00
Miles/round trip: Grading/Excavation		30.00		0	0.00
Miles/round trip: Drainage/Utilities/Sub-Grade		30.00		0	0.00
Miles/round trip: Paving		30.00		0	0.00

Emission Rates	ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Grubbing/Land Clearing (grams/mile)	0.03	0.41	3.02	0.11	0.05	0.02	1,693.55	0.00	0.27	1,772.92
Grading/Excavation (grams/mile)	0.03	0.41	3.02	0.11	0.05	0.02	1,693.55	0.00	0.27	1,772.92
Draining/Utilities/Sub-Grade (grams/mile)	0.03	0.41	3.03	0.11	0.05	0.02	1,687.57	0.00	0.27	1,766.65
Paving (grams/mile)	0.03	0.41	3.06	0.11	0.05	0.02	1,672.88	0.00	0.26	1,751.28
Grubbing/Land Clearing (grams/trip)	0.00	0.00	4.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grading/Excavation (grams/trip)	0.00	0.00	4.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Draining/Utilities/Sub-Grade (grams/trip)	0.00	0.00	4.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving (grams/trip)	0.00	0.00	4.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Emissions	**ROG**	**CO**	**NOx**	**PM10**	**PM2.5**	**SOx**	**CO2**	**CH4**	**N2O**	**CO2e**
Pounds per day - Grubbing/Land Clearing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Grubbing/Land Clearing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pounds per day - Grading/Excavation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Grading/Excavation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pounds per day - Drainage/Utilities/Sub-Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Drainage/Utilities/Sub-Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pounds per day - Paving	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Paving	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total tons per construction project	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Note: Worker commute default values can be overridden in cells D121 through D126.

Worker Commute Emissions User Input	User Override of Worker Commute Default Values	Default Values	Calculated Daily Trips	Calculated Daily VMT
Miles/ one-way trip		20		
One-way trips/day		2		
No. of employees: Grubbing/Land Clearing		9	18	360.00
No. of employees: Grading/Excavation		39	78	1,560.00
No. of employees: Drainage/Utilities/Sub-Grade		29	58	1,160.00
No. of employees: Paving		14	28	560.00

Emission Rates	ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Grubbing/Land Clearing (grams/mile)	0.01	0.84	0.06	0.05	0.02	0.00	306.70	0.00	0.01	308.54
Grading/Excavation (grams/mile)	0.01	0.84	0.06	0.05	0.02	0.00	306.70	0.00	0.01	308.54
Draining/Utilities/Sub-Grade (grams/mile)	0.01	0.82	0.06	0.05	0.02	0.00	303.55	0.00	0.01	305.35
Paving (grams/mile)	0.01	0.78	0.06	0.05	0.02	0.00	295.84	0.00	0.01	297.52
Grubbing/Land Clearing (grams/trip)	0.98	2.66	0.27	0.00	0.00	0.00	65.99	0.07	0.03	76.61
Grading/Excavation (grams/trip)	0.98	2.66	0.27	0.00	0.00	0.00	65.99	0.07	0.03	76.61
Draining/Utilities/Sub-Grade (grams/trip)	0.96	2.63	0.26	0.00	0.00	0.00	65.33	0.06	0.03	75.79
Paving (grams/trip)	0.93	2.56	0.25	0.00	0.00	0.00	63.73	0.06	0.03	73.77
Emissions	**ROG**	**CO**	**NOx**	**PM10**	**PM2.5**	**SOx**	**CO2**	**CH4**	**N2O**	**CO2e**
Pounds per day - Grubbing/Land Clearing	0.05	0.77	0.06	0.04	0.02	0.00	246.04	0.01	0.01	247.92
Tons per const. Period - Grubbing/Land Clearing	0.00	0.01	0.00	0.00	0.00	0.00	4.33	0.00	0.00	4.36

Pounds per day - Grading/Excavation	0.21	3.34	0.26	0.16	0.07	0.01	1,066.16	0.02	0.03	1,074.31
Tons per const. Period - Grading/Excavation	0.02	0.24	0.02	0.01	0.00	0.00	75.06	0.00	0.00	75.63
Pounds per day - Drainage/Utilities/Sub-Grade	0.16	2.43	0.19	0.12	0.05	0.01	784.65	0.02	0.02	790.58
Tons per const. Period - Drainage/Utilities/Sub-Grade	0.01	0.15	0.01	0.01	0.00	0.00	48.33	0.00	0.00	48.70
Pounds per day - Paving	0.07	1.12	0.08	0.06	0.02	0.00	369.17	0.01	0.01	371.87
Tons per const. Period - Paving	0.00	0.03	0.00	0.00	0.00	0.00	9.75	0.00	0.00	9.82
Total tons per construction project	0.03	0.43	0.03	0.02	0.01	0.00	137.47	0.00	0.00	138.51

Note: Water Truck default values can be overridden in cells D153 through D156, I153 through I156, and F153 through F156.

Water Truck Emissions	User Override of	Program Estimate of	User Override of Truck	Default Values	Calculated	User Override of	Default Values	Calculated
User Input	Default # Water Trucks	Number of Water Trucks	Round Trips/Vehicle/Day	Round Trips/Vehicle/Day	Trips/day	Miles/Round Trip	Miles/Round Trip	Daily VMT
Grubbing/Land Clearing - Exhaust		2		5	10		8.00	80.00
Grading/Excavation - Exhaust		2		5	10		8.00	80.00
Drainage/Utilities/Subgrade		1		5	5		8.00	40.00
Paving		1		5	5		8.00	40.00

Emission Rates	**ROG**	**CO**	**NOx**	**PM10**	**PM2.5**	**SOx**	**CO2**	**CH4**	**N2O**	**CO2e**
Grubbing/Land Clearing (grams/mile)	0.03	0.41	3.02	0.11	0.05	0.02	1,693.55	0.00	0.27	1,772.92
Grading/Excavation (grams/mile)	0.03	0.41	3.02	0.11	0.05	0.02	1,693.55	0.00	0.27	1,772.92
Draining/Utilities/Sub-Grade (grams/mile)	0.03	0.41	3.03	0.11	0.05	0.02	1,687.57	0.00	0.27	1,766.65
Paving (grams/mile)	0.03	0.41	3.06	0.11	0.05	0.02	1,672.88	0.00	0.26	1,751.28
Grubbing/Land Clearing (grams/trip)	0.00	0.00	4.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grading/Excavation (grams/trip)	0.00	0.00	4.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Draining/Utilities/Sub-Grade (grams/trip)	0.00	0.00	4.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving (grams/trip)	0.00	0.00	4.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Emissions	**ROG**	**CO**	**NOx**	**PM10**	**PM2.5**	**SOx**	**CO2**	**CH4**	**N2O**	**CO2e**
Pounds per day - Grubbing/Land Clearing	0.01	0.07	0.63	0.02	0.01	0.00	298.69	0.00	0.05	312.69
Tons per const. Period - Grubbing/Land Clearing	0.00	0.00	0.01	0.00	0.00	0.00	5.26	0.00	0.00	5.50
Pounds per day - Grading/Excavation	0.01	0.07	0.63	0.02	0.01	0.00	298.69	0.00	0.05	312.69
Tons per const. Period - Grading/Excavation	0.00	0.01	0.04	0.00	0.00	0.00	21.03	0.00	0.00	22.01
Pounds per day - Drainage/Utilities/Sub-Grade	0.00	0.04	0.32	0.01	0.00	0.00	148.82	0.00	0.02	155.79
Tons per const. Period - Drainage/Utilities/Sub-Grade	0.00	0.00	0.02	0.00	0.00	0.00	9.17	0.00	0.00	9.60
Pounds per day - Paving	0.00	0.04	0.32	0.01	0.00	0.00	147.52	0.00	0.02	154.44
Tons per const. Period - Paving	0.00	0.00	0.01	0.00	0.00	0.00	3.89	0.00	0.00	4.08
Total tons per construction project	0.00	0.01	0.08	0.00	0.00	0.00	39.35	0.00	0.01	41.19

Note: Fugitive dust default values can be overridden in cells D183 through D185.

Fugitive Dust	User Override of Max Acreage Disturbed/Day	Default Maximum Acreage/Day	PM10 pounds/day	PM10 tons/per period	PM2.5 pounds/day	PM2.5 tons/per period
Fugitive Dust - Grubbing/Land Clearing		5.90	59.00	1.04	12.27	0.22
Fugitive Dust - Grading/Excavation		5.90	59.00	4.15	12.27	0.86
Fugitive Dust - Drainage/Utilities/Subgrade		5.90	59.00	3.63	12.27	0.76

Off-Road Equipment Emissions

Grubbing/Land Clearing Override of Default Number of Vehicles	Default Number of Vehicles *Program-estimate*	Mitigation Option Override of Default Equipment Tier (applicable only when "Tier 4 Mitigation" Option Selected)	Default Equipment Tier	Type	ROG pounds/day	CO pounds/day	NOx pounds/day	PM10 pounds/day	PM2.5 pounds/day	SOx pounds/day	CO2 pounds/day	CH4 pounds/day	N2O pounds/day	CO2e pounds/day
			Model Default Tier	Aerial Lifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Air Compressors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Bore/Drill Rigs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Cement and Mortar Mixers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Concrete/Industrial Saws	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Cranes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	2		Model Default Tier	Crawler Tractors	0.85	4.41	9.50	0.37	0.34	0.02	1,517.30	0.49	0.01	1,533.67
			Model Default Tier	Crushing/Proc. Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	3		Model Default Tier	Excavators	0.54	9.80	4.21	0.21	0.19	0.02	1,500.80	0.49	0.01	1,516.98
			Model Default Tier	Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Generator Sets	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Graders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Off-Highway Tractors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Off-Highway Trucks	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other Construction Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other General Industrial Equipn	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other Material Handling Equipm	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Pavers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Paving Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Plate Compactors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Pressure Washers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Pumps	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Rollers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Rough Terrain Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Rubber Tired Dozers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Rubber Tired Loaders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Scrapers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	2		Model Default Tier	Signal Boards	0.11	0.60	0.72	0.03	0.03	0.00	98.63	0.01	0.00	99.13
			Model Default Tier	Skid Steer Loaders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Surfacing Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Sweepers/Scrubbers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Tractors/Loaders/Backhoes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Trenchers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Welders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

User-Defined Off-road Equipment If non-default vehicles are used, please provide information in 'Non-default Off-road Equipment' tab

Number of Vehicles	Equipment Tier	Type	ROG pounds/day	CO pounds/day	NOx pounds/day	PM10 pounds/day	PM2.5 pounds/day	SOx pounds/day	CO2 pounds/day	CH4 pounds/day	N2O pounds/day	CO2e pounds/day
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

		ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Grubbing/Land Clearing	pounds per day	1.50	14.80	14.42	0.60	0.56	0.03	3,116.73	0.99	0.03	3,149.77
Grubbing/Land Clearing	tons per phase	0.03	0.26	0.25	0.01	0.01	0.00	54.85	0.02	0.00	55.44

Grading/Excavation Override of Default Number of Vehicles	Default Number of Vehicles *Program-estimate*	Mitigation Option Override of Default Equipment Tier (applicable only when "Tier 4 Mitigation" Option Selected)	Default Equipment Tier	Type	ROG pounds/day	CO pounds/day	NOx pounds/day	PM10 pounds/day	PM2.5 pounds/day	SOx pounds/day	CO2 pounds/day	CH4 pounds/day	N2O pounds/day	CO2e pounds/day
			Model Default Tier	Aerial Lifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Air Compressors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Bore/Drill Rigs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Cement and Mortar Mixers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Concrete/Industrial Saws	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	2		Model Default Tier	Cranes	0.66	3.55	7.01	0.29	0.27	0.01	1,117.62	0.36	0.01	1,129.66
	3		Model Default Tier	Crawler Tractors	1.27	6.61	14.24	0.55	0.51	0.02	2,275.95	0.74	0.02	2,300.50
			Model Default Tier	Crushing/Proc. Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	5		Model Default Tier	Excavators	0.90	16.33	7.01	0.35	0.32	0.03	2,501.33	0.81	0.02	2,528.30
			Model Default Tier	Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Generator Sets	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	3		Model Default Tier	Graders	1.06	4.97	12.47	0.40	0.37	0.02	1,921.52	0.62	0.02	1,942.23
			Model Default Tier	Off-Highway Tractors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Off-Highway Trucks	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other Construction Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other General Industrial Equipn	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other Material Handling Equipm	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Pavers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Paving Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Plate Compactors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Pressure Washers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Pumps	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	4		Model Default Tier	Rollers	0.58	7.40	6.10	0.32	0.30	0.01	1,016.58	0.33	0.01	1,027.53
			Model Default Tier	Rough Terrain Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Rubber Tired Dozers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	4		Model Default Tier	Rubber Tired Loaders	1.02	5.98	9.31	0.31	0.29	0.03	2,422.06	0.78	0.02	2,448.20
	5		Model Default Tier	Scrapers	3.80	29.84	38.48	1.52	1.40	0.08	7,345.50	2.38	0.07	7,424.66
	2		Model Default Tier	Signal Boards	0.11	0.60	0.72	0.03	0.03	0.00	98.63	0.01	0.00	99.13
			Model Default Tier	Skid Steer Loaders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Surfacing Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Sweepers/Scrubbers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	3		Model Default Tier	Tractors/Loaders/Backhoes	0.43	6.71	4.34	0.20	0.18	0.01	905.30	0.29	0.01	915.04
			Model Default Tier	Trenchers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Welders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

User-Defined Off-road Equipment If non-default vehicles are used, please provide information in 'Non-default Off-road Equipment' tab

Number of Vehicles	Equipment Tier	Type	ROG pounds/day	CO pounds/day	NOx pounds/day	PM10 pounds/day	PM2.5 pounds/day	SOx pounds/day	CO2 pounds/day	CH4 pounds/day	N2O pounds/day	CO2e pounds/day

Number of Vehicles		Equipment Tier		Type	ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
0.00		N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00		N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00		N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00		N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00		N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00		N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00		N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Grading/Excavation			pounds per day	9.85	81.98	99.68	3.98	3.66	0.20	19,604.49	6.32	0.18	19,815.26
	Grading/Excavation			tons per phase	0.69	5.77	7.02	0.28	0.26	0.01	1,380.16	0.44	0.01	1,394.99

Drainage/Utilities/Subgrade Override of Default Number of Vehicles	Default Number of Vehicles *Program-estimate*	Mitigation Option Override of Default Equipment Tier (applicable only when "Tier 4 Mitigation" Option Selected)	Default Equipment Tier		ROG pounds/day	CO pounds/day	NOx pounds/day	PM10 pounds/day	PM2.5 pounds/day	SOx pounds/day	CO2 pounds/day	CH4 pounds/day	N2O pounds/day	CO2e pounds/day
			Model Default Tier	Aerial Lifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	2		Model Default Tier	Air Compressors	0.47	4.83	3.19	0.16	0.16	0.01	750.53	0.04	0.01	753.26
			Model Default Tier	Bore/Drill Rigs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Cement and Mortar Mixers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Concrete/Industrial Saws	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Cranes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Crawler Tractors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Crushing/Proc. Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Excavators	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	2		Model Default Tier	Generator Sets	0.56	7.33	5.00	0.21	0.21	0.01	1,246.07	0.05	0.01	1,250.09
	3		Model Default Tier	Graders	1.03	4.92	11.86	0.38	0.35	0.02	1,921.29	0.62	0.02	1,941.99
			Model Default Tier	Off-Highway Tractors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Off-Highway Trucks	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other Construction Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other General Industrial Equipn	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other Material Handling Equipm	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Pavers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Paving Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	2		Model Default Tier	Plate Compactors	0.08	0.42	0.50	0.02	0.02	0.00	68.96	0.01	0.00	69.31
			Model Default Tier	Pressure Washers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	2		Model Default Tier	Pumps	0.60	7.44	5.07	0.23	0.23	0.01	1,246.07	0.05	0.01	1,250.20
			Model Default Tier	Rollers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	2		Model Default Tier	Rough Terrain Forklifts	0.20	4.58	2.66	0.08	0.07	0.01	667.46	0.22	0.01	674.66
			Model Default Tier	Rubber Tired Dozers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Rubber Tired Loaders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	5		Model Default Tier	Scrapers	3.67	28.99	36.56	1.44	1.33	0.08	7,344.12	2.37	0.07	7,423.27
	2		Model Default Tier	Signal Boards	0.11	0.60	0.72	0.03	0.03	0.00	98.63	0.01	0.00	99.13
			Model Default Tier	Skid Steer Loaders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Surfacing Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Sweepers/Scrubbers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	3		Model Default Tier	Tractors/Loaders/Backhoes	0.42	6.70	4.25	0.19	0.17	0.01	905.55	0.29	0.01	915.29
			Model Default Tier	Trenchers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Welders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

User-Defined Off-road Equipment If non-default vehicles are used, please provide information in 'Non-default Off-road Equipment' tab

Number of Vehicles		Equipment Tier		Type	ROG pounds/day	CO pounds/day	NOx pounds/day	PM10 pounds/day	PM2.5 pounds/day	SOx pounds/day	CO2 pounds/day	CH4 pounds/day	N2O pounds/day	CO2e pounds/day
0.00		N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00		N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00		N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00		N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00		N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00		N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00		N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Drainage/Utilities/Sub-Grade			pounds per day	7.15	65.79	69.81	2.74	2.57	0.15	14,248.68	3.67	0.12	14,377.21
	Drainage/Utilities/Sub-Grade			tons per phase	0.44	4.05	4.30	0.17	0.16	0.01	877.72	0.23	0.01	885.64

Paving Override of Default Number of Vehicles	Default Number of Vehicles *Program-estimate*	Mitigation Option Override of Default Equipment Tier (applicable only when "Tier 4 Mitigation" Option Selected)	Default Equipment Tier	Type	ROG pounds/day	CO pounds/day	NOx pounds/day	PM10 pounds/day	PM2.5 pounds/day	SOx pounds/day	CO2 pounds/day	CH4 pounds/day	N2O pounds/day	CO2e pounds/day
			Model Default Tier	Aerial Lifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Air Compressors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Bore/Drill Rigs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Cement and Mortar Mixers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Concrete/Industrial Saws	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Cranes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Crawler Tractors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Crushing/Proc. Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Excavators	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Generator Sets	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Graders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Off-Highway Tractors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Off-Highway Trucks	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other Construction Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other General Industrial Equipn	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other Material Handling Equipm	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	2		Model Default Tier	Pavers	0.35	5.79	3.17	0.15	0.14	0.01	909.99	0.29	0.01	919.80
	2		Model Default Tier	Paving Equipment	0.29	5.09	2.53	0.13	0.12	0.01	788.64	0.26	0.01	797.15
			Model Default Tier	Plate Compactors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Pressure Washers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Pumps	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	2		Model Default Tier	Rollers	0.27	3.69	2.89	0.15	0.13	0.01	508.12	0.16	0.00	513.60
			Model Default Tier	Rough Terrain Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Rubber Tired Dozers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Rubber Tired Loaders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Scrapers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	2		Model Default Tier	Signal Boards	0.11	0.60	0.72	0.03	0.03	0.00	98.63	0.01	0.00	99.13
			Model Default Tier	Skid Steer Loaders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Surfacing Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

						ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
			Model Default Tier	Sweepers/Scrubbers		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	3		Model Default Tier	Tractors/Loaders/Backhoes		0.40	6.69	4.01	0.16	0.15	0.01	906.17	0.29	0.01	915.91
			Model Default Tier	Trenchers		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Welders		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

User-Defined Off-road Equipment If non-default vehicles are used, please provide information in 'Non-default Off-road Equipment' tab

Number of Vehicles	Equipment Tier	Type		ROG pounds/day	CO pounds/day	NOx pounds/day	PM10 pounds/day	PM2.5 pounds/day	SOx pounds/day	CO2 pounds/day	CH4 pounds/day	N2O pounds/day	CO2e pounds/day
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

			ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
	Paving	pounds per day	1.43	21.87	13.31	0.61	0.56	0.03	3,211.54	1.02	0.03	3,245.59
	Paving	tons per phase	0.04	0.58	0.35	0.02	0.01	0.00	84.78	0.03	0.00	85.68
Total Emissions all Phases (tons per construction period) =>			1.20	10.66	11.92	0.48	0.44	0.02	2,397.51	0.71	0.02	2,421.75

Equipment default values for horsepower and hours/day can be overridden in cells D403 through D436 and F403 through F436.

Equipment	User Override of Horsepower	Default Values Horsepower	User Override of Hours/day	Default Values Hours/day
Aerial Lifts		63		8
Air Compressors		78		8
Bore/Drill Rigs		221		8
Cement and Mortar Mixers		9		8
Concrete/Industrial Saws		81		8
Cranes		231		8
Crawler Tractors		212		8
Crushing/Proc. Equipment		85		8
Excavators		158		8
Forklifts		89		8
Generator Sets		84		8
Graders		187		8
Off-Highway Tractors		124		8
Off-Highway Trucks		402		8
Other Construction Equipment		172		8
Other General Industrial Equipment		88		8
Other Material Handling Equipment		168		8
Pavers		130		8
Paving Equipment		132		8
Plate Compactors		8		8
Pressure Washers		13		8
Pumps		84		8
Rollers		80		8
Rough Terrain Forklifts		100		8
Rubber Tired Dozers		247		8
Rubber Tired Loaders		203		8
Scrapers		367		8
Signal Boards		6		8
Skid Steer Loaders		65		8
Surfacing Equipment		263		8
Sweepers/Scrubbers		64		8
Tractors/Loaders/Backhoes		97		8
Trenchers		78		8
Welders		46		8

END OF DATA ENTRY SHEET

Road Construction Emissions Model, Version 9.0.0

Daily Emission Estimates for -> Gonzales River Road Bridge Rehabilitation Project

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	1.56	15.65	15.12	59.66	0.66	59.00	12.85	0.58	12.27	0.04	3,661.46	0.99	0.08	3,710.38
Grading/Excavation	10.09	85.66	102.68	63.23	4.23	59.00	16.04	3.77	12.27	0.23	22,089.43	6.34	0.43	22,374.84
Drainage/Utilities/Sub-Grade	7.31	68.26	70.32	61.86	2.86	59.00	14.89	2.62	12.27	0.16	15,182.15	3.68	0.17	15,323.58
Paving	1.50	23.02	13.71	0.68	0.68	0.00	0.59	0.59	0.00	0.04	3,728.24	1.02	0.06	3,771.89
Maximum (pounds/day)	10.09	85.66	102.68	63.23	4.23	59.00	16.04	3.77	12.27	0.23	22,089.43	6.34	0.43	22,374.84
Total (tons/construction project)	1.23	11.12	12.19	9.33	0.50	8.83	2.29	0.45	1.84	0.03	2,653.18	0.72	0.04	2,684.00

Notes:

Project Start Year ->	2024
Project Length (months) ->	16
Total Project Area (acres) ->	6
Maximum Area Disturbed/Day (acres) ->	6
Water Truck Used? ->	Yes

	Total Material Imported/Exported Volume (yd^3/day)		Daily VMT (miles/day)			
Phase	Soil	Asphalt	Soil Hauling	Asphalt Hauling	Worker Commute	Water Truck
Grubbing/Land Clearing	0	0	0	0	360	80
Grading/Excavation	76	0	300	0	1,560	80
Drainage/Utilities/Sub-Grade	0	0	0	0	1,160	40
Paving	0	0	0	0	560	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 -> Gonzales River Road Bridge Rehabilitation Project

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	0.03	0.28	0.27	1.05	0.01	1.04	0.23	0.01	0.22	0.00	64.44	0.02	0.00	59.24
Grading/Excavation	0.71	6.03	7.23	4.45	0.30	4.15	1.13	0.27	0.86	0.02	1,555.10	0.45	0.03	1,429.00
Drainage/Utilities/Sub-Grade	0.45	4.20	4.33	3.81	0.18	3.63	0.92	0.16	0.76	0.01	935.22	0.23	0.01	856.33
Paving	0.04	0.61	0.36	0.02	0.02	0.00	0.02	0.02	0.00	0.00	98.43	0.03	0.00	90.34
Maximum (tons/phase)	0.71	6.03	7.23	4.45	0.30	4.15	1.13	0.27	0.86	0.02	1555.10	0.45	0.03	1,429.00
Total (tons/construction project)	1.23	11.12	12.19	9.33	0.50	8.83	2.29	0.45	1.84	0.03	2653.18	0.72	0.04	2,434.91

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

Natural Environment Study

Discussion of Biological Assessment, Jurisdictional Delineation, Focused Species Surveys, and Habitat Assessments

Monterey County, California

Federal Project Number BRLS-5944 (098)

Bridge Number 44C0035

January 2021

Caltrans
CALIFORNIA DEPARTMENT OF TRANSPORTATION

For individuals with sensory disabilities, this document is available in Braille, large print, on audiocassette, or computer disk. To obtain a copy in one of these alternate formats, please call or write to Caltrans, Attn: Randy LaVack, District 5, 50 South Higuera Street, San Luis Obispo, CA 93401; (805) 549-3182 Voice, or use the California Relay Service TTY number, (800) 735-2929.

Natural Environment Study

Gonzales River Road Bridge Replacement Project
Monterey County, California
05-MON-0-CR
Federal Project Number BRLS-5944 (098)
Bridge Number 44C0035

January 2021

STATE OF CALIFORNIA
Department of Transportation
and
County of Monterey Public Works Department

Prepared By: _____ Date: 02/11/2021

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Summary

The County of Monterey (County) Public Works Department proposes to replace (deck and roadway) the existing two-lane bridge (Bridge No. 44C0035) on Gonzales River Road over the Salinas River in Monterey County, California to meet current American Association of State Highway and Transportation Officials design standards. The proposed project also includes modification to the existing two-lane roadway for approximately 450 feet on either side of the bridge to be consistent with the new bridge width and profile. After construction, both the bridge and roadway approaches would contain two 12-foot lanes and two 8-foot shoulders and would meet current American Association of State Highway and Transportation Officials minimum speed standards. This Natural Environment Study addresses potential impacts to wetlands and Waters of the United States and streambeds under the jurisdiction of the U.S. Army Corps of Engineers, the Central Coast Regional Water Quality Control Board, and the California Department of Fish and Wildlife. This Natural Environment Study also addresses trees protected by Monterey County, and 26 special-status species under the jurisdiction of the U.S. Fish and Wildlife Service, National Marine Fisheries Service and/or the California Department of Fish and Wildlife, including eight federally listed and six State listed species.

The proposed project will result in permanent impacts to approximately 0.02 acres of Fremont cottonwood forest and 0.02 acres of sandbar willow thickets/mulefat thicket, along the Salinas River high and low flow channels. The project will also cause permanent impacts to approximately 0.04 acres and temporary impacts to approximately 1.64 acres of areas within the jurisdiction of the California Department of Fish and Wildlife. Additionally, the proposed project will result in temporary impacts to approximately 0.24 acres (non-wetland waters of the United States) of areas within the jurisdiction of the U.S. Army Corps of Engineers; no wetlands within the jurisdiction of the U.S. Army Corps of Engineers will be impacted. However, removal of eight existing bridge piers will result in an increase of approximately 131.6 square feet of area within California Fish and Wildlife jurisdiction. No net increase in the U.S. Army Corps of Engineers jurisdiction will occur as a result of project implementation.

The south-central California coast Distinct Population Segment of steelhead (*Oncorhynchus mykiss irideus*) occurs within the Salinas River drainage and fish seasonally pass through the Biological Study Area to spawn in the upper reaches of the river. With implementation of the proposed avoidance and minimization

measures, the proposed project may affect, but is not likely to adversely affect this federally listed species. The federal and State listed California tiger salamander and the federally listed California red-legged frog also have been recorded within the vicinity of the Biological Study Area. However, there is no suitable upland or aquatic habitat in the Biological Study Area connecting the Biological Study Area with the occupied habitat. Therefore, the proposed bridge replacement will have no effect on California tiger salamanders or California red-legged frogs. In addition, Critical Habitat for south-central California coast Distinct Population Segment of steelhead is present within the Biological Study Area; however, with implementation of the proposed avoidance and minimization measures, the proposed project may affect, but is not likely to adversely affect Critical Habitat for this species.

Table of Contents

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List of Figures

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List of Tables

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List of Abbreviated Terms

Abbreviation	Term
BA	Biological Assessments
BMP	Best Management Practices
BSA	Biological Study Area
Caltrans	California Department of Transportation
CDFG[1]	California Department of Fish and Game
CDFW	California Department of Fish and Wildlife
CESA	California Endangered Species Act
CEQA	California Environmental Quality Act
CFGC	California Fish and Game Code
CNPS	California Native Plant Society
Corps	United States Army Corps of Engineers
County	Monterey County
DPS	Distinct Population Segment
EFH	Essential Fish Habitat
ESA	Environmentally Sensitive Area
EO	Executive Order
FEMA	Federal Emergency Management Agency
FESA	Federal Endangered Species Act
FHWA	Federal Highway Administration
HBP	Highway Bridge Program
LOS	Level of Service
MSA	Magnuson-Stevens Fishery Conservation and Management Act
NEPA	National Environmental Policy Act
NES	Natural Environment Study
NMFS	National Marine Fisheries Service
OHWM	Ordinary high water mark
PM	Post Mile
Project	Gonzales River Road Bridge Replacement Project
RCP	Reinforced Concrete Pipe

[1] The name of the California Department of Fish and Game (CDFG) was changed to the California Department of Fish and Wildlife (CDFW) on January 1, 2013. In this NES, CDFG is used only in reference to CDFW documents published prior to January 1, 2013.

RWQCB	Regional Water Quality Control Board
SIWTF	Salinas Industrial Wastewater Treatment Facility
STIP	State Transportation Improvement Program
TAMC	Transportation Agency for Monterey County
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey

Chapter 1. Introduction

Project History

The Gonzales River Road Bridge (bridge) was originally constructed in 1930. The existing bridge is 1,661 feet long and 22.5 feet wide with two 10-foot travel lanes and no shoulders. In 2001, the bridge underwent a seismic retrofit that included the construction of new foundations and substructures; however, the seismic retrofit did not include replacing the superstructure. The superstructure replacement is the focus of the proposed project.

Project Description

The County of Monterey (County) Public Works Department proposes to replace (deck and roadway) the existing two-lane Gonzales River Road Bridge (Bridge No. 44C0035) over the Salinas River in Monterey County, California (proposed project) with a wider bridge that meets current American Association of State Highway and Transportation Officials (AASHTO) requirements. The proposed project addresses existing structural deficiencies, such as cracks, exposed reinforcing bars, and failing joints in the superstructure; and improves the conditions for conveying flood flows. The proposed project would also widen the roadway approaches on the north and south ends of the bridge to conform to the new bridge width and profile. After construction, both the bridge and roadway approaches would contain two 12-foot lanes and two 8-foot shoulders and would meet current AASHTO minimum speed standards.

The bridge identification information is as follows: 05-MON-0-CR; BRLS-5944 (098); Caltrans Bridge No. 44C0035, County Bridge No. 309; Latitude: 36° 29' 10"; and Longitude: 121° 28' 11."

Existing Facility

The project is located in unincorporated Monterey County mid-way between Salinas to the north and Soledad to the souths (Figure 1). The bridge is approximately 0.2 miles east of River Road and 2 miles west of U.S. Route 101 (US-101) (Figure 1).

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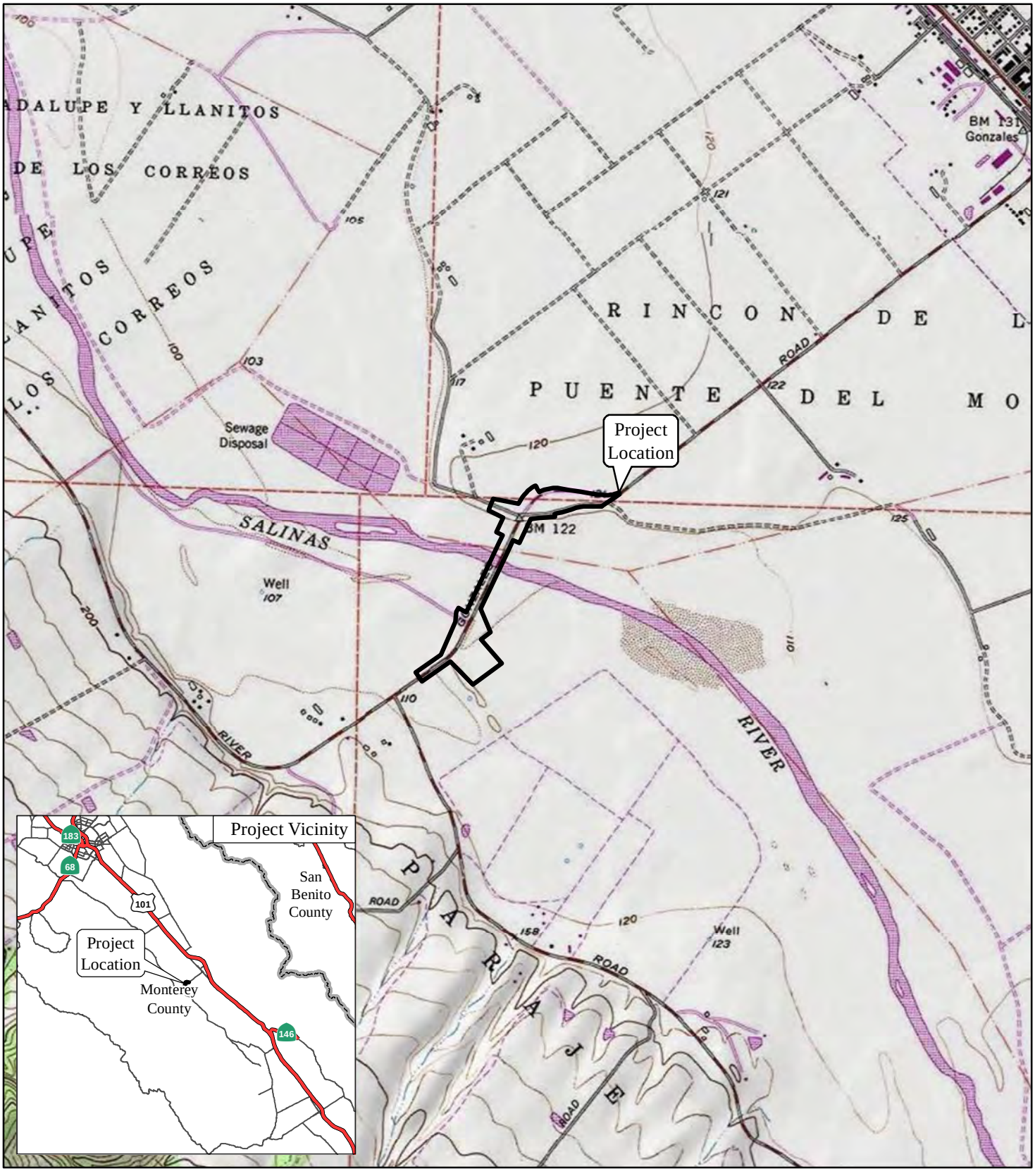

LEGEND

Project Area

FIGURE 1

Gonzales River Road Bridge Replacement Project
Monterey County, California
Federal Project Number BRLS-5944(098)

Project Location

0 1000 2000
FEET

SOURCE: USGS 7.5' Quad., *Palo Escrito Peak, CA* (1984); TRC (6/2016)

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The bridge generally runs in a north-south direction with the Salinas River flowing under the bridge in a generally east to west direction. The surrounding land uses are predominantly agricultural. A biological study area (BSA) was designated to include all areas that could be affected by the proposed bridge replacement project (Figure 2). The BSA encompasses approximately 33.9 acres.

According to the California Department of Transportation (Caltrans) California Road System Map, Gonzales River Road is classified as a Major Collector (Rural Roadway). The roadway approaches have two 10-foot travel lanes (one lane in each direction) and no shoulders.

Purpose

The purpose of this project is to:

- Provide for wider travel lanes and shoulders that comply with current AASHTO bridge and road design standards;
- Bring the bridge up to current Caltrans structural standards;
- Improve access for trucks and non-motorized users; and
- Increase the bridge opening, both vertically and horizontally, to improve flood flows and prevent backwater during flood events.

Need

The existing bridge has 10-foot travel lanes, no shoulders, and does not meet AASHTO minimum lane and shoulder width standards for Rural Roads with a future average daily traffic (ADT) of more than 2,000, which is 12 feet and 8 feet, respectively. In addition, the existing roadway approaches have no shoulders, which do not meet the AASHTO 8-foot minimum shoulder width standard for a Local Road. The existing bridge is structurally deficient (Caltrans Bridge Inspection Report, 2010) and does not pass code mandated flood-flow requirements.

Funding

Funding for the bridge project will come from the Federal Highway Bridge Program (HBP) under Federal Highway Administration (FHWA) and local matching funds. It is anticipated that the local match will come from the State Transportation Improvement Program (STIP) funds allocated by the Transportation Agency for Monterey County (TAMC).

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LEGEND

Biological Study Area

FIGURE 2

N

0 250 500

FEET

SOURCE: Bing Aerial (2011); LSA (7/2016)

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Gonzales River Road Bridge Replacement Project
Monterey County, California
Federal Project Number BRLS-5944(098)

Biological Study Area

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Bridge Replacement

The existing 1,661-foot long, 23-foot wide bridge superstructure (i.e., bridge deck) will be replaced with a new 1,701-foot long and approximately 43-foot wide bridge superstructure (Figures 3 and 4). The new bridge deck will have two 12-foot travel lanes and 8-foot shoulders along each side of the travel lanes. The superstructure will be replaced with prestressed Wide-Flange Girders with a cast-in-place reinforced concrete deck (Figure 3). Because the girders are precast, falsework will not need to be placed in the river for construction of the superstructure. The bridge widening will be symmetrical about the existing centerline. The bridge will include new California ST-10 Bridge Rail, two-bar curb-mountain steel bridge rails, along the bridge. On the south end of the bridge, the terminus of the bridge rail will be protected with guardrails engineered for larger passenger vehicles (Midwest Guardrail System). On the north end of the bridge, the terminus of the bridge rail will be protected with 25 feet of crash cushion guardrail (TRACC system). The profile on the south end of the bridge will be raised approximately 10 feet to meet the grade of the new bridge.

The existing abutment on the south end of the bridge (Abutment E1) will be replaced and rebuilt approximately 40 feet south of its existing location (Figure 4; Sheet 1). The existing abutment on the north end of the bridge (Abutment E30) will be replaced and rebuilt in its existing location (Figure 4; Sheet 1). The new bridge abutments will be made of reinforced concrete.

Piers 2 and 4, along with Abutment E1, will be rebuilt (i.e., raised) to meet the profile of the new, higher, elevation of the bridge at the southern end (Figure 4; Sheet 1). Minor modifications to the remaining piers, such as adding a small amount of concrete on top, will also be required. In addition, eight existing bridge piers (E3, E5, E7, E9, E11, E13, E15 and E29) will be completely removed (Figure 4; Sheet 1). Removing eight existing piers reduces the total number of spans and increases the distance between the remaining piers, which will increase the hydraulic conveyance capacity beneath the bridge. The new span configuration will start at Abutment 1 on the south end of the bridge and end at Abutment 22 on the north, which is currently Abutment E30 (Figure 4; Sheet 1).

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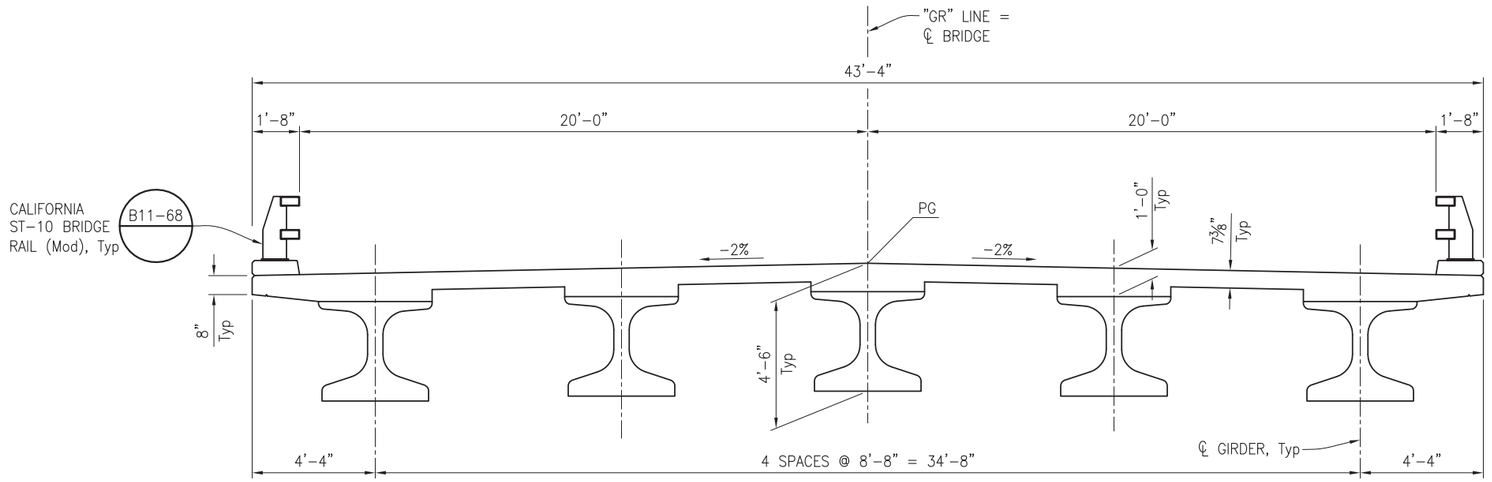
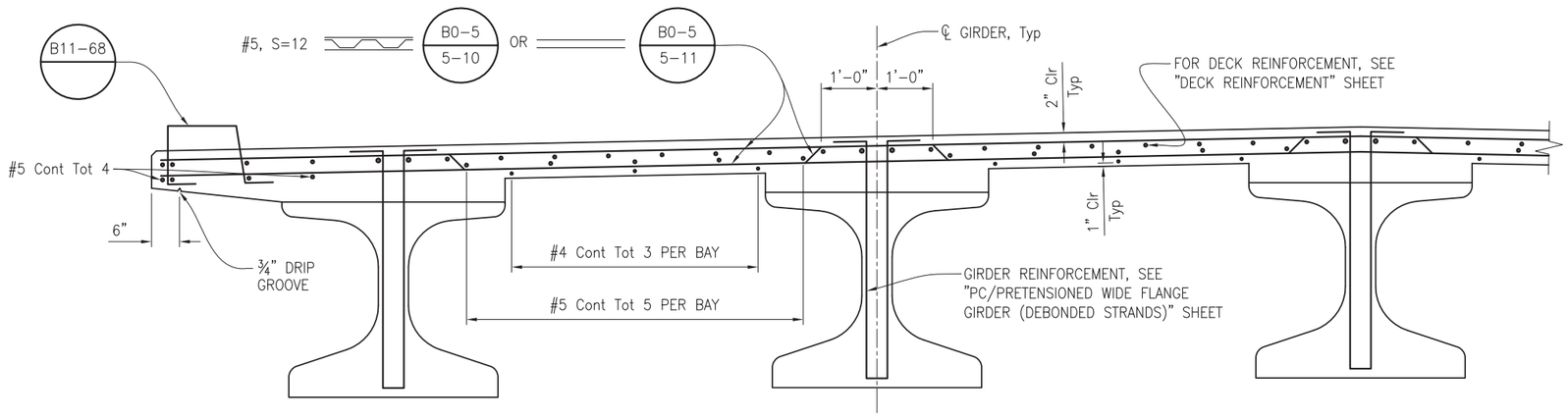


TYPICAL SECTION



PART TYPICAL SECTION

FIGURE 3

Gonzales River Road Bridge Replacement Project
Monterey County, California
Federal Project Number BRLS-5944(098)

Typical Cross Section

SOURCE: TRC

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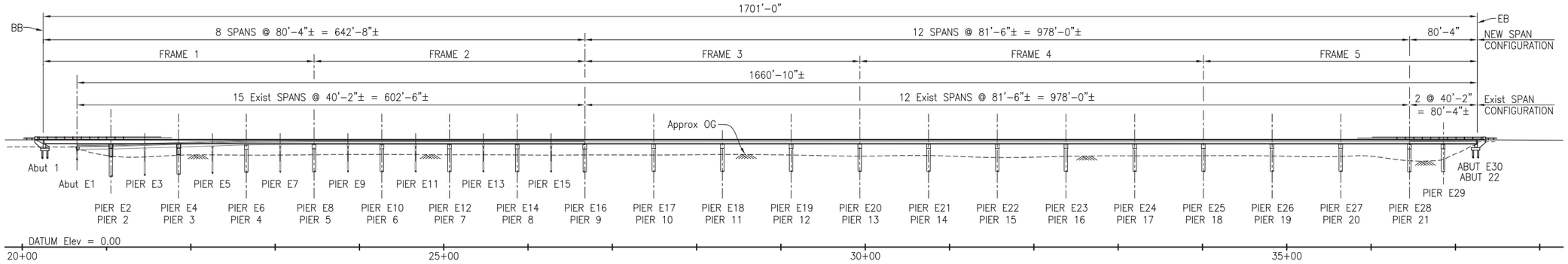
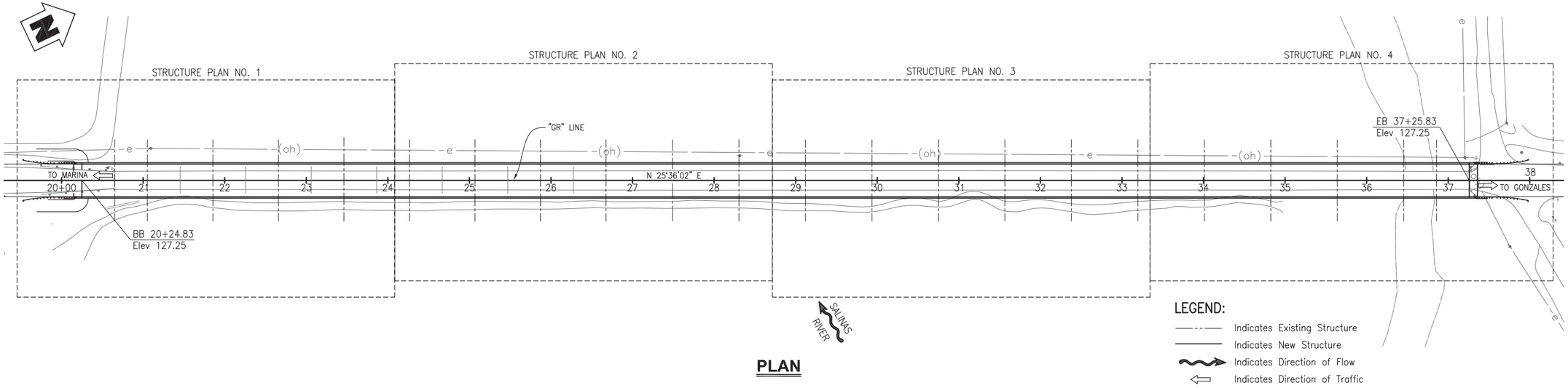
PROFILE GRADE

NO SCALE



ELEVATION



PLAN

FIGURE 4
(Sheet 1 of 2)

Gonzales River Road Bridge Replacement Project
Monterey County, California
Federal Project Number BRLS-5944(098)

General Plan

SOURCE: TRC

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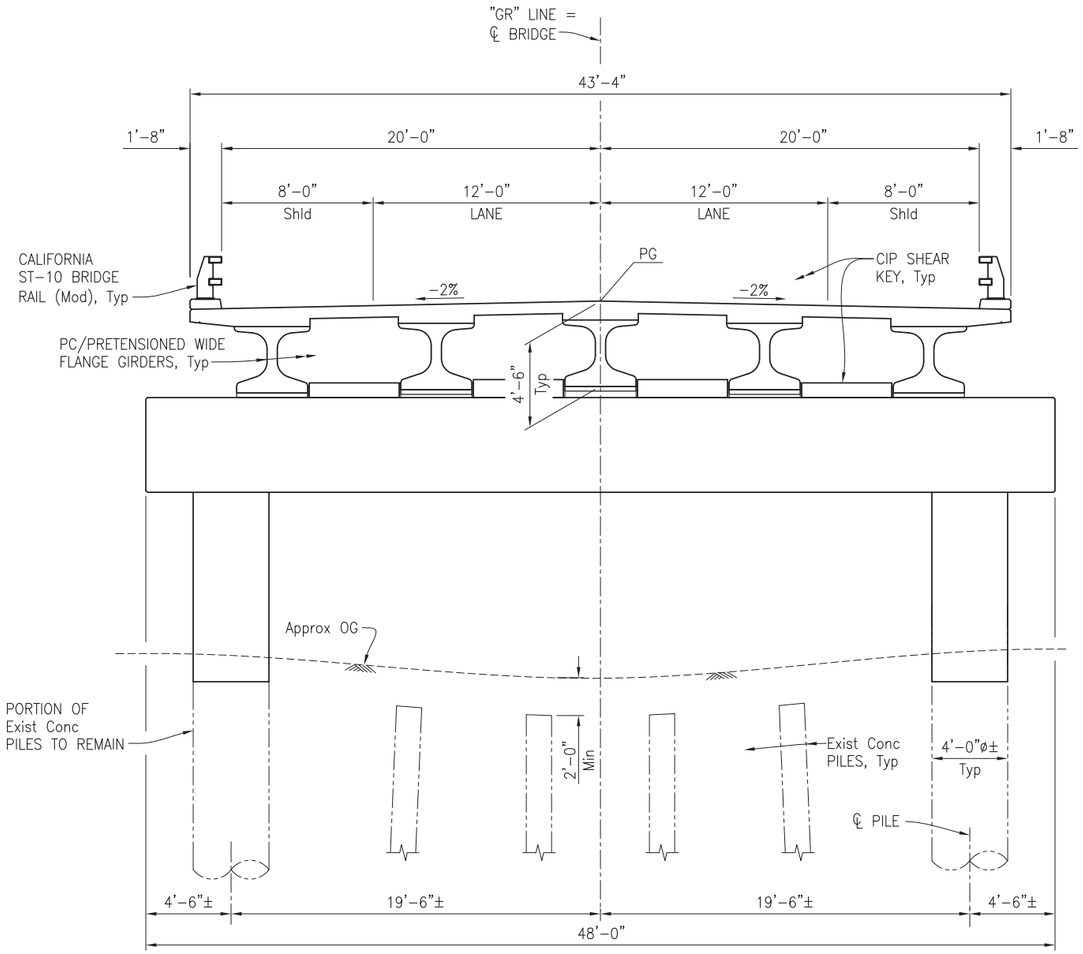
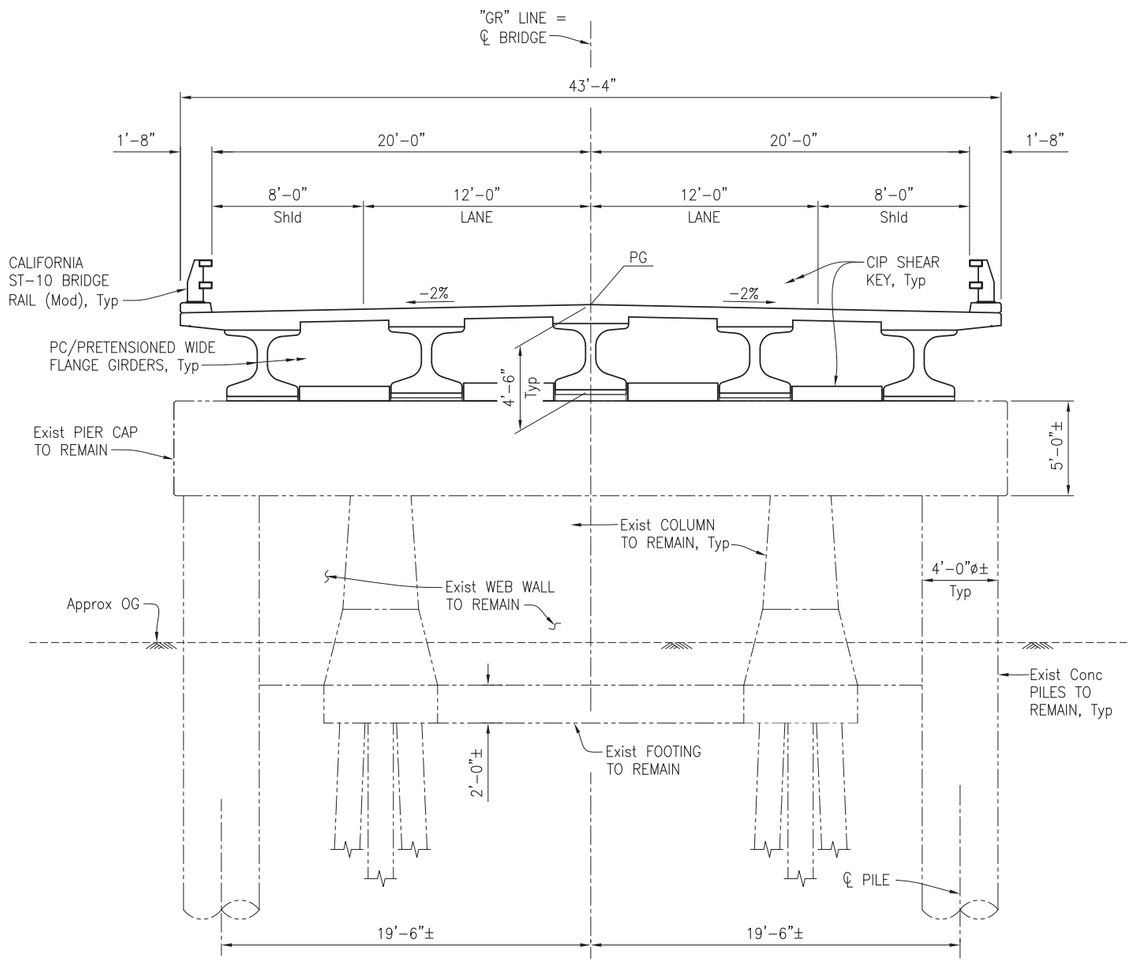


PIER E2 SHOWN, PIER E4 SIMILAR

PIERS 2 & 3



PIER E17 SHOWN, OTHERS SIMILAR

PIERS 4 THRU 21

LEGEND:

Indicates Existing Structure

Indicates New Structure

TYPICAL SECTIONS

FIGURE 4
(Sheet 2 of 2)

Gonzales River Road Bridge Replacement Project
Monterey County, California
Federal Project Number BRLS-5944(098)

General Plan

SOURCE: TRC

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Roadway Approaches

The roadway approaches on either end of the bridge will be widened to 12-foot travel lanes and 8-foot shoulders to match the width of the travel lanes and shoulders on the bridge. The roadway would then be tapered back to 10-foot travel lanes and no shoulders within a few hundred feet of the bridge to conform to the existing width of Gonzales River Road. Approximately 1,025 feet of approach work will be required on the south end of the bridge and 400 feet of approach work will be required on the north end.

On the east side of Gonzales River Road, at the southern approach to the bridge, there is an existing 3 foot to 8 foot deep earth lined ditch with 2:1 side slopes that drains to the Salinas River. This ditch would be impacted by the proposed widening of the roadway. Approximately 1,100 feet of this ditch, with the same shape and 2:1 side slope, would be realigned east of its current location to accommodate the widened roadway.

Within the project area, the existing pavement of Gonzales River Road will be excavated or recycled and a new roadway section will be constructed. The new roadway will be constructed with 3-foot shoulder backing (a strip of granular material used to protect the outside edge of the roadway pavement) and side slopes of 4:1. As with the bridge, the roadway-approach widening will be symmetrical relative to the existing centerline of the road.

Access Roads

There are two access roads, Short Road and an unnamed river access road, that intersect Gonzales River Road at the north end of the bridge. These access roads will be realigned farther north so that they meet Gonzales River Road north of the new guardrail. The two access roads will also be modified to meet the new profile grade of Gonzales River Road in this location. The access road modifications will be constructed within temporary construction easements.

A 10-foot-wide farm access road is located on the south end of the bridge along the west side of, and parallel to, Gonzales River Road. A new 10-foot wide farm access road will be constructed further into the property outside the roadway fill limits, parallel to Gonzales River Road in order to maintain access around the agricultural property. The road modifications will be constructed using temporary construction easements.

Utility Rerouting

Overhead electrical and telephone lines are located within the project area. Three utility poles will need to be relocated. One pole is located on the west side of the bridge on the south approach and will need to be moved approximately 11 feet west from its current location, outside of the edge of pavement; the telephone line located on this pole goes underground and is carried in a conduit along the west side of the bridge. The second pole is located 335 feet south of the bridge on the west side and will need to be moved approximately 7 feet west of its current location. The third pole is located 930 feet south of the south approach to the bridge on the east side of the roadway and will need to be relocated approximately 10 feet east of its current location.

Construction Details

Construction is expected to occur during the summers of 2019 and 2020, with completion by fall of 2020. Although construction would span two seasons, the total duration for construction is anticipated to be 16 months. Construction activities within the river are planned to occur outside of the rainy season, when surface water within the Salinas River is at its seasonal minimum. Construction within the river will take a total of approximately 3.5 months per year for a total duration of 7 months.

Traffic Rerouting

Gonzales River Road Bridge and the roadway approaches will be closed during construction. Vehicles traveling north on US-101 will be notified by advanced warning signage that Gonzales River Road is closed to through traffic and will be routed northwest on Arroyo Seco Road to Fort Romie Road and River Road. Vehicles traveling south on US-101 will be notified by advanced warning signage that Gonzales River Road is closed and they will be routed southwest on Chualar River Road to River Road. Vehicles traveling from the north and south to access Gonzales Road Bridge from the west will be routed to Arroyo Seco Road or Chualar River Road accordingly. The total detour to the north via Chualar River Road is approximately 17 miles in length and the total detour to the south via Arroyo Seco Road is approximately 24 miles in length (Figure 5).

Construction Access, River Access and Staging

Construction materials and equipment will be staged in two locations within the project limits (Figure 6). One staging area is located southeast of Abutment 1 and the other staging area is located northeast of Abutment 30, which will be numbered

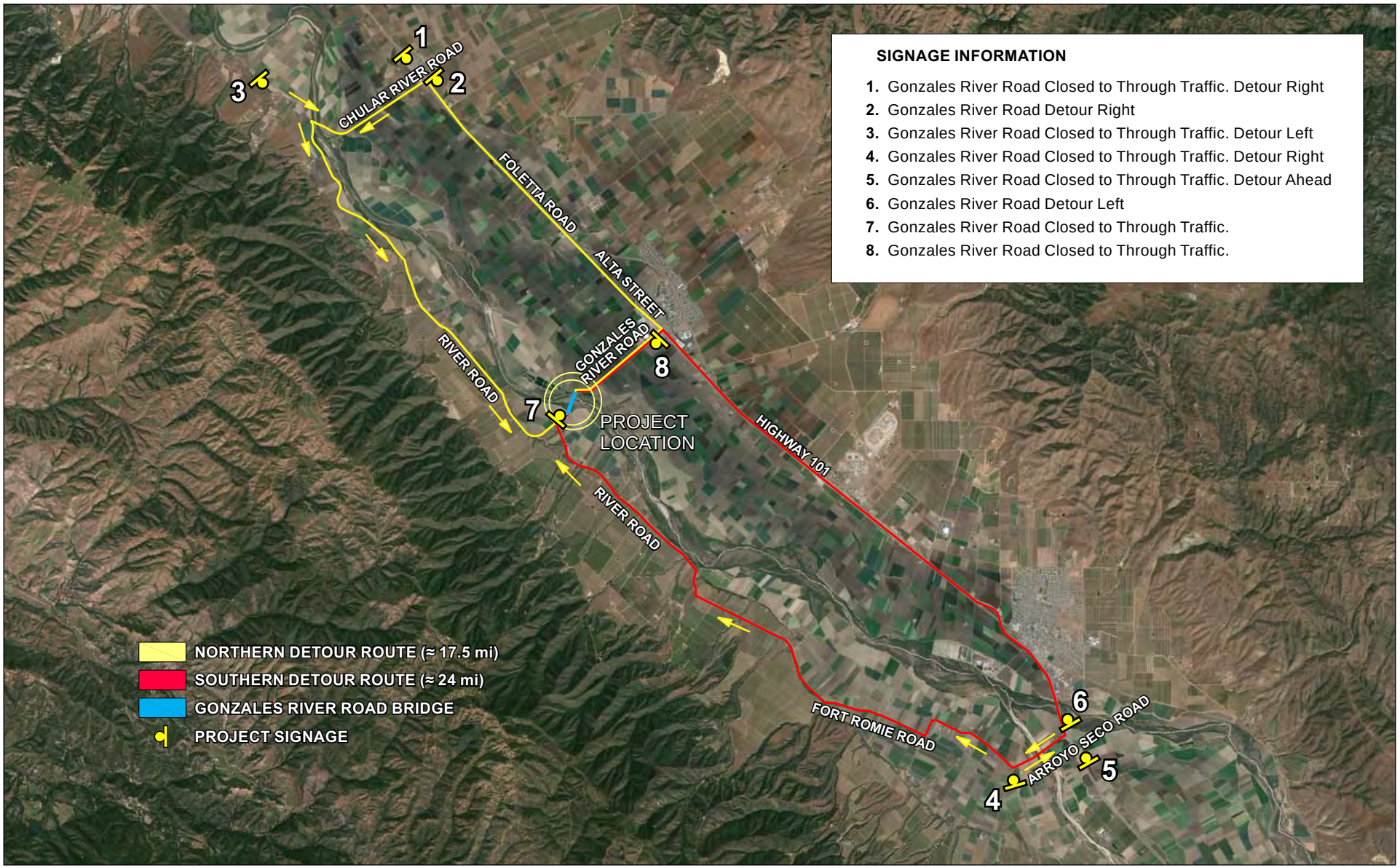

FIGURE 5

SOURCE: TRC (2016)

Gonzales River Road Bridge Replacement Project
Monterey County, California
Federal Project Number BRLS-5944(098)

Construction Detour

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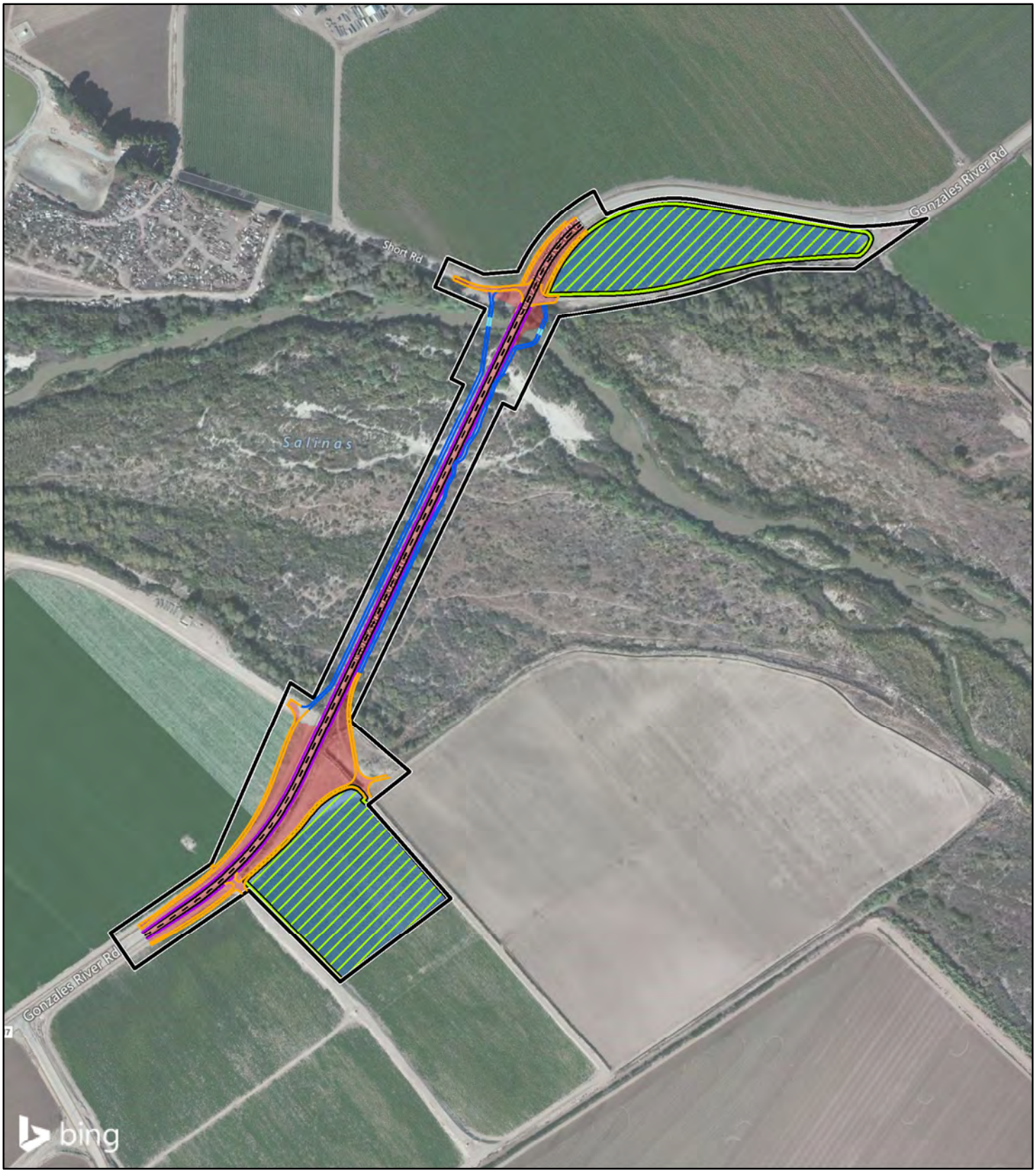

LEGEND

Project Area
Staging Areas

Impact Type
Permanent
Temporary

Temporary Access Road
Relocated Farm Road / Driveway
Low Water Crossing
Edge of Pavement
Roadway Markings
Roadway Markings

N

0 250 500
FEET

SOURCE: Bing Aerial (2011); TRC (6/2016)

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FIGURE 6

Gonzales River Road Bridge Replacement Project
Monterey County, California
Federal Project Number BRLS-5944(098)

Project Details and Impacts

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Abutment 22 after the proposed project has been completed. A 30-foot-wide low-water crossing bridge over the low flow channel will be constructed to connect these two staging areas and provide support for the construction and removal of the old superstructure. A construction equipment access road will also be constructed on the upstream (east) side of the bridge. Grading and excavation will be required to construct the temporary bridge and access road.

Bridge Demolition

Once Gonzales River Road Bridge is closed to traffic, the contractor will remove the existing bridge superstructure using the construction access road located on the east side of the bridge. After the superstructure has been removed, the odd numbered piers from Pier 3 to Pier 15 and Pier 29 will be removed and minor grading will take place around the removed piers.

Project Site Dewatering and Diversion

Construction in the river is scheduled outside of the rainy season (June 15 through October 15) when the riverbed is generally dry. However, if water is encountered, the river will be channelized during construction so that it is shifted away from the location of any pier/abutment work. If the river is flowing during the time of construction, the contractor will construct a temporary low water crossing across the low flow channel. This crossing will require placing large storm drainpipes in the channel and backfilling the sides and top with soil material. Gravel bags will be placed just upstream of the pipe in order to channelize the river water into the pipes if necessary. The size of the storm drainpipes will be dependent on the amount of water flowing at the time of construction. If subsurface water is encountered during construction, standing water would be pumped to an upland location and allowed to settle, or will be pumped into a Baker Tank.

Construction Equipment

Typical excavators and earthmoving equipment will be used on this project and within the river channel. Surface water is typically not present in the section of the river during the dry season. In addition, it is likely that a drill rig, a large pile-driving rig, and a supporting crane would be required. Heavy cranes, concrete pump trucks, and other heavy construction equipment would travel along the length of the access road parallel to the bridge during the construction process.

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Chapter 2. Study Methods

Regulatory Requirements

Federal Endangered Species Act (FESA)

The United States Fish and Wildlife Service (USFWS) and National Marine Fisheries Service (NMFS) have jurisdiction over species that are formally listed as threatened (FT), endangered (FE), or candidates for listing under the FESA. The FESA protects listed wildlife species from harm or "take." Federally designated critical habitat is defined under the FESA as specific geographic areas within a listed species range that contain features considered essential for the conservation of the listed species. If a federal action or an action allowed by federal funding or a federal permit could adversely modify critical habitat for a listed species, the responsible federal agency is required to consult with the USFWS or NMFS. Federally listed species are known from the project region, and some may be affected by project activities; if so, consultation with the USFWS and NMFS will be required.

As part of its National Environmental Policy Act assignment of federal responsibilities by the Federal Highway Administration, effective October 1, 2012, and pursuant to 23 USC 326, Caltrans is acting as the lead federal agency for Section 7 of the federal Endangered Species Act.

Clean Water Act

The U.S. Army Corps of Engineers (Corps) is responsible under Section 404 of the Clean Water Act (CWA) to regulate the discharge of fill material into waters of the United States. The lateral limits of jurisdiction for a non-tidal stream are measured at the line of the Ordinary High Water Mark (OHWM) (33 CFR Part 328.3(e)) or the limit of adjacent wetlands (33 CFR Part 328.3(b)). Waters of the United States fall into two broad categories: wetlands and other waters. Wetlands include marshes, wet meadows, seep areas, floodplains, basins, and other areas experiencing extended seasonal soil saturation. For wetlands to be under the jurisdiction of the Clean Water Act they must have hydrophytic vegetation, hydric soils, and wetland hydrology. Permanently or seasonally inundated water bodies or watercourses that do not exhibit wetland characteristics are classified as other waters of the United States. Other waters include unvegetated water bodies and watercourses such as rivers, streams, lakes, springs, ponds, coastal waters, and estuaries. In general, a Corps permit must be obtained before placing fill or grading in jurisdictional wetlands or other waters of

the United States. The proposed project could result in temporary and permanent fill of waters of the United States and thus would be subject to these regulations.

Magnuson-Stevens Fishery Conservation and Management Act

Under the Magnuson-Stevens Fishery Conservation and Management Act (MSA), Essential Fish Habitat (EFH) must be designated in every fishery management plan. EFH includes "…those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity." The MSA requires consultation with NMFS for projects that include a federal action or federal funding and may adversely modify EFH.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) (16 USC 703) prohibits the taking, hunting, killing, selling, purchasing, etc., of migratory birds, parts of migratory birds, or their eggs and nests. In addition, it contains a clause that prohibits baiting or poisoning of these birds. Most of the native bird species that occur in the region of the BSA are covered by this act. Nesting birds protected under the MBTA occur in the project area.

Executive Order 11988 – Floodplain Management

Executive Order (EO) 11988 is a flood hazard policy for all federal agencies that manage federal lands, sponsor federal projects, or provide federal funds to state or local projects. It requires that all federal agencies take necessary action to reduce the risk of flood loss; restore and preserve the natural and beneficial values served by floodplains; and minimize the impact of floods on human safety, health, and welfare. Specifically, EO 11988 dictates that all federal agencies avoid construction or management practice that would adversely affect floodplains unless that agency finds that there is no practical alternative and the proposed action has been designed or modified to minimize harm to or within the floodplain. This NES analyzed potential impacts to floodplains.

Executive Order 11990 – Protection of Wetlands

Projects requiring federal funds or located on federal land must comply with EO 11990 (May 24, 1977), which stipulates that such projects will be designed to minimize wetland impacts and impacts on wetlands must be identified in the environmental document. Each agency, to the extent permitted by law, shall avoid undertaking or providing assistance for new construction located in wetlands unless the head of the agency finds 1) that there is no practicable alternative to such

construction, and 2) that the proposed action includes all practicable measures to minimize harm to wetlands which may result from such use. In making this finding the head of the agency may take into account economic, environmental and other pertinent factors. The proposed project will affect small areas of the streambed of the Salinas River and associated riparian vegetation.

Executive Order 13112 – Invasive Species

Under EO 13112, an invasive species is defined as "an alien species (a species not native to a particular ecosystem) whose introduction does or is likely to cause economic and environmental harm or harm to human health." Invasive species are determined by the Invasive Species Council. The Gonzales River Road Bridge Replacement Project has the potential to introduce or enhance the habitat for invasive species and so this EO is applicable to the project.

National Environmental Policy Act

The National Environmental Policy Act of 1969 as amended (NEPA) (42 USC 4321 et seq.) established a mandate for Federal agencies to consider the potential environmental consequences of their proposals, document the analysis, and make this information available to the public for comment prior to implementation. NEPA requires, to the fullest extent possible, that the policies, regulations, and laws of the Federal Government be interpreted and administered in accordance with its environmental protection goals. NEPA requires, and Federal Highway Administration (FHWA) and Caltrans are committed to, the examination and avoidance of potential effects to the social and natural environment when considering approval of proposed transportation projects. The federally funded Gonzales River Road Bridge Replacement Project will comply with NEPA.

California Endangered Species Act

Under the California Endangered Species Act (CESA), it is unlawful to "take" any species listed as rare, threatened, or endangered. CESA take provisions apply to fish, wildlife, and plant species. Take may result whenever activities occur in areas that support a listed species. A permit from CDFW is required if a project will result in "take" of a listed species. State-listed species protected under this Act could occur within the BSA.

Section 401 Water Quality Certification

Pursuant to Section 401 of the federal Clean Water Act, projects that require a permit from the Corps under Section 404 must also obtain Water Quality Certification from

the California Regional Water Quality Control Board (RWQCB). The RWQCB has adopted a policy requiring mitigation for any unavoidable loss of wetland, streambed, or other State jurisdictional waters. Work in the Salinas River, a water of the State, is subject to Section 401 certification and must comply with the applicable regulations.

California Fish and Game Code

SECTIONS 3503, 3503.5, AND 3513

The Fish and Game Code (cited sections) protects the nests and eggs of most birds, including raptors (Falconiformes and Strigiformes) and the bird species protected under the Migratory Bird Treaty Act. Bird species protected under the Fish and Game Code are known to occur in the project area.

SECTION 1600

The CDFW administers the issuance of Lake and Streambed Alteration Agreements under Fish and Game Code Section 1600. Lake and Streambed Alteration Agreements are required when project activities would substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake designated as such by CDFW. As work for the Gonzales River Road Bridge Replacement Project will occur in the creek channel and bank, the project is subject to regulation under this code section.

California Species of Special Concern

The CDFW maintains lists of "species of special concern." These species are broadly defined as plants and animals that are of concern to CDFW because of population declines and restricted distributions, and/or they are associated with habitats that are declining in California. The California Native Plant Society, in conjunction with the CDFW, maintains lists of special-status plants for California. Lists of special animals are maintained by the CDFW (CDFW 2016a) and are defined by the CDFW as "a species, subspecies, or distinct population of an animal native to California that meet criteria defined in Comrack et al. (2008)." Species of special concern that occur in the vicinity of the project could occur in the BSA.

Native Plant Protection Act

California's Native Plant Protection Act (NPPA) requires state agencies to utilize their authority to conserve endangered and rare native plants. Provisions of the NPPA prohibit the taking of listed plants and require notifying the CDFW at least 10 days in advance of any change in land use. This allows CDFW to salvage listed plant species that would otherwise be destroyed. The project sponsor (i.e., the County) is required

to conduct botanical inventories and consult with CDFW during project planning to comply with this act and the applicable sections of CEQA for rare or endangered plants.

Senate Bill 1334 (SB 1334) – The Oak Woodlands Conservation Act

Enacted in January 2005, County governments statewide must comply with Senate Bill 1334 (SB 1334), which requires mitigation for projects with significant oak woodland impacts. A project must conform to both California's mandated program that established habitat mitigation standards, as well as local conservation measures adopted by the County.

Monterey County

Protected trees within Monterey County are regulated by the County of Monterey Zoning Ordinance, Title 21, Chapter 21.64.260 - *Preservation of Oak and Other Protected Trees* (tree ordinance). The BSA is situated within the *Central Salinas Valley Plan Area,* a section of the County that makes no provision to protect trees other than oaks (trees in the genus *Quercus*) and madrone (*Arbutus menziesii*).

Studies Required

Literature Search

A literature review and records search were conducted to identify the existence or potential occurrence of sensitive or special interest biological resources (e.g., plant and animal species) in or within the vicinity of the BSA. Federal and State lists of sensitive species were examined. Current database records reviewed by LSA included the following:

- A California Department of Fish and Wildlife, Rarefind 5, search was conducted for records in the Chews Ridge, Chualar, Gonzales, Mount Johnson, Palo Escrito Peak, Paraiso Springs, Rana Creek, Sycamore Flat, and Soledad United States Geological Survey 7.5-minute quadrangles (quad) with a specific focus on the area within a 2-mile radius of the BSA (CDFW 2016b).
- The Inventory of Rare and Endangered Plants (online edition, v8-02). California Native Plant Society (CNPS), Sacramento, CA. Website http://www.rareplants.cnps.org. Accessed December 18, 2020 (CNPS 2020).
- USFWS letter titled "List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project" dated December 14, 2020.

- NMFS letter titled "List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project" dated November 8, 2016.
- The scientific and vernacular nomenclature for the plant and animal species and vegetation communities used in this report are from the following sources: plants, Baldwin et al. (2012) and updates listed on the Jepson Herbarium website (Jepson Herbarium 2020); vegetation, Sawyer et al. (2009); fishes, Page et al. (2013); amphibians and reptiles, Crother (2017) and/or AmphibiaWeb (2020); birds, American Ornithologists' Union (1998) and supplements through 2015; and mammals, Reid (2006) and Bradley et al. (2014). In general, for animals, subspecies names are used only when a specific subspecies is considered a special-status species by one or more of the following resource agencies: the CDFW, the USFWS, or the NMFS.

Field Reviews

Initial field investigations were conducted in April 2015 to identify vegetative communities, habitats for special-status species, potential jurisdictional waters, and other biological resource issues. Based on the literature review and initial field investigations, focused field surveys were completed in the spring and summer of 2015 for the following:

- General biological survey
- Special-status plant surveys
- Habitat assessment for California red-legged frog (*Rana draytonii*)
- Habitat assessment for California tiger salamander (*Ambystoma californiense*)
- Protocol least Bell's vireo (*Vireo bellii pusillus*) survey
- Protocol Willow Flycatcher (*Empidonax traillii*) survey
- Bat habitat assessment
- Wetlands delineation and assessment of jurisdictional waters

Biological Study Area

The BSA (Figure 2) was created to encompass the proposed project footprint and typical habitats in the immediate project vicinity that may be affected by the proposed project. The BSA includes all areas that could be potentially impacted by the project and a buffer to accommodate project changes that may occur during the project design and development.

Survey Methods

General Biological Survey

The general biological field survey was conducted on April 14, 2015, by LSA biologists Eric Lichtwardt, Tim Milliken, Jodi Ross-Borrego, and Matt Willis, who noted general site conditions, vegetation, and suitability of habitats for various sensitive resources including special-status plant and animal species. The biologists recorded all plant and animal species observed or otherwise detected. Binoculars (10x42) were used to aid in the identification of birds and other wildlife.

Rare Plant Surveys

Rare plant surveys were conducted by LSA botanists Tim Milliken and Matt Willis on April 14, May 28, and July 9, 2015. These surveys followed the CDFW *Protocols for Surveying and Evaluating Impacts to Special Status Native Plants Population and Natural Communities* November 24, 2009.

Tree Survey

Mr. Milliken conducted the tree survey on October 17, 2016. The tree survey area encompasses all areas of permanent and temporary impacts and a 20-foot buffer surrounding these areas. The survey involved identifying all tree species six inches DBH or greater within the tree survey area. In addition, the location of each identified tree was recorded with a GPS receiver and numbered. Tree condition, DBH, number of stems, and height were also recorded. If an individual tree had multiple trunks the circumference of all the trunks were totaled to determine the DBH. The locations of all numbered trees were plotted on an aerial photograph of the project site. Potential impacts to trees were determined through a GIS analysis by overlaying tree locations on a map of permanent and temporary project impacts. The results of the tree survey are provided in Chapter 4.

California Red-Legged Frog Habitat Assessment

A habitat assessment of the BSA was conducted for California red-legged frogs by TRC biologists Mark Cassady and Marla Despas on June 16, 2015.

California Tiger Salamander Habitat Assessment

A habitat assessment for California tiger salamanders was conducted by LSA biologist Eric Lichtwardt based on the field surveys and literature review. The assessment is included as part of this report.

Special-Status Bird Surveys

LSA biologists Eric Lichtwardt and Matt Willis conducted focused least Bell's vireo and willow flycatcher surveys according to currently accepted USFWS protocols. The surveys were conducted on April 29, May 12 and 28, June 8 and 23, and July 10, 21, and 31, 2015. The results of this survey are discussed further in Chapter 4.

Wetland Delineation

A routine jurisdictional delineation was conducted by LSA soil scientist Chip Bouril on April 21 and 22, 2015 and field verified by the Corps on August 11, 2016. The delineation was conducted using the routine determination method given in the Corps of Engineers Wetlands Delineation Manual (Environmental Laboratory 1987). The field investigations also used the revised procedures in the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0) (USACE 2008). The routine determination methodology entails examination of specific sample points within potential wetlands for hydrophytic vegetation, hydric soils, and wetland hydrology. By the federal definition, all three of these parameters must be present for an area to be considered a wetland. The results of this delineation are provided in Chapter 4.

Personnel and Survey Dates

Mr. Lichtwardt, LSA biologist, has over 33 years of professional field experience conducting biological field studies in California and other western states and is a senior staff member (Associate/Senior Biologist) at LSA. His primary expertise is vertebrate zoology. He has worked with a number of special-status vertebrate species including native freshwater fishes, amphibians, reptiles, birds, and bats and other small mammals. He is authorized on federal and State permits to survey for and/or handle a number of federally listed species including California red-legged frogs, California tiger salamanders, willow flycatcher, and least Bell's vireo. Mr. Lichtwardt also has experience mapping vegetation and habitat types; he has prepared a wide variety of environmental documents including NESs and Biological Assessments (BA).

Mr. Milliken, LSA botanist and certified arborist, has 22 years of professional experience conducting botanical surveys for rare and special-status plant species, noxious weeds, wetland plants, trees, and non-vascular plants (lichens and bryophytes). Mr. Milliken has conducted botanical work for a variety of project types including NESs, BAs, biological resources surveys, preconstruction surveys, construction monitoring, mitigation banks, and wetland determinations. His work

entails analyzing impacts to vegetation, mapping plant communities, conducting tree inventories, and conducting rare plant surveys. Mr. Milliken has been a Certified Arborist for over 12 years and has worked on projects with tree issues in the Bay Area and along the Central Coast of California.

Mr. Bouril, LSA soil scientist, has 16 years of experience in wetland delineation and wetland resource permitting at LSA. He also works on wetland mitigation design and implementation. Mr. Bouril has been the primary planner and designer for several wetland mitigation and mitigation bank projects. He also provides soil resource consultation for habitat creation and restoration projects.

Ms. Ross-Borrego, LSA biologist, has 15 years of professional experience conducting biological studies throughout the state of California. Ms. Ross-Borrego is primarily responsible for assisting clients in conducting and managing the coordination of biological resource evaluations and assessments, management and oversight of construction compliance projects, preparing environmental documentation for renewable energy projects, and managing on-call service contracts with utility providers. She has also prepared biological reports for transportation projects including proposed bridge replacement projects, freeway interchanges, road widening, and interchange modifications, and environmental permitting. She works with resource and regulatory agencies to analyze impacts and recommend mitigation measures as part of the CEQA/NEPA documentation for both private- and public-sector projects. She has conducted biological studies in a diversity of terrestrial and aquatic habitats, including surveys for a variety of special-status plant and animal species.

Mr. Willis, former LSA biologist, has over 10 years of experience conducting biological fieldwork, managing projects, and preparing biological technical reports throughout most of California. While Mr. Willis works on a wide variety of projects, he specializes in general biological resource assessments, botanical surveys, special-status species surveys, construction monitoring, vegetation mapping, project management, and regulatory compliance and permitting. Mr. Willis has conducted fieldwork and environmental teaching throughout California and has conducted focused surveys for a variety of special-status species including California red-legged frog, burrowing owl, least Bell’s vireo, and various plants.

Mr. Gould, LSA biologist, has over 6 years of experience conducting ecological and biological resources work in California. He has a B.A. in Environmental Studies and

Science from Whittier College, with post-graduate environmental coursework taken through UC Davis. As a Senior Biologist with LSA, Mr. Gould has worked on diverse projects throughout California ranging in size from less than one acre to over 2,500 acres. His broad experience in the fields of natural resource management includes the preparation of biological impact assessments for CEQA and NEPA compliance documents, habitat conservation plans, jurisdictional delineations, wildlife monitoring, and focused insect, bird, mammal, amphibian, and plant surveys. Mr. Gould has specific skills in habitat restoration planning and implementation, botanical and amphibian surveys, construction monitoring, and environmental regulatory compliance.

Mark Cassady, former TRC biologist, has over 20 years of experience providing project management and environmental planning services for the energy and infrastructure industries. He combines knowledge of construction practices with expertise in regulatory permitting, compliance management, and biological resource services. He has helped clients obtain regulatory permits and authorizations from the California Public Utilities Commission, Bureau of Land Management, U.S. Army Corps of Engineers, U.S. Fish and Wildlife Service, National Marine Fisheries Service, California Department of Fish and Wildlife, and Regional Water Quality Control Boards. Mr. Cassady has managed and conducted biological resource surveys and implemented protection plans for a variety of sensitive plant and animal species. He has been approved by the U.S. Fish and Wildlife Service to monitor for and relocate giant garter snake, California red-legged frog, California tiger salamander, and tidewater goby. He also has expertise in stream and wetland crossings, erosion and sediment control, habitat restoration, mitigation plans, construction specifications, and biological reports.

Marla Despas, former TRC biologist, has over 6 years of experience providing biological services in California. Ms. Despas has conducted wildlife surveys and habitat assessments for federally/state listed and special-status wildlife species throughout central, Coast Ranges, and northern California. Ms. Despas specializes in local herpetofauna and is experienced in technical document preparation. Ms. Despas has prepared general biological resource evaluations, site assessments, U.S. Fish and Wildlife Services protocol-level surveys, and biological assessments on private and public lands. Ms. Despas has a B.S. in Zoology and has specialized training for California tiger salamander and rare pond species.

Table A lists the survey data including survey type, date and biologist(s) for the various surveys performed within the BSA. Table A is followed by a detailed discussion of these data.

Table A: Survey Dates and Personnel

Date	Personnel	Purpose of Survey
April 14, 2015	Lichtwardt, Milliken, Ross-Borrego, and Willis (LSA)	General biological survey, including vegetation communities and habitat mapping, special-status species habitat assessments and surveys, general floral and faunal surveys.
April 14, May 28, and July 9, 2015	Milliken and Willis (LSA)	Rare plant surveys.
April 21 & 22, 2015	Chip Bouril (LSA)	Wetland delineation.
April 29, May 12 & 28, June 8 & 23, July 10, 21, & 31, 2015	Lichtwardt and Willis (LSA)	Least Bell's vireo and willow flycatcher surveys.
June 16, 2015	Mark Cassady and Marla Despas (TRC)	Habitat assessment for California red-legged frog.
April 14 and July 31, 2015	Lichtwardt (LSA)	Bat habitat assessment.
October 17, 2016	Milliken (LSA)	Tree Survey
December 9, 2020	Gould (LSA)	General wildlife survey, update of habitat conditions in the BSA.

Source: LSA, 2016

Agency Coordination and Professional Contacts

LSA senior biologist Tim Lacy received a call from Glen Knowles, Assistant Field Supervisor, North Coast Division (G. Knowles, pers. comm.), responding to the California red-legged frog habitat assessments that TRC and LSA produced to seek guidance on CRLF occurrences at the Gonzales River Road Bridge BSA. Mr. Knowles informed Mr. Lacy that he thought the assessment was correct – California red-legged frogs do not likely occur in the BSA and are not likely to be affected by the project. Finally, he noted that the Salinas River is often dry in the Gonzales reach, and California red-legged frogs are not expected to occur here. Other than this communication, there has been no other agency coordination or contacts to date.

Limitations That May Influence Results

Surveys were conducted during the seasons when most of the special-status species that could occur near the BSA were observable; however, plant species populations naturally fluctuate from year to year in response to environmental variation and other ecological factors and may be less evident in years when environmental conditions

are not optimal. Special-status plant species may flower earlier than usual, may not flower at all, may exhibit annual life cycles, or may be relatively short-lived following periods of abnormal rainfall. California has been experiencing a prolonged drought, which could be a limitation that may influence the study results.

Wildlife species may be cryptic, generally difficult to detect, transient, or migratory and may only occur within the BSA for short or fleeting periods. Wildlife species may only be active during particular times of the year, such as the breeding season, or may only use the BSA temporarily as a migration corridor between other areas of more optimal habitat. For these reasons, wildlife species may be present, but not observed. This limitation may influence the study results.

There was no access limitation, and the entire BSA was covered on foot.

Chapter 3. Results: Environmental Setting

Description of the Existing Biological and Physical Conditions

Study Area

The project is located in the central Salinas River Valley within the Salinas River floodplain bounded by levees. The BSA encompasses the entire project footprint plus adjacent areas that could be affected by the proposed project (Figure 2).

Physical Conditions

The Gonzales River Road Bridge extends across the broad floodplain of the Salinas River; topography within the BSA is mostly flat with a steep bank along the northern edge of the river channel. Elevations within the BSA range from approximately 100 to 120 feet above mean sea level. The flat valley floor surrounding the river floodplain is dominated by agricultural lands used primarily to grow produce and vegetable crops.

The Salinas River is the largest stream of the Central Coast Range of California and is about 155 miles in length with a watershed of approximately 4,200 square miles. Rainfall in the Salinas Valley is typically restricted to the winter months, and rainfall events often consist of intense short-lived storms that result in flash floods. Winter flooding is a sporadic occurrence in the central Salinas Valley including the section of the river at the Gonzales River Road Bridge crossing. The Salinas River is an ephemeral stream within the BSA and during the dry season, the section of river in the BSA lacks surface water. No water was present during any of the field surveys. The low-flow or normal-flow channel is defined in this document as the area occupied by the river during late spring, summer, and fall. The floodplain (i.e., high flow channel) is generally equivalent to the area under CDFW jurisdiction. This includes the area between the levees along the edges of the adjacent agricultural fields and the edge of riparian canopy. During extreme flood events, the Salinas River can flood beyond the high-flow channel.

Inflows from agricultural runoff and discharge from upstream reservoirs likely occur during the wet season. Floods during winter storm events can scour out riparian vegetation and deposit fresh layers of sediment along its channel. Such flood events promote a diverse mosaic of riparian vegetation with various seral stages of succession.

The surficial geology within the BSA is composed of Quaternary alluvium. Soils on the study site are mapped as Cropley silty clay, 0 to 2 percent slopes, Soil Map Unit CnA), Dune land (Df), Metz loamy sand (Me), Metz complex (Mg), Mocho silt loam, 0 to 2 percent slopes, MLRA 14 (MnA), Mocho silty clay loam, 0 to 2 percent slopes, MLRA 14 (MoA), and Psammants and Fluvents, occasionally flooded (Pr). The Metz loamy sand and Metz complex soil map units are listed as not hydric. The remainder of the soil map units is 7 percent or less hydric (Cook 1978).

Habitat Connectivity

The BSA is not within or adjacent to California Essential Habitat Connectivity (CEHC) mapped Natural Landscape Block or Essential Connectivity Areas (CDFW 2017). The Salinas River and its associated riparian vegetation within and near the BSA are not mapped by the CDFW as an important regional corridor for terrestrial animals, but the river does provide an aquatic corridor for steelhead when surface water is present. In addition, the relatively natural vegetation along the river floodplain provides local terrestrial animals and migratory birds a movement corridor through an otherwise extensive agricultural landscape.

Biological Conditions in the Biological Study Area

This section describes the vegetation types, habitats, and land uses within the BSA. The most biologically diverse area within the BSA is located along the Salinas River channel. This area is dominated by relatively natural vegetation types including Fremont cottonwood forest, sandbar willow and mulefat thickets. Outside the Salinas River floodplain, the BSA is dominated by agricultural fields, unvegetated dirt roads and lots, and paved roads. These land cover types are shown in Figure 7.

Fremont Cottonwood Forest (*Populus fremontii* Forest Alliance)

Within the BSA, narrow stands of Fremont cottonwood forest occur along the northeast edge of the river high flow channel and along the southwest edge of the river floodplain respectively (Figure 8a). This alliance is considered a sensitive natural community by the CDFW. These stands contain mid-sized to large trees approximately 45 to 50 feet in height with a mostly closed canopy. Red willow (*Salix laevigata*) and arroyo willow (*S. lasiolepis*) also are present in these stands, and black cottonwood (*Populus trichocarpa*) occurs in smaller numbers in the stand along the northeast side of the high flow channel. Small numbers of coast live oak (*Quercus agrifolia*) also occur along the upland edge of this alliance.

LEGEND

- Biological Study Area
- Agriculture Development and Roadways (AR)
- Arroyo Willow Thickets (AW)
- Fremont Cottonwood Forest (FC)
- River Channel / Wash (RC)
- Ruderal (R)
- Sandbar Willow Thickets / Mulefat Thickets (SM)

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FEET

SOURCE: Bing (~2014); TRC (4/2015); LSA (8/2016)

I:\TRT1503\GIS\NES_LandCoverTypes.mxd (9/21/2016)

FIGURE 7

Gonzales River Road Bridge Replacement Project
Monterey County, California
Federal Project Number BRLS-5944(098)

Land Cover Types

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Figure 8a: Salinas River low flow channel, willows in foreground, Gonzales River Road Bridge in mid-ground, Fremont and black cottonwoods behind bridge, view from upstream of the bridge to the west. June 8, 2015.

Figure 8b: Salinas River floodplain (high flow channel), access road and Gonzales River Road Bridge, willow and mulefat along road and Fremont cottonwood in right background, view from upstream of the bridge to the northeast. May 12, 2015.

FIGURE 8

Gonzales River Road Bridge Replacement Project

Site Photographs

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Figure 8c: Salinas River floodplain, giant reed and other non-native grasses in foreground, Gonzales River Road Bridge and cottonwoods in background, view from upstream of the bridge to the north. May 12, 2015.

Figure 8d: Salinas River floodplain, mulefat thickets in foreground, Gonzales River Road Bridge and arroyo willow in mid-ground, and Sierra de Salinas in background, view from downstream of the bridge to the south. June 8, 2015.

FIGURE 8
(continued)

Gonzales River Road Bridge Replacement Project
Site Photographs

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Figure 8e: Cultivated field in fore/mid-ground, Sierra de Salinas in background, view to the south from south end of bridge. July 10, 2015.

Figure 8f: Fallow field (same view as Photo 5). May 12, 2015.

FIGURE 8
(continued)

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The most abundant wildlife observed in this habitat during the field surveys were migratory songbirds including Pacific-slope flycatcher (*Empidonax difficilis*), Swainson's thrush (*Catharus ustulatus*), and black-headed grosbeak (*Pheucticus melanocephalus*). Resident bird species included Nuttall's woodpecker (*Picoides nuttallii*), downy woodpecker (*Picoides pubescens*), spotted towhee (*Pipilo maculatus*), song sparrow (*Melospiza melodia*), and red-shouldered hawk (*Buteo lineatus*) along with a diverse assemblage of other migratory and resident riparian woodland birds (see Appendix A). Several nests of big-eared woodrats (*Neotoma macrotis luciana*) were present in the understory of the Fremont cottonwood forest in the western edge of the BSA. Fremont cottonwood forest covers approximately 1.9 acres in the BSA.

SANDBAR WILLOW THICKETS (*SALIX EXIGUA* SCRUBLAND ALLIANCE)/MULEFAT THICKETS (*BACCHARIS SALICIFOLIA* SCRUBLAND ALLIANCE)

Within the BSA, sandbar willow thickets occur as a mosaic with mulefat thickets in the portion of the floodplain between the cottonwood stands (Figures 8a and 8b); scattered arroyo willows also occur within the mosaic. Sandbar willow is a shrub or small tree that occurs along seasonally or temporarily flowing streams, rivers, seeps, and springs. After winter flood events when riparian vegetation has been scoured out and fresh sediment has been deposited, this willow is often the first shrub or tree to colonize these barren habitats. Sandbar willows often form dense stands that, through succession, are slowly replaced by longer-lived willows, cottonwoods, and other riparian trees (Sawyer et al. 2009). Mulefat is an evergreen shrub that occurs in seasonally flooded habitats such as river flood plains and, as with sandbar willow thickets, mulefat thickets vary with the amount of flooding and scouring. Scattered through the area occupied by sandbar/mulefat thickets are patches of giant reed (*Arundo donax*) (Figure 8c), an invasive nonnative grass. Various shrub species typical of upland habitats are also present in small numbers including poison oak (*Toxicodendron diversilobum*), California sagebrush (*Artemisia californica*), and coyote brush (*Baccharis pilularis*). Open areas support a diversity of native and nonnative forbs and grasses; natives include narrowleaf milkweed (*Asclepias fascicularis*), mugwort (*Artemisia douglasiana*), big saltbrush (*Atriplex lentiformis*), and western jimson weed (*Datura wrightii*). Nonnatives include pigweed amaranth (*Amaranthus albus*), poison hemlock (*Conium maculatum*), fennel (*Foeniculum vulgare*), tree tobacco (*Nicotiana glauca*), and a variety of grasses including wild oats (*Avena fatua*) and ripgut brome (*Bromus diandrus*).

Thickets of sandbar willow and mulefat provide cover and foraging habitat for a variety of riparian wildlife, but most riparian breeding birds such as the black-headed grosbeak prefer the taller multi-layered habitat provided by cottonwood and arroyo willow thickets. Sandbar willow/mulefat thickets occupy approximately 4.6 acres in the BSA.

ARROYO WILLOW THICKETS (*SALIX LASIOLEPIS* SCRUBLAND ALLIANCE)

Within the BSA, this cover type is present along the main river channel and is dominated by arroyo willow and lesser numbers of red willow and small Fremont cottonwood. Central Coast riparian scrub is a previous classification (Holland 1986) for a community type now included within this alliance (Sawyer et al., 2008). CDFW considers Central Coast riparian scrub a sensitive community (CDFG 2010) and it is therefore include here. Wildlife using this vegetation is similar to that of Fremont cottonwood forest. Arroyo willow thickets occupy about 1.0 acre in the BSA.

RUDERAL

Ruderal vegetation is characterized by weeding, mainly alien/nonnative plant species such as yellow star-thistle (*Centaurea solstitialis*), black mustard (*Brassica nigra*), wild oat (*Avena fatua*), and Bermuda grass (*Cynodon dactylon*) growing in disturbed areas. Some native species such as western jimson weed also occur in ruderal areas. Wildlife using ruderal habitat include a variety of native species that typically occur in edge habitats or open areas within the BSA. During the field surveys, a few California ground squirrels (*Otospermophilus beecheyi*) were occasionally observed in this cover type. Ruderal areas within the BSA occupy about 1.3 acres.

AGRICULTURE DEVELOPMENT AND ROADWAYS

Agricultural areas included crop-growing areas and associated dirt roads and staging areas; these are the dominant cover types in the BSA outside of the Salinas River floodplain (Figures 8e and 8f). Most of the areas around the agricultural fields are barren of vegetation. The only paved roadway in the BSA is Gonzales River Road. These cover types have negligible value as habitat for native plants and animals, and Gonzales River Road, a busy thoroughfare, likely has negative effects on local wildlife populations through mortality due to collisions with vehicles, particularly near the Salinas River channel. Little wildlife activity was observed during the field surveys in the extensive agricultural areas north and south of the Salinas River.

Small areas of ruderal vegetation dominated by nonnative forbs and grasses fringe the upland edge of the Salinas floodplain, but they are not mapped on Figure 4 due to the

small area. Ruderal vegetation provides habitat for some native species, particularly wintering birds, but within the BSA, this cover type is generally limited in area and generally associated with the verge of Gonzales River Road and adjacent agricultural fields, thus reducing any value it may have for wildlife. Agricultural development and roadways within the BSA occupy about 24.0 acres.

AQUATIC HABITATS

Aquatic habitat within the BSA is limited to periodic floodwaters in the main stem of the Salinas River; during most of the year the riverbed is dry (Figure 8a). As noted previously, no surface water was present in the BSA during the field surveys. Surface flows would likely occur in the BSA after major storm events, but during exceptionally wet winters, the river within the BSA may have continuous flows over more extended periods. Within the BSA, the Salinas River is a low gradient stream flowing over a sandy bed.

The Salinas River currently supports 14 species of native fishes, including steelhead (*Oncorhynchus mykiss irideus*) (Moyle 2002). No fish were observed in the BSA due to the lack of surface water. The section of the river within the BSA does not provide suitable spawning or rearing habitat for steelhead due to the lack of perennial surface water; however, adult fish moving upstream to spawn and smolts moving downstream to the ocean could pass through the section of river within the BSA during high flows in the winter and spring. Several species of special-status semi-aquatic reptiles occur in the Salinas Valley, including the western pond turtle (*Actinemys marmorata*) and the two-striped garter snake (*Thamnophis hammondii*); however, due to the lack of perennial or ephemeral pools in or adjacent to the BSA surface water these species would not likely occur here.

WETLANDS

Potential waters of the United States (including wetlands) within the BSA include the main stem Salinas River and two small seasonal wetlands (Figure 9). The area within the ordinary high water mark of the Salinas River (i.e., other waters) occupies about 1.1 acres of the BSA. The two small seasonal wetlands total approximately 43.5 square feet (0.001 acres). A wetland delineation of the BSA was conducted April 21, 2015 and field verified by the Corps on August 11, 2016. The resulting delineation report is provided in Appendix B.

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LEGEND

Biological Study Area

Waters of the United States

Wetlands

Seasonal Wetland (0.001 acres)

Other Waters

Salinas River (1.147 acres)

0 125 250
FEET

SOURCE: Bing (~2014); TRC (4/2015); LSA (8/2016)

I:\TRT1503\GIS\NES_WatersOfUS.mxd (9/21/2016)

FIGURE 9

Gonzales River Road Bridge Replacement Project
Monterey County, California
Federal Project Number BRLS-5944(098)

Waters of the United States
(Field verified by the Corps on August 11, 2016)

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In addition to the wetland delineation, an analysis of the functions and values of the wetlands within the BSA was conducted. Wetland functions and values as defined in the *Caltrans Environmental Handbook Vol. 3 Biological Resources* (Caltrans 2013) were analyzed. The Handbook defines functions as physical, chemical, and biological attributes of a wetland without regard to society; values are used to describe functions that are generally regarded as beneficial to society. Functions and values include the following categories: groundwater recharge, groundwater discharge, flood flow alteration, sediment stabilization, sediment/toxicant retention, nutrient removal/ transformation, production export, wildlife habitat (aquatic and terrestrial), uniqueness/heritage, and recreation. Based on these functions and values, a given wetland is rated as high, medium, or low. The Salinas River channel and a small seasonal wetland at the southern end of the bridge are the only wetlands within the BSA and are rated below under the various functions and values categories.

Groundwater Recharge

Low: the Salinas River and small seasonal wetland are ephemeral within the BSA and thus are not likely an important source of groundwater recharge.

Groundwater Discharge

Salinas River: low or uncertain; agricultural tiling and groundwater pumping for irrigation may lower the water table below the elevation of the river channel. Low: the effects of groundwater pumping on the small seasonal wetland are unknown, but due to the small size and shallow depth of this wetland, its presence is not likely a function of ground water.

Flood Flow Alteration

High: The flood plain of the Salinas River carries surface floodwaters in and outside of the active channel during high-flow events. Low: due to its small size and distance from the main channel of the river, the seasonal wetland is not important in regard to flood flows.

Sedimentation Stabilization

High: the flood plain of the Salinas River slows the velocity of over-bank floodwaters and captures fine sands and silts from the floodwaters. Low: the seasonal wetland is too small to provide functional value in regard to sediment stabilization.

Sediment/Toxicant Retention

Low: the Salinas River channel contains temporarily captured sediments and can biologically denature toxicants. Low: the seasonal wetland is too small to provide functional value in regard to sediment/toxicant retention.

Nutrient Removal/Transport

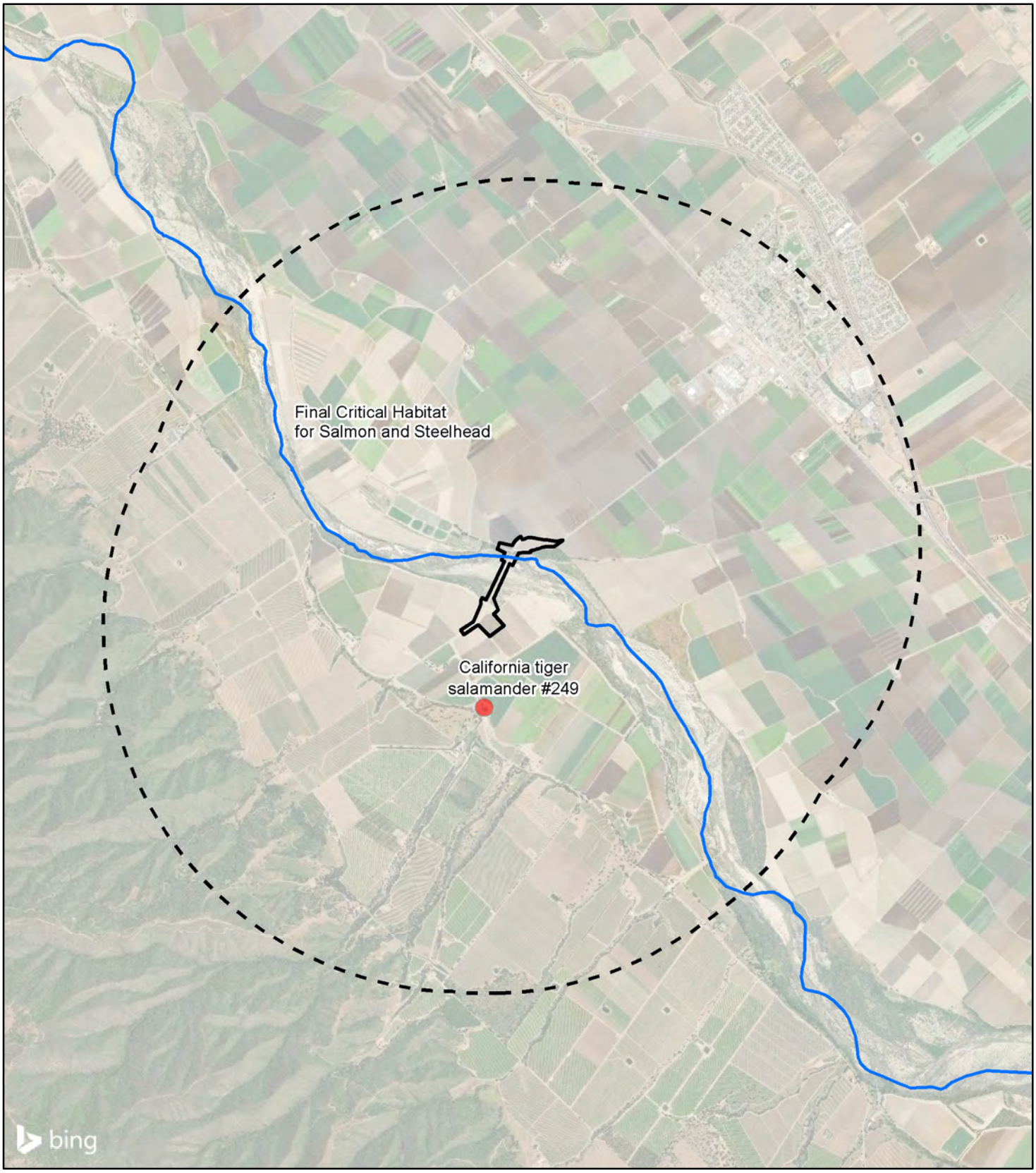
Moderate: during floods, the Salinas River within the BSA likely carries a moderate nutrient load from agricultural runoff and natural sources in the watershed. Low: the seasonal wetland is too small to provide functional value in regard to nutrient removal/transport.

Production Export

Moderate: the Salinas River high flow channel within the BSA supports substantial amounts of vegetation; however, high flows that would contribute to organic matter productivity are relatively infrequent events after winter storms and thus production export over the long term would likely be moderate. Low: the seasonal wetland is too small to provide functional value in regard to production effort.

Regional Species and Natural Communities of Concern

Special-status plant and animal occurrences within the 9 quads around the project site that have potential to occur on or in the vicinity of the BSA are listed in Table B. Those species within 2 miles of the BSA are shown in Figure 10. Special-status species on the USFWS and NMFS official species lists for the project (Appendix C) and other special-status species known or of potential occurrences in the central Salinas Valley are also discussed in Table B. Designated critical habitat for steelhead and natural communities of special concern are also included in Table B. Species lists for the entire 9-quad CNDDB and CNPS searches for the project are also included in Appendix C.



LEGEND

- Biological Study Area
- 2-mile Buffer of Biological Study Area
- California Tiger Salamander
- Final Critical Habitat for Salmon and Steelhead

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SOURCE: CNDDB (12/2020), USFWS (12/2020)

I:\MOC1601.07\GIS\Maps\NES\Figure 10_Sp-st Spp Occurrences and Critical Habitat within 2 Miles.mxd (12/15/2020)

FIGURE 10

Gonzales River Road Bridge Replacement Project
Monterey County, California
Federal Project Number BRLS-5944(098)
Special-status Species Occurrences
and Critical Habitat within 2 Miles

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Table B: Special-Status Species, Natural Communities of Concern, and Critical Habitat Evaluated for the Gonzales River Road Bridge Replacement Project

Scientific Name	Common Name	Status Federal/ State/Other†	General Habitat Description	Habitat Present/ Absent*	Rationale
NATURAL COMMUNITIES AND HABITATS					
Populus fremontii Forest Alliance	Fremont cottonwood forest	--/--/NCC	Occurs on floodplains along low gradient perennial and ephemeral rivers and streams and other areas where there is a dependable subsurface water source.	P	This alliance is present along the edges of the high flow channel of the river (Figure 7)
Salix lasiolepis Scrubland Alliance	Arroyo willow thickets	--/--/NCC	Arroyo willow thickets occur along stream courses and other wetland habitats. Arroyo willow thickets include Central Coast riparian scrub (Holland 1986), which is considered a sensitive natural community by the CDFW.	P	This natural community occurs in patches along the edges of the high flow channel of the river (Figure 7).
Stipa (Nassella) pulchra Herbaceous Alliance	Purple needle grass grassland	--/--/NCC	Typically occur in valleys and foothills often on deep and clay-rich soils.	A	This natural community type does not occur within the BSA.
Quercus lobata Woodland Alliance	Valley oak woodland	--/--/NCC	Typically occupies valley bottoms that are subject to seasonal flooding; also occur on lower hill slopes and often with a grassy understory.	A	This natural community type does not occur within the BSA.
Oncorhynchus mykiss irideus Critical Habitat	South Central California coast steelhead DPS Critical Habitat	CH/--/--	Includes the main channel of the Salinas River.	P	The Salinas River within the BSA is Critical Habitat for steelhead; this reach of the river lacks surface water during most of the year and typically flows only during large winter storm events when the channel within the BSA could provide passage habitat for steelhead.
PLANTS					
Arenaria paludicola	Marsh sandwort	FE/SE/1B.1	Freshwater wetlands, marshes, and swamps (5-250 meters); blooming period May-August.	A	No suitable habitat (freshwater wetlands, marshes, and swamps) is present within the BSA; the nine quad CNDDB and CNPS search provided no occurrences of this plant (Appendix C). Additionally, this plant is not known to occur in Monterey County (Matthews and Mitchell 2015), but was included on the USFWS official species list for the project (Appendix C). This species was not observed in the BSA during the plant surveys and would not be expected to occur. The project would have ***no effect*** on this federally listed species.

Table B: Special-Status Species, Natural Communities of Concern, and Critical Habitat Evaluated for the Gonzales River Road Bridge Replacement Project

Scientific Name	Common Name	Status Federal/ State/Other†	General Habitat Description	Habitat Present/ Absent*	Rationale
Centromadia parryi ssp. *congdonii*	Congdon's tarplant	--/--/1B.1	Valley and foothill grasslands and disturbed places with alkaline soil. Blooming period May–November.	HP	Suitable growing conditions and habitat are present within the BSA. This species is not known to occur within 2 miles of the BSA (Figure 10). This species was not observed during appropriately timed plant surveys. This species is not expected to occur in the BSA.
Clarkia jolonensis	Jolon clarkia	--/--/1B.2	Chaparral, Cismontane woodland, and coastal scrub (20–660 m). Blooming period April–June.	A	Suitable habitat for this species is not present within the BSA; not observed in the BSA during the plant surveys.
Chorizanthe pungens var. *pungens*	Monterey spineflower	FT/--/1B.2	Sandy substrates in maritime chaparral, cismontane woodland, coastal dunes and scrub, valley and foothill grassland. Blooming period April-June, sometime July and August	A	Sandy substrates occur in the BSA: however, this plant generally occurs close to the coast (Matthews and Mitchell 2015). Not observed in the BSA during the plant surveys.
Chorizanthe robusta var. *robusta*	Robust spineflower	FE/--/	Sandy/gravelly substrates in maritime chaparral, openings in cismontane woodland, and coastal dunes and scrub. Blooming period April-September.	A	Sandy substrates occur in the BSA: however, this plant generally occurs close to the coast (Matthews and Mitchell 2015). Not observed in the BSA during the plant surveys.
Eriogonum nortonii	Pinnacles buckwheat	--/--/1B.3	Chaparral, valley and foothill grassland, sandy, often on recent burns (300-975 m). Blooming period May–June.	A	Suitable habitat for this species is not present within the BSA; not observed in the BSA during the plant surveys.
Malacothamnus davidsonii	Davidson's bush mallow	--/--/1B.2	Coastal scrub, riparian woodland, chaparral, cismontane woodland and sandy washes (185-855 meters). Blooming period June-January.	A	Suitable habitat for this species is not present within the BSA; not observed in the BSA during the plant surveys.
ANIMALS					
Crustaceans					
Branchinecta lynchi	Vernal pool fairy shrimp	FT/--/--	Vernal pools and temporary ponds.	A	Included on the USFWS official species list for the project (Appendix C); however, suitable habitat is not present within the BSA. The project would have ***no effect*** on this federally listed species.
Fish					
Oncorhynchus gorbuscha	Pink salmon	--/--/SSC	This salmon is rare in California, but has occurred in the Salinas River (Skiles et al., 2013), but these fish spawn in highly oxygenated gravelly riffles which are not present within the BSA.	HP	The dry sandy wash within the BSA does not provide suitable holding, spawning, or rearing habitat for pink salmon; this species would only be expected to pass through the BSA during winter when storm events flood the channel at this location.

Table B: Special-Status Species, Natural Communities of Concern, and Critical Habitat Evaluated for the Gonzales River Road Bridge Replacement Project

Scientific Name	Common Name	Status Federal/ State/Other†	General Habitat Description	Habitat Present/ Absent*	Rationale
Oncorhynchus mykiss irideus	South Central California coast steelhead DPS	FT/--/--	Coastal Basin runs from the Pajaro River south to, but not including, the Santa Maria River. Requires deep pools for holding adults and rearing juveniles, highly oxygenated gravelly riffles with gravel for spawning.	HP	The dry sandy wash within the BSA does not provide suitable holding, spawning, or rearing habitat for steelhead; steelhead would only be expected to pass through the BSA during winter when storm events flood the channel at this location. This species is on the NMFS official species list for the project (Appendix C).
Amphibians					
Ambystoma californiense	California tiger salamander	FT/ST/--	Breeds in temporary pools (e.g., vernal pools) and ponds and occupies rodent burrows in grasslands, open valley oak and coast live oak woodland, and grassland chaparral mosaic. These salamanders migrate from their underground retreats to breeding ponds during periods of heavy winter rains.	A	This amphibian is included on the USFWS official species list for the project (Appendix C) and there is a CNDDB occurrence (#249) associated with a pond approximately 0.54 miles south of the BSA; however, suitable breeding or upland habitats are not present within the BSA. Although this species may travel up to 1.3 miles from a breeding pond (CDFG 2010), if dispersing individuals do not find suitable habitat or upland refugia (e.g., small mammal burrows), they are unlikely to survive. The intensively cultivated field between the pond and the BSA is not suitable habitat and would be a major barrier to dispersing individuals. The river floodplain within the BSA is unsuitable upland habitat due to periodic flooding. This has been the position of the USFWS for the Sonoma County population of California tiger salamanders in the vicinity of the Laguna de Santa Rosa, an area not considered upland habitat for this species. This species is not expected to occur within the BSA. The project would have ***no effect*** on this federally listed species.
Rana draytonii	California red-legged frog	FT/--/SSC	Lowlands and foothills; in or near permanent bodies of water generally with dense emergent aquatic vegetation.	A	Included on the USFWS official list of federally listed species for the project (Appendix C), but no suitable habitat is present in the BSA. The reach of the Salinas River within the BSA is ephemeral, with water present only during high flow winter storm events. Such conditions are

Table B: Special-Status Species, Natural Communities of Concern, and Critical Habitat Evaluated for the Gonzales River Road Bridge Replacement Project

Scientific Name	Common Name	Status Federal/ State/Other†	General Habitat Description	Habitat Present/ Absent*	Rationale
					not suitable as breeding habitat for frogs, (e.g., egg masses and tadpoles would be swept downstream). Frogs do use willow thickets in occupied habitats, but frogs are not expected to occur in this reach of the river due to lack of breeding or hydration habitat. A USFWS protocol habitat assessment concluded that no occupied suitable habitat was present in the BSA and the USFWS concurred with this conclusion. The project would have ***no effect*** on this federally listed species.
Spea hammondii	Western spadefoot	--/--/SSC	Occurs primarily in grassland and other open habitats, but can be found in valley-foothill hardwood woodlands; vernal pools or ephemeral ponds are essential for breeding.	A	Suitable habitat not present in the BSA. This species breeds in vernal pools and other seasonal waterbodies, not rivers that would wash them downstream during high flows or cultivated landscapes. The majority of the area within the BSA is flood plain, which by its nature is subject to flooding during the high winter flows washing tadpoles away.
Reptiles					
Actinemys (=*Emys*) *marmorata*	Western pond turtle	--/--/SSC	Occurs in a wide variety of freshwater habitats with deep water, including slow flowing pools of rivers and streams, ponds, and marshes; prefers aquatic habitats with a muddy or sand bottom, but also occurs in areas with a rocky or cobble bottom; most common in areas with abundant basking habitat such as fallen trees and must have access to upland areas with friable soils for egg laying.	A	This species occurs along the Salinas River where there is surface water, but no suitable aquatic habitat is present within the BSA. The reach of the river within the BSA appears to be ephemeral and there is no evidence (flat riverbed with no depressions) that pools form during periods of high water, which would be suitable as foraging, basking, or escape habitat for turtles. Turtles may move through the site, but are be expected to stay in this reach if there is no water.

Table B: Special-Status Species, Natural Communities of Concern, and Critical Habitat Evaluated for the Gonzales River Road Bridge Replacement Project

Scientific Name	Common Name	Status Federal/ State/Other†	General Habitat Description	Habitat Present/ Absent*	Rationale
Anniella pulchra	California legless lizard	--/--/SSC	Sandy or loose loamy soil and leaf litter under sparse vegetation with preferably high moisture content in chaparral, coastal dunes, and coastal scrub. Bush lupine and mock heather are often dominant plants in suitable habitat along the Central Coast.	HP	Suitable habitat (sandy soil) is present within the BSA, but due to the habitat disturbance (e.g., existing paved road) along the proposed access road this lizard is not likely to occur there.
Coluber flagellum ruddocki	San Joaquin coachwhip	--/--/SSC	Open, dry habitats with little or no tree cover. Found in valley grassland & chenopod scrub in the San Joaquin Valley and the inner coast range.	A	There are no known occurrences of this snake near the BSA in the northern part of the Salinas Valley (Thomson et al. 2016). Based on available information, this species is not expected to be present.
Phrynosoma blainvillii	Blainville's horned lizard	--/--/SSC	Frequents a wide variety of habitats, most common in lowlands along sandy washes with scattered low bushes and native ant colonies, their primary prey.	A	Sandy substrate is present within the BSA; however, these areas are subject to flooding and off-road vehicle use, and native ant colonies did not appear to be present.
Thamnophis hammondii	Two-striped garter snake	--/--/SSC	Coastal California from Salinas to northwest Baja, California; sea level to 7,000-foot elevation, found in and near permanent freshwater streams with rocky beds and riparian growth.	A	Suitable habitat (permanent freshwater streams) is not present within the BSA.
Birds					
Athene cunicularia	Burrowing owl	--/--/SSC Protected under the MBTA and Cal Fish and Game Code	Open, dry annual grasslands; deserts and scrublands with mammal burrows (e.g., ground squirrels) for nest sites and retreats and adjacent habitat supporting large insects and/or small mammal populations for foraging.	A	Within the BSA, California ground squirrel burrows (i.e., potential burrowing owl retreats) are limited to relatively small areas of ruderal habitat adjacent to intensively cultivated fields and roads; these areas provide limited foraging habitat for wintering/breeding owls and they are not expected to occur here. No winter surveys were conducted, but due to the low quality of habitat, wintering birds are not expected to use the BSA.

Table B: Special-Status Species, Natural Communities of Concern, and Critical Habitat Evaluated for the Gonzales River Road Bridge Replacement Project

Scientific Name	Common Name	Status Federal/ State/Other†	General Habitat Description	Habitat Present/ Absent*	Rationale
Empidonax traillii	Willow flycatcher	FE/SE/-- Protected under the MBTA and CFGC	Riparian woodlands in Southern California, Nests and forages in riparian habitats dominated by willow thickets and other low riparian vegetation; neotropical migrant, present during spring and summer, migrants in the fall.	HP	This species is included on the USFWS official species list for the project. Potential nesting habitat is present, but this species has not been recorded nesting along the Salinas River in 44 years (Roberson 2002) and this species was not found during the 2015 focused nesting surveys in the BSA.
Gymnogyps californianus	California condor	FE/SE/-- Protected under the MBTA and CFGC	Generally occurs in wild landscapes, searches for carrion while soaring over mountains, seacoasts, and grasslands, nests on cliffs or in cavities in tall trees.	A	No suitable foraging habitat (remote mountains, seacoast, and grasslands) is present within the BSA. This species is included on the USFWS official species list for the project (Appendix C). The project would have ***no effect*** on this federally listed species.
Riparia riparia	Bank swallow	--/ST/-- Protected under the MBTA and CFGC	Nests in self-constructed burrows in vertical earthen banks/cliffs with fine-textured/sandy soils near streams, rivers, or lakes.	A	No suitable nesting habitat is located in the BSA.
Vireo bellii pusillus	Least Bell's vireo	FE/SE/-- Protected under the MBTA and CFGC	Nests in riparian habitats dominated by willows, forages in a variety of native riparian trees and shrubs and will sometime forage or nest in *Eucalyptus* adjacent to riparian areas, neotropical migrant, present during spring and summer, migrants in the fall.	HP	Potential nesting habitat is present, but this species was not found during the 2015 focused nesting surveys in the BSA. This species is included on the USFWS official species list for the project.
Aves	Migratory and resident native birds	--/--/-- Protected under the MBTA and CFGC	Various habitats including arroyo and sandbar willow thickets, Fremont cottonwood forest, and ruderal habitats, and structures (existing bridge) within the BSA.	HP	Most native birds both resident and migratory are protected by the federal MBTA and the State Fish and Game Code. The BSA provides foraging and breeding habitat for native, common birds, 38 species of which were observed within the BSA. Small numbers of cliff swallow (*Petrochelidon pyrrhonota*) nest on the bridge (Appendix A).
Mammals					
Antrozous pallidus	Pallid bat	--/--/SSC	Deserts, grasslands, shrublands, woodlands and forests, most common in open, dry habitats with rocky areas for roosting, roosts must protect bats from high temperatures, very	HP	Suitable foraging habitat is present along the floodplain within the BSA, but day roosting habitat (e.g., bridge expansion joints) is not present. Bridge abutment at northern end of

Table B: Special-Status Species, Natural Communities of Concern, and Critical Habitat Evaluated for the Gonzales River Road Bridge Replacement Project

Scientific Name	Common Name	Status Federal/ State/Other†	General Habitat Description	Habitat Present/ Absent*	Rationale
			sensitive to disturbance of roosting sites.		bridge could be used as a night roost.
Lasiurus blossevillii	Western red bat	--/--/SSC	Solitary tree roosting bat, favors riparian areas dominated by cottonwoods, prefers habitat edges and mosaics with trees that are protected from above & open below with open areas for foraging.	HP	Suitable roosting (riparian areas dominated by cottonwoods) and foraging habitat is present within the BSA.
Perognathus inornatus psammophilus	Salinas pocket mouse	--/--/SSC	Annual grassland and desert shrub communities in the Salinas Valley, fine-textured, sandy, friable soils, burrows for shelter.	A	Fine-textured, sandy, friable soils are present within the BSA. The closest records of this species are over 10 miles to the south of the BSA (south of Soledad); there are no known occurrences north of this (Williams 1986, MVZ 2016, CDFW 2020b). The only area within the BSA with sandy soils periodically floods and is unsuitable for this species; little adjacent upland for refuge during high flows.
Neotoma macrotis luciana	Monterey big-eared woodrat	--/--/SSC	Occupies coastal sage scrub, chaparral, oak woodlands, and riparian woodlands.	P	Several nests are present in the BSA in the Fremont cottonwood forest along the southern edge of the floodplain; however, the nests are outside the proposed impact area and are not expected to be disturbed.
Taxidea taxus	American badger	--/--/SSC	Open undeveloped country supporting grasslands, open woodlands, deserts, and valleys with abundant populations of prey (e.g., ground squirrels, pocket gophers, voles).	A	This species is not likely to den in the river floodplain, but could forage there; however, all surrounding areas outside the floodplain are intensively cultivated and the floodplain is subject to periodic flooding.

† Status:
Federal = Federal Endangered (FE), Federal Threatened (FT), Migratory Bird Treaty Act (MBTA);
Critical Habitat (CH) - project footprint is located within a designated critical habitat unit, but does not necessarily mean that appropriate habitat is present.
State = State Endangered (SE), State Threatened (ST), State Rare (SR) (plants), California Fish and Game Code (CFGC)
Other = California Rare Plant Rank (plants), Species of Special Concern (SSC) (animals); California Fully Protected (FP) (animals); NCC = Natural Community of Concern with State ranks of S1-S3 and all associations within them are considered to be highly imperiled.
1B = Rare or Endangered in California and elsewhere; .1 = Seriously Endangered in California; .2 = Moderately Threatened in California; .3 = Not very threatened in California
* Habitat Present/Absent:
Absent (A) = no habitat present and no further work needed. Habitat Present (HP) = habitat is, or may be present. The species may be present. Present (P) = the species is present.

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

Habitats and Natural Communities of Special Concern

Discussion of Fremont Cottonwood Forest (*Populus fremontii* Forest Alliance) and Arroyo Willow Thickets (*Salix lasiolepis* Scrubland Alliance)

SURVEY RESULTS

Fremont cottonwood forest is and arroyo willow thickets (includes Central Coast riparian scrub) are considered sensitive within the State of California and both have a rarity rank of S3; this means these natural communities are considered vulnerable (Sawyer et al. 2009). The structure and species composition of these communities/ vegetation alliances are described above in Chapter 3. The stand of Fremont cottonwood forest within the BSA includes mid-sized trees confined to a relatively narrow band along the edges of the river floodplain. Arroyo willow thickets are largely confined to clumps just west of the main river channel.

PROJECT IMPACTS

Based on the tree map (Figure 11), the project will result in impacts (removal or damage) to 9 Fremont cottonwoods and 5 black cottonwoods within the BSA.

AVOIDANCE AND MINIMIZATION EFFORTS

To avoid and minimize impacts to Fremont cottonwood forest and arroyo willow thickets, environmentally sensitive area (ESA) fencing will be placed along the edge of these vegetation types adjacent to the construction area to keep construction equipment and personnel out of adjacent areas supporting this vegetation. A qualified biologist will aid in the placement of the ESA fencing and will be on hand to monitor tree removal.

COMPENSATORY MITIGATION

The Salinas River high-flow channel is a naturally dynamic system, and vegetation in the channel periodically changes depending on flood events and low-flow periods. Based on the dynamic nature of this system, cottonwoods are expected to regenerate naturally in the high-flow channel after completion of bridge construction. Natural regeneration will be augmented by planting cuttings from nursery-grown trees of

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LEGEND

- Biological Study Area
- Tree Survey Area
- Project Impact Area
- # Trees Potentially Removed or Impacted by the Project

Tree Common Name

- Arroyo willow
- Black cottonwood
- Fremont cottonwood
- Red willow
- Sandbar willow

0 62.5 125
FEET

SOURCE: Bing (~2014); TRC (4/2015); LSA (8/2016)

I:\TRT1503\GIS\Arborist_TreeMap.mxd (11/7/2016)

FIGURE 11

Gonzales River Road Bridge Replacement Project
Monterey County, California
Federal Project Number BRLS-5944(098)

Tree Map

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local provenance. Trees will be planted at a 2:1 ratio (trees planted: trees removed) in the high-flow channel outside the edges of the new bridge deck where they would be exposed to light levels suitable for growth. Planted trees would be protected by ESA fencing, and a revegetation plan would be developed to monitor survival to County and/or CDFW specifications.

CUMULATIVE IMPACTS

The proposed project would not result in cumulative impacts to Fremont cottonwood forest and arroyo willow thickets because impacts would be temporary and mitigation plantings would result in no loss of these habitat.

Discussion of Waters of the United States and State Waters

SURVEY RESULTS

Within the BSA, potential waters of the United States under Corps jurisdiction consist of the areas within the OHWM of the Salinas River (approximately 460 linear feet; 1.1 acres), and seasonal wetlands (0.001 acre) (Appendix B). A jurisdictional delineation, field verified by the Corps on August 11, 2016, was prepared for the project; the field verified delineation is provided in Appendix B.

PROJECT IMPACTS

The project will result in temporary impacts to approximately 0.24 acre of areas under Corps jurisdiction (non-wetland waters of the United States). Seasonal wetlands (0.001 acre) under Corps jurisdiction will be avoided.

AVOIDANCE AND MINIMIZATION EFFORTS

BIO-1. During construction, all necessary Best Management Practices (BMP) will be implemented to ensure that no soil or other materials are discharged into the Salinas River. BMPs will include the use of wattles and silt fences along access roads and around staging and equipment storage areas. Construction mats, gravel, or other methods to reduce erosion will be incorporated into the design of the temporary road in the streambed work area.

BIO-2. Work within the streambed will be restricted to the low-flow season between June 15 and October 15.

BIO-3. During construction, heavy equipment will be restricted to the work area. The work area within the Salinas River floodplain will be delineated by ESA fencing. ESA fencing will be placed between the work area and

adjacent jurisdictional areas to keep construction equipment and personnel out of these areas. A qualified biologist will assist construction personnel in fence placement.

BIO-4. Following construction, the river channel will be returned to its original contour and condition to the greatest extent possible. All constructed ramps into the river channel for the temporary construction access road, construction mats, and other temporary material used for construction will be removed.

BIO-5. Refueling, maintenance, and storage of construction equipment and materials will take place out of the river channel.

COMPENSATORY MITIGATION

No compensatory mitigation is proposed with implementation of the measures outlined above. The small area of impact to areas within the OHWM will be temporary, and the area of temporary disturbance will be returned to the natural stream channel elevation and grade when construction is finished. Because the stream channel substrate is composed of sand, soil compaction is not expected to be an issue.

CUMULATIVE EFFECTS

The proposed project would not contribute to cumulative effects to waters of the United States because the completed project will not result in permanent impacts to areas within the OHWM and all temporary impacts to the streambed will be restored to pre-project elevations.

Discussion of Streambed

SURVEY RESULTS

Areas within the Salinas River subject to jurisdiction under the Lake and Streambed Alteration Agreement (Section 1602 of the Fish and Game Code) in the BSA total approximately 8.6 acres including arroyo willow tickets, Fremont cottonwood forest, river channel/wash, and sandbar willow/mulefat thickets (Figure 3).

PROJECT IMPACTS

The proposed project will result in permanent impacts to 0.04 acres and temporary impacts to approximately 1.64 acres of area within CDFW jurisdiction. These impacts would largely be due to removal of vegetation. Removal of old bridge piers will result in an increase of about 131.6 square feet of area within CDFW jurisdiction. Soil

compaction is not expected to be an issue because the substrate within the CDFW jurisdictional area is largely composed of sand, which resists compaction.

Avoidance and Minimization Efforts

BIO-6. During construction, all necessary Best Management Practices (BMP) will be implemented to ensure that no soil or other materials are discharged into the Salinas River. BMPs will include the use of wattles and silt fences along access roads and around staging and equipment storage areas. Construction mats, gravel, or other methods to reduce erosion will be incorporated into the design of the temporary road in the streambed work area.

BIO-7. Work within the streambed will be restricted to the low-flow season between June 15 and October 15.

BIO-8. During construction, heavy equipment will be restricted to the work area. The work area within the Salinas River floodplain will be delineated by ESA fencing. ESA fencing will be placed between the work area and adjacent jurisdictional areas to keep construction equipment and personnel out of these areas. A qualified biologist will assist construction personnel in fence placement.

BIO-9. Following construction, the river channel will be returned to its original contour and condition to the greatest extent possible. All constructed ramps into the river channel for the temporary construction access road, construction mats, and other temporary material used for construction will be removed.

BIO-10. Refueling, maintenance, and storage of construction equipment and materials will take place out of the river channel.

Compensatory Mitigation

No compensatory mitigation is proposed with implementation of the measures outlined above.

Cumulative Effects

The proposed project would not contribute to cumulative effects to areas under CDFW jurisdiction because the completed project will involve removal of the old bridge piers and restoration of elevations to the current streambed levels. This will

result in an increase of approximately 131.6 square feet of CDFW jurisdictional area within the BSA.

Discussion of Riparian Trees

SURVEY RESULTS

Native riparian trees observed in the BSA include Fremont cottonwood, black cottonwood, coast live oak, and three species of willows. A complete accounting of the trees within the impact area is included in Appendix E along with a tree table and map of the trees.

PROJECT IMPACTS

The proposed project could impact 40 trees, including 9 Fremont cottonwoods, 5 black cottonwoods, 1 sandbar willow, 12 red willows, and 13 arroyo willows (Figure 11). Trees within ten feet of the permanent and temporary impact areas could be impacted through direct removal or injury to roots or canopy branches by road construction, equipment storage and movement, and staging. None of the tree species within the tree survey area are protected by the County Ordinance.

AVOIDANCE AND MINIMIZATION EFFORTS

BIO-11. To avoid and minimize impacts to riparian trees outside of permanent and temporary impact areas, ESA fencing will be placed at or beyond the drip-line of trees or groups of trees adjacent to the work area to delineate a tree protection zone. No construction equipment or storage of construction materials will be allowed to enter the tree protection zone. A qualified arborist will assist construction crews in the placement of the ESA fencing.

COMPENSATORY MITIGATION

Compensatory mitigation is proposed with the implementation of the following measures. The removed native trees will be mitigated at a 2:1 ratio (trees planted: trees removed) by replacement plantings on site; this ratio of trees planted to trees removed is typical mitigation for Caltrans projects that affect native trees. Replacement plantings will be nursery-grown riparian trees of local provenance. The installed trees will be of the same species removed and be of vigorous stock. The planting locations of new trees will be determined by a certified arborist or qualified biologist.

A monitoring and maintenance plan will be developed to ensure long-term survivability of replacement plantings: the mitigation planting will be monitored for a minimum of five years, to ensure success.

CUMULATIVE EFFECTS

The loss of large mature trees will contribute to the cumulative effects to trees along the Salinas River. Riparian woodlands are dynamic habitat with large trees along the river periodically being washed out during flood events or cut down by beavers. As large trees are lost, they are continuously being replaced by newly established saplings. The removal of large trees during bridge construction will be offset by the implementation of the mitigation measures outlined above.

Discussion of Steelhead (South Central California coast DPS) Critical Habitat

Critical habitat for the South Central California coast DPS of steelhead includes the tributaries of the Salinas River within the BSA. At any given site, within designated areas of critical habitat, certain essential habitat features must be present for the critical habitat designation to apply. Essential habitat features for steelhead are: (1) juvenile rearing areas, (2) juvenile migration corridors, (3) areas for growth and development to adulthood, (4) adult migration corridors, and (5) spawning areas. The BSA supports juvenile migration and adult migration corridors and may also support juvenile rearing areas. Habitat features present within the BSA are juvenile migration corridors and adult migration corridors.

Within these habitat types, essential features of critical habitat include adequate: (1) substrate, (2) water quality, (3) water quantity, (4) water temperature, (5) water velocity, (6) cover/shelter, (7) food, (8) riparian vegetation, (9) space, and (10) safe passage conditions. Depending on season and water flow, all these features are present in the BSA.

SURVEY RESULTS

The BSA is included in the designated critical habitat for the South Central California Coast DPS as identified by the NMFS (2005).

PROJECT IMPACTS

Suitable spawning habitat is not present in the BSA or immediate vicinity, but the main stem of the Salinas River in the BSA is a migration corridor for the steelhead spawning in the upper watershed and for young steelhead migrating downstream to the ocean during winter and spring flows. Construction activities in the riverbed could adversely affect steelhead critical habitat. However, all effects (channel diversion and removal of riparian vegetation) to critical habitat within the BSA from the proposed project will be temporary and coincide with the period when the river channel is at its

lowest level or dry. Construction activities, therefore, will not result in permanent impacts to any essential features of critical habitat for steelhead. Given the avoidance and minimization measures proposed for this species and its critical habitat, the project may affect, but is not likely to adversely affect, steelhead critical habitat.

AVOIDANCE AND MINIMIZATION EFFORTS

BIO-12. Work within the river (i.e., in water) will be restricted to the period between June 15 and October 15 to minimize potential impacts to steelhead critical habitat. If the County, NMFS, Corps, Central Coast RWQCB, and CDFW concur that no surface water is present in the BSA and no storm events are anticipated, work within the river channel could proceed between October 16 and June 14.

BIO-13. Dewatering will not be required during construction; however, if water is present, diversion features will be designed to allow for unrestricted passage of adult and juvenile steelhead. Formal consultation with NMFS will be required. A qualified biologist (CDFW/NMFS-approved) will be on site to assist in the design and implementation of diversion of the river channel.

COMPENSATORY MITIGATION

If the avoidance and minimization efforts provided for steelhead (South Central California coast DPS) are followed, no compensatory mitigation is required.

CUMULATIVE EFFECTS

The project will not result in cumulative effects to critical habitat for steelhead.

Special-Status Plant Species

The 36 special-status plant species evaluated for this NES are included in Appendix C. Those included on the USFWS official species list or that potentially occur within the BSA are listed and discussed in Table B. None of these species was found in the BSA because there is no suitable habitat present in the BSA for these species and/or the species were not observed during the CDFW protocol rare plant surveys. Due to the absence of rare plants in the BSA, the proposed project will not result in impacts to special-status plants.

Monterey spineflower was recorded in the nine quad CNDDB and CNPS search (Appendix B), but was not on the USFWS official species list for the project

(Appendix B). Sandy soils occur in much of the Action Area; however, this species generally occurs close to the coast (Matthews and Mitchell 2015), and this species was not observed during the protocol rare plant surveys. This plant is not expected to occur in the BSA.

This robust spineflower was recorded in the nine quad CNPS search (Appendix B), but was not on the CNDDB or USFWS official species list for the project (Appendix B). This species generally occurs close to the coast (Matthews and Mitchell 2015), and this species was not observed during the protocol rare plant surveys. This plant is not expected to occur in the BSA.

Discussion of Congdon's Tarplant

Congdon's tarplant (*Centromadia parryi* ssp. *congdonii*) is an annual herb with a California Rare Plant Rank of 1B.1 (rare, threatened or endangered in California and elsewhere). It grows on alkaline soils and is generally found in valley and foothill grasslands and disturbed areas. This species is found at elevations between 1 and 230 meters and blooms between May and November (CNPS 2017).

Survey Results

Although this species is not known to occur within 2 mi of the BSA, suitable growing conditions and habitat are present in portions of the BSA. A different species of *Centromadia* (common tarweed [*Centromadia pungens* ssp. *pungens*]) was found within the BSA during appropriately timed rare plant surveys; however, Congdon's tarplant was not observed. Additionally, portions of the BSA are subject to consistent maintenance and disturbance activities (i.e., intensive agriculture operations) that likely preclude this species from occurring.

Project Impacts

The project will have no effect on this species as its presence in the BSA is not expected.

Avoidance and Minimization Efforts

No avoidance and minimization efforts are proposed.

Compensatory Mitigation

No compensatory mitigation is proposed because this species is not expected to occur in the BSA.

CUMULATIVE IMPACTS

The project will not result in cumulative effects to Congdon's tarplant.

Special-Status Animal Species Occurrences

The special-status animal species that are known to occur or have a potential to occur in the BSA are discussed in this section.

To protect special-status animals and other wildlife during project construction, the following general avoidance and minimization efforts will be implemented:

BIO-14. Before construction begins, a qualified biologist will conduct an environmental training session for all construction and maintenance personnel. At a minimum, the training will include a description of the special-status species that may occur in the BSA, their habitat requirements, and the measures that are being implemented to avoid and minimize impacts to these species. The environmental training will include a discussion of the boundaries within which the workers and equipment must remain.

BIO-15. A qualified biologist will be present at the work site until initial ground-disturbing activities in all portions of the site have been completed and workers have received environmental training. After this time, the contractor will designate a monitor that will ensure on-site compliance with all avoidance and minimization efforts when the qualified biologist is not on site. The qualified biologist will ensure that the monitor is familiar with the avoidance and minimization efforts and is able to identify all the special-status species of potential occurrence in the BSA. The monitor and the qualified biologist will have the authority to halt any action that might result in impacts that exceed the levels anticipated by the USFWS, NMFS, and/or the CDFW. If work is stopped, the County resident engineer for the project will be notified immediately by the qualified biologist or the on-site monitor. The County engineer will notify Caltrans. If a federally listed species is found in the work area during construction and a Biological Opinion has not been issued for the project, then the qualified biologist must stop work and immediately notify Caltrans. Caltrans will then consult with the USFWS or NMFS and will then advise the contractor on how to proceed. The County will contact the CDFW.

BIO-16. Prior to the start of construction in the Salinas River floodplain, the qualified biologist will identify locations for the placement of ESA fencing around the work area.

BIO-17. Immediately before initial ground disturbance and/or vegetation clearing in the high-flow river channel, the biologist will conduct a survey of the work area for special-status species. If special-status species are found, they will be allowed to leave the work area on their own, or if approved by the USFWS, NMFS, and/or CDFW, they will be relocated by the biologist to a safe place outside the work area.

BIO-18. During vegetation removal and initial grading and other ground-disturbing activities in the Salinas River floodplain, a qualified biologist will monitor such activities for reptiles and other small wildlife exposed by such activities. Any reptiles or other small animals found in the work area will be relocated to a safe place outside the exclusion fence.

BIO-19. Vegetation removal and trimming for the access road and construction areas within the river channel will be completed, to the greatest extent feasible, during the non-breeding season for birds (September 1 through January 31). This will discourage birds from nesting in construction areas and will greatly reduce the potential for nesting birds to delay the construction schedule. If vegetation is required to be removed during the nesting season (February 15 through August 31), pre-construction surveys, as described below, will be conducted to avoid impacts to nesting birds.

BIO-20. If project construction takes place during the bird nesting season (February 15 through August 31), all suitable nesting habitat within 50 feet of the limits of work will be surveyed by a qualified biologist no more than 14 days prior to ground disturbing/vegetation removal activities and again within 2 days (48 hours) of such activities. Areas outside the public right of way will not be surveyed for active nests unless such areas are visible from the public right of way.

a. If an active nest is found, a qualified biologist will delineate an appropriate buffer using plastic construction fencing (ESA fencing), pin flags, or other easily identified fencing material. If necessary, the biologist will consult with USFWS/CDFW to determine an appropriate buffer size. Typically, buffers range from 250 to 500

feet depending on the species and the location of the nest; however, smaller buffers have been accepted depending on the species, nest location, surrounding habitat, and the nature of the adjacent construction activity. During construction, the qualified biologist will conduct regular monitoring to evaluate the nest for potential disturbances associated with construction activities. Construction within the buffer will be prohibited until the qualified biologist determines that the nest is no longer active.

b. If an active nest is found after completion of the preconstruction surveys and after construction begins, all construction activities in the nest vicinity will stop until a qualified biologist has evaluated the nest and erected the appropriate buffer around the nest. If establishment of the buffer is not feasible, CDFW will be contacted for further avoidance and minimization guidelines.

BIO-21. The number of access routes, number and size of staging areas, and the total area of the activity will be limited to the minimum necessary to achieve the project goal. Routes and boundaries will be clearly demarcated both on plans and in the field.

BIO-22. If feasible, the qualified biologist will permanently remove individuals of exotic wildlife species such as bullfrogs, crayfish, and centrarchid fishes from the project area and dispatch them humanely consistent with the project's permits.

Discussion of Steelhead (South Central California coast DPS)

The South Central Coast DPS of steelhead is a federally listed threatened species and a California species of special concern (CDFG 2011). This DPS includes populations spawning in the Pajaro, the Salinas, and the Carmel rivers and the streams of the Big Sur coast south through San Luis Obispo County to Point Conception, in Santa Barbara County. South Central California Coast steelhead are winter run; they enter their spawning streams during high flows after winter storms and move upstream to their spawning grounds. Most of the streams occupied by South Central California Coast steelhead also support resident fish (referred to as rainbow trout), which are genetically identical to the sea-run fish in their stream.

SURVEY RESULTS

This species was not observed in the BSA during the field surveys, as no surface water was present during the survey period. The presence of steelhead in the BSA is presumed to occur during normal high flow events during the rainy season because the BSA encompasses a portion of the river that the fish would pass through on their way to spawning areas upstream of the BSA. Adults moving upstream to spawn and smolts moving downstream to the ocean would be expected to pass through the BSA during high flows in the winter and early spring.

ESSENTIAL FISH HABITAT

Essential Fish Habitat (EFH) has not been designated for this species (NMFS 2021). Therefore, no impact to EFH will occur, and no consultation with NMFS under the MSA is required.

PROJECT IMPACTS

Suitable spawning habitat is not present in the BSA or immediate vicinity, but the main stem of the Salinas River within the BSA is a migration corridor for the steelhead spawning in the upper Salinas River watershed. If water is present in the river channel during project construction and the channel requires diversion, fish movements upstream and downstream could be restricted.

Given the avoidance and minimization efforts proposed for this species, the project may affect but is not likely to adversely affect steelhead.

AVOIDANCE AND MINIMIZATION EFFORTS

The following avoidance and minimization efforts will protect steelhead and other native fish species that may occur in the BSA if water is present during construction activities. If flowing surface water is present, work within the river (i.e., in and adjacent to water) will be restricted to the period between June 15 and October 15 to minimize potential impacts to steelhead; however, surface flows suitable for fish passage are infrequent at this location. If the County and NMFS concur that no surface water is present in the BSA and no storm events are anticipated, work within the river channel could proceed between October 16 and June 14. During construction, the river will not be dewatered. If surface water is present, the river will be channelized during construction, but this will not restrict flow and will allow for unrestricted passage of adult and juvenile steelhead through the BSA.

Protection measures to minimize water quality impacts in conformance with Section 7-1.01G of Caltrans Standard Specifications – Water Pollution Control and the

Caltrans Construction Manual, Section 6-20 - Erosion Control and Highway Planting will be implemented by using Caltrans BMPs. The project will minimize the mobilization of sediments during in-water work by using silt-trapping devices (e.g., curtains) during removal of the old bridge. BMPs will include the following avoidance and minimization efforts to avoid impacts to steelhead and other native fishes:

BIO-23. If surface water is present, construction equipment required for the project will operate from areas outside the flowing channel. If flowing water is present, work below the tops of the riverbank, including bank repair, will be allowed only during the period from June 15 to October 15 during low-flow conditions (dry season).

BIO-24. No fill material, including asphalt or concrete, will be allowed to enter the stream, with the possible exception of clean river rock (see protection measure 7). Any concrete structures (such as headwall construction) below the tops of banks will be poured in tightly sealed forms and will not be allowed contact with surface waters until the cement has fully cured. Poured concrete will be excluded from the wetted channel for a period of 30 days after it is poured. During that time, the poured concrete will be kept moist, and runoff from the concrete will not be allowed to enter the river. Commercial sealants may be applied to the poured concrete surface in locations where the exclusion of water flow for a long period is difficult. If a sealant is used, water will be excluded from the site until the sealant is dry and fully cured according to the manufacturers' specifications.

BIO-25. Water that contacts wet concrete and has a pH greater than 9.0 will be pumped out of the work area and disposed of outside the creek channel.

BIO-26. No substances toxic to aquatic life will be discharged into the Salinas River (e.g., diesel fuel, oil, hydraulic fluid, run-off from curing concrete, etc.). BMPs including the use of silt fences and wattles will be used to keep toxic substances out of aquatic habitats.

BIO-27. ESA fencing will be placed along the upstream and downstream limits of the work area to prevent construction equipment and/or construction personnel from inadvertently impacting areas of the streambed outside the designated work area.

BIO-28. Surface water is unlikely to be present within the BSA during construction; however, if flowing water is present, the Salinas River will not be dewatered during the project, and natural flows will be allowed to pass through the work area during the entire construction period. If river flows are moderate to low this will be accomplished by placing black corrugated high-density polyurethane pipes in the river channel and directing flow through the pipes. The size (diameter) of the pipes to be used will be determined by the County resident engineer at the time of construction. Clean river rock will be used to direct the flow into the pipes; this rock will be removed upon completion of the project. When the river rock is put in place, a silt curtain will be installed downstream of the pipes to catch any sediment that is generated. If flows are too high to be accommodated by pipes, the work area will be isolated from the main channel with a dewatered cofferdam. These methods will allow unobstructed river flows and fish passage through the work area throughout the project duration.

BIO-29. If necessary, a bridge for the temporary construction access road will be placed over the pipes or if pipes are not used the open river channel. This bridge will not be supported by the pipes; it will be constructed with wood timbers (e.g., 8x8-inch) placed on plywood covered in plastic sheeting and supported by steel I-beams. The plastic sheeting will prevent dust, soil, or other debris from entering the riverbed through the cracks or joints between the bridge timbers and plywood. Wooded curbs will also be placed along the edges of the temporary bridge to help keep dirt and other debris from entering the riverbed. Clean river rock may be required to support the temporary bridge abutments and divert water into the pipes; if this is required, all the clean river rock will be removed at the end of the project.

BIO-30. If hydroseed mixes are used to stabilize disturbed areas, such mixes will not contain fertilizers.

BIO-31. Equipment maintenance and fueling areas will be located outside of the high-flow river channel. Fueling of vehicles will take place within a containment area that will prevent any spilled or leaked fuel from running into the river. All equipment servicing must occur within designated staging areas outside the high-flow river channel. All motorized equipment used during construction or demolition activities will be checked for oil, fuel, and coolant leaks prior to initiating work in the high-flow river

channel. Any equipment found to be leaking fluids will not be used in or around aquatic habitat features in order to minimize the chances of contaminating the habitat and potentially affecting sensitive species, particularly steelhead.

BIO-32. The project's contractor will prepare an emergency response and cleanup plan prior to beginning work at the site. The plan will detail the methods to be used to contain and clean up spills of petroleum products or other hazardous materials in the work area.

BIO-33. If water is present in the channel during construction a qualified biological monitor will be present while work is being conducted. If a federally listed species is found within the BSA, all work that could adversely affect the species must stop and Caltrans will be notified. Actions that may affect a federally listed species must cease until Caltrans has consulted with the USFWS and/or NMFS and has notified the County that construction may resume.

BIO-34. During river diversion activities, the qualified biologist will be on site to ensure compliance with the avoidance and minimization measures approved for the project. If nonnative aquatic species such as American bullfrogs are found, they will be removed and humanely dispatched. After completion of the project, the qualified biologist will prepare a report providing the results of the removal/relocation effort for submittal to the NMFS and the CDFW. The report will also include information on nonnative species that were removed from the work area.

COMPENSATORY MITIGATION

Given that avoidance and minimization efforts provided above will be followed, no compensatory mitigation for steelhead is required.

CUMULATIVE EFFECTS

In general, degradation of steelhead habitat in the Salinas River watershed is the result of the construction of dams, water diversion, and an increase in urban and agricultural development in the watershed. The proposed project would not contribute to these adverse cumulative effects on steelhead because the completed project would involve the removal of 9 bridge piers in the high-flow river channel, and the restoration of elevations to the current high-flow channel level. This will result in an increase in area (131.6 square feet) of high-flow channel and a more natural flow

dynamic that would increase steelhead passage habitat in this reach of the river. Replacement of the bridge and roadway is expected to allow steelhead to more easily move through the BSA and facilitate access to the upper reaches of the watershed where suitable spawning habitat occurs. The proposed project is consistent with the South-Central California Coast Steelhead Recovery Plan (NMFS 2013) as it contributes to the restoration of natural channel features of the river. The project will not result in cumulative impacts to steelhead.

Discussion of Pink Salmon

The pink salmon (*Oncorhynchus gorbuscha*) is a California species of special concern (CDFG 2011). Pink salmon were undocumented in the Salinas River until August 24, 2011. On this date, four adults (including three males in spawning condition) were captured at a water diversion facility approximately 4.3 miles upstream from the river mouth (Skiles et al. 2013). This species is known to wander and the presence of this species in the river in 2011 suggests that a small population, whether previously undetected or newly established, could be present. This species generally spawns in the lowermost reaches of rivers and spends a relatively short time in freshwater (Skiles et al. 2013) but could use tributaries of the Salinas River upstream of the Gonzales River Road Bridge.

Survey Results

No surface water was present in the BSA during the survey period and this species was not observed. However, adults moving upstream to spawn and smolts moving downstream to the ocean could pass through the BSA if they spawn upstream of the BSA.

Essential Fish Habitat

EFH for this species has not be designated for this species (NMFS 2021).

Project Impacts

Suitable spawning habitat is not present in the BSA or immediate vicinity, but the main stem of the Salinas River within the BSA could provide a migration corridor for the pink salmon spawning upstream of the BSA. Construction activities in the riverbed could impede passage of both adults (moving upstream to their spawning grounds) and smolts (moving downstream to the ocean).

Given the avoidance and protection measures for this species, the project is not likely to affect this pink salmon.

AVOIDANCE AND MINIMIZATION EFFORTS

The avoidance and minimization efforts proposed for steelhead (South Central California coast DPS) will also protect pink salmon.

COMPENSATORY MITIGATION

If the avoidance and minimization efforts provided for steelhead (South Central California coast DPS) are followed, no compensatory mitigation for pink salmon is required.

CUMULATIVE EFFECTS

Pink salmon have not historically been a species that spawns in the Salinas River, but as discussed above, small numbers have recently been observed in the river. In general, degradation of salmonid habitat in the Salinas River watershed is the result of the construction of dams, water diversion, and an increase in urban and agricultural development in the watershed. The proposed project would not contribute to these adverse cumulative effects on salmonids, including pink salmon, because the completed project will not degrade passage habitat to the upper reaches of the watershed where potential spawning habitat occurs. The project will not result in cumulative impacts to pink salmon.

Discussion of California Tiger Salamander

The California tiger salamander is federally listed as a threatened species. California tiger salamanders spend most of their lives in burrows in upland areas, typically grasslands and oak woodlands, interspersed with vernal pools and/or ponds (e.g., stock ponds) that provide breeding habitat. Eggs are deposited and hatch in aquatic habitat, and the juveniles eventually leave the ponds (typically in the late spring/early summer when the ponds begin to dry) to seek refuge in burrows in the uplands surrounding the ponds. The maximum reported movement distance from upland burrows to breeding ponds is 1.3 miles (CDFG 2010). Research shows that 95 percent of dispersing adults and juveniles occur within 0.38 and 0.39 miles of breeding ponds, respectively (CDFG 2010). There is a CNDDB occurrence (#249) of this species approximately 0.54 miles south of the BSA, but no suitable habitat occurs within or immediately adjacent to the BSA. In Monterey County, many populations of California tiger salamanders have been negatively affected by hybridization with introduced nonnative tiger salamanders (*Ambystoma mavortium*) which were introduced as a source of bait for anglers (CDFW 2010); whether the population represented by CNDDB occurrence #249 has been affected by such hybridization is

unknown. The project is not within designated Critical Habitat for California tiger salamander (USFWS 2005).

SURVEY RESULTS

No specific surveys for California tiger salamanders were conducted. The habitat on and within about 0.5 miles of the BSA is not suitable for this species. As noted above, there is a breeding record approximately 0.5 miles south of the BSA, but the intervening landscape is intensively cultivated with row crops and is periodically disked. Due to the constant cycle of planting, harvesting, and disking, this intervening area would not provide underground retreats for California tiger salamanders. Additionally, the areas within the BSA (south of the Salinas River high flow channel) closest to the breeding pond consist of paved roads, dirt roads with hard packed road shoulders, and agricultural equipment storage and staging areas that do not provide many California ground squirrel burrows or other suitable underground retreats for these amphibians.

The river channel does not provide breeding habitat for California tiger salamanders, as the larvae are not adapted to flowing streams or rivers where high winter and spring flows and flooding would wash breeding adults, eggs, and developing larvae downstream to the ocean. Additionally, the Gonzales River Road reach of the Salinas River is typically dry and only contains surface water during winter storm events.

Given that suitable upland and breeding habitat is not present on or adjacent to the BSA and a corridor of suitable habitat that connects the BSA to other occupied habitat is not present, California tiger salamanders are not expected to occur in the BSA.

PROJECT IMPACTS

The project would have ***no effect*** on the federally threatened California tiger salamander, as its presence in the BSA is not expected.

AVOIDANCE AND MINIMIZATION EFFORTS

No avoidance and minimization measures are proposed, as this species is not expected to occur within the BSA.

COMPENSATORY MITIGATION

No compensatory mitigation is proposed because this species is not expected to occur in the BSA.

CUMULATIVE IMPACTS

The project would not result in cumulative effects to the California tiger salamander as the species is not expected to occur within the BSA, and no suitable habitat for this species occurs within the BSA.

Discussion of California Red-Legged Frog

The California red-legged frog is a federally listed threatened species and a California Species of Special Concern (Thomson et al. 2016).

SURVEY RESULTS

California red-legged frogs were not observed in the BSA during any of the field surveys, although protocol surveys were not conducted. The California Red-legged Frog Habitat Assessment (Appendix D) conducted for the project concluded that suitable aquatic habitat is not present within the BSA or in adjacent areas and this amphibian is not expected to occur in the BSA. The USFWS has concurred with this conclusion. As previously noted, Glen Knowles, Assistant Field Supervisor, North Coast Division, informed LSA that he thought the assessment was correct – California red-legged frogs do not likely occur in the BSA and are not likely to be affected by the project. Finally, he noted that the Salinas River is often dry in the Gonzales reach, and California red-legged frogs are not expected to occur here.

PROJECT IMPACTS

The project would have ***no effect*** on this species, as its presence in the BSA is not expected.

AVOIDANCE AND MINIMIZATION EFFORTS

No avoidance and minimization efforts are proposed.

COMPENSATORY MITIGATION

No compensatory mitigation is proposed because this species is not expected to occur in the BSA.

CUMULATIVE IMPACTS

The project will not result in cumulative effects to the California red-legged frog.

Discussion of California Legless Lizard

The California legless lizard (*Anniella pulchra*) is a California species of special concern (Thomson et al. 2016). This secretive burrowing species is generally found in areas with loose sandy soils, loose humus, and/or leaf litter.

SURVEY RESULTS

Potential habitat within the BSA occurs in higher areas on the river floodplain that are less susceptible to periodic flooding. The heavily cultivated landscape outside the river floodplain is unsuitable habitat for these lizards. If California legless lizards are present in the higher areas of the floodplain, they could presumably move into areas closer to the river channel during the dry season or during longer periods of dry weather when flooding is infrequent. Based on the presence of suitable habitat, this species is likely to be present.

PROJECT IMPACTS

The proposed construction access road and activity within associated construction areas could temporarily affect suitable habitat for this lizard; however, an existing unpaved road, used by off-road vehicles, along the upstream edge of the bridge has already affected much of this area (Figure 8b). Vegetation removal, grading, and heavy equipment activity could result in mortality of legless lizards. After project completion, restoration such as tree planting could affect some legless lizards, but this is expected to be minimal. Soil compaction is expected to be minimal because sandy soils generally resist compaction. All these impacts will be temporary.

AVOIDANCE AND MINIMIZATION EFFORTS

The proposed construction access road will cut across the high flow river channel through potential legless lizard habitat; however, the construction road will run along the edges of the existing bridge in an area already disturbed by an existing unpaved road and on-going off-road vehicle activity. As discussed in the general avoidance and minimization efforts, ESA fencing will be placed along the edges of the proposed construction access road, this will protect any California legless lizards in adjacent undisturbed habitat.

COMPENSATORY MITIGATION

If the general avoidance and minimization efforts proposed for special-status animals and other wildlife are followed, no compensatory mitigation is required.

CUMULATIVE EFFECTS

The proposed project will not result in cumulative impacts to the California legless lizard. The proposed bridge will not permanently affect habitat for this species. The project will result in removal of nine bridge piers (131.6 square feet) out of the river channel and associated potential California legless lizard habitat. This will allow a more natural flow.

Discussion of Western Burrowing Owl

The burrowing owl (*Athene cunicularia)* is a California species of special concern (CDFG 2011; Shuford and Gardali 2008). As in many areas of central California, populations of burrowing owls in the Salinas Valley have been greatly reduced by land use changes (Roberson 2002). These small owls occur in dry open country, well-grazed grasslands, deserts, edges of agricultural fields, dirt roads, and canals, with mammal burrows for nest sites and retreats. In central California, the presence of California ground squirrels is an important element of suitable habitat for these owls but they will also use the burrows of other mammals and sometimes culverts and piles of concrete rubble (Shuford and Gardali 2008).

Survey Results

The edges of the agricultural roads and fields in the BSA appear to be regularly graded and have compacted soils; California ground squirrel were observed in small numbers, but no burrowing owls or sign (regurgitated pellets or white wash) were observed during the bird surveys. Due to the lack of observation of burrowing owls during the field surveys and the rarity of this species in Monterey County, it is not expected that burrowing owls occur in the BSA.

Project Impacts

The proposed project is not likely to affect burrowing owls, as there is limited habitat onsite.

Avoidance and Minimization Efforts

No specific avoidance and minimization efforts for burrowing owls are proposed, because it is not expected that they nest or winter in the BSA.

Compensatory Mitigation

No compensatory mitigation is proposed because this species is not expected to occur in the BSA.

Cumulative Impacts

The proposed project will not result in cumulative impacts to burrowing owls.

Discussion of Least Bell's Vireo

The least Bell's vireo is a federally and State listed endangered species. This migratory songbird typically nests in riparian habitats along rivers and streams in valleys and lowlands.

SURVEY RESULTS

The 2015 protocol surveys for least Bell's vireo resulted in negative findings. This species has historically nested in Monterey County along the Salinas River, but there are no historical records north of Greenfield (Roberson 2002), which is approximately 17 miles southeast of the BSA. Based on the lack of historical occurrences, current rarity in the County, and negative survey results it is doubtful that the least Bell's vireo occurs in the BSA.

PROJECT IMPACTS

The proposed project will not affect least Bell's vireo based on the results of protocol-level surveys, which did not find any least Bell's vireos within or adjacent to the BSA.

AVOIDANCE AND MINIMIZATION EFFORTS

No specific avoidance and minimization efforts for least Bell's vireos are proposed, because it is not expected that they occur in the BSA. Even though the least Bell's vireo is not expected to occur, a preconstruction survey for this species should be conducted to avoid adverse effects to this bird. Such a survey could be conducted concurrent with the recommended preconstruction nesting bird surveys, see Cliff Swallow and other Nesting Birds in this section of the report.

COMPENSATORY MITIGATION

No compensatory mitigation is proposed because this species is not expected to occur in the BSA.

CUMULATIVE IMPACTS

The proposed project will not result in cumulative impacts to least Bell's vireo.

Discussion of Willow Flycatcher

The willow flycatcher is a federally and State listed endangered species; however, the federally listed subspecies, southwestern willow flycatcher (*E. t. extimus*), is not known to occur in Monterey County (Roberson 2002). This migratory songbird nests in riparian habitats along rivers and streams in mountain, valley, and lowland landscapes.

SURVEY RESULTS

The 2015 protocol surveys for willow flycatcher resulted in negative findings.

PROJECT IMPACTS

The proposed project will not affect willow flycatcher.

AVOIDANCE AND MINIMIZATION EFFORTS

No specific avoidance and minimization efforts for willow flycatcher are proposed, because it is not expected that they occur in the BSA. Even though the willow flycatcher is not expected to occur, a preconstruction survey for this species should be conducted to avoid adverse effects to this bird. Such a survey could be conducted concurrent with the recommended preconstruction nesting bird surveys, see Cliff Swallow and other Nesting Birds discussion below.

COMPENSATORY MITIGATION

No compensatory mitigation is proposed because this species is not expected to occur in the BSA.

CUMULATIVE IMPACTS

The proposed project will not result in cumulative impacts to willow flycatcher.

Discussion of Western Red Bat, Pallid Bat, and Other Roosting Bats (Order Chiroptera)

SURVEY RESULTS

The western red bat (*Lasiurus blossevillii*) and the pallid bat (*Antrozous pallidus*) are California species of special concern (CDFW 2016). The Salinas River Valley is within the range of the western red bat (Reid 2006) and suitable roosting and foraging habitat is present within the BSA; however, focused bat surveys were not conducted and this species was not observed during the field surveys. This bat roosts among the foliage of trees and favors riparian corridors for foraging. Western red bats could roost in the Fremont cottonwood forest within the BSA, but they can be difficult to detect due to their solitary roosting habits. The pallid bat is also known from the interior of Monterey County and this species could forage within the BSA. Suitable day roosting habitats, such as bridge expansion joints, however, are not present. The bridge abutment at northern end of bridge could be used as a night roost, but no evidence of night roosting, such discarded parts of large insects (e.g., moth wings, cricket legs) or fecal droppings were found.

PROJECT IMPACTS

The project will result in temporary removal of about 1.2 acres of potential western red bat roosting habitat, including arroyo willow thickets and Fremont cottonwood forest.

AVOIDANCE AND MINIMIZATION EFFORTS

Due to the solitary roosting habits of this species, preconstruction (i.e., vegetation removal) surveys would not be feasible. Bats could be roosting in trees during removal and may be torpid and thus unable to flush when a tree is cut and processed. During tree removal, all limbs and trees such as Fremont cottonwood and willows will be left in place overnight after being cut to allow time for bats to leave the trees during the night. A qualified biologist will be on hand during tree removal to ensure that cut trees are left in place until the following morning.

COMPENSATORY MITIGATION

Given the avoidance and minimization efforts provided in the section above, no compensatory mitigation is proposed.

CUMULATIVE EFFECTS

The proposed project will not result in cumulative effects to western red bat due to the small area of impact to suitable roosting habitat.

Discussion of Monterey Big-Eared Woodrat

The Monterey big-eared woodrat is a California species of special concern (CDFW 2016). This small mammal typically occurs in shrublands and forests including riparian woodlands and constructs large conspicuous stick nests.

SURVEY RESULTS

Several woodrat nests were found within the BSA in the Fremont cottonwood forest along the southern edge of the river floodplain.

PROJECT IMPACTS

Clearing cottonwoods or willow thickets containing woodrat nests could impact woodrat foraging habitat and could destroy nests as well as directly kill individual woodrats. However, the woodrat nests were found mainly in areas that according to the project plans will not be impacted by clearing vegetation. Given this species' widespread distribution in not only riparian habitat but also chaparral and other scrub habitats in Monterey County, any impacts to this species from the proposed project are considered minimal.

AVOIDANCE AND MINIMIZATION EFFORTS

The general avoidance and minimization efforts provided above will help protect woodrats.

BIO-35. Prior to vegetation removal in the Fremont cottonwood forest, the area will be surveyed for woodrat nests. If any woodrat nests are located within the work area, they will be disassembled by hand or with hand tools to allow any woodrats in the nest to move out of the work area. The nest material will then be moved out of the work area.

COMPENSATORY MITIGATION

Given the avoidance and minimization efforts provided above, no compensatory mitigation is required.

CUMULATIVE EFFECTS

The proposed project will not result in cumulative effects to Monterey big-eared woodrat due to the small area of impact to suitable habitat.

Discussion of Invasive Species

SURVEY RESULTS

Twenty-four alien/nonnative plants on the California Invasive Plant Council's (Cal-IPC) Invasive Plant Inventory were identified as occurring in the BSA. Such species typically occur in areas that have been previously disturbed, such as along roadsides or in places that have periodic natural disturbances including areas subject to floods along the Salinas River. Within the BSA, most areas adjacent to agricultural fields are intensively managed for weeds and few invasive species are present.

Each plant in the Cal-IPC inventory is given an overall rating of high, moderate, or limited. Plants with a rating of high have severe ecological impacts. Plants with a rating of moderate have a substantial and apparent, but not severe, ecological impact. Plants with a limited rating are invasive but their ecological impacts are minor on a statewide level. The invasive species identified in the BSA with a high rating include fennel (*Foeniculum vulgare*), yellow star-thistle (*Centaurea solstitialis*), perennial pepperweed (*Lepidium latifolium*), giant reed (*Arundo donax*), and foxtail chess (*Bromus madritensis* ssp. *rubens*). Moderate-rated invasive species include poison hemlock (*Conium maculatum*), tocalote (*Centaurea melitensis*), black mustard (*Brassica nigra*), tree tobacco (*Nicotiana glauca*), common wild oat (*Avena fatua*), ripgut brome (*Bromus diandrus)*, and Bermuda grass (*Cynodon dactylon*).

PROJECT IMPACTS

Ground disturbance associated with project construction can create optimal conditions for the spread of invasive plants by removing and/or disturbing native vegetation and soil. Construction equipment contaminated with soil containing

invasive plant seeds from other areas can result in the spread of such species to new areas such as the BSA. In addition to invasive plants, the project could facilitate the movement or spread of invasive fish and wildlife species such as nonnative bullfrogs, crayfish, nonnative turtles (i.e., red-eared sliders), and centrarchid fishes. These species are undesirable in natural habitats and may compete with native species for resources including food, refuges, basking sites, and nest sites. In addition to being competitors with native species, nonnative species are often predators of native species. Through competition and predation, nonnative fish and wildlife may have a serious impact on native species and habitats.

AVOIDANCE AND MINIMIZATION EFFORTS

Measures addressing invasive species abatement and eradication will be included in the project design and contract specifications, and will be implemented and enforced by the construction contractor. At a minimum, this program would include the following:

BIO-36. During construction, the construction contractor shall inspect and clean construction equipment at the beginning and end of each day and prior to transporting equipment from one project location to another.

BIO-37. During construction, soil and vegetation disturbance will be minimized to the greatest extent feasible.

BIO-38. During construction, the construction contractor shall ensure that all active portions of the construction site are watered a minimum of twice daily or more often when needed due to dry or windy conditions to prevent excessive amounts of dust and seed dispersal.

BIO-39. During construction, the construction contractor will ensure that all material stockpiled is sufficiently watered or covered to prevent excessive amounts of dust and seed dispersal.

BIO-40. During construction, soil/gravel/rock will be obtained from weed-free sources.

BIO-41. All invasive plant material removed from the BSA will be disposed of properly in a landfill or other suitable facility where it will be chipped and composted to prevent spreading viable seeds or propagules that could take root on another site.

BIO-42. Only certified weed-free straw, mulch, and/or fiber rolls will be used for erosion control.

BIO-43. After construction, impacted areas adjacent to native vegetation will be revegetated with plant species approved by the County of Monterey and the Caltrans District Biologist that are native to the vicinity.

BIO-44. After construction, all revegetated areas will avoid the use of species listed in Cal-IPC's California Invasive Plant Inventory that have a high or moderate rating.

BIO-45. Eradication procedures (e.g., spraying and/or hand weeding) will be outlined should an infestation occur; the use of herbicides will be prohibited within and adjacent to native vegetation, except as specifically authorized and monitored by the County of Monterey and the Caltrans District Biologist.

BIO-46. Nonnative fish and wildlife will not be returned to the river or any other natural waterbody.

BIO-47. During project construction, a qualified biologist will permanently remove individuals of nonnative, invasive wildlife species from the project area and dispatch them humanely. Examples of nonnative, invasive species to be removed include but are not limited to bullfrogs, crayfish, nonnative turtles, and centrarchid fishes.

COMPENSATORY MITIGATION

Given the avoidance and minimization efforts provided above, no compensatory mitigation is required.

CUMULATIVE EFFECTS

If the avoidance and minimization efforts provided above are followed, the project will not contribute to cumulative effects from invasive plant and animal species.

Discussion of Cliff Swallows and Other Nesting Birds

SURVEY RESULTS

Thirty-eight species of birds were observed in the BSA during the field surveys (Appendix A). All the species are native birds protected under the MBTA and California Fish and Game Code. A number of these bird species potentially nest in the BSA. The riparian vegetation in the BSA provides nesting habitat for the greatest

number of species, but some species such as the killdeer (*Charadrius vociferus*) could nest in open areas along road shoulders and on the edges of crop fields in other parts of the BSA. The cliff swallow (*Petrochelidon pyrrhonota*), was the only species observed nesting on the bridge, with small numbers being observed at nests on Pier E29. The small numbers of cliff swallows nesting on the bridge may be the result of the lack of surface water and a nearby source of mud for nest construction. During the bird surveys, a Pacific-slope flycatcher was also repeatedly observed under the bridge near the southern end, but a nest site was never discovered.

No raptors were observed nesting within the BSA. However, both the red-shouldered hawk and red-tailed hawk (*B. jamaicensis*) were frequently observed during the bird surveys and these species could use larger cottonwoods up and downstream of the BSA for nesting.

PROJECT IMPACTS

Removal of vegetation or construction activity could directly destroy an active nest or affect the behavior of adults and young birds in the nest and cause a nest to fail. Additionally, construction activity could attract predatory species to the work area, thus increasing the risk of nest predation to nests located within or adjacent to the work area.

AVOIDANCE AND MINIMIZATION EFFORTS

The following measures will be implemented during construction to minimize the potential for take of birds including active nests:

BIO-48. To the greatest extent feasible, vegetation removal and trimming for the access road and construction areas within the river channel will be conducted during the non-breeding season for birds (i.e., between September 1 and February 14). This will discourage birds from nesting in construction areas and will greatly reduce the potential for nesting birds to delay the construction schedule. If vegetation cannot be removed during the non-breeding season, then pre-construction surveys, as described below, will be conducted to avoid impacts to nesting birds.

BIO-49. If project construction takes place during the bird nesting season (February 15 to August 31), all suitable nesting habitat within 50 feet of the limits of work will be surveyed by a qualified biologist no more than 14 days prior to ground disturbing/vegetation removal activities and again within 2 days (48 hours) of such activities. Areas outside the public right of way will not

be surveyed for active nests unless such areas are visible from the public right of way.

BIO-50. If an active nest is found, a qualified biologist will delineate an appropriate buffer using plastic construction fencing (ESA fencing), pin flags, or other easily identified fencing material. If necessary, the biologist will consult with USFWS/CDFW to determine an appropriate buffer size. Typical buffers set by CDFW include 250 feet for passerines and 500 feet for raptors. During construction, the qualified biologist will conduct regular monitoring (at CDFW-approved intervals) to evaluate the nest for potential disturbances associated with construction activities. Construction within the buffer will be prohibited until the qualified biologist determines that the nest is no longer active. If an active nest is found after completion of the preconstruction surveys and after construction begins, all construction activities in the nest vicinity will stop until a qualified biologist has evaluated the nest and erected the appropriate buffer around the nest. If establishment of the buffer is not feasible, USFWS/CDFW will be contacted for further avoidance and minimization guidelines.

COMPENSATORY MITIGATION

Given the avoidance and minimization efforts provided above, no compensatory mitigation is required.

CUMULATIVE EFFECTS

If the avoidance and minimization efforts provided above are followed, the project will not contribute to cumulative effects on nesting birds.

Chapter 5. Conclusions and Regulatory Determinations

Federal Endangered Species Act Consultation Summary

As previously noted, the California Red-legged Frog Habitat Assessment (Appendix D) conducted for the project concluded that suitable aquatic habitat is not present within the BSA or in adjacent areas and this species is not expected to occur in the BSA. The USFWS has concurred with this conclusion; Glen Knowles, Assistant Field Supervisor, North Coast Division, informed LSA that he thought the assessment was correct – California red-legged frogs are not likely to occur in the BSA and are not likely to be affected by the project. Consultation with the NMFS has not been initiated concerning the project. Because the project may affect but is not likely to adversely affect federally listed steelhead and critical habitat for steelhead, formal or informal consultation with the NMFS will be required. A *No Effect* finding was made for all other species (refer to Table C).

The California Department of Transportation, as part of its National Environmental Protection Act assignment of federal responsibilities by the Federal Highway Administration, effective October 1, 2012, and pursuant to 23 United States Code 326, will act as the lead federal agency for Section 7 of the Federal Endangered Species Act.

Essential Fish Habitat Consultation Summary

No essential fish habitat for any species has been identified in the BSA.

California Endangered Species Act Consultation Summary

No species listed under the CESA are known to occur within the BSA. No consultation with the CDFW regarding State-listed species is required.

Wetlands and Other Waters Coordination Summary

A jurisdictional delineation was field verified by the Corps on August 11, 2016. To date, no coordination concerning the Gonzales River Road Bridge Replacement Project has occurred with the CDFW or the RWQCB. Permits from the Corps, CDFW, and RWQCB will be required for the project. The field verified jurisdictional delineation for this project is provided in Appendix B.

Table C: Effects Determination for Federally Listed Species

Species/Critical Habitat	Status	Determination
Marsh sandwort	FE	The proposed project will have **no effect** on the federally endangered marsh sandwort.
Monterey spineflower	FT	The proposed project will have **no effect** on the federally threatened Monterey spineflower.
Robust spineflower	FE	The proposed project will have **no effect** on the federally endangered robust spineflower.
South-central California coast DPS steelhead	FT	The proposed project **may affect**, but is **not likely to adversely affect** the federally threatened South-central California coast DPS steelhead.
South-central California coast DPS steelhead Critical Habitat	Designated	The proposed project **may affect**, but is **not likely to adversely affect** designated critical habitat for steelhead (South-central California coast DPS).
Vernal pool fairy shrimp	FT	The proposed project will have **no effect** on the federally threatened vernal pool fairy shrimp.
California tiger salamander	FT	The proposed project will have **no effect** on the federally threatened California tiger salamander.
California red-legged frog	FT	The proposed project will have **no effect** on the federally threatened California red-legged frog.
Least Bell's vireo	FE	The proposed project will have **no effect** on the federally endangered least Bell's vireo.
California condor	FE	The proposed project will have **no effect** on the federally endangered California condor.
Southwestern willow flycatcher	FE	The proposed project will have **no effect** on the federally endangered Southwestern willow flycatcher.

Source: LSA, 2021
DPS = Distinct Population Segment
FE = Federally Endangered
FT = Federally Threatened

Executive Order 13112 - Invasive Species

Alien/nonnative invasive plant species are present within the BSA. In compliance with EO 13112, a weed abatement program will be developed to minimize the importation of nonnative plant material during and after construction. Eradication strategies would need to be employed should an invasion occur. Measures addressing invasive species abatement and eradication will be included in the project design and

contract specifications, and will be implemented and enforced by the construction contractor.

In addition, a program will be developed to remove and monitor invasive, nonnative fish and wildlife species during and after construction. Measures addressing invasive species abatement and eradication will be included in the project design and contract specifications, and will be implemented and enforced by the construction contractor.

Migratory Bird Treaty Act and California Fish and Game Code (Breeding Birds)

Thirty-eight species of birds were observed in the BSA during the field surveys (Appendix A); all these species are native birds protected under the Migratory Bird Treaty Act and California Fish and Game Code and a number of these species potentially nest in the BSA. The project includes avoidance and minimization efforts to comply with these statues and protect native birds and their active nests.

Executive Order 11990 - Wetlands

EO 11990 established a national policy to avoid adverse impacts on wetlands whenever there is a practicable alternative. On federally funded projects, impacts on wetlands must be identified. Alternatives that avoid wetlands must be considered. If wetland impacts cannot be avoided, then all practicable measures to minimize harm must be included. This must be documented in a specific Wetlands Only Practicable Alternative Finding. No wetlands subject to jurisdiction of the U.S. Army Corps of Engineers will be impacted. It is expected that the project will impact a small area determined to be waters of the United States and that this impact will be under the permit limits for the Corps' Nationwide Permit Program. As the project will comply with the Corps permit program and will include the avoidance and minimization measures provided in the Waters of the United States and State Waters section (above) the proposed project will comply with EO 11990.

Executive Order 11988 – Floodplain Management

The BSA is within a 100-year flood zone as depicted on a flood insurance rate map prepared by the Federal Emergency Management Agency (FEMA). The proposed bridge replacement project is designed to reduce flooding at the bridge crossing. Biological resources within the BSA are not likely to be adversely affected by occasional flooding. The removal of eight existing bridge piers will contribute to the restoration of the river floodplain and benefit floodplain values. Removing eight piers

reduces the total number of spans and increases the distance between them, which, as described in the project description above, will increase the hydraulic conveyance capacity beneath the bridge.

Wildlife Crossing

The Salinas River watercourse and associated riparian vegetation in the lower Salinas Valley provides a corridor of relatively natural habitat through an extensive agricultural landscape that supports few other areas of good quality wildlife habitat. Many species of terrestrial animals likely use this riparian corridor and high flow channel for local and long distance movements. Additionally, steelhead and other fish species would be expected to use the river channel during high flows when sufficient water levels are present. In regard to animal movement up and down the Salinas River corridor, the bridge replacement is not expected to have adverse effects on animal movement because it will not result in permanent barriers to aquatic or terrestrial animals. Construction activity may result in temporary effects to wildlife movement, but these effects would only be during the daylight hours during the four-month construction season.

Chapter 6. References

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Glen Knowles. Assistant Field Supervisor, Ventura Fish and Wildlife Office. Phone conversation with LSA biologist Tim Lacy, Point Richmond, CA. Concurrence with conclusion of California red-legged frog habitat assessment. July 14, 2016.

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Appendix A Species Observed in the BSA

Plant Species Observed in the Gonzales River Road Bridge Replacement Project Biological Study Area, Monterey County, California

Scientific Name	Common Name	Cal-IPC Rating/Abundance in the BSA
FERNS and FERN ALLIES		
EQUISETACEAE	HORSETAIL FAMILY	
Equisetum arvense	Field horsetail	
EUDICOTS		
ADOXACEAE	MUSKROOT FAMILY	
Sambucus nigra ssp. *caerulea*	Blue elderberry	
AMARANTHACEAE	AMARANTH FAMILY	
*Amaranthus albus**	Pigweed amaranth	
ANACARDIACEAE	SUMAC/CASHEW FAMILY	
Toxicodendron diversilobum	Poison oak	
APIACEAE	CARROT FAMILY	
*Conium maculatum**	Poison hemlock	Moderate/Low
*Coriandrum sativum**	Coriander	
*Foeniculum vulgare**	Fennel	High/Low
APOCYNACEAE	DOGBANE FAMILY	
Asclepias fascicularis	Narrowleaf milkweed	
ASTERACEAE	SUNFLOWER FAMILY	
Ambrosia acanthicarpa	Annual bur-sage	
Ambrosia psilostachya	Western ragweed	
Artemisia californica	California sagebrush	
Artemisia douglasiana	Mugwort	
Artemisia dracunculus	Tarragon	
Baccharis pilularis	Coyote brush	
Baccharis salicifolia	Mule fat	
*Centaurea melitensis**	Tocalote	Moderate/Low
*Centaurea solstitialis**	Yellow star-thistle	High/Low
Centromadia pungens ssp. *pungens*	Common tarweed	
Erigeron canadensis	Horseweed	
Heterotheca grandiflora	Telegraph weed	
*Lactuca serriola**	Prickly lettuce	
Lessingia pectinata var. *pectinata*	Common lessingia	
*Matricaria discoidea**	Pineapple weed	
*Pseudognaphalium luteoalbum**	Jersey cudweed	
*Silybum marianum**	Milk thistle	Limited/Low
Solidago velutina ssp. californica	California goldenrod	
*Sonchus asper**	Prickly sow thistle	
Stephanomeria virgata ssp. *virgata*	Rod wire-lettuce	
Xanthium spinosum	Spiny cocklebur	
Xanthium strumarium	Cocklebur	
BORAGINACEAE	BORAGE FAMILY	
Amsinckia menziesii	Menzies' fiddleneck	
Cryptantha intermedia	Clearwater cryptantha	
Emmenanthe penduliflora	Whispering bells	

Plant Species Observed in the Gonzales River Road Bridge Replacement Project Biological Study Area, Monterey County, California

Scientific Name	Common Name	Cal-IPC Rating/Abundance in the BSA
BRASSICACEAE	MUSTARD FAMILY	
*Brassica nigra**	Black mustard	Moderate/Low
Cardamine oligosperma	Bittercress	
*Eruca sativa**	Arugula	
*Lepidium appelianum**	White-top	
*Lepidium latifolium**	Perennial pepperweed	High/Low
*Lobularia maritima**	Sweet alyssum	Limited/Low
Nasturtium officinale	Small-leaved watercress	
*Raphanus sativus**	Wild radish	Limited/Low
*Sisymbrium orientale**	Indian hedge mustard	
CARYOPHYLLACEAE	PINK FAMILY	
*Saponaria officinalis**	Soapwort	Limited/Low
CHENOPODIACEAE	GOOSEFOOT FAMILY	
Atriplex lentiformis	Big saltbush	
Atriplex serenana	Bractscale	
*Chenopodium album**	Lamb's quarters	
Chenopodium desiccatum	Aridland goosefoot	
*Salsola tragus**	Russian thistle	Limited/Low
CONVOLVULACEAE	MORNING-GLORY FAMILY	
*Convolvulus arvensis**	Field bindweed	
Cuscuta sp.	Dodder	
CUCURBITACEAE	GOURD FAMILY	
Cucurbita palmata	Coyote gourd	
EUPHORBIACEAE	SPURGE FAMILY	
*Euphorbia maculata**	Spotted spurge	
*Euphorbia peplus**	Petty spurge	
FABACEAE	LEGUME FAMILY	
Astragalus douglasii var. *douglasii*	Douglas's milkvetch	
Lupinus albifrons	Silver bush lupine	
Lupinus concinnus	Scarlet lupine	
*Medicago polymorpha**	Bur-clover	Limited/Low
*Melilotus indicus**	sourclover	
FAGACEAE	OAK FAMILY	
Quercus agrifolia	Coast live oak	
GERANIACEAE	GERANIUM FAMILY	
*Erodium cicutarium**	Redstem filaree	Limited/Low
LAMIACEAE	MINT FAMILY	
*Marrubium vulgare**	Horehound	Limited/Low
MALVACEAE	MALLOW FAMILY	
*Malva parviflora**	Cheeseweed	
MYRSINACEAE	MYRSINE FAMILY	
*Lysimachia arvensis**	Scarlet pimpernel	
ONAGRACEAE	EVENING PRIMROSE FAMILY	
Camissoniopsis micrantha	Miniature suncup	
Epilobium ciliatum	Willowherb	

Plant Species Observed in the Gonzales River Road Bridge Replacement Project Biological Study Area, Monterey County, California

Scientific Name	Common Name	Cal-IPC Rating/Abundance in the BSA
PLANTAGINACEAE	PLANTAIN FAMILY	
*Veronica catenata**	Chain speedwell	
POLYGONACAE	BUCKWHEAT FAMILY	
Eriogonum elegans	Elegant buckwheat	
Polygonum aviculare ssp. *depressum**	Prostrate knotweed	
*Rumex crispus**	Curly dock	Limited/Low
ROSACEAE	ROSE FAMILY	
Rosa californica	California rose	
Rubus ursinus	California blackberry	
SALICACEAE	WILLOW FAMILY	
Populus fremontii ssp. *fremontii*	Fremont's cottonwood	
Populus trichocarpa	Black cottonwood	
Salix exigua	Sandbar willow	
Salix laevigata	Red willow	
Salix lasiolepis	Arroyo willow	
SOLANACEAE	NIGHTSHADE FAMILY	
Datura wrightii	Western jimson weed	
*Nicotiana glauca**	Tree tobacco	Moderate/Low
Solanum americanum	American black nightshade	
*Solanum elaeagnifolium**	White horse-nettle	
URTICACEAE	NETTLE FAMILY	
Urtica dioica ssp. *holosericea*	Hoary nettle	
*Urtica urens**	Dwarf nettle	
VISCACEAE	MISTLETOE FAMILY	
Phoradendron serotinum	Pacific mistletoe	
ZYGOPHYLLACEAE	CALTROP FAMILY	
*Tribulus terrestris**	Puncture vine	
MONOCOTS		
ASPARAGACEAE	ASPARAGUS FAMILY	
*Asparagus officinalis**	Garden asparagus	
CYPERACEAE	SEDGE FAMILY	
Cyperus eragrostis	Tall cyperus	
TYPHACEAE	CATTAIL FAMILY	
Typha latifolia	Common cattail	
POACEAE	GRASS FAMILY	
*Arundo donax**	Giant reed	High/Low
*Avena fatua**	Common wild oat	Moderate/Low
Bromus catharticus var. *elatus**	Harlan brome	
*Bromus diandrus**	Ripgut brome	Moderate/Low
*Bromus hordeaceus**	Soft chess	Limited/Low
Bromus madritensis ssp. *rubens**	Foxtail chess	High/Low
*Cynodon dactylon**	Bermuda Grass	Moderate/Low
Distichlis spicata	Salt grass	
Elymus triticoides	Creeping wildrye	
*Festuca perennis**	Italian ryegrass	

Plant Species Observed in the Gonzales River Road Bridge Replacement Project Biological Study Area, Monterey County, California

Scientific Name	Common Name	Cal-IPC Rating/Abundance in the BSA
*Polypogon monspeliensis**	Rabbit's-foot grass	Limited/Low
*Schismus arabicus**	Mediterranean grass	Limited/Low

*Species not native to the BSA
BSA = Biological Study Area
Cal-IPC = California Invasive Plant Council

Vertebrate Animal Species Observed in the Gonzales River Road Bridge Replacement Project Biological Study Area, Monterey County, California

Common name	Scientific name	Seasonal Occurrence/Nesting Codes[1]
AMPHIBIANS		
Pacific treefrog	*Hyliola regilla*	R
REPTILES		
Western fence lizard	*Sceloporus occidentalis*	R
BIRDS		
Canada goose	*Branta canadensis*	R/W
Mallard	*Anas platyrhynchos*	R
California quail	*Callipepla californica*	R
Turkey vulture	*Cathartes aura*	R
Northern harrier	*Circus cyaneus*	R/T
Red-shouldered hawk	*Buteo lineatus*	R
Red-tailed hawk	*Buteo jamaicensis*	R
Mourning dove	*Zenaida macroura*	R
Anna's hummingbird	*Calypte anna*	R
Nuttall's woodpecker	*Picoides nuttallii*	R
Hairy woodpecker	*Picoides villosus*	R/W
Pacific-slope flycatcher	*Empidonax difficilis*	S
Ash-throated flycatcher	*Myiarchus cinerascens*	S
Black phoebe	*Sayornis nigricans*	R
Warbling vireo	*Vireo gilvus*	S
California scrub-jay	*Aphelocoma californica*	R
American crow	*Corvus brachyrhynchos*	R
Violet-green swallow	*Tachycineta thalassina*	S
Cliff swallow	*Petrochelidon pyrrhonota*	S
Barn swallow	*Hirundo rustica*	S
Chestnut-backed chickadee	*Poecile rufescens*	R
Oak titmouse	*Baeolophus inornatus*	R
Bushtit	*Psaltriparus minimus*	R
Bewick's wren	*Thryomanes bewickii*	R
Swainson's thrush	*Catharus ustulatus*	S
Wrentit	*Chamaea fasciata*	R
Yellow-rumped warbler	*Setophaga coronata*	W/T
Spotted towhee	*Pipilo maculatus*	R
California towhee	*Melozone crissalis*	R
Song sparrow	*Melospiza melodia*	R/W
White-crowned sparrow	*Zonotrichia leucophrys*	W
Golden-crowned sparrow	*Zonotrichia atricapilla*	W
Black-headed grosbeak	*Pheucticus melanocephalus*	S
Red-winged blackbird	*Agelaius phoeniceus*	R
Brewer's blackbirds	*Euphagus cyanocephalus*	R
Brown-headed cowbird	*Molothrus ater*	S
House finch	*Haemorhous mexicanus*	R
Lesser goldfinch	*Spinus psaltria*	R/T
MAMMALS		
Broad-footed mole	*Scapanus latimanus*	R
Desert cottontail	*Sylvilagus audubonii*	R

Vertebrate Animal Species Observed in the Gonzales River Road Bridge Replacement Project Biological Study Area, Monterey County, California

Common name	Scientific name	Seasonal Occurrence/Nesting Codes[1]
California ground squirrel	*Otospermophilus beecheyi*	R
Botta's pocket gopher	*Thomomys bottae*	R
Northern Raccoon	*Procyon lotor*	R

[1] The codes refer to the species presumed seasonal occurrence on the site and probable breeding/nesting status (breeding was not confirmed in most cases).

M = Migrant: Uses the site for brief periods, primarily during the spring and fall months.
R = Year-round resident: resident/expected to nest/breed on-site or in the vicinity.
S = Spring/summer resident: May nest on-site or in the vicinity.
T = Transient: May use the site regularly but not expected to nest on-site.
W = Winter visitor: Regularly present during winter; does not nest locally.
F = Fly over.
* = Nonnative species.

Appendix B Wetland Delineation

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PALM SPRINGS
RIVERSIDE
ROCKLIN
SAN LUIS OBISPO

September 2, 2016

Naomi Schowalter
Regulatory Project Manager
U. S. Army Corps of Engineers
1455 Market Street, 16th Floor
San Francisco, CA 94103-1398

Subject: Request for Verification of Jurisdictional Delineation, Gonzales River Road Bridge Replacement Project, Unincorporated Monterey County, California

Dear Naomi:

On behalf of the Monterey County Resource Management Agency - Public Works Department, LSA Associates, Inc. (LSA) is requesting verification of the extent of U.S. Army Corps of Engineers (Corps) jurisdiction under Section 404 of the Clean Water Act on the Gonzales River Road Bridge Replacement Project Study Site, in unincorporated Monterey County near the City of Gonzales, California. This letter reports the results of a delineation performed by LSA and field verified by the Corps of the potential extent of waters of the United States, including wetlands, on the study site. Corps staff field verified this delineation on August 11, 2016.

SITE DESCRIPTION

The study site is located at the Gonzales River Road bridge over the Salinas River, approximately 1.9 miles southwest of the intersection of Gonzales River Road with South Alta Street in the City of Gonzales and 0.5 miles northeast of its intersection with River Road (Figures 1 and 2). The study site comprises portions of APN 216-012-002-000, 216-031-001-000, 216-032-018-000, 223-011-032-000, 223-011-040-000, 223-012-001-000, and 223-012-005-000 and has an area of approximately 28 acres. The site is located within unsectioned rancho lands, Townships 17 South, Range 5 West, on the Palo Escrito Peak, California, 7.5 minute USGS quadrangle, centered at approximately 36.487° N latitude and 121.470° W longitude.

The northern and southern ends of the study site are flat lands planted to row crops or containing agricultural drainage structures. The approximately 1,000 foot long bridge with 21 concrete supporting piers spans a wide flood plain bounded by constructed levee embankments. The flood plain is a relatively level but undulating sandy area vegetated with willows (*Salix lasiolepis, S. laevigata*, and *S. exigua*), cottonwoods (*Populus fremontii* and *P. trichocarpa*), box elder (*Acer negundo*), elderberry (*Sambucus nigra*), and coyote brush (*Baccharis pilularis*), along with ruderal forbs and grasses. The northern upper bank also supports coast live oak (*Quercus agrifolia*). The main river channel near the northern levee bank is bare sand.

Soils on the study site are mapped as Cropley silty clay, 0 to 2 percent slopes, Soil Map Unit CnA); Dune land (Df), Metz loamy sand (Me), Metz complex (Mg), Mocho silt loam, 0 to 2 percent slopes,

MLRA 14 (MnA), Mocho silty clay loam, 0 to 2 percent slopes, MLRA 14 (MoA), and Psammants and Fluvents, occasionally flooded (Pr). The Metz loamy sand and Metz complex soil map units are listed as not hydric. The remainder of the soil map units is 7 percent or less hydric.

The entire study site drains into the Salinas River, which drains westward to Monterey Bay in the Pacific Ocean approximately 26 miles northwest of the study site. The Pacific Ocean is a traditional navigable water of the United States.

REGULATORY BACKGROUND

Clean Water Act Jurisdiction

The Corps is responsible under Section 404 of the Clean Water Act (CWA) to regulate the discharge of fill material into waters of the United States. Waters of the United States and their lateral limits are defined in 33 CFR Part 328.3 (a) and include streams that are tributaries to navigable waters and their adjacent wetlands. The lateral limits of jurisdiction for a non-tidal stream are measured at the line of the Ordinary High Water Mark (OHWM) or the limit of adjacent wetlands. Any permanent extension of the limits of an existing water of the United States, whether natural or man-made, results in a similar extension of Corps jurisdiction.

Waters of the United States fall into two categories: wetlands and non-wetland waters. Wetlands include marshes, meadows, seep areas, floodplains, basins, and other areas experiencing extended seasonal soil saturation and dominated by wetland plant cover. Non-wetland waters include water bodies and watercourses such as rivers, streams, lakes, springs, ponds, coastal waters, and estuaries.

Waters and wetlands that cannot trace a continuous hydrological connection to a navigable water of the United States are not tributary to waters of the United States. These are termed "isolated wetlands." Isolated wetlands are jurisdictional when their destruction or degradation can affect interstate or foreign commerce.

In general, a Corps permit must be obtained before placing fill in wetlands or other waters of the United States. The type of permit depends on the acreage involved and the purpose of the proposed fill.

METHODS

The field investigations of potentially jurisdictional wetlands occurring on the study site were conducted using the routine determination method given in the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987) and the revised procedures in the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0)* (Arid West Supplement) (U.S. Army Corps of Engineers 2008). This methodology entails examination of specific sample points within potential wetlands for hydrophytic vegetation, hydric soils, and wetland hydrology. By the federal definition, all three parameters must be present for an area to be considered a wetland.

Hydrophytic plant species are listed by the U.S. Fish and Wildlife Service in *National List of Plant Species That Occur in Wetlands* (Reed 1988). The *National List* identifies five categories of plants according to their frequency of occurrence in wetlands. The categories are:

Obligate wetland plants (OBL)	Plants that occur almost always in wetlands
Facultative wetland plants (FACW)	Plants that usually occur in wetlands
Facultative plants (FAC)	Plants that are equally likely to occur in wetlands or non-wetlands
Facultative upland plants (FACU)	Plants that usually occur in uplands
Obligate upland plants (UPL)	Plants that occur almost always in non-wetlands

An area is generally considered to have hydrophytic vegetation when more than 50 percent of the dominant species in each stratum (tree, shrub, and herb) are in the obligate wetland, facultative wetland, or facultative categories.

Hydric soils are defined by criteria set forth by the National Technical Committee for Hydric Soils (NTCHS). These criteria are given in the *Wetlands Delineation Manual* and are based on depth and duration of soil saturation. Hydric soils are commonly identified in the field by using indirect indicators of saturated soil, technically known as redoximorphic features. These features are caused by anaerobic, reduced soil conditions that are brought about by prolonged soil saturation. The most common redoximorphic features are distinguished by soil color, which is strongly influenced by the frequency and duration of soil saturation. Hydric soils tend to have dark (low chroma) colors which are often accompanied by reddish mottles (iron mottles), reddish stains on root channels (oxidized rhizospheres), or gray colors (gleying). The Arid West Supplement contains descriptions of numerous federally-recognized hydric soil indicators.

Under natural conditions, development of hydrophytic vegetation and hydric soils are dependent on a third characteristic, wetland hydrology. This criterion is met if the area experiences inundation or soil saturation to the surface for a period equal to at least five (5) percent of the growing season (about 14 days in the region of the study site) in a year of median rainfall. In most cases, this criterion can only be measured directly by monitoring of the site through an entire wet season. In practice, the hydrological status of a particular area is usually evaluated using indirect indicators. Some of the indicators that are commonly used to identify wetland hydrology include biotic crusts and oxidized rhizospheres around roots. The Arid West Supplement gives thorough descriptions of numerous federally-recognized indicators of wetland hydrology.

FIELD METHODS

LSA soil scientist Chip Bouril investigated the site on April 21 and 22, 2015. The last significant rainfall of less than one inch occurred in early February 2015. Corps staff field verified this delineation on August 11, 2016.

Wetland boundaries and sample point locations were mapped using a global position system (GPS) receiver with sub-meter accuracy. Wetland boundaries were determined by following a combination

of the limits of hydrophytic vegetation, the limits of observed wetland hydrology, topographic breaks, and aerial ortho-photo interpretation.

LSA established 9 sample points on the study site. Their locations are shown on Figure 3.

OBSERVATIONS

Other Waters of the United States – Salinas River

At the study site, the Salinas River has a distinct channel that was completely dry during the April 2015 site investigation and the August 2016 verification visit. Neither the channel nor its banks supported any wetland vegetation other than the riparian tree canopy of willows and cottonwoods.

At the Gonzales River Road Bridge location, the low flow channel of the Salinas River is positioned against the base of the north level bank, while slightly east and west of the bridge the channel has a relatively narrow section of flood plain terrace between it and the levee toe. The low flow channel has a sand substrate and is completely unvegetated. Mature riparian trees, primarily willows, grow close to this channel edge and slightly overhang the channel.

The south side of this channel has a series of shorter and taller cut banks that vary in height and location throughout the study area reach, but in general show a consistent maximum elevation above the low flow channel, which is used for Ordinary High Water. The northern edge of the channel has occasional scour and cut bank evidence that is at a similar elevation to the cut banks on the southern side. Dense willows, blackberries, and poison oak obscure some of the Ordinary High Water elevations along the bank, so spot GPS locations were taken where accessible Ordinary High Water evidence existed. The entire bridge area was surveyed and elevation contours became available after the field investigation was completed. The Ordinary High Water Line was then finish-mapped using a combination of field GPS data and the surveyors' elevation contours. The resulting Ordinary High Water Line extends slightly into some of the mature riparian tree canopy.

The flood plain of the Salinas River extends south from its potentially jurisdictional channel for approximately 1,500 feet to the toe of the levee at the southern end of the bridge. The surface of the flood plain is undulating, but, according to the surveyed elevation contours, does not vary by more than 4 feet and typically no more than 2 feet in elevation across this distance. A likely flood overflow channel of the river is located near Sample Points 8 and 9. A possible flood channel, which may instead be a recreational roadway, is located near Sample Point 7. Both these locations have some elevations slightly lower than adjacent areas, but have elevations significantly higher than the main river channel. Both features appear discontinuous as channels and instead more like a series of alternating scours and elevated sand and gravel bars. Neither of these features shows wetland characteristics and neither has any bed and bank or scour evidence. The small flood plain terraces along the north river bank are at similar or higher elevations than the large flood plain and show no jurisdictional characteristics. The flood plain is therefore outside the Ordinary High Water channel of the Salinas River and not jurisdictional under Section 404 of the Clean Water Act.

Based on the presence of water in the likely flood overflow channel located near Sample Points 8 and 9 in Google Earth orthophotos from 2004and 2010, Corps staff has determined that the this channel is also within the Salinas River's OHWM. Based on the most recent of the aerial orthophotos, this channel narrows toward its downstream end and rejoins the main channel within the study site.

Within the study site, the Ordinary High Water main channel width varies between 60 and 100 feet wide. The jurisdictional length of the Salinas River channel within the study area is approximately 460 feet.

Both Salinas River channels within the study site are delineated as an Other Waters of the United States with a potential jurisdictional area of 49,985 sq. ft. (1.147 acre).

Wetlands – Floodplain Wetlands

Neither the unvegetated river channel nor its banks displayed any wetland characteristics other than the adjacent hydrophytic riparian tree canopy of willows and cottonwoods.

The undulating flood plain that spans the remaining length of the bridge did not display any convincing wetland characteristics other than hydrophytic willow and cottonwood trees except at excavated areas surrounding some of the concrete bridge piers and along the sometimes graded maintenance road paralleling the southeastern side of the bridge.

Sample Point 4 was placed in one of two adjacent, steep-sided, and likely excavated basins under the southernmost bridge pier, which contained mud cracks but were completely dry during the site investigation. The basins were partially vegetated with curly dock (*Rumex crispus*), western bittercress (*Cardamine oligosperma*), and poison hemlock (*Conium maculatum*), which meet jurisdictional hydrophytic plant criteria. Although not every part of the two basins contained redoximorphic soil mottling, the Sample Point 4 location did. Although the mud cracks may be from ephemeral rainy season puddling, the vegetation and the soil mottling do meet jurisdictional criteria. The two basins are similar and, based on the conclusion for Sample Point 4, both basins are delineated as potential jurisdictional seasonal wetlands. These features are mapped as Seasonal Wetlands A and B, with potential jurisdictional areas of 35 sq. ft. (0.001 acre) and 20 sq. ft. (0.0005 acre), respectively.

Sample Point 2 was placed in one of two additional shallow and likely excavated basins under the bridge near its second pier. The vegetation includes mule fat (*Baccharis salicifolia*), poison hemlock, perennial pepperweed (*Lepidium latifolium*), but also includes non-hydrophytic species and fails to meet jurisdictional plant criteria. The soil does contain redoximorphic mottling that meets jurisdictional hydric soil criteria and surface soil cracks do meet jurisdictional wetland hydrology criteria, although again they may just indicate ephemeral seasonal puddling. Although in a somewhat similar basin to that at Sample Point 4, Sample Point 2 and therefore the two surrounding basins do not meet jurisdictional wetland criteria.

Sample Point 3 was placed east of the maintenance road in a shallow and subtle basin with dominant hydrophytic vegetation including perennial pepperweed and poison hemlock, under a canopy of red willow (*Salix laevigata*) and Fremont cottonwood (*Populus fremontii*). Although the vegetation meets hydrophytic plant criteria, the soil contained no hydric soil indicators and no wetland hydrology indicators were observed.

Sample Point 5 was placed west of the bridge in a subtle basin that was vegetated with giant reed (*Arundo donax*) and red willow, which meet hydrophytic plant criteria. No hydric soil or wetland hydrology indicators were observed.

Sample Point 6 was placed in a tire rut basin along the maintenance roadway that contained surface soil cracks. Its surrounding vegetation includes rabbit's-foot grass (*Polypogon monspeliensis*) and perennial pepperweed, both hydrophytic species, but its vegetation fails to meet hydrophytic plant criteria. Its soil contains only minimal redoximorphic mottling which does not meet jurisdictional hydric soil criteria.

Sample Point 7 was placed in a sandy basin within a likely graded informal roadway that follows what may be a high flow flood plain channel of the river. Other than its concave topography, Sample Point 7 does not meet any of the three jurisdictional criteria.

Sample Point 8 was placed near the edge of a shallow and sandy likely flood plain overflow channel of the river vegetated with giant reed and mule fat shrub overstory. While its vegetation meets jurisdictional hydrophytic plant criteria, it did not display any hydric soil or wetland hydrology indicators.

Sample Point 9 was placed in a slight basin on the western side of the bridge with vegetation that includes sandbar willow (*Salix exigua*), poison hemlock, mugwort (*Artemisia douglasiana*), and mule fat. While this vegetation meets hydrophytic plant criteria, the soil contained no hydric soil indicators and no wetland hydrology indicators were observed.

Sample Point 1 was placed in the flood plain near the base of the steep upper bank on the northern side of the river channel under dense Fremont cottonwood and arroyo willow canopy with understory of giant reed and poison oak (*Toxicodendron diversilobum*). This vegetation meets hydrophytic plant criteria, but the soil contained no hydric soil indicators and no wetland hydrology indicators were observed.

The main channel of the river was dry during the site investigation and likely remains dry most of the year within this reach, although the river was observed flowing at other locations far upstream and downstream of this study site. The river's normal flow in this reach appears to be accommodated entirely underground. Almost all of these sample points illustrate a flood plain with silty to sandy highly permeable soils that can support perennial hydrophytic vegetation with deep roots which can tap into the water table and wet soils at depth. The more shallowly rooted, often annual, plants present are typically non-hydrophytic in response to the drier soil conditions nearer the surface. The flood plain becomes wet at or near its surface only when the river briefly floods outside its bank full channel. Thus, many locations within the flood plain may meet jurisdictional hydrophytic plant criteria because of perennial shrub and tree cover, while not showing any hydric soil or wetland hydrology characteristics.

Other than at the features previously described, no other evidence of potential waters of the United States was observed on the site.

CONCLUSIONS

Section 404 waters of the United States on the Gonzales River Road Bridge Replacement Project Study Site are two small wetlands with a total area of 0.001 acre and the Salinas River delineated as an Other Waters of the United States with an area of 1.147 acre, for a total jurisdictional area of 1.148 acre. These jurisdictional features, study site boundaries, and sample point locations are mapped on Figure 3, which is attached.

The findings and conclusions in this report, including the location and extent of other waters subject to regulatory jurisdiction, have been field verified by Corps staff.

LSA and the Monterey County Resource Management Agency - Public Works Department are requesting a Preliminary Jurisdictional Determination for this delineation.

Please contact me or Tim Lacy at (510) 236-6810 with any questions.

Sincerely,

LSA ASSOCIATES, INC.

CHIP BOURIL

Chip Bouril
Wetland Scientist

Attachments: Figure 1: Regional Location Map
Figure 2: Site Location Map
Figure 3A and B: Delineation Maps
Data Sheets 1 through 9

cc: Tim Lacy, LSA
Pam Reading, LSA
Mark Imbriani, TRC
Enrique Saavedra, Monterey County
Jose Gomez, Monterey County
Michaela Koenig, Caltrans

LSA

FIGURE 1

N

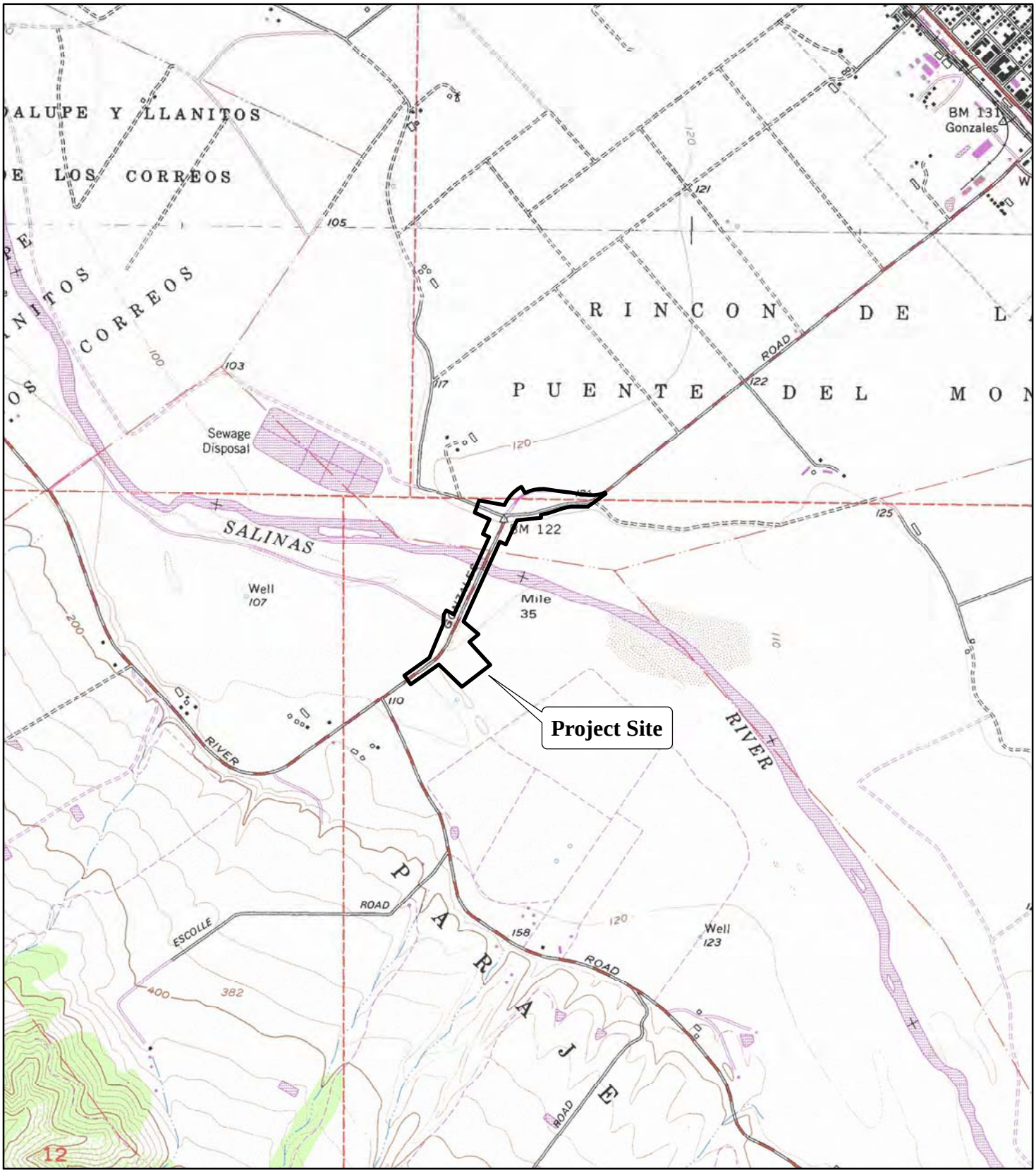
0 1000 2000
FEET

Gonzales River Road Bridge Replacement Project
Monterey County, California
Federal Project Number BRLS-5944(098)

Regional Location

SOURCE: ESRI StreetMap North America (2012).

I:\TRT1503\GIS\Maps\Delineation\Figure 1_Regional Location.mxd (7/8/2016)



LSA

FIGURE 2

N

0 1000 2000
FEET

Gonzales River Road Bridge Replacement Project
Monterey County, California
Federal Project Number BRLS-5944(098)

Site Location

SOURCE: USGS 7.5-minute Topo Quads - *Gonzales, Calif.* (1984) and *Palo Escrito, Calif.* (1984).

I:\TRT1503\GIS\Maps\Delineation\Figure 2_Site Location.mxd (7/8/2016)

LSA

LEGEND

Delineation Study Area

Control Point

Other Features

Wetland Sample Point

Non-wetland Sample Point

WATERS OF THE UNITED STATES

Wetlands

Seasonal Wetland (0.001 ac.)

Other Waters

Salinas River (1.147 ac.)

1 INCH = 200 FEET

0 100 200

FEET

MAP PREPARERS: Greg Gallaugher, Pam van der Leeden

SOURCE: TRC (04/2015); Esri World Imagery Service - Microsoft (10/2010).

I:\TRT1503\GIS\Maps\Delineation\Figure 3A_Waters of the US (Gonzales River Road Bridge).mxd (9/2/2016)

FIGURE 3A

Gonzales River Road Bridge Replacement Project
Monterey County, California
Federal Project Number BRLS-5944(098)

Waters of the United States
(Field verified by the Corps on August 11, 2016)

LSA

LEGEND

- Delineation Study Area
- Control Point

Other Features

- Wetland Sample Point
- Non-wetland Sample Point

WATERS OF THE UNITED STATES

Wetlands

- Seasonal Wetland (0.001 ac.)

Other Waters

- Salinas River (1.147 ac.)

1 INCH = 200 FEET

0 100 200

FEET

MAP PREPARERS: Greg Gallaugher, Pam van der Leeden

SOURCE: TRC (04/2015); Esri World Imagery Service - Microsoft (10/2010).

I:\TRT1503\GIS\Maps\Delineation\Figure 3B_Waters of the US (Gonzales River Road Bridge).mxd (9/2/2016)

FIGURE 3B

Gonzales River Road Bridge Replacement Project
Monterey County, California
Federal Project Number BRLS-5944(098)

Waters of the United States
(Field verified by the Corps on August 11, 2016)

WETLAND DETERMINATION DATA FORM — Arid West Region

Project Site: Gonzales River Road Bridge, Salinas River City/County: Near Gonzales/Monterey Sampling Date: 21APR15

Applicant/Owner: Monterey County State: CA Sampling Point: 1

Investigator(s): C. Bouril Section, Township, Range:

Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope (%):

Subregion (LRR): LRR C Lat: Long: Datum:

Soil Map Unit Name: NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)

Are Vegetation ____ Soil ____ or Hydrology ____ Significantly disturbed? Are "Normal Circumstances" present? Yes ____ No ____

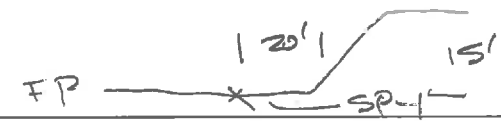
Are Vegetation ____ Soil ____ or Hydrology ____ Naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS — Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No	
Hydric Soil Present?	Yes	No X	**Is the Sampled Area within a Wetland?** Yes ____ No X
Wetland Hydrology Present?	Yes	No X	

Remarks:

~S



~N

VEGETATION

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1. POPULUS FREMONTII (RIPARIA)	60	X	FAC
2. SALIX LASIOLEPIS	40	X	FACW
3.			
4.			
Total Cover:			
Sapling/Shrub Stratum (Plot size:)			
1. BACCHARIS DOUGLASII	30	X	FACW
2. TOXICODENDRON DIVERSILOBA	20	X	FACU
3.			
4.			
5.			
Total Cover:			
Herb Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover:			

% Bare Ground in Herb Stratum ____ % Cover of Biotic Crust ____.

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 75 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	____	x 1 =	____
FACW species	____	x 2 =	____
FAC species	____	x 3 =	____
FACU species	____	x 4 =	____
UPL species	____	x 5 =	____
Column Totals:	____ (A)		____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

— Dominance Test is >50%
— Prevalence Index is ≤3.0[1]
— Morphological Adaptations1 (Provide supporting data in Remarks or on a separate sheet)
— Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No ____.

Remarks:

SOIL

Sampling Point: 1

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-5	10YR4/2		—				FS, SL	
5-8	"		—				SL	
8-12	10YR4/3		—				S/SL	

[1] Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2] Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (LRR C)
- ___ 1 cm Muck (A9) (LRR D)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

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

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? Yes ___ No X

Remarks: SAND = LARGE FLOOD
SILTS = SMALLER FLOODS ON FLOODPLAIN

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C5)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes ___ No X Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): ___

Wetland Hydrology Present? Yes ___ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: NO SEDS ON POFT. LEAVES DEBRIS

WETLAND DETERMINATION DATA FORM — Arid West Region

Project Site: Gonzales River Road Bridge, Salinas River City/County: Near Gonzales/Monterey Sampling Date: 21APR15

Applicant/Owner: Monterey County State: CA Sampling Point: 2

Investigator(s): C. Bouril Section, Township, Range:

Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope (%): 10

Subregion (LRR): LRR C Lat: Long: Datum:

Soil Map Unit Name: NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)

Are Vegetation ____ Soil ____ or Hydrology ____ Significantly disturbed? Are "Normal Circumstances" present? Yes ____ No ____

Are Vegetation ____ Soil ____ or Hydrology ____ Naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS — Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes ____ No X
Hydric Soil Present? Yes X No ____
Wetland Hydrology Present? Yes X No ____

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

Remarks:

UNDER BRIDGE

VEGETATION

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:			
Sapling/Shrub Stratum (Plot size: ____)			
1. BACCHARIS PILULARIS	10		UPL
2.			
3.			
4.			
5.			
Total Cover:			
Herb Stratum (Plot size: ____)			
1. CONIUM MACULATUM	20	X	FACW
2. BRASSICA NIGRA	5		UPL
3. LEPIDIUM LATIFOLIUM	20	X	FAC
4. MELILOTUS INDICUS	20	X	FACU
5. MALVA PARVIFLORA	5		UPL
6. CENTAUREA MELITENSIS	5		UPL
7. ANTHEMIS COTULA	5		UPL
8. BROMUS DIANDRUS	20	X	UPL
Total Cover:			
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
Total Cover: 60			

% Bare Ground in Herb Stratum ____ % Cover of Biotic Crust ____.

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	
FACW species	70	x 2 =	40
FAC species	20	x 3 =	60
FACU species	20	x 4 =	80
UPL species	80	x 5 =	250
Column Totals:	110 (A)		430 (B)

Prevalence Index = B/A = 3.91

Hydrophytic Vegetation Indicators:

— Dominance Test is >50%
— Prevalence Index is ≤3.0[1]
— Morphological Adaptations1 (Provide supporting data in Remarks or on a separate sheet)
— Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No X

Remarks:

SOIL

Sampling Point: 2

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3	10YR3/2-4/2	STRUCTURED	—					
3-6	10YR4/2		—				SAND	
6-17	10YR4/2		7.5YR4/4	5	C	PL	SCL	

[1] Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2] Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (LRR C)
- ___ 1 cm Muck (A9) (LRR D)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

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

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? Yes X No ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- X Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (CS)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes ___ No X Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): ___

Wetland Hydrology Present? Yes X No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: CRACKS ONLY IN ~6 x 8' AREA

WETLAND DETERMINATION DATA FORM — Arid West Region

Project Site: Gonzales River Road Bridge, Salinas River City/County: Near Gonzales/Monterey Sampling Date: 21APR15

Applicant/Owner: Monterey County State: CA Sampling Point: 3

Investigator(s): C. Bouril Section, Township, Range:

Landform (hillslope, terrace, etc.): F.P. Local relief (concave, convex, none): Slope (%): <5

Subregion (LRR): LRR C Lat: Long: Datum:

Soil Map Unit Name: NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)

Are Vegetation Soil or Hydrology Significantly disturbed? Are "Normal Circumstances" present? Yes No

Are Vegetation Soil or Hydrology Naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS — Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No	
Hydric Soil Present?	Yes	No X	Is the Sampled Area within a Wetland? Yes No X
Wetland Hydrology Present?	Yes	No X	

Remarks:

VEGETATION

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1. POPULUS FREMONTII	20	X	FAC
2. SALIX LAEVIGATA	20	X	FACW
3.			
4.			
Total Cover:			
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
Total Cover:			
Herb Stratum (Plot size:)			
1. LEPIDIUM LATIFOLIUM	20	X	FAC
2. EQUISETUM ARVENSE	5		FAC
3. MELILOTUS INDICUS	20	X	FACU
4. BRASSICA NIGRA	20	X	UPL
5. ARUNDO DONAX	10		FACW
6. SALIX LAEVIGATA	5		FACW
7. CONIUM MACULATUM	20	X	FACW
8.			
Total Cover: 70			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover:			

% Bare Ground in Herb Stratum % Cover of Biotic Crust .

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 67 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species .	x 1 = .
FACW species .	x 2 = .
FAC species .	x 3 = .
FACU species .	x 4 = .
UPL species .	x 5 = .
Column Totals: . (A)	. (B)

Prevalence Index = B/A = .

Hydrophytic Vegetation Indicators:

— Dominance Test is >50%
— Prevalence Index is ≤3.0[1]
— Morphological Adaptations1 (Provide supporting data in Remarks or on a separate sheet)
— Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No .

Remarks:

SOIL

Sampling Point: 3

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-5	10YR4/3		—				L	
5-12	10YR4/2 > 10YR3/2		—				LS/SL w/ SCATTERED	
~12	COBBLES							

[1] Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2] Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (LRR C)
- ___ 1 cm Muck (A9) (LRR D)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

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

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? Yes ___ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C5)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes ___ No X Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): ___

Wetland Hydrology Present? Yes ___ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM — Arid West Region

Project Site: Gonzales River Road Bridge, Salinas River City/County: Near Gonzales/Monterey Sampling Date: 22APR15

Applicant/Owner: Monterey County State: CA Sampling Point: 4

Investigator(s): C. Bouril Section, Township, Range:

Landform (hillslope, terrace, etc.): EXC. BASIN Local relief (concave, convex, none): Slope (%): 0-30

Subregion (LRR): LRR C Lat: Long: Datum:

Soil Map Unit Name: NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)

Are Vegetation Soil or Hydrology Significantly disturbed? Are "Normal Circumstances" present? Yes No

Are Vegetation Soil or Hydrology Naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS — Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes X No
Hydric Soil Present? Yes X No
Wetland Hydrology Present? Yes X No

Is the Sampled Area within a Wetland? Yes X No

Remarks:

VEGETATION

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:			
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
Total Cover:			
Herb Stratum (Plot size:)			
1. RUMEX CRISPUS	20	X	FAC
2. CONIUM MACULATUM	5		FACW
3. CARDAMINE OLIGOSPERMA	20	X	FAC
4.			
5.			
6.			
7.			
8.			
Total Cover:			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover:			

% Bare Ground in Herb Stratum % Cover of Biotic Crust

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

— Dominance Test is >50%
— Prevalence Index is ≤3.0[1]
— Morphological Adaptations1 (Provide supporting data in Remarks or on a separate sheet)
— Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No

Remarks:

SOIL

Sampling Point: 4

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3	10YR3/2		—				SiL	
3-6	10YR4/2		?				SiL	
6-10	10YR4/2		7.5YR5/6	5	C	PL,PF	SiL	
			7.5YR4/6	<2				

[1] Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2] Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (LRR C)
- ___ 1 cm Muck (A9) (LRR D)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

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

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? Yes X No ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- X Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C5)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes ___ No X Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): ___

Wetland Hydrology Present? Yes ___ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM — Arid West Region

Project Site: Gonzales River Road Bridge, Salinas River City/County: Near Gonzales/Monterey Sampling Date: 22APR15

Applicant/Owner: Monterey County State: CA Sampling Point: 5

Investigator(s): C. Bouril Section, Township, Range: _____

Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): <8

Subregion (LRR): LRR C Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No _____ (If no, explain in Remarks.)

Are Vegetation _____ Soil _____ or Hydrology _____ Significantly disturbed? Are "Normal Circumstances" present? Yes _____ No _____

Are Vegetation _____ Soil _____ or Hydrology _____ Naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS — Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No _____	**Is the Sampled Area within a Wetland?** Yes _____ No X
Hydric Soil Present?	Yes _____	No X	
Wetland Hydrology Present?	Yes _____	No X	

Remarks:

SLIGHT BASIN

VEGETATION

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. SALIX LAEVIGATA	100	X	FACW
2.			
3.			
4.			
Total Cover:			
Sapling/Shrub Stratum (Plot size: _____)			
1. ARUNDO DONAX	50	X	FACW
2.			
3.			
4.			
5.			
Total Cover:			
Herb Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:			
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
Total Cover:			

% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____.

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

— Dominance Test is >50%
— Prevalence Index is ≤3.0[1]
— Morphological Adaptations1 (Provide supporting data in Remarks or on a separate sheet)
— Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No _____.

Remarks:

SOIL

Sampling Point: 5

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0 – 1								DUFF
1 – 4	10YR4/2		—				SiL	
4 – 6	"						FSL	
6 – 10	10YR5/3						FS	

[1] Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2] Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (LRR C)
- ___ 1 cm Muck (A9) (LRR D)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

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

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? Yes ___ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C5)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes ___ No X Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): ___

Wetland Hydrology Present? Yes ___ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM — Arid West Region

Project Site: Gonzales River Road Bridge, Salinas River City/County: Near Gonzales/Monterey Sampling Date: 22APR15

Applicant/Owner: Monterey County State: CA Sampling Point: 6

Investigator(s): C. Bouril Section, Township, Range:

Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope (%): 0-20

Subregion (LRR): LRR C Lat: Long: Datum:

Soil Map Unit Name: NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)

Are Vegetation ____ Soil ____ or Hydrology ____ Significantly disturbed? Are "Normal Circumstances" present? Yes ____ No ____

Are Vegetation ____ Soil ____ or Hydrology ____ Naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS — Attach site map showing sampling point locations, transects, important features, etc.

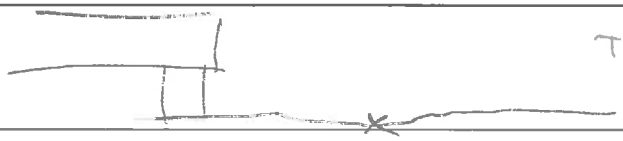
Hydrophytic Vegetation Present? Yes ____ No X

Hydric Soil Present? Yes ____ No X

Wetland Hydrology Present? Yes X No ____

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

Remarks:



VEGETATION

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:			
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
Total Cover:			
Herb Stratum (Plot size:)			
1. ANTHEMIS? COTULA	5	X	FACU
2. MELILOTUS INDICUS	10	X	FACU
3. POLYPOGON MONSPELIENSIS	5	X	FACW
4. BRASSICA NIGRA	5	X	UPL
5. LEPIDIUM LATIFOLIUM	5	X	FAC
6.			
7.			
8.			
Total Cover:			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover:			

% Bare Ground in Herb Stratum ____ % Cover of Biotic Crust ____.

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 40 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ____	x 1 = ____
FACW species ____	x 2 = ____
FAC species ____	x 3 = ____
FACU species ____	x 4 = ____
UPL species ____	x 5 = ____
Column Totals: ____ (A)	____ (B)

Prevalence Index = B/A = >3

Hydrophytic Vegetation Indicators:

— Dominance Test is >50%

— Prevalence Index is ≤3.0[1]

— Morphological Adaptations1 (Provide supporting data in Remarks or on a separate sheet)

— Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No X

Remarks:

SOIL

Sampling Point: 6

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-5	2.5Y4/2		—				SiCL	
5-7	10YR4/2		—				S	
7-10	10YR4/2		7.5YR4/4	42	C	PL	SiL	

[1] Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2] Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ____ Histosol (A1)
- ____ Histic Epipedon (A2)
- ____ Black Histic (A3)
- ____ Hydrogen Sulfide (A4)
- ____ Stratified Layers (A5) (LRR C)
- ____ 1 cm Muck (A9) (LRR D)
- ____ Depleted Below Dark Surface (All)
- ____ Thick Dark Surface (A12)
- ____ Sandy Mucky Mineral (S1)
- ____ Sandy Gleyed Matrix (S4)
- ____ Sandy Redox (S5)
- ____ Stripped Matrix (S6)
- ____ Loamy Mucky Mineral (F1)
- ____ Loamy Gleyed Matrix F2)
- ____ Depleted Matrix (F3)
- ____ Redox Dark Surface (F6)
- ____ Depleted Dark Surface (F7)
- ____ Redox Depressions (F8)
- ____ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

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

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ____

Depth (inches): ____

Hydric Soil Present? Yes ____ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1) (**Nonriverine**)
- ____ Sediment Deposits (B2) (**Nonriverine**)
- ____ Drift Deposits (B3) (**Nonriverine**)
- X Surface Soil Cracks (B6)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Water-Stained Leaves (B9)
- ____ Salt Crust (B11)
- ____ Biotic Crust (B12)
- ____ Aquatic Invertebrates (B13)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres along Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Plowed Soils (C5)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ____ Water Marks (B1) (**Riverine**)
- ____ Sediment Deposits (B2) (**Riverine**)
- ____ Drift Deposits (B3) (**Riverine**)
- ____ Drainage Patterns (B10)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Shallow Aquitard (D3)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ____ No X Depth (inches): ____

Water Table Present? Yes ____ No X Depth (inches): ____

Saturation Present? (includes capillary fringe) Yes ____ No X Depth (inches): ____

Wetland Hydrology Present? Yes ? No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM — Arid West Region

Project Site: Gonzales River Road Bridge, Salinas River City/County: Near Gonzales/Monterey Sampling Date: 22APR15

Applicant/Owner: Monterey County State: CA Sampling Point: 7

Investigator(s): C. Bouril Section, Township, Range:

Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope (%): 0 - 5

Subregion (LRR): LRR C Lat: Long: Datum:

Soil Map Unit Name: NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)

Are Vegetation ____ Soil ____ or Hydrology ____ Significantly disturbed? Are "Normal Circumstances" present? Yes ____ No ____

Are Vegetation ____ Soil ____ or Hydrology ____ Naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS — Attach site map showing sampling point locations, transects, important features, etc.

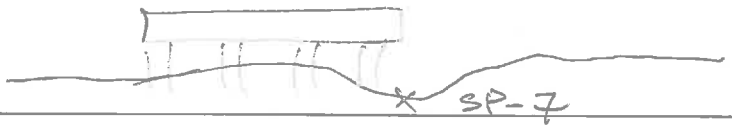
Hydrophytic Vegetation Present? Yes ____ No X

Hydric Soil Present? Yes ____ No X

Wetland Hydrology Present? Yes ____ No X

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

Remarks:



VEGETATION

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:			
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
Total Cover:			
Herb Stratum (Plot size:)			
1. MELILOTUS INDICUS	5	X	FACU
2. BRASSICA NIGRA	8	X	UPL
3. BROMUS DIANDRUS	4	X	UPL
4. AMSINCKIA MENZIESII	4	X	UPL?
5. BROMUS MADRITENSIS	6	X	UPL
6. ANTHOXANTHUM ODORATA?	5	X	FACU
7.			
8.			
Total Cover: 30			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover:			

% Bare Ground in Herb Stratum ____ % Cover of Biotic Crust ____.

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 8 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ____	x 1 = ____
FACW species ____	x 2 = ____
FAC species ____	x 3 = ____
FACU species ____	x 4 = ____
UPL species ____	x 5 = ____
Column Totals: ____ (A)	____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

— Dominance Test is >50%
— Prevalence Index is ≤3.0[1]
— Morphological Adaptations1 (Provide supporting data in Remarks or on a separate sheet)
— Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No X

Remarks:

SOIL

Sampling Point: 7

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-5	10YR4/2		—				SL	
5-12	10YR5/2		—				LS/S	

[1] Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2] Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (LRR C)
- ___ 1 cm Muck (A9) (LRR D)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

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

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? Yes ___ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (C5)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes ___ No X Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): ___

Wetland Hydrology Present? Yes ___ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

NO MUDCRACKS (SAND)

WETLAND DETERMINATION DATA FORM — Arid West Region

Project Site: Gonzales River Road Bridge, Salinas River City/County: Near Gonzales/Monterey Sampling Date: 22APR15

Applicant/Owner: Monterey County State: CA Sampling Point: 8

Investigator(s): C. Bouril Section, Township, Range:

Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope (%):

Subregion (LRR): LRR C Lat: Long: Datum:

Soil Map Unit Name: NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)

Are Vegetation ____ Soil ____ or Hydrology ____ Significantly disturbed? Are "Normal Circumstances" present? Yes ____ No ____

Are Vegetation ____ Soil ____ or Hydrology ____ Naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS — Attach site map showing sampling point locations, transects, important features, etc.

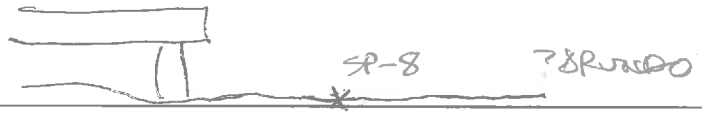
Hydrophytic Vegetation Present? Yes X No ____

Hydric Soil Present? Yes ____ No X

Wetland Hydrology Present? Yes ____ No X

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

Remarks:



VEGETATION

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:			
Sapling/Shrub Stratum (Plot size: ____)			
1. BACCHARIS SALICIFOLIA	60	X	FAC
2. ARUNDO DONAX	50	X	FAC
3.			
4.			
5.			
Total Cover:			
Herb Stratum (Plot size: ____)			
1. BRASSICA NIGRA	50	X	UPL
2. CONIUM MACULATUM	<1		
3. NO I.D. GRASS-LEAF SAMPLE	20		
4.			
5.			
6.			
7.			
8.			
Total Cover:			
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
Total Cover:			

% Bare Ground in Herb Stratum ____ % Cover of Biotic Crust ____.

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 67 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ____	x 1 = ____
FACW species ____	x 2 = ____
FAC species ____	x 3 = ____
FACU species ____	x 4 = ____
UPL species ____	x 5 = ____
Column Totals: ____ (A)	____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

— Dominance Test is >50%

— Prevalence Index is ≤3.0[1]

— Morphological Adaptations1 (Provide supporting data in Remarks or on a separate sheet)

— Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No ____.

Remarks:

SOIL

Sampling Point: 8

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR5/2		—				S	
10-12+	10YR4/2		—				Si	

[1] Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2] Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ____ Histosol (A1)
- ____ Histic Epipedon (A2)
- ____ Black Histic (A3)
- ____ Hydrogen Sulfide (A4)
- ____ Stratified Layers (A5) (LRR C)
- ____ 1 cm Muck (A9) (LRR D)
- ____ Depleted Below Dark Surface (A11)
- ____ Thick Dark Surface (A12)
- ____ Sandy Mucky Mineral (S1)
- ____ Sandy Gleyed Matrix (S4)
- ____ Sandy Redox (S5)
- ____ Stripped Matrix (S6)
- ____ Loamy Mucky Mineral (F1)
- ____ Loamy Gleyed Matrix F2)
- ____ Depleted Matrix (F3)
- ____ Redox Dark Surface (F6)
- ____ Depleted Dark Surface (F7)
- ____ Redox Depressions (F8)
- ____ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

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

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ____

Depth (inches): ____

Hydric Soil Present? Yes ____ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1) (**Nonriverine**)
- ____ Sediment Deposits (B2) (**Nonriverine**)
- ____ Drift Deposits (B3) (**Nonriverine**)
- ____ Surface Soil Cracks (B6)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Water-Stained Leaves (B9)
- ____ Salt Crust (B11)
- ____ Biotic Crust (B12)
- ____ Aquatic Invertebrates (B13)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres along Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Plowed Soils (C5)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ____ Water Marks (B1) (**Riverine**)
- ____ Sediment Deposits (B2) (**Riverine**)
- ____ Drift Deposits (B3) (**Riverine**)
- ____ Drainage Patterns (B10)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Shallow Aquitard (D3)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ____ No X Depth (inches): ____

Water Table Present? Yes ____ No X Depth (inches): ____

Saturation Present? (includes capillary fringe) Yes ____ No X Depth (inches): ____

Wetland Hydrology Present? Yes ____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM — Arid West Region

Project Site: Gonzales River Road Bridge, Salinas River City/County: Near Gonzales/Monterey Sampling Date: 22APR15

Applicant/Owner: Monterey County State: CA Sampling Point: 9

Investigator(s): C. Bouril Section, Township, Range:

Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope (%):

Subregion (LRR): LRR C Lat: Long: Datum:

Soil Map Unit Name: NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)

Are Vegetation Soil or Hydrology Significantly disturbed? Are "Normal Circumstances" present? Yes No

Are Vegetation Soil or Hydrology Naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS — Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes X No
Hydric Soil Present? Yes No X
Wetland Hydrology Present? Yes No X

Is the Sampled Area within a Wetland? Yes No X

Remarks:

VEGETATION

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:			
Sapling/Shrub Stratum (Plot size: 15'D)			
1. SALIX EXIGUA	30	X	FACW
2. ARTEMESIA CALIFORNICA	5		
3. BACCHARIS PILULARIS	5		
4. AERUNDO DONAX	5		
5.			
Total Cover:			
Herb Stratum (Plot size: 15'D)			
1. CONIUM MACULATUM	10	X	FACW
2. BRASSICA NIGRA	25	X	UPL
3. ARTEMISIA DOUGLASIANA	10	X	FAC
4. BACCHARIS SALICIFOLIA	10	X	FAC
5.			
6.			
7.			
8.			
Total Cover:			
Woody Vine Stratum (Plot size:)			
1.			
2.			
Total Cover:			

% Bare Ground in Herb Stratum % Cover of Biotic Crust .

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 80 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species .	x 1 = .
FACW species .	x 2 = .
FAC species .	x 3 = .
FACU species .	x 4 = .
UPL species .	x 5 = .
Column Totals: . (A)	. (B)

Prevalence Index = B/A = .

Hydrophytic Vegetation Indicators:

— Dominance Test is >50%
— Prevalence Index is ≤3.0[1]
— Morphological Adaptations1 (Provide supporting data in Remarks or on a separate sheet)
— Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No .

Remarks:

SOIL

Sampling Point: 9

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR4/2		—				SL	
4-12	10YR5/2		—				S	

[1] Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2] Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ____ Histosol (A1)
- ____ Histic Epipedon (A2)
- ____ Black Histic (A3)
- ____ Hydrogen Sulfide (A4)
- ____ Stratified Layers (A5) (LRR C)
- ____ 1 cm Muck (A9) (LRR D)
- ____ Depleted Below Dark Surface (A11)
- ____ Thick Dark Surface (A12)
- ____ Sandy Mucky Mineral (S1)
- ____ Sandy Gleyed Matrix (S4)
- ____ Sandy Redox (S5)
- ____ Stripped Matrix (S6)
- ____ Loamy Mucky Mineral (F1)
- ____ Loamy Gleyed Matrix F2)
- ____ Depleted Matrix (F3)
- ____ Redox Dark Surface (F6)
- ____ Depleted Dark Surface (F7)
- ____ Redox Depressions (F8)
- ____ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

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

[3] Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ____

Depth (inches): ____

Hydric Soil Present? Yes ____ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- ____ Saturation (A3)
- ____ Water Marks (B1) (**Nonriverine**)
- ____ Sediment Deposits (B2) (**Nonriverine**)
- ____ Drift Deposits (B3) (**Nonriverine**)
- ____ Surface Soil Cracks (B6)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Water-Stained Leaves (B9)
- ____ Salt Crust (B11)
- ____ Biotic Crust (B12)
- ____ Aquatic Invertebrates (B13)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres along Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Plowed Soils (C5)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ____ Water Marks (B1) (**Riverine**)
- ____ Sediment Deposits (B2) (**Riverine**)
- ____ Drift Deposits (B3) (**Riverine**)
- ____ Drainage Patterns (B10)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Shallow Aquitard (D3)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ____ No X Depth (inches): ____

Water Table Present? Yes ____ No X Depth (inches): ____

Saturation Present? (includes capillary fringe) Yes ____ No X Depth (inches): ____

Wetland Hydrology Present? Yes ____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

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Appendix C CNDDB, CNPS, USFWS, and NMFS Species Lists

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Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad IS (Chews Ridge (3612135) OR Chualar (3612155) OR Gonzales (3612154) OR Mount Johnson (3612153) OR Palo Escrito Peak (3612144) OR Paraiso Springs (3612133) OR Rana Creek (3612145) OR Soledad (3612143) OR Sycamore Flat (3612134))

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Abies bracteata bristlecone fir	PGPIN01030	None	None	G2G3	S2S3	1B.3
Agelaius tricolor tricolored blackbird	ABPBXB0020	None	Candidate Endangered	G2G3	S1S2	SSC
Ambystoma californiense California tiger salamander	AAAAA01180	Threatened	Threatened	G2G3	S2S3	WL
Anniella pulchra pulchra silvery legless lizard	ARACC01012	None	None	G3G4T3T4Q	S3	SSC
Antrozous pallidus pallid bat	AMACC10010	None	None	G5	S3	SSC
Aquila chrysaetos golden eagle	ABNKC22010	None	None	G5	S3	FP
Arctostaphylos gabilanensis Gabilan Mountains manzanita	PDERI042X0	None	None	G1	S1	1B.2
Arctostaphylos montereyensis Toro manzanita	PDERI040R0	None	None	G2G3	S2S3	1B.2
Ardea herodias great blue heron	ABNGA04010	None	None	G5	S4	
Athene cunicularia burrowing owl	ABNSB10010	None	None	G4	S3	SSC
Bombus crotchii Crotch bumble bee	IIHYM24480	None	None	G3G4	S1S2	
Buteo swainsoni Swainson's hawk	ABNKC19070	None	Threatened	G5	S3	
California macrophylla round-leaved filaree	PDGER01070	None	None	G3?	S3?	1B.2
Calyptridium parryi var. hesseae Santa Cruz Mountains pussypaws	PDPOR09052	None	None	G3G4T2	S2	1B.1
Caulanthus lemmonii Lemmon's jewelflower	PDBRA0M0E0	None	None	G3	S3	1B.2
Centromadia parryi ssp. congdonii Congdon's tarplant	PDAST4R0P1	None	None	G3T2	S2	1B.1
Chorizanthe pungens var. pungens Monterey spineflower	PDPGN040M2	Threatened	None	G2T2	S2	1B.2
Clarkia jolonensis Jolon clarkia	PDONA050L0	None	None	G2	S2	1B.2

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Corynorhinus townsendii Townsend's big-eared bat	AMACC08010	None	None	G3G4	S2	SSC
Delphinium umbraculorum umbrella larkspur	PDRAN0B1W0	None	None	G3	S3	1B.3
Dipodomys venustus elephantinus big-eared kangaroo rat	AMAFD03041	None	None	G4T2	S2	SSC
Emys marmorata western pond turtle	ARAAD02030	None	None	G3G4	S3	SSC
Eriogonum nortonii Pinnacles buckwheat	PDPGN08470	None	None	G2	S2	1B.3
Eumops perotis californicus western mastiff bat	AMACD02011	None	None	G5T4	S3S4	SSC
Euphydryas editha bayensis Bay checkerspot butterfly	IILEPK4055	Threatened	None	G5T1	S1	
Falco mexicanus prairie falcon	ABNKD06090	None	None	G5	S4	WL
Galium clementis Santa Lucia bedstraw	PDRUB0N0H0	None	None	G3	S3	1B.3
Juncus luciensis Santa Lucia dwarf rush	PMJUN013J0	None	None	G3	S3	1B.2
Lasiurus blossevillii western red bat	AMACC05060	None	None	G5	S3	SSC
Lasiurus cinereus hoary bat	AMACC05030	None	None	G5	S4	
Malacothamnus aboriginum Indian Valley bush-mallow	PDMAL0Q020	None	None	G3	S3	1B.2
Malacothamnus davidsonii Davidson's bush-mallow	PDMAL0Q040	None	None	G2	S2	1B.2
Malacothrix saxatilis var. arachnoidea Carmel Valley malacothrix	PDAST660C2	None	None	G5T2	S2	1B.2
Masticophis flagellum ruddocki San Joaquin coachwhip	ARADB21021	None	None	G5T2T3	S2?	SSC
Neotoma macrotis luciana Monterey dusky-footed woodrat	AMAFF08083	None	None	G5T3	S3	SSC
Oncorhynchus mykiss irideus steelhead - south-central California coast DPS	AFCHA0209H	Threatened	None	G5T2Q	S2	
Optioservus canus Pinnacles optioservus riffle beetle	IICOL5E020	None	None	G1	S1	
Perognathus inornatus psammophilus Salinas pocket mouse	AMAFD01062	None	None	G4T2?	S1	SSC
Phrynosoma blainvillii coast horned lizard	ARACF12100	None	None	G3G4	S3S4	SSC

Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Plagiobothrys uncinatus hooked popcornflower	PDBOR0V170	None	None	G2	S2	1B.2
Rana boylii foothill yellow-legged frog	AAABH01050	None	None	G3	S3	SSC
Rana draytonii California red-legged frog	AAABH01022	Threatened	None	G2G3	S2S3	SSC
Riparia riparia bank swallow	ABPAU08010	None	Threatened	G5	S2	
Rosa pinetorum pine rose	PDROS1J0W0	None	None	G2	S2	1B.2
Spea hammondii western spadefoot	AAABF02020	None	None	G3	S3	SSC
Taricha torosa Coast Range newt	AAAAF02032	None	None	G4	S4	SSC
Taxidea taxus American badger	AMAJF04010	None	None	G5	S3	SSC
Valley Needlegrass Grassland Valley Needlegrass Grassland	CTT42110CA	None	None	G3	S3.1	
Valley Oak Woodland Valley Oak Woodland	CTT71130CA	None	None	G3	S2.1	
Vulpes macrotis mutica San Joaquin kit fox	AMAJA03041	Endangered	Threatened	G4T2	S2	

Record Count: 50

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CNPS California Native Plant Rare and Endangered Plant Inventory

Plant List

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

Search Criteria

Rare Plant Rank is one of [1A, 1B, 2A, 2B, 3, 4], Found in 9 Quads around 36121D4

Scientific Name	Common Name	Family	Lifeform	Rare Plant Rank	State Rank	Global Rank
Abies bracteata	bristlecone fir	Pinaceae	perennial evergreen tree	1B.3	S2S3	G2G3
Amorpha californica var. napensis	Napa false indigo	Fabaceae	perennial deciduous shrub	1B.2	S2	G4T2
Amsinckia douglasiana	Douglas' fiddleneck	Boraginaceae	annual herb	4.2	S3	G3
Arctostaphylos gabilanensis	Gabilan Mountains manzanita	Ericaceae	perennial evergreen shrub	1B.2	S1	G1
Arctostaphylos montereyensis	Toro manzanita	Ericaceae	perennial evergreen shrub	1B.2	S2S3	G2G3
Astragalus nuttallii var. nuttallii	ocean bluff milk-vetch	Fabaceae	perennial herb	4.2	S4	G4T4
California macrophylla	round-leaved filaree	Geraniaceae	annual herb	1B.2	S3?	G3?
Calyptridium parryi var. hesseae	Santa Cruz Mountains pussypaws	Montiaceae	annual herb	1B.1	S2	G3G4T2
Castilleja latifolia	Monterey Coast paintbrush	Orobanchaceae	perennial herb (hemiparasitic)	4.3	S4	G4
Caulanthus lemmonii	Lemmon's jewelflower	Brassicaceae	annual herb	1B.2	S3	G3
Centromadia parryi ssp. congdonii	Congdon's tarplant	Asteraceae	annual herb	1B.1	S2	G3T2
Chorizanthe douglasii	Douglas' spineflower	Polygonaceae	annual herb	4.3	S4	G4
Chorizanthe pungens var. pungens	Monterey spineflower	Polygonaceae	annual herb	1B.2	S2	G2T2
Chorizanthe robusta var. robusta	robust spineflower	Polygonaceae	annual herb	1B.1	S1	G2T1
Clarkia breweri	Brewer's clarkia	Onagraceae	annual herb	4.2	S4	G4
Clarkia jolonensis	Jolon clarkia	Onagraceae	annual herb	1B.2	S2	G2
Clarkia lewisii	Lewis' clarkia	Onagraceae	annual herb	4.3	S4	G4
Clinopodium mimuloides	monkey-flower savory	Lamiaceae	perennial herb	4.2	S3	G3
Cryptantha rattanii	Rattan's cryptantha	Boraginaceae	annual herb	4.3	S4	G4
Delphinium umbraculorum	umbrella larkspur	Ranunculaceae	perennial herb	1B.3	S3	G3
Eriastrum virgatum	virgate eriastrum	Polemoniaceae	annual herb	4.3	S4	G4
Eriogonum nortonii	Pinnacles buckwheat	Polygonaceae	annual herb	1B.3	S2	G2

Eriogonum nudum var. indictum	protruding buckwheat	Polygonaceae	perennial herb	4.2	S4	G5T4
Fritillaria liliacea	fragrant fritillary	Liliaceae	perennial bulbiferous herb	1B.2	S2	G2
Galium clementis	Santa Lucia bedstraw	Rubiaceae	perennial herb	1B.3	S3	G3
Horkelia yadonii	Santa Lucia horkelia	Rosaceae	perennial rhizomatous herb	4.2	S3	G3
Juncus luciensis	Santa Lucia dwarf rush	Juncaceae	annual herb	1B.2	S3	G3
Malacothamnus aboriginum	Indian Valley bush-mallow	Malvaceae	perennial deciduous shrub	1B.2	S3	G3
Malacothamnus davidsonii	Davidson's bush-mallow	Malvaceae	perennial deciduous shrub	1B.2	S2	G2
Malacothrix saxatilis var. arachnoidea	Carmel Valley malacothrix	Asteraceae	perennial rhizomatous herb	1B.2	S2	G5T2
Navarretia nigelliformis ssp. radians	shining navarretia	Polemoniaceae	annual herb	1B.2	S2	G4T2
Plagiobothrys uncinatus	hooked popcornflower	Boraginaceae	annual herb	1B.2	S2	G2
Rosa pinetorum	pine rose	Rosaceae	perennial shrub	1B.2	S2	G2

Suggested Citation

CNPS, Rare Plant Program. 2017. Inventory of Rare and Endangered Plants (online edition, v8-02). California Native Plant Society, Sacramento, CA. Website http://www.rareplants.cnps.org [accessed 03 February 2017].

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United States Department of the Interior

FISH AND WILDLIFE SERVICE
Ventura Fish And Wildlife Office
2493 Portola Road, Suite B
Ventura, CA 93003-7726
Phone: (805) 644-1766 Fax: (805) 644-3958

In Reply Refer To: December 14, 2020
Consultation Code: 08EVEN00-2016-SLI-0516
Event Code: 08EVEN00-2021-E-00217
Project Name: Gonzales River Road Bridge Replacement Project

Subject: Updated list of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed list identifies species listed as threatened and endangered, species proposed for listing as threatened or endangered, designated and proposed critical habitat, and species that are candidates for listing that may occur within the boundary of the area you have indicated using the U.S. Fish and Wildlife Service's (Service) Information Planning and Conservation System (IPaC). The species list fulfills the requirements under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 et seq.). Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the species list should be verified after 90 days. We recommend that verification be completed by visiting the IPaC website at regular intervals during project planning and implementation for updates to species lists following the same process you used to receive the enclosed list. Please include the Consultation Tracking Number in the header of this letter with any correspondence about the species list.

Due to staff shortages and excessive workload, we are unable to provide an official list more specific to your area. Numerous other sources of information are available for you to narrow the list to the habitats and conditions of the site in which you are interested. For example, we recommend conducting a biological site assessment or surveys for plants and animals that could help refine the list.

If a Federal agency is involved in the project, that agency has the responsibility to review its proposed activities and determine whether any listed species may be affected. If the project is a major construction project*, the Federal agency has the responsibility to prepare a biological assessment to make a determination of the effects of the action on the listed species or critical habitat. If the Federal agency determines that a listed species or critical habitat is likely to be adversely affected, it should request, in writing through our office, formal consultation pursuant to section 7 of the Act. Informal consultation may be used to exchange information and resolve conflicts with respect to threatened or endangered species or their critical habitat prior to a

written request for formal consultation. During this review process, the Federal agency may engage in planning efforts but may not make any irreversible commitment of resources. Such a commitment could constitute a violation of section 7(d) of the Act.

Federal agencies are required to confer with the Service, pursuant to section 7(a)(4) of the Act, when an agency action is likely to jeopardize the continued existence of any proposed species or result in the destruction or adverse modification of proposed critical habitat (50 CFR 402.10(a)). A request for formal conference must be in writing and should include the same information that would be provided for a request for formal consultation. Conferences can also include discussions between the Service and the Federal agency to identify and resolve potential conflicts between an action and proposed species or proposed critical habitat early in the decision-making process. The Service recommends ways to minimize or avoid adverse effects of the action. These recommendations are advisory because the jeopardy prohibition of section 7(a)(2) of the Act does not apply until the species is listed or the proposed critical habitat is designated. The conference process fulfills the need to inform Federal agencies of possible steps that an agency might take at an early stage to adjust its actions to avoid jeopardizing a proposed species.

When a proposed species or proposed critical habitat may be affected by an action, the lead Federal agency may elect to enter into formal conference with the Service even if the action is not likely to jeopardize or result in the destruction or adverse modification of proposed critical habitat. If the proposed species is listed or the proposed critical habitat is designated after completion of the conference, the Federal agency may ask the Service, in writing, to confirm the conference as a formal consultation. If the Service reviews the proposed action and finds that no significant changes in the action as planned or in the information used during the conference have occurred, the Service will confirm the conference as a formal consultation on the project and no further section 7 consultation will be necessary. Use of the formal conference process in this manner can prevent delays in the event the proposed species is listed or the proposed critical habitat is designated during project development or implementation.

Candidate species are those species presently under review by the Service for consideration for Federal listing. Candidate species should be considered in the planning process because they may become listed or proposed for listing prior to project completion. Preparation of a biological assessment, as described in section 7(c) of the Act, is not required for candidate species. If early evaluation of your project indicates that it is likely to affect a candidate species, you may wish to request technical assistance from this office.

Only listed species receive protection under the Act. However, sensitive species should be considered in the planning process in the event they become listed or proposed for listing prior to project completion. We recommend that you review information in the California Department of Fish and Wildlife's Natural Diversity Data Base. You can contact the California Department of Fish and Wildlife at (916) 324-3812 for information on other sensitive species that may occur in this area.

[*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.]

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:

Ventura Fish And Wildlife Office
2493 Portola Road, Suite B
Ventura, CA 93003-7726
(805) 644-1766

Project Summary

Consultation Code: 08EVEN00-2016-SLI-0516

Event Code: 08EVEN00-2021-E-00217

Project Name: Gonzales River Road Bridge Replacement Project

Project Type: BRIDGE CONSTRUCTION / MAINTENANCE

Project Description: Replacement of existing bridge over the Salinas River

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/36.48523148755867N121.47045712789193W

Counties: Monterey, CA

Endangered Species Act Species

There is a total of 7 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 Fisheries[1], 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
California Condor *Gymnogyps californianus* Population: U.S.A. only, except where listed as an experimental population There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/8193	Endangered
Least Bell's Vireo *Vireo bellii pusillus* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/5945	Endangered
Southwestern Willow Flycatcher *Empidonax traillii extimus* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/6749	Endangered

Amphibians

NAME	STATUS
California Red-legged Frog *Rana draytonii* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2891	Threatened
California Tiger Salamander *Ambystoma californiense* Population: U.S.A. (Central CA DPS) There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2076	Threatened

Crustaceans

NAME	STATUS
Vernal Pool Fairy Shrimp *Branchinecta lynchi* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/498	Threatened

Flowering Plants

NAME	STATUS
Marsh Sandwort *Arenaria paludicola* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/2229	Endangered

Critical habitats

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

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From:	NMFS SpeciesList - NOAA Service Account
To:	Eric Lichtwardt
Subject:	Federal ESA - - NOAA Fisheries Species List Re: Caltrans-Gonzales River Road Bridge Replacement Project Biological Assessment, Monterey County, CA, 05-MON-0-CR, Federal Project # BRLS-5944(098), Bridge # 44C0035
Date:	Friday, January 22, 2021 2:12:27 PM

Receipt of this email confirms that NOAA Fisheries has received your email requesting confirmation of an Endangered Species Act SPECIES LIST. If you provided your name, phone number, federal agency name (or delegated state agency such as Caltrans), mailing address, project title, and a brief description of the project, and a copy of a list of threatened or endangered species identified within specified geographic areas generated from NOAA Fisheries, West Coast Region, California Species List Tool, this email, along with the list you generated, serves as your federal Endangered Species Act SPECIES LIST. If you have a question, contact your local NOAA Fisheries liaison.

From:	Eric Lichtwardt
To:	nmfs.wcrca.specieslist@noaa.gov
Subject:	Caltrans-Gonzales River Road Bridge Replacement Project Biological Assessment, Monterey County, CA, 05-MON-0-CR, Federal Project # BRLS-5944(098), Bridge # 44C0035
Date:	Friday, January 22, 2021 2:11:00 PM

Request for updated official species list.

Federal Agency
California Department of Transportation (Caltrans)
District 5 Environmental Stewardship Branch
50 Higuera Street
San Luis Obispo, California 93401

Non-federal Agency
County of Monterey
Department of Public Works
198 West Alisal Street, 2nd Floor
Salinas, California 93901

Points of Contact
Eric Lichtwardt, Associate/Senior Biologist (eric.lichtwardt@lsa.net)
(510) 236-6810
LSA Associates, Inc.
157 Park Place
Point Richmond, California 94801

Quad Name Gonzales
Quad Number 36121-E4
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) - X
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 - X
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) -
Essential Fish Habitat
Coho EFH -
Chinook Salmon EFH -
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 -

Eric Lichtwardt | Associate/Senior Biologist
LSA | 157 Park Place
Point Richmond, CA 94801

_ _ _ _ _ _ _ _ _ _ _
510-236-6810 Office
510-376-5694 Mobile
Website

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Appendix D California Red-Legged Frog Habitat Assessment

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CALIFORNIA RED-LEGGED FROG SITE ASSESSMENT

GONZALES RIVER ROAD BRIDGE REPLACEMENT PROJECT

MONTEREY COUNTY, CALIFORNIA

September 23, 2015

Submitted To
U.S. Fish and Wildlife Service Office
2493 Portola Road, Suite B
Ventura, California 93003

Prepared For
California Department of Transportation
District 5
50 Higuera Street
San Luis Obispo, California 93401-5415

Prepared By

10680 White Rock Road
Rancho Cordova, Ca, 95670
(916) 366-0632

TRC Project No. 226647

TABLE OF CONTENTS

INTRODUCTION

This report presents the results of a site assessment conducted by TRC for the California red-legged frog (*Rana draytonii*) at the Gonzales River Road Bridge Replacement Project Site, Monterey County, California. This assessment is being prepared as a supporting document for a Natural Environmental Study (NES) for Caltrans; therefore, the project area is referred to herein as the Biological Study Area (BSA) to be consistent with the NES. This assessment was conducted according to the United States Fish and Wildlife Service (USFWS) protocol for this federally listed threatened species (USFWS, 2005).

LOCATION OF THE BIOLOGICAL STUDY AREA

The BSA is located in the City of Gonzales, along Gonzales River Road, 1.8 miles southwest of South Alta Street and 0.3 mile northeast of River Road, in Monterey County, California within the United States Geological Survey 7.5 minute Palo Escrito Peak Quadrangle (see Figure 1 of Appendix A: Figures).

BIOLOGICAL STUDY AREA DESCRIPTION

The existing Gonzales River Road Bridge crosses over the Salinas River and is approximately 30 river miles[1] upstream of the Pacific Ocean. The BSA includes the existing bridge and the Gonzales River Road right-of-way from approximately 0.27 mile to approximately 0.65 mile northeast of River Road (see Figure 1 of Appendix A: Figures). The BSA also extends approximately 300 feet upstream and 300 feet downstream along the length of the existing bridge. Staging will occur upland in agricultural fields and associated dirt roads to the northeast and southeast areas of the BSA.

PROJECT DESCRIPTION

The County of Monterey Public Works Department proposes to replace the existing bridge (Bridge No. 44C-0035) over the Salinas River with a wider bridge that meets current American Association of State Highway and Transportation Official requirements. The proposed project would widen the existing 23-foot wide roadway and bridge with two 12-foot travel lanes and two 8-foot outside shoulders. On the south approach to the bridge, the roadway profile would be raised by approximately 10 feet, which would require approximately 1,100 feet of roadway work to match the existing roadway profile. On the north side, approximately 400 feet of roadway work would be required. Within the project corridor, the existing pavement of Gonzales River Road would be excavated or recycled and a new structural section of 6-inch hot mix asphalt on 18 inches of aggregate base would be constructed. Three-foot shoulder backing and side slopes of four to one on Gonzales River Road are proposed to transition the roadway elevation back to the existing ground surface on both sides of the roadway. The total new paved width of Gonzales River Road is proposed to be 40 feet. The existing 29-span, 1661-foot long, bridge would remain in the current location. Only the bridge superstructure would be replaced.

[1] A river mile is a measure of distance in miles along a river from its mouth.

CALIFORNIA RED-LEGGED FROG NATURAL HISTORY

California red-legged frogs occur primarily in perennial or ephemeral ponds, pools, and streams where water remains long enough (14 to 28 weeks) for breeding and metamorphosis of tadpoles (Fellers, 2005; Jennings and Hayes, 1994). Specific breeding sites include streams, creeks, ponds, marshes, sag ponds, deep pools, backwater areas, dune ponds, lagoons, and estuaries. In addition, aquatic habitat that is not suitable for breeding may be used by California red-legged frog for shelter, foraging, and aquatic dispersal. California red-legged frogs may disperse from their aquatic breeding habitats to small mammal burrows, moist leaf litter, or other refugia for shelter and foraging during the dry season. However, if there is sufficient water at their breeding location, they may remain in aquatic habitats year-round instead of moving to adjacent uplands. Upland habitat may also be used for dispersal between occupied locations within approximately 1 mile of each other.

METHODS

TRC Solutions, Inc. (TRC) conducted a site assessment of the BSA on June 16, 2015. The field survey included an evaluation of the on-site wetlands and uplands as potential habitat for California red-legged frogs within a 1-mile radius of the BSA. Also, LSA Associates, Inc. conducted a botanical survey and wetland delineation on April 20, 2015.

TRC biologists Mark Cassady and Marla Despas conducted the habitat assessment within the BSA and surrounding habitats. LSA botanist Tim Milliken conducted the plant identification survey and LSA soil scientist Chip Bouril conducted the wetland delineation. During the field visit the entire BSA was covered on foot. Observations were recorded in a field notebook and on-site habitats were photographed (see Appendix B: Site Photographs). The BSA within the Salinas River and adjacent riparian area extends approximately 70 feet upstream and 70 feet downstream of Gonzales River Road Bridge. The greater extension of the BSA extends along the entire floodplain of the Salinas River adjacent to the Gonzales River Road Bridge.

The upland and aquatic habitat types present within 1 mile of the BSA were identified. Most aquatic features were surveyed during the site assessment. The length of the Salinas River within 1 mile of the BSA, dry at the time of the field visit, was surveyed for California red-legged frog habitat. Most of the lands surrounding the BSA are private agricultural land and access was not allowed on these lands. However, portions of these areas could be viewed from public roads and aerial imagery.

The California Natural Diversity Database (CNDDB, 2014) was searched for records of California red-legged frogs within a 1-mile radius of the BSA (Figure 2 of Appendix A: Figures). The intent of the database review was to determine the closest documented records of California red-legged frogs to the BSA. Additionally, the Recovery Plan for the California red-legged frog (USFWS, 2002) and other literature pertaining to the distribution and life history were reviewed.

FINDINGS

CALIFORNIA RED-LEGGED FROG RECORDS

The BSA is within the historical geographic range of the California red-legged frog (Fellers, 2005; Jennings and Hayes, 1994; Stebbins, 2003; USFWS 2002), but there are few records of this species from the Salinas River. There are no records of California red-legged frog within 3 miles of the BSA (Figure 2 of Appendix A: Figures). The most recent and nearest record (CNDDB, 2014) along the Salinas River is near the unincorporated community of Neponset in Monterey County. This CNDDB occurrence (#997) from May 4, 2009 is approximately 26 river miles downstream of the BSA in a rainwater pool formed within a water diversion facility.

FIELD SURVEY

A primary objective of the field survey was to determine if suitable California red-legged frog aquatic and upland habitat is present within the BSA and surrounding habitats within a 1-mile radius. The habitat assessment was conducted during the day under conditions favorable to the observation of California red-legged frogs and associated habitat; however, the Salinas River within the BSA was dry and this species was not observed. During the field survey no amphibians were observed in the BSA or surrounding ponds within 1 mile. Fields notes are provided in Appendix C: Data Sheets and Field Notes.

HABITAT AND COVER TYPES WITHIN THE STUDY AREA

Land cover types within the boundaries of the BSA are described below. The cover types supporting natural and/or semi-natural vegetation types were characterized according to *A Manual of California Vegetation* (Second Edition) (Sawyer et al. 2009). Photographs of the river and its features and upland habitat are included in Appendix B: Site Photographs. Photograph 1 shows the river, photographs 2 through 4 show upland habitats and features described in the text (see Appendix B: Site Photographs).

Terrestrial Habitats

Willow Thickets (*Salix exigua* Shrubland Alliance). Within the BSA, sandbar willow (*Salix exigua*) and arroyo willow (*Salix lasiolepis*) dominate the riparian and floodplain habitat of the Salinas River. This stand includes a multi-layered canopy with coyote brush (*Baccharis pilularis*), California blackberry (*Rubus ursinus),* mule fat *(Baccharis salicifolia*), and cattail (*Typha latifolia).* The willow thickets are potential upland habitat for California red-legged frogs when the river is not in flood.

Black cottonwood forest (*Populus trichocarpa* Forest Alliance). Within the BSA, black cottonwood (*Populus trichocarpa*), Fremont cottonwood (*Populus fremontii*), and boxelder (*Acer negundo*) dominate the riparian habitat along the length of the Salinas River. Co-dominant species include willows (*Salix* sp.) and oaks (*Quercus* sp.). The understory is comprised of coyote brush, California mugwort (*Artemisia douglasiana*), poison oak (*Toxicodendron*

diversilobum), and lamb's quarters (*Chenopodium album*). The cottonwood forest is potential upland habitat for California red-legged frogs when the river is not in flood.

Giant Reed Breaks (*Arundo donax* Semi-Natural Herbaceous Stands). This vegetation type occurs in the BSA as stands within the sandbar and arroyo willow thickets, extending the length of the Salinas River flood plain. Giant reed is an invasive non-native perennial grass that grows to heights of almost 20 feet. Coyote brush and willows also dominated portions of the floodplain (see Photographs 3 through 4 in Appendix B: Site Photographs). This habitat could be used by California red-legged frogs as upland habitat during periods when the river is not in flood.

Agricultural Lands. Most of the BSA outside of the Salinas River channel is occupied by agricultural lands and associated dirt roads and equipment staging areas with small patches of ruderal growth including soft chess (*Bromus hordeaceus*), black mustard (*Brassica nigra*), red stemmed filaree (*Erodium cicutarium*), blue elderberry (*Sambucus nigra* ssp. caerulea), and broad leaved pepper grass (*Lepidium latifolium*) (see Figure 1 of Appendix A: Figures). The primary agricultural use is vegetable row crops; such as lettuce. These areas do not provide suitable upland habitat for California red-legged frogs.

Aquatic Habitats

Salinas River. The Salinas River within the BSA is a low gradient stream flowing over a sandy bed (see Photographs 1 and 2 in Appendix B: Site Photographs). The river is shallow above ground, periodically dry, with much of its flow underground. The river is used for irrigating nearby agricultural areas. The annual flow pattern is coupled to the regional climatic conditions characterized by a wet season (November through May) and a dry season (Jun-Oct). In previous years the Salinas River at Gonzales River Road Bridge was normally dry during September and November only (RWQCB, 2008). The river is bordered by a moderately steep bank to the north and a low bank to the south that opens to a flood plain. The river banks are highly vegetated. The floodplain of the river is sparsely vegetated. The Salinas River was dry at the time of the site assessment. The Salinas River is unlikely to provide suitable aquatic breeding habitat for California red-legged frogs.

HABITAT AND COVER TYPES WITHIN A MILE OF THE STUDY SITE

The habitat and cover types within 1 mile of the proposed project site are described below. The cover types were identified primarily from aerial photographs, as well as from those features that could be observed from public roads.

Willow Thickets (*Salix exigua* Shrubland Alliance). As discussed above, sandbar willow and arroyo willow dominate the riparian and floodplain habitat of the length of the Salinas River and floodplain. This habitat could be used by California red-legged frogs as upland habitat during periods when the river is not in flood.

Black cottonwood forest (*Populus trichocarpa* Forest Alliance). As discussed above, black cottonwood and Fremont cottonwood dominate the riparian habitat along the length of the Salinas River. This habitat could be used by California red-legged frogs as upland habitat during periods when the river is not in flood.

Giant Reed Breaks (*Arundo donax* Semi-Natural Herbaceous Stands). As discussed above, giant reed, coyote brush and willows also dominated portions of the floodplain along the length of the Salinas River. This habitat could be used by California red-legged frogs as upland habitat during periods when the river is not in flood.

Agricultural Lands. Agricultural lands are the dominant cover type within 1 mile of the BSA. As noted above, the primary crops are vegetables, such as lettuce. There are also vineyards near the southern portion of the 1-mile radius (Figure 2 of Appendix A: Figures). These areas do not provide suitable upland habitat for California red-legged frogs.

Developed Lands and Roads. The southern portion of the 1-mile buffer around the BSA has scattered rural residences and a winery. The primary roads in the area are Gonzales River Road, River Road, and Short Road; all experience relatively low traffic including cars, trucks, and agricultural equipment. There are numerous dirt access roads throughout the 1-mile radius associated with agricultural lands. These areas do not provide suitable upland habitat for California red-legged frogs.

Salinas River. As discussed above, the Salinas River is a low gradient stream flowing over a sandy bed. The river is shallow above ground, periodically dry, with much of its flow underground. The Salinas River was dry at the time of the site assessment in June. The Salinas River is unlikely to provide suitable aquatic breeding habitat for California red-legged frogs.

Agricultural ponds. Most ponds were inaccessible during the site assessment, but some could be viewed with binoculars from public roads. All ponds were associated with agricultural crops (see Figure 3 of Appendix A: Figures). The ponds had minimal bankside vegetation and do not appear to support suitable aquatic habitat for California red-legged frogs. Water was observed in one pond 0.75 mile south of the BSA; however, no frogs were observed (see Photograph 5 of Appendix B: Site Photographs). A large series of sewage treatment ponds are 0.40 mile west of the BSA. These ponds are unlikely to provide suitable aquatic habitat for California red-legged frogs.

DISCUSSION AND CONCLUSION

The BSA is within the presumed historic range of California red-legged frogs. There are no known CNDDB records within 3 miles of the BSA (see Figure 2 of Appendix A: Figures). The nearest CNDDB record is 8 miles southwest of the BSA (recorded in 2002). The only record along the Salinas River is approximately 26 river miles downstream of the BSA (recorded in 2009) (CNDDB, 2014).

The habitat along the Salinas River in the BSA contains elements of suitable California red-legged frog habitat and similar riparian/aquatic habitat extends upstream and downstream in the Salinas River. However, upland areas (outside the high flow channel) are occupied by an intensively cultivated agricultural landscape that is unsuitable for California red-legged frogs.

There are few aquatic habitats within 1 mile of the BSA and they do not contain elements of suitable California red-legged frog habitat. Though the BSA is within the historic range for this species, there are no known records of this species within 3 miles of the BSA. In previous years, the Salinas River at Gonzales River Road Bridge was normally dry during September and November (RWQCB, 2008). However, due to the current drought there was no flowing or standing water upstream or downstream at the time of the survey (June 2015) or the wetland delineation (April 2015).

Based on the above discussion, TRC believes that California red-legged frogs are not likely to occur within the BSA of the Gonzales River Road Bridge Replacement Project.

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APPENDIX A: FIGURES

Figure 1: Project Location and Biological Study Area
Figure 2: California red-legged frogs California Natural Diversity Database Occurrences within 3 miles
Figure 3: Aquatic Habitats within 1 mile of the Biological Survey Area

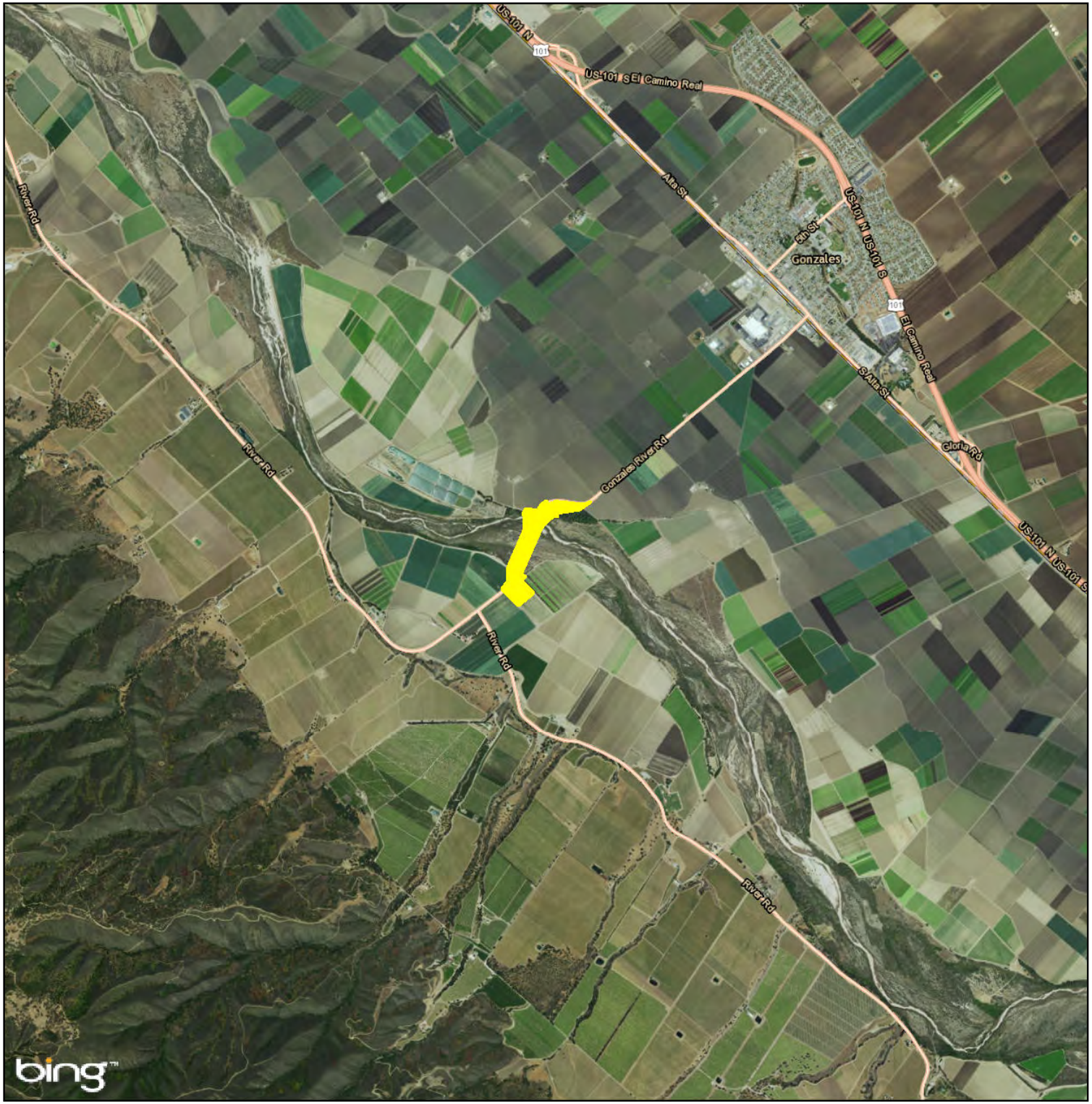

Figure 1
Project Location and Biological Study Area

Gonzales River Road
Bridge Replacement Project

★ Project Location

Project Boundary

1:48,000

0 0.5 1 mi

N

TRC

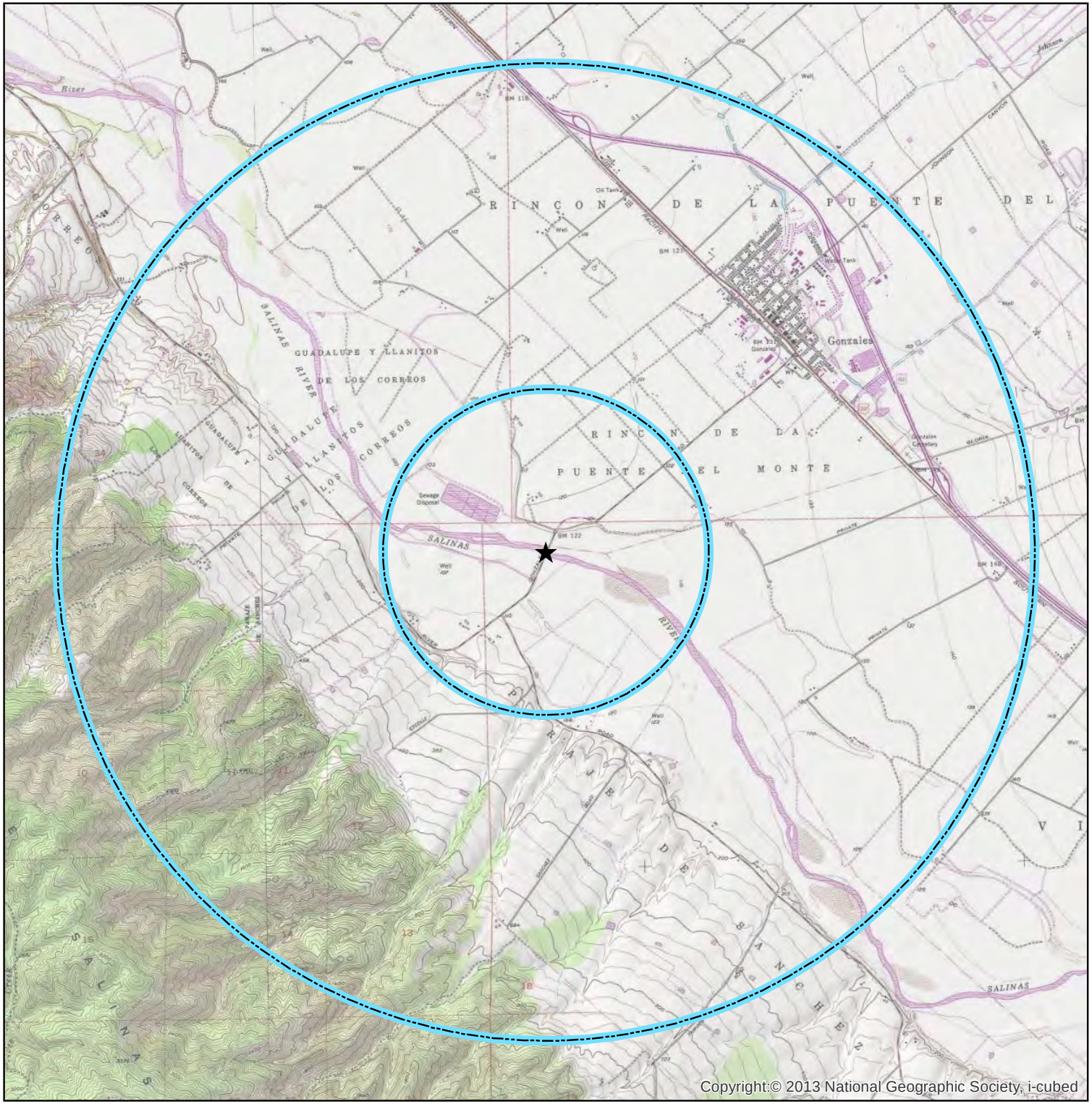

Figure 2
California Red-legged Frogs
CNDDB Occurrences within 1 and 3 miles

Gonzales River Road
Bridge Replacement Project

★ Project Location

1- & 3-mile Project Buffer

CNDDB version 09/2015. Please Note: The occurrences shown on this map represent the known locations of the species listed here as of the date of this version. There may be additional occurrences or additional species within this area which have not yet been surveyed and/or mapped. Lack of information in the CNDDB about a species or an area can never be used as proof that no special status species occur in an area.

1:54,000

0 0.5 1 mi

N

TRC

G:\CAD\TRC\Monterey County\RM\Arnold\Gonzales River Road\Gonzales River Road Bridge\Figure2 California Red-legged Frogs CNDDB Occurrences within 1 and 3 miles.mxd

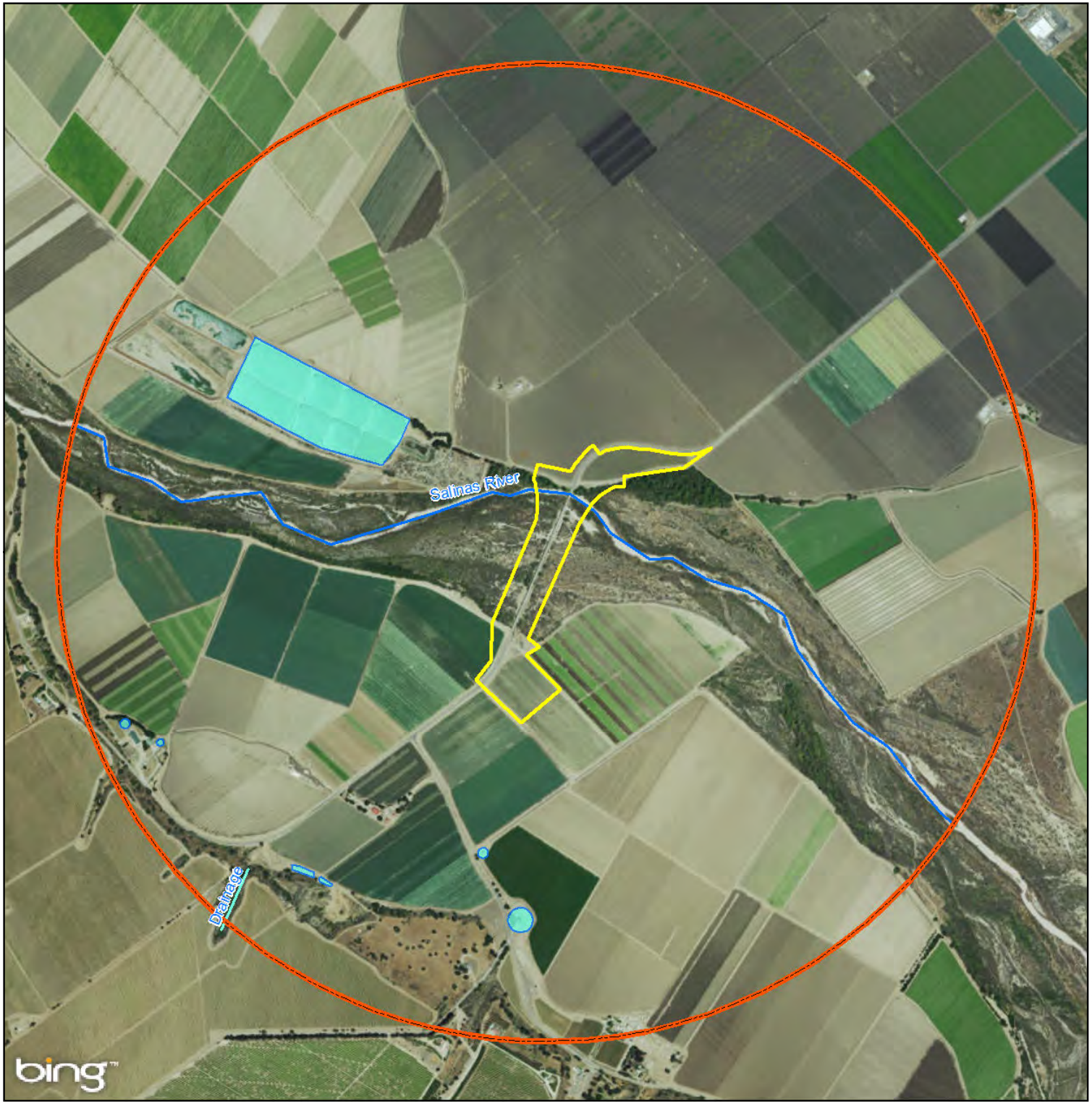

Figure 3
Waterways within 1 mile of the Biological Study Area

Gonzales River Road
Bridge Replacement Project

Project Boundary
1 Mile Project Buffer
Ponds
Salinas River
Drainage

1:18,000

0 0.2 0.4 mi

N

TRC

APPENDIX B: SITE PHOTOGRAPHS

APPENDIX B: SITE PHOTOGRAPHS

Photo 1: View of the north end of the Gonzales River Road Bridge from the Salinas River bed.

Photo 2: View of Salinas River bed from under the north end of Gonzales River Road Bridge.

Photo 3: View of the upland habitat from Gonzales River Road Bridge.

Photo 4: View of the Salinas River floodplain from Gonzales River Road Bridge.

Photo 5: Agricultural pond within 1 mile of the Biological Study Area.

APPENDIX C: DATA SHEETS AND FIELD NOTES

Appendix D.
California Red-legged Frog Habitat Site Assessment Data Sheet

Site Assessment reviewed by: _____ (USFWS Field Office) _____ (date) _____ (biologist)

Date of Site Assessment: 06/17/2015 (mm/dd/yyyy)

Site Assessment Biologists: Cassady (Last name) Mark (first name) Desplas (Last name) Marla (first name)

_____ (Last name) _____ (first name) _____ (Last name) _____ (first name)

Site Location: Monterey County, Gonzales, 36.48635, -121.469610
(County, General location name, UTM Coordinates or Lat./Long. or T-R-S).

****ATTACH A MAP** (include habitat types, important features, and species locations)****

Proposed project name: Gonzales River Road Bridge Replacement Project
Brief description of proposed action:
Widen existing bridge along Gonzales River Road.
Only the bridge superstructure would be replaced.

1) Is this site within the current or historic range of the CRF (circle one)? (YES) NO

2) Are there known records of CRF within 1.6 km (1 mi) of the site (circle one)? YES (NO)
If yes, attach a list of all known CRF records with a map showing all locations.

GENERAL AQUATIC HABITAT CHARACTERIZATION

(if multiple ponds or streams are within the proposed action area, fill out one data sheet for each)

POND:

Size: _____ Maximum depth: _____

Vegetation: emergent, overhanging, dominant species: _____

_____

_____

Substrate: _____

_____

Perennial or Ephemeral *(circle one)*. If ephemeral, date it goes dry: _____

Appendix D.
California Red-legged Frog Habitat Site Assessment Data Sheet

STREAM:

Bank full width: 60 feet
Depth at bank full: _____
Stream gradient: _____

Are there pools (circle one)? YES (NO)
If yes,
Size of stream pools: _____
Maximum depth of stream pools: _____

Characterize non-pool habitat: run, riffle, glide, (other:) No water during site assessment.

Vegetation: emergent, (overhanging,) dominant species: Cottonwood, willow, giant reed, coyote brush, blackberry, poison oak,

Substrate: sandy

Bank description: vegetated.

Perennial or (Ephemeral) *(circle one)*. If ephemeral, date it goes dry: Unknown

Other aquatic habitat characteristics, species observations, drawings, or comments:
Cliff swallows observed nesting under bridge

This section of the Salinas River was dry. Riparian habitat borders Salinas River. Agricultural habitat surrounding

Necessary Attachments:

1. All field notes and other supporting documents
2. Site photographs
3. Maps with important habitat features and species location

Appendix D.
California Red-legged Frog Habitat Site Assessment Data Sheet

Date of Site Assessment: 06/17/2015
(mm/dd/yyyy)

Site Assessment Biologists: Cassady Mark (Last name) (first name) _____ (Last name) (first name)
Despas Marla (Last name) (first name) _____ (Last name) (first name)

Site Location: Monterey County, Gonzales, 36.48635, -121.469610
(County, General location name, UTM Coordinates or Lat./Long. or T-R-S).

****ATTACH A MAP** (include habitat types, important features, and species locations)**

Proposed project name: Gonzales River Road Bridge Replacement Project
Brief description of proposed action:
Widen existing bridge along Gonzales River Road
Only the bridge superstructure would be replaced.

1) Is this site within the current or historic range of the CRF (circle one)? (YES) NO

2) Are there known records of CRF within 1.6 km (1 mi) of the site (circle one)? YES (NO)
If yes, attach a list of all known CRF records with a map showing all locations.

GENERAL AQUATIC HABITAT CHARACTERIZATION

(if multiple ponds or streams are within the proposed action area, fill out one data sheet for each)

POND:
Size: 170x90 ft Maximum depth: 4 ft?

Vegetation: emergent, overhanging, dominant species:
Minimum herbaceous vegetation surrounding pond. Oak tree overhanging from upper bank.

Substrate: Sandy

(**Perennial**) **or Ephemeral** *(circle one).* If ephemeral, date it goes dry: _____

Appendix D.
California Red-legged Frog Habitat Site Assessment Data Sheet

STREAM:

Bank full width: _____
Depth at bank full: _____
Stream gradient: _____

Are there pools (circle one)? YES NO

If yes,

Size of stream pools: _____
Maximum depth of stream pools: _____

Characterize non-pool habitat: run, riffle, glide, other: _____

Vegetation: emergent, overhanging, dominant species: _____

Substrate: _____

Bank description: _____

Perennial or Ephemeral *(circle one)*. If ephemeral, date it goes dry: _____

Other aquatic habitat characteristics, species observations, drawings, or comments:

This pond was approximately 0.75 miles south of the project area and will not be directly impacted

The pond was on private property and not accessible.

Necessary Attachments:

1. All field notes and other supporting documents
2. Site photographs

Maps with important habitat features and species location

Appendix E Tree Report

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BERKELEY
CARLSBAD
FRESNO
IRVINE
PALM SPRINGS
POINT RICHMOND
RIVERSIDE
ROCKLIN
SAN LUIS OBISPO

MEMORANDUM

DATE: November 7, 2016

TO: Jose Gomez
Monterey County Public Works Department

FROM: Tim Milliken
Certified Arborist WE-5539A

SUBJECT: Gonzales River Road Bridge Replacement Project
Arborist Report/Tree Survey Results

Introduction

This report was prepared by certified arborist Tim Milliken (ISA certification number WE-5539A). This document identifies trees associated with the Gonzales River Road Bridge Replacement Project (project) in Monterey County, California (Figure 1). The project site is situated within the Central Salinas Valley Planning Area and is just outside of the City of Gonzales city limits.[1] The purpose of this report is to identify trees that could be impacted by the proposed project. This report provides an inventory of existing trees within the tree survey area and evaluates their condition, diameter, and height. The project is still in the conceptual stage and evaluation of tree losses are based on the assumption that all trees within the temporary and permanent impact areas will be removed.

Regulatory Context

MONTEREY COUNTY

Monterey County Zoning Ordinance 21.4.260 –Preservation of Oaks and Other Protected Trees (Ordinance) regulates the removal of oaks and other specific types of trees as required in the Monterey General Plan, area plans, or master plans. The ordinance is applicable in unincorporated areas of the County outside of the Coastal Zone including the Salinas Valley Planning Area. The ordinance only protects native oaks (*Quercus* spp.) six inches in diameter at breast height (DBH) or greater within the project area. The trees on the project site are not protected by Ordinance.

[1] Monterey County Resource Management Agency – Monterey General Plan 2010

157 Park Place. Pt. Richmond, California 94801 510.236.6810 www.lsa.net

Methods

Mr. Milliken conducted the tree survey on October 17, 2016. The tree survey area encompasses all areas of permanent and temporary impacts and a 20-foot buffer surrounding these areas (Figure 2). The survey involved identifying all tree species six inches DBH or greater within the tree survey area. In addition, the location of each identified tree was recorded with a GPS receiver and numbered. Tree condition, DBH, number of stems, and height was also recorded. If an individual tree had multiple trunks the circumference of all the trunks were totaled to determine the DBH. The location of all numbered trees was plotted on an aerial photo of the project site (Figure 2). Potential impacts to trees were determined through a GIS analysis by overlaying tree locations on a map of permanent and temporary project impacts (Figure 2).

Results

Seventy-seven trees were recorded within the tree survey area site representing five species (Table A, Figure 2). All these species are native to the local region: Fremont cottonwood (*Populus fremontii*), black cottonwood (*P. trichocarpa*), sandbar willow (*Salix exigua*), red willow (*S. laevigata*), and arroyo willow (*S. lasiolepis*). Table B contains additional information on the trees identified within the project site including tree number, scientific and common name, DBH, total number of stems, condition, and potential impacts. Based upon comparison of mapped tree locations with the proposed project plan, the proposed project could permanently impact (remove or damage) 40 trees.

Table A: Summary of Trees in the Tree Survey Area

Species Classification	Trees within the Tree Survey Area	Trees Potentially Impacted within the Tree Survey Area	Trees Not Impacted within the Tree Survey Area
Fremont cottonwood (*Populus fremontii*)	16	**9**	**7**
Black cottonwood (*Populus trichocarpa*)	15	**5**	**10**
Sandbar willow (*Salix exigua*)	1	**1**	**0**
Red willow (*Salix laevigata*)	24	**12**	**12**
Arroyo willow (*Salix lasiolepis*)	21	**13**	**8**
Total	**77**	**40**	**37**

Impacts and Recommendations

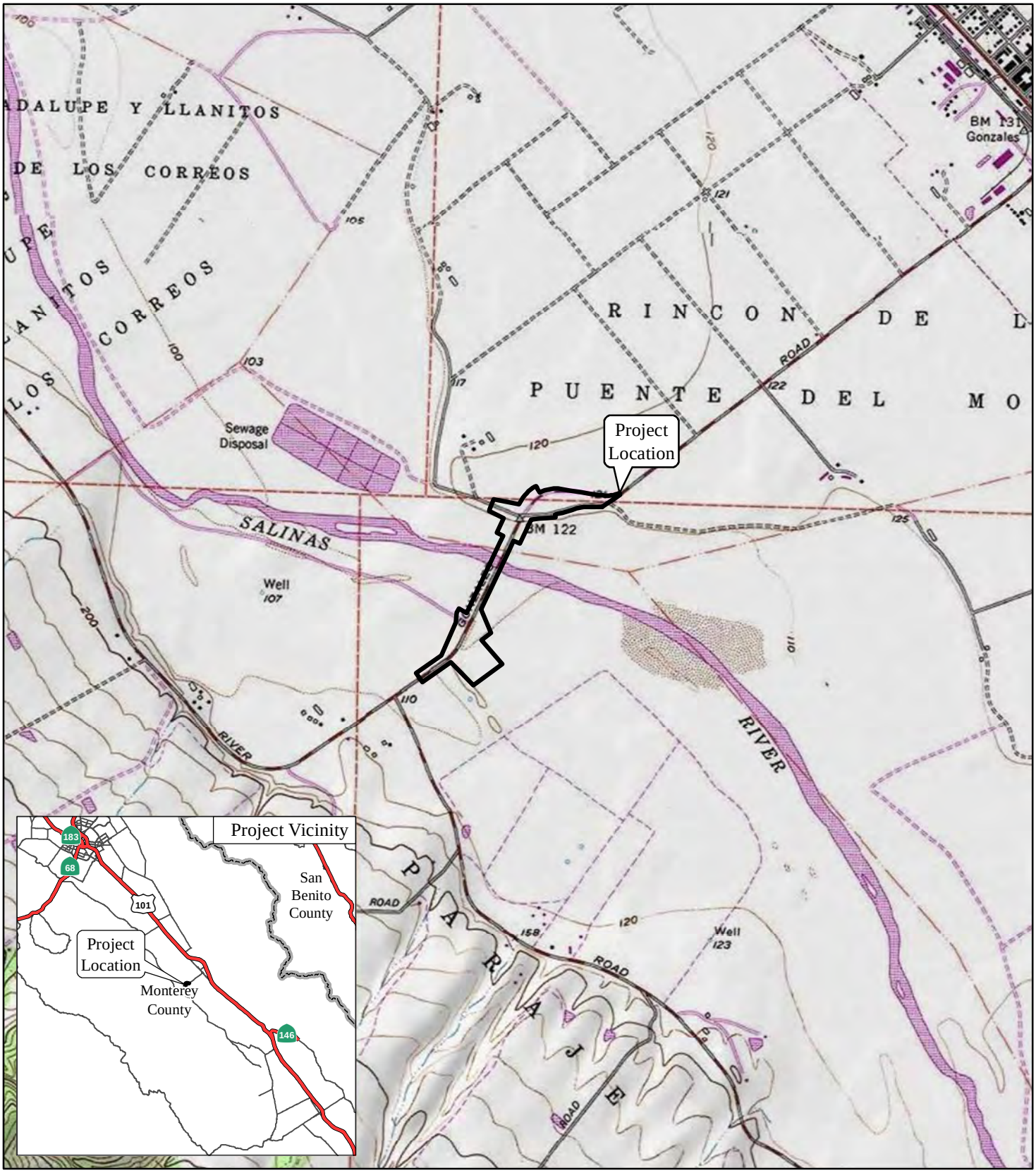
The proposed project could impact 40 trees, including 9 Fremont cottonwoods, 5 black cottonwoods, 1 sandbar willow, 12 red willows, and 13 arroyo willows (see Figure 2 and Tables A and B). Trees within ten feet of the permanent and temporary impact areas could be impacted through direct removal or injury to roots or canopy branches by road construction, equipment

storage, and staging. None of the tree species within the tree survey area are protected by County Ordinance; however, Caltrans projects that impact trees typically mitigate for impacted trees at a 1:2 ratio (impacted: replaced).

The project should install 80 new riparian trees within the project area. Only genetically appropriate (e.g., from the Salinas Valley), native stock should be used. Mitigation tree installation should occur following construction during the winter season (December through February). The location of new trees will be determined by a certified arborist or qualified biologist. Planting locations will be located in areas where no flooding is anticipated.

Avoidance and Minimization Efforts

To avoid and minimize impacts to riparian trees outside of the tree survey area, environmentally sensitive areas fencing (ESA fencing) will be placed at or beyond the drip-line of trees or groups of trees adjacent to the work area to delineate tree protection zones. No construction equipment or storage of construction materials will be allowed to enter the tree protection zone. A qualified arborist will assist construction crews in the placement of the ESA fencing.



LEGEND

Project Area

FIGURE 1

Gonzales River Road Bridge Replacement Project
Monterey County, California
Federal Project Number BRLS-5944(098)

Project Location

0 1000 2000
FEET

SOURCE: USGS 7.5' Quad., *Palo Escrito Peak, CA* (1984); TRC (6/2016)

I:\TRT1503\GIS\PD_GonzalesRiverRd_ProjectLocation.mxd (11/3/2016)

LEGEND

- Biological Study Area
- Tree Survey Area
- Project Impact Area
- # Trees Potentially Removed or Impacted by the Project

Tree Common Name

- Arroyo willow
- Black cottonwood
- Fremont cottonwood
- Red willow
- Sandbar willow

0 62.5 125
FEET

SOURCE: Bing (~2014); TRC (4/2015); LSA (8/2016)

I:\TRT1503\GIS\Arborist_TreeMap.mxd (11/7/2016)

FIGURE 2

Gonzales River Road Bridge Replacement Project
Monterey County, California
Federal Project Number BRLS-5944(098)

Tree Map

Table B: Detailed Tree Table, Gonzales River Road Bridge Replacement Project, October 2016

Tree ID	Species Classification	Total DBH (inches)	Number of Stems	Height (feet)	Condition	Potential Impact
1	Arroyo willow (*Salix lasiolepis*)	9	1	20	Good	Yes
2	Arroyo willow (*Salix lasiolepis*)	9	1	20	Good	No
3	Arroyo willow (*Salix lasiolepis*)	6	1	20	Good	Yes
4	Black cottonwood (*Populus trichocarpa*)	19	2	35	Good	Yes
5	Arroyo willow (*Salix lasiolepis*)	8	1	15	Good	No
6	Black cottonwood (*Populus trichocarpa*)	6	1	15	Good	Yes
7	Black cottonwood (*Populus trichocarpa*)	10	1	35	Good	Yes
8	Black cottonwood (*Populus trichocarpa*)	24	1	45	Good	Yes
9	Black cottonwood (*Populus trichocarpa*)	11	2	8	Good	No
10	Black cottonwood (*Populus trichocarpa*)	10	1	45	Good	No
11	Black cottonwood (*Populus trichocarpa*)	12	1	45	Good	No
12	Black cottonwood (*Populus trichocarpa*)	22	2	45	Good	No
13	Black cottonwood (*Populus trichocarpa*)	14	2	20	Good	No
14	Black cottonwood (*Populus trichocarpa*)	6	1	20	Good	No
15	Black cottonwood (*Populus trichocarpa*)	14	1	40	Good	No
16	Black cottonwood (*Populus trichocarpa*)	12	1	40	Good	No
17	Black cottonwood (*Populus trichocarpa*)	9	1	30	Good	No
18	Fremont cottonwood (*Populus fremontii*)	11	1	30	Good	No
19	Fremont cottonwood (*Populus fremontii*)	12	1	40	Good	Yes
20	Red willow (*Salix laevigata*)	25	5	20	Good	Yes
21	Fremont cottonwood (*Populus fremontii*)	16	1	35	Good	No
22	Red willow (*Salix laevigata*)	47	5	35	Good	Yes
23	Fremont cottonwood (*Populus fremontii*)	12	1	55	Good	No
24	Fremont cottonwood (*Populus fremontii*)	12	1	45	Good	No
25	Red willow (*Salix laevigata*)	9	1	35	Good	No
26	Red willow (*Salix laevigata*)	11	1	20	Good	Yes

Tree ID	Species Classification	Total DBH (inches)	Number of Stems	Height (feet)	Condition	Potential Impact
27	Arroyo willow (*Salix lasiolepis*)	26	4	20	Good	No
28	Arroyo willow (*Salix lasiolepis*)	26	4	20	Good	Yes
29	Arroyo willow (*Salix lasiolepis*)	17	2	20	Good	Yes
30	Arroyo willow (*Salix lasiolepis*)	19	2	25	Good	Yes
31	Arroyo willow (*Salix lasiolepis*)	147	5	35	Good	Yes
32	Arroyo willow (*Salix lasiolepis*)	12	1	35	Good	Yes
33	Arroyo willow (*Salix lasiolepis*)	12	1	35	Good	No
34	Arroyo willow (*Salix lasiolepis*)	100	19	35	Good	Yes
35	Fremont cottonwood (*Populus fremontii*)	30	3	35	Good	Yes
36	Arroyo willow (*Salix lasiolepis*)	9	1	35	Good	Yes
37	Red willow (*Salix laevigata*)	6	1	10	Good	Yes
38	Arroyo willow (*Salix lasiolepis*)	24	4	10	Good	No
39	Red willow (*Salix laevigata*)	30	4	10	Good	Yes
40	Arroyo willow (*Salix lasiolepis*)	20	4	12	Good	Yes
41	Red willow (*Salix laevigata*)	35	6	12	Good	No
42	Red willow (*Salix laevigata*)	35	6	12	Good	No
43	Red willow (*Salix laevigata*)	6	1	12	Good	Yes
44	Red willow (*Salix laevigata*)	26	3	15	Good	No
45	Red willow (*Salix laevigata*)	15	2	20	Good	No
46	Fremont cottonwood (*Populus fremontii*)	10	1	20	Good	No
47	Arroyo willow (*Salix lasiolepis*)	19	3	25	Good	No
48	Fremont cottonwood (*Populus fremontii*)	21	4	25	Good	Yes
49	Red willow (*Salix laevigata*)	6	1	15	Good	No
50	Red willow (*Salix laevigata*)	30	5	15	Good	No
51	Red willow (*Salix laevigata*)	6	1	35	poor	Yes
52	Black cottonwood (*Populus trichocarpa*)	9	1	35	Good	Yes
53	Black cottonwood (*Populus trichocarpa*)	11	1	55	Good	No
54	Arroyo willow (*Salix lasiolepis*)	20	2	20	Good	Yes

Tree ID	Species Classification	Total DBH (inches)	Number of Stems	Height (feet)	Condition	Potential Impact
55	Arroyo willow (*Salix lasiolepis*)	20	2	20	Good	No
56	Red willow (*Salix laevigata*)	24	3	15	Good	Yes
57	Arroyo willow (*Salix lasiolepis*)	15	3	15	Good	Yes
58	Red willow (*Salix laevigata*)	9	2	20	Good	Yes
59	Fremont cottonwood (*Populus fremontii*)	18	2	25	Good	Yes
60	Arroyo willow (*Salix lasiolepis*)	70	75	15	Good	No
61	Red willow (*Salix laevigata*)	9	1	25	Good	No
62	Red willow (*Salix laevigata*)	14	3	12	Good	Yes
63	Red willow (*Salix laevigata*)	8	1	15	Good	Yes
64	Red willow (*Salix laevigata*)	8	2	12	Good	No
65	Sandbar willow (*Salix exigua*)	7	2	12	Good	Yes
66	Arroyo willow (*Salix lasiolepis*)	19	4	15	Good	Yes
67	Fremont cottonwood (*Populus fremontii*)	93	8	45	Good	Yes
68	Fremont cottonwood (*Populus fremontii*)	26	2	35	Good	Yes
69	Fremont cottonwood (*Populus fremontii*)	26	2	40	Good	No
70	Fremont cottonwood (*Populus fremontii*)	15	2	40	Good	No
71	Red willow (*Salix laevigata*)	55	5	30	Good	Yes
72	Red willow (*Salix laevigata*)	15	2	30	Good	No
73	Red willow (*Salix laevigata*)	21	4	35	Good	No
74	Red willow (*Salix laevigata*)	16	2	35	Good	No
75	Fremont cottonwood (*Populus fremontii*)	8	1	35	Good	Yes
76	Fremont cottonwood (*Populus fremontii*)	18	2	40	Good	Yes
77	Fremont cottonwood (*Populus fremontii*)	32	4	40	Good	Yes

APPENDIX D

PHASE I INITIAL SITE ASSESSMENT

PHASE I INITIAL SITE ASSESSMENT

Gonzales River Road Bridge
Gonzales River Road
Gonzales, Monterey County, CA
BRLS-5944(098)

March 2, 2017

TRC Project No: 226647

Prepared For:
Monterey County
168 W. Alisal St., 2nd Floor
Salinas, CA 93901

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R M D RATHNAYAKE
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EXP: 9/30/18
CIVIL
STATE OF CALIFORNIA

TRC
Results you can rely on

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EXECUTIVE SUMMARY

Subject to the qualifications and limitations stated in Section 1.0 of this report, TRC Solutions (TRC) was retained by Monterey County also known as the "Client" or "User" to perform a Phase I Initial Site Assessment (ISA) of the Gonzales River Road Bridge (Bridge) located along Gonzales River Road southwest of Gonzales, in Monterey County, CA (herein referred to as the "Site"). TRC's assessment was conducted in connection with the Client's planned replacement of the Bridge superstructure and abutments, modification to two existing piers, and removal of several other piers. The Phase I ISA described in this report was performed in accordance with the scope and limitations of the American Society of Testing and Materials Practice E 1527-13 *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process* (ASTM E 1527-13). The Phase I ISA described in this report satisfies the requirements of the California Department of Transportation (Caltrans) Standard Environmental Reference (SER) Chapter 10, Hazardous Materials, Hazardous Waste, and Contamination program. Limiting conditions and/or deviations from the ASTM E 1527-13 standard are described in Sections 1.3 and 7.5 of this report.

The Site is currently configured with an existing two-lane bridge along Gonzales River Road, crossing the Salinas River, located approximately 2.0 miles southwest of Gonzales, in Monterey County, CA. The Site is approximately 2.25 miles southwest of U.S. Highway 101 (Highway 101). The project Site is at the Gonzales River Road Bridge, located within a county-maintained right-of-way, and abutted by privately owned parcels to the north and south, and the Salinas River to the east and west. The Site is located in a rural, mostly undeveloped area primarily comprised of farmland. Due to the rural nature of the Site, latitude and longitude coordinates further aid in describing the Site, the location coordinates are 36 degrees 29 minutes 10 seconds north, and 121 degrees 28 minutes 10 seconds west. The Bridge is approximately 1,661 feet long by 23 feet wide and has two concrete-paved traffic lanes (one northbound and one southbound), a metal frame superstructure with wooden guard rails, and a concrete substructure. The Bridge was seismically retrofitted in 2001. As part of the retrofit, new foundations and substructures were constructed, with the provision to allow convenient replacement of the superstructure at some point in the future. While the existing bridge is rated as functionally obsolete and structurally deficient, only the existing superstructure needs to be completely replaced.

As a result of the Phase I ISA, including but not limited to our visual observation of the Site; review of historical information, environmental databases, and information provided by the User; interviews with current Site representative(s); and TRC's professional judgment, no *recognized environmental conditions* (RECs) or *controlled recognized environmental conditions* (CRECs) associated with the Site, as defined by the ASTM E 1527-13 standard were identified. The following *de minimis conditions* were found in connection with the Site. Conditions determined to be *de minimis conditions* are not RECs nor CRECs. See Section 7.0 for a detailed definition of *de minimis conditions*.

De Minimis condition No. 1
The State Water Resources Control Board (SWRCB) listing of the Salinas River as a category 5 impacted waterbody requiring a Total Maximum Daily Load TMDL is a de minimis condition. According to the SWRCB 303(d) List, water quality in the Salinas River does not meet SWRCB

requirements, and contains elevated contamination levels including chlordane, chloride, chlorpyrifos, dichlorodiphenyldichloroethane (DDD), diazinon, dieldrin, electrical conductivity, enterococcus, E. coli, fecal coliform, nitrate, sodium, PCBs, pesticides, total dissolved solids, toxaphene, turbidity, unknown toxicity, and pH, thus requiring a TMDL. If personal contact or pumping and/or disposal of water from the Salinas River become necessary, exposure to impacted water could pose health hazards. If personal contact or pumping and disposal of water becomes necessary, TRC recommends limited Phase II characterization of surface water to characterize conditions. If necessary, the construction contractor (in coordination with the Client) would develop handling requirements in accordance with applicable Caltrans Non-Standard Special Provisions (NSSP) requirements for safe handling of surface water prior to contact.

De Minimis condition No. 2

The potential for impacted soil in the vicinity of the Gonzales River Road Bridge structure from lead based paint (LBP) is a de minimis condition. The bridge was constructed in approximately 1930. LBP was a common construction material during those time periods, and leaded gasoline was used during the life of the bridge. Due to the age of the bridge, and the duration it has been located at the current Site, potential for lead containing paint debris to have shed or aerially deposited lead (ADL) to have settled, impacting the surrounding soils exists. Similarly, older concrete used in bridge construction often contained asbestos containing materials (ACM). No testing of existing bridge concrete has been performed to date to determine if it contains asbestos.

It is TRC's understanding that excavation will be necessary in the vicinity of the existing bridge structure. As such, the Client will conduct a limited Phase II soil investigation for ADL in the vicinity of the bridge structure to properly characterize soil conditions prior to construction. The construction contractor (in coordination with the Client) will also establish and submit a Soil Management Plan (SMP) prior to ground disturbing activities to address proper handling in accordance with Caltrans Standard Special Provisions (SSP) 14-11.09A and 7-1.02K(6)(i)(iii) should impacted soil be encountered.

Additionally, it is TRC's understanding that structural work, including deconstruction of the existing bridge will take place. Therefore, a specific LBP survey and ACM investigation will be conducted prior to construction, and if necessary, an abatement plan will be established in accordance with Caltrans SSP 14-11.16 Asbestos-Containing Construction Materials in Bridges.

De Minimis condition No. 3

The potential for pesticide/fertilizer impacted soil and sediment in the vicinity surrounding the Gonzales River Road Bridge structure is a de minimis condition. Based on historical documentation, the surrounding land uses have historically been agricultural production since approximately the 1930s. The known use of pesticides/fertilizers such as DDT during those time periods could have potentially entered the Salinas River, thus impacting soils and sediments near the Bridge structure. It is TRC's understanding that excavation will be necessary in the vicinity of the existing bridge structure. As such, TRC recommends a limited Phase II soil and sediment investigation in the vicinity of the bridge structure to properly characterize soil and sediment conditions prior to those activities. The construction contractor (in coordination with the Client)

will establish and submit a SMP prior to ground disturbing activities to address proper handling should impacted soil and sediment be encountered.

De Minimis condition No. 4
The presence of an approximately 12-inch-diameter pipe protruding from the berm near the southeast corner of the southern terminus of the bridge, with no indication of potential contents or usage, represents a de minimis condition. The pipe consisted of plastic tubing with a metal cap, and was securely sealed at the time of reconnaissance. No evidence of staining or odors were observed on the pipe or in the surrounding soils. However, because the contents and use of the pipe are unknown, TRC recommends investigating the use of the pipe, and if necessary, the abandonment or protection of the pipe during construction activities.

This Executive Summary is part of this complete report; any findings, opinions or conclusions in this Executive Summary are made in context with the complete report. TRC recommends that the User read the entire report for all supporting information related to findings, opinions and conclusions.

Legal Notice

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1.0 INTRODUCTION

TRC Solutions, Inc. (TRC) has prepared this Phase I Initial Site Assessment (ISA) for Monterey County (hereinafter "Client" or "User").

This report was prepared for and may be relied upon by Client for the purposes set forth herein; it may not be relied on by any party other than the Client and reliance may not be assigned without the express approval of TRC. Authorization for third party reliance on this report will be considered by TRC if requested by the Client. TRC reserves the right to deny reliance on this report by third parties.

1.1 Purpose and Scope of Services

The following Phase I ISA was performed for the Gonzales River Road Bridge located on Gonzales River Road, approximately 2.0 miles southwest of Gonzales, in Monterey County, CA (hereinafter the "Site"). A Site location map is included as **Figure 1**. This Phase I ISA has been prepared by TRC in accordance with the American Society for Testing and Materials E 1527-13 *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process* (ASTM E 1527-13), and the requirements of the California Department of Transportation (Caltrans) Standard Environmental Reference (SER) Chapter 10, Hazardous Materials, Hazardous Waste, and Contamination program. This Phase I ISA is intended for the sole use of the client as per signed contract/agreement.

The purpose of this assessment is to identify *Recognized Environmental Conditions* (RECs) at the Site, as defined by the ASTM E 1527-13 standard. The completion of this Phase I ISA report may be used to satisfy one of the requirements for the User to qualify for the *innocent landowner*, *contiguous property owner*, or *bona fide prospective purchaser* limitations pursuant to the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), thereby constituting *all appropriate inquiries into the previous ownership and uses of the property consistent with good commercial or customary practice* as defined by 42 U.S.C. §9601(35)(B) of CERCLA.

TRC understands that this assessment is not funded with a federal grant awarded under the United States Environmental Protection Agency (U.S. EPA) Brownfields Assessment and Characterization program.

The Scope of Services for this Phase I ISA included the following tasks:

- Site and vicinity reconnaissance;
- Site and vicinity description and physical setting;
- Historical source review and description of historical Site conditions;
- Interviews with owners, operators, and/or occupants of the Site, and/or local officials;
- Review of environmental databases and regulatory agency records;
- Review of previous environmental reports/documentation, as applicable;
- Review of environmental liens, if provided or authorized to obtain by the User; and

- Preparation of a report summarizing findings, opinions and conclusions.

Pursuant to the ASTM E 1527-13 standard, recommendations to conduct Phase II sampling or other assessment activities are not required to be included in this report. TRC can provide such recommendations upon request.

1.2 Recommended Measures to Implement

Items outside the scope of the ASTM E 1527-13 standard include, but are not limited to, the following:

- Asbestos-containing building materials
- Radon
- Lead-based paint
- Lead in drinking water
- Wetlands
- Regulatory compliance
- Cultural and historic resources
- Industrial hygiene
- Health and safety
- Ecological resources
- Endangered species
- Indoor air quality unrelated to *releases* of *hazardous substances* or *petroleum products* into the environment
- Biological agents
- Mold

The items outside the ASTM E 1527-13 scope performed during the course of this Phase I ISA, included limited visual inspection for asbestos-containing building materials and lead-based paint, as discussed in greater detail in Section 9.0.

Based on TRC's limited visual inspection, the Client will conduct lead-based paint (LBP) and asbestos containing materials (ACM) surveys of the bridge structure, and conduct a limited Phase II soil investigation for aerially deposited lead (ADL) in the bridge vicinity. If necessary the construction contractor (in coordination with the Client) will establish a Soil Management Plan (SMP) prior to construction activities.

1.3 Deviations to ASTM E 1527-13 Standard

Notwithstanding additions to the ASTM E 1527-13 standard, as listed in Sections 1.2 and 9, if applicable, no significant deviations or deletions to the ASTM standard were made during this Phase I ISA.

2.0 SITE DESCRIPTION

2.1 Site Location and Legal Description

The Site is located at the Gonzales River Road Bridge on Gonzales River Road, within a county maintained right-of-way approximately 2.0 miles southwest of Gonzales, in Monterey County, CA. The Site is in a rural, mostly agricultural area, and is at a location with the coordinates of 36 degrees 29 minutes 10 seconds north, and 121 degrees 28 minutes 10 seconds west. The Bridge is located approximately 2.25 miles southwest of Highway 101, and is in an area zoned as agricultural land. The existing Bridge is 1,661 feet long by 23 feet wide, and is a two-lane

facility over the Salinas River. The driving surface is concrete, constructed over a metal frame superstructure, with a concrete column and pile substructure. A Site location map is included as **Figure 1**.

2.2 Site Improvements

Current on-site improvements are listed in the following table. A Site layout plan is included as **Figure 2**.

Table 2.1 - Site Improvements

Site Feature	Description
Buildings (stories)	N/A, Gonzales River Road Bridge.
Construction date(s)	1930
Exterior areas	Rural / agricultural land.
On-site roads/rail lines	Gonzales River Road.
Other large equipment	N/A
Potable water supply	N/A
Sewage disposal system(s)	N/A
Heating/Cooling system fuel source(s)	N/A
Back-up fuel source(s)	N/A
Electricity supplier(s)	N/A
Storm water system	N/A
*Not Applicable (N/A)	

2.3 Current and Historical Site Use

2.3.1 Current Site Use(s)

The bridge Site is currently operated by Monterey County, and has been in operation at its current location since 1930.

2.3.2 Previous Owner and Operator Information

Based on information provided by the User (Section 3.0), the historical record review (Section 4.0), and/or interviews conducted during this Phase I (Section 6.0), historical Site ownership and operator information is provided in the tables below.

Table 2.2 - Previous Owner Information

Site Owner	From	To
Monterey County	1930	Present

Table 2.3 - Previous Operator Information

Site Operator	Description	From	To
Monterey County	Gonzales River Road Bridge	1930	Present

2.4 Physical Setting

According to the United States Geological Survey (USGS) topographic map, Palo Escrito Peak, California quadrangle dated 2012, the Site is located along Gonzales River Road. The Site topographic elevation is approximately 118 feet above mean sea level (MSL), and local topography generally slopes to the south-southwest. The topographic downward slope observed at the Site during the Site reconnaissance is generally south-southwest, however, local topography generally slopes towards the Salinas River in the immediate area of the Site. Based on local topography and historical environmental reports provided to TRC, as applicable, the assumed direction of shallow ground water flow is towards the south-southwest, however, as stated, the localized terrain in the immediate area of the Site observed at the time of Site Reconnaissance was generally towards the Salinas River, and a subsurface investigation would be required to determine actual ground water flow direction. A Site vicinity map is included as **Figure 1**.

The database radius report supplied by Environmental Data Resources, Inc. (EDR) of Milford, Connecticut was reviewed to obtain information regarding the dominant soil composition in the Site vicinity. This information is summarized below:

Hydric Status:	Partially Hydric
Soil Surface Texture:	Sand
Soil Component Name:	Psamments
Deeper Soil Types:	Not reported

Please refer to the Geocheck Physical Setting Source Summary of the EDR report presented in **Appendix A** for further information regarding the soil composition in the Site vicinity. According to EDR, the Site is located in a Federal Emergency Management Agency (FEMA) flood zone.

3.0 USER PROVIDED INFORMATION

According to the ASTM E 1527-13 standard, certain tasks that may help identify the presence of RECs associated with the Site are generally conducted by the Phase I ISA User. These tasks include: providing, or authorizing the *environmental professional* to obtain recorded land title records for environmental liens or activity and land use limitations (AULs); providing specialized knowledge related to RECs at the Site (e.g., information about previous ownership or

environmental litigation); providing commonly known or *reasonably ascertainable* information within the local community about the *property* that is material to RECs in connection with the *property*; and informing the *environmental professional* if, as believed by the User, the purchase price of the *property* is lower than the fair market value due to contamination. A list of requested information was included in an ISA Checklist provided to the Client by TRC. The User did not provide any additional helpful documents as defined in the ASTM E 1527-13 standard. A copy of the ISA Checklist is included in **Appendix B**.

3.1 Title & Judicial Records for Environmental Liens or Activity and Use Limitations

In addition to reviewing the EDR report (discussed in Section 4.2), local municipal records (Section 4.4), the Regional Water Quality Control Board (RWQCB) records and the Department of Toxic Substances Control (DTSC) records on-line databases (Section 4.4) were reviewed. No evidence of AULs associated with the Site was identified.

3.2 Specialized Knowledge

The User was not aware of specialized knowledge related to RECs at the Site.

3.3 Property Value Reduction Issues

The User was not aware of property valuation reduction issues regarding the Site.

3.4 Commonly Known or Reasonably Ascertainable Information

No commonly known or reasonably ascertainable information was provided to TRC by the User.

3.5 Reason for Conducting Phase I

It is TRC's understanding that the User requires a Phase I for due diligence purposes for the potential replacement of the Gonzales River Road Bridge superstructure and abutments, modification to existing piers two and four, and removal of several other piers.

4.0 RECORDS REVIEW

4.1 Historical Use Information

Information regarding Site and vicinity historical uses was obtained from various publicly available and practically reviewable sources including:

- Aerial photographs (scale: 1" = 500') dated 1937, 1956, 1967, 1971, 1981, 1994, 2005, 2009, 2010, and 2012;
- Topographic maps dated 1910, 1915, 1940, 1955, 1956, 1984, and 2012;
- City directories dated 1992, 1995, 2003, 2008, and 2013;

- Local municipal records;
- An environmental database report; and
- Interviews with Site representative(s), and regulatory agency official(s), as necessary.

Historical research documentation is included in **Appendix C**.

Historical Sanborn® Fire Insurance Maps (Sanborn Maps) were originally produced for assessing fire insurance liability in urban areas in the United States. The maps provide detailed information (i.e., building construction, facility occupants, storage tank locations, and hazardous material storage areas), which can be used as a resource to document land use and structural change over time. Research concerning the availability of Sanborn Maps in the vicinity of the Site was conducted by EDR; however, EDR stated that Sanborn Map coverage does not exist for the Site or nearby surrounding area. The absence of maps for a specific area may signify the area was not significantly developed at the time at which the maps were published.

Furthermore, the database search conducted revealed no City Directory listings for the Site.

4.1.1 Site History

Operational History

1937 – 2012 Aerial Images
Beginning with the 1937 aerial photograph (aerial), a bridge extending approximately northeast to southwest was clearly visible in the location consistent with the current Gonzales River Road Bridge. The bridge was visible crossing a waterbody consistent with the Salinas River. The bridge structure, and riverbed area were flanked by agricultural fields to the north and south. Conditions along the roadway, and in the approximate location of the Gonzales River Road Bridge appeared to remain generally consistent throughout all subsequent aerial photograph years reviewed.

1910 – 1915 Topographic Maps
Beginning with the 1910 topographic map (topo), no structures appeared to be present at the Site. The Salinas River was depicted bisecting the Site boundaries, however, no structures were depicted. Conditions remained consistent with the 1915 topo.

1940 – 2012 Topographic Maps
Beginning with the 1940 topo, a structure, consistent with the current Gonzales River Road Bridge was clearly depicted on the map within the Site boundaries. The bridge structure was visible crossing the Salinas River in the location consistent with the current Gonzales River Road Bridge. Conditions remained consistent with all subsequent topo maps reviewed.

It does not appear that topographic contours in the Site area have significantly changed during the time period reviewed.

Hazardous Substances

No known hazardous substances including raw materials; finished products and formulations; hazardous wastes; hazardous constituents and pollutants including intermediates and byproducts were historically present at the Site. Current hazardous substances and petroleum products (if any) observed during the Site reconnaissance - including unidentified substance containers (when open or damaged, and containing unidentified substances suspected of being hazardous or petroleum products) - are discussed in Section 5.2.

4.1.2 Adjoining Property History

Adjoining properties to the north and south have historically been agricultural farm lands throughout the aerial photograph years reviewed. Beginning with the 1937 aerial, all adjoining properties to the north and south were agricultural fields occupied by row crops. Gonzales River Road could be seen extending from the approximate Site location to the north and south, however was flanked by agricultural fields on both sides. Conditions remained generally consistent in all subsequent aerials reviewed. Adjoining areas to the east and west were continually occupied by the Salinas River and embankment area throughout all historical image years reviewed.

4.1.3 Surrounding Property History

Surrounding areas have historically been agricultural lands occupied by row crops throughout the aerial photograph years reviewed. Some apparent agricultural related structures were constructed in surrounding areas to the north and south of the Site throughout aerial years reviewed, however, other conditions remained generally consistent throughout all aerial photograph years reviewed. A road, consistent with Gonzales River Road currently, was visible running roughly northeast to southwest throughout the aerial photograph years reviewed. The Salinas River was also depicted bisecting the Site throughout all aerial image years as well.

4.2 Database Report & Environmental Record Review

A database search report that identifies properties listed on state and federal databases within the ASTM-required radii of the Site was obtained from EDR and is included in **Appendix A**.
The environmental database report identified one property/listings for surrounding properties. The database report also identified one property that could not be mapped due to poor or inadequate address information (i.e., orphan property). The Site was not listed in the database search report.

4.2.1 Subject Site

No properties/listings were identified for the subject Site.

4.2.2 Adjoining & Surrounding Property Record Review

TRC evaluated the following factors to determine whether additional environmental records should be reviewed with respect to the potential for contaminant migration from the adjoining and surrounding properties:

(1) Whether the property is up-gradient or down-gradient of the Site vis-à-vis **ground water migration** based on the local topography, and the assumed ground water depth and southwesterly shallow ground water flow direction;

(2) Whether the property is up-gradient or down-gradient of the Site vis-à-vis **vapor migration** based on readily available information pursuant to the ASTM E 1527-13 standard including soil and geological characteristics; contaminant characteristics; contaminated plume migration data; and significant conduits that might provide preferential pathways for vapor migration such as major utility corridors, sanitary sewers, storm sewers, and significant natural conduits such as Karst terrain (vapor migration may also be influenced by the age and design of infrastructure features associated with these conduits);

(3) Property case status (i.e., whether the DTSC or RWQCB has issued a No Further Action letter, or other similar closure document);

(4) Type of database and whether the presence of contamination is known; and

(5) The distance between the listed property and the Site.

Based on this evaluation, TRC limited the review of additional environmental records to the properties listed below, since the potential for contamination to be migrating to the Site from the other properties identified by the database search is considered low.

4.2.2.1 Surrounding Properties

Surrounding property information included in the database search report is summarized in the following table(s):

Facility Name(s) and/or Address(es)	Calm Water – Las Palmas Waste Water Protection 21702 River Road
Approximate Location Relative to Site	0.2 mile Southwest
EDR Map No(s).	1
Database(s)	HAZNET, ENF, CHMIRS, CUPA Listings

Database Description(s).	**HAZNET** refers to facility and manifest data for facilities that create hazardous waste. **ENF** is a listing of Water Board Enforcement Actions. **CHMIRS** contains information on reported hazardous material incidents in California. **CUPA Listings** refers to a listing of regulated hazardous waste generator sites.
Presumed Hydrogeologic Setting	Down-gradient
Database Review Summary	The listing was administrative in nature, and indicated the site to be an agricultural site hazardous waste generator. No details were noted of any prior releases from the site.

4.3 Previous Reports

No previous environmental reports regarding the Site were provided for TRC's review.

4.4 Other Environmental Record Sources

Per the ASTM standard, local or additional state records were reviewed to enhance and supplement the ASTM-required federal and state records reviewed and discussed earlier in this report. As the Client and a public agency the County of Monterey provided TRC with applicable City and County level documents pertaining to the Site. Other local sources available to the Client providing files pertaining to the Site include the Monterey County Regional Fire District, and Monterey County Environmental Health Department. As such, TRC did not directly obtain documents from Monterey County public agencies other than those provided by the Client. TRC did research the DTSC's EnviroStor, RWQCB's Geotracker, and SWRCB Clean Water Act Section 303(d) Listing Policy online databases to obtain other regulatory information regarding the Site.

4.4.1 Monterey County

As discussed, City and County level documents pertaining to the bridge Site were provided to TRC by Monterey County. Files reviewed included structural drawings and plans for the previous seismic retrofit of the Gonzales River Road Bridge, Preliminary Environmental Studies, and a bridge maintenance and inspection report. No records of hazardous materials or releases were noted for the Site. Files reviewed are provided in **Appendix E**.

4.4.2 Monterey County Permit and Resource Management (Building) Department

The Monterey County Permit and Resource Management's online permit history lookup database was accessed on December 1, 2016 to review any permits pertaining to the Site. No documents were found for the Site.

4.4.3 The Department of Toxic Substances Control

The DTSC's EnviroStor on-line database was accessed on December 1, 2016 to review files pertaining to the Site. There were no listings for the target property and/or adjacent and surrounding properties.

4.4.4 The Regional Water Quality Control Board

The RWQCB's Geotracker on-line database was accessed on December 1, 2016 to review files pertaining to the Site. There were no active listings for the target property and/or adjacent or surrounding properties.

4.4.5 State Water Resources Control Board

The SWRCB Water Quality Control Policy for developing California's Clean Water Act Section 303(d) Listing Policy (303(d) List) was reviewed on the SWRCB's website on November 30, 2016 to determine potential water quality related impacts associated with the Salinas River. Review of the 303(d) List indicated that the Salinas River is listed as a category 5, or clearly impacted waterbody, with various contaminants including chlordane, chloride, chlorpyrifos, dichlorodiphenyldichloroethane (DDD), diazinon, dieldrin, electrical conductivity, enterococcus, E. coli, fecal coliform, nitrate, sodium, PCBs, pesticides, total dissolved solids, toxaphene, turbidity, unknown toxicity, and pH, for which a Total Maximum Daily Load (TMDL) budget is necessary. Under the Environmental Protection Agency (EPA) a TMDL is a pollution budget and includes a calculation of the maximum amount of a pollutant that can occur in a waterbody and allocates the necessary reductions of those pollutants for restoration or protection purposes. Contamination levels within the Salinas River were shown to exceed the standards of the SWRCB, thus requiring a TMDL. Documents reviewed are included in **Appendix E**.

5.0 SITE RECONNAISSANCE

5.1 Methodology and Limiting Conditions

Mr. Greg Drosky, TRC Environmental Planner, conducted a Site reconnaissance of accessible areas on and around the Site on March 28, 2016 for the purpose of identifying potential RECs, and was unaccompanied during the reconnaissance. Photographs taken during the reconnaissance are provided in **Appendix D**. A Site layout plan is included as **Figure 2**.

5.2 Interior and Exterior Site Observations

Unless otherwise noted, the items listed in the table below appeared in good condition with no visual evidence of staining, deterioration or a discharge of hazardous materials; and there are no records of a release in these areas. Items where further description is warranted are discussed in the section(s) following the table.

Table 5.1 - Interior and Exterior Site Observations

Item	Present (Current/ Historic/ No)	Description
Hazardous material storage or handling areas	No	(see Section 5.2.1)
Aboveground storage tanks (ASTs) and associated piping	No	
Underground storage tanks (USTs) and associated piping	No	
Drums & containers (≥5 gallons)	No	
Odors	No	
Pools of liquid, including surface water bodies and sumps (handling hazardous substances or substances likely to be hazardous only)	No	
Polychlorinated Biphenyls (PCBs) / Transformers	No	
Stains or corrosion	Yes	Metal frame substructure of bridge showed some signs of rust.
Drains & sumps	No	
Pits, ponds & lagoons	No	
Stressed vegetation	No	
Historic fill or any other fill material	No	
Wastewater (including storm water or any discharge into a drain, ditch, underground injection system, or stream on or adjacent to the Site)	Yes	Storm water in the areas including the direct precipitation on the bridge appears to flow directly into the Salinas River.
Wells (including dry wells, irrigation wells, injection wells, abandoned wells, or other wells)	No	
Septic systems or cesspools	No	
Other	Yes	One metal and plastic pipe approximately 12 inches in diameter was observed to the east side of the southern bridge terminus. Pipe was capped and appeared to extend south away from the bridge structure and Salinas River. Pipe showed no signs of rust, and appeared in good condition.

The Site was accessed via Gonzales River Road in a rural area comprised of large agricultural fields. No other structures were observed on the Site other than the Gonzales River Road Bridge. No residential, or other notable structures were located adjacent to the Bridge. The approximately 660-foot-long bridge appeared to be in decent shape at the time of Site reconnaissance. The top of the structure was a concrete driving surface, which showed some signs of deterioration. The guard rails were a combination of unpainted metal and wood railing, and were in decent shape. The bridge substructure was metal framing with concrete columns and piles, spaced at interval for the length of the bridge. The metal frame substructure was painted green, and showed some signs of rust. The remainder of the bridge structure was primarily unpainted and was in decent shape overall.

At the time of Site reconnaissance the Salinas River was dry, allowing access and reconnaissance beneath the bridge structure. Trash debris were noted in the area beneath the bridge, but the area was otherwise clear and was heavily vegetated on the east and west sides of the bridge. The area directly beneath the bridge was dry sandy soils, and no dumping of drums or other potentially hazardous wastes or containers were noted at the time of Site reconnaissance. No staining was noted near the bridge structure or in the soils surrounding the area, and no odors were noted.

Near the Southeast corner of the southern bridge terminus an approximately 12-inch-diameter pipe was noted slightly protruding from the berm near the bridge footing. The Pipe appeared to be plastic with a metal cap which was painted red. The cap was securely sealed and no liquids were noted around the pipe or in the immediate vicinity at the time or reconnaissance. The pipe's contents were not posted, however no obvious signs of release or hazardous materials were noted. Based on the pipe and cap design it appeared to potentially be an outflow pipe of some sort.

At the time of Site reconnaissance, a limited visual screening for potential signs of the presence of Lead Based Paint (LBP) and Asbestos was conducted. As noted, the bridge substructure metal elements were painted green and appeared to show some signs of rust at the time of reconnaissance. However, given the time period of the original construction of the Bridge, the possibility exists for lead-based paint to have been present on the structure.

No obvious signs of asbestos containing materials were observed at the time of reconnaissance. The substructure of the bridge was a metal frame structure which did not show any obvious signs of asbestos containing materials.

5.2.1 Hazardous Substances

No Hazardous substances including raw materials; finished products and formulations; hazardous wastes; hazardous constituents and pollutants including intermediates and byproducts are currently present at the Site.

5.3 Adjoining and Surrounding Properties Reconnaissance

5.3.1 Adjoining Properties

During the Site reconnaissance, TRC viewed the adjoining properties from the Site and publicly accessible areas (e.g., public roadways, etc.). Adjoining areas consisted of large agricultural fields in all areas to the north and south of Bridge structure. The Salinas River was observed to the east and west of the Site, and was dry at the time of Site reconnaissance.

5.3.2 Surrounding Properties

Surrounding properties were occupied by large agricultural fields, with the exception of the Salinas River.

6.0 INTERVIEWS

The following persons were interviewed to obtain historically and/or environmentally-pertinent information regarding RECs associated with the Site.

- Jose Gomez, Assistant Engineer, Monterey County – *Key Site Manager* (as defined by the ASTM standard)

The information provided by each is discussed and referenced in the text. Other references and sources of information are included in **Appendix E**.

7.0 FINDINGS, OPINIONS AND CONCLUSIONS

Potential findings can include RECs, historical RECs (HRECs), controlled RECs (CRECs) and *de minimis* conditions, pursuant to the ASTM E 1527-13 standard.

RECs are defined as the presence or likely presence of any *hazardous substances* or *petroleum products* in, on, or at a *property*: (1) due to any *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*.

CRECs are defined as a REC resulting from a past *release* of *hazardous substances* or *petroleum products* that has been addressed to the satisfaction of the applicable regulatory authority (for example, as evidenced by the issuance of a no further action letter or equivalent, or meeting risk-based criteria established by regulatory authority), with *hazardous substances* or *petroleum products* allowed to remain in place subject to the implementation of required controls (for example, *property* use restrictions, *activity and use limitations, institutional controls*, or *engineering controls*).

HRECs are defined as a past *release* of any *hazardous substances* or *petroleum products* that has occurred in connection with the *property* and has been addressed to the satisfaction of the applicable regulatory authority or meeting unrestricted use criteria established by a regulatory authority, without subjecting the *property* to any required controls (for example, *property* use restrictions, *activity and use limitations, institutional controls*, or *engineering controls*).

De minimis conditions are defined as a condition that generally does not present a threat to human health or the *environment* and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies. Conditions determined to be *de minimis conditions* are not RECs nor CRECs.

TRC has performed a Phase I ISA in conformance with the scope and limitations of ASTM E 1527-13, and the requirements of the Caltrans SER Chapter 10, Hazardous Materials, Hazardous Waste, and Contamination program, at the Site located at the Gonzales River Road Bridge located on Gonzales River Road, approximately 2.0 miles southwest of Gonzales, in Monterey

County, CA (Site), see **Appendices F and G**. Deviations from this standard are described in Sections 1.3 and 7.5 of this report.

7.1 RECs and CRECs

This assessment has revealed no evidence of RECs (including CRECs) in connection with the Site.

7.2 HRECs

This assessment has revealed no evidence of HRECs in connection with the Site.

7.3 *De Minimis* Conditions

This assessment has revealed the following *de minimis* conditions in connection with the Site:

De Minimis condition No. 1
The State Water Resources Control Board (SWRCB) listing of the Salinas River as a category 5 impacted waterbody requiring a Total Maximum Daily Load TMDL is a de minimis condition. According to the SWRCB 303(d) List, water quality in the Salinas River does not meet SWRCB requirements, and contains elevated contamination levels including chlordane, chloride, chlorpyrifos, dichlorodiphenyldichloroethane (DDD), diazinon, dieldrin, electrical conductivity, enterococcus, E. coli, fecal coliform, nitrate, sodium, PCBs, pesticides, total dissolved solids, toxaphene, turbidity, unknown toxicity, and pH, thus requiring a TMDL. If personal contact or pumping and/or disposal of water from the Salinas River become necessary, exposure to impacted water could pose health hazards. If personal contact or pumping and disposal of water becomes necessary, TRC recommends limited Phase II characterization of surface water to characterize conditions. If necessary, the construction contractor (in coordination with the Client) would develop handling requirements in accordance with applicable Caltrans Non-Standard Special Provisions (NSSP) requirements for safe handling of surface water prior to contact.

De Minimis condition No. 2
The potential for impacted soil in the vicinity of the Gonzales River Road Bridge structure from lead based paint (LBP) is a de minimis condition. The bridge was constructed in approximately 1930. LBP was a common construction material during those time periods, and leaded gasoline was used during the life of the bridge. Due to the age of the bridge, and the duration it has been located at the current Site, potential for lead containing paint debris to have shed or aerially deposited lead (ADL) to have settled, impacting the surrounding soils exists. Similarly, older concrete used in bridge construction often contained asbestos containing materials (ACM). No testing of existing bridge concrete has been performed to date to determine if it contains asbestos.

It is TRC's understanding that excavation will be necessary in the vicinity of the existing bridge structure. As such, the Client will conduct a limited Phase II soil investigation for ADL in the vicinity of the bridge structure to properly characterize soil conditions prior to construction. The construction contractor (in coordination with the Client) will also establish and submit a Soil

Management Plan (SMP) prior to ground disturbing activities to address proper handling in accordance with Caltrans Standard Special Provisions (SSP) 14-11.09A and 7-1.02K(6)(i)(iii) should impacted soil be encountered.

Additionally, it is TRC's understanding that structural work, including deconstruction of the existing bridge will take place. Therefore, a specific LBP survey and ACM investigation will be conducted prior to construction, and if necessary, an abatement plan will be established in accordance with Caltrans SSP 14-11.16 Asbestos-Containing Construction Materials in Bridges.

De Minimis condition No. 3
The potential for pesticide/fertilizer impacted soil and sediment in the vicinity surrounding the Gonzales River Road Bridge structure is a de minimis condition. Based on historical documentation, the surrounding land uses have historically been agricultural production since approximately the 1930s. The known use of pesticides/fertilizers such as DDT during those time periods could have potentially entered the Salinas River, thus impacting soils and sediments near the Bridge structure. It is TRC's understanding that excavation will be necessary in the vicinity of the existing bridge structure. As such, TRC recommends a limited Phase II soil and sediment investigation in the vicinity of the bridge structure to properly characterize soil and sediment conditions prior to those activities. The construction contractor (in coordination with the Client) will establish and submit a SMP prior to ground disturbing activities to address proper handling should impacted soil and sediment be encountered.

De Minimis condition No. 4
The presence of an approximately 12-inch-diameter pipe protruding from the berm near the southeast corner of the southern terminus of the bridge, with no indication of potential contents or usage, represents a de minimis condition. The pipe consisted of plastic tubing with a metal cap, and was securely sealed at the time of reconnaissance. No evidence of staining or odors were observed on the pipe or in the surrounding soils. However, because the contents and use of the pipe are unknown, TRC recommends investigating the use of the pipe, and if necessary, the abandonment or protection of the pipe during construction activities.

This Executive Summary is part of this complete report; any findings, opinions or conclusions in this Executive Summary are made in context with the complete report. TRC recommends that the User read the entire report for all supporting information related to findings, opinions and conclusions.

7.4 Data Gaps

TRC has made an appropriate inquiry into the commonly known and reasonably ascertainable resources concerning the historical ownership and use of the Site back to the first development per 40 CFR Part 312.24 (*Reviews of Historical Sources of Information*). No data gaps were identified during this assessment.

7.5 Limiting Conditions and Deviations

7.5.1 Accuracy and Completeness

The ASTM E 1527-13 standard recognizes inherent limitations for Phase I ISAs that apply to this report, including:

- Uncertainty Not Eliminated – No Phase I ISA can wholly eliminate uncertainty regarding the potential for RECs in connection with a property. Data gaps identified during this Phase I ISA are listed in Section 7.4.

- Not Exhaustive – A Phase I ISA is not an exhaustive investigation.

- Past Uses of the Property – A review of standard historical sources at intervals less than five years is not required.

The Client is advised that the Phase I ISA conducted at the Site is a limited inquiry into a property's environmental status, cannot wholly eliminate uncertainty, and is not an exhaustive assessment to discover every potential source of environmental liability at the Site. Therefore, TRC does not make a statement i) of warranty or guarantee, express or implied for any specific use; ii) that the Site is free of RECs or environmental impairment; iii) that the Site is "clean"; or iv) that impairments, if any, are limited to those that were discovered while TRC was performing the Phase I ISA. This limiting statement is not meant to compromise the findings of this report; rather, it is meant as a statement of limitations within the ASTM standard and intended scope of this assessment. Specific limiting conditions identified during the Site reconnaissance are described in Section 5.1. Subsurface conditions may differ from the conditions implied by surface observations, and can be evaluated more thoroughly through intrusive techniques that are beyond the scope of this assessment. Information in this report is not intended to be used as a construction document and should not be used for demolition, renovation, or other construction purposes.

This report presents TRC's site reconnaissance observations, findings, and conclusions as they existed at the time of the Site reconnaissance. TRC makes no representation or warranty that the past or current operations at the property are, or have been, in compliance with all applicable federal, state and local laws, regulations and codes. TRC makes no guarantees as to the accuracy or completeness of information obtained from others during the course of this Phase I ISA report. It is possible that information exists beyond the scope of this assessment, or that information was not provided to TRC. Additional information subsequently provided, discovered, or produced may alter findings or conclusions made in this Phase I ISA report. TRC is under no obligation to update this report to reflect such subsequent information. The findings presented in this report are based upon reasonably ascertainable information and observed Site conditions at the time of the assessment.

This report does not warrant against future operations or conditions, nor does it warrant against operations or conditions present of a type or at a location not assessed. Regardless of the findings

stated in this report, TRC is not responsible for consequences or conditions arising from facts that were not fully disclosed to TRC during the assessment.

An independent data research company provided the government agency database referenced in this report. Information regarding surrounding area properties was requested for approximate minimum search distances and was assumed to be correct and complete unless obviously contradicted by TRC's observations or other credible referenced sources reviewed during the assessment.

TRC is not a professional title insurance or land surveyor firm and makes no guarantee, explicit or implied, that any land title records acquired or reviewed, or any physical descriptions or depictions of the property in this report, represent a comprehensive definition or precise delineation of property ownership or boundaries.

7.5.2 Warranties and Representations

This report does not warrant against: (1) operations or conditions which were not evident from visual observations or historical information provided; (2) conditions which could only be determined by physical sampling or other intrusive investigation techniques; (3) locations other than the client-provided addresses and/or legal parcel description; or (4) information regarding off-site location(s) (with possible impact to the Site) not published in publicly available records.

7.5.3 Continued Validity/User Reliance

This report is presumed to be valid, in accordance with, and subject to, the limitations specified in the ASTM E 1527-13 standard, for a period of 180 days from completion, or until the Client obtains specific information that may materially alter a finding, opinion, or conclusion in this report, or until the Client is notified by TRC that it has obtained specific information that may materially alter a finding, opinion, or conclusion in this report. Additionally, pursuant to the ASTM E 1527-13 standard, this report is presumed valid if completed less than 180 days prior to the date of acquisition of the property or (for transactions not involving an acquisition) the date of the intended transaction.

7.5.4 Significant Assumptions

During this Phase I ISA, TRC relied on database information; interviews with Site representatives, regulatory officials, and other individuals having knowledge of Site operations; and information provided by the User as requested in our authorized Scope of Work. TRC has assumed that the information provided is true and accurate. Reliance on electronic database search reports is subject to the limitations set forth in those reports. TRC did not independently verify the information provided. TRC found no reason to question the validity of the information received unless explicitly noted elsewhere in this report. If other information is discovered and/or if previous reports exist that were not provided to TRC, our conclusions may not be valid.

8.0 REFERENCES

Table 8.1 - References Information

Description/Title of Document(s) Received or Agency Contacted	Date Information Request Filled/Date of Agency Contact	Reference Source
The EDR City Directory Abstract	March 3, 2016	Environmental Data Resources, Inc.
The EDR Aerial Photo Decade Package	March 3, 2016	Environmental Data Resources, Inc.
The EDR Radius Map™ Report with GeoCheck®	March 3, 2016	Environmental Data Resources, Inc.
Certified Sanborn® Map Report	March 3, 2016	Environmental Data Resources, Inc.
EDR Historical Topographic Map Report	March 3, 2016	Environmental Data Resources, Inc.
Monterey County	March 3, 2016	FOIA request response via telephone/email
Department of Toxic Substances Control Envirostor Database	December 1, 2016	Accessed via website at envirostor.dtsc.ca.gov
State Water Resources Control Board Geotracker Database	December 1, 2016	Accessed via website at www.geotracker.waterboards.ca.gov
State Water Resources Control Board 303(d) List	December 1, 2016	Accessed via website at www.waterboards.ca.gov
Monterey County	March 28, 2016	Interviews with Jose Gomez

9.0 RECOMMENDED MEASURES TO IMPLEMENT

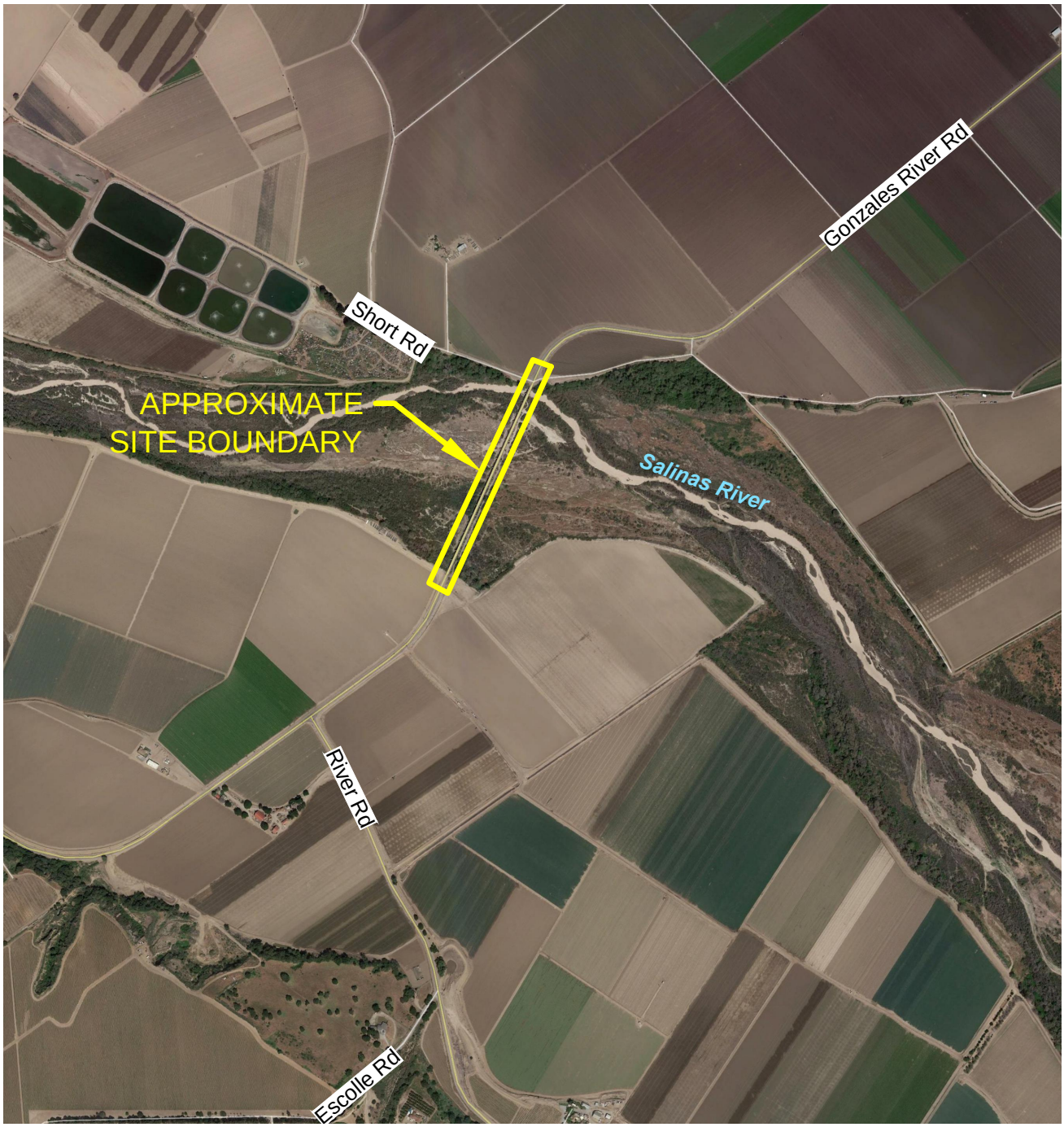
At the request of the Client and described in the proposed Scope of Work (see Section 1.1), TRC performed limited visual inspections for asbestos containing material (ACM) and lead-based paint (LBP). No samples were collected during this limited assessment.

Because the presence or absence of ACM can only be confirmed if an ACM survey is conducted by a California Certified Asbestos Consultant (CAC) or Certified Site Surveillance Technician (CSST) under the guidance of a CAC, the Client will conduct an ACM survey of the bridge structure prior to construction. If necessary the construction contractor (in coordination with the Client) will generate an abetment plan.

TRC's limited visual inspection of the bridge identified minor signs of paint chipping. However the bridge structure, including the metal framing, showed signs of rust and wear and paint chipping was not obviously discernable. Although the bridge appeared to be in decent shape, the original bridge was constructed in approximately 1930. Lead-based paint was a common

construction material during that time period, and the presence or absence of LBP would only be confirmed if a lead survey is conducted by a technician with proper lead certification. As such, the Client will conduct an ACM survey of the bridge structure prior to construction. If necessary the construction contractor (in coordination with the Client) will generate an abetment plan.

Due to the duration the bridge has been in place, potential for aerially deposited lead (ADL) in soil near the bridge structure from paint chipping and leaded gasoline exists. As such, the Client will conduct limited Phase II sampling for ADL. If necessary the construction contractor (in coordination with the Client) will establish a Soil Management Plan (SMP) prior to construction activities to address proper handling should impacted soil be encountered.



SOURCE AERIAL PHOTO: Google Earth, April 2015.

N

APPROXIMATE SCALE (FEET)

0 1000 2000

VICINITY MAP

36°29'10.6"N 121°28'10.9"W

Gonzales River Road Bridge
Monterey County
Gonzales, California

TRC | 226647 | **FIGURE 1**

FILE NAME: C:\Users\pwoods\Desktop\Fig1_Vicinity Map-Gonzales 12.7.16.dwg | Layout Tab: 8x11

SOURCE AERIAL PHOTO: Google Earth, April 2015.

N

APPROXIMATE SCALE (FEET)

0 300 600

NOTE: All locations are approximate.

SITE PLAN

36°29'10.6"N 121°28'10.9"W

Gonzales River Road Bridge
Monterey County
Gonzales, California

TRC | 226647 | **FIGURE 2**

FILE NAME: C:\Users\pwoods\Desktop\Fig2_Site Plan-Gonzales Bridge 12.7.16.dwg | Layout Tab: 8x11

APPENDIX A:
DATABASE RADIUS REPORT

Gonzales River Road Bridge
Gonzales River Road
Soledad, CA 93960

Inquiry Number: 4793997.2s
November 30, 2016

The EDR Radius Map™ Report with GeoCheck®

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

TABLE OF CONTENTS

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-13) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

TARGET PROPERTY INFORMATION

ADDRESS

GONZALES RIVER ROAD
SOLEDAD, CA 93960

COORDINATES

Latitude (North):	36.4863590 - 36° 29' 10.89''
Longitude (West):	121.4696100 - 121° 28' 10.59''
Universal Tranverse Mercator:	Zone 10
UTM X (Meters):	637086.6
UTM Y (Meters):	4038782.0
Elevation:	118 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property Map:	5603748 PALO ESCRITO PEAK, CA
Version Date:	2012
North Map:	5619810 GONZALES, CA
Version Date:	2012

AERIAL PHOTOGRAPHY IN THIS REPORT

Portions of Photo from:	20140609
Source:	USDA

MAPPED SITES SUMMARY

Target Property Address:
GONZALES RIVER ROAD
SOLEDAD, CA 93960

Click on Map ID to see full detail.

MAP ID	SITE NAME	ADDRESS	DATABASE ACRONYMS	RELATIVE ELEVATION	DIST (ft. & mi.) DIRECTION
1	CAL AM WATER -LAS PA	21702 RIVER RD	CHMIRS, CUPA Listings, ENF, HAZNET	Lower	1081, 0.205, SW

EXECUTIVE SUMMARY

TARGET PROPERTY SEARCH RESULTS

The target property was not listed in any of the databases searched by EDR.

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the search radius around the target property for the following databases:

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL ---------- National Priority List
Proposed NPL ---------- Proposed National Priority List Sites
NPL LIENS ---------- Federal Superfund Liens

Federal Delisted NPL site list

Delisted NPL ---------- National Priority List Deletions

Federal CERCLIS list

FEDERAL FACILITY ---------- Federal Facility Site Information listing
SEMS ---------- Superfund Enterprise Management System

Federal CERCLIS NFRAP site list

SEMS-ARCHIVE ---------- Superfund Enterprise Management System Archive

Federal RCRA CORRACTS facilities list

CORRACTS ---------- Corrective Action Report

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF ---------- RCRA - Treatment, Storage and Disposal

Federal RCRA generators list

RCRA-LQG ---------- RCRA - Large Quantity Generators
RCRA-SQG ---------- RCRA - Small Quantity Generators
RCRA-CESQG ---------- RCRA - Conditionally Exempt Small Quantity Generator

Federal institutional controls / engineering controls registries

LUCIS ---------- Land Use Control Information System
US ENG CONTROLS ---------- Engineering Controls Sites List

US INST CONTROL ---------- Sites with Institutional Controls

Federal ERNS list

ERNS ---------- Emergency Response Notification System

State- and tribal - equivalent NPL

RESPONSE ---------- State Response Sites

State- and tribal - equivalent CERCLIS

ENVIROSTOR ---------- EnviroStor Database

State and tribal landfill and/or solid waste disposal site lists

SWF/LF ---------- Solid Waste Information System

State and tribal leaking storage tank lists

LUST ---------- Geotracker's Leaking Underground Fuel Tank Report
INDIAN LUST ---------- Leaking Underground Storage Tanks on Indian Land
SLIC ---------- Statewide SLIC Cases

State and tribal registered storage tank lists

FEMA UST ---------- Underground Storage Tank Listing
UST ---------- Active UST Facilities
AST ---------- Aboveground Petroleum Storage Tank Facilities
INDIAN UST ---------- Underground Storage Tanks on Indian Land

State and tribal voluntary cleanup sites

INDIAN VCP ---------- Voluntary Cleanup Priority Listing
VCP ---------- Voluntary Cleanup Program Properties

State and tribal Brownfields sites

BROWNFIELDS ---------- Considered Brownfieds Sites Listing

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS ---------- A Listing of Brownfields Sites

Local Lists of Landfill / Solid Waste Disposal Sites

WMUDS/SWAT ---------- Waste Management Unit Database
SWRCY ---------- Recycler Database
HAULERS ---------- Registered Waste Tire Haulers Listing
INDIAN ODI ---------- Report on the Status of Open Dumps on Indian Lands
DEBRIS REGION 9 ---------- Torres Martinez Reservation Illegal Dump Site Locations
ODI ---------- Open Dump Inventory

IHS OPEN DUMPS - Open Dumps on Indian Land

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL - Delisted National Clandestine Laboratory Register
HIST Cal-Sites - Historical Calsites Database
SCH - School Property Evaluation Program
CDL - Clandestine Drug Labs
Toxic Pits - Toxic Pits Cleanup Act Sites
US CDL - National Clandestine Laboratory Register

Local Lists of Registered Storage Tanks

SWEEPS UST - SWEEPS UST Listing
HIST UST - Hazardous Substance Storage Container Database
CA FID UST - Facility Inventory Database

Local Land Records

LIENS - Environmental Liens Listing
LIENS 2 - CERCLA Lien Information
DEED - Deed Restriction Listing

Records of Emergency Release Reports

HMIRS - Hazardous Materials Information Reporting System
CHMIRS - California Hazardous Material Incident Report System
LDS - Land Disposal Sites Listing
MCS - Military Cleanup Sites Listing
SPILLS 90 - SPILLS 90 data from FirstSearch

Other Ascertainable Records

RCRA NonGen / NLR - RCRA - Non Generators / No Longer Regulated
FUDS - Formerly Used Defense Sites
DOD - Department of Defense Sites
SCRD DRYCLEANERS - State Coalition for Remediation of Drycleaners Listing
US FIN ASSUR - Financial Assurance Information
EPA WATCH LIST - EPA WATCH LIST
2020 COR ACTION - 2020 Corrective Action Program List
TSCA - Toxic Substances Control Act
TRIS - Toxic Chemical Release Inventory System
SSTS - Section 7 Tracking Systems
ROD - Records Of Decision
RMP - Risk Management Plans
RAATS - RCRA Administrative Action Tracking System
PRP - Potentially Responsible Parties
PADS - PCB Activity Database System
ICIS - Integrated Compliance Information System
FTTS - FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
MLTS - Material Licensing Tracking System
COAL ASH DOE - Steam-Electric Plant Operation Data
COAL ASH EPA - Coal Combustion Residues Surface Impoundments List
PCB TRANSFORMER - PCB Transformer Registration Database

RADINFO ---- Radiation Information Database
HIST FTTS ---- FIFRA/TSCA Tracking System Administrative Case Listing
DOT OPS ---- Incident and Accident Data
CONSENT ---- Superfund (CERCLA) Consent Decrees
INDIAN RESERV ---- Indian Reservations
FUSRAP ---- Formerly Utilized Sites Remedial Action Program
UMTRA ---- Uranium Mill Tailings Sites
LEAD SMELTERS ---- Lead Smelter Sites
US AIRS ---- Aerometric Information Retrieval System Facility Subsystem
US MINES ---- Mines Master Index File
FINDS ---- Facility Index System/Facility Registry System
DOCKET HWC ---- Hazardous Waste Compliance Docket Listing
UXO ---- Unexploded Ordnance Sites
CA BOND EXP. PLAN ---- Bond Expenditure Plan
Cortese ---- "Cortese" Hazardous Waste & Substances Sites List
DRYCLEANERS ---- Cleaner Facilities
EMI ---- Emissions Inventory Data
ENF ---- Enforcement Action Listing
Financial Assurance ---- Financial Assurance Information Listing
HAZNET ---- Facility and Manifest Data
HIST CORTESE ---- Hazardous Waste & Substance Site List
HWP ---- EnviroStor Permitted Facilities Listing
HWT ---- Registered Hazardous Waste Transporter Database
MINES ---- Mines Site Location Listing
MWMP ---- Medical Waste Management Program Listing
NPDES ---- NPDES Permits Listing
PEST LIC ---- Pesticide Regulation Licenses Listing
PROC ---- Certified Processors Database
Notify 65 ---- Proposition 65 Records
UIC ---- UIC Listing
WASTEWATER PITS ---- Oil Wastewater Pits Listing
WDS ---- Waste Discharge System
WIP ---- Well Investigation Program Case List
FUELS PROGRAM ---- EPA Fuels Program Registered Listing
ABANDONED MINES ---- Abandoned Mines
ICE ---- ICE
ECHO ---- Enforcement & Compliance History Information

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP ---- EDR Proprietary Manufactured Gas Plants
EDR Hist Auto ---- EDR Exclusive Historic Gas Stations
EDR Hist Cleaner ---- EDR Exclusive Historic Dry Cleaners

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA LF ---- Recovered Government Archive Solid Waste Facilities List
RGA LUST ---- Recovered Government Archive Leaking Underground Storage Tank

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified in the following databases.

EXECUTIVE SUMMARY

Elevations have been determined from the USGS Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified. Sites with an elevation equal to or higher than the target property have been differentiated below from sites with an elevation lower than the target property.
Page numbers and map identification numbers refer to the EDR Radius Map report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

ADDITIONAL ENVIRONMENTAL RECORDS

Other Ascertainable Records

CUPA Listings: A listing of sites included in the county's Certified Unified Program Agency database. California's Secretary for Environmental Protection established the unified hazardous materials and hazardous waste regulatory program as required by chapter 6.11 of the California Health and Safety Code. The Unified Program consolidates the administration, permits, inspections, and enforcement activities.

A review of the CUPA Listings list, as provided by EDR, has revealed that there is 1 CUPA Listings site within approximately 0.25 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
CAL AM WATER -LAS PA	***21702 RIVER RD***	***SW 1/8 - 1/4 (0.205 mi.)***	***1***	***8***

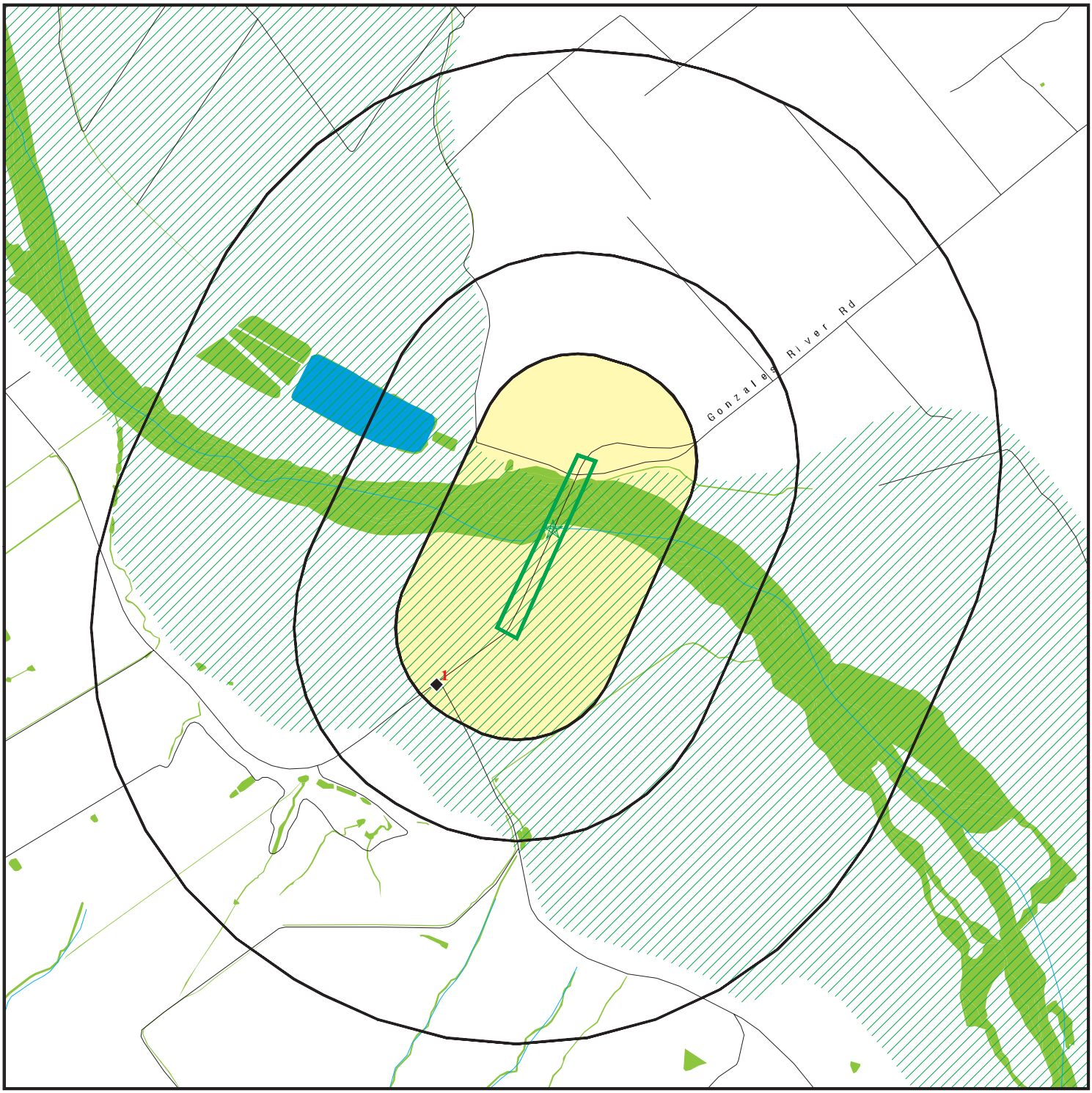
Database: CUPA MONTEREY, Date of Government Version: 06/24/2016

EXECUTIVE SUMMARY

Due to poor or inadequate address information, the following sites were not mapped. Count: 1 records.

Site Name	Database(s)
ALTA ST GONZALES RIVER RD RR CROSS	NPDES

OVERVIEW MAP - 4793997.2S



Target Property

Sites at elevations higher than or equal to the target property

Sites at elevations lower than the target property

Manufactured Gas Plants

National Priority List Sites

Dept. Defense Sites

0 1/4 1/2 1 Miles

Indian Reservations BIA

100-year flood zone

500-year flood zone

National Wetland Inventory

State Wetlands

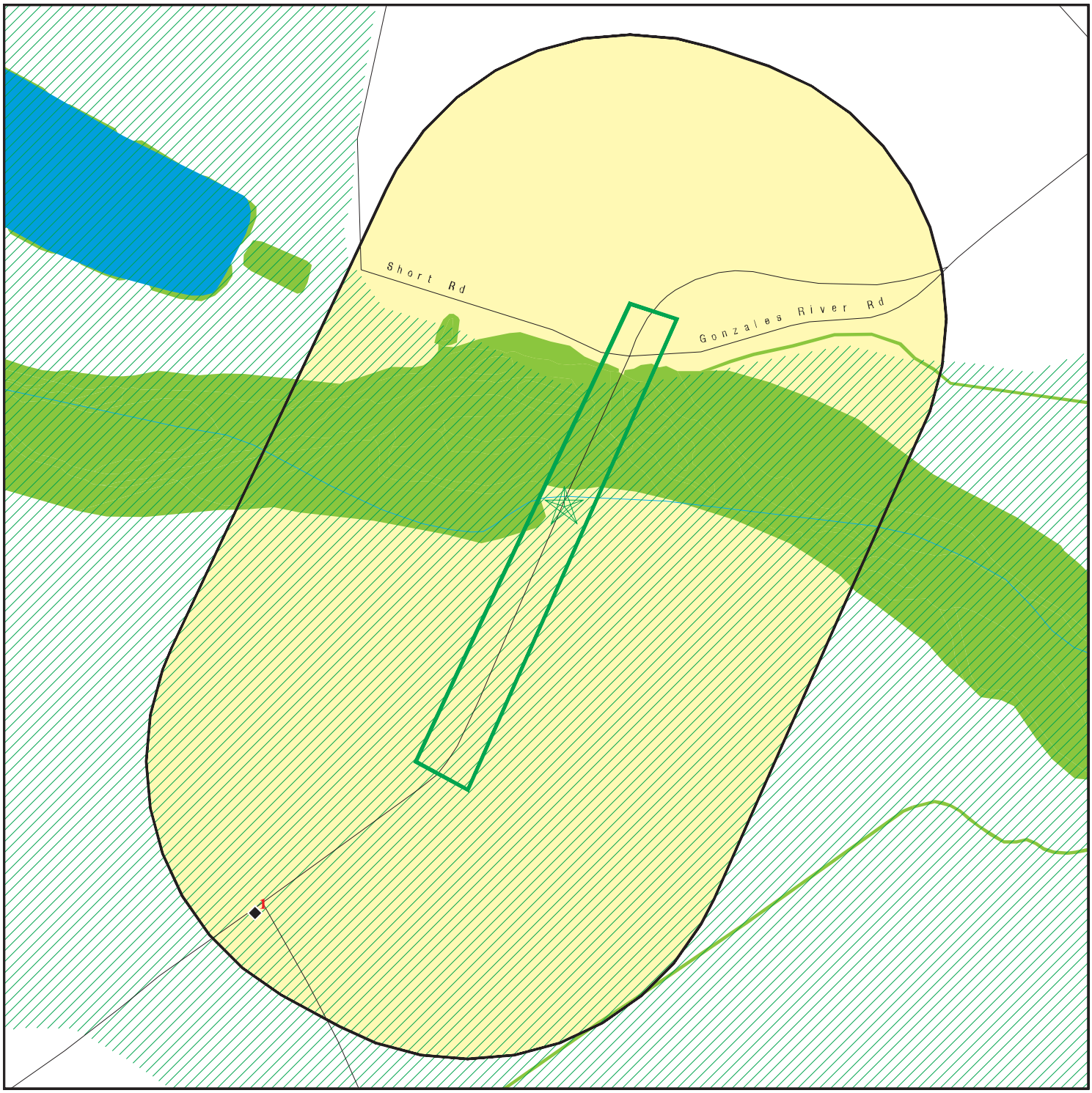
Areas of Concern

N

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: Gonzales River Road Bridge	CLIENT: TRC
ADDRESS: Gonzales River Road Soledad CA 93960	CONTACT: Greg Drosky INQUIRY #: 4793997.2s
LAT/LONG: 36.486359 / 121.46961	DATE: November 30, 2016 9:46 pm

DETAIL MAP - 4793997.2S



0 1/8 1/4 1/2 Miles

- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Manufactured Gas Plants
- Sensitive Receptors
- National Priority List Sites
- Dept. Defense Sites
- Indian Reservations BIA
- 100-year flood zone
- 500-year flood zone
- National Wetland Inventory
- State Wetlands
- Areas of Concern

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: Gonzales River Road Bridge	CLIENT: TRC
ADDRESS: Gonzales River Road Soledad CA 93960	CONTACT: Greg Drosky INQUIRY #: 4793997.2s
LAT/LONG: 36.486359 / 121.46961	DATE: November 30, 2016 9:49 pm

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
STANDARD ENVIRONMENTAL RECORDS								
Federal NPL site list								
NPL	1.000		0	0	0	0	NR	0
Proposed NPL	1.000		0	0	0	0	NR	0
NPL LIENS	0.001		0	NR	NR	NR	NR	0
Federal Delisted NPL site list								
Delisted NPL	1.000		0	0	0	0	NR	0
Federal CERCLIS list								
FEDERAL FACILITY	0.500		0	0	0	NR	NR	0
SEMS	0.500		0	0	0	NR	NR	0
Federal CERCLIS NFRAP site list								
SEMS-ARCHIVE	0.500		0	0	0	NR	NR	0
Federal RCRA CORRACTS facilities list								
CORRACTS	1.000		0	0	0	0	NR	0
Federal RCRA non-CORRACTS TSD facilities list								
RCRA-TSDF	0.500		0	0	0	NR	NR	0
Federal RCRA generators list								
RCRA-LQG	0.250		0	0	NR	NR	NR	0
RCRA-SQG	0.250		0	0	NR	NR	NR	0
RCRA-CESQG	0.250		0	0	NR	NR	NR	0
Federal institutional controls / engineering controls registries								
LUCIS	0.500		0	0	0	NR	NR	0
US ENG CONTROLS	0.500		0	0	0	NR	NR	0
US INST CONTROL	0.500		0	0	0	NR	NR	0
Federal ERNS list								
ERNS	0.001		0	NR	NR	NR	NR	0
State- and tribal - equivalent NPL								
RESPONSE	1.000		0	0	0	0	NR	0
State- and tribal - equivalent CERCLIS								
ENVIROSTOR	1.000		0	0	0	0	NR	0
State and tribal landfill and/or solid waste disposal site lists								
SWF/LF	0.500		0	0	0	NR	NR	0
State and tribal leaking storage tank lists								
LUST	0.500		0	0	0	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
INDIAN LUST	0.500		0	0	0	NR	NR	0
SLIC	0.500		0	0	0	NR	NR	0
State and tribal registered storage tank lists								
FEMA UST	0.250		0	0	NR	NR	NR	0
UST	0.250		0	0	NR	NR	NR	0
AST	0.250		0	0	NR	NR	NR	0
INDIAN UST	0.250		0	0	NR	NR	NR	0
State and tribal voluntary cleanup sites								
INDIAN VCP	0.500		0	0	0	NR	NR	0
VCP	0.500		0	0	0	NR	NR	0
State and tribal Brownfields sites								
BROWNFIELDS	0.500		0	0	0	NR	NR	0
ADDITIONAL ENVIRONMENTAL RECORDS								
Local Brownfield lists								
US BROWNFIELDS	0.500		0	0	0	NR	NR	0
Local Lists of Landfill / Solid Waste Disposal Sites								
WMUDS/SWAT	0.500		0	0	0	NR	NR	0
SWRCY	0.500		0	0	0	NR	NR	0
HAULERS	0.001		0	NR	NR	NR	NR	0
INDIAN ODI	0.500		0	0	0	NR	NR	0
DEBRIS REGION 9	0.500		0	0	0	NR	NR	0
ODI	0.500		0	0	0	NR	NR	0
IHS OPEN DUMPS	0.500		0	0	0	NR	NR	0
Local Lists of Hazardous waste / Contaminated Sites								
US HIST CDL	0.001		0	NR	NR	NR	NR	0
HIST Cal-Sites	1.000		0	0	0	0	NR	0
SCH	0.250		0	0	NR	NR	NR	0
CDL	0.001		0	NR	NR	NR	NR	0
Toxic Pits	1.000		0	0	0	0	NR	0
US CDL	0.001		0	NR	NR	NR	NR	0
Local Lists of Registered Storage Tanks								
SWEEPS UST	0.250		0	0	NR	NR	NR	0
HIST UST	0.250		0	0	NR	NR	NR	0
CA FID UST	0.250		0	0	NR	NR	NR	0
Local Land Records								
LIENS	0.001		0	NR	NR	NR	NR	0
LIENS 2	0.001		0	NR	NR	NR	NR	0
DEED	0.500		0	0	0	NR	NR	0
Records of Emergency Release Reports								
HMIRS	0.001		0	NR	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
CHMIRS	0.001		0	NR	NR	NR	NR	0
LDS	0.001		0	NR	NR	NR	NR	0
MCS	0.001		0	NR	NR	NR	NR	0
SPILLS 90	0.001		0	NR	NR	NR	NR	0
Other Ascertainable Records								
RCRA NonGen / NLR	0.250		0	0	NR	NR	NR	0
FUDS	1.000		0	0	0	0	NR	0
DOD	1.000		0	0	0	0	NR	0
SCRD DRYCLEANERS	0.500		0	0	0	NR	NR	0
US FIN ASSUR	0.001		0	NR	NR	NR	NR	0
EPA WATCH LIST	0.001		0	NR	NR	NR	NR	0
2020 COR ACTION	0.250		0	0	NR	NR	NR	0
TSCA	0.001		0	NR	NR	NR	NR	0
TRIS	0.001		0	NR	NR	NR	NR	0
SSTS	0.001		0	NR	NR	NR	NR	0
ROD	1.000		0	0	0	0	NR	0
RMP	0.001		0	NR	NR	NR	NR	0
RAATS	0.001		0	NR	NR	NR	NR	0
PRP	0.001		0	NR	NR	NR	NR	0
PADS	0.001		0	NR	NR	NR	NR	0
ICIS	0.001		0	NR	NR	NR	NR	0
FTTS	0.001		0	NR	NR	NR	NR	0
MLTS	0.001		0	NR	NR	NR	NR	0
COAL ASH DOE	0.001		0	NR	NR	NR	NR	0
COAL ASH EPA	0.500		0	0	0	NR	NR	0
PCB TRANSFORMER	0.001		0	NR	NR	NR	NR	0
RADINFO	0.001		0	NR	NR	NR	NR	0
HIST FTTS	0.001		0	NR	NR	NR	NR	0
DOT OPS	0.001		0	NR	NR	NR	NR	0
CONSENT	1.000		0	0	0	0	NR	0
INDIAN RESERV	0.001		0	NR	NR	NR	NR	0
FUSRAP	1.000		0	0	0	0	NR	0
UMTRA	0.500		0	0	0	NR	NR	0
LEAD SMELTERS	0.001		0	NR	NR	NR	NR	0
US AIRS	0.001		0	NR	NR	NR	NR	0
US MINES	0.250		0	0	NR	NR	NR	0
FINDS	0.001		0	NR	NR	NR	NR	0
DOCKET HWC	0.001		0	NR	NR	NR	NR	0
UXO	1.000		0	0	0	0	NR	0
CA BOND EXP. PLAN	1.000		0	0	0	0	NR	0
Cortese	0.500		0	0	0	NR	NR	0
CUPA Listings	0.250		0	1	NR	NR	NR	1
DRYCLEANERS	0.250		0	0	NR	NR	NR	0
EMI	0.001		0	NR	NR	NR	NR	0
ENF	0.001		0	NR	NR	NR	NR	0
Financial Assurance	0.001		0	NR	NR	NR	NR	0
HAZNET	0.001		0	NR	NR	NR	NR	0
HIST CORTESE	0.500		0	0	0	NR	NR	0
HWP	1.000		0	0	0	0	NR	0
HWT	0.250		0	0	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
MINES	0.001		0	NR	NR	NR	NR	0
MWMP	0.250		0	0	NR	NR	NR	0
NPDES	0.001		0	NR	NR	NR	NR	0
PEST LIC	0.001		0	NR	NR	NR	NR	0
PROC	0.500		0	0	0	NR	NR	0
Notify 65	1.000		0	0	0	0	NR	0
UIC	0.001		0	NR	NR	NR	NR	0
WASTEWATER PITS	0.500		0	0	0	NR	NR	0
WDS	0.001		0	NR	NR	NR	NR	0
WIP	0.250		0	0	NR	NR	NR	0
FUELS PROGRAM	0.250		0	0	NR	NR	NR	0
ABANDONED MINES	TP		NR	NR	NR	NR	NR	0
ICE	TP		NR	NR	NR	NR	NR	0
ECHO	0.001		0	NR	NR	NR	NR	0
EDR HIGH RISK HISTORICAL RECORDS								
EDR Exclusive Records								
EDR MGP	1.000		0	0	0	0	NR	0
EDR Hist Auto	0.125		0	NR	NR	NR	NR	0
EDR Hist Cleaner	0.125		0	NR	NR	NR	NR	0
EDR RECOVERED GOVERNMENT ARCHIVES								
Exclusive Recovered Govt. Archives								
RGA LF	0.001		0	NR	NR	NR	NR	0
RGA LUST	0.001		0	NR	NR	NR	NR	0
- Totals --		0	0	1	0	0	0	1

NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

1
SW
1/8-1/4
0.205 mi.
1081 ft.

CAL AM WATER -LAS PALMAS WWP 1/2
21702 RIVER RD
SALINAS, CA 93908

CHMIRS **S106400463**
CUPA Listings **N/A**
ENF
HAZNET

Relative:
Lower

Actual:
115 ft.

CHMIRS:

OES Incident Number:	3-1784
OES notification:	04/03/2003
OES Date:	Not reported
OES Time:	Not reported
Date Completed:	**Not reported**
Property Use:	Not reported
Agency Id Number:	Not reported
Agency Incident Number:	Not reported
Time Notified:	Not reported
Time Completed:	Not reported
Surrounding Area:	Not reported
Estimated Temperature:	Not reported
Property Management:	Not reported
More Than Two Substances Involved?:	Not reported
Resp Agncy Personel # Of Decontaminated:	Not reported
Responding Agency Personel # Of Injuries:	Not reported
Responding Agency Personel # Of Fatalities:	Not reported
Others Number Of Decontaminated:	Not reported
Others Number Of Injuries:	Not reported
Others Number Of Fatalities:	Not reported
Vehicle Make/year:	Not reported
Vehicle License Number:	Not reported
Vehicle State:	Not reported
Vehicle Id Number:	Not reported
CA DOT PUC/ICC Number:	Not reported
Company Name:	Not reported
Reporting Officer Name/ID:	Not reported
Report Date:	Not reported
Facility Telephone:	Not reported
Waterway Involved:	No
Waterway:	Not reported
Spill Site:	Not reported
Cleanup By:	N/A
Containment:	Not reported
What Happened:	Not reported
Type:	Not reported
Measure:	Not reported
Other:	Not reported
Date/Time:	Not reported
Year:	2003
Agency:	California American Water
Incident Date:	4/3/200312:00:00 AM
Admin Agency:	Monterey County County Health Department
Amount:	Not reported
Contained:	Yes
Site Type:	Treatment/Sewage Facility
E Date:	Not reported
Substance:	treated water
Gallons:	1500
Unknown:	0
Substance #2:	Not reported
Substance #3:	Not reported

CAL AM WATER -LAS PALMAS WWP 1/2 (Continued) **S106400463**

Evacuations:	0
Number of Injuries:	0
Number of Fatalities:	0
#1 Pipeline:	Not reported
#2 Pipeline:	Not reported
#3 Pipeline:	Not reported
#1 Vessel >= 300 Tons:	Not reported
#2 Vessel >= 300 Tons:	Not reported
#3 Vessel >= 300 Tons:	Not reported
Evacs:	Not reported
Injuries:	Not reported
Fatals:	Not reported
Comments:	Not reported
Description:	Pond at high elevation with plugged overflow line, line broke and flowed into lower pond and some went to the dirt and onto a roadway

CUPA MONTEREY:

Facility Id:	FA0818177
Region:	MONTEREY
Program/Element Code:	5040
Program/Element:	BASE FEE-HAZARDOUS MATERIALS REGISTRATION
Billing Status:	ACTIVE, BILLABLE
EDR Link ID:	Not reported
Record ID:	PR0610904
Last Activity Date:	09/23/2015
Current Inspection Date:	09/23/2016
Mailing Address:	PO BOX 951
Mailing City State Zip:	MONTEREY, CA 93942-0951
Program Identifier:	WASTE WATER PLANTS 1 AND 2
Prior Inspection Date:	08/18/2015
Owner ID:	OW0800809
Last Billing Date:	06/09/2015
Last Payment Date:	07/14/2015
Last Payment Amount:	555.00
Total Fee Amount:	499.00
Total Amount Paid:	974.00
Units:	Not reported
Financial Status:	Financially compliant

Facility Id:	FA0818177
Region:	MONTEREY
Program/Element Code:	512J
Program/Element:	WASTE OIL,NONCHLORINATED SAFETY SOLVENTS
Billing Status:	INACTIVE, NON-BILLABLE
EDR Link ID:	Not reported
Record ID:	PR0617650
Last Activity Date:	08/14/2014
Current Inspection Date:	09/19/2014
Mailing Address:	PO BOX 951
Mailing City State Zip:	MONTEREY, CA 93942-0951
Program Identifier:	WASTE WATER PLANTS 1 AND 2
Prior Inspection Date:	08/13/2013
Owner ID:	OW0800809
Last Billing Date:	06/09/2015
Last Payment Date:	07/14/2015
Last Payment Amount:	555.00

CAL AM WATER -LAS PALMAS WWP 1/2 (Continued) **S106400463**

Total Fee Amount:	136.00
Total Amount Paid:	272.00
Units:	Not reported
Financial Status:	Financially compliant

ENF:

Region:	3
Facility Id:	236601
Agency Name:	California American Water Company Monterey
Place Type:	Utility
Place Subtype:	Wastewater Treatment Facility
Facility Type:	Municipal/Domestic
Agency Type:	Privately-Owned Business
# Of Agencies:	1
Place Latitude:	36.612600
Place Longitude:	-121.655880
SIC Code 1:	4952
SIC Desc 1:	Sewerage Systems
SIC Code 2:	Not reported
SIC Desc 2:	Not reported
SIC Code 3:	Not reported
SIC Desc 3:	Not reported
NAICS Code 1:	Not reported
NAICS Desc 1:	Not reported
NAICS Code 2:	Not reported
NAICS Desc 2:	Not reported
NAICS Code 3:	Not reported
NAICS Desc 3:	Not reported
# Of Places:	1
Source Of Facility:	Reg Meas
Design Flow:	0.195
Threat To Water Quality:	3
Complexity:	B
Pretreatment:	N - POTW does not have EPA approved pretreatment prog.
Facility Waste Type:	Domestic wastewater
Facility Waste Type 2:	Not reported
Facility Waste Type 3:	Not reported
Facility Waste Type 4:	Not reported
Program:	WDRMUNILRG
Program Category1:	WDR
Program Category2:	WDR
# Of Programs:	1
WDID:	3 271026001
Reg Measure Id:	147750
Reg Measure Type:	WDR
Region:	3
Order #:	91-014
Npdes# CA#:	Not reported
Major-Minor:	Not reported
Npdes Type:	Not reported
Reclamation:	2 - Producer-User
Dredge Fill Fee:	Not reported
301H:	Not reported
Application Fee Amt Received:	Not reported
Status:	Historical
Status Date:	04/05/2012
Effective Date:	01/11/1991

CAL AM WATER -LAS PALMAS WWP 1/2 (Continued) **S106400463**

Expiration/Review Date:	01/11/2006
Termination Date:	11/30/2006
WDR Review - Amend:	Not reported
WDR Review - Revise/Renew:	Not reported
WDR Review - Rescind:	Not reported
WDR Review - No Action Required:	2/4/2002
WDR Review - Pending:	Not reported
WDR Review - Planned:	Not reported
Status Enrollee:	N
Individual/General:	I
Fee Code:	58 - Non15 Based on (TTWQ)/CPLX)
Direction/Voice:	Passive
Enforcement Id(EID):	256177
Region:	3
Order / Resolution Number:	UNKNOWN
Enforcement Action Type:	Notice of Violation
Effective Date:	02/24/2005
Adoption/Issuance Date:	Not reported
Achieve Date:	Not reported
Termination Date:	02/24/2005
ACL Issuance Date:	Not reported
EPL Issuance Date:	Not reported
Status:	Historical
Title:	Enforcement - 3 271026001
Description:	Discharge of treated wastewater to the Salinas River, a status report must be filed by March 9, 2005.
Program:	WDRMUNILRG
Latest Milestone Completion Date:	Not reported
# Of Programs1:	1
Total Assessment Amount:	0
Initial Assessed Amount:	0
Liability $ Amount:	0
Project $ Amount:	0
Liability $ Paid:	0
Project $ Completed:	0
Total $ Paid/Completed Amount:	0

Region:	3
Facility Id:	236601
Agency Name:	California American Water Company Monterey
Place Type:	Utility
Place Subtype:	Wastewater Treatment Facility
Facility Type:	Municipal/Domestic
Agency Type:	Privately-Owned Business
# Of Agencies:	1
Place Latitude:	36.612600
Place Longitude:	-121.655880
SIC Code 1:	4952
SIC Desc 1:	Sewerage Systems
SIC Code 2:	Not reported
SIC Desc 2:	Not reported
SIC Code 3:	Not reported
SIC Desc 3:	Not reported
NAICS Code 1:	Not reported
NAICS Desc 1:	Not reported
NAICS Code 2:	Not reported
NAICS Desc 2:	Not reported

CAL AM WATER -LAS PALMAS WWP 1/2 (Continued) **S106400463**

NAICS Code 3:	Not reported
NAICS Desc 3:	Not reported
# Of Places:	1
Source Of Facility:	Reg Meas
Design Flow:	0.195
Threat To Water Quality:	3
Complexity:	B
Pretreatment:	N - POTW does not have EPA approved pretreatment prog.
Facility Waste Type:	Domestic wastewater
Facility Waste Type 2:	Not reported
Facility Waste Type 3:	Not reported
Facility Waste Type 4:	Not reported
Program:	WDRMUNILRG
Program Category1:	WDR
Program Category2:	WDR
# Of Programs:	1
WDID:	3 271026001
Reg Measure Id:	147750
Reg Measure Type:	WDR
Region:	3
Order #:	91-014
Npdes# CA#:	Not reported
Major-Minor:	Not reported
Npdes Type:	Not reported
Reclamation:	2 - Producer-User
Dredge Fill Fee:	Not reported
301H:	Not reported
Application Fee Amt Received:	Not reported
Status:	Historical
Status Date:	04/05/2012
Effective Date:	01/11/1991
Expiration/Review Date:	01/11/2006
Termination Date:	11/30/2006
WDR Review - Amend:	Not reported
WDR Review - Revise/Renew:	Not reported
WDR Review - Rescind:	Not reported
WDR Review - No Action Required:	2/4/2002
WDR Review - Pending:	Not reported
WDR Review - Planned:	Not reported
Status Enrollee:	N
Individual/General:	I
Fee Code:	58 - Non15 Based on (TTWQ)/CPLX)
Direction/Voice:	Passive
Enforcement Id(EID):	250859
Region:	3
Order / Resolution Number:	UNKNOWN
Enforcement Action Type:	Staff Enforcement Letter
Effective Date:	10/27/2003
Adoption/Issuance Date:	Not reported
Achieve Date:	Not reported
Termination Date:	10/27/2003
ACL Issuance Date:	Not reported
EPL Issuance Date:	Not reported
Status:	Historical
Title:	Enforcement - 3 271026001
Description:	Failed to submit monthly monitoring report.
Program:	WDRMUNILRG

CAL AM WATER -LAS PALMAS WWP 1/2 (Continued) **S106400463**

Latest Milestone Completion Date:	Not reported
# Of Programs1:	1
Total Assessment Amount:	0
Initial Assessed Amount:	0
Liability $ Amount:	0
Project $ Amount:	0
Liability $ Paid:	0
Project $ Completed:	0
Total $ Paid/Completed Amount:	0
Region:	3
Facility Id:	236601
Agency Name:	California American Water Company Monterey
Place Type:	Utility
Place Subtype:	Wastewater Treatment Facility
Facility Type:	Municipal/Domestic
Agency Type:	Privately-Owned Business
# Of Agencies:	1
Place Latitude:	36.612600
Place Longitude:	-121.655880
SIC Code 1:	4952
SIC Desc 1:	Sewerage Systems
SIC Code 2:	Not reported
SIC Desc 2:	Not reported
SIC Code 3:	Not reported
SIC Desc 3:	Not reported
NAICS Code 1:	Not reported
NAICS Desc 1:	Not reported
NAICS Code 2:	Not reported
NAICS Desc 2:	Not reported
NAICS Code 3:	Not reported
NAICS Desc 3:	Not reported
# Of Places:	1
Source Of Facility:	Reg Meas
Design Flow:	0.195
Threat To Water Quality:	3
Complexity:	B
Pretreatment:	N - POTW does not have EPA approved pretreatment prog.
Facility Waste Type:	Domestic wastewater
Facility Waste Type 2:	Not reported
Facility Waste Type 3:	Not reported
Facility Waste Type 4:	Not reported
Program:	WDRMUNILRG
Program Category1:	WDR
Program Category2:	WDR
# Of Programs:	1
WDID:	3 271026001
Reg Measure Id:	147750
Reg Measure Type:	WDR
Region:	3
Order #:	91-014
Npdes# CA#:	Not reported
Major-Minor:	Not reported
Npdes Type:	Not reported
Reclamation:	2 - Producer-User
Dredge Fill Fee:	Not reported
301H:	Not reported

CAL AM WATER -LAS PALMAS WWP 1/2 (Continued) **S106400463**

Application Fee Amt Received:	Not reported
Status:	Historical
Status Date:	04/05/2012
Effective Date:	01/11/1991
Expiration/Review Date:	01/11/2006
Termination Date:	11/30/2006
WDR Review - Amend:	Not reported
WDR Review - Revise/Renew:	Not reported
WDR Review - Rescind:	Not reported
WDR Review - No Action Required:	2/4/2002
WDR Review - Pending:	Not reported
WDR Review - Planned:	Not reported
Status Enrollee:	N
Individual/General:	I
Fee Code:	58 - Non15 Based on (TTWQ)/CPLX)
Direction/Voice:	Passive
Enforcement Id(EID):	249049
Region:	3
Order / Resolution Number:	UNKNOWN
Enforcement Action Type:	Staff Enforcement Letter
Effective Date:	07/08/2002
Adoption/Issuance Date:	Not reported
Achieve Date:	Not reported
Termination Date:	07/08/2002
ACL Issuance Date:	Not reported
EPL Issuance Date:	Not reported
Status:	Historical
Title:	Enforcement - 3 271026001
Description:	Failed to submit monthly monitoring report.
Program:	WDRMUNILRG
Latest Milestone Completion Date:	Not reported
# Of Programs1:	1
Total Assessment Amount:	0
Initial Assessed Amount:	0
Liability $ Amount:	0
Project $ Amount:	0
Liability $ Paid:	0
Project $ Completed:	0
Total $ Paid/Completed Amount:	0

Region:	3
Facility Id:	236601
Agency Name:	California American Water Company Monterey
Place Type:	Utility
Place Subtype:	Wastewater Treatment Facility
Facility Type:	Municipal/Domestic
Agency Type:	Privately-Owned Business
# Of Agencies:	1
Place Latitude:	36.612600
Place Longitude:	-121.655880
SIC Code 1:	4952
SIC Desc 1:	Sewerage Systems
SIC Code 2:	Not reported
SIC Desc 2:	Not reported
SIC Code 3:	Not reported
SIC Desc 3:	Not reported
NAICS Code 1:	Not reported

CAL AM WATER -LAS PALMAS WWP 1/2 (Continued) **S106400463**

NAICS Desc 1:	Not reported
NAICS Code 2:	Not reported
NAICS Desc 2:	Not reported
NAICS Code 3:	Not reported
NAICS Desc 3:	Not reported
# Of Places:	1
Source Of Facility:	Reg Meas
Design Flow:	0.195
Threat To Water Quality:	3
Complexity:	B
Pretreatment:	N - POTW does not have EPA approved pretreatment prog.
Facility Waste Type:	Domestic wastewater
Facility Waste Type 2:	Not reported
Facility Waste Type 3:	Not reported
Facility Waste Type 4:	Not reported
Program:	WDRMUNILRG
Program Category1:	WDR
Program Category2:	WDR
# Of Programs:	1
WDID:	3 271026001
Reg Measure Id:	147750
Reg Measure Type:	WDR
Region:	3
Order #:	91-014
Npdes# CA#:	Not reported
Major-Minor:	Not reported
Npdes Type:	Not reported
Reclamation:	2 - Producer-User
Dredge Fill Fee:	Not reported
301H:	Not reported
Application Fee Amt Received:	Not reported
Status:	Historical
Status Date:	04/05/2012
Effective Date:	01/11/1991
Expiration/Review Date:	01/11/2006
Termination Date:	11/30/2006
WDR Review - Amend:	Not reported
WDR Review - Revise/Renew:	Not reported
WDR Review - Rescind:	Not reported
WDR Review - No Action Required:	2/4/2002
WDR Review - Pending:	Not reported
WDR Review - Planned:	Not reported
Status Enrollee:	N
Individual/General:	I
Fee Code:	58 - Non15 Based on (TTWQ)/CPLX)
Direction/Voice:	Passive
Enforcement Id(EID):	248038
Region:	3
Order / Resolution Number:	UNKNOWN
Enforcement Action Type:	Staff Enforcement Letter
Effective Date:	09/19/2002
Adoption/Issuance Date:	Not reported
Achieve Date:	Not reported
Termination Date:	09/19/2002
ACL Issuance Date:	Not reported
EPL Issuance Date:	Not reported
Status:	Historical

CAL AM WATER -LAS PALMAS WWP 1/2 (Continued) **S106400463**

Title:	Enforcement - 3 271026001
Description:	Failed to submit monthly report.
Program:	WDRMUNILRG
Latest Milestone Completion Date:	Not reported
# Of Programs1:	1
Total Assessment Amount:	0
Initial Assessed Amount:	0
Liability $ Amount:	0
Project $ Amount:	0
Liability $ Paid:	0
Project $ Completed:	0
Total $ Paid/Completed Amount:	0
Region:	3
Facility Id:	236601
Agency Name:	California American Water Company Monterey
Place Type:	Utility
Place Subtype:	Wastewater Treatment Facility
Facility Type:	Municipal/Domestic
Agency Type:	Privately-Owned Business
# Of Agencies:	1
Place Latitude:	36.612600
Place Longitude:	-121.655880
SIC Code 1:	4952
SIC Desc 1:	Sewerage Systems
SIC Code 2:	Not reported
SIC Desc 2:	Not reported
SIC Code 3:	Not reported
SIC Desc 3:	Not reported
NAICS Code 1:	Not reported
NAICS Desc 1:	Not reported
NAICS Code 2:	Not reported
NAICS Desc 2:	Not reported
NAICS Code 3:	Not reported
NAICS Desc 3:	Not reported
# Of Places:	1
Source Of Facility:	Reg Meas
Design Flow:	0.195
Threat To Water Quality:	3
Complexity:	B
Pretreatment:	N - POTW does not have EPA approved pretreatment prog.
Facility Waste Type:	Domestic wastewater
Facility Waste Type 2:	Not reported
Facility Waste Type 3:	Not reported
Facility Waste Type 4:	Not reported
Program:	WDRMUNILRG
Program Category1:	WDR
Program Category2:	WDR
# Of Programs:	1
WDID:	3 271026001
Reg Measure Id:	147750
Reg Measure Type:	WDR
Region:	3
Order #:	91-014
Npdes# CA#:	Not reported
Major-Minor:	Not reported
Npdes Type:	Not reported

CAL AM WATER -LAS PALMAS WWP 1/2 (Continued) **S106400463**

Reclamation:	2 - Producer-User
Dredge Fill Fee:	Not reported
301H:	Not reported
Application Fee Amt Received:	Not reported
Status:	Historical
Status Date:	04/05/2012
Effective Date:	01/11/1991
Expiration/Review Date:	01/11/2006
Termination Date:	11/30/2006
WDR Review - Amend:	Not reported
WDR Review - Revise/Renew:	Not reported
WDR Review - Rescind:	Not reported
WDR Review - No Action Required:	2/4/2002
WDR Review - Pending:	Not reported
WDR Review - Planned:	Not reported
Status Enrollee:	N
Individual/General:	I
Fee Code:	58 - Non15 Based on (TTWQ)/CPLX)
Direction/Voice:	Passive
Enforcement Id(EID):	238981
Region:	3
Order / Resolution Number:	UNKNOWN
Enforcement Action Type:	Oral Communication
Effective Date:	11/06/2001
Adoption/Issuance Date:	Not reported
Achieve Date:	11/6/2001
Termination Date:	11/06/2001
ACL Issuance Date:	Not reported
EPL Issuance Date:	Not reported
Status:	Historical
Title:	Enforcement - 3 271026001
Description:	Colirom viiolations
Program:	WDRMUNILRG
Latest Milestone Completion Date:	11/6/2001
# Of Programs1:	1
Total Assessment Amount:	0
Initial Assessed Amount:	0
Liability $ Amount:	0
Project $ Amount:	0
Liability $ Paid:	0
Project $ Completed:	0
Total $ Paid/Completed Amount:	0

Region:	3
Facility Id:	236601
Agency Name:	California American Water Company Monterey
Place Type:	Utility
Place Subtype:	Wastewater Treatment Facility
Facility Type:	Municipal/Domestic
Agency Type:	Privately-Owned Business
# Of Agencies:	1
Place Latitude:	36.612600
Place Longitude:	-121.655880
SIC Code 1:	4952
SIC Desc 1:	Sewerage Systems
SIC Code 2:	Not reported
SIC Desc 2:	Not reported

CAL AM WATER -LAS PALMAS WWP 1/2 (Continued) **S106400463**

SIC Code 3:	Not reported
SIC Desc 3:	Not reported
NAICS Code 1:	Not reported
NAICS Desc 1:	Not reported
NAICS Code 2:	Not reported
NAICS Desc 2:	Not reported
NAICS Code 3:	Not reported
NAICS Desc 3:	Not reported
# Of Places:	1
Source Of Facility:	Reg Meas
Design Flow:	0.195
Threat To Water Quality:	3
Complexity:	B
Pretreatment:	N - POTW does not have EPA approved pretreatment prog.
Facility Waste Type:	Domestic wastewater
Facility Waste Type 2:	Not reported
Facility Waste Type 3:	Not reported
Facility Waste Type 4:	Not reported
Program:	WDRMUNILRG
Program Category1:	WDR
Program Category2:	WDR
# Of Programs:	1
WDID:	3 271026001
Reg Measure Id:	147750
Reg Measure Type:	WDR
Region:	3
Order #:	91-014
Npdes# CA#:	Not reported
Major-Minor:	Not reported
Npdes Type:	Not reported
Reclamation:	2 - Producer-User
Dredge Fill Fee:	Not reported
301H:	Not reported
Application Fee Amt Received:	Not reported
Status:	Historical
Status Date:	04/05/2012
Effective Date:	01/11/1991
Expiration/Review Date:	01/11/2006
Termination Date:	11/30/2006
WDR Review - Amend:	Not reported
WDR Review - Revise/Renew:	Not reported
WDR Review - Rescind:	Not reported
WDR Review - No Action Required:	2/4/2002
WDR Review - Pending:	Not reported
WDR Review - Planned:	Not reported
Status Enrollee:	N
Individual/General:	I
Fee Code:	58 - Non15 Based on (TTWQ)/CPLX)
Direction/Voice:	Passive
Enforcement Id(EID):	236992
Region:	3
Order / Resolution Number:	UNKNOWN
Enforcement Action Type:	Notice of Violation
Effective Date:	08/10/2001
Adoption/Issuance Date:	Not reported
Achieve Date:	Not reported
Termination Date:	08/10/2001

CAL AM WATER -LAS PALMAS WWP 1/2 (Continued) **S106400463**

ACL Issuance Date:	Not reported
EPL Issuance Date:	Not reported
Status:	Historical
Title:	Enforcement - 3 271026001
Description:	SMRs submitted for first quarter 2001 revealed violations.
Program:	WDRMUNILRG
Latest Milestone Completion Date:	Not reported
# Of Programs1:	1
Total Assessment Amount:	0
Initial Assessed Amount:	0
Liability $ Amount:	0
Project $ Amount:	0
Liability $ Paid:	0
Project $ Completed:	0
Total $ Paid/Completed Amount:	0
Region:	3
Facility Id:	236601
Agency Name:	California American Water Company Monterey
Place Type:	Utility
Place Subtype:	Wastewater Treatment Facility
Facility Type:	Municipal/Domestic
Agency Type:	Privately-Owned Business
# Of Agencies:	1
Place Latitude:	36.612600
Place Longitude:	-121.655880
SIC Code 1:	4952
SIC Desc 1:	Sewerage Systems
SIC Code 2:	Not reported
SIC Desc 2:	Not reported
SIC Code 3:	Not reported
SIC Desc 3:	Not reported
NAICS Code 1:	Not reported
NAICS Desc 1:	Not reported
NAICS Code 2:	Not reported
NAICS Desc 2:	Not reported
NAICS Code 3:	Not reported
NAICS Desc 3:	Not reported
# Of Places:	1
Source Of Facility:	Reg Meas
Design Flow:	0.195
Threat To Water Quality:	3
Complexity:	B
Pretreatment:	N - POTW does not have EPA approved pretreatment prog.
Facility Waste Type:	Domestic wastewater
Facility Waste Type 2:	Not reported
Facility Waste Type 3:	Not reported
Facility Waste Type 4:	Not reported
Program:	WDRMUNILRG
Program Category1:	WDR
Program Category2:	WDR
# Of Programs:	1
WDID:	3 271026001
Reg Measure Id:	147750
Reg Measure Type:	WDR
Region:	3
Order #:	91-014

CAL AM WATER -LAS PALMAS WWP 1/2 (Continued) **S106400463**

Npdes# CA#:	Not reported
Major-Minor:	Not reported
Npdes Type:	Not reported
Reclamation:	2 - Producer-User
Dredge Fill Fee:	Not reported
301H:	Not reported
Application Fee Amt Received:	Not reported
Status:	Historical
Status Date:	04/05/2012
Effective Date:	01/11/1991
Expiration/Review Date:	01/11/2006
Termination Date:	11/30/2006
WDR Review - Amend:	Not reported
WDR Review - Revise/Renew:	Not reported
WDR Review - Rescind:	Not reported
WDR Review - No Action Required:	2/4/2002
WDR Review - Pending:	Not reported
WDR Review - Planned:	Not reported
Status Enrollee:	N
Individual/General:	I
Fee Code:	58 - Non15 Based on (TTWQ)/CPLX)
Direction/Voice:	Passive
Enforcement Id(EID):	227656
Region:	3
Order / Resolution Number:	UNKNOWN
Enforcement Action Type:	Oral Communication
Effective Date:	02/24/2000
Adoption/Issuance Date:	Not reported
Achieve Date:	Not reported
Termination Date:	02/24/2000
ACL Issuance Date:	Not reported
EPL Issuance Date:	Not reported
Status:	Historical
Title:	Enforcement - 3 271026001
Description:	Lab certification expired 1/31/00. Staff replacing one rotary screen and irrigation pond pump due to failure. Irrigation pump to upper holding pond has failed (new pump in couple days).
Program:	WDRMUNILRG
Latest Milestone Completion Date:	Not reported
# Of Programs1:	1
Total Assessment Amount:	0
Initial Assessed Amount:	0
Liability $ Amount:	0
Project $ Amount:	0
Liability $ Paid:	0
Project $ Completed:	0
Total $ Paid/Completed Amount:	0
Region:	3
Facility Id:	236601
Agency Name:	California American Water Company Monterey
Place Type:	Utility
Place Subtype:	Wastewater Treatment Facility
Facility Type:	Municipal/Domestic
Agency Type:	Privately-Owned Business
# Of Agencies:	1

CAL AM WATER -LAS PALMAS WWP 1/2 (Continued) **S106400463**

Place Latitude:	36.612600
Place Longitude:	-121.655880
SIC Code 1:	4952
SIC Desc 1:	Sewerage Systems
SIC Code 2:	Not reported
SIC Desc 2:	Not reported
SIC Code 3:	Not reported
SIC Desc 3:	Not reported
NAICS Code 1:	Not reported
NAICS Desc 1:	Not reported
NAICS Code 2:	Not reported
NAICS Desc 2:	Not reported
NAICS Code 3:	Not reported
NAICS Desc 3:	Not reported
# Of Places:	1
Source Of Facility:	Reg Meas
Design Flow:	0.195
Threat To Water Quality:	3
Complexity:	B
Pretreatment:	N - POTW does not have EPA approved pretreatment prog.
Facility Waste Type:	Domestic wastewater
Facility Waste Type 2:	Not reported
Facility Waste Type 3:	Not reported
Facility Waste Type 4:	Not reported
Program:	WDRMUNILRG
Program Category1:	WDR
Program Category2:	WDR
# Of Programs:	1
WDID:	3 271026001
Reg Measure Id:	147750
Reg Measure Type:	WDR
Region:	3
Order #:	91-014
Npdes# CA#:	Not reported
Major-Minor:	Not reported
Npdes Type:	Not reported
Reclamation:	2 - Producer-User
Dredge Fill Fee:	Not reported
301H:	Not reported
Application Fee Amt Received:	Not reported
Status:	Historical
Status Date:	04/05/2012
Effective Date:	01/11/1991
Expiration/Review Date:	01/11/2006
Termination Date:	11/30/2006
WDR Review - Amend:	Not reported
WDR Review - Revise/Renew:	Not reported
WDR Review - Rescind:	Not reported
WDR Review - No Action Required:	2/4/2002
WDR Review - Pending:	Not reported
WDR Review - Planned:	Not reported
Status Enrollee:	N
Individual/General:	I
Fee Code:	58 - Non15 Based on (TTWQ)/CPLX)
Direction/Voice:	Passive
Enforcement Id(EID):	226923
Region:	3

CAL AM WATER -LAS PALMAS WWP 1/2 (Continued) **S106400463**

Order / Resolution Number:	UNKNOWN
Enforcement Action Type:	Notice of Violation
Effective Date:	12/13/1999
Adoption/Issuance Date:	Not reported
Achieve Date:	Not reported
Termination Date:	12/13/1999
ACL Issuance Date:	Not reported
EPL Issuance Date:	Not reported
Status:	Historical
Title:	Enforcement - 3 271026001
Description:	Not reported
Program:	WDRMUNILRG
Latest Milestone Completion Date:	Not reported
# Of Programs1:	1
Total Assessment Amount:	0
Initial Assessed Amount:	0
Liability $ Amount:	0
Project $ Amount:	0
Liability $ Paid:	0
Project $ Completed:	0
Total $ Paid/Completed Amount:	0

Region:	3
Facility Id:	236601
Agency Name:	California American Water Company Monterey
Place Type:	Utility
Place Subtype:	Wastewater Treatment Facility
Facility Type:	Municipal/Domestic
Agency Type:	Privately-Owned Business
# Of Agencies:	1
Place Latitude:	36.612600
Place Longitude:	-121.655880
SIC Code 1:	4952
SIC Desc 1:	Sewerage Systems
SIC Code 2:	Not reported
SIC Desc 2:	Not reported
SIC Code 3:	Not reported
SIC Desc 3:	Not reported
NAICS Code 1:	Not reported
NAICS Desc 1:	Not reported
NAICS Code 2:	Not reported
NAICS Desc 2:	Not reported
NAICS Code 3:	Not reported
NAICS Desc 3:	Not reported
# Of Places:	1
Source Of Facility:	Reg Meas
Design Flow:	0.195
Threat To Water Quality:	3
Complexity:	B
Pretreatment:	N - POTW does not have EPA approved pretreatment prog.
Facility Waste Type:	Domestic wastewater
Facility Waste Type 2:	Not reported
Facility Waste Type 3:	Not reported
Facility Waste Type 4:	Not reported
Program:	WDRMUNILRG
Program Category1:	WDR
Program Category2:	WDR

CAL AM WATER -LAS PALMAS WWP 1/2 (Continued) **S106400463**

# Of Programs:	1
WDID:	3 271026001
Reg Measure Id:	147750
Reg Measure Type:	WDR
Region:	3
Order #:	91-014
Npdes# CA#:	Not reported
Major-Minor:	Not reported
Npdes Type:	Not reported
Reclamation:	2 - Producer-User
Dredge Fill Fee:	Not reported
301H:	Not reported
Application Fee Amt Received:	Not reported
Status:	Historical
Status Date:	04/05/2012
Effective Date:	01/11/1991
Expiration/Review Date:	01/11/2006
Termination Date:	11/30/2006
WDR Review - Amend:	Not reported
WDR Review - Revise/Renew:	Not reported
WDR Review - Rescind:	Not reported
WDR Review - No Action Required:	2/4/2002
WDR Review - Pending:	Not reported
WDR Review - Planned:	Not reported
Status Enrollee:	N
Individual/General:	I
Fee Code:	58 - Non15 Based on (TTWQ)/CPLX)
Direction/Voice:	Passive
Enforcement Id(EID):	226802
Region:	3
Order / Resolution Number:	UNKNOWN
Enforcement Action Type:	Oral Communication
Effective Date:	10/07/1999
Adoption/Issuance Date:	Not reported
Achieve Date:	Not reported
Termination Date:	10/07/1999
ACL Issuance Date:	Not reported
EPL Issuance Date:	Not reported
Status:	Historical
Title:	Enforcement - 3 271026001
Description:	Not reported
Program:	WDRMUNILRG
Latest Milestone Completion Date:	Not reported
# Of Programs1:	1
Total Assessment Amount:	0
Initial Assessed Amount:	0
Liability $ Amount:	0
Project $ Amount:	0
Liability $ Paid:	0
Project $ Completed:	0
Total $ Paid/Completed Amount:	0

Region:	3
Facility Id:	236601
Agency Name:	Not reported
Place Type:	Utility
Place Subtype:	Wastewater Treatment Facility

CAL AM WATER -LAS PALMAS WWP 1/2 (Continued) **S106400463**

Facility Type:	Municipal/Domestic
Agency Type:	Not reported
# Of Agencies:	Not reported
Place Latitude:	36.612600
Place Longitude:	-121.655880
SIC Code 1:	4952
SIC Desc 1:	Sewerage Systems
SIC Code 2:	Not reported
SIC Desc 2:	Not reported
SIC Code 3:	Not reported
SIC Desc 3:	Not reported
NAICS Code 1:	Not reported
NAICS Desc 1:	Not reported
NAICS Code 2:	Not reported
NAICS Desc 2:	Not reported
NAICS Code 3:	Not reported
NAICS Desc 3:	Not reported
# Of Places:	1
Source Of Facility:	Enf Action
Design Flow:	Not reported
Threat To Water Quality:	Not reported
Complexity:	Not reported
Pretreatment:	Not reported
Facility Waste Type:	Not reported
Facility Waste Type 2:	Not reported
Facility Waste Type 3:	Not reported
Facility Waste Type 4:	Not reported
Program:	Not reported
Program Category1:	Not reported
Program Category2:	WDR
# Of Programs:	Not reported
WDID:	Not reported
Reg Measure Id:	Not reported
Reg Measure Type:	Not reported
Region:	Not reported
Order #:	Not reported
Npdes# CA#:	Not reported
Major-Minor:	Not reported
Npdes Type:	Not reported
Reclamation:	Not reported
Dredge Fill Fee:	Not reported
301H:	Not reported
Application Fee Amt Received:	Not reported
Status:	Not reported
Status Date:	Not reported
Effective Date:	Not reported
Expiration/Review Date:	Not reported
Termination Date:	Not reported
WDR Review - Amend:	Not reported
WDR Review - Revise/Renew:	Not reported
WDR Review - Rescind:	Not reported
WDR Review - No Action Required:	Not reported
WDR Review - Pending:	Not reported
WDR Review - Planned:	Not reported
Status Enrollee:	Not reported
Individual/General:	Not reported
Fee Code:	Not reported

CAL AM WATER -LAS PALMAS WWP 1/2 (Continued) **S106400463**

Direction/Voice:	Not reported
Enforcement Id(EID):	333453
Region:	3
Order / Resolution Number:	Not reported
Enforcement Action Type:	Notice of Violation
Effective Date:	06/11/2007
Adoption/Issuance Date:	Not reported
Achieve Date:	Not reported
Termination Date:	06/11/2007
ACL Issuance Date:	Not reported
EPL Issuance Date:	Not reported
Status:	Historical
Title:	NOV for Las Palmas Ranch
Description:	On May 2, 2007, Central Coast Water Board staff observed water being sprayed on Las Palmas Parkway and the pool parking area at 22175 Las Palmas Parkway via improperly adjusted sprinklers resulting in significant recycled water flows down the gutter and into the adjacent storm drain.
Program:	WDR
Latest Milestone Completion Date:	Not reported
# Of Programs1:	1
Total Assessment Amount:	0
Initial Assessed Amount:	0
Liability $ Amount:	0
Project $ Amount:	0
Liability $ Paid:	0
Project $ Completed:	0
Total $ Paid/Completed Amount:	0

HAZNET:

envid:	S106400463
Year:	2013
GEPAID:	CAC002746310
Contact:	MIKE MAGRETTO
Telephone:	8316463220
Mailing Name:	Not reported
Mailing Address:	PO BOX 951
Mailing City,St,Zip:	MONTEREY, CA 939420951
Gen County:	Monterey
TSD EPA ID:	NVD980895338
TSD County:	99
Waste Category:	Not reported
Disposal Method:	Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Tons:	0.02
Cat Decode:	Not reported
Method Decode:	Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Facility County:	Not reported

envid:	S106400463
Year:	2013
GEPAID:	CAC002746310
Contact:	MIKE MAGRETTO
Telephone:	8316463220
Mailing Name:	Not reported
Mailing Address:	PO BOX 951

CAL AM WATER -LAS PALMAS WWP 1/2 (Continued) **S106400463**

Mailing City,St,Zip:	MONTEREY, CA 939420951
Gen County:	Monterey
TSD EPA ID:	NVD980895338
TSD County:	99
Waste Category:	Not reported
Disposal Method:	Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Tons:	0.0165
Cat Decode:	Not reported
Method Decode:	Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Facility County:	Not reported

envid:	S106400463
Year:	2013
GEPAID:	CAC002746310
Contact:	MIKE MAGRETTO
Telephone:	8316463220
Mailing Name:	Not reported
Mailing Address:	PO BOX 951
Mailing City,St,Zip:	MONTEREY, CA 939420951
Gen County:	Monterey
TSD EPA ID:	NVD980895338
TSD County:	99
Waste Category:	Not reported
Disposal Method:	Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Tons:	0.02085
Cat Decode:	Not reported
Method Decode:	Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Facility County:	Not reported

envid:	S106400463
Year:	2013
GEPAID:	CAC002746310
Contact:	MIKE MAGRETTO
Telephone:	8316463220
Mailing Name:	Not reported
Mailing Address:	PO BOX 951
Mailing City,St,Zip:	MONTEREY, CA 939420951
Gen County:	Monterey
TSD EPA ID:	NVD980895338
TSD County:	99
Waste Category:	Not reported
Disposal Method:	Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Tons:	0.095
Cat Decode:	Not reported
Method Decode:	Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Facility County:	Not reported

Count: 1 records.

ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
GONZALES	S118587362	ALTA ST GONZALES RIVER RD RR CROSS	INTERSECTION OF ALTA ST & GONZ	93926	NPDES

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Number of Days to Update: Provides confirmation that EDR is reporting records that have been updated within 90 days from the date the government agency made the information available to the public.

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL: National Priority List

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 03/07/2016
Date Data Arrived at EDR: 04/05/2016
Date Made Active in Reports: 04/15/2016
Number of Days to Update: 10

Source: EPA
Telephone: N/A
Last EDR Contact: 10/05/2016
Next Scheduled EDR Contact: 01/16/2017
Data Release Frequency: Quarterly

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)
Telephone: 202-564-7333

EPA Region 1
Telephone 617-918-1143

EPA Region 6
Telephone: 214-655-6659

EPA Region 3
Telephone 215-814-5418

EPA Region 7
Telephone: 913-551-7247

EPA Region 4
Telephone 404-562-8033

EPA Region 8
Telephone: 303-312-6774

EPA Region 5
Telephone 312-886-6686

EPA Region 9
Telephone: 415-947-4246

EPA Region 10
Telephone 206-553-8665

Proposed NPL: Proposed National Priority List Sites

A site that has been proposed for listing on the National Priorities List through the issuance of a proposed rule in the Federal Register. EPA then accepts public comments on the site, responds to the comments, and places on the NPL those sites that continue to meet the requirements for listing.

Date of Government Version: 03/07/2016
Date Data Arrived at EDR: 04/05/2016
Date Made Active in Reports: 04/15/2016
Number of Days to Update: 10

Source: EPA
Telephone: N/A
Last EDR Contact: 10/05/2016
Next Scheduled EDR Contact: 01/16/2017
Data Release Frequency: Quarterly

NPL LIENS: Federal Superfund Liens

Federal Superfund Liens. Under the authority granted the USEPA by CERCLA of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner received notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/1991
Date Data Arrived at EDR: 02/02/1994
Date Made Active in Reports: 03/30/1994
Number of Days to Update: 56

Source: EPA
Telephone: 202-564-4267
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Federal Delisted NPL site list

Delisted NPL: National Priority List Deletions

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 03/07/2016
Date Data Arrived at EDR: 04/05/2016
Date Made Active in Reports: 04/15/2016
Number of Days to Update: 10

Source: EPA
Telephone: N/A
Last EDR Contact: 10/05/2016
Next Scheduled EDR Contact: 01/16/2017
Data Release Frequency: Quarterly

Federal CERCLIS list

FEDERAL FACILITY: Federal Facility Site Information listing

A listing of National Priority List (NPL) and Base Realignment and Closure (BRAC) sites found in the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) Database where EPA Federal Facilities Restoration and Reuse Office is involved in cleanup activities.

Date of Government Version: 09/14/2016
Date Data Arrived at EDR: 10/04/2016
Date Made Active in Reports: 10/21/2016
Number of Days to Update: 17

Source: Environmental Protection Agency
Telephone: 703-603-8704
Last EDR Contact: 10/04/2016
Next Scheduled EDR Contact: 01/16/2017
Data Release Frequency: Varies

SEMS: Superfund Enterprise Management System

SEMS (Superfund Enterprise Management System) tracks hazardous waste sites, potentially hazardous waste sites, and remedial activities performed in support of EPA's Superfund Program across the United States. The list was formerly know as CERCLIS, renamed to SEMS by the EPA in 2015. The list contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). This dataset also contains sites which are either proposed to or on the National Priorities List (NPL) and the sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 03/07/2016
Date Data Arrived at EDR: 04/05/2016
Date Made Active in Reports: 04/15/2016
Number of Days to Update: 10

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 10/20/2016
Next Scheduled EDR Contact: 01/30/2017
Data Release Frequency: Quarterly

Federal CERCLIS NFRAP site list

SEMS-ARCHIVE: Superfund Enterprise Management System Archive

SEMS-ARCHIVE (Superfund Enterprise Management System Archive) tracks sites that have no further interest under the Federal Superfund Program based on available information. The list was formerly known as the CERCLIS-NFRAP, renamed to SEMS ARCHIVE by the EPA in 2015. EPA may perform a minimal level of assessment work at a site while it is archived if site conditions change and/or new information becomes available. Archived sites have been removed and archived from the inventory of SEMS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list the site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. The decision does not necessarily mean that there is no hazard associated with a given site; it only means that. based upon available information, the location is not judged to be potential NPL site.

Date of Government Version: 03/07/2016
Date Data Arrived at EDR: 04/05/2016
Date Made Active in Reports: 04/15/2016
Number of Days to Update: 10

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 10/20/2016
Next Scheduled EDR Contact: 01/30/2017
Data Release Frequency: Quarterly

Federal RCRA CORRACTS facilities list

CORRACTS: Corrective Action Report

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 06/27/2016
Date Data Arrived at EDR: 06/30/2016
Date Made Active in Reports: 09/02/2016
Number of Days to Update: 64

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 09/28/2016
Next Scheduled EDR Contact: 01/09/2017
Data Release Frequency: Quarterly

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF: RCRA - Treatment, Storage and Disposal

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 06/21/2016
Date Data Arrived at EDR: 06/30/2016
Date Made Active in Reports: 09/02/2016
Number of Days to Update: 64

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 09/28/2016
Next Scheduled EDR Contact: 01/09/2017
Data Release Frequency: Quarterly

Federal RCRA generators list

RCRA-LQG: RCRA - Large Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

Date of Government Version: 06/21/2016
Date Data Arrived at EDR: 06/30/2016
Date Made Active in Reports: 09/02/2016
Number of Days to Update: 64

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 09/28/2016
Next Scheduled EDR Contact: 01/09/2017
Data Release Frequency: Quarterly

RCRA-SQG: RCRA - Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

Date of Government Version: 06/21/2016
Date Data Arrived at EDR: 06/30/2016
Date Made Active in Reports: 09/02/2016
Number of Days to Update: 64

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 09/28/2016
Next Scheduled EDR Contact: 01/09/2017
Data Release Frequency: Quarterly

RCRA-CESQG: RCRA - Conditionally Exempt Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Conditionally exempt small quantity generators (CESQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

Date of Government Version: 06/21/2016
Date Data Arrived at EDR: 06/30/2016
Date Made Active in Reports: 09/02/2016
Number of Days to Update: 64

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 09/28/2016
Next Scheduled EDR Contact: 01/09/2017
Data Release Frequency: Varies

Federal institutional controls / engineering controls registries

LUCIS: Land Use Control Information System

LUCIS contains records of land use control information pertaining to the former Navy Base Realignment and Closure properties.

Date of Government Version: 05/28/2015
Date Data Arrived at EDR: 05/29/2015
Date Made Active in Reports: 06/11/2015
Number of Days to Update: 13

Source: Department of the Navy
Telephone: 843-820-7326
Last EDR Contact: 11/18/2016
Next Scheduled EDR Contact: 02/27/2017
Data Release Frequency: Varies

US ENG CONTROLS: Engineering Controls Sites List

A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 05/09/2016
Date Data Arrived at EDR: 06/01/2016
Date Made Active in Reports: 09/02/2016
Number of Days to Update: 93

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 08/31/2016
Next Scheduled EDR Contact: 12/12/2016
Data Release Frequency: Varies

US INST CONTROL: Sites with Institutional Controls

A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

Date of Government Version: 05/09/2016
Date Data Arrived at EDR: 06/01/2016
Date Made Active in Reports: 09/02/2016
Number of Days to Update: 93

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 08/31/2016
Next Scheduled EDR Contact: 12/12/2016
Data Release Frequency: Varies

Federal ERNS list

ERNS: Emergency Response Notification System

Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 09/26/2016
Date Data Arrived at EDR: 09/29/2016
Date Made Active in Reports: 11/11/2016
Number of Days to Update: 43

Source: National Response Center, United States Coast Guard
Telephone: 202-267-2180
Last EDR Contact: 09/29/2016
Next Scheduled EDR Contact: 01/09/2017
Data Release Frequency: Annually

State- and tribal - equivalent NPL

RESPONSE: State Response Sites

Identifies confirmed release sites where DTSC is involved in remediation, either in a lead or oversight capacity. These confirmed release sites are generally high-priority and high potential risk.

Date of Government Version: 08/01/2016
Date Data Arrived at EDR: 08/02/2016
Date Made Active in Reports: 10/05/2016
Number of Days to Update: 64

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 11/01/2016
Next Scheduled EDR Contact: 02/13/2017
Data Release Frequency: Quarterly

State- and tribal - equivalent CERCLIS

ENVIROSTOR: EnviroStor Database

The Department of Toxic Substances Control's (DTSC's) Site Mitigation and Brownfields Reuse Program's (SMBRP's) EnviroStor database identifes sites that have known contamination or sites for which there may be reasons to investigate further. The database includes the following site types: Federal Superfund sites (National Priorities List (NPL)); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites. EnviroStor provides similar information to the information that was available in CalSites, and provides additional site information, including, but not limited to, identification of formerly-contaminated properties that have been released for reuse, properties where environmental deed restrictions have been recorded to prevent inappropriate land uses, and risk characterization information that is used to assess potential impacts to public health and the environment at contaminated sites.

Date of Government Version: 08/01/2016
Date Data Arrived at EDR: 08/02/2016
Date Made Active in Reports: 10/05/2016
Number of Days to Update: 64

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 11/01/2016
Next Scheduled EDR Contact: 02/13/2017
Data Release Frequency: Quarterly

State and tribal landfill and/or solid waste disposal site lists

SWF/LF (SWIS): Solid Waste Information System

Active, Closed and Inactive Landfills. SWF/LF records typically contain an inve ntory of solid waste disposal facilities or landfills. These may be active or i nactive facilities or open dumps that failed to meet RCRA Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 08/15/2016
Date Data Arrived at EDR: 08/16/2016
Date Made Active in Reports: 10/05/2016
Number of Days to Update: 50

Source: Department of Resources Recycling and Recovery
Telephone: 916-341-6320
Last EDR Contact: 11/15/2016
Next Scheduled EDR Contact: 02/27/2017
Data Release Frequency: Quarterly

State and tribal leaking storage tank lists

LUST REG 6L: Leaking Underground Storage Tank Case Listing
For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/09/2003
Date Data Arrived at EDR: 09/10/2003
Date Made Active in Reports: 10/07/2003
Number of Days to Update: 27

Source: California Regional Water Quality Control Board Lahontan Region (6)
Telephone: 530-542-5572
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

LUST: Geotracker's Leaking Underground Fuel Tank Report
Leaking Underground Storage Tank (LUST) Sites included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 09/12/2016
Date Data Arrived at EDR: 09/13/2016
Date Made Active in Reports: 10/14/2016
Number of Days to Update: 31

Source: State Water Resources Control Board
Telephone: see region list
Last EDR Contact: 11/01/2016
Next Scheduled EDR Contact: 12/26/2016
Data Release Frequency: Quarterly

LUST REG 9: Leaking Underground Storage Tank Report
Orange, Riverside, San Diego counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 03/01/2001
Date Data Arrived at EDR: 04/23/2001
Date Made Active in Reports: 05/21/2001
Number of Days to Update: 28

Source: California Regional Water Quality Control Board San Diego Region (9)
Telephone: 858-637-5595
Last EDR Contact: 09/26/2011
Next Scheduled EDR Contact: 01/09/2012
Data Release Frequency: No Update Planned

LUST REG 8: Leaking Underground Storage Tanks
California Regional Water Quality Control Board Santa Ana Region (8). For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/14/2005
Date Data Arrived at EDR: 02/15/2005
Date Made Active in Reports: 03/28/2005
Number of Days to Update: 41

Source: California Regional Water Quality Control Board Santa Ana Region (8)
Telephone: 909-782-4496
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: Varies

LUST REG 7: Leaking Underground Storage Tank Case Listing
Leaking Underground Storage Tank locations. Imperial, Riverside, San Diego, Santa Barbara counties.

Date of Government Version: 02/26/2004
Date Data Arrived at EDR: 02/26/2004
Date Made Active in Reports: 03/24/2004
Number of Days to Update: 27

Source: California Regional Water Quality Control Board Colorado River Basin Region (7)
Telephone: 760-776-8943
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

LUST REG 6V: Leaking Underground Storage Tank Case Listing
Leaking Underground Storage Tank locations. Inyo, Kern, Los Angeles, Mono, San Bernardino counties.

Date of Government Version: 06/07/2005
Date Data Arrived at EDR: 06/07/2005
Date Made Active in Reports: 06/29/2005
Number of Days to Update: 22

Source: California Regional Water Quality Control Board Victorville Branch Office (6)
Telephone: 760-241-7365
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

LUST REG 5: Leaking Underground Storage Tank Database
Leaking Underground Storage Tank locations. Alameda, Alpine, Amador, Butte, Colusa, Contra Costa, Calveras, El Dorado, Fresno, Glenn, Kern, Kings, Lake, Lassen, Madera, Mariposa, Merced, Modoc, Napa, Nevada, Placer, Plumas, Sacramento, San Joaquin, Shasta, Solano, Stanislaus, Sutter, Tehama, Tulare, Tuolumne, Yolo, Yuba counties.

Date of Government Version: 07/01/2008
Date Data Arrived at EDR: 07/22/2008
Date Made Active in Reports: 07/31/2008
Number of Days to Update: 9

Source: California Regional Water Quality Control Board Central Valley Region (5)
Telephone: 916-464-4834
Last EDR Contact: 07/01/2011
Next Scheduled EDR Contact: 10/17/2011
Data Release Frequency: No Update Planned

LUST REG 4: Underground Storage Tank Leak List

Los Angeles, Ventura counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/07/2004
Date Data Arrived at EDR: 09/07/2004
Date Made Active in Reports: 10/12/2004
Number of Days to Update: 35

Source: California Regional Water Quality Control Board Los Angeles Region (4)
Telephone: 213-576-6710
Last EDR Contact: 09/06/2011
Next Scheduled EDR Contact: 12/19/2011
Data Release Frequency: No Update Planned

LUST REG 3: Leaking Underground Storage Tank Database

Leaking Underground Storage Tank locations. Monterey, San Benito, San Luis Obispo, Santa Barbara, Santa Cruz counties.

Date of Government Version: 05/19/2003
Date Data Arrived at EDR: 05/19/2003
Date Made Active in Reports: 06/02/2003
Number of Days to Update: 14

Source: California Regional Water Quality Control Board Central Coast Region (3)
Telephone: 805-542-4786
Last EDR Contact: 07/18/2011
Next Scheduled EDR Contact: 10/31/2011
Data Release Frequency: No Update Planned

LUST REG 2: Fuel Leak List

Leaking Underground Storage Tank locations. Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, Sonoma counties.

Date of Government Version: 09/30/2004
Date Data Arrived at EDR: 10/20/2004
Date Made Active in Reports: 11/19/2004
Number of Days to Update: 30

Source: California Regional Water Quality Control Board San Francisco Bay Region (2)
Telephone: 510-622-2433
Last EDR Contact: 09/19/2011
Next Scheduled EDR Contact: 01/02/2012
Data Release Frequency: Quarterly

LUST REG 1: Active Toxic Site Investigation

Del Norte, Humboldt, Lake, Mendocino, Modoc, Siskiyou, Sonoma, Trinity counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/01/2001
Date Data Arrived at EDR: 02/28/2001
Date Made Active in Reports: 03/29/2001
Number of Days to Update: 29

Source: California Regional Water Quality Control Board North Coast (1)
Telephone: 707-570-3769
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Iowa, Kansas, and Nebraska

Date of Government Version: 10/09/2015
Date Data Arrived at EDR: 02/12/2016
Date Made Active in Reports: 06/03/2016
Number of Days to Update: 112

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 10/28/2016
Next Scheduled EDR Contact: 02/06/2017
Data Release Frequency: Varies

INDIAN LUST R8: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming.

Date of Government Version: 10/13/2015
Date Data Arrived at EDR: 10/23/2015
Date Made Active in Reports: 02/18/2016
Number of Days to Update: 118

Source: EPA Region 8
Telephone: 303-312-6271
Last EDR Contact: 10/28/2016
Next Scheduled EDR Contact: 02/06/2017
Data Release Frequency: Quarterly

INDIAN LUST R9: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Arizona, California, New Mexico and Nevada

Date of Government Version: 02/25/2016
Date Data Arrived at EDR: 04/27/2016
Date Made Active in Reports: 06/03/2016
Number of Days to Update: 37

Source: Environmental Protection Agency
Telephone: 415-972-3372
Last EDR Contact: 10/28/2016
Next Scheduled EDR Contact: 02/06/2017
Data Release Frequency: Quarterly

INDIAN LUST R10: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 01/07/2016
Date Data Arrived at EDR: 01/08/2016
Date Made Active in Reports: 02/18/2016
Number of Days to Update: 41

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 10/28/2016
Next Scheduled EDR Contact: 02/06/2017
Data Release Frequency: Quarterly

INDIAN LUST R1: Leaking Underground Storage Tanks on Indian Land
A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 10/27/2015
Date Data Arrived at EDR: 10/29/2015
Date Made Active in Reports: 01/04/2016
Number of Days to Update: 67

Source: EPA Region 1
Telephone: 617-918-1313
Last EDR Contact: 10/28/2016
Next Scheduled EDR Contact: 02/06/2017
Data Release Frequency: Varies

INDIAN LUST R4: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Florida, Mississippi and North Carolina.

Date of Government Version: 02/05/2016
Date Data Arrived at EDR: 04/29/2016
Date Made Active in Reports: 06/03/2016
Number of Days to Update: 35

Source: EPA Region 4
Telephone: 404-562-8677
Last EDR Contact: 10/28/2016
Next Scheduled EDR Contact: 02/06/2017
Data Release Frequency: Semi-Annually

INDIAN LUST R5: Leaking Underground Storage Tanks on Indian Land
Leaking underground storage tanks located on Indian Land in Michigan, Minnesota and Wisconsin.

Date of Government Version: 02/17/2016
Date Data Arrived at EDR: 04/27/2016
Date Made Active in Reports: 06/03/2016
Number of Days to Update: 37

Source: EPA, Region 5
Telephone: 312-886-7439
Last EDR Contact: 10/28/2016
Next Scheduled EDR Contact: 02/06/2017
Data Release Frequency: Varies

INDIAN LUST R6: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in New Mexico and Oklahoma.

Date of Government Version: 12/11/2015
Date Data Arrived at EDR: 02/19/2016
Date Made Active in Reports: 06/03/2016
Number of Days to Update: 105

Source: EPA Region 6
Telephone: 214-665-6597
Last EDR Contact: 10/28/2016
Next Scheduled EDR Contact: 02/06/2017
Data Release Frequency: Varies

SLIC: Statewide SLIC Cases
Cleanup Program Sites (CPS; also known as Site Cleanups [SC] and formerly known as Spills, Leaks, Investigations, and Cleanups [SLIC] sites) included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 09/12/2016
Date Data Arrived at EDR: 09/13/2016
Date Made Active in Reports: 10/14/2016
Number of Days to Update: 31

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 11/01/2016
Next Scheduled EDR Contact: 12/26/2016
Data Release Frequency: Varies

SLIC REG 1: Active Toxic Site Investigations

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/03/2003
Date Data Arrived at EDR: 04/07/2003
Date Made Active in Reports: 04/25/2003
Number of Days to Update: 18

Source: California Regional Water Quality Control Board, North Coast Region (1)
Telephone: 707-576-2220
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

SLIC REG 2: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/30/2004
Date Data Arrived at EDR: 10/20/2004
Date Made Active in Reports: 11/19/2004
Number of Days to Update: 30

Source: Regional Water Quality Control Board San Francisco Bay Region (2)
Telephone: 510-286-0457
Last EDR Contact: 09/19/2011
Next Scheduled EDR Contact: 01/02/2012
Data Release Frequency: Quarterly

SLIC REG 3: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 05/18/2006
Date Data Arrived at EDR: 05/18/2006
Date Made Active in Reports: 06/15/2006
Number of Days to Update: 28

Source: California Regional Water Quality Control Board Central Coast Region (3)
Telephone: 805-549-3147
Last EDR Contact: 07/18/2011
Next Scheduled EDR Contact: 10/31/2011
Data Release Frequency: Semi-Annually

SLIC REG 4: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 11/17/2004
Date Data Arrived at EDR: 11/18/2004
Date Made Active in Reports: 01/04/2005
Number of Days to Update: 47

Source: Region Water Quality Control Board Los Angeles Region (4)
Telephone: 213-576-6600
Last EDR Contact: 07/01/2011
Next Scheduled EDR Contact: 10/17/2011
Data Release Frequency: Varies

SLIC REG 5: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/01/2005
Date Data Arrived at EDR: 04/05/2005
Date Made Active in Reports: 04/21/2005
Number of Days to Update: 16

Source: Regional Water Quality Control Board Central Valley Region (5)
Telephone: 916-464-3291
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: Semi-Annually

SLIC REG 6V: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 05/24/2005
Date Data Arrived at EDR: 05/25/2005
Date Made Active in Reports: 06/16/2005
Number of Days to Update: 22

Source: Regional Water Quality Control Board, Victorville Branch
Telephone: 619-241-6583
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: Semi-Annually

SLIC REG 6L: SLIC Sites
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/07/2004
Date Data Arrived at EDR: 09/07/2004
Date Made Active in Reports: 10/12/2004
Number of Days to Update: 35
Source: California Regional Water Quality Control Board, Lahontan Region
Telephone: 530-542-5574
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

SLIC REG 7: SLIC List
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 11/24/2004
Date Data Arrived at EDR: 11/29/2004
Date Made Active in Reports: 01/04/2005
Number of Days to Update: 36
Source: California Regional Quality Control Board, Colorado River Basin Region
Telephone: 760-346-7491
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

SLIC REG 8: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/03/2008
Date Data Arrived at EDR: 04/03/2008
Date Made Active in Reports: 04/14/2008
Number of Days to Update: 11
Source: California Region Water Quality Control Board Santa Ana Region (8)
Telephone: 951-782-3298
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: Semi-Annually

SLIC REG 9: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/10/2007
Date Data Arrived at EDR: 09/11/2007
Date Made Active in Reports: 09/28/2007
Number of Days to Update: 17
Source: California Regional Water Quality Control Board San Diego Region (9)
Telephone: 858-467-2980
Last EDR Contact: 08/08/2011
Next Scheduled EDR Contact: 11/21/2011
Data Release Frequency: Annually

State and tribal registered storage tank lists

FEMA UST: Underground Storage Tank Listing
A listing of all FEMA owned underground storage tanks.

Date of Government Version: 01/01/2010
Date Data Arrived at EDR: 02/16/2010
Date Made Active in Reports: 04/12/2010
Number of Days to Update: 55
Source: FEMA
Telephone: 202-646-5797
Last EDR Contact: 10/11/2016
Next Scheduled EDR Contact: 01/23/2017
Data Release Frequency: Varies

UST: Active UST Facilities
Active UST facilities gathered from the local regulatory agencies

Date of Government Version: 09/12/2016
Date Data Arrived at EDR: 09/14/2016
Date Made Active in Reports: 10/14/2016
Number of Days to Update: 30
Source: SWRCB
Telephone: 916-341-5851
Last EDR Contact: 09/14/2016
Next Scheduled EDR Contact: 12/26/2016
Data Release Frequency: Semi-Annually

AST: Aboveground Petroleum Storage Tank Facilities
A listing of aboveground storage tank petroleum storage tank locations.

Date of Government Version: 07/06/2016
Date Data Arrived at EDR: 07/12/2016
Date Made Active in Reports: 09/19/2016
Number of Days to Update: 69

Source: California Environmental Protection Agency
Telephone: 916-327-5092
Last EDR Contact: 11/21/2016
Next Scheduled EDR Contact: 01/09/2017
Data Release Frequency: Quarterly

INDIAN UST R10: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 10 (Alaska, Idaho, Oregon, Washington, and Tribal Nations).

Date of Government Version: 01/07/2016
Date Data Arrived at EDR: 01/08/2016
Date Made Active in Reports: 02/18/2016
Number of Days to Update: 41

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 10/28/2016
Next Scheduled EDR Contact: 02/06/2017
Data Release Frequency: Quarterly

INDIAN UST R9: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 9 (Arizona, California, Hawaii, Nevada, the Pacific Islands, and Tribal Nations).

Date of Government Version: 02/25/2016
Date Data Arrived at EDR: 04/27/2016
Date Made Active in Reports: 06/03/2016
Number of Days to Update: 37

Source: EPA Region 9
Telephone: 415-972-3368
Last EDR Contact: 10/28/2016
Next Scheduled EDR Contact: 02/06/2017
Data Release Frequency: Quarterly

INDIAN UST R8: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming and 27 Tribal Nations).

Date of Government Version: 01/26/2016
Date Data Arrived at EDR: 02/05/2016
Date Made Active in Reports: 06/03/2016
Number of Days to Update: 119

Source: EPA Region 8
Telephone: 303-312-6137
Last EDR Contact: 10/28/2016
Next Scheduled EDR Contact: 02/06/2017
Data Release Frequency: Quarterly

INDIAN UST R7: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 7 (Iowa, Kansas, Missouri, Nebraska, and 9 Tribal Nations).

Date of Government Version: 09/23/2014
Date Data Arrived at EDR: 11/25/2014
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 65

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 10/28/2016
Next Scheduled EDR Contact: 02/06/2017
Data Release Frequency: Varies

INDIAN UST R6: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 6 (Louisiana, Arkansas, Oklahoma, New Mexico, Texas and 65 Tribes).

Date of Government Version: 12/03/2015
Date Data Arrived at EDR: 02/04/2016
Date Made Active in Reports: 06/03/2016
Number of Days to Update: 120

Source: EPA Region 6
Telephone: 214-665-7591
Last EDR Contact: 10/28/2016
Next Scheduled EDR Contact: 02/06/2017
Data Release Frequency: Semi-Annually

INDIAN UST R1: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 1 (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont and ten Tribal Nations).

Date of Government Version: 10/20/2015
Date Data Arrived at EDR: 10/29/2015
Date Made Active in Reports: 01/04/2016
Number of Days to Update: 67

Source: EPA, Region 1
Telephone: 617-918-1313
Last EDR Contact: 10/28/2016
Next Scheduled EDR Contact: 02/06/2017
Data Release Frequency: Varies

INDIAN UST R4: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 4 (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee and Tribal Nations)

Date of Government Version: 02/05/2016
Date Data Arrived at EDR: 04/29/2016
Date Made Active in Reports: 06/03/2016
Number of Days to Update: 35

Source: EPA Region 4
Telephone: 404-562-9424
Last EDR Contact: 10/28/2016
Next Scheduled EDR Contact: 02/06/2017
Data Release Frequency: Semi-Annually

INDIAN UST R5: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 5 (Michigan, Minnesota and Wisconsin and Tribal Nations).

Date of Government Version: 11/05/2015
Date Data Arrived at EDR: 11/13/2015
Date Made Active in Reports: 01/04/2016
Number of Days to Update: 52

Source: EPA Region 5
Telephone: 312-886-6136
Last EDR Contact: 10/28/2016
Next Scheduled EDR Contact: 02/06/2017
Data Release Frequency: Varies

State and tribal voluntary cleanup sites

INDIAN VCP R7: Voluntary Cleanup Priority Lisitng

A listing of voluntary cleanup priority sites located on Indian Land located in Region 7.

Date of Government Version: 03/20/2008
Date Data Arrived at EDR: 04/22/2008
Date Made Active in Reports: 05/19/2008
Number of Days to Update: 27

Source: EPA, Region 7
Telephone: 913-551-7365
Last EDR Contact: 04/20/2009
Next Scheduled EDR Contact: 07/20/2009
Data Release Frequency: Varies

INDIAN VCP R1: Voluntary Cleanup Priority Listing

A listing of voluntary cleanup priority sites located on Indian Land located in Region 1.

Date of Government Version: 07/27/2015
Date Data Arrived at EDR: 09/29/2015
Date Made Active in Reports: 02/18/2016
Number of Days to Update: 142

Source: EPA, Region 1
Telephone: 617-918-1102
Last EDR Contact: 09/26/2016
Next Scheduled EDR Contact: 01/09/2017
Data Release Frequency: Varies

VCP: Voluntary Cleanup Program Properties

Contains low threat level properties with either confirmed or unconfirmed releases and the project proponents have request that DTSC oversee investigation and/or cleanup activities and have agreed to provide coverage for DTSC's costs.

Date of Government Version: 08/01/2016
Date Data Arrived at EDR: 08/02/2016
Date Made Active in Reports: 10/05/2016
Number of Days to Update: 64

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 11/01/2016
Next Scheduled EDR Contact: 02/13/2017
Data Release Frequency: Quarterly

State and tribal Brownfields sites

BROWNFIELDS: Considered Brownfieds Sites Listing
A listing of sites the SWRCB considers to be Brownfields since these are sites have come to them through the MOA Process.

Date of Government Version: 02/29/2016
Date Data Arrived at EDR: 03/07/2016
Date Made Active in Reports: 05/04/2016
Number of Days to Update: 58

Source: State Water Resources Control Board
Telephone: 916-323-7905
Last EDR Contact: 09/26/2016
Next Scheduled EDR Contact: 01/09/2017
Data Release Frequency: Varies

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS: A Listing of Brownfields Sites
Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties takes development pressures off of undeveloped, open land, and both improves and protects the environment. Assessment, Cleanup and Redevelopment Exchange System (ACRES) stores information reported by EPA Brownfields grant recipients on brownfields properties assessed or cleaned up with grant funding as well as information on Targeted Brownfields Assessments performed by EPA Regions. A listing of ACRES Brownfield sites is obtained from Cleanups in My Community. Cleanups in My Community provides information on Brownfields properties for which information is reported back to EPA, as well as areas served by Brownfields grant programs.

Date of Government Version: 09/20/2016
Date Data Arrived at EDR: 09/21/2016
Date Made Active in Reports: 11/11/2016
Number of Days to Update: 51

Source: Environmental Protection Agency
Telephone: 202-566-2777
Last EDR Contact: 09/21/2016
Next Scheduled EDR Contact: 01/02/2017
Data Release Frequency: Semi-Annually

Local Lists of Landfill / Solid Waste Disposal Sites

WMUDS/SWAT: Waste Management Unit Database
Waste Management Unit Database System. WMUDS is used by the State Water Resources Control Board staff and the Regional Water Quality Control Boards for program tracking and inventory of waste management units. WMUDS is composed of the following databases: Facility Information, Scheduled Inspections Information, Waste Management Unit Information, SWAT Program Information, SWAT Report Summary Information, SWAT Report Summary Data, Chapter 15 (formerly Subchapter 15) Information, Chapter 15 Monitoring Parameters, TPCA Program Information, RCRA Program Information, Closure Information, and Interested Parties Information.

Date of Government Version: 04/01/2000
Date Data Arrived at EDR: 04/10/2000
Date Made Active in Reports: 05/10/2000
Number of Days to Update: 30

Source: State Water Resources Control Board
Telephone: 916-227-4448
Last EDR Contact: 11/07/2016
Next Scheduled EDR Contact: 02/20/2017
Data Release Frequency: No Update Planned

SWRCY: Recycler Database
A listing of recycling facilities in California.

Date of Government Version: 09/12/2016
Date Data Arrived at EDR: 09/14/2016
Date Made Active in Reports: 10/14/2016
Number of Days to Update: 30

Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 09/14/2016
Next Scheduled EDR Contact: 12/26/2016
Data Release Frequency: Quarterly

HAULERS: Registered Waste Tire Haulers Listing
A listing of registered waste tire haulers.

Date of Government Version: 08/25/2016
Date Data Arrived at EDR: 08/26/2016
Date Made Active in Reports: 10/14/2016
Number of Days to Update: 49

Source: Integrated Waste Management Board
Telephone: 916-341-6422
Last EDR Contact: 11/11/2016
Next Scheduled EDR Contact: 02/27/2017
Data Release Frequency: Varies

INDIAN ODI: Report on the Status of Open Dumps on Indian Lands

Location of open dumps on Indian land.

Date of Government Version: 12/31/1998
Date Data Arrived at EDR: 12/03/2007
Date Made Active in Reports: 01/24/2008
Number of Days to Update: 52

Source: Environmental Protection Agency
Telephone: 703-308-8245
Last EDR Contact: 10/31/2016
Next Scheduled EDR Contact: 02/13/2017
Data Release Frequency: Varies

ODI: Open Dump Inventory

An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

Date of Government Version: 06/30/1985
Date Data Arrived at EDR: 08/09/2004
Date Made Active in Reports: 09/17/2004
Number of Days to Update: 39

Source: Environmental Protection Agency
Telephone: 800-424-9346
Last EDR Contact: 06/09/2004
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

DEBRIS REGION 9: Torres Martinez Reservation Illegal Dump Site Locations

A listing of illegal dump sites location on the Torres Martinez Indian Reservation located in eastern Riverside County and northern Imperial County, California.

Date of Government Version: 01/12/2009
Date Data Arrived at EDR: 05/07/2009
Date Made Active in Reports: 09/21/2009
Number of Days to Update: 137

Source: EPA, Region 9
Telephone: 415-947-4219
Last EDR Contact: 10/24/2016
Next Scheduled EDR Contact: 02/06/2017
Data Release Frequency: No Update Planned

IHS OPEN DUMPS: Open Dumps on Indian Land

A listing of all open dumps located on Indian Land in the United States.

Date of Government Version: 04/01/2014
Date Data Arrived at EDR: 08/06/2014
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 176

Source: Department of Health & Human Serivces, Indian Health Service
Telephone: 301-443-1452
Last EDR Contact: 11/04/2016
Next Scheduled EDR Contact: 02/13/2017
Data Release Frequency: Varies

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL: National Clandestine Laboratory Register

A listing of clandestine drug lab locations that have been removed from the DEAs National Clandestine Laboratory Register.

Date of Government Version: 08/31/2016
Date Data Arrived at EDR: 09/06/2016
Date Made Active in Reports: 09/23/2016
Number of Days to Update: 17

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 08/31/2016
Next Scheduled EDR Contact: 10/10/2016
Data Release Frequency: No Update Planned

HIST CAL-SITES: Calsites Database

The Calsites database contains potential or confirmed hazardous substance release properties. In 1996, California EPA reevaluated and significantly reduced the number of sites in the Calsites database. No longer updated by the state agency. It has been replaced by ENVIROSTOR.

Date of Government Version: 08/08/2005
Date Data Arrived at EDR: 08/03/2006
Date Made Active in Reports: 08/24/2006
Number of Days to Update: 21

Source: Department of Toxic Substance Control
Telephone: 916-323-3400
Last EDR Contact: 02/23/2009
Next Scheduled EDR Contact: 05/25/2009
Data Release Frequency: No Update Planned

SCH: School Property Evaluation Program

This category contains proposed and existing school sites that are being evaluated by DTSC for possible hazardous materials contamination. In some cases, these properties may be listed in the CalSites category depending on the level of threat to public health and safety or the environment they pose.

Date of Government Version: 08/01/2016
Date Data Arrived at EDR: 08/02/2016
Date Made Active in Reports: 10/05/2016
Number of Days to Update: 64

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 11/01/2016
Next Scheduled EDR Contact: 02/13/2017
Data Release Frequency: Quarterly

CDL: Clandestine Drug Labs

A listing of drug lab locations. Listing of a location in this database does not indicate that any illegal drug lab materials were or were not present there, and does not constitute a determination that the location either requires or does not require additional cleanup work.

Date of Government Version: 12/31/2015
Date Data Arrived at EDR: 05/10/2016
Date Made Active in Reports: 06/17/2016
Number of Days to Update: 38

Source: Department of Toxic Substances Control
Telephone: 916-255-6504
Last EDR Contact: 11/07/2016
Next Scheduled EDR Contact: 01/23/2017
Data Release Frequency: Varies

TOXIC PITS: Toxic Pits Cleanup Act Sites

Toxic PITS Cleanup Act Sites. TOXIC PITS identifies sites suspected of containing hazardous substances where cleanup has not yet been completed.

Date of Government Version: 07/01/1995
Date Data Arrived at EDR: 08/30/1995
Date Made Active in Reports: 09/26/1995
Number of Days to Update: 27

Source: State Water Resources Control Board
Telephone: 916-227-4364
Last EDR Contact: 01/26/2009
Next Scheduled EDR Contact: 04/27/2009
Data Release Frequency: No Update Planned

US CDL: Clandestine Drug Labs

A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 08/30/2016
Date Data Arrived at EDR: 09/06/2016
Date Made Active in Reports: 09/23/2016
Number of Days to Update: 17

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 08/31/2016
Next Scheduled EDR Contact: 12/12/2016
Data Release Frequency: Quarterly

Local Lists of Registered Storage Tanks

SWEEPS UST: SWEEPS UST Listing

Statewide Environmental Evaluation and Planning System. This underground storage tank listing was updated and maintained by a company contacted by the SWRCB in the early 1990's. The listing is no longer updated or maintained. The local agency is the contact for more information on a site on the SWEEPS list.

Date of Government Version: 06/01/1994
Date Data Arrived at EDR: 07/07/2005
Date Made Active in Reports: 08/11/2005
Number of Days to Update: 35

Source: State Water Resources Control Board
Telephone: N/A
Last EDR Contact: 06/03/2005
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

UST MENDOCINO: Mendocino County UST Database
A listing of underground storage tank locations in Mendocino County.

Date of Government Version: 09/22/2016
Date Data Arrived at EDR: 09/27/2016
Date Made Active in Reports: 10/20/2016
Number of Days to Update: 23

Source: Department of Public Health
Telephone: 707-463-4466
Last EDR Contact: 09/12/2016
Next Scheduled EDR Contact: 12/12/2016
Data Release Frequency: Annually

HIST UST: Hazardous Substance Storage Container Database
The Hazardous Substance Storage Container Database is a historical listing of UST sites. Refer to local/county source for current data.

Date of Government Version: 10/15/1990
Date Data Arrived at EDR: 01/25/1991
Date Made Active in Reports: 02/12/1991
Number of Days to Update: 18

Source: State Water Resources Control Board
Telephone: 916-341-5851
Last EDR Contact: 07/26/2001
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

CA FID UST: Facility Inventory Database
The Facility Inventory Database (FID) contains a historical listing of active and inactive underground storage tank locations from the State Water Resource Control Board. Refer to local/county source for current data.

Date of Government Version: 10/31/1994
Date Data Arrived at EDR: 09/05/1995
Date Made Active in Reports: 09/29/1995
Number of Days to Update: 24

Source: California Environmental Protection Agency
Telephone: 916-341-5851
Last EDR Contact: 12/28/1998
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

Local Land Records

LIENS: Environmental Liens Listing
A listing of property locations with environmental liens for California where DTSC is a lien holder.

Date of Government Version: 08/25/2016
Date Data Arrived at EDR: 09/06/2016
Date Made Active in Reports: 10/14/2016
Number of Days to Update: 38

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 09/02/2016
Next Scheduled EDR Contact: 12/19/2016
Data Release Frequency: Varies

LIENS 2: CERCLA Lien Information
A Federal CERCLA ('Superfund') lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. These monies are spent to investigate and address releases and threatened releases of contamination. CERCLIS provides information as to the identity of these sites and properties.

Date of Government Version: 02/18/2014
Date Data Arrived at EDR: 03/18/2014
Date Made Active in Reports: 04/24/2014
Number of Days to Update: 37

Source: Environmental Protection Agency
Telephone: 202-564-6023
Last EDR Contact: 10/28/2016
Next Scheduled EDR Contact: 02/06/2017
Data Release Frequency: Varies

DEED: Deed Restriction Listing

Site Mitigation and Brownfields Reuse Program Facility Sites with Deed Restrictions & Hazardous Waste Management Program Facility Sites with Deed / Land Use Restriction. The DTSC Site Mitigation and Brownfields Reuse Program (SMBRP) list includes sites cleaned up under the program's oversight and generally does not include current or former hazardous waste facilities that required a hazardous waste facility permit. The list represents deed restrictions that are active. Some sites have multiple deed restrictions. The DTSC Hazardous Waste Management Program (HWMP) has developed a list of current or former hazardous waste facilities that have a recorded land use restriction at the local county recorder's office. The land use restrictions on this list were required by the DTSC HWMP as a result of the presence of hazardous substances that remain on site after the facility (or part of the facility) has been closed or cleaned up. The types of land use restriction include deed notice, deed restriction, or a land use restriction that binds current and future owners.

Date of Government Version: 09/06/2016
Date Data Arrived at EDR: 09/07/2016
Date Made Active in Reports: 10/14/2016
Number of Days to Update: 37

Source: DTSC and SWRCB
Telephone: 916-323-3400
Last EDR Contact: 09/07/2016
Next Scheduled EDR Contact: 12/19/2016
Data Release Frequency: Semi-Annually

Records of Emergency Release Reports

HMIRS: Hazardous Materials Information Reporting System

Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 06/27/2016
Date Data Arrived at EDR: 06/28/2016
Date Made Active in Reports: 09/23/2016
Number of Days to Update: 87

Source: U.S. Department of Transportation
Telephone: 202-366-4555
Last EDR Contact: 09/27/2016
Next Scheduled EDR Contact: 01/09/2017
Data Release Frequency: Annually

CHMIRS: California Hazardous Material Incident Report System

California Hazardous Material Incident Reporting System. CHMIRS contains information on reported hazardous material incidents (accidental releases or spills).

Date of Government Version: 06/03/2016
Date Data Arrived at EDR: 07/26/2016
Date Made Active in Reports: 09/23/2016
Number of Days to Update: 59

Source: Office of Emergency Services
Telephone: 916-845-8400
Last EDR Contact: 10/26/2016
Next Scheduled EDR Contact: 02/06/2017
Data Release Frequency: Varies

LDS: Land Disposal Sites Listing

Land Disposal sites (Landfills) included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 09/12/2016
Date Data Arrived at EDR: 09/13/2016
Date Made Active in Reports: 10/14/2016
Number of Days to Update: 31

Source: State Water Qualilty Control Board
Telephone: 866-480-1028
Last EDR Contact: 11/01/2016
Next Scheduled EDR Contact: 12/26/2016
Data Release Frequency: Quarterly

MCS: Military Cleanup Sites Listing

Military sites (consisting of: Military UST sites; Military Privatized sites; and Military Cleanup sites [formerly known as DoD non UST]) included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 09/12/2016
Date Data Arrived at EDR: 09/13/2016
Date Made Active in Reports: 10/14/2016
Number of Days to Update: 31

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 11/01/2016
Next Scheduled EDR Contact: 12/26/2016
Data Release Frequency: Quarterly

SPILLS 90: SPILLS90 data from FirstSearch

Spills 90 includes those spill and release records available exclusively from FirstSearch databases. Typically, they may include chemical, oil and/or hazardous substance spills recorded after 1990. Duplicate records that are already included in EDR incident and release records are not included in Spills 90.

Date of Government Version: 06/06/2012
Date Data Arrived at EDR: 01/03/2013
Date Made Active in Reports: 02/22/2013
Number of Days to Update: 50

Source: FirstSearch
Telephone: N/A
Last EDR Contact: 01/03/2013
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

Other Ascertainable Records

RCRA NonGen / NLR: RCRA - Non Generators / No Longer Regulated

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

Date of Government Version: 06/21/2016
Date Data Arrived at EDR: 06/30/2016
Date Made Active in Reports: 09/02/2016
Number of Days to Update: 64

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 09/28/2016
Next Scheduled EDR Contact: 01/09/2017
Data Release Frequency: Varies

FUDS: Formerly Used Defense Sites

The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 01/31/2015
Date Data Arrived at EDR: 07/08/2015
Date Made Active in Reports: 10/13/2015
Number of Days to Update: 97

Source: U.S. Army Corps of Engineers
Telephone: 202-528-4285
Last EDR Contact: 09/09/2016
Next Scheduled EDR Contact: 12/19/2016
Data Release Frequency: Varies

DOD: Department of Defense Sites

This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 11/10/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 62

Source: USGS
Telephone: 888-275-8747
Last EDR Contact: 10/14/2016
Next Scheduled EDR Contact: 01/23/2017
Data Release Frequency: Semi-Annually

FEDLAND: Federal and Indian Lands

Federally and Indian administrated lands of the United States. Lands included are administrated by: Army Corps of Engineers, Bureau of Reclamation, National Wild and Scenic River, National Wildlife Refuge, Public Domain Land, Wilderness, Wilderness Study Area, Wildlife Management Area, Bureau of Indian Affairs, Bureau of Land Management, Department of Justice, Forest Service, Fish and Wildlife Service, National Park Service.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 02/06/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 339

Source: U.S. Geological Survey
Telephone: 888-275-8747
Last EDR Contact: 10/14/2016
Next Scheduled EDR Contact: 01/23/2017
Data Release Frequency: N/A

SCRD DRYCLEANERS: State Coalition for Remediation of Drycleaners Listing

The State Coalition for Remediation of Drycleaners was established in 1998, with support from the U.S. EPA Office of Superfund Remediation and Technology Innovation. It is comprised of representatives of states with established drycleaner remediation programs. Currently the member states are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.

Date of Government Version: 03/07/2011
Date Data Arrived at EDR: 03/09/2011
Date Made Active in Reports: 05/02/2011
Number of Days to Update: 54

Source: Environmental Protection Agency
Telephone: 615-532-8599
Last EDR Contact: 11/17/2016
Next Scheduled EDR Contact: 11/28/2016
Data Release Frequency: Varies

US FIN ASSUR: Financial Assurance Information

All owners and operators of facilities that treat, store, or dispose of hazardous waste are required to provide proof that they will have sufficient funds to pay for the clean up, closure, and post-closure care of their facilities.

Date of Government Version: 07/12/2016
Date Data Arrived at EDR: 08/17/2016
Date Made Active in Reports: 10/21/2016
Number of Days to Update: 65

Source: Environmental Protection Agency
Telephone: 202-566-1917
Last EDR Contact: 11/16/2016
Next Scheduled EDR Contact: 02/27/2017
Data Release Frequency: Quarterly

EPA WATCH LIST: EPA WATCH LIST

EPA maintains a "Watch List" to facilitate dialogue between EPA, state and local environmental agencies on enforcement matters relating to facilities with alleged violations identified as either significant or high priority. Being on the Watch List does not mean that the facility has actually violated the law only that an investigation by EPA or a state or local environmental agency has led those organizations to allege that an unproven violation has in fact occurred. Being on the Watch List does not represent a higher level of concern regarding the alleged violations that were detected, but instead indicates cases requiring additional dialogue between EPA, state and local agencies - primarily because of the length of time the alleged violation has gone unaddressed or unresolved.

Date of Government Version: 08/30/2013
Date Data Arrived at EDR: 03/21/2014
Date Made Active in Reports: 06/17/2014
Number of Days to Update: 88

Source: Environmental Protection Agency
Telephone: 617-520-3000
Last EDR Contact: 11/08/2016
Next Scheduled EDR Contact: 02/20/2017
Data Release Frequency: Quarterly

2020 COR ACTION: 2020 Corrective Action Program List

The EPA has set ambitious goals for the RCRA Corrective Action program by creating the 2020 Corrective Action Universe. This RCRA cleanup baseline includes facilities expected to need corrective action. The 2020 universe contains a wide variety of sites. Some properties are heavily contaminated while others were contaminated but have since been cleaned up. Still others have not been fully investigated yet, and may require little or no remediation. Inclusion in the 2020 Universe does not necessarily imply failure on the part of a facility to meet its RCRA obligations.

Date of Government Version: 04/22/2013
Date Data Arrived at EDR: 03/03/2015
Date Made Active in Reports: 03/09/2015
Number of Days to Update: 6

Source: Environmental Protection Agency
Telephone: 703-308-4044
Last EDR Contact: 11/11/2016
Next Scheduled EDR Contact: 02/20/2017
Data Release Frequency: Varies

TSCA: Toxic Substances Control Act

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/2012
Date Data Arrived at EDR: 01/15/2015
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 14

Source: EPA
Telephone: 202-260-5521
Last EDR Contact: 09/23/2016
Next Scheduled EDR Contact: 01/02/2017
Data Release Frequency: Every 4 Years

TRIS: Toxic Chemical Release Inventory System

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 11/24/2015
Date Made Active in Reports: 04/05/2016
Number of Days to Update: 133

Source: EPA
Telephone: 202-566-0250
Last EDR Contact: 11/22/2016
Next Scheduled EDR Contact: 03/06/2017
Data Release Frequency: Annually

SSTS: Section 7 Tracking Systems

Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 12/31/2009
Date Data Arrived at EDR: 12/10/2010
Date Made Active in Reports: 02/25/2011
Number of Days to Update: 77

Source: EPA
Telephone: 202-564-4203
Last EDR Contact: 10/24/2016
Next Scheduled EDR Contact: 02/06/2017
Data Release Frequency: Annually

ROD: Records Of Decision

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 11/25/2013
Date Data Arrived at EDR: 12/12/2013
Date Made Active in Reports: 02/24/2014
Number of Days to Update: 74

Source: EPA
Telephone: 703-416-0223
Last EDR Contact: 09/09/2016
Next Scheduled EDR Contact: 12/19/2016
Data Release Frequency: Annually

RMP: Risk Management Plans

When Congress passed the Clean Air Act Amendments of 1990, it required EPA to publish regulations and guidance for chemical accident prevention at facilities using extremely hazardous substances. The Risk Management Program Rule (RMP Rule) was written to implement Section 112(r) of these amendments. The rule, which built upon existing industry codes and standards, requires companies of all sizes that use certain flammable and toxic substances to develop a Risk Management Program, which includes a(n): Hazard assessment that details the potential effects of an accidental release, an accident history of the last five years, and an evaluation of worst-case and alternative accidental releases; Prevention program that includes safety precautions and maintenance, monitoring, and employee training measures; and Emergency response program that spells out emergency health care, employee training measures and procedures for informing the public and response agencies (e.g the fire department) should an accident occur.

Date of Government Version: 08/01/2016
Date Data Arrived at EDR: 08/22/2016
Date Made Active in Reports: 11/11/2016
Number of Days to Update: 81

Source: Environmental Protection Agency
Telephone: 202-564-8600
Last EDR Contact: 11/18/2016
Next Scheduled EDR Contact: 02/06/2017
Data Release Frequency: Varies

RAATS: RCRA Administrative Action Tracking System

RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/1995
Date Data Arrived at EDR: 07/03/1995
Date Made Active in Reports: 08/07/1995
Number of Days to Update: 35

Source: EPA
Telephone: 202-564-4104
Last EDR Contact: 06/02/2008
Next Scheduled EDR Contact: 09/01/2008
Data Release Frequency: No Update Planned

PRP: Potentially Responsible Parties
A listing of verified Potentially Responsible Parties

Date of Government Version: 10/25/2013
Date Data Arrived at EDR: 10/17/2014
Date Made Active in Reports: 10/20/2014
Number of Days to Update: 3
Source: EPA
Telephone: 202-564-6023
Last EDR Contact: 11/07/2016
Next Scheduled EDR Contact: 02/20/2017
Data Release Frequency: Quarterly

PADS: PCB Activity Database System
PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 01/20/2016
Date Data Arrived at EDR: 04/28/2016
Date Made Active in Reports: 09/02/2016
Number of Days to Update: 127
Source: EPA
Telephone: 202-566-0500
Last EDR Contact: 10/14/2016
Next Scheduled EDR Contact: 01/23/2017
Data Release Frequency: Annually

ICIS: Integrated Compliance Information System
The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.

Date of Government Version: 07/27/2016
Date Data Arrived at EDR: 08/05/2016
Date Made Active in Reports: 10/21/2016
Number of Days to Update: 77
Source: Environmental Protection Agency
Telephone: 202-564-5088
Last EDR Contact: 10/11/2016
Next Scheduled EDR Contact: 01/23/2017
Data Release Frequency: Quarterly

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25
Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Telephone: 202-566-1667
Last EDR Contact: 11/17/2016
Next Scheduled EDR Contact: 03/06/2017
Data Release Frequency: Quarterly

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
A listing of FIFRA/TSCA Tracking System (FTTS) inspections and enforcements.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25
Source: EPA
Telephone: 202-566-1667
Last EDR Contact: 11/17/2016
Next Scheduled EDR Contact: 03/06/2017
Data Release Frequency: Quarterly

MLTS: Material Licensing Tracking System
MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 08/30/2016
Date Data Arrived at EDR: 09/08/2016
Date Made Active in Reports: 10/21/2016
Number of Days to Update: 43
Source: Nuclear Regulatory Commission
Telephone: 301-415-7169
Last EDR Contact: 11/07/2016
Next Scheduled EDR Contact: 02/20/2017
Data Release Frequency: Quarterly

COAL ASH DOE: Steam-Electric Plant Operation Data
A listing of power plants that store ash in surface ponds.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 08/07/2009
Date Made Active in Reports: 10/22/2009
Number of Days to Update: 76
Source: Department of Energy
Telephone: 202-586-8719
Last EDR Contact: 09/09/2016
Next Scheduled EDR Contact: 12/19/2016
Data Release Frequency: Varies

COAL ASH EPA: Coal Combustion Residues Surface Impoundments List
A listing of coal combustion residues surface impoundments with high hazard potential ratings.

Date of Government Version: 07/01/2014
Date Data Arrived at EDR: 09/10/2014
Date Made Active in Reports: 10/20/2014
Number of Days to Update: 40
Source: Environmental Protection Agency
Telephone: N/A
Last EDR Contact: 09/06/2016
Next Scheduled EDR Contact: 12/19/2016
Data Release Frequency: Varies

PCB TRANSFORMER: PCB Transformer Registration Database
The database of PCB transformer registrations that includes all PCB registration submittals.

Date of Government Version: 02/01/2011
Date Data Arrived at EDR: 10/19/2011
Date Made Active in Reports: 01/10/2012
Number of Days to Update: 83
Source: Environmental Protection Agency
Telephone: 202-566-0517
Last EDR Contact: 10/28/2016
Next Scheduled EDR Contact: 02/06/2017
Data Release Frequency: Varies

RADINFO: Radiation Information Database
The Radiation Information Database (RADINFO) contains information about facilities that are regulated by U.S. Environmental Protection Agency (EPA) regulations for radiation and radioactivity.

Date of Government Version: 10/03/2016
Date Data Arrived at EDR: 10/05/2016
Date Made Active in Reports: 10/21/2016
Number of Days to Update: 16
Source: Environmental Protection Agency
Telephone: 202-343-9775
Last EDR Contact: 10/05/2016
Next Scheduled EDR Contact: 01/16/2017
Data Release Frequency: Quarterly

HIST FTTS: FIFRA/TSCA Tracking System Administrative Case Listing
A complete administrative case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40
Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2007
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

HIST FTTS INSP: FIFRA/TSCA Tracking System Inspection & Enforcement Case Listing
A complete inspection and enforcement case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2008
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

DOT OPS: Incident and Accident Data

Department of Transporation, Office of Pipeline Safety Incident and Accident data.

Date of Government Version: 07/31/2012
Date Data Arrived at EDR: 08/07/2012
Date Made Active in Reports: 09/18/2012
Number of Days to Update: 42

Source: Department of Transporation, Office of Pipeline Safety
Telephone: 202-366-4595
Last EDR Contact: 11/02/2016
Next Scheduled EDR Contact: 02/13/2017
Data Release Frequency: Varies

CONSENT: Superfund (CERCLA) Consent Decrees

Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: 03/31/2016
Date Data Arrived at EDR: 08/01/2016
Date Made Active in Reports: 09/23/2016
Number of Days to Update: 53

Source: Department of Justice, Consent Decree Library
Telephone: Varies
Last EDR Contact: 09/26/2016
Next Scheduled EDR Contact: 01/09/2017
Data Release Frequency: Varies

BRS: Biennial Reporting System

The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/2013
Date Data Arrived at EDR: 02/24/2015
Date Made Active in Reports: 09/30/2015
Number of Days to Update: 218

Source: EPA/NTIS
Telephone: 800-424-9346
Last EDR Contact: 08/26/2016
Next Scheduled EDR Contact: 12/05/2016
Data Release Frequency: Biennially

INDIAN RESERV: Indian Reservations

This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 12/08/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 34

Source: USGS
Telephone: 202-208-3710
Last EDR Contact: 10/14/2016
Next Scheduled EDR Contact: 01/23/2017
Data Release Frequency: Semi-Annually

FUSRAP: Formerly Utilized Sites Remedial Action Program

DOE established the Formerly Utilized Sites Remedial Action Program (FUSRAP) in 1974 to remediate sites where radioactive contamination remained from Manhattan Project and early U.S. Atomic Energy Commission (AEC) operations.

Date of Government Version: 07/21/2016
Date Data Arrived at EDR: 07/26/2016
Date Made Active in Reports: 09/23/2016
Number of Days to Update: 59

Source: Department of Energy
Telephone: 202-586-3559
Last EDR Contact: 11/08/2016
Next Scheduled EDR Contact: 02/20/2017
Data Release Frequency: Varies

UMTRA: Uranium Mill Tailings Sites

Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized.

Date of Government Version: 09/14/2010
Date Data Arrived at EDR: 10/07/2011
Date Made Active in Reports: 03/01/2012
Number of Days to Update: 146

Source: Department of Energy
Telephone: 505-845-0011
Last EDR Contact: 09/09/2016
Next Scheduled EDR Contact: 12/05/2016
Data Release Frequency: Varies

LEAD SMELTER 1: Lead Smelter Sites

A listing of former lead smelter site locations.

Date of Government Version: 03/07/2016
Date Data Arrived at EDR: 04/07/2016
Date Made Active in Reports: 09/02/2016
Number of Days to Update: 148

Source: Environmental Protection Agency
Telephone: 703-603-8787
Last EDR Contact: 10/20/2016
Next Scheduled EDR Contact: 01/16/2017
Data Release Frequency: Varies

LEAD SMELTER 2: Lead Smelter Sites

A list of several hundred sites in the U.S. where secondary lead smelting was done from 1931and 1964. These sites may pose a threat to public health through ingestion or inhalation of contaminated soil or dust

Date of Government Version: 04/05/2001
Date Data Arrived at EDR: 10/27/2010
Date Made Active in Reports: 12/02/2010
Number of Days to Update: 36

Source: American Journal of Public Health
Telephone: 703-305-6451
Last EDR Contact: 12/02/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

US AIRS (AFS): Aerometric Information Retrieval System Facility Subsystem (AFS)

The database is a sub-system of Aerometric Information Retrieval System (AIRS). AFS contains compliance data on air pollution point sources regulated by the U.S. EPA and/or state and local air regulatory agencies. This information comes from source reports by various stationary sources of air pollution, such as electric power plants, steel mills, factories, and universities, and provides information about the air pollutants they produce. Action, air program, air program pollutant, and general level plant data. It is used to track emissions and compliance data from industrial plants.

Date of Government Version: 06/30/2016
Date Data Arrived at EDR: 07/25/2016
Date Made Active in Reports: 10/21/2016
Number of Days to Update: 88

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 09/26/2016
Next Scheduled EDR Contact: 01/09/2017
Data Release Frequency: Annually

US AIRS MINOR: Air Facility System Data

A listing of minor source facilities.

Date of Government Version: 06/30/2016
Date Data Arrived at EDR: 07/25/2016
Date Made Active in Reports: 10/21/2016
Number of Days to Update: 88

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 09/26/2016
Next Scheduled EDR Contact: 01/09/2017
Data Release Frequency: Annually

US MINES: Mines Master Index File

Contains all mine identification numbers issued for mines active or opened since 1971. The data also includes violation information.

Date of Government Version: 08/05/2016
Date Data Arrived at EDR: 09/01/2016
Date Made Active in Reports: 09/23/2016
Number of Days to Update: 22

Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959
Last EDR Contact: 09/01/2016
Next Scheduled EDR Contact: 12/12/2016
Data Release Frequency: Semi-Annually

US MINES 2: Ferrous and Nonferrous Metal Mines Database Listing

This map layer includes ferrous (ferrous metal mines are facilities that extract ferrous metals, such as iron ore or molybdenum) and nonferrous (Nonferrous metal mines are facilities that extract nonferrous metals, such as gold, silver, copper, zinc, and lead) metal mines in the United States.

Date of Government Version: 12/05/2005
Date Data Arrived at EDR: 02/29/2008
Date Made Active in Reports: 04/18/2008
Number of Days to Update: 49

Source: USGS
Telephone: 703-648-7709
Last EDR Contact: 09/02/2016
Next Scheduled EDR Contact: 12/12/2016
Data Release Frequency: Varies

US MINES 3: Active Mines & Mineral Plants Database Listing

Active Mines and Mineral Processing Plant operations for commodities monitored by the Minerals Information Team of the USGS.

Date of Government Version: 04/14/2011
Date Data Arrived at EDR: 06/08/2011
Date Made Active in Reports: 09/13/2011
Number of Days to Update: 97

Source: USGS
Telephone: 703-648-7709
Last EDR Contact: 09/02/2016
Next Scheduled EDR Contact: 12/12/2016
Data Release Frequency: Varies

FINDS: Facility Index System/Facility Registry System

Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 07/15/2016
Date Data Arrived at EDR: 09/07/2016
Date Made Active in Reports: 11/11/2016
Number of Days to Update: 65

Source: EPA
Telephone: (415) 947-8000
Last EDR Contact: 09/07/2016
Next Scheduled EDR Contact: 12/19/2016
Data Release Frequency: Quarterly

UXO: Unexploded Ordnance Sites

A listing of unexploded ordnance site locations

Date of Government Version: 10/25/2015
Date Data Arrived at EDR: 01/29/2016
Date Made Active in Reports: 04/05/2016
Number of Days to Update: 67

Source: Department of Defense
Telephone: 571-373-0407
Last EDR Contact: 11/21/2016
Next Scheduled EDR Contact: 01/30/2017
Data Release Frequency: Varies

DOCKET HWC: Hazardous Waste Compliance Docket Listing

A complete list of the Federal Agency Hazardous Waste Compliance Docket Facilities.

Date of Government Version: 06/02/2016
Date Data Arrived at EDR: 06/03/2016
Date Made Active in Reports: 09/02/2016
Number of Days to Update: 91

Source: Environmental Protection Agency
Telephone: 202-564-0527
Last EDR Contact: 08/24/2016
Next Scheduled EDR Contact: 12/12/2016
Data Release Frequency: Varies

CA BOND EXP. PLAN: Bond Expenditure Plan

Department of Health Services developed a site-specific expenditure plan as the basis for an appropriation of Hazardous Substance Cleanup Bond Act funds. It is not updated.

Date of Government Version: 01/01/1989
Date Data Arrived at EDR: 07/27/1994
Date Made Active in Reports: 08/02/1994
Number of Days to Update: 6

Source: Department of Health Services
Telephone: 916-255-2118
Last EDR Contact: 05/31/1994
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

CORTESE: "Cortese" Hazardous Waste & Substances Sites List

The sites for the list are designated by the State Water Resource Control Board (LUST), the Integrated Waste Board (SWF/LS), and the Department of Toxic Substances Control (Cal-Sites).

Date of Government Version: 09/26/2016
Date Data Arrived at EDR: 09/27/2016
Date Made Active in Reports: 11/18/2016
Number of Days to Update: 52

Source: CAL EPA/Office of Emergency Information
Telephone: 916-323-3400
Last EDR Contact: 09/27/2016
Next Scheduled EDR Contact: 01/09/2017
Data Release Frequency: Quarterly

DRYCLEANERS: Cleaner Facilities

A list of drycleaner related facilities that have EPA ID numbers. These are facilities with certain SIC codes: power laundries, family and commercial; garment pressing and cleaner's agents; linen supply; coin-operated laundries and cleaning; drycleaning plants, except rugs; carpet and upholster cleaning; industrial launderers; laundry and garment services.

Date of Government Version: 06/02/2016
Date Data Arrived at EDR: 07/12/2016
Date Made Active in Reports: 08/18/2016
Number of Days to Update: 37

Source: Department of Toxic Substance Control
Telephone: 916-327-4498
Last EDR Contact: 09/02/2016
Next Scheduled EDR Contact: 12/19/2016
Data Release Frequency: Annually

EMI: Emissions Inventory Data

Toxics and criteria pollutant emissions data collected by the ARB and local air pollution agencies.

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 09/23/2016
Date Made Active in Reports: 10/24/2016
Number of Days to Update: 31

Source: California Air Resources Board
Telephone: 916-322-2990
Last EDR Contact: 09/23/2016
Next Scheduled EDR Contact: 01/02/2017
Data Release Frequency: Varies

ENF: Enforcement Action Listing

A listing of Water Board Enforcement Actions. Formal is everything except Oral/Verbal Communication, Notice of Violation, Expedited Payment Letter, and Staff Enforcement Letter.

Date of Government Version: 08/22/2016
Date Data Arrived at EDR: 08/24/2016
Date Made Active in Reports: 10/05/2016
Number of Days to Update: 42

Source: State Water Resoruces Control Board
Telephone: 916-445-9379
Last EDR Contact: 11/16/2016
Next Scheduled EDR Contact: 02/06/2017
Data Release Frequency: Varies

Financial Assurance 1: Financial Assurance Information Listing

Financial Assurance information

Date of Government Version: 04/25/2016
Date Data Arrived at EDR: 04/29/2016
Date Made Active in Reports: 06/21/2016
Number of Days to Update: 53

Source: Department of Toxic Substances Control
Telephone: 916-255-3628
Last EDR Contact: 11/24/2016
Next Scheduled EDR Contact: 02/06/2017
Data Release Frequency: Varies

Financial Assurance 2: Financial Assurance Information Listing

A listing of financial assurance information for solid waste facilities. Financial assurance is intended to ensure that resources are available to pay for the cost of closure, post-closure care, and corrective measures if the owner or operator of a regulated facility is unable or unwilling to pay.

Date of Government Version: 08/10/2016
Date Data Arrived at EDR: 08/15/2016
Date Made Active in Reports: 10/05/2016
Number of Days to Update: 51

Source: California Integrated Waste Management Board
Telephone: 916-341-6066
Last EDR Contact: 11/11/2016
Next Scheduled EDR Contact: 02/27/2017
Data Release Frequency: Varies

HAZNET: Facility and Manifest Data

Facility and Manifest Data. The data is extracted from the copies of hazardous waste manifests received each year by the DTSC. The annual volume of manifests is typically 700,000 - 1,000,000 annually, representing approximately 350,000 - 500,000 shipments. Data are from the manifests submitted without correction, and therefore many contain some invalid values for data elements such as generator ID, TSD ID, waste category, and disposal method. This database begins with calendar year 1993.

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 10/14/2015
Date Made Active in Reports: 12/11/2015
Number of Days to Update: 58

Source: California Environmental Protection Agency
Telephone: 916-255-1136
Last EDR Contact: 10/12/2016
Next Scheduled EDR Contact: 01/23/2017
Data Release Frequency: Annually

HIST CORTESE: Hazardous Waste & Substance Site List

The sites for the list are designated by the State Water Resource Control Board [LUST], the Integrated Waste Board [SWF/LS], and the Department of Toxic Substances Control [CALSITES]. This listing is no longer updated by the state agency.

Date of Government Version: 04/01/2001
Date Data Arrived at EDR: 01/22/2009
Date Made Active in Reports: 04/08/2009
Number of Days to Update: 76

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 01/22/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

HWP: EnviroStor Permitted Facilities Listing

Detailed information on permitted hazardous waste facilities and corrective action ("cleanups") tracked in EnviroStor.

Date of Government Version: 08/22/2016
Date Data Arrived at EDR: 08/23/2016
Date Made Active in Reports: 10/05/2016
Number of Days to Update: 43

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 11/22/2016
Next Scheduled EDR Contact: 03/06/2017
Data Release Frequency: Quarterly

HWT: Registered Hazardous Waste Transporter Database

A listing of hazardous waste transporters. In California, unless specifically exempted, it is unlawful for any person to transport hazardous wastes unless the person holds a valid registration issued by DTSC. A hazardous waste transporter registration is valid for one year and is assigned a unique registration number.

Date of Government Version: 07/11/2016
Date Data Arrived at EDR: 07/13/2016
Date Made Active in Reports: 08/18/2016
Number of Days to Update: 36

Source: Department of Toxic Substances Control
Telephone: 916-440-7145
Last EDR Contact: 10/12/2016
Next Scheduled EDR Contact: 01/23/2017
Data Release Frequency: Quarterly

MINES: Mines Site Location Listing

A listing of mine site locations from the Office of Mine Reclamation.

Date of Government Version: 09/12/2016
Date Data Arrived at EDR: 09/14/2016
Date Made Active in Reports: 10/14/2016
Number of Days to Update: 30

Source: Department of Conservation
Telephone: 916-322-1080
Last EDR Contact: 09/14/2016
Next Scheduled EDR Contact: 12/26/2016
Data Release Frequency: Varies

MWMP: Medical Waste Management Program Listing

The Medical Waste Management Program (MWMP) ensures the proper handling and disposal of medical waste by permitting and inspecting medical waste Offsite Treatment Facilities (PDF) and Transfer Stations (PDF) throughout the state. MWMP also oversees all Medical Waste Transporters.

Date of Government Version: 09/06/2016
Date Data Arrived at EDR: 09/07/2016
Date Made Active in Reports: 10/14/2016
Number of Days to Update: 37

Source: Department of Public Health
Telephone: 916-558-1784
Last EDR Contact: 09/07/2016
Next Scheduled EDR Contact: 12/19/2016
Data Release Frequency: Varies

NPDES: NPDES Permits Listing

A listing of NPDES permits, including stormwater.

Date of Government Version: 05/16/2016
Date Data Arrived at EDR: 05/18/2016
Date Made Active in Reports: 06/23/2016
Number of Days to Update: 36

Source: State Water Resources Control Board
Telephone: 916-445-9379
Last EDR Contact: 11/15/2016
Next Scheduled EDR Contact: 02/27/2017
Data Release Frequency: Quarterly

PEST LIC: Pesticide Regulation Licenses Listing

A listing of licenses and certificates issued by the Department of Pesticide Regulation. The DPR issues licenses and/or certificates to: Persons and businesses that apply or sell pesticides; Pest control dealers and brokers; Persons who advise on agricultural pesticide applications.

Date of Government Version: 09/06/2016
Date Data Arrived at EDR: 09/07/2016
Date Made Active in Reports: 10/14/2016
Number of Days to Update: 37

Source: Department of Pesticide Regulation
Telephone: 916-445-4038
Last EDR Contact: 09/07/2016
Next Scheduled EDR Contact: 12/19/2016
Data Release Frequency: Quarterly

PROC: Certified Processors Database

A listing of certified processors.

Date of Government Version: 09/12/2016
Date Data Arrived at EDR: 09/14/2016
Date Made Active in Reports: 10/14/2016
Number of Days to Update: 30

Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 09/14/2016
Next Scheduled EDR Contact: 12/26/2016
Data Release Frequency: Quarterly

NOTIFY 65: Proposition 65 Records

Listings of all Proposition 65 incidents reported to counties by the State Water Resources Control Board and the Regional Water Quality Control Board. This database is no longer updated by the reporting agency.

Date of Government Version: 09/10/2015
Date Data Arrived at EDR: 01/05/2016
Date Made Active in Reports: 02/12/2016
Number of Days to Update: 38

Source: State Water Resources Control Board
Telephone: 916-445-3846
Last EDR Contact: 09/19/2016
Next Scheduled EDR Contact: 01/02/2017
Data Release Frequency: No Update Planned

UIC: UIC Listing

A listing of wells identified as underground injection wells, in the California Oil and Gas Wells database.

Date of Government Version: 07/06/2016
Date Data Arrived at EDR: 09/14/2016
Date Made Active in Reports: 10/14/2016
Number of Days to Update: 30

Source: Deaprtment of Conservation
Telephone: 916-445-2408
Last EDR Contact: 09/14/2016
Next Scheduled EDR Contact: 12/26/2016
Data Release Frequency: Varies

WASTEWATER PITS: Oil Wastewater Pits Listing

Water officials discovered that oil producers have been dumping chemical-laden wastewater into hundreds of unlined pits that are operating without proper permits. Inspections completed by the Central Valley Regional Water Quality Control Board revealed the existence of previously unidentified waste sites. The water board?s review found that more than one-third of the region?s active disposal pits are operating without permission.

Date of Government Version: 04/15/2015
Date Data Arrived at EDR: 04/17/2015
Date Made Active in Reports: 06/23/2015
Number of Days to Update: 67

Source: RWQCB, Central Valley Region
Telephone: 559-445-5577
Last EDR Contact: 10/14/2016
Next Scheduled EDR Contact: 01/23/2017
Data Release Frequency: Varies

WDS: Waste Discharge System

Sites which have been issued waste discharge requirements.

Date of Government Version: 06/19/2007
Date Data Arrived at EDR: 06/20/2007
Date Made Active in Reports: 06/29/2007
Number of Days to Update: 9

Source: State Water Resources Control Board
Telephone: 916-341-5227
Last EDR Contact: 11/16/2016
Next Scheduled EDR Contact: 03/06/2017
Data Release Frequency: Quarterly

WIP: Well Investigation Program Case List
Well Investigation Program case in the San Gabriel and San Fernando Valley area.

Date of Government Version: 07/03/2009
Date Data Arrived at EDR: 07/21/2009
Date Made Active in Reports: 08/03/2009
Number of Days to Update: 13

Source: Los Angeles Water Quality Control Board
Telephone: 213-576-6726
Last EDR Contact: 09/23/2016
Next Scheduled EDR Contact: 01/09/2017
Data Release Frequency: Varies

FUELS PROGRAM: EPA Fuels Program Registered Listing
This listing includes facilities that are registered under the Part 80 (Code of Federal Regulations) EPA Fuels Programs. All companies now are required to submit new and updated registrations.

Date of Government Version: 08/22/2016
Date Data Arrived at EDR: 08/23/2016
Date Made Active in Reports: 10/21/2016
Number of Days to Update: 59

Source: EPA
Telephone: 800-385-6164
Last EDR Contact: 11/22/2016
Next Scheduled EDR Contact: 03/06/2017
Data Release Frequency: Quarterly

ICE: ICE
Contains data pertaining to the Permitted Facilities with Inspections / Enforcements sites tracked in Envirostor.

Date of Government Version: 08/22/2016
Date Data Arrived at EDR: 08/23/2016
Date Made Active in Reports: 10/05/2016
Number of Days to Update: 43

Source: Department of Toxic Subsances Control
Telephone: 877-786-9427
Last EDR Contact: 11/22/2016
Next Scheduled EDR Contact: 03/06/2017
Data Release Frequency: Quarterly

ECHO: Enforcement & Compliance History Information
ECHO provides integrated compliance and enforcement information for about 800,000 regulated facilities nationwide.

Date of Government Version: 09/18/2016
Date Data Arrived at EDR: 09/20/2016
Date Made Active in Reports: 10/21/2016
Number of Days to Update: 31

Source: Environmental Protection Agency
Telephone: 202-564-2280
Last EDR Contact: 09/20/2016
Next Scheduled EDR Contact: 01/02/2017
Data Release Frequency: Quarterly

ABANDONED MINES: Abandoned Mines
An inventory of land and water impacted by past mining (primarily coal mining) is maintained by OSMRE to provide information needed to implement the Surface Mining Control and Reclamation Act of 1977 (SMCRA). The inventory contains information on the location, type, and extent of AML impacts, as well as, information on the cost associated with the reclamation of those problems. The inventory is based upon field surveys by State, Tribal, and OSMRE program officials. It is dynamic to the extent that it is modified as new problems are identified and existing problems are reclaimed.

Date of Government Version: 06/09/2016
Date Data Arrived at EDR: 06/13/2016
Date Made Active in Reports: 09/02/2016
Number of Days to Update: 81

Source: Department of Interior
Telephone: 202-208-2609
Last EDR Contact: 09/12/2016
Next Scheduled EDR Contact: 12/26/2016
Data Release Frequency: Quarterly

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP: EDR Proprietary Manufactured Gas Plants

The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

EDR Hist Auto: EDR Exclusive Historic Gas Stations

EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include gas station/filling station/service station establishments. The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station, service station, etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR Hist Cleaner: EDR Exclusive Historic Dry Cleaners

EDR has searched selected national collections of business directories and has collected listings of potential dry cleaner sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include dry cleaning establishments. The categories reviewed included, but were not limited to dry cleaners, cleaners, laundry, laundromat, cleaning/laundry, wash & dry etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA LF: Recovered Government Archive Solid Waste Facilities List

The EDR Recovered Government Archive Landfill database provides a list of landfills derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of Resources Recycling and Recovery in California.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 01/13/2014
Number of Days to Update: 196

Source: Department of Resources Recycling and Recovery
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

RGA LUST: Recovered Government Archive Leaking Underground Storage Tank

The EDR Recovered Government Archive Leaking Underground Storage Tank database provides a list of LUST incidents derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the State Water Resources Control Board in California.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 12/30/2013
Number of Days to Update: 182

Source: State Water Resources Control Board
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

COUNTY RECORDS

ALAMEDA COUNTY:

Contaminated Sites

A listing of contaminated sites overseen by the Toxic Release Program (oil and groundwater contamination from chemical releases and spills) and the Leaking Underground Storage Tank Program (soil and ground water contamination from leaking petroleum USTs).

Date of Government Version: 10/12/2016
Date Data Arrived at EDR: 10/14/2016
Date Made Active in Reports: 11/18/2016
Number of Days to Update: 35

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 10/07/2016
Next Scheduled EDR Contact: 01/23/2017
Data Release Frequency: Semi-Annually

Underground Tanks

Underground storage tank sites located in Alameda county.

Date of Government Version: 07/07/2016
Date Data Arrived at EDR: 07/12/2016
Date Made Active in Reports: 08/08/2016
Number of Days to Update: 27

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 10/07/2016
Next Scheduled EDR Contact: 01/23/2017
Data Release Frequency: Semi-Annually

AMADOR COUNTY:

CUPA Facility List

Cupa Facility List

Date of Government Version: 08/22/2016
Date Data Arrived at EDR: 09/06/2016
Date Made Active in Reports: 10/14/2016
Number of Days to Update: 38

Source: Amador County Environmental Health
Telephone: 209-223-6439
Last EDR Contact: 09/02/2016
Next Scheduled EDR Contact: 12/19/2016
Data Release Frequency: Varies

BUTTE COUNTY:

CUPA Facility Listing

Cupa facility list.

Date of Government Version: 10/21/2016
Date Data Arrived at EDR: 10/26/2016
Date Made Active in Reports: 11/18/2016
Number of Days to Update: 23

Source: Public Health Department
Telephone: 530-538-7149
Last EDR Contact: 10/24/2016
Next Scheduled EDR Contact: 01/23/2017
Data Release Frequency: No Update Planned

CALVERAS COUNTY:

CUPA Facility Listing
Cupa Facility Listing

Date of Government Version: 10/25/2016
Date Data Arrived at EDR: 10/27/2016
Date Made Active in Reports: 11/18/2016
Number of Days to Update: 22

Source: Calveras County Environmental Health
Telephone: 209-754-6399
Last EDR Contact: 09/26/2016
Next Scheduled EDR Contact: 01/09/2017
Data Release Frequency: Quarterly

COLUSA COUNTY:

CUPA Facility List
Cupa facility list.

Date of Government Version: 09/02/2016
Date Data Arrived at EDR: 09/06/2016
Date Made Active in Reports: 10/14/2016
Number of Days to Update: 38

Source: Health & Human Services
Telephone: 530-458-0396
Last EDR Contact: 11/07/2016
Next Scheduled EDR Contact: 02/20/2017
Data Release Frequency: Varies

CONTRA COSTA COUNTY:

Site List
List includes sites from the underground tank, hazardous waste generator and business plan/2185 programs.

Date of Government Version: 08/22/2016
Date Data Arrived at EDR: 08/24/2016
Date Made Active in Reports: 10/10/2016
Number of Days to Update: 47

Source: Contra Costa Health Services Department
Telephone: 925-646-2286
Last EDR Contact: 10/31/2016
Next Scheduled EDR Contact: 02/13/2017
Data Release Frequency: Semi-Annually

DEL NORTE COUNTY:

CUPA Facility List
Cupa Facility list

Date of Government Version: 11/01/2016
Date Data Arrived at EDR: 11/03/2016
Date Made Active in Reports: 11/22/2016
Number of Days to Update: 19

Source: Del Norte County Environmental Health Division
Telephone: 707-465-0426
Last EDR Contact: 10/31/2016
Next Scheduled EDR Contact: 02/13/2017
Data Release Frequency: Varies

EL DORADO COUNTY:

CUPA Facility List
CUPA facility list.

Date of Government Version: 05/24/2016
Date Data Arrived at EDR: 05/26/2016
Date Made Active in Reports: 08/09/2016
Number of Days to Update: 75

Source: El Dorado County Environmental Management Department
Telephone: 530-621-6623
Last EDR Contact: 10/31/2016
Next Scheduled EDR Contact: 02/13/2017
Data Release Frequency: Varies

FRESNO COUNTY:

CUPA Resources List

Certified Unified Program Agency. CUPA's are responsible for implementing a unified hazardous materials and hazardous waste management regulatory program. The agency provides oversight of businesses that deal with hazardous materials, operate underground storage tanks or aboveground storage tanks.

Date of Government Version: 10/11/2016
Date Data Arrived at EDR: 10/14/2016
Date Made Active in Reports: 11/18/2016
Number of Days to Update: 35

Source: Dept. of Community Health
Telephone: 559-445-3271
Last EDR Contact: 09/29/2016
Next Scheduled EDR Contact: 01/16/2017
Data Release Frequency: Semi-Annually

HUMBOLDT COUNTY:

CUPA Facility List

CUPA facility list.

Date of Government Version: 10/25/2016
Date Data Arrived at EDR: 10/27/2016
Date Made Active in Reports: 11/18/2016
Number of Days to Update: 22

Source: Humboldt County Environmental Health
Telephone: N/A
Last EDR Contact: 11/21/2016
Next Scheduled EDR Contact: 03/06/2017
Data Release Frequency: Varies

IMPERIAL COUNTY:

CUPA Facility List

Cupa facility list.

Date of Government Version: 10/24/2016
Date Data Arrived at EDR: 10/27/2016
Date Made Active in Reports: 11/18/2016
Number of Days to Update: 22

Source: San Diego Border Field Office
Telephone: 760-339-2777
Last EDR Contact: 10/24/2016
Next Scheduled EDR Contact: 02/06/2017
Data Release Frequency: Varies

INYO COUNTY:

CUPA Facility List

Cupa facility list.

Date of Government Version: 09/10/2013
Date Data Arrived at EDR: 09/11/2013
Date Made Active in Reports: 10/14/2013
Number of Days to Update: 33

Source: Inyo County Environmental Health Services
Telephone: 760-878-0238
Last EDR Contact: 11/16/2016
Next Scheduled EDR Contact: 03/06/2017
Data Release Frequency: Varies

KERN COUNTY:

Underground Storage Tank Sites & Tank Listing

Kern County Sites and Tanks Listing.

Date of Government Version: 08/04/2016
Date Data Arrived at EDR: 08/08/2016
Date Made Active in Reports: 10/18/2016
Number of Days to Update: 71

Source: Kern County Environment Health Services Department
Telephone: 661-862-8700
Last EDR Contact: 11/07/2016
Next Scheduled EDR Contact: 02/20/2017
Data Release Frequency: Quarterly

KINGS COUNTY:

CUPA Facility List

A listing of sites included in the county's Certified Unified Program Agency database. California's Secretary for Environmental Protection established the unified hazardous materials and hazardous waste regulatory program as required by chapter 6.11 of the California Health and Safety Code. The Unified Program consolidates the administration, permits, inspections, and enforcement activities.

Date of Government Version: 05/25/2016
Date Data Arrived at EDR: 05/27/2016
Date Made Active in Reports: 06/22/2016
Number of Days to Update: 26

Source: Kings County Department of Public Health
Telephone: 559-584-1411
Last EDR Contact: 11/16/2016
Next Scheduled EDR Contact: 03/06/2017
Data Release Frequency: Varies

LAKE COUNTY:

CUPA Facility List

Cupa facility list

Date of Government Version: 09/08/2016
Date Data Arrived at EDR: 09/09/2016
Date Made Active in Reports: 10/14/2016
Number of Days to Update: 35

Source: Lake County Environmental Health
Telephone: 707-263-1164
Last EDR Contact: 10/17/2016
Next Scheduled EDR Contact: 01/30/2017
Data Release Frequency: Varies

LOS ANGELES COUNTY:

San Gabriel Valley Areas of Concern

San Gabriel Valley areas where VOC contamination is at or above the MCL as designated by region 9 EPA office.

Date of Government Version: 03/30/2009
Date Data Arrived at EDR: 03/31/2009
Date Made Active in Reports: 10/23/2009
Number of Days to Update: 206

Source: EPA Region 9
Telephone: 415-972-3178
Last EDR Contact: 09/19/2016
Next Scheduled EDR Contact: 01/02/2017
Data Release Frequency: No Update Planned

HMS: Street Number List

Industrial Waste and Underground Storage Tank Sites.

Date of Government Version: 07/05/2016
Date Data Arrived at EDR: 07/12/2016
Date Made Active in Reports: 08/18/2016
Number of Days to Update: 37

Source: Department of Public Works
Telephone: 626-458-3517
Last EDR Contact: 11/07/2016
Next Scheduled EDR Contact: 01/23/2017
Data Release Frequency: Semi-Annually

List of Solid Waste Facilities

Solid Waste Facilities in Los Angeles County.

Date of Government Version: 07/15/2016
Date Data Arrived at EDR: 07/19/2016
Date Made Active in Reports: 10/05/2016
Number of Days to Update: 78

Source: La County Department of Public Works
Telephone: 818-458-5185
Last EDR Contact: 10/18/2016
Next Scheduled EDR Contact: 01/30/2017
Data Release Frequency: Varies

City of Los Angeles Landfills

Landfills owned and maintained by the City of Los Angeles.

Date of Government Version: 01/01/2016
Date Data Arrived at EDR: 01/26/2016
Date Made Active in Reports: 03/22/2016
Number of Days to Update: 56

Source: Engineering & Construction Division
Telephone: 213-473-7869
Last EDR Contact: 10/17/2016
Next Scheduled EDR Contact: 01/30/2017
Data Release Frequency: Varies

Site Mitigation List
Industrial sites that have had some sort of spill or complaint.

Date of Government Version: 03/29/2016
Date Data Arrived at EDR: 04/06/2016
Date Made Active in Reports: 06/13/2016
Number of Days to Update: 68
Source: Community Health Services
Telephone: 323-890-7806
Last EDR Contact: 10/17/2016
Next Scheduled EDR Contact: 01/30/2017
Data Release Frequency: Annually

City of El Segundo Underground Storage Tank
Underground storage tank sites located in El Segundo city.

Date of Government Version: 03/30/2015
Date Data Arrived at EDR: 04/02/2015
Date Made Active in Reports: 04/13/2015
Number of Days to Update: 11
Source: City of El Segundo Fire Department
Telephone: 310-524-2236
Last EDR Contact: 10/17/2016
Next Scheduled EDR Contact: 01/30/2017
Data Release Frequency: Semi-Annually

City of Long Beach Underground Storage Tank
Underground storage tank sites located in the city of Long Beach.

Date of Government Version: 11/04/2015
Date Data Arrived at EDR: 11/13/2015
Date Made Active in Reports: 12/17/2015
Number of Days to Update: 34
Source: City of Long Beach Fire Department
Telephone: 562-570-2563
Last EDR Contact: 10/24/2016
Next Scheduled EDR Contact: 02/06/2017
Data Release Frequency: Annually

City of Torrance Underground Storage Tank
Underground storage tank sites located in the city of Torrance.

Date of Government Version: 06/23/2016
Date Data Arrived at EDR: 07/12/2016
Date Made Active in Reports: 08/09/2016
Number of Days to Update: 28
Source: City of Torrance Fire Department
Telephone: 310-618-2973
Last EDR Contact: 10/07/2016
Next Scheduled EDR Contact: 01/23/2017
Data Release Frequency: Semi-Annually

MADERA COUNTY:

CUPA Facility List
A listing of sites included in the county's Certified Unified Program Agency database. California's Secretary for Environmental Protection established the unified hazardous materials and hazardous waste regulatory program as required by chapter 6.11 of the California Health and Safety Code. The Unified Program consolidates the administration, permits, inspections, and enforcement activities.

Date of Government Version: 08/18/2016
Date Data Arrived at EDR: 08/22/2016
Date Made Active in Reports: 09/23/2016
Number of Days to Update: 32
Source: Madera County Environmental Health
Telephone: 559-675-7823
Last EDR Contact: 11/16/2016
Next Scheduled EDR Contact: 03/06/2017
Data Release Frequency: Varies

MARIN COUNTY:

Underground Storage Tank Sites
Currently permitted USTs in Marin County.

Date of Government Version: 04/07/2016
Date Data Arrived at EDR: 04/26/2016
Date Made Active in Reports: 06/01/2016
Number of Days to Update: 36
Source: Public Works Department Waste Management
Telephone: 415-499-6647
Last EDR Contact: 09/29/2016
Next Scheduled EDR Contact: 01/16/2017
Data Release Frequency: Semi-Annually

MERCED COUNTY:

CUPA Facility List
CUPA facility list.

Date of Government Version: 08/17/2016
Date Data Arrived at EDR: 08/22/2016
Date Made Active in Reports: 09/23/2016
Number of Days to Update: 32

Source: Merced County Environmental Health
Telephone: 209-381-1094
Last EDR Contact: 11/16/2016
Next Scheduled EDR Contact: 03/06/2017
Data Release Frequency: Varies

MONO COUNTY:

CUPA Facility List
CUPA Facility List

Date of Government Version: 08/29/2016
Date Data Arrived at EDR: 08/31/2016
Date Made Active in Reports: 10/14/2016
Number of Days to Update: 44

Source: Mono County Health Department
Telephone: 760-932-5580
Last EDR Contact: 08/24/2016
Next Scheduled EDR Contact: 12/12/2016
Data Release Frequency: Varies

MONTEREY COUNTY:

CUPA Facility Listing
CUPA Program listing from the Environmental Health Division.

Date of Government Version: 06/24/2016
Date Data Arrived at EDR: 06/27/2016
Date Made Active in Reports: 08/09/2016
Number of Days to Update: 43

Source: Monterey County Health Department
Telephone: 831-796-1297
Last EDR Contact: 11/21/2016
Next Scheduled EDR Contact: 03/06/2017
Data Release Frequency: Varies

NAPA COUNTY:

Sites With Reported Contamination
A listing of leaking underground storage tank sites located in Napa county.

Date of Government Version: 12/05/2011
Date Data Arrived at EDR: 12/06/2011
Date Made Active in Reports: 02/07/2012
Number of Days to Update: 63

Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 08/24/2016
Next Scheduled EDR Contact: 12/12/2016
Data Release Frequency: No Update Planned

Closed and Operating Underground Storage Tank Sites
Underground storage tank sites located in Napa county.

Date of Government Version: 01/15/2008
Date Data Arrived at EDR: 01/16/2008
Date Made Active in Reports: 02/08/2008
Number of Days to Update: 23

Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 08/24/2016
Next Scheduled EDR Contact: 12/12/2016
Data Release Frequency: No Update Planned

NEVADA COUNTY:

CUPA Facility List
CUPA facility list.

Date of Government Version: 07/25/2016
Date Data Arrived at EDR: 08/01/2016
Date Made Active in Reports: 09/23/2016
Number of Days to Update: 53

Source: Community Development Agency
Telephone: 530-265-1467
Last EDR Contact: 10/31/2016
Next Scheduled EDR Contact: 02/13/2017
Data Release Frequency: Varies

ORANGE COUNTY:

List of Industrial Site Cleanups
Petroleum and non-petroleum spills.

Date of Government Version: 08/01/2016
Date Data Arrived at EDR: 08/15/2016
Date Made Active in Reports: 10/05/2016
Number of Days to Update: 51

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 11/07/2016
Next Scheduled EDR Contact: 02/20/2017
Data Release Frequency: Annually

List of Underground Storage Tank Cleanups
Orange County Underground Storage Tank Cleanups (LUST).

Date of Government Version: 08/03/2016
Date Data Arrived at EDR: 08/15/2016
Date Made Active in Reports: 10/07/2016
Number of Days to Update: 53

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 11/07/2016
Next Scheduled EDR Contact: 02/20/2017
Data Release Frequency: Quarterly

List of Underground Storage Tank Facilities
Orange County Underground Storage Tank Facilities (UST).

Date of Government Version: 08/01/2016
Date Data Arrived at EDR: 08/09/2016
Date Made Active in Reports: 10/11/2016
Number of Days to Update: 63

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 11/08/2016
Next Scheduled EDR Contact: 02/20/2017
Data Release Frequency: Quarterly

PLACER COUNTY:

Master List of Facilities
List includes aboveground tanks, underground tanks and cleanup sites.

Date of Government Version: 09/02/2016
Date Data Arrived at EDR: 09/06/2016
Date Made Active in Reports: 10/14/2016
Number of Days to Update: 38

Source: Placer County Health and Human Services
Telephone: 530-745-2363
Last EDR Contact: 09/02/2016
Next Scheduled EDR Contact: 12/19/2016
Data Release Frequency: Semi-Annually

RIVERSIDE COUNTY:

Listing of Underground Tank Cleanup Sites
Riverside County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 06/13/2016
Date Data Arrived at EDR: 07/18/2016
Date Made Active in Reports: 10/07/2016
Number of Days to Update: 81

Source: Department of Environmental Health
Telephone: 951-358-5055
Last EDR Contact: 09/19/2016
Next Scheduled EDR Contact: 01/02/2017
Data Release Frequency: Quarterly

Underground Storage Tank Tank List
Underground storage tank sites located in Riverside county.

Date of Government Version: 07/13/2016
Date Data Arrived at EDR: 07/18/2016
Date Made Active in Reports: 08/08/2016
Number of Days to Update: 21

Source: Department of Environmental Health
Telephone: 951-358-5055
Last EDR Contact: 09/19/2016
Next Scheduled EDR Contact: 01/02/2017
Data Release Frequency: Quarterly

SACRAMENTO COUNTY:

Toxic Site Clean-Up List
List of sites where unauthorized releases of potentially hazardous materials have occurred.

Date of Government Version: 08/22/2016
Date Data Arrived at EDR: 10/04/2016
Date Made Active in Reports: 11/18/2016
Number of Days to Update: 45

Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 10/04/2016
Next Scheduled EDR Contact: 01/16/2017
Data Release Frequency: Quarterly

Master Hazardous Materials Facility List
Any business that has hazardous materials on site - hazardous material storage sites, underground storage tanks, waste generators.

Date of Government Version: 05/02/2016
Date Data Arrived at EDR: 07/06/2016
Date Made Active in Reports: 08/18/2016
Number of Days to Update: 43

Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 10/04/2016
Next Scheduled EDR Contact: 01/16/2017
Data Release Frequency: Quarterly

SAN BERNARDINO COUNTY:

Hazardous Material Permits
This listing includes underground storage tanks, medical waste handlers/generators, hazardous materials handlers, hazardous waste generators, and waste oil generators/handlers.

Date of Government Version: 09/06/2016
Date Data Arrived at EDR: 09/07/2016
Date Made Active in Reports: 10/19/2016
Number of Days to Update: 42

Source: San Bernardino County Fire Department Hazardous Materials Division
Telephone: 909-387-3041
Last EDR Contact: 11/07/2016
Next Scheduled EDR Contact: 02/20/2017
Data Release Frequency: Quarterly

SAN DIEGO COUNTY:

Hazardous Materials Management Division Database
The database includes: HE58 - This report contains the business name, site address, business phone number, establishment 'H' permit number, type of permit, and the business status. HE17 - In addition to providing the same information provided in the HE58 listing, HE17 provides inspection dates, violations received by the establishment, hazardous waste generated, the quantity, method of storage, treatment/disposal of waste and the hauler, and information on underground storage tanks. Unauthorized Release List - Includes a summary of environmental contamination cases in San Diego County (underground tank cases, non-tank cases, groundwater contamination, and soil contamination are included.)

Date of Government Version: 09/23/2013
Date Data Arrived at EDR: 09/24/2013
Date Made Active in Reports: 10/17/2013
Number of Days to Update: 23

Source: Hazardous Materials Management Division
Telephone: 619-338-2268
Last EDR Contact: 06/02/2016
Next Scheduled EDR Contact: 09/19/2016
Data Release Frequency: Quarterly

Solid Waste Facilities
San Diego County Solid Waste Facilities.

Date of Government Version: 10/31/2015
Date Data Arrived at EDR: 11/07/2015
Date Made Active in Reports: 01/04/2016
Number of Days to Update: 58
Source: Department of Health Services
Telephone: 619-338-2209
Last EDR Contact: 11/16/2016
Next Scheduled EDR Contact: 02/06/2017
Data Release Frequency: Varies

Environmental Case Listing
The listing contains all underground tank release cases and projects pertaining to properties contaminated with hazardous substances that are actively under review by the Site Assessment and Mitigation Program.

Date of Government Version: 03/23/2010
Date Data Arrived at EDR: 06/15/2010
Date Made Active in Reports: 07/09/2010
Number of Days to Update: 24
Source: San Diego County Department of Environmental Health
Telephone: 619-338-2371
Last EDR Contact: 09/02/2016
Next Scheduled EDR Contact: 12/19/2016
Data Release Frequency: No Update Planned

SAN FRANCISCO COUNTY:

Local Oversite Facilities
A listing of leaking underground storage tank sites located in San Francisco county.

Date of Government Version: 09/19/2008
Date Data Arrived at EDR: 09/19/2008
Date Made Active in Reports: 09/29/2008
Number of Days to Update: 10
Source: Department Of Public Health San Francisco County
Telephone: 415-252-3920
Last EDR Contact: 11/07/2016
Next Scheduled EDR Contact: 02/20/2017
Data Release Frequency: Quarterly

Underground Storage Tank Information
Underground storage tank sites located in San Francisco county.

Date of Government Version: 11/29/2010
Date Data Arrived at EDR: 03/10/2011
Date Made Active in Reports: 03/15/2011
Number of Days to Update: 5
Source: Department of Public Health
Telephone: 415-252-3920
Last EDR Contact: 11/16/2016
Next Scheduled EDR Contact: 02/20/2017
Data Release Frequency: Quarterly

SAN JOAQUIN COUNTY:

San Joaquin Co. UST
A listing of underground storage tank locations in San Joaquin county.

Date of Government Version: 09/21/2016
Date Data Arrived at EDR: 09/22/2016
Date Made Active in Reports: 10/18/2016
Number of Days to Update: 26
Source: Environmental Health Department
Telephone: N/A
Last EDR Contact: 09/19/2016
Next Scheduled EDR Contact: 01/02/2017
Data Release Frequency: Semi-Annually

SAN LUIS OBISPO COUNTY:

CUPA Facility List
Cupa Facility List.

Date of Government Version: 08/18/2016
Date Data Arrived at EDR: 08/22/2016
Date Made Active in Reports: 10/04/2016
Number of Days to Update: 43
Source: San Luis Obispo County Public Health Department
Telephone: 805-781-5596
Last EDR Contact: 11/16/2016
Next Scheduled EDR Contact: 03/06/2017
Data Release Frequency: Varies

SAN MATEO COUNTY:

Business Inventory
List includes Hazardous Materials Business Plan, hazardous waste generators, and underground storage tanks.

Date of Government Version: 06/02/2016
Date Data Arrived at EDR: 06/07/2016
Date Made Active in Reports: 06/22/2016
Number of Days to Update: 15
Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 09/12/2016
Next Scheduled EDR Contact: 12/26/2016
Data Release Frequency: Annually

Fuel Leak List
A listing of leaking underground storage tank sites located in San Mateo county.

Date of Government Version: 06/09/2016
Date Data Arrived at EDR: 06/13/2016
Date Made Active in Reports: 08/09/2016
Number of Days to Update: 57
Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 09/12/2016
Next Scheduled EDR Contact: 12/26/2016
Data Release Frequency: Semi-Annually

SANTA BARBARA COUNTY:

CUPA Facility Listing
CUPA Program Listing from the Environmental Health Services division.

Date of Government Version: 09/08/2011
Date Data Arrived at EDR: 09/09/2011
Date Made Active in Reports: 10/07/2011
Number of Days to Update: 28
Source: Santa Barbara County Public Health Department
Telephone: 805-686-8167
Last EDR Contact: 11/16/2016
Next Scheduled EDR Contact: 03/06/2017
Data Release Frequency: Varies

SANTA CLARA COUNTY:

Cupa Facility List
Cupa facility list

Date of Government Version: 08/17/2016
Date Data Arrived at EDR: 08/22/2016
Date Made Active in Reports: 10/04/2016
Number of Days to Update: 43
Source: Department of Environmental Health
Telephone: 408-918-1973
Last EDR Contact: 11/16/2016
Next Scheduled EDR Contact: 03/06/2017
Data Release Frequency: Varies

HIST LUST - Fuel Leak Site Activity Report
A listing of open and closed leaking underground storage tanks. This listing is no longer updated by the county. Leaking underground storage tanks are now handled by the Department of Environmental Health.

Date of Government Version: 03/29/2005
Date Data Arrived at EDR: 03/30/2005
Date Made Active in Reports: 04/21/2005
Number of Days to Update: 22
Source: Santa Clara Valley Water District
Telephone: 408-265-2600
Last EDR Contact: 03/23/2009
Next Scheduled EDR Contact: 06/22/2009
Data Release Frequency: No Update Planned

LOP Listing
A listing of leaking underground storage tanks located in Santa Clara county.

Date of Government Version: 03/03/2014
Date Data Arrived at EDR: 03/05/2014
Date Made Active in Reports: 03/18/2014
Number of Days to Update: 13
Source: Department of Environmental Health
Telephone: 408-918-3417
Last EDR Contact: 08/24/2016
Next Scheduled EDR Contact: 12/12/2016
Data Release Frequency: Annually

Hazardous Material Facilities
Hazardous material facilities, including underground storage tank sites.

Date of Government Version: 08/03/2016
Date Data Arrived at EDR: 08/08/2016
Date Made Active in Reports: 10/07/2016
Number of Days to Update: 60

Source: City of San Jose Fire Department
Telephone: 408-535-7694
Last EDR Contact: 11/07/2016
Next Scheduled EDR Contact: 02/20/2017
Data Release Frequency: Annually

SANTA CRUZ COUNTY:

CUPA Facility List
CUPA facility listing.

Date of Government Version: 08/17/2016
Date Data Arrived at EDR: 08/22/2016
Date Made Active in Reports: 10/04/2016
Number of Days to Update: 43

Source: Santa Cruz County Environmental Health
Telephone: 831-464-2761
Last EDR Contact: 11/16/2016
Next Scheduled EDR Contact: 03/06/2017
Data Release Frequency: Varies

SHASTA COUNTY:

CUPA Facility List
Cupa Facility List.

Date of Government Version: 09/12/2016
Date Data Arrived at EDR: 09/15/2016
Date Made Active in Reports: 10/14/2016
Number of Days to Update: 29

Source: Shasta County Department of Resource Management
Telephone: 530-225-5789
Last EDR Contact: 11/21/2016
Next Scheduled EDR Contact: 03/06/2017
Data Release Frequency: Varies

SOLANO COUNTY:

Leaking Underground Storage Tanks
A listing of leaking underground storage tank sites located in Solano county.

Date of Government Version: 06/09/2016
Date Data Arrived at EDR: 06/13/2016
Date Made Active in Reports: 08/09/2016
Number of Days to Update: 57

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 09/26/2016
Next Scheduled EDR Contact: 12/26/2016
Data Release Frequency: Quarterly

Underground Storage Tanks
Underground storage tank sites located in Solano county.

Date of Government Version: 09/26/2016
Date Data Arrived at EDR: 09/29/2016
Date Made Active in Reports: 10/18/2016
Number of Days to Update: 19

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 09/26/2016
Next Scheduled EDR Contact: 12/26/2016
Data Release Frequency: Quarterly

SONOMA COUNTY:

Cupa Facility List
Cupa Facility list

Date of Government Version: 09/27/2016
Date Data Arrived at EDR: 09/28/2016
Date Made Active in Reports: 11/22/2016
Number of Days to Update: 55

Source: County of Sonoma Fire & Emergency Services Department
Telephone: 707-565-1174
Last EDR Contact: 09/26/2016
Next Scheduled EDR Contact: 01/09/2017
Data Release Frequency: Varies

Leaking Underground Storage Tank Sites

A listing of leaking underground storage tank sites located in Sonoma county.

Date of Government Version: 07/01/2016
Date Data Arrived at EDR: 07/05/2016
Date Made Active in Reports: 08/18/2016
Number of Days to Update: 44

Source: Department of Health Services
Telephone: 707-565-6565
Last EDR Contact: 09/26/2016
Next Scheduled EDR Contact: 01/09/2017
Data Release Frequency: Quarterly

SUTTER COUNTY:

Underground Storage Tanks

Underground storage tank sites located in Sutter county.

Date of Government Version: 06/02/2016
Date Data Arrived at EDR: 06/07/2016
Date Made Active in Reports: 06/23/2016
Number of Days to Update: 16

Source: Sutter County Department of Agriculture
Telephone: 530-822-7500
Last EDR Contact: 09/02/2016
Next Scheduled EDR Contact: 12/19/2016
Data Release Frequency: Semi-Annually

TUOLUMNE COUNTY:

CUPA Facility List

Cupa facility list

Date of Government Version: 08/12/2016
Date Data Arrived at EDR: 08/16/2016
Date Made Active in Reports: 10/04/2016
Number of Days to Update: 49

Source: Divison of Environmental Health
Telephone: 209-533-5633
Last EDR Contact: 10/24/2016
Next Scheduled EDR Contact: 02/06/2017
Data Release Frequency: Varies

VENTURA COUNTY:

Business Plan, Hazardous Waste Producers, and Operating Underground Tanks

The BWT list indicates by site address whether the Environmental Health Division has Business Plan (B), Waste Producer (W), and/or Underground Tank (T) information.

Date of Government Version: 06/28/2016
Date Data Arrived at EDR: 08/01/2016
Date Made Active in Reports: 09/23/2016
Number of Days to Update: 53

Source: Ventura County Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 10/24/2016
Next Scheduled EDR Contact: 02/06/2017
Data Release Frequency: Quarterly

Inventory of Illegal Abandoned and Inactive Sites

Ventura County Inventory of Closed, Illegal Abandoned, and Inactive Sites.

Date of Government Version: 12/01/2011
Date Data Arrived at EDR: 12/01/2011
Date Made Active in Reports: 01/19/2012
Number of Days to Update: 49

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 09/29/2016
Next Scheduled EDR Contact: 01/16/2017
Data Release Frequency: Annually

Listing of Underground Tank Cleanup Sites
Ventura County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 05/29/2008
Date Data Arrived at EDR: 06/24/2008
Date Made Active in Reports: 07/31/2008
Number of Days to Update: 37
Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 11/14/2016
Next Scheduled EDR Contact: 02/27/2017
Data Release Frequency: Quarterly

Medical Waste Program List
To protect public health and safety and the environment from potential exposure to disease causing agents, the Environmental Health Division Medical Waste Program regulates the generation, handling, storage, treatment and disposal of medical waste throughout the County.

Date of Government Version: 06/28/2016
Date Data Arrived at EDR: 08/01/2016
Date Made Active in Reports: 10/07/2016
Number of Days to Update: 67
Source: Ventura County Resource Management Agency
Telephone: 805-654-2813
Last EDR Contact: 10/24/2016
Next Scheduled EDR Contact: 02/06/2017
Data Release Frequency: Quarterly

Underground Tank Closed Sites List
Ventura County Operating Underground Storage Tank Sites (UST)/Underground Tank Closed Sites List.

Date of Government Version: 08/29/2016
Date Data Arrived at EDR: 09/14/2016
Date Made Active in Reports: 10/11/2016
Number of Days to Update: 27
Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 09/14/2016
Next Scheduled EDR Contact: 12/26/2016
Data Release Frequency: Quarterly

YOLO COUNTY:

Underground Storage Tank Comprehensive Facility Report
Underground storage tank sites located in Yolo county.

Date of Government Version: 06/30/2016
Date Data Arrived at EDR: 08/24/2016
Date Made Active in Reports: 10/11/2016
Number of Days to Update: 48
Source: Yolo County Department of Health
Telephone: 530-666-8646
Last EDR Contact: 11/14/2016
Next Scheduled EDR Contact: 01/16/2017
Data Release Frequency: Annually

YUBA COUNTY:

CUPA Facility List
CUPA facility listing for Yuba County.

Date of Government Version: 08/03/2016
Date Data Arrived at EDR: 08/05/2016
Date Made Active in Reports: 10/05/2016
Number of Days to Update: 61
Source: Yuba County Environmental Health Department
Telephone: 530-749-7523
Last EDR Contact: 10/31/2016
Next Scheduled EDR Contact: 02/13/2017
Data Release Frequency: Varies

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

CT MANIFEST: Hazardous Waste Manifest Data

Facility and manifest data. Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a tsd facility.

Date of Government Version: 07/30/2013
Date Data Arrived at EDR: 08/19/2013
Date Made Active in Reports: 10/03/2013
Number of Days to Update: 45

Source: Department of Energy & Environmental Protection
Telephone: 860-424-3375
Last EDR Contact: 11/11/2016
Next Scheduled EDR Contact: 02/27/2017
Data Release Frequency: No Update Planned

NJ MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 12/31/2013
Date Data Arrived at EDR: 07/17/2015
Date Made Active in Reports: 08/12/2015
Number of Days to Update: 26

Source: Department of Environmental Protection
Telephone: N/A
Last EDR Contact: 10/12/2016
Next Scheduled EDR Contact: 01/23/2017
Data Release Frequency: Annually

NY MANIFEST: Facility and Manifest Data

Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a TSD facility.

Date of Government Version: 08/01/2016
Date Data Arrived at EDR: 08/03/2016
Date Made Active in Reports: 09/09/2016
Number of Days to Update: 37

Source: Department of Environmental Conservation
Telephone: 518-402-8651
Last EDR Contact: 11/02/2016
Next Scheduled EDR Contact: 02/13/2017
Data Release Frequency: Annually

PA MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 12/31/2015
Date Data Arrived at EDR: 07/22/2016
Date Made Active in Reports: 11/22/2016
Number of Days to Update: 123

Source: Department of Environmental Protection
Telephone: 717-783-8990
Last EDR Contact: 10/14/2016
Next Scheduled EDR Contact: 01/30/2017
Data Release Frequency: Annually

RI MANIFEST: Manifest information

Hazardous waste manifest information

Date of Government Version: 12/31/2013
Date Data Arrived at EDR: 06/19/2015
Date Made Active in Reports: 07/15/2015
Number of Days to Update: 26

Source: Department of Environmental Management
Telephone: 401-222-2797
Last EDR Contact: 11/21/2016
Next Scheduled EDR Contact: 03/06/2017
Data Release Frequency: Annually

WI MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 12/31/2015
Date Data Arrived at EDR: 04/14/2016
Date Made Active in Reports: 06/03/2016
Number of Days to Update: 50

Source: Department of Natural Resources
Telephone: N/A
Last EDR Contact: 09/12/2016
Next Scheduled EDR Contact: 12/26/2016
Data Release Frequency: Annually

Oil/Gas Pipelines

Source: PennWell Corporation

Petroleum Bundle (Crude Oil, Refined Products, Petrochemicals, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)) N = Natural Gas Bundle (Natural Gas, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)). This map includes information copyrighted by PennWell Corporation. This information is provided on a best effort basis and PennWell Corporation does not guarantee its accuracy nor warrant its fitness for any particular purpose. Such information has been reprinted with the permission of PennWell.

Electric Power Transmission Line Data

Source: PennWell Corporation

This map includes information copyrighted by PennWell Corporation. This information is provided on a best effort basis and PennWell Corporation does not guarantee its accuracy nor warrant its fitness for any particular purpose. Such information has been reprinted with the permission of PennWell.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

AHA Hospitals:
Source: American Hospital Association, Inc.
Telephone: 312-280-5991
The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

Medical Centers: Provider of Services Listing
Source: Centers for Medicare & Medicaid Services
Telephone: 410-786-3000
A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.

Nursing Homes
Source: National Institutes of Health
Telephone: 301-594-6248
Information on Medicare and Medicaid certified nursing homes in the United States.

Public Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.

Private Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on private school locations in the United States.

Daycare Centers: Licensed Facilities
Source: Department of Social Services
Telephone: 916-657-4041

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.
Source: FEMA
Telephone: 877-336-2627
Date of Government Version: 2003, 2015

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetland Inventory
Source: Department of Fish & Game
Telephone: 916-445-0411

Current USGS 7.5 Minute Topographic Map
Source: U.S. Geological Survey

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

STREET AND ADDRESS INFORMATION

GEOCHECK ®- PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

GONZALES RIVER ROAD BRIDGE
GONZALES RIVER ROAD
SOLEDAD, CA 93960

TARGET PROPERTY COORDINATES

Latitude (North):	36.486359 - 36° 29' 10.89''
Longitude (West):	121.46961 - 121° 28' 10.60''
Universal Tranverse Mercator:	Zone 10
UTM X (Meters):	637086.6
UTM Y (Meters):	4038782.0
Elevation:	118 ft. above sea level

USGS TOPOGRAPHIC MAP

Target Property Map:	5603748 PALO ESCRITO PEAK, CA
Version Date:	2012
North Map:	5619810 GONZALES, CA
Version Date:	2012

EDR's GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

Assessment of the impact of contaminant migration generally has two principal investigative components:

1. Groundwater flow direction, and
2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW DIRECTION INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

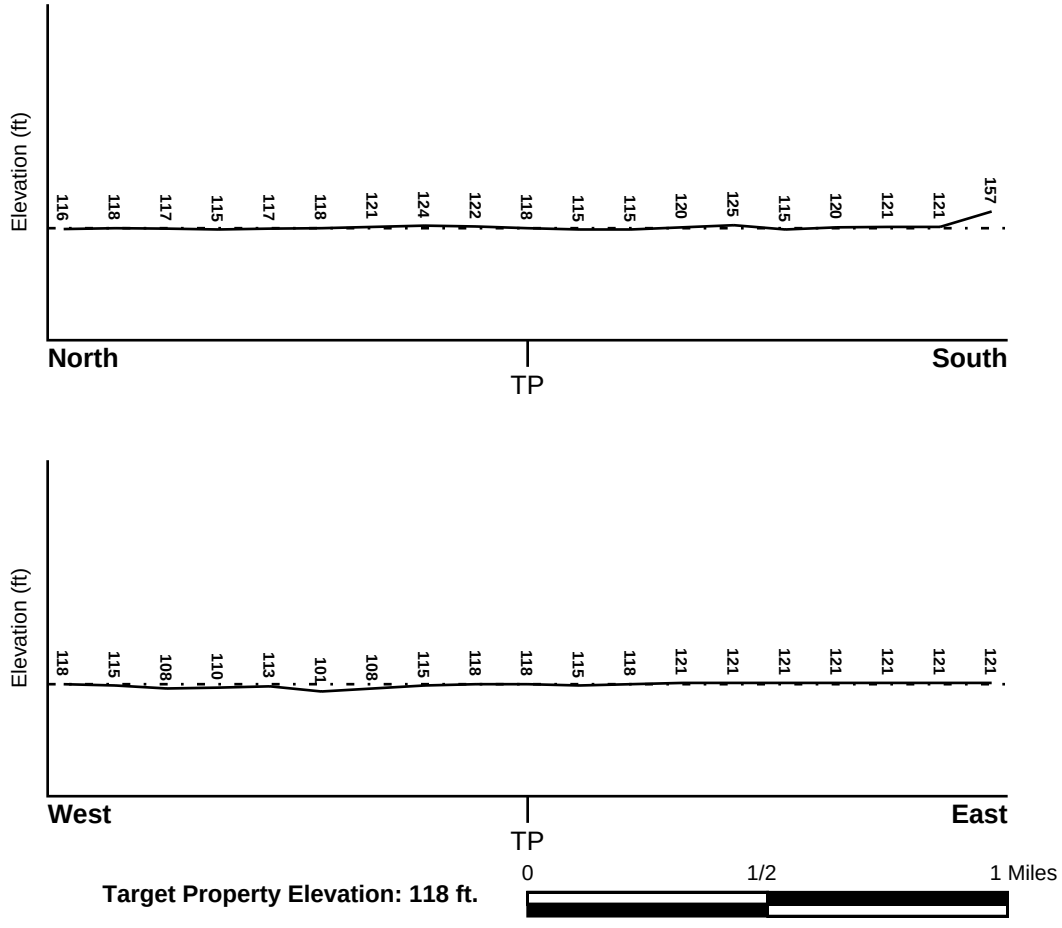
TOPOGRAPHIC INFORMATION

Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

TARGET PROPERTY TOPOGRAPHY

General Topographic Gradient: General SSW

SURROUNDING TOPOGRAPHY: ELEVATION PROFILES



Source: Topography has been determined from the USGS 7.5' Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

FEMA FLOOD ZONE

Flood Plain Panel at Target Property	FEMA Source Type
06053C0600G	FEMA FIRM Flood data

Additional Panels in search area:	FEMA Source Type
06053C0425G	FEMA FIRM Flood data
06053C0414G	FEMA FIRM Flood data

NATIONAL WETLAND INVENTORY

NWI Quad at Target Property	NWI Electronic Data Coverage
PALO ESCRITO PEAK	YES - refer to the Overview Map and Detail Map

HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Site-Specific Hydrogeological Data*:

Search Radius:	1.25 miles
Status:	Not found

AQUIFLOW®

Search Radius: 1.000 Mile.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

MAP ID	LOCATION FROM TP	GENERAL DIRECTION GROUNDWATER FLOW
Not Reported		

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW VELOCITY INFORMATION

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

ROCK STRATIGRAPHIC UNIT

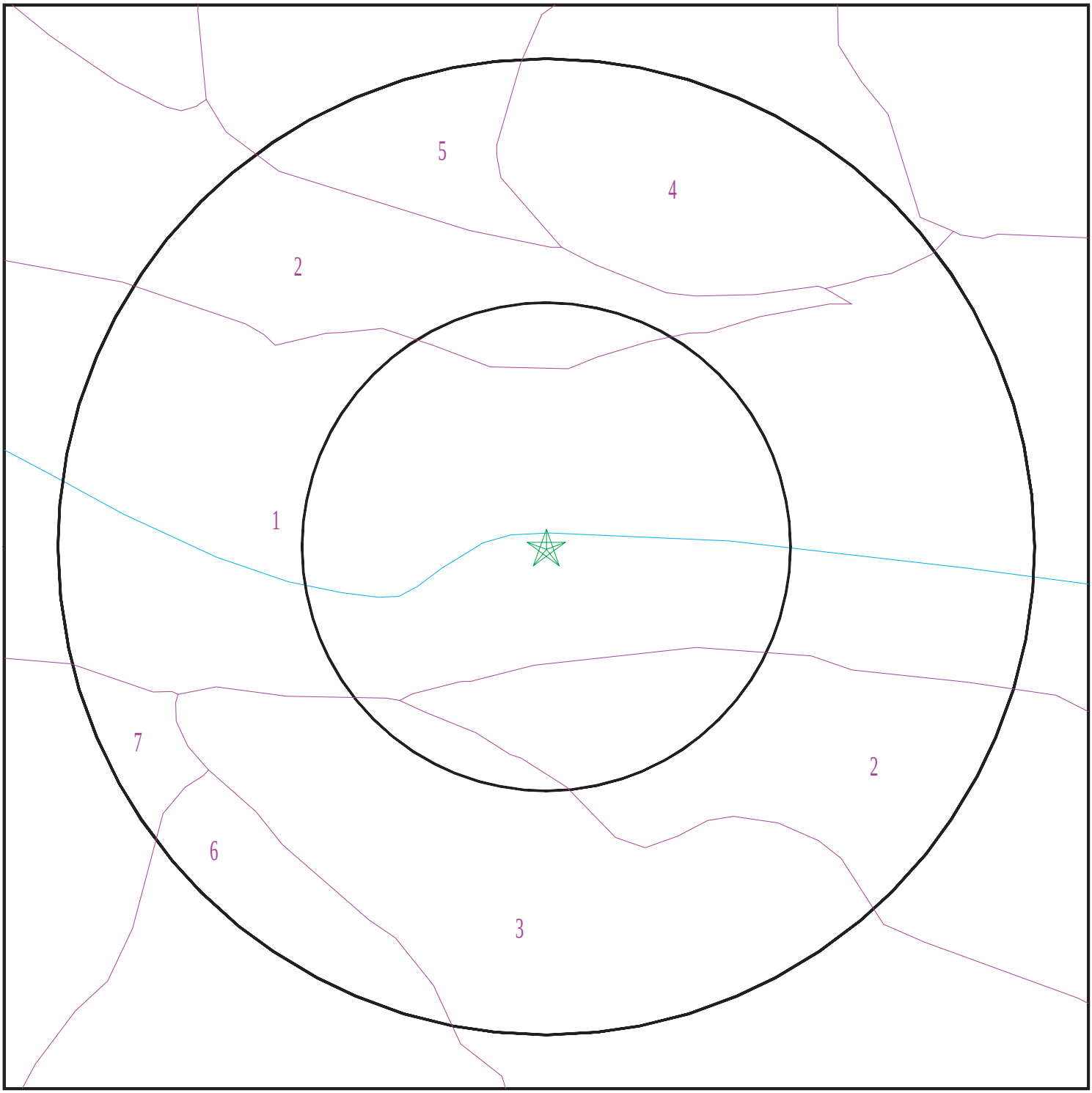
Era:	Cenozoic
System:	Quaternary
Series:	Quaternary
Code:	Q *(decoded above as Era, System & Series)*

GEOLOGIC AGE IDENTIFICATION

Category: Stratifed Sequence

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

SSURGO SOIL MAP - 4793997.2s



Target Property
SSURGO Soil
Water

0 1/16 1/8 1/4 Miles

N

SITE NAME:	Gonzales River Road Bridge	CLIENT:	TRC
ADDRESS:	Gonzales River Road Soledad CA 93960	CONTACT:	Greg Drosky
		INQUIRY #:	4793997.2s
LAT/LONG:	36.486359 / 121.46961	DATE:	November 30, 2016 9:51 pm

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. The following information is based on Soil Conservation Service SSURGO data.

Soil Map ID: 1

Soil Component Name: Psamments

Soil Surface Texture: sand

Hydrologic Group: Class A - High infiltration rates. Soils are deep, well drained to excessively drained sands and gravels.

Soil Drainage Class: Excessively drained

Hydric Status: Partially hydric

Corrosion Potential - Uncoated Steel: Low

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	59 inches	sand	Not reported	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 42	Max: 7.3 Min: 6.6

Soil Map ID: 2

Soil Component Name: Metz

Soil Surface Texture: fine sandy loam

Hydrologic Group: Class A - High infiltration rates. Soils are deep, well drained to excessively drained sands and gravels.

Soil Drainage Class: Somewhat excessively drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	11 inches	fine sandy loam	Not reported	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 42 Min: 14	Max: 8.4 Min: 6.6
2	11 inches	98 inches	stratified sand to very fine sandy loam	Not reported	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 14 Min: 4	Max: 8.4 Min: 6.6

Soil Map ID: 3

Soil Component Name: Metz

Soil Surface Texture: loamy sand

Hydrologic Group: Class A - High infiltration rates. Soils are deep, well drained to excessively drained sands and gravels.

Soil Drainage Class: Somewhat excessively drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	11 inches	loamy sand	Not reported	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 141 Min: 42	Max: 8.4 Min: 6.6

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
2	11 inches	98 inches	stratified sand to very fine sandy loam	Not reported	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 14 Min: 4	Max: 8.4 Min: 6.6

Soil Map ID: 4

Soil Component Name: Salinas

Soil Surface Texture: clay loam

Hydrologic Group: Class C - Slow infiltration rates. Soils with layers impeding downward movement of water, or soils with moderately fine or fine textures.

Soil Drainage Class: Well drained

Hydric Status: Partially hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	5 inches	clay loam	Not reported	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 4 Min: 1.4	Max: 7.3 Min: 6.6
2	5 inches	75 inches	stratified fine sandy loam to silty clay loam	Not reported	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 4 Min: 1.4	Max: 8.4 Min: 6.6

Soil Map ID: 5

Soil Component Name: Cropley

Soil Surface Texture: silty clay

Hydrologic Group: Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.

Soil Drainage Class: Well drained

Hydric Status: Partially hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	68 inches	silty clay	Not reported	FINE-GRAINED SOILS, Silts and Clays (liquid limit 50% or more), Fat Clay.	Max: 1.4 Min: 0.42	Max: 8.4 Min: 6.6

Soil Map ID: 6

Soil Component Name: Mocho

Soil Surface Texture: silty clay loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	68 inches	silty clay loam	Not reported	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay	Max: 4 Min: 1.4	Max: 8.4 Min: 7.4

Soil Map ID: 7

Soil Component Name: Pico

Soil Surface Texture: fine sandy loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained

Hydric Status: Partially hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	55 inches	fine sandy loam	Not reported	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 42 Min: 14	Max: 8.4 Min: 7.9
2	55 inches	72 inches	stratified sand to silty clay loam	Not reported	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 14 Min: 4	Max: 8.4 Min: 7.9

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

LOCAL / REGIONAL WATER AGENCY RECORDS

EDR Local/Regional Water Agency records provide water well information to assist the environmental professional in assessing sources that may impact ground water flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

WELL SEARCH DISTANCE INFORMATION

DATABASE	SEARCH DISTANCE (miles)
Federal USGS	1.000
Federal FRDS PWS	Nearest PWS within 0.001 miles
State Database	1.000

FEDERAL USGS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
3	USGS40000174194	1/4 - 1/2 Mile NE
5	USGS40000174021	1/2 - 1 Mile SSE

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

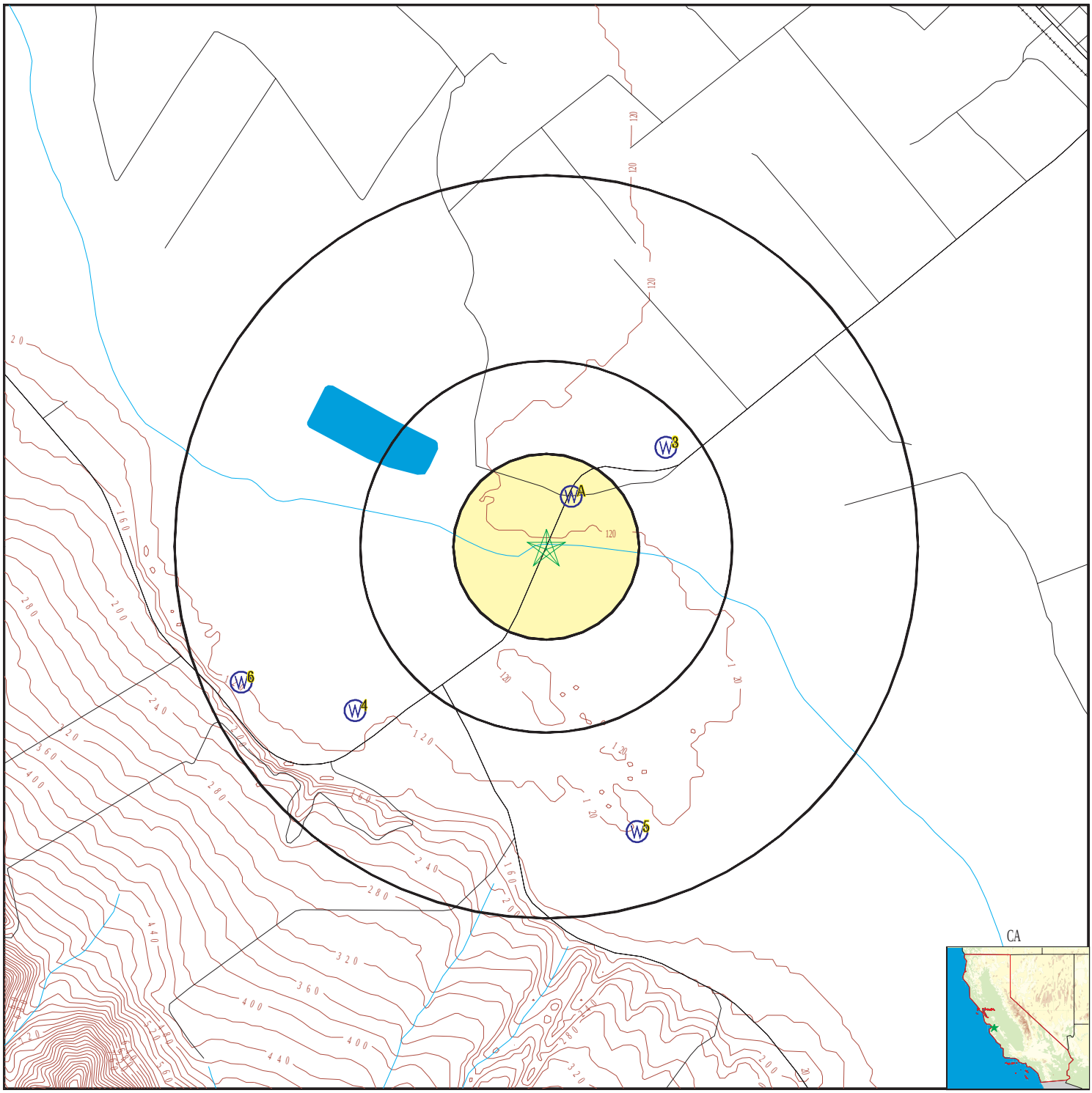
MAP ID	WELL ID	LOCATION FROM TP
No PWS System Found		

Note: PWS System location is not always the same as well location.

STATE DATABASE WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
A1	CADW60000005312	1/8 - 1/4 Mile NNE
A2	CADW60000010310	1/8 - 1/4 Mile NNE
4	13476	1/2 - 1 Mile SW
6	13475	1/2 - 1 Mile WSW

PHYSICAL SETTING SOURCE MAP - 4793997.2s



- County Boundary
- Major Roads
- Contour Lines
- Earthquake Fault Lines
- Earthquake epicenter, Richter 5 or greater
- Water Wells
- Public Water Supply Wells
- Cluster of Multiple Icons
- Groundwater Flow Direction
- GI Indeterminate Groundwater Flow at Location
- GV Groundwater Flow Varies at Location
- HD Closest Hydrogeological Data
- Oil, gas or related wells

SITE NAME:	Gonzales River Road Bridge	CLIENT:	TRC
ADDRESS:	Gonzales River Road Soledad CA 93960	CONTACT:	Greg Drosky
		INQUIRY #:	4793997.2s
LAT/LONG:	36.486359 / 121.46961	DATE:	November 30, 2016 9:50 pm

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

A1
NNE **CA WELLS** **CADW60000005312**
1/8 - 1/4 Mile
Higher

Objectid:	5312
Latitude:	36.488323
Longitude:	-121.468404
Site code:	364883N1214684W002
State well numbe:	17S05E06C001M
Local well name:	'GZWB21201'
Well use id:	1
Well use descrip:	Observation
County id:	27
County name:	Monterey
Basin code:	'3-4.04'
Basin desc:	Forebay Aquifer
Dwr region id:	80237
Dwr region:	South Central Region Office
Site id:	CADW60000005312

A2
NNE **CA WELLS** **CADW60000010310**
1/8 - 1/4 Mile
Higher

Objectid:	10310
Latitude:	36.488323
Longitude:	-121.468395
Site code:	364883N1214684W001
State well numbe:	17S05E06C002M
Local well name:	'GZWA21202'
Well use id:	1
Well use descrip:	Observation
County id:	27
County name:	Monterey
Basin code:	'3-4.04'
Basin desc:	Forebay Aquifer
Dwr region id:	80237
Dwr region:	South Central Region Office
Site id:	CADW60000010310

3
NE **FED USGS** **USGS40000174194**
1/4 - 1/2 Mile
Higher

Org. Identifier:	USGS-CA		
Formal name:	USGS California Water Science Center		
Monloc Identifier:	USGS-362925121274601		
Monloc name:	016S005E31Q001M		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	18060005	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	36.4902405
Longitude:	-121.4638259	Sourcemap scale:	24000

Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	124.00
Vert measure units:	feet	Vertacc measure val:	10
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	California Coastal Basin aquifers		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	Not Reported	Welldepth:	Not Reported
Welldepth units:	Not Reported	Wellholedepth:	Not Reported
Wellholedepth units:	Not Reported		

Ground-water levels, Number of Measurements: 0

4
SW **CA WELLS** **13476**
1/2 - 1 Mile
Lower

Water System Information:

Prime Station Code:	17S/04E-01J01 M	User ID:	27C
FRDS Number:	2702150001	County:	Monterey
District Number:	57	Station Type:	WELL/AMBNT/MUN/INTAKE
Water Type:	Well/Groundwater	Well Status:	Active Raw
Source Lat/Long:	362848.5 1212840.5	Precision:	1,000 Feet (10 Seconds)
Source Name:	WELL 01		
System Number:	2702150		
System Name:	RIVER ROAD WATER SYSTEM #19		
Organization That Operates System:	Not Reported		
Pop Served:	Unknown, Small System	Connections:	Unknown, Small System
Area Served:	Not Reported		

5
SSE **FED USGS** **USGS40000174021**
1/2 - 1 Mile
Higher

Org. Identifier:	USGS-CA		
Formal name:	USGS California Water Science Center		
Monloc Identifier:	USGS-362831121275101		
Monloc name:	017S005E06Q001M		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	18060002	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	36.4752405
Longitude:	-121.4652148	Sourcemap scale:	24000
Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	117.00
Vert measure units:	feet	Vertacc measure val:	4
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	California Coastal Basin aquifers		
Formation type:	Not Reported		

Aquifer type:	Not Reported		
Construction date:	Not Reported	Welldepth:	170
Welldepth units:	ft	Wellholedepth:	Not Reported
Wellholedepth units:	Not Reported		

Ground-water levels, Number of Measurements: 0

6
WSW **CA WELLS** **13475**
1/2 - 1 Mile
Higher

Water System Information:

Prime Station Code:	17S/04E-01E02 M	User ID:	27C
FRDS Number:	2701060001	County:	Monterey
District Number:	57	Station Type:	WELL/AMBNT/MUN/INTAKE
Water Type:	Well/Groundwater	Well Status:	Active Raw
Source Lat/Long:	362852.0 1212900.0	Precision:	1,000 Feet (10 Seconds)
Source Name:	WELL 01		
System Number:	2701060		
System Name:	OSHITA INC RANCH #2		
Organization That Operates System:	Not Reported		
Pop Served:	Unknown, Small System	Connections:	Unknown, Small System
Area Served:	Not Reported		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS
RADON

AREA RADON INFORMATION

State Database: CA Radon

Radon Test Results

Zipcode	Num Tests	> 4 pCi/L
93960	6	0

Federal EPA Radon Zone for MONTEREY County: 2

Note: Zone 1 indoor average level > 4 pCi/L.
: Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.
: Zone 3 indoor average level < 2 pCi/L.

Federal Area Radon Information for MONTEREY COUNTY, CA

Number of sites tested: 16

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor	0.788 pCi/L	94%	6%	0%
Living Area - 2nd Floor	Not Reported	Not Reported	Not Reported	Not Reported
Basement	2.133 pCi/L	67%	33%	0%

PHYSICAL SETTING SOURCE RECORDS SEARCHED

TOPOGRAPHIC INFORMATION

USGS 7.5' Digital Elevation Model (DEM)
Source: United States Geologic Survey
EDR acquired the USGS 7.5' Digital Elevation Model in 2002 and updated it in 2006. The 7.5 minute DEM corresponds to the USGS 1:24,000- and 1:25,000-scale topographic quadrangle maps. The DEM provides elevation data with consistent elevation units and projection.

Current USGS 7.5 Minute Topographic Map
Source: U.S. Geological Survey

HYDROLOGIC INFORMATION

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.
Source: FEMA
Telephone: 877-336-2627
Date of Government Version: 2003, 2015

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetland Inventory
Source: Department of Fish & Game
Telephone: 916-445-0411

HYDROGEOLOGIC INFORMATION

AQUIFLOW^{R} Information System
Source: EDR proprietary database of groundwater flow information
EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

GEOLOGIC INFORMATION

Geologic Age and Rock Stratigraphic Unit
Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

STATSGO: State Soil Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)
The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) leads the national Conservation Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

SSURGO: Soil Survey Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)
Telephone: 800-672-5559
SSURGO is the most detailed level of mapping done by the Natural Resources Conservation Service, mapping scales generally range from 1:12,000 to 1:63,360. Field mapping methods using national standards are used to construct the soil maps in the Soil Survey Geographic (SSURGO) database. SSURGO digitizing duplicates the original soil survey maps. This level of mapping is designed for use by landowners, townships and county natural resource planning and management.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

LOCAL / REGIONAL WATER AGENCY RECORDS

FEDERAL WATER WELLS

PWS: Public Water Systems
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

USGS Water Wells: USGS National Water Inventory System (NWIS)
This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on wells, springs, and other sources of groundwater.

STATE RECORDS

Water Well Database
Source: Department of Water Resources
Telephone: 916-651-9648

California Drinking Water Quality Database
Source: Department of Public Health
Telephone: 916-324-2319
The database includes all drinking water compliance and special studies monitoring for the state of California since 1984. It consists of over 3,200,000 individual analyses along with well and water system information.

OTHER STATE DATABASE INFORMATION

California Oil and Gas Well Locations
Source: Department of Conservation
Telephone: 916-323-1779
Oil and Gas well locations in the state.

RADON

State Database: CA Radon
Source: Department of Health Services
Telephone: 916-324-2208
Radon Database for California

Area Radon Information
Source: USGS
Telephone: 703-356-4020
The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

EPA Radon Zones
Source: EPA
Telephone: 703-356-4020
Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

OTHER

Airport Landing Facilities: Private and public use landing facilities
Source: Federal Aviation Administration, 800-457-6656

Epicenters: World earthquake epicenters, Richter 5 or greater
Source: Department of Commerce, National Oceanic and Atmospheric Administration

California Earthquake Fault Lines: The fault lines displayed on EDR's Topographic map are digitized quaternary fault lines, prepared in 1975 by the United State Geological Survey. Additional information (also from 1975) regarding activity at specific fault lines comes from California's Preliminary Fault Activity Map prepared by the California Division of Mines and Geology.

STREET AND ADDRESS INFORMATION

APPENDIX B:
USER QUESTIONNAIRE(S)

INITIAL SITE ASSESSMENT QUESTIONNAIRE
(to be filled out by the "User"* of this ISA)

Subject Property: Gonzales River Road Bridge
Gonzales, California

Project: Initial Site Assessment
Monterey County Public Works Department

Introduction: The following questionnaire has been prepared in accordance with the All Appropriate Inquiries (AAI) Standard and the "Standard E 1527-13, Standard Practice for Environmental Site Assessments," adopted by the American Society for Testing and Materials (ASTM, 2013) as part of the Phase I Environmental Site Assessment standard process.

Questionnaire Purpose: An initial site assessment (ISA) of the subject property is being conducted. The purpose of the assessment is to evaluate the property for evidence of hazardous waste or hazardous material releases to the environment. As the property owner, owner's representative, or current lessee/tenant, your input in the assessment is requested to collect information that is not found in the public records or is not visually apparent. Please answer the following questions by circling the appropriate response. If an employee has better knowledge of property history related to hazardous waste or hazardous material releases, please have him or her complete a copy of the questionnaire by circling the appropriate answer to each of the following questions. The completed questionnaire should be signed by the preparer and returned to the ISA preparer. You may send the completed questionnaire to:

ISA Preparer
Address
City, State Zip

Greg Drosky
505 Sansome Street, Suite 1600
San Francisco, CA 94111
(415) 644-3042

Questionnaire:
Part I: ISA Background Information

1.	What is the purpose of this ISA (e.g., property transaction, lease agreement, refinancing, etc.)?
	Replacement of the Gonzales River Road Bridge
2.	If a property transaction, what type of transaction is it (e.g., sale, purchase, exchange, etc.)?
	N/A
3.	What is the correct address for the property? Please provide a map or legal description showing property location and boundaries.
	Gonzales River Road, 2.0 miles southwest of Gonzales, 2.25 miles southwest of Highway 101,
	Crossing the Salinas River.
4.	Site Contact Name Jose Gomez
	and Phone or email gomezj2@co.monterey.ca.us

- User, as defined by ASTM E 1527-13 is the party seeking to use E-1527-13 to complete an ISA of the property. A user may include, without limitation, a potential purchaser of property, a potential tenant of property, an owner of property, a lender, or a property manager.

INITIAL SITE ASSESSMENT QUESTIONNAIRE
(to be filled out by the "User"* of this ISA)

5.	What do you desire for the scope of services for this ISA? Do you have a required scope of services beyond the requirements of ASTM E-1527-13 and the AAI standard?
	Scope includes the replacement of the Gonzales River Road Bridge.
	No services required outside of ASTM E-1527-13 Standard, or Caltrans Standard Environmental
	Reference (SER) Chapter 10, Hazardous Materials, Hazardous Waste, and Contamination program
6.	Please identify all parties who will rely on this ISA report
	User

Part II: Environmental Questions

A. To your knowledge, is the subject property and/or adjoining property used or have/has been used in the past in the following manner:

		Yes	No	Unknown
1.	Any industrial use		✔	
2.	Gasoline station		✔	
3.	Motor or equipment repair facility		✔	
4.	Commercial printing facility		✔	
5.	Dry cleaners		✔	
6.	Photo developing laboratory		✔	
7.	Junkyard or landfill		✔	
8.	A waste treatment, storage, disposal, processing, or recycling facility (if applicable, identify which)?		✔	
Comments:				

B. Are there currently or have there been in the past any of the following materials stored at, used at, or brought onto the subject property or facility and/or adjoining property or facility (if applicable, identify which).

		Yes	No	Unknown
1.	Automotive or industrial batteries		✔	
2.	Pesticides	✔		
3.	Paint	✔		
4.	Other chemicals			✔
5.	Fill dirt originated from a contaminated site or of an unknown origin (if applicable, identify which)?			✔
Comments:	Site is in intensive agricultural area with pesticide use. Paint located on bridge metal frame.			

- User, as defined by ASTM E 1527-13 is the party seeking to use E-1527-13 to complete an ISA of the property. A user may include, without limitation, a potential purchaser of property, a potential tenant of property, an owner of property, a lender, or a property manager.

INITIAL SITE ASSESSMENT QUESTIONNAIRE
(to be filled out by the "User"* of this ISA)

C. Are there currently or have there been in the past any of the following features located on the property and/or adjoining property?

		Yes	No	Unknown
1.	Pits	✔		
2.	Ponds	✔		
3.	Lagoons		✔	
4.	Stained soil		✔	
5.	Registered or unregistered storage tanks (above or underground) (if applicable, identify which)?		✔	
Comments: Bridge crosses the Salinas River.				

D. To your knowledge, are there currently or have there been in the past any of the following objects or evidence located on the property or adjacent to any structure located on the property and/or adjoining property?

		Yes	No	Unknown
1.	Vent pipes		✔	
2.	Fill pipes		✔	
3.	Access ways indicating a fill pipe protruding from the ground		✔	
4.	Leaks, spill, or staining by substances other than water (if applicable, identify which)			✔
5.	Foul odors associated with any flooring, drains, walls, ceilings, or exposed ground (if applicable, identify which)?		✔	
Comments: One capped metal pipe approximately eight inches in diameter observed extending from below ground surface adjacent to the southeast corner of bridge.				

E. If the property and/or adjoining property is served by a private well or non-public water system, do you have any knowledge that (if yes, check all that apply):

		Yes	No	Unknown
1.	Contaminants have been identified in the well or system that exceed guidelines applicable to the water system			✔

- User, as defined by ASTM E 1527-13 is the party seeking to use E-1527-13 to complete an ISA of the property. A user may include, without limitation, a potential purchaser of property, a potential tenant of property, an owner of property, a lender, or a property manager.

INITIAL SITE ASSESSMENT QUESTIONNAIRE
(to be filled out by the "User"* of this ISA)

2.	The well has been designated by any government environmental/health agency as being contaminated?			✔
Comments: N/A. No well or water source at target Site. Unknown if adjoining				
properties contain wells. No wells observed during reconnaissance.				

F. With respect to the property or any facility located on the property and/or adjoining property, do you have any knowledge of or have you been informed of (if yes, check all that apply):

		Yes	No	Unknown
1.	Past or current existence of hazardous substances or petroleum products.			✔
2.	Past or current existence of environmental violations		✔	
3.	Any permits, orders, or waste discharge requirements issued by or requested from any environmental regulatory agency in relation to the properties.		✔	
4.	Any environmental assessment indicating the presence or contamination of hazardous substances or petroleum products or recommended further assessment		✔	
5.	Any past, threatened, or pending lawsuits or administrative proceedings concerning a release or threatened release of any hazardous substance or petroleum products?		✔	
Comments: Lead based paint potentially historically used.				

G. Has the property and/or adjoining property discharged, dumped above grade, buried and/or burned any of the following materials on or adjacent to the property and/or into a storm water or sanitary sewer system (if applicable, identity which):

		Yes	No	Unknown
1.	Wastewater (not including sanitary waste or storm water)		✔	
2.	Any hazardous substances or petroleum products		✔	
3.	Unidentified waste materials		✔	
4.	Tires		✔	
5.	Automotive or industrial batteries		✔	
6.	Any other waste materials?		✔	

- User, as defined by ASTM E 1527-13 is the party seeking to use E-1527-13 to complete an ISA of the property. A user may include, without limitation, a potential purchaser of property, a potential tenant of property, an owner of property, a lender, or a property manager.

INITIAL SITE ASSESSMENT QUESTIONNAIRE
(to be filled out by the "User"* of this ISA)

Comments: All liquid is assumed to enter directly into the Salinas River.

H. Are there any of the following equipment for which there are any records indicating the presence of polychlorinated biphenyls (PCBs)?

		Yes	No	Unknown
1.	Transformer		✔	
2.	Capacitor		✔	
3.	Any hydraulic equipment?		✔	
Comments:				

I. To your knowledge, have any environmental or geotechnical assessments of the property and/or adjoining property been conducted? Please provide the nature and dates of these assessments, if known.

		Yes	No	Unknown
1.	Environmental		✔	
2.	Geotechnical		✔	
3.	Other?	✔		
Comments: Previous structure and maintenance reports				

J. Are you aware of any environmental cleanup liens against the property that are filed or recorded under federal, state, tribal or local law?

☐ Yes ☑ No ☐ Unknown ☐ Comments (below)

_____

_____

K. Are you aware of any activity or land use limitations, such as engineering controls, land use restrictions or institutional controls, that are in place on the site or that have been filed or recorded in a registry (40 CFR 312.26)? Please provide the nature and dates of these assessments, if known.

		Yes	No	Unknown
1.	Engineering Controls (e.g., engineered cap, subsurface barrier wall, etc.)		✔	

- User, as defined by ASTM E 1527-13 is the party seeking to use E-1527-13 to complete an ISA of the property. A user may include, without limitation, a potential purchaser of property, a potential tenant of property, an owner of property, a lender, or a property manager.

INITIAL SITE ASSESSMENT QUESTIONNAIRE
(to be filled out by the "User"* of this ISA)

2.	Land Use Restrictions (e.g., industrial only, no groundwater removal, etc.)		✔	
3.	Institutional Controls (e.g., deed restrictions, financial assurances, etc.)		✔	
Comments:				

L. As the user of this ISA do you have any specialized knowledge or experience related to the property or nearby properties? For example, are you involved in the same line of business as the current or former occupants of the property or an adjoining property so that you would have specialized knowledge of the chemicals and processes used by this type of business?

		Yes	No	Unknown
1.	Specialized Knowledge		✔	
2.	Experience		✔	
3.	Other?		✔	
Comments:				

M. Does the purchase price being paid for this property reasonably reflect the fair market value of the property? If you conclude that there is a difference, have you considered whether the lower purchase price is because contamination is known or believed to be present at the property?

☐ Yes ☐ No ☐ Unknown ☐ Comments (below)

N/A. No sale of property.

N. Are you aware of commonly known or reasonably ascertainable information about the property that would help the environmental professional to identify conditions indicative of releases or threatened releases? For example, as user, of this ISA, do you know of:

		Yes	No	Unknown
1.	The past uses of the property?		✔	
2.	Specific chemicals that are present or once were present at the property?		✔	
3.	Spills or other chemical releases that have occurred at the property?		✔	
4.	Any environmental cleanups that have taken place at the property?		✔	
Comments:				

- User, as defined by ASTM E 1527-13 is the party seeking to use E-1527-13 to complete an ISA of the property. A user may include, without limitation, a potential purchaser of property, a potential tenant of property, an owner of property, a lender, or a property manager.

INITIAL SITE ASSESSMENT QUESTIONNAIRE
(to be filled out by the "User"* of this ISA)

Site has historically contained bridge structure.

O. As the user of this ISA, based on your knowledge and experience related to the property are there any obvious indicators that point to the presence or likely presence of contamination at the property?

☐ Yes ☑ No ☐ Unknown ☐ Comments (below)

Potential for historic use of lead based paint and/or asbestos containing materials.

This questionnaire was completed by:

Name (Print) Greg Drosky

Title Environmental Planner

Representing Monterey County Public Works Department

Address 505 Sansome Street, Suite 1600

City, State, Zip San Francisco, California, 94111

Phone Number (415)-644-3042

Signature

Date 03/02/2017

- User, as defined by ASTM E 1527-13 is the party seeking to use E-1527-13 to complete an ISA of the property. A user may include, without limitation, a potential purchaser of property, a potential tenant of property, an owner of property, a lender, or a property manager.

APPENDIX C:
HISTORICAL RESEARCH DOCUMENTATION

Gonzales River Road Bridge
Gonzales River Road
Soledad, CA 93960

Inquiry Number: 4793997.9
December 05, 2016

The EDR Aerial Photo Decade Package

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

EDR Aerial Photo Decade Package

12/05/16

Site Name:

Gonzales River Road Bridge
Gonzales River Road
Soledad, CA 93960
EDR Inquiry # 4793997.9

Client Name:

TRC
505 Sansome Street Suite 1600
San Francisco, CA 94111
Contact: Greg Drosky

Environmental Data Resources, Inc. (EDR) Aerial Photo Decade Package is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's professional researchers provide digitally reproduced historical aerial photographs, and when available, provide one photo per decade.

Search Results:

Year	Scale	Details	Source
2012	1"=500'	Flight Year: 2012	USDA/NAIP
2010	1"=500'	Flight Year: 2010	USDA/NAIP
2009	1"=500'	Flight Year: 2009	USDA/NAIP
2005	1"=500'	Flight Year: 2005	USDA/NAIP
1994	1"=500'	Acquisition Date: May 13, 1994	USGS/DOQQ
1981	1"=500'	Flight Date: August 03, 1981	USDA
1971	1"=500'	Flight Date: May 11, 1971	USDA
1967	1"=500'	Flight Date: January 01, 1967	USGS
1956	1"=500'	Flight Date: August 10, 1956	USDA
1937	1"=500'	Flight Date: October 25, 1937	USDA

When delivered electronically by EDR, the aerial photo images included with this report are for ONE TIME USE ONLY. Further reproduction of these aerial photo images is prohibited without permission from EDR. For more information contact your EDR Account Executive.

INQUIRY #: 4793997.9

YEAR: 2012

= 500'

N

EDR


INQUIRY #: 4793997.9
YEAR: 2010
= 500'
N
EDR


INQUIRY #: 4793997.9
YEAR: 2009
= 500'
N
EDR

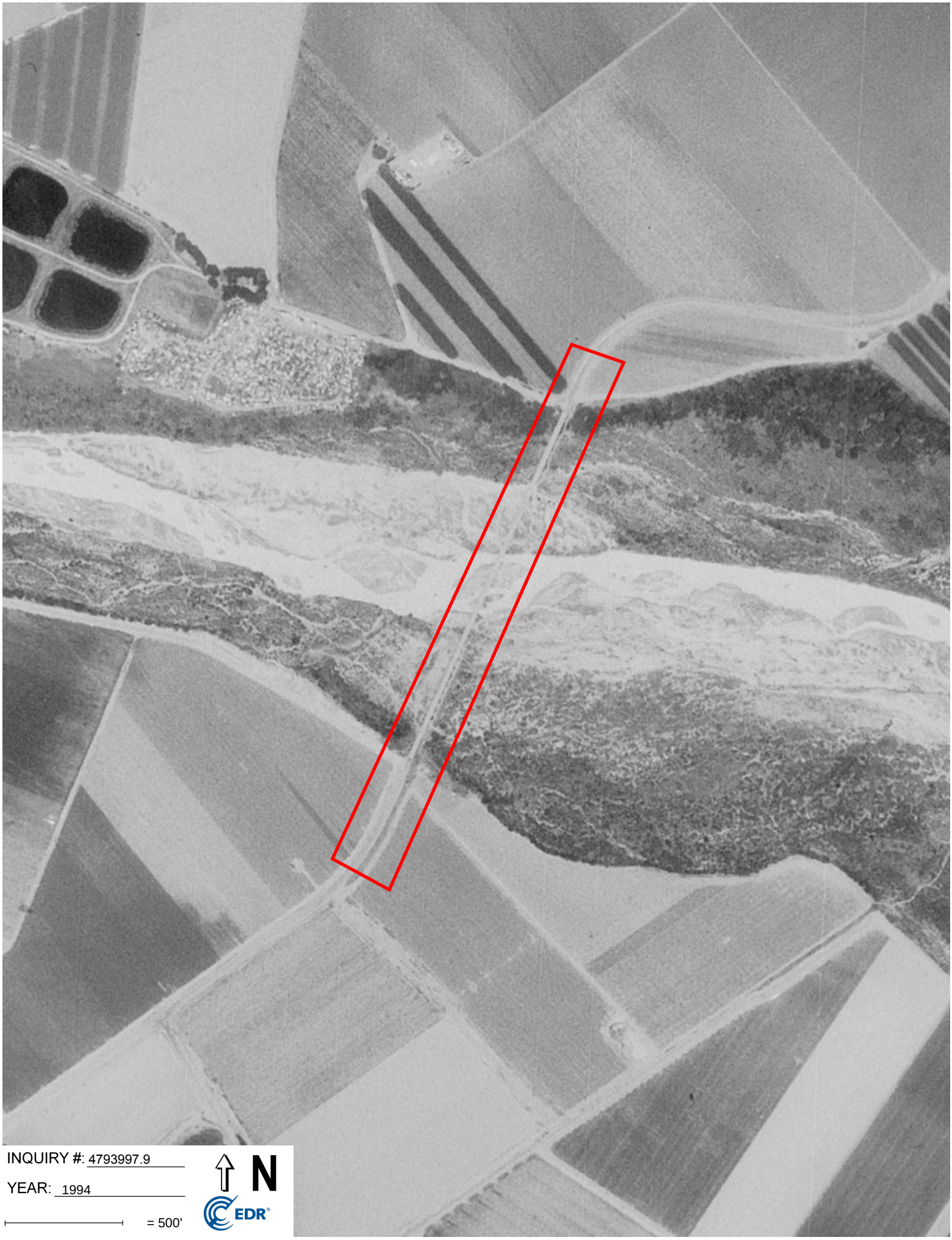
INQUIRY #: 4793997.9

YEAR: 2005

= 500'

N

EDR



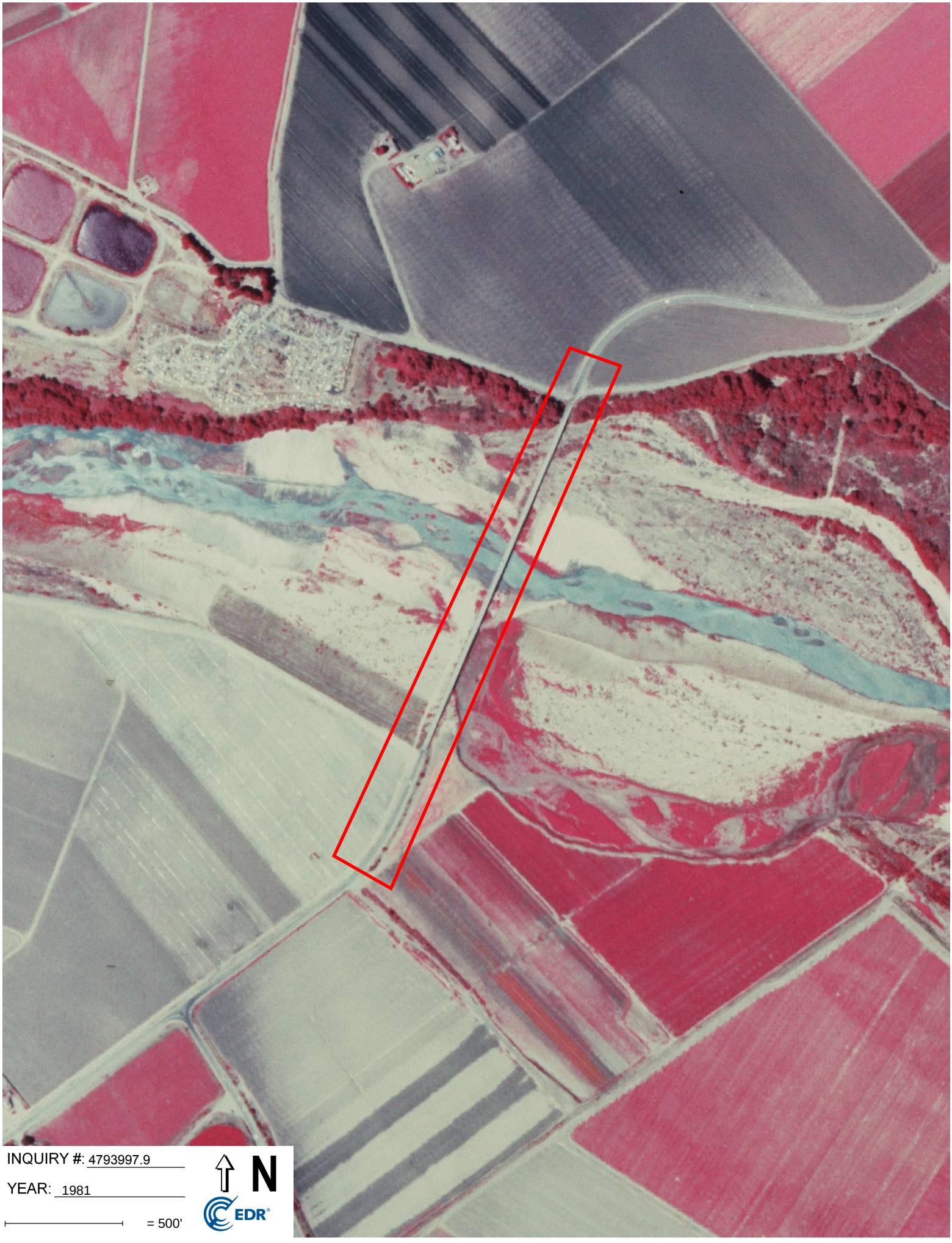
INQUIRY #: 4793997.9

YEAR: 1994

= 500'

N

EDR



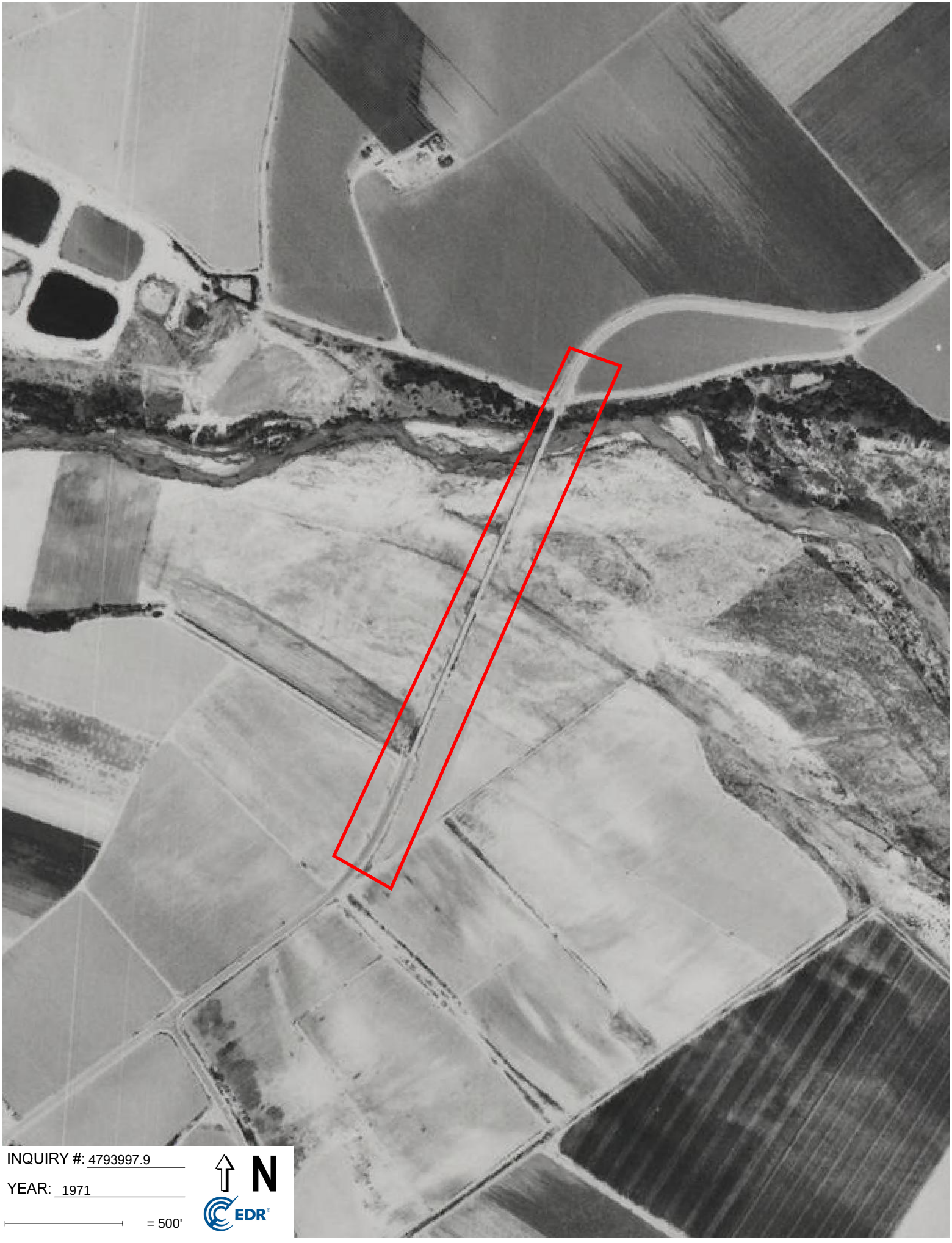
INQUIRY #: 4793997.9

YEAR: 1981

= 500'

N

EDR



INQUIRY #: 4793997.9

YEAR: 1971

= 500'

N

EDR

INQUIRY #: 4793997.9

YEAR: 1967

= 500'

N

EDR

INQUIRY #: 4793997.9

YEAR: 1956

= 500'

N

EDR

INQUIRY #: 4793997.9

YEAR: 1937

= 500'

N

EDR

Gonzales River Road Bridge
Gonzales River Road
Soledad, CA 93960

Inquiry Number: 4793997.4
November 30, 2016

EDR Historical Topo Map Report

with QuadMatch™

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

EDR Historical Topo Map Report

11/30/16

Site Name:

Gonzales River Road Bridge
Gonzales River Road
Soledad, CA 93960
EDR Inquiry # 4793997.4

Client Name:

TRC
505 Sansome Street Suite 1600
San Francisco, CA 94111
Contact: Greg Drosky

EDR Topographic Map Library has been searched by EDR and maps covering the target property location as provided by TRC were identified for the years listed below. EDR's Historical Topo Map Report is designed to assist professionals in evaluating potential liability on a target property resulting from past activities. EDRs Historical Topo Map Report includes a search of a collection of public and private color historical topographic maps, dating back to the late 1800s.

Search Results:

P.O.# 226647.0000.0000
Project: Gonzales River Road Bridge

Coordinates:

Latitude:	36.486359 36° 29' 11" North
Longitude:	-121.46961 -121° 28' 11" West
UTM Zone:	Zone 10 North
UTM X Meters:	637083.33
UTM Y Meters:	4038983.76
Elevation:	118.00' above sea level

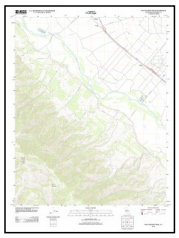
Maps Provided:

2012
1984
1955, 1956
1940
1915
1910

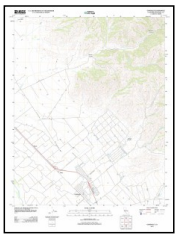
Topo Sheet Key

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

2012 Source Sheets



Palo Escrito Peak
2012
7.5-minute, 24000



Gonzales
2012
7.5-minute, 24000

1984 Source Sheets

Gonzales
1984
7.5-minute, 24000
Photo Revised 1984
Aerial Photo Revised 1981

Palo Escrito Peak
1984
7.5-minute, 24000
Photo Revised 1984
Aerial Photo Revised 1981

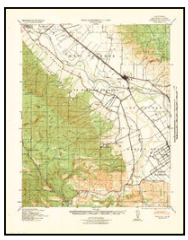
1955, 1956 Source Sheets

Gonzales
1955
7.5-minute, 24000
Aerial Photo Revised 1953

Palo Escrito Peak
1956
7.5-minute, 24000
Aerial Photo Revised 1953

1940 Source Sheets

Gonzales
1940
15-minute, 62500
Aerial Photo Revised 1939

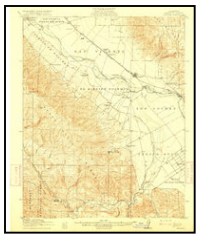


Soledad
1940
15-minute, 62500
Aerial Photo Revised 1940

Topo Sheet Key

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

1915 Source Sheets



Soledad
1915
15-minute, 62500

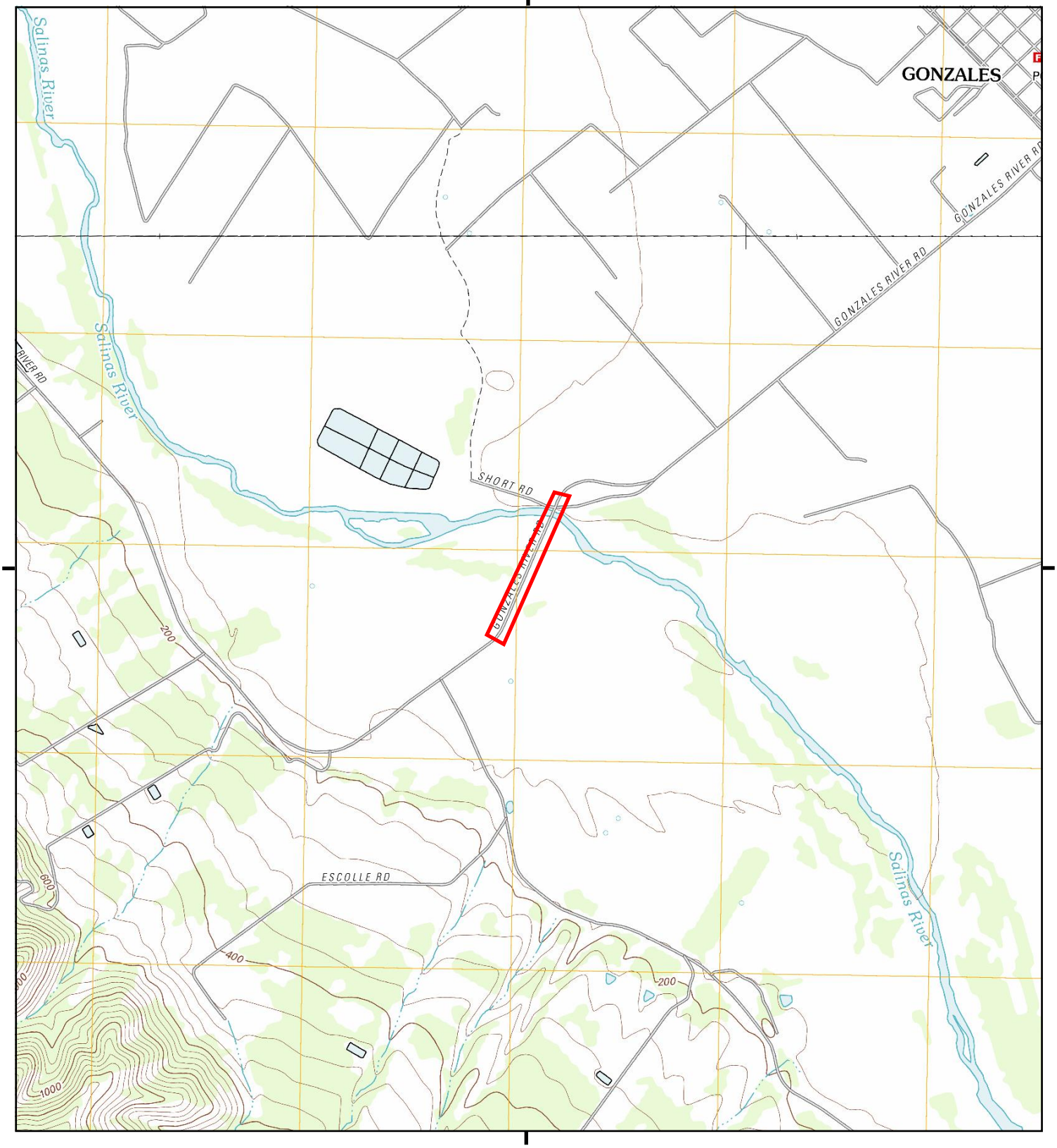
1910 Source Sheets

Gonzales
1910
7.5-minute, 31680

Soledad
1910
7.5-minute, 31680

Historical Topo Map

2012



This report includes information from the following map sheet(s).

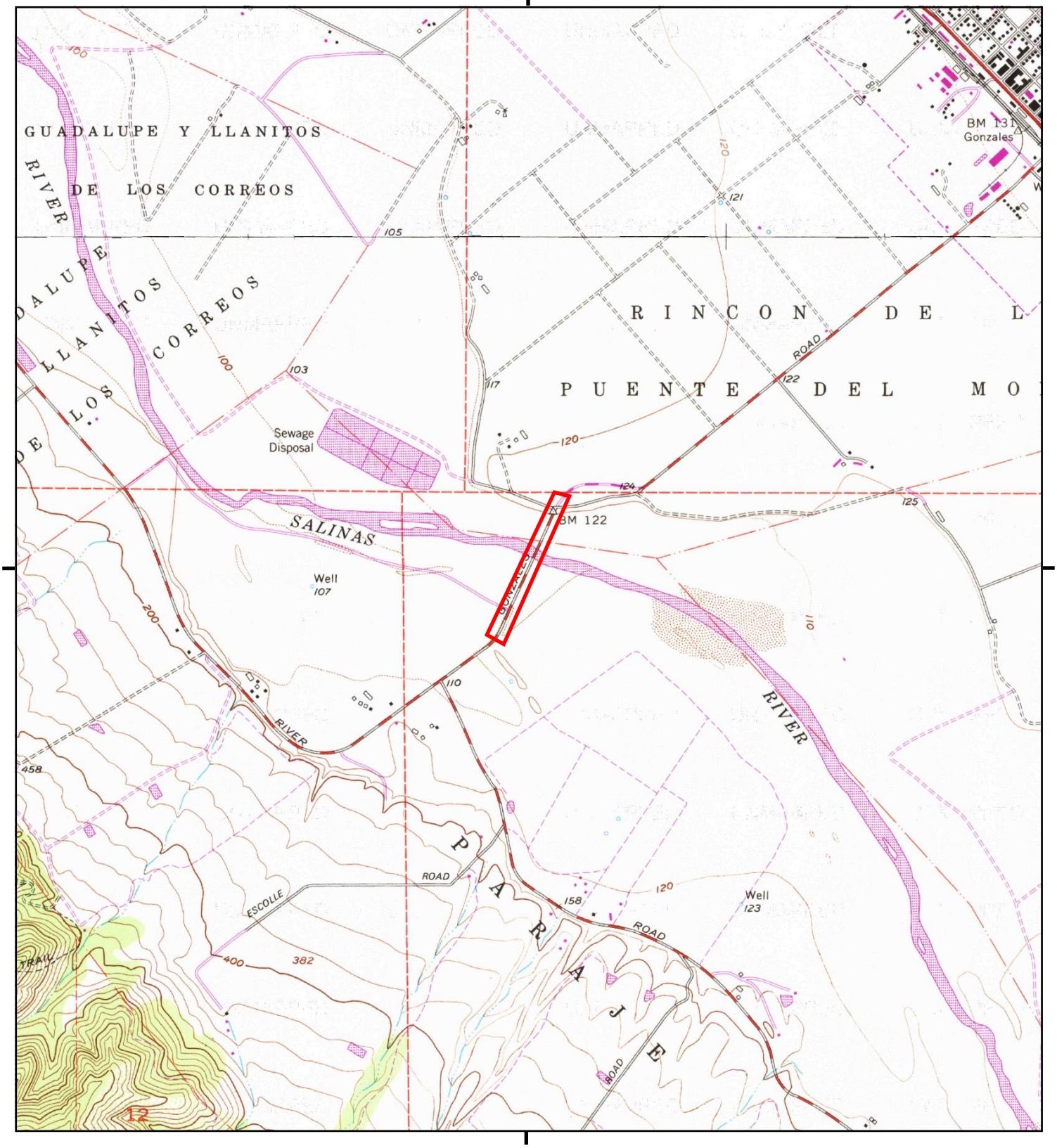
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Palo Escrito Peak, 2012, 7.5-minute
N, Gonzales, 2012, 7.5-minute

SITE NAME: Gonzales River Road Bridge
ADDRESS: Gonzales River Road
Soledad, CA 93960
CLIENT: TRC

N



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

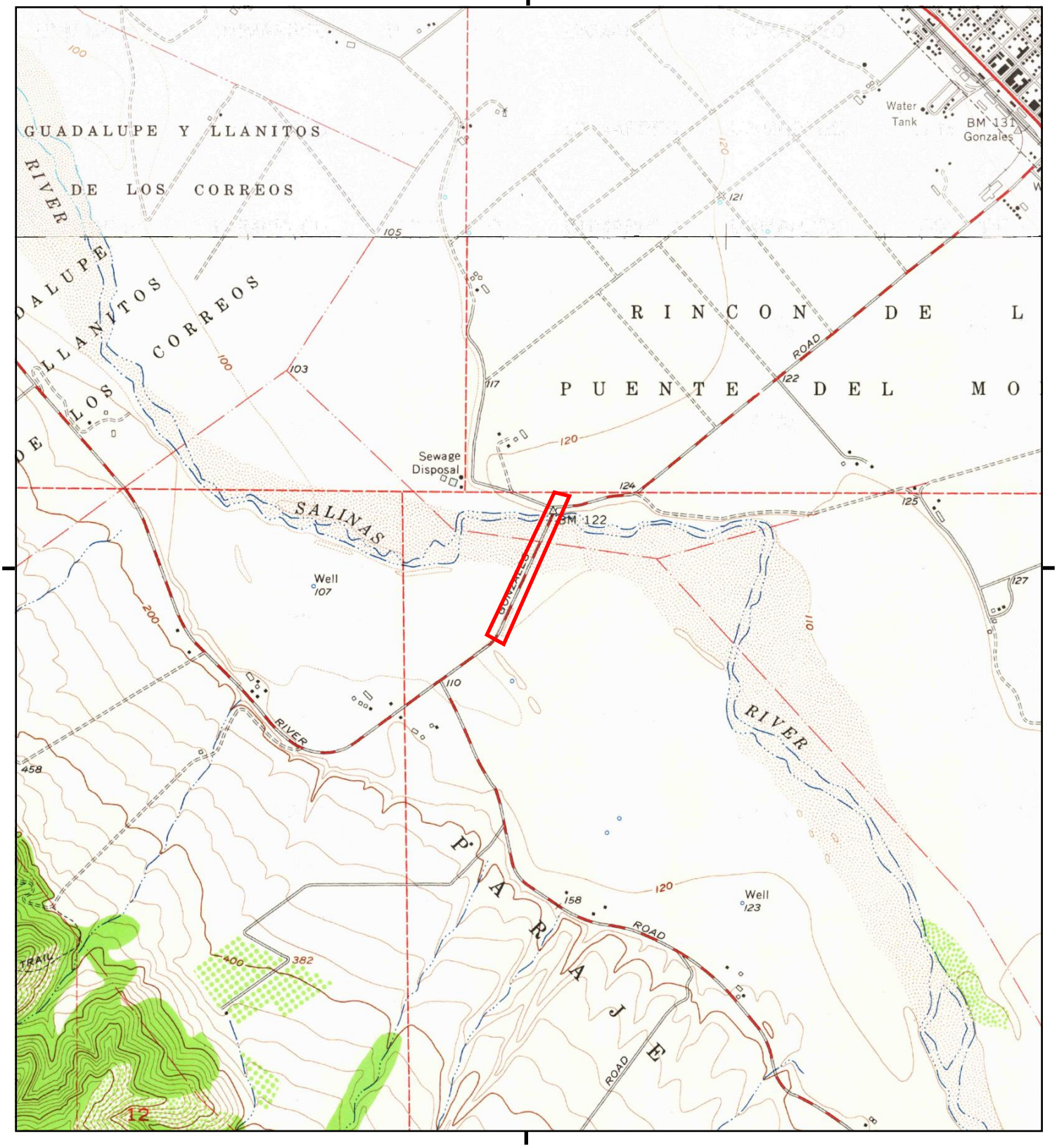
TP, Palo Escrito Peak, 1984, 7.5-minute
N, Gonzales, 1984, 7.5-minute

SITE NAME: Gonzales River Road Bridge
ADDRESS: Gonzales River Road
Soledad, CA 93960
CLIENT: TRC

N

Historical Topo Map

1955, 1956



This report includes information from the following map sheet(s).

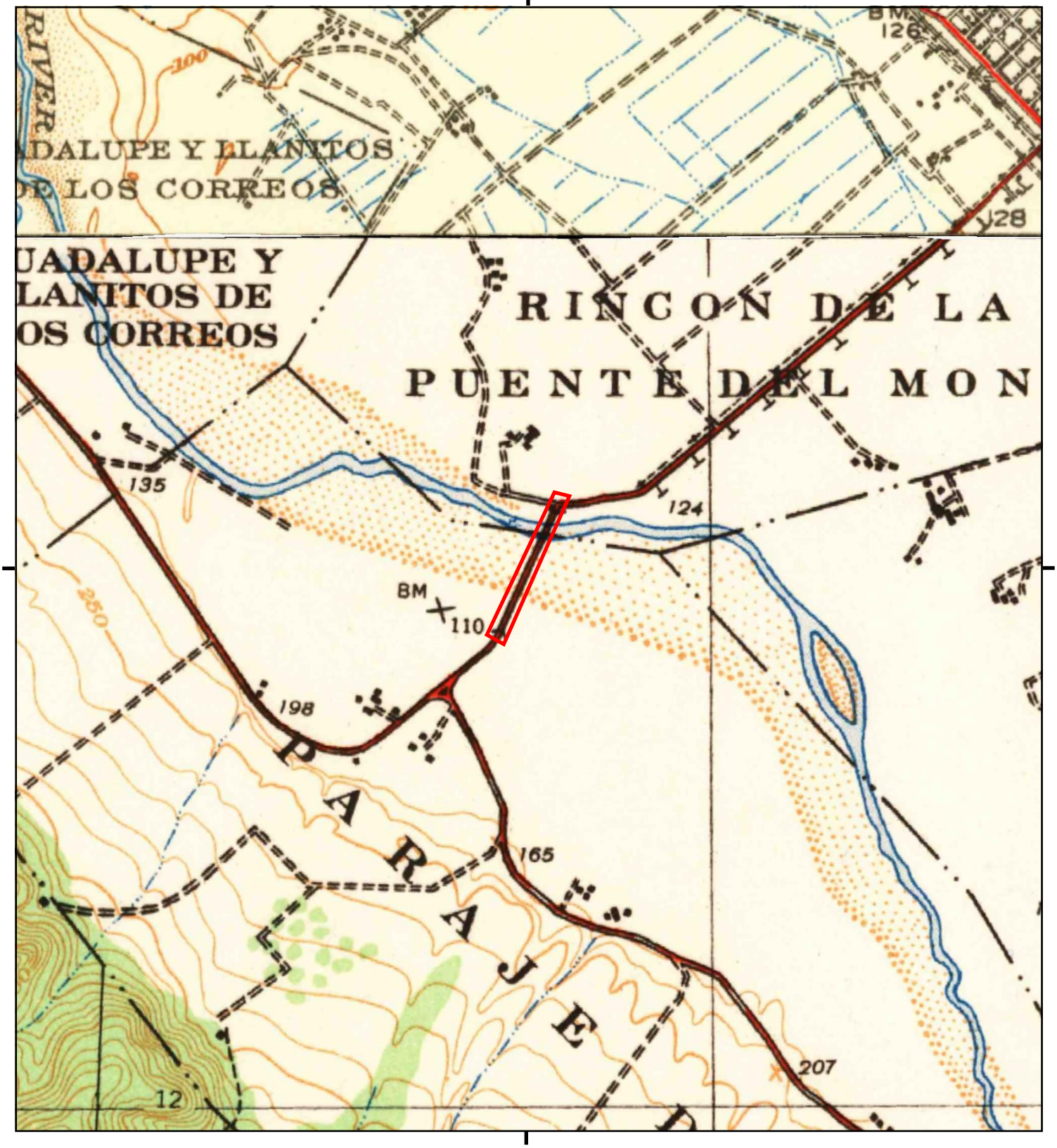
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Palo Escrito Peak, 1956, 7.5-minute
N, Gonzales, 1955, 7.5-minute

SITE NAME: Gonzales River Road Bridge
ADDRESS: Gonzales River Road
Soledad, CA 93960
CLIENT: TRC

N



This report includes information from the following map sheet(s).

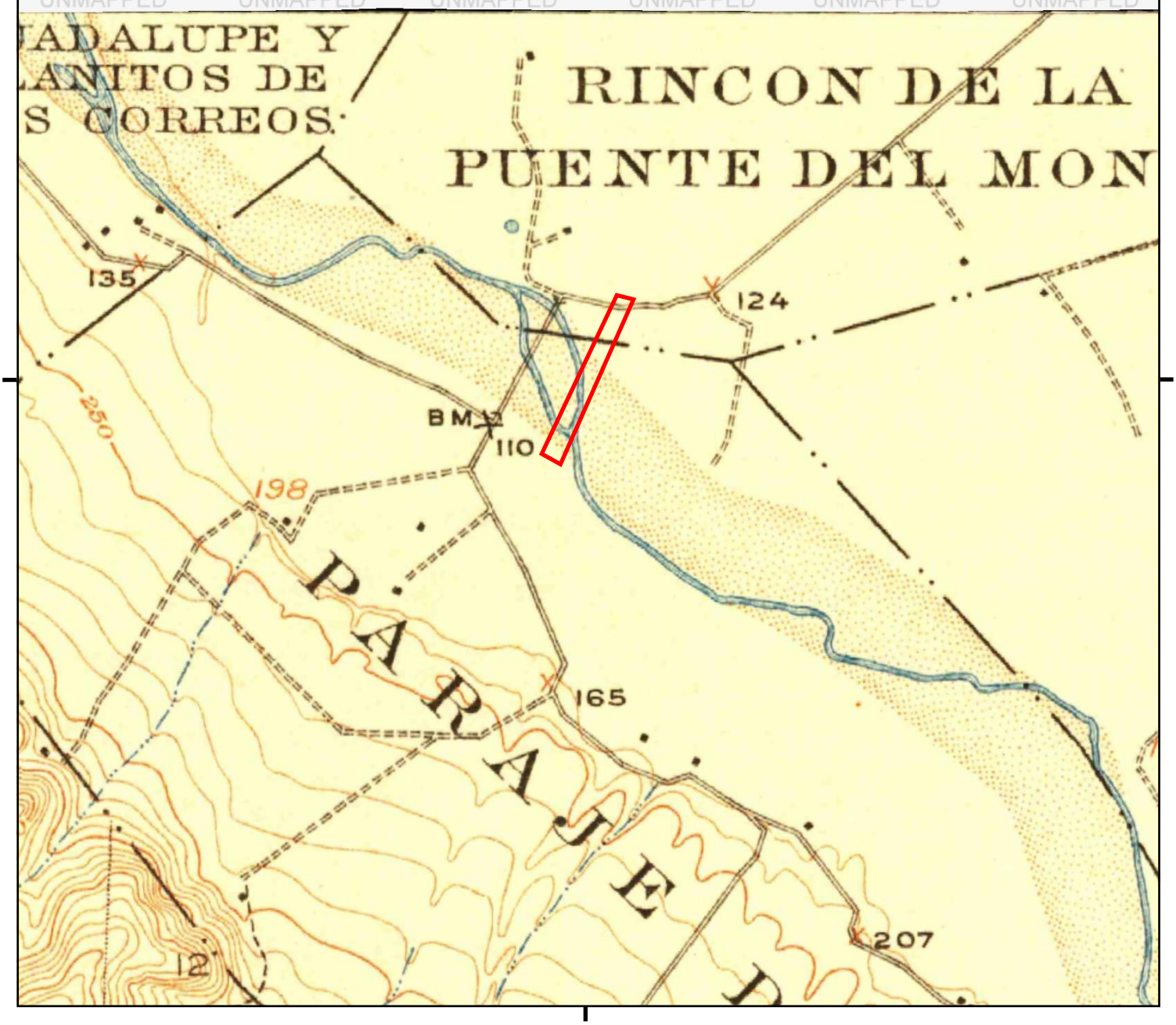
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Soledad, 1940, 15-minute
NE, Gonzales, 1940, 15-minute

SITE NAME: Gonzales River Road Bridge
ADDRESS: Gonzales River Road
Soledad, CA 93960
CLIENT: TRC

N



This report includes information from the following map sheet(s).

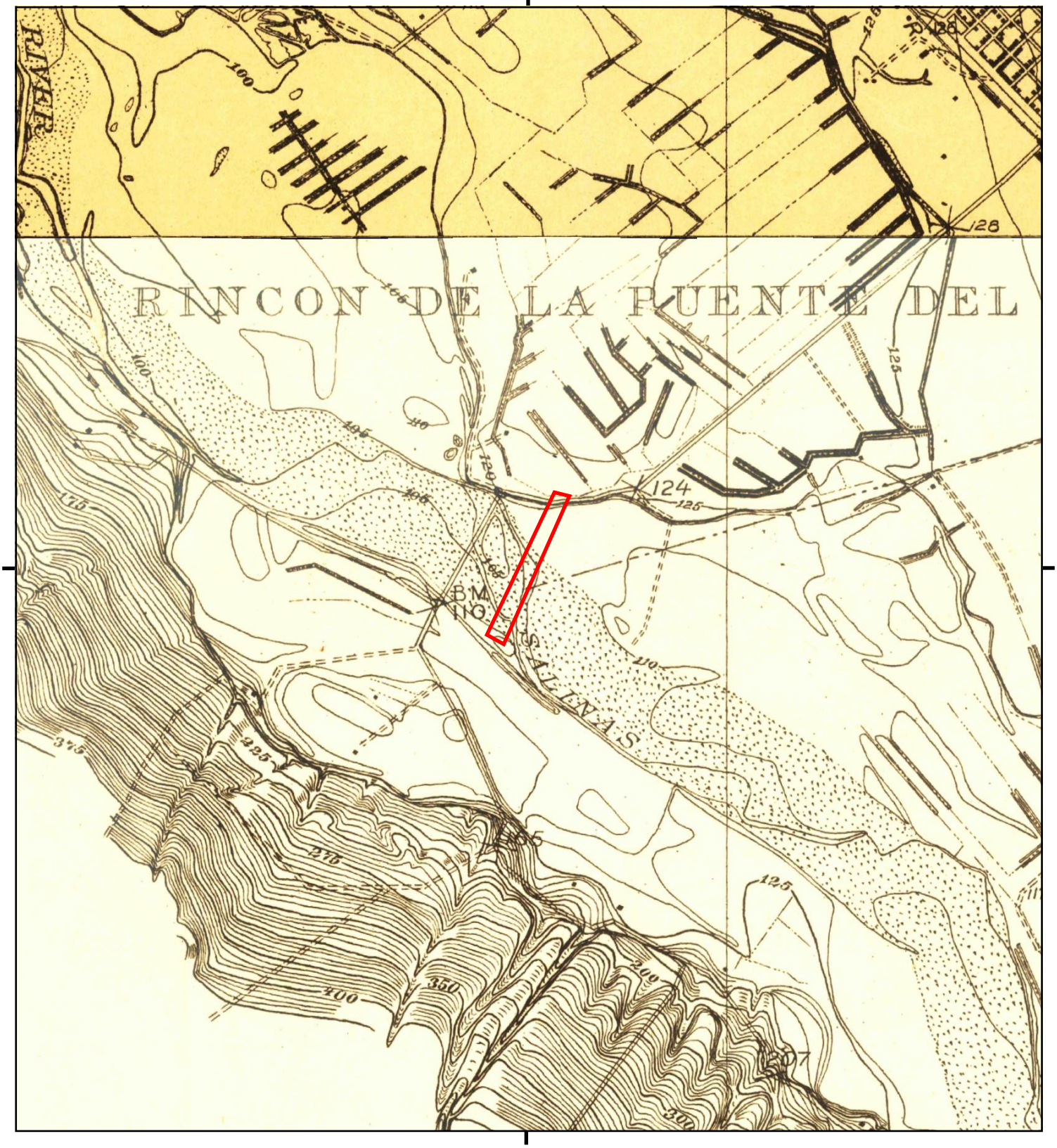
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Soledad, 1915, 15-minute

SITE NAME: Gonzales River Road Bridge
ADDRESS: Gonzales River Road
Soledad, CA 93960
CLIENT: TRC

N



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Soledad, 1910, 7.5-minute
N, Gonzales, 1910, 7.5-minute

SITE NAME: Gonzales River Road Bridge
ADDRESS: Gonzales River Road
Soledad, CA 93960
CLIENT: TRC

N

Gonzales River Road Bridge
Gonzales River Road
Soledad, CA 93960

Inquiry Number: 4793997.3
November 30, 2016

Certified Sanborn® Map Report

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Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

Certified Sanborn® Map Report

11/30/16

Site Name:

Gonzales River Road Bridge
Gonzales River Road
Soledad, CA 93960
EDR Inquiry # 4793997.3

Client Name:

TRC
505 Sansome Street Suite 1600
San Francisco, CA 94111
Contact: Greg Drosky

The Sanborn Library has been searched by EDR and maps covering the target property location as provided by TRC were identified for the years listed below. The Sanborn Library is the largest, most complete collection of fire insurance maps. The collection includes maps from Sanborn, Bromley, Perris & Browne, Hopkins, Barlow, and others. Only Environmental Data Resources Inc. (EDR) is authorized to grant rights for commercial reproduction of maps by the Sanborn Library LLC, the copyright holder for the collection. Results can be authenticated by visiting www.edrnet.com/sanborn.

The Sanborn Library is continually enhanced with newly identified map archives. This report accesses all maps in the collection as of the day this report was generated.

Certified Sanborn Results:

Certification # 57DC-48B3-AD74

PO # 226647.0000.0000

Project Gonzales River Road Bridge

UNMAPPED PROPERTY

This report certifies that the complete holdings of the Sanborn Library, LLC collection have been searched based on client supplied target property information, and fire insurance maps covering the target property were not found.

Sanborn® Library search results

Certification #: 57DC-48B3-AD74

The Sanborn Library includes more than 1.2 million fire insurance maps from Sanborn, Bromley, Perris & Browne, Hopkins, Barlow and others which track historical property usage in approximately 12,000 American cities and towns. Collections searched:

- ☑ Library of Congress
- ☑ University Publications of America
- ☑ EDR Private Collection

The Sanborn Library LLC Since 1866™

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Gonzales River Road Bridge
Gonzales River Road
Soledad, CA 93960

Inquiry Number: 4793997.5
December 02, 2016

The EDR-City Directory Image Report

Environmental Data Resources Inc

6 Armstrong Road
Shelton, CT 06484
800.352.0050
www.edrnet.com

TABLE OF CONTENTS

SECTION

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

EXECUTIVE SUMMARY

DESCRIPTION

Environmental Data Resources, Inc.'s (EDR) City Directory Report is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's City Directory Report includes a search of available city directory data at 5 year intervals.

RESEARCH SUMMARY

The following research sources were consulted in the preparation of this report. A check mark indicates where information was identified in the source and provided in this report.

Year	*Target Street*	*Cross Street*	*Source*
2013	☐	☐	Cole Information Services
2008	☐	☐	Cole Information Services
2003	☐	☐	Cole Information Services
1999	☐	☐	Cole Information Services
1995	☐	☐	Cole Information Services
1992	☐	☐	Cole Information Services
1990	☐	☐	Haines Criss-Cross Directory
1985	☐	☐	Haines Criss-Cross Directory
1980	☐	☐	Haines Criss-Cross Directory
1975	☐	☐	Haines Criss-Cross Directory

RECORD SOURCES

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FINDINGS

TARGET PROPERTY STREET

Gonzales River Road
Soledad, CA 93960

Year	*CD Image*	*Source*	
GONZALES RIVER RD			
2013	-	Cole Information Services	Target and Adjoining not listed in Source
2008	-	Cole Information Services	Target and Adjoining not listed in Source
2003	-	Cole Information Services	Target and Adjoining not listed in Source
1999	-	Cole Information Services	Target and Adjoining not listed in Source
1995	-	Cole Information Services	Target and Adjoining not listed in Source
1992	-	Cole Information Services	Target and Adjoining not listed in Source
1990	-	Haines Criss-Cross Directory	Street not listed in Source
1985	-	Haines Criss-Cross Directory	Street not listed in Source
1980	-	Haines Criss-Cross Directory	Street not listed in Source
1975	-	Haines Criss-Cross Directory	Street not listed in Source

FINDINGS

CROSS STREETS

No Cross Streets Identified

APPENDIX D:
PHOTOGRAPH LOG

Appendix D
Phase I ISA Photograph Log

Photo 1: View of bridge substructure from Salinas River bed, looking north.

Photo 2: View of northern bridge substructure and abutment.

Photo 3: View of bridge structure from Salinas River bed looking south.

Photo 4: View of bridge structure from Salinas River bed looking north.

Photo 5: View of bridge substructure and abutment approximately midway along bridge where guardrails change.

Photo 6: View of southern bridge structure from Salinas River bed looking south.

TRC Job No.	Photographs Taken By:	Page No.	Client:	Site Name & Address:	
226647	Greg Drosky	1 of 2	Monterey County	Gonzales River Road Bridge	TRC

Appendix D
Phase I ISA Photograph Log

Photo 7: Detailed view of paint chipping on bridge substructure.

Photo 8: View of paint chipping on bridge substructure.

Photo 9: View of capped pipe near southeast corner of southern bridge terminus.

Photo 10: View of southern bridge roadway and guard rails.

Photo 11: View of northern bridge roadway and guardrails.

Photo 12: View of surrounding Salinas River bed.

APPENDIX E:
OTHER REFERENCE INFORMATION

Co. No. 309

DEPARTMENT OF TRANSPORTATION
Structure Maintenance & Investigations

Bridge Number : 44C0035
Facility Carried: GONZALES RIVER RD
Location : 0.2 MI E RIVER RD
City :
Inspection Date : 04/10/2014

Bridge Inspection Report

Inspection Type
Routine FC Underwater Special Other
* X

STRUCTURE NAME: SALINAS RIVER

CONSTRUCTION INFORMATION

Year Built : 1930
Year Widened: N/A
Length (m) : 506.3

Skew (degrees): 0
No. of Joints : 29
No. of Hinges : 0

Structure Description: Approach Spans 1 through 15: Simply supported rolled steel girders (4) spans with a non-composite RC deck on a RC seat abutment. Even bents are outrigger bents consisting of a RC cap on two CIDH piles constructed around the existing RC cap on four RC piles. The odd bents are RC caps on four RC piles.

Main Spans 16 through 27: Simply supported riveted steel plate girder (2 edge girders) spans with rolled steel floor beams with a RC deck on outrigger bents consisting of a RC cap on two CIDH piles constructed around the existing RC pier walls.

Approach Spans 28 and 29: Simply supported rolled steel girders (4) spans with a non-composite RC deck on a RC diaphragm abutment and outrigger bents consisting of a RC cap constructed around the existing RC cap, founded on two CIDH piles. The original Bent 28 consitst of two RC columns with infill walls with each column on four RC piles. The original Bent 29 consists of 4 RC pile extensions.

Span Configuration : 15 @ 12 m, 12 @ 24 m, 2 @ 12 m

SAFE LOAD CAPACITY AND RATINGS

Design Live Load: MS-13.5 OR HS-15
Inventory Rating: 20.8 metric tons Calculation Method: ALLOWABLE STRESS
Operating Rating: 37.2 metric tons Calculation Method: ALLOWABLE STRESS
Permit Rating : OXXXX
Posting Load : Type 3: Legal Type 3S2: Legal Type 3-3: Legal

DESCRIPTION ON STRUCTURE

Deck X-Section: 0.1 m cu, 7.1 m, 0.1 m cu
Total Width: 7.3 m Net Width: 7.1 m No. of Lanes: 2 Speed: 55 mph
Min. Vertical Clearance: Unimpaired

Rail Code: 0000

Rail Type	Location	Length (ft)	Rail Modifications
Misc. Concrete	Right/Left	1339	Approach Spans 1-15 and 28 and 29: Concrete posts with double rail
Misc. Steel	Right/Left	1890	Main Spans 16-27: Steel rail attached in front of steel girders

DESCRIPTION UNDER STRUCTURE

Channel Description: Wide sandy channel with moderate vegetation on the banks. There is pieces of concrete present on the left side of Abutment 1 with RSP with rock 1 to 3 feet in diameter in front and to the right of the abutment. Rock gabion baskets and RSP with 1 to 6 feet diameter rock at Abutment 30.

INSPECTION COMMENTARY

INSPECTION COMMENTARY

SCOPE AND ACCESS

The river was dry and a complete routine inspection was performed on all visible bridge elements.

The most recent fracture critical member inspection was performed on 4/24/2013 by the Office of Specialty Investigations and Bridge Management and was conducted in accordance with the Fracture Critical Member Inspection Plan dated 6/5/2007.

DECK AND ROADWAY

The bare concrete deck has hairline to 1/64 inch wide pattern cracks throughout that are spaced between 2 and 12 inches on center. In addition, the deck of Approach Spans 1 through 15 has transverse cracks scattered throughout that are up to 1/16 inches wide due to edge spalling. Many of these cracks reflect through to the soffit where they are up to 1/64 inches wide and spaced as close as 1 foot on center. There are also a few transverse cracks near the bents that have edge spalls exposing rebar.

The concrete deck has shifted in Approach Spans 3 through 9. For each of these spans, the west end of the span has shifted to the right (south) and the east end of the span has shifted to the left (north). According to as-built plans, the girders in these spans are not composite with the deck allowing the entire deck to shift on top of the girders. The following offsets were measured during the 4/24/2012 routine inspection at the right curb at the joints:

BENT	OFFSET (mm)	BENT	OFFSET (mm)	BENT	OFFSET (mm)	BENT	OFFSET (mm)
3	16	5	22	7	76	9	22
4	19	6	38	8	50	10	13

These offsets have not changed since the 2012 inspection. Although no repairs are necessary at this time, this condition will be monitored during future inspections.

There are numerous spalls in the concrete curbs within Main Spans 16 through 27, which are mainly located at the joint openings. There are also other spalled areas located at the angled intermediate brackets. For example, refer to Photo 1.

The deck soffit within Main Spans 16 through 27 has intermittent longitudinal cracks, some of which have spalled exposing rebar. The areas with exposed rebar become more prominent near the deck drains located on the interior sides of the girders.

The bare concrete deck of Approach Spans 28 and 29 has similar transverse cracks that are are up to 1/8 inches wide due to edge spalling, which also reflect through to the soffit and are spaced as close as 1 foot on center. Some of these soffit cracks have spalls exposing rusted reinforcement.

There is a 4/16/2008 outstanding work recommendation to treat the deck methacrylate.

As previously noted, the sliding steel plate joints at Abutment 1 and the bents make excessive noise under large truck traffic. It appears that many of the plates are loose. There is a 4/3/2002 outstanding work recommendation to to tighten or repair the plates.

The left steel rail in Span 20 is bent within a 12 foot long area starting from Bent 21. However, there is no damage to the girder brackets. Refer to Photo 2.

INSPECTION COMMENTARY

The concrete rails and posts concentrated within Spans 1 through 15 have large cracks and multiple spalls with exposed rebar.

SUPERSTRUCTURE

The paint on the steel girders in Approach Spans 1 through 15 is dirty and faded with multiple areas of flaking paint and light surface rust scattered throughout. Water and rust staining is present on the ends of the girders adjacent to the bents due to the open joints.

The paint on the steel girders and floor beams in Main Spans 16 through 27 is dirty and faded with numerous areas of light surface rust. There is also minor pack rust in many locations between the bottom flange plates of the built up girders.

The paint on the steel girders in Approach Spans 28 and 29 is dirty and faded with areas of flaking paint and minor surface rust concentrated on the edges of the top flanges.

There is a 4/16/2008 outstanding work recommendation to clean and paint the steel girders and floor beams.

The most recent fracture critical member inspection was performed on 4/24/2013 by the Office of Specialty Investigations and Bridge Management and was conducted in accordance with the Fracture Critical Member Inspection Plan dated 6/5/2007. A hands-on visual inspection was performed on the two steel girders in Spans 16 through 27. Pack rust with minor swelling was noted between the bottom flange plates throughout the structure. No fractures or cracks were found.

SUBSTRUCTURE

The bottom corner of the Bent 5 concrete bent cap has a 3 foot long by 4 inch wide by 2 inch deep spall with exposed and rusted rebar at the right end on the Span 5 side. The rebar does not appear to have significant section loss. There were no significant defects observed on the remainder of the bent caps.

The concrete infill walls between Columns 2 and 3 of the main span bents have full height vertical cracks that are typically located adjacent to each column and also one crack near the center of the wall.

A few of the CIDH piles are exposed at Bents 22, 23, 25, 28 and 29.

The Span 22 side of Bent 22 has a localized scour hole that is up to 6 feet deep, which has exposed the CIDH piles at Columns 1 and 4 by up to 8 inches and 22 inches respectively.

The Bent 23 Column 4 CIDH pile is exposed on the Span 23 side by 21 inches.

The Bent 25 Column 4 CIDH pile is exposed on the Span 25 side by 19 inches.

The Bent 28 Column 1 CIDH pile is exposed by up to 36 inches and the Column 4 CIDH is exposed by up to 48 inches at the right exterior side. Refer to Photo 3.

The Bent 29 Column 1 CIDH pile is exposed by to 58 inches and the Column 6 CIDH is exposed by up to 36 inches. Refer to Photo 4.

In addition to the exposed CIDH piles at Bent 28, the original concrete columns and infill wall is completely undermined. These columns have been designated at Columns 2 and

INSPECTION COMMENTARY

3. Column 2 is undermined by up to 24 inches vertically exposing four concrete piles. Refer to Photo 5. Similarly, Column 3 is undermined by up to 21 inches vertically exposing four concrete piles. Refer to Photo 6. The concrete infill wall between these columns is undermined by to 12 inches.

As a result of these visible CIDH and concrete piles, Elements 227 and 352 have been updated.

OPERATIONAL SIGNS

There are Narrow Bridge signs approaching this structure.

SAFE LOAD CAPACITY

The load rating for this structure is being reviewed by the SMI Ratings Branch under Work Request #1499. An updated Load Rating Summary will be archived when this review is complete. The current rating is based on CDC computer output dated 4/19/1979.

WATERWAY

It should be noted that 2014 was a drought year and the river was dry on the date of this inspection. Refer to Photo 7. During the 4/24/2012 routine inspection, the river was flowing through Spans 27 and 28 at a velocity of 3 to 4 ft/s with Bents 28 and 29 within the water level.

NBI Item 113 is coded as an unknown foundation. As a result, a Bridge Scour Evaluation - Plan of Action form dated 10/9/2009 is on file. In addition, the 4/16/2008 stream cross section was spot checked during this inspection at Bents 28 and 29. The vertical distance between the channel and the bottom of the right girder at Bent 28 was measured with a laser adjacent to Column 3 on each span side. There was no significant changes on the Span 27 side. However, the Span 28 side has degraded by 1 foot. Similarly, the vertical distance between the channel and the bottom of the soffit at Bent 29 was measured with a laser adjacent to Column 3 on the Span 28 side. The channel elevation has increased by 1 foot in this location.

STEEL INVESTIGATIONS

This structure qualifies for an in-depth Steel investigation because it possesses the following fracture critical or fatigue prone details :

Plate Girder: FC Members

Fracture Critical: Yes Inspection Freq.: 24 Next Inspection: 04/24/2015

ELEMENT INSPECTION RATINGS

Elem No.	Element Description	Env	Total Qty	Units	Qty in each Condition State St. 1	St. 2	St. 3	St. 4	St. 5
12	Concrete Deck - Bare	2	3595	sq.m	3595	0	0	0	0
107	Painted Steel Open Girder/Beam	2	1392	m.	492	400	500	0	0
152	Painted Steel Floor Beam	2	940	m.	240	400	300	0	0
205	Reinforced Conc Column or Pile Extension	2	102	ea.	102	0	0	0	
210	Reinforced Conc Pier Wall	2	93	m.	93	0	0	0	

Elem No.	Element Description	Env	Total Qty	Units	Qty in each Condition State St. 1	St. 2	St. 3	St. 4	St. 5
215	Reinforced Conc Abutment	2	14	m.	14	0	0	0	
227	Reinforced Conc Submerged Pile	2	8	ea.	8	0	0	0	0
234	Reinforced Conc Cap	2	350	m.	348	0	2	0	
252	Cast-In-Drilled Hole Concrete Pile	2	8	ea.	8	0	0	0	0
256	Slope Protection	2	2	ea.	1	1	0	0	0
330	Metal Bridge Railing - coated or uncoated	2	576	m.	576	0	0	0	
339	Concrete Railing (aesthetic/masonry)	2	408	m.	208	0	200	0	0
349	Sliding Steel Plates	2	206	m.	178	0	28	0	0
357	Pack Rust	2	1	ea.	0	1	0	0	0
358	Deck Cracking	2	1	ea.	0	0	1	0	0
359	Soffit of Concrete Deck or Slab	2	1	ea.	0	0	1	0	0
361	Scour	2	1	ea.	1	0	0	0	0

WORK RECOMMENDATIONS

RecDate: 04/16/2008
Action : Paint-Spot Prep
Work By: LOCAL AGENCY
Status : PROPOSED
EstCost:
StrTarget: 2 YEARS
DistTarget:
EA:

Clean and repaint the steel girders and floor beams.

RecDate: 04/16/2008
Action : Deck-Methacrylate
Work By: LOCAL AGENCY
Status : PROPOSED
EstCost:
StrTarget: 2 YEARS
DistTarget:
EA:

Treat the deck with methacrylate.

RecDate: 04/03/2002
Action : Undefined Work
Work By: LOCAL AGENCY
Status : PROPOSED
EstCost:
StrTarget: 2 YEARS
DistTarget:
EA:

Tighten or repair the sliding steel expansion joint assemblies.

Team Leader : Catherine A. Tarala

Report Author : Catherine A. Tarala

Inspected By : CA.Tarala/ML.Warrick

5-28-14

Catherine A. Tarala (Registered Civil Engineer) (Date)

STRUCTURE INVENTORY AND APPRAISAL REPORT

********** IDENTIFICATION **********

(1) STATE NAME- CALIFORNIA 069
(8) STRUCTURE NUMBER **44C0035**
(5) INVENTORY ROUTE(ON/UNDER)- ON 140000000
(2) HIGHWAY AGENCY DISTRICT 05
(3) COUNTY CODE 053 (4) PLACE CODE 00000
(6) FEATURE INTERSECTED- SALINAS RIVER
(7) FACILITY CARRIED- GONZALES RIVER RD
(9) LOCATION- 0.2 MI E RIVER RD
(11) MILEPOINT/KILOMETERPOINT 0
(12) BASE HIGHWAY NETWORK- NOT ON NET 0
(13) LRS INVENTORY ROUTE & SUBROUTE
(16) LATITUDE 36 DEG 29 MIN 02.58 SEC
(17) LONGITUDE 121 DEG 28 MIN 15.28 SEC
(98) BORDER BRIDGE STATE CODE % SHARE %
(99) BORDER BRIDGE STRUCTURE NUMBER

******** STRUCTURE TYPE AND MATERIAL *********

(43) STRUCTURE TYPE MAIN:MATERIAL- STEEL
TYPE- GIRDER & FLOORBEAM SYSTEM CODE 303
(44) STRUCTURE TYPE APPR:MATERIAL- STEEL
TYPE- STRINGER/MULTI-BEAM OR GDR CODE 302
(45) NUMBER OF SPANS IN MAIN UNIT 12
(46) NUMBER OF APPROACH SPANS 17
(107) DECK STRUCTURE TYPE- CIP CONCRETE CODE 1
(108) WEARING SURFACE / PROTECTIVE SYSTEM:
A) TYPE OF WEARING SURFACE- NONE CODE 0
B) TYPE OF MEMBRANE- NONE CODE 0
C) TYPE OF DECK PROTECTION- NONE CODE 0

********** AGE AND SERVICE **********

(27) YEAR BUILT 1930
(106) YEAR RECONSTRUCTED 0000
(42) TYPE OF SERVICE: ON- HIGHWAY 1
UNDER- WATERWAY 5
(28) LANES:ON STRUCTURE 02 UNDER STRUCTURE 00
(29) AVERAGE DAILY TRAFFIC 2500
(30) YEAR OF ADT 2013 (109) TRUCK ADT 10 %
(19) BYPASS, DETOUR LENGTH 29 KM

********** GEOMETRIC DATA **********

(48) LENGTH OF MAXIMUM SPAN 24.7 M
(49) STRUCTURE LENGTH 506.3 M
(50) CURB OR SIDEWALK: LEFT 0.1 M RIGHT 0.1 M
(51) BRIDGE ROADWAY WIDTH CURB TO CURB 7.1 M
(52) DECK WIDTH OUT TO OUT 7.3 M
(32) APPROACH ROADWAY WIDTH (W/SHOULDERS) 9.8 M
(33) BRIDGE MEDIAN- NO MEDIAN 0
(34) SKEW 0 DEG (35) STRUCTURE FLARED NO
(10) INVENTORY ROUTE MIN VERT CLEAR 99.99 M
(47) INVENTORY ROUTE TOTAL HORIZ CLEAR 7.1 M
(53) MIN VERT CLEAR OVER BRIDGE RDWY 99.99 M
(54) MIN VERT UNDERCLEAR REF- NOT H/RR 0.00 M
(55) MIN LAT UNDERCLEAR RT REF- NOT H/RR 0.0 M
(56) MIN LAT UNDERCLEAR LT 0.0 M

********** NAVIGATION DATA **********

(38) NAVIGATION CONTROL- NO CONTROL CODE 0
(111) PIER PROTECTION- CODE
(39) NAVIGATION VERTICAL CLEARANCE 0.0 M
(116) VERT-LIFT BRIDGE NAV MIN VERT CLEAR M
(40) NAVIGATION HORIZONTAL CLEARANCE 0.0 M

****

SUFFICIENCY RATING = 49.1
STATUS FUNCTIONALLY OBSOLETE
HEALTH INDEX 85.6
PAINT CONDITION INDEX = 74.1

********** CLASSIFICATION ********** CODE

(112) NBIS BRIDGE LENGTH- YES Y
(104) HIGHWAY SYSTEM- NOT ON NHS 0
(26) FUNCTIONAL CLASS- MAJOR COLLECTOR RURAL 07
(100) DEFENSE HIGHWAY- NOT STRAHNET 0
(101) PARALLEL STRUCTURE- NONE EXISTS N
(102) DIRECTION OF TRAFFIC- 2 WAY 2
(103) TEMPORARY STRUCTURE-
(105) FED.LANDS HWY- NOT APPLICABLE 0
(110) DESIGNATED NATIONAL NETWORK - NOT ON NET 0
(20) TOLL- ON FREE ROAD 3
(21) MAINTAIN- COUNTY HIGHWAY AGENCY 02
(22) OWNER- COUNTY HIGHWAY AGENCY 02
(37) HISTORICAL SIGNIFICANCE- NOT ELIGIBLE 5

********** CONDITION ********** CODE

(58) DECK 5
(59) SUPERSTRUCTURE 5
(60) SUBSTRUCTURE 6
(61) CHANNEL & CHANNEL PROTECTION 6
(62) CULVERTS N

********* LOAD RATING AND POSTING ********* CODE

(31) DESIGN LOAD- MS-13.5 OR HS-15 3
(63) OPERATING RATING METHOD- ALLOWABLE STRESS 2
(64) OPERATING RATING- 37.2
(65) INVENTORY RATING METHOD- ALLOWABLE STRESS 2
(66) INVENTORY RATING- 20.8
(70) BRIDGE POSTING- EQUAL TO OR ABOVE LEGAL LOADS 5
(41) STRUCTURE OPEN, POSTED OR CLOSED- A
DESCRIPTION- OPEN, NO RESTRICTION

********** APPRAISAL ********** CODE

(67) STRUCTURAL EVALUATION 5
(68) DECK GEOMETRY 2
(69) UNDERCLEARANCES, VERTICAL & HORIZONTAL N
(71) WATER ADEQUACY 6
(72) APPROACH ROADWAY ALIGNMENT 6
(36) TRAFFIC SAFETY FEATURES 0000
(113) SCOUR CRITICAL BRIDGES U

********** PROPOSED IMPROVEMENTS **********

(75) TYPE OF WORK- MISC STRUCTURAL WORK CODE 38
(76) LENGTH OF STRUCTURE IMPROVEMENT 506.3 M
(94) BRIDGE IMPROVEMENT COST $8,268,500
(95) ROADWAY IMPROVEMENT COST $1,653,700
(96) TOTAL PROJECT COST $13,891,080
(97) YEAR OF IMPROVEMENT COST ESTIMATE 2010
(114) FUTURE ADT 4333
(115) YEAR OF FUTURE ADT 2034

********** INSPECTIONS **********

(90) INSPECTION DATE 04/14 (91) FREQUENCY 24 MO
(92) CRITICAL FEATURE INSPECTION: (93) CFI DATE
A) FRACTURE CRIT DETAIL- YES 24 MO A) 04/13
B) UNDERWATER INSP- NO MO B)
C) OTHER SPECIAL INSP- NO MO C)

SALINAS RIVER

0.2 MI E RIVER RD | 04/10/2014 [AAAK] | 44C0035

102 - PHOTO-Deck-Damage/Deterioration

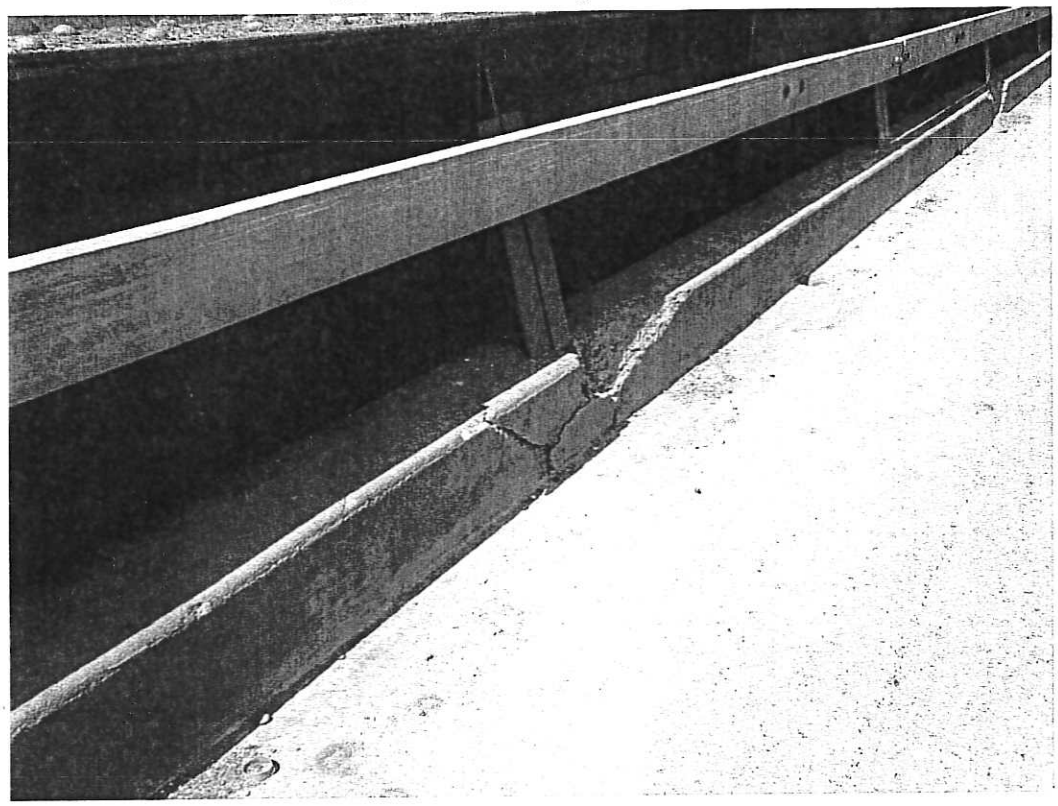

Photo No. 1

Typical Spall in Concrete Curb on Main Span Deck At Location of Girder/Rail Brackets

119 - PHOTO-Rail-Damage/Deterioration

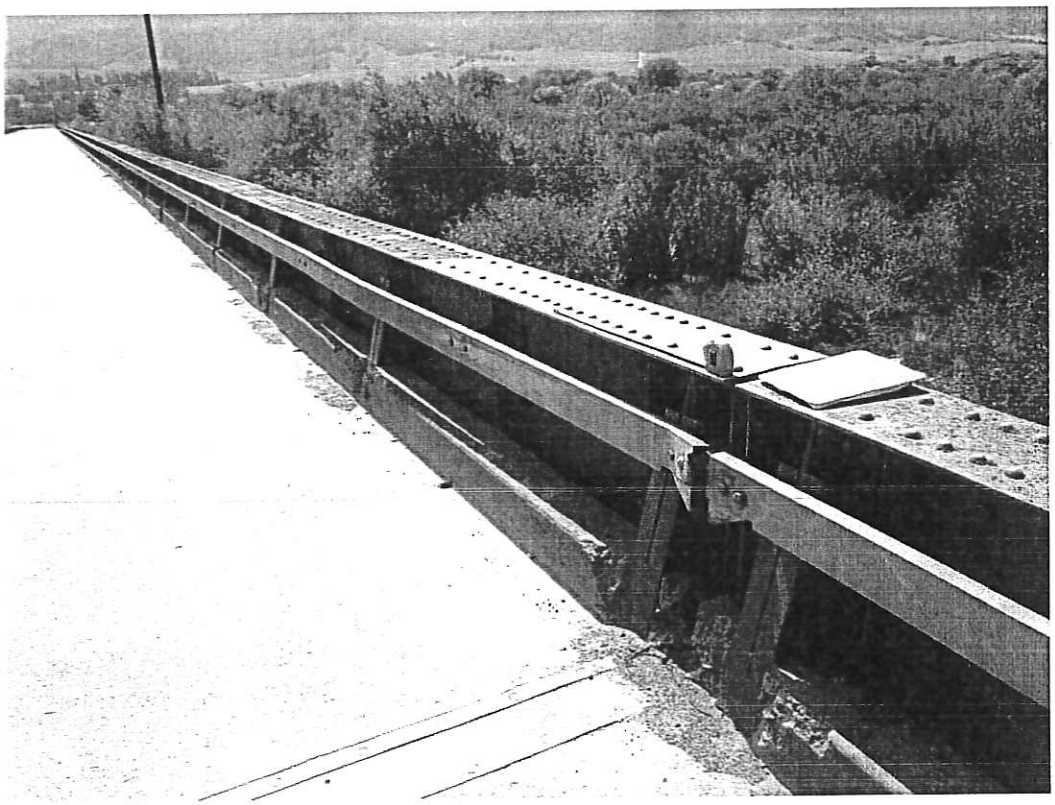

Photo No. 2

Main Span 21 Left Bridge Rail - Minor Damage

SALINAS RIVER

0.2 MI E RIVER RD | 04/10/2014 [AAAK] | 44C0035

116 - PHOTO-Sub-Scour/Evaluation

Photo No. 3

Bent 28 Span 28 Side - Visible CIDH piles at Columns 1 & 4, Undermining at Columns 2 & 3

116 - PHOTO-Sub-Scour/Evaluation

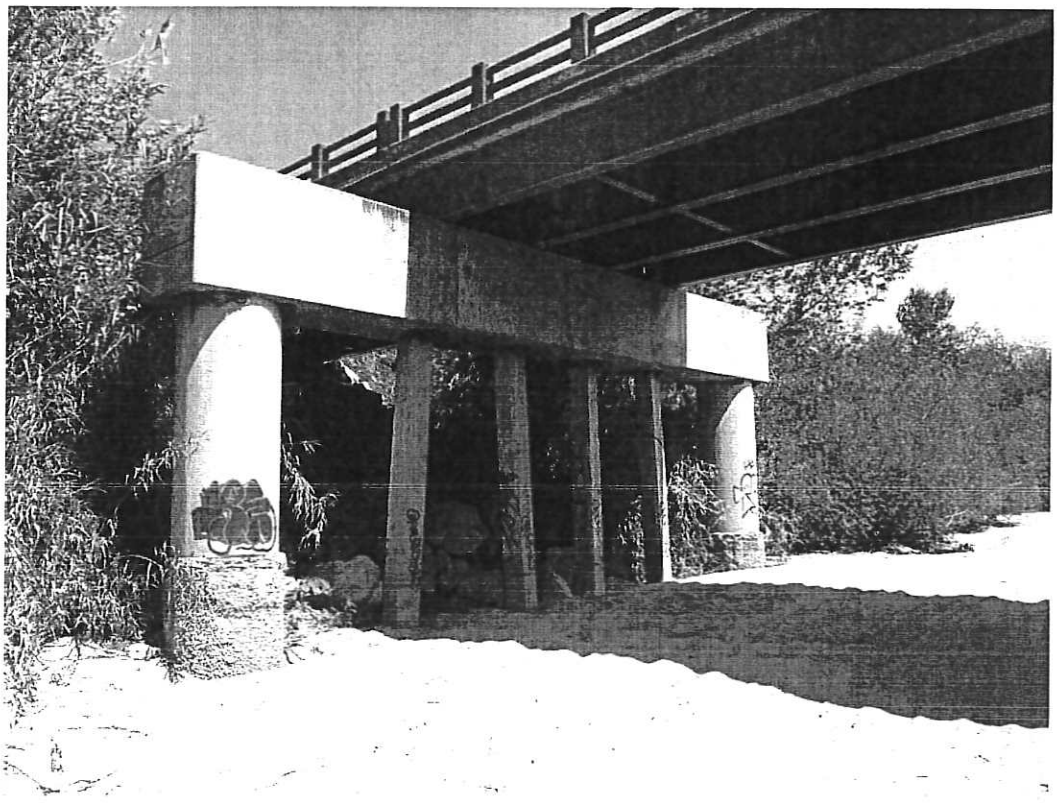

Photo No. 4

Bent 29 Span 28 Side - Visible CIDH piles at Columns 1 and 6

SALINAS RIVER

0.2 MI E RIVER RD | 04/10/2014 [AAAK] | 44C0035

116 - PHOTO-Sub-Scour/Evaluation

Photo No. 5

Bent 28 Span 27 Side - Undermining at Column 2, Visible RC Piles

116 - PHOTO-Sub-Scour/Evaluation

Photo No. 6

Bent 28 Span 28 Side - Undermining at Column 3, Visible RC Piles

SALINAS RIVER

0.2 MI E RIVER RD | 04/10/2014 [AAAK] | 44C0035

131 - PHOTO-Hydraulic-Misc.

Photo No. 7

Dry River within Span 28 Looking East

DEPARTMENT OF TRANSPORTATION
Structure Maintenance & Investigations

Bridge Number : 44C0070
Facility Carried: CARMEL VALLEY RD
Location : 4 MI N ARROYO SECO RD
City :
Inspection Date : 04/10/2014

Bridge Inspection Report

Inspection Type

Routine	FC	Underwater	Special	Other
X	X			

STRUCTURE NAME: PALOMA CREEK

CONSTRUCTION INFORMATION

Year Built : 1959
Year Widened: N/A
Length (m) : 12.2

Skew (degrees): 30
No. of Joints : 0
No. of Hinges : 0

Structure Description: Single riveted steel girder (5 railroad car frame girders) span with a precast RC panel deck. The girders are supported by a built up welded steel cap (rolled angle section and plate) on steel railroad rail piles (7) at the abutments. Precast RC panel lagging is in place for wingwalls and behind the abutment piles.

Span Configuration : 1 @ 11.6 m

SAFE LOAD CAPACITY AND RATINGS

Design Live Load: UNKNOWN
Inventory Rating: RF=0.69 =>22.4 metric tons Calculation Method: ALLOWABLE STRESS
Operating Rating: RF=1.12 =>36.3 metric tons Calculation Method: ALLOWABLE STRESS
Permit Rating : GGGGG
Posting Load : Type 3: Legal Type 3S2: Legal Type 3-3: Legal

DESCRIPTION ON STRUCTURE

Deck X-Section: 0.1 m br, 0.4 m cu, 7.8 m, 0.4 m cu, 0.1 m br
Total Width: 8.0 m Net Width: 7.8 m No. of Lanes: 2 Speed: 35 mph
Min. Vertical Clearance: Unimpaired

Rail Code: 0000

Rail Type	Location	Length (ft)	Rail Modifications
Misc. Steel	Right/Left	92	Old style "W" beam rail on RR rail posts

DESCRIPTION UNDER STRUCTURE

Channel Description: Sand,gravel and cobbles; no slope protection.

INSPECTION COMMENTARY

SCOPE AND ACCESS

The creek was dry and a complete routine inspection was performed on all visible bridge elements. In addition, a fracture critical member and special feature member inspection of the steel caps was conducted according to the Fracture Critical and Special Feature Member Inspection Plan dated 4/17/2008. The structure was accessed from the ground and with a ladder with no traffic control required.

The most recent special feature member inspection of the steel girders was performed on 4/25/2012, which includes the Category E and D weld details. This inspection is performed every 48 months with the next inspection scheduled for April 2016.

NUMBERING CONVENTION

The alignment of the structure from southeast to northwest does not clearly follow the

REGION	WATER BODY NAME	WATER TYPE	WATERSHED* CALWATER / USGS HUC	POLLUTANT POTENTIAL SOURCES *Relevant Notes*	ESTIMATED AREA ASSESSED	FIRST YEAR LISTED	TMDL REQUIREMENT STATUS**	DATE***
				• Sediment Toxicity ◦ Agriculture ◦ Grazing-Related Sources ◦ Removal of Riparian Vegetation ◦ Urban Runoff--Industrial Permitted ◦ Urban Runoff--Non-industrial Permitted ◦ Urban Runoff/Storm Sewers	7.7 Miles	2010	5A	2013
				• Turbidity ◦ Agriculture ◦ Grazing-Related Sources ◦ Removal of Riparian Vegetation ◦ Urban Runoff--Industrial Permitted ◦ Urban Runoff--Non-industrial Permitted ◦ Urban Runoff/Storm Sewers	7.7 Miles	2010	5A	2013
				• Unknown Toxicity ◦ Agriculture ◦ Grazing-Related Sources ◦ Removal of Riparian Vegetation ◦ Urban Runoff--Industrial Permitted ◦ Urban Runoff--Non-industrial Permitted ◦ Urban Runoff/Storm Sewers	7.7 Miles	2010	5A	2013
				• pH ◦ Agriculture ◦ Grazing-Related Sources ◦ Removal of Riparian Vegetation ◦ Urban Runoff--Industrial Permitted ◦ Urban Runoff--Non-industrial Permitted ◦ Urban Runoff/Storm Sewers	7.7 Miles	2010	5A	2013
3	Salinas River (lower, estuary to near Gonzales Rd crossing, watersheds 30910 and 30920)	River & Stream	30917000 / 18060011	• Chlordane ◦ Source Unknown	31 Miles	2010	5A	2013
				• Chloride ◦ Agriculture ◦ Grazing-Related Sources ◦ Natural Sources ◦ Other Urban Runoff	31 Miles	2010	5A	2018
				• Chlorpyrifos ◦ Agriculture ◦ Grazing-Related Sources ◦ Other Urban Runoff	31 Miles	2010	5A	2013
				• DDD (Dichlorodiphenyldichloroethane) ◦ Source Unknown	31 Miles	2010	5A	2013

REGION	WATER BODY NAME	WATER TYPE	WATERSHED* CALWATER / USGS HUC	• POLLUTANT ◦ POTENTIAL SOURCES *Relevant Notes*	ESTIMATED AREA ASSESSED	FIRST YEAR LISTED	TMDL REQUIREMENT STATUS**	DATE***
				• Diazinon ◦ Agriculture ◦ Grazing-Related Sources ◦ Other Urban Runoff	31 Miles	2010	5A	2013
				• Dieldrin ◦ Source Unknown	31 Miles	2010	5A	2013
				• Electrical Conductivity ◦ Source Unknown *Impaired length for conductivity is from Del Monte Road to the River Mouth.*	31 Miles	2010	5A	2013
				• Enterococcus ◦ Agriculture ◦ Grazing-Related Sources ◦ Illegal dumping ◦ Natural Sources ◦ Pasture Grazing-Riparian and/or Upland ◦ Transient encampments ◦ Urban Runoff/Storm Sewers	31 Miles	2010	5A	2013
				• Escherichia coli (E. coli) ◦ Agriculture ◦ Grazing-Related Sources ◦ Illegal dumping ◦ Natural Sources ◦ Pasture Grazing-Riparian and/or Upland ◦ Transient encampments ◦ Urban Runoff/Storm Sewers	31 Miles	2010	5A	2013
				• Fecal Coliform ◦ Agriculture ◦ Grazing-Related Sources ◦ Illegal dumping ◦ Natural Sources ◦ Pasture Grazing-Riparian and/or Upland ◦ Transient encampments ◦ Urban Runoff/Storm Sewers	31 Miles	2002	5A	2013
				• Nitrate ◦ Agriculture ◦ Grazing-Related Sources ◦ Urban Runoff/Storm Sewers	31 Miles	2006	5A	2013
				• PCBs (Polychlorinated biphenyls) ◦ Source Unknown	31 Miles	2010	5A	2013
				• Pesticides ◦ Agriculture ◦ Construction/Land Development ◦ Point Source ◦ Urban Runoff/Storm Sewers	31 Miles	1994	5A	2013
				• Sodium ◦ Source Unknown	31 Miles	2010	5A	2018
				• Total Dissolved Solids ◦ Source Unknown	31 Miles	2010	5A	2018
				• Toxaphene ◦ Source Unknown	31 Miles	1994	5A	2013

REGION	WATER BODY NAME	WATER TYPE	WATERSHED* CALWATER / USGS HUC	POLLUTANT / POTENTIAL SOURCES / *Relevant Notes*	ESTIMATED AREA ASSESSED	FIRST YEAR LISTED	TMDL REQUIREMENT STATUS**	DATE***
				• Turbidity ◦ Agriculture ◦ Grazing-Related Sources ◦ Other Urban Runoff	31 Miles	2010	5A	2013
				• Unknown Toxicity ◦ Agriculture ◦ Grazing-Related Sources ◦ Other Urban Runoff	31 Miles	2010	5A	2013
				• pH ◦ Source Unknown	31 Miles	2010	5A	2013
3	Salinas River (middle, near Gonzales Rd crossing to confluence with Nacimiento River)	River & Stream	30917000 / 18060005	• Escherichia coli (E. coli) ◦ Agriculture ◦ Grazing-Related Sources ◦ Land Development ◦ Natural Sources ◦ Other Urban Runoff	72 Miles	2010	5A	2021
				• Fecal Coliform ◦ Agriculture ◦ Grazing-Related Sources ◦ Natural Sources ◦ Other Urban Runoff	72 Miles	2010	5A	2021
				• Pesticides ◦ Agricultural Return Flows ◦ Agriculture ◦ Agriculture-irrigation tailwater ◦ Agriculture-storm runoff ◦ Irrigated Crop Production ◦ Nonpoint Source *Area affected is the lower 20 miles of the middle Salinas River.*	72 Miles	2002	5A	2021
				• Temperature, water ◦ Agriculture ◦ Grazing-Related Sources ◦ Natural Sources ◦ Other Urban Runoff	72 Miles	2010	5A	2021
				• Turbidity ◦ Agriculture ◦ Grazing-Related Sources ◦ Other Urban Runoff	72 Miles	2010	5A	2021
				• Unknown Toxicity ◦ Agriculture ◦ Grazing-Related Sources ◦ Other Urban Runoff	72 Miles	2010	5A	2021
				• pH ◦ Agriculture ◦ Grazing-Related Sources ◦ Natural Sources ◦ Other Urban Runoff	72 Miles	2010	5A	2021
3	Salinas River (upper, confluence of Nacimiento River to Santa Margarita Reservoir)	River & Stream	30981112 / 18060005	• Chloride ◦ Agriculture ◦ Pasture Grazing-Riparian and/or Upland ◦ Urban Runoff/Storm Sewers	49 Miles	2002	5A	2021

APPENDIX F:
TRC STAFF AND ENVIRONMENTAL PROFESSIONAL QUALIFICATIONS/RESUMES

R. M. DHARME RATHNAYAKE, Ph.D., P.E.

EDUCATION
Ph.D., Civil Engineering, Water Resources/Groundwater, Colorado State University, 1985
M.S., Hydrology/Water Resources Engineering, Asian Institute of Technology, Thailand, 1981
B.S., Civil Engineering, University of Sri Lanka, 1997

PROFESSIONAL REGISTRATIONS/CERTIFICATIONS
Professional Engineer, California, (#45296), 1989; Oregon (#14628), 1989; Washington (#24653), 1987

AREAS OF EXPERTISE
- Remedial investigations, feasibility studies, and alternatives analyses
- Bench and field-scale pilot studies
- Remediation system design and operations management
- Groundwater flow and contaminant transport modeling
- Technical solutions and lifecycle cost modeling to support environmental risk management and liability transfer
- Project management

REPRESENTATIVE EXPERIENCE
Dr. Rathnayake has more than 27 years of experience as a Senior Project Manager/Senior Engineer on a wide array of environmental and hazarous waste engineering, civil infrastructure, water resources, and utility engineering projects. He has large scale site environmental engineering experiences including soil management, site remediation associated with earthwork projects and regulatory negotiations with respect to soil and groundwater reuse. His engineeering experience includes civil design associated with site development, wet and dry utility management, civil infrastructure, water and waster water system planning and construction oversight. Some of his recent project experience includes soil management, site grading, waste water, storm water infrastructure designs, and the soil and groundwater management related to site redevelopment work at Former Hunters Point Shipyard (San Francisco Redevelopment Project), soil and sediment resue at Port of Oakland Vision 2000 program, site remedaition work at a former chemical manufacturing facility in Richmond, airport redevelopment at Port of Oakland, and infrastructure engineering support at former Fleet Industrial Supply Center – Oakland (FISCO), Oakland Army Base and San Francisco Presidio. His experience also includes cost estimating, scheduling and construction management and design/build turnkey projects.

PG&E, San Francisco, CA
RI/FS/RAP and RD Support, Fresno/Malaga Superfund SIte
Dr. Rathnayake provided RI/FS/RAP and RD review of the on-going site remediation activities at the Malaga superfund site as a technical representative of the PG&E who was a minor superfund responsible party to the consent decree between US EPA and the PRP Group lead by major oil companies. Remediation activities included design and installation of a site cover (about 30 acres) to prevent direct exposure of the soil constituents to eliminate human health risks and installation and operation of a groundwater pump and treat system to eliminate offsite migration of contaminated groundwater. Dr. Rathnayake provided additional technical and remedial cost allocation support to settle the PG&E involvement to continuing site remediation at the Malaga site. He worked closely with PG&E environmental and legal groups to complete this remediation support activities.

US EPA Region VII- CERCLA remedial actions at Baxter Springs Superfund site in Nebraska
This is a former lead mining area which requires consolidation of mining waste (more than 700,000 yards) to restore land for pre-mining conditions (open space). This $5 mil project is done by a partnership of Prudent and Combined Effort, Inc. (CEI – A DVOSB business) to meet contract requirements by the US EPA region VII. As the Principal Remediation Engineer, Dr. Rathnayake developed the necessary Teaming, exclusive business agreements and the go-forward plan with CEI and the project is about 90% complete now with revenue equally shared by Prudent and Combined Efforts. I can facilitate similar small business arrangements for mutual success and to enhance small business participation for supporting disadvantage business to include local small businesses, women-owned business, minority-owned business, section 8(a) certified business, hub zone business and disabled veteran owned small business such CEI. During project implementation Dr. Rathnayake performed the lead QA/QC activities with project work plans, weekly/monthly submittals and project closeouts.

Universal Paragon Corporation
Former Schlage lock Facility remediation – OU1, South San Francisco, CA
Groundwater remediation work At Former Schlage Lock Facility in South San Francisco- As the Project Principal this work was done for the current site developer (Universal Paragon) under a guaranteed fixed priced remediation (GFPR) contract. Site soils were contaminated with metals and VOCs and major part of the shallow groundwater was impacted by VOCs including PCE, TCE and VC. Remedial Action Work Plan was developed and approved by CA DTSC prior to site work and soil remediation work involve on site aeration and containment as part of grading activities. Groundwater cleanup was accomplished by use of ERD. Certain phases of site was cleaned to accommodate to initial development need by meeting soil vapor goals.

Environmental Oversight of Site Remediation and Monitoring, Former Navy Hunters Point Shipyard Site (HPS) – Phase II, San Francisco, CA
This Project includes oversight of all soil and groundwater remediation activities completed by Navy SWDIV of this 500-acre site of this former Naval Shipyard (HPS) which primarily consists of elevated levels of metals and organic compounds in soil, groundwater and sediments within the site media. The HPS is a superfund site and the lead regulatory agency for the site is EPA Region IX with significant assistance from CA Department of Toxic Control (DTSC) and the San Francisco Department of Public Health (DPH). Site is divided into Parcels B, G, C, and D, E and F and remediation activities for each Parcel is accomplished by Navy under an approved ROD or planned ROD. Parcel B and G RODs are approved including some of the sub-parcels of B work has been completed under an approved RAWP and LTM plan. Remediation activities includes excavation and disposal, in-situ groundwater treatment using Zero-valent ion (ZVI) and poly-lactate injections, site cover construction, long term monitoring of groundwater and deed restrictions. Dr. Rathnayake was the Project Manager and Technical Lead for this project. Responsible for preparation of work plans, comments documents, supervision of other technical personnel, Coordinating with Navy on work between Navy/City/Developer consultants, working with regulatory agencies, working with site developer and prime contractor and other stakeholders for expedited resolutions of problems encountered. Navy's estimated remediation costs for the HPS program is over $500 mil under the Navy BRAC program and with oversight budget to date exceeding $10 mil.

Port of Oakland
Early Transfer and Redevelopment of Former Fleet Industrial Supply Center, Oakland (FISCO), CA
Dr. Rathnayake was the Project Engineer in charge of assisting the Port of Oakland to complete the Finding of Suitability for Early Transfer and development of a Soil Reuse Plan. He was also

in charge of completing the scope of work and cost elements needed to complete the Performa for the early transfer including the analysis of existing water, sewer, and storm infrastructure. The Performa included the remedial scope of work, remedial costs, O&M costs, insurance, and additional management and contingency costs. The early transfer was successfully completed. Dr. Rathnayake was also responsible for implementation of various remedial elements negotiated as part of the early transfer and the utility reconstruction with respect to the site being developed as a marine terminal. The major element of the environmental remediation includes preparation of soil and groundwater management plan for handling one million cubic yard of potentially contaminated soils. The soils soiling and analysis plan and stockpiling plan were development and field implemented for efficient site grading and soil reuse.

Port of Oakland
Early Transfer and Remedial Costing Support for the Transfer of Former Oakland Army Base, C. , Oakland, CA
Dr. Rathnayake was the Principal Engineer in charge of assisting in the completion of the FOSET. He was also in charge of completing the scope of work and cost elements needed to complete the Performa for the early transfer. The Performa included the remedial scope of work, remedial costs, O&M costs, PLL and cap cost insurance, and additional management and contingency costs. The early transfer was successfully completed. Dr. Rathnayake, as lead civil engineer, oversaw work that included assessment of capacity and condition of existing utilities, coordination with relevant public agencies, providing utility improvement recommendations, cost estimating, and report preparation related to a parcel of land slated for redevelopment.

Port of Oakland
Design/Build utility Infrastructure Project for the Oakland Airport New Rental Car Facility, Oakland, CA
Dr. Rathnayake was the Project Manager for a Utility Infrastructure design/build project for the Dollar-Rent-A-Car site at the Port of Oakland/Oakland Airport. Work included civil design, geotechnical design work, utility designs, and construction management. Dr. Rathnayake also provided final close out and site hand over with staff training included for facility maintenance.

Presidio Trust, San Francisco, CA
Early Transfer and Remedial Costing Support for the Transfer of Former Army Presidio Site to Presidio Trust
As Lead Engineer, Dr. Rathnayake completed a detailed review of existing RI/FS and remedial action plans for the various IR sites at the Presidio. He completed a revised remedial action scope of work and proposed remedial costs needed for the early transfer of the Presidio. The work was completed in support of the Presidio Trust's negotiation effort with the US Army for completing the guaranteed fixed-price transfer of the property from the Army to the Trust. Dr. Rathnayake also presented data to key stakeholders.

Port of Richmond, CA
RI/FS/RAP for the Former Shipyard No. 2 Site in Richmond, CA
Dr. Rathnayake was the Project Manager and Technical Lead in charge of the design of a 53-acre site cap consisting of non-asbestos material, aggregate rock base, and asphalt. The contaminants included asbestos, heavy metals, and hydrocarbons. He conducted site evaluation for remedial action implementation at this former shipyard manufacturing facility. Work involved site evaluation and remedial planning at the near-shore property, a former dredged inlet constructed for ship dismantling, and at the shoreline and harbor ship channel area. He managed technical, regulatory (EPA and California agencies), and logistical aspects of this redevelopment project. Key to the success of this project was the regulatory approval for

reuse of dredged sediments, from the harbor channel deepening project (about 200,000 years of potentially contaminated material), as site cover material for the near-shore property. The site will be used for import car parking facility with rail access for their west-coast distribution. He also helped the Port evaluate options for sediment disposal for the harbor-deepening project.

Ports of Los Angeles and Long Beach, CA
Various Remediation Projects
Dr. Rathnayake was the Technical Lead/Technical Reviewer for assorted port projects associated with development of former petroleum hydrocarbon and other chemical storage facilities. He assisted the Ports in evaluating environmental and water quality impacts during the proposed Berth project. Activities included identification of options to contain a PCP plume (DNAPL pool) by construction of a sheet pile wall and recommendations for sediment characterization using chemical testing and bioassays for disposal purposes.

Napa County Flood Control District, Napa, CA
Development and Field Oversight of Dredge Sediment Reuse Plan
Dr. Rathnayake was the Project Director in charge of Napa River Flood Control Project - soil and sediment management and reuse plans. Over one million yard of soils excavated as part of flood plain management required proper management and disposal and re-sue to meet site specific soil criteria. Work included coordination with agencies, oversight of development of excavation and reuse plans, and development of designs for marsh plain and flood plain potential wetland areas.

Port of Seattle, WA
Pier 90 Redevelopment and Site Remediation Project
Dr. Rathnayake evaluated options for contaminated dredge disposal for a harbor-deepening project. Pier 90 shallow waterway was selected as a near-shore sediment containment facility for disposal of the sediments contaminated with heavy metals and hydrocarbons, including PAH compounds. He performed contaminant transport modeling using SUTRA, to evaluate metal migrations through the shallow piers and containment berms and defined long-term monitoring needs for the fill. Once the shallow waterway was filled, the area was used for storage of imported automobiles.

Soil and Groundwater Remediation, Former Fairchild Semiconductor Manufacturing Facility, San Jose, CA
Dr. Rathnayake participated in the design of a 3000-foot-long soil-bentonite slurry wall to a depth of 65+ feet to isolate TCE/PCE plume. This included soil excavation using large-diameter auger drilling to remove DNAPLs, groundwater pump and treat (activated carbon) system including NPDES discharge and the follow-up soil vapor extraction. Construction oversight included field QA/QC testing of slurry wall to confirm 10^{-7} cm/sec permeability to meet design criteria.

Greg Drosky
Environmental Planner

AREAS OF EXPERTISE

California Environmental Quality Act (CEQA)
Geographic Information Systems (GIS) Mapping
Environmental Science
Environmental Site Assessments
Environmental Soil Sampling

Greg works in environmental impact assessment and urban and regional land use planning. Throughout his work at TRC, Greg has been involved in the preparation and processing of environmental impact assessment and land use planning documents. As an Environmental Planner with TRC, he is responsible for the management and processing of CEQA environmental reports and related documents. Greg has experience working with both private and public sector clients to achieve their objectives while adhering to CEQA. As an Environmental Planner, he has authored many CEQA and environmental documents, such as Environmental Impact Reports (EIR), Initial Studies (IS), Mitigated Negative Declarations (MND), Notice of Exemptions (NOE), Mitigation Monitoring and Reporting Programs (MMRP), Notices of Preparation (NOP), Notices of Intent (NOI), and Notices of Determination (NOD).

CREDENTIALS

Education

- B.S., Environmental Geography, University of Washington, 2008 - 2013

EXPERIENCE

- Staff Planner
- Environmental Site Assessments
- Environmental Soil Sampling
- GIS Technician

PROJECT EXPERIENCE

Berkeley Mather Phase I Environmental Site Assessment (ESA) – Alameda County, CA (Staff Scientist: July 2014 – Present)
Greg served as a Staff Scientist on the Phase I ESA, which involved the Environmental Site Assessment of a residential site used for student living. In this role, Greg was involved in the preparation of the Phase I ESA report, including Regulatory Agency File Review, site assessment, and identifying and assessing recognized environmental conditions on site for planned future land redevelopment.

Vacaville Phase I Environmental Site Assessment (ESA) – Solano County, CA (Staff Scientist: July 2014 – Present)
Greg served as a Staff Scientist on the Phase I ESA, which involved the Environmental Site Assessment of an undeveloped parcel of land in Vacaville, California. In this role, Greg was involved in the preparation of the Phase I ESA report, including Regulatory Agency File Review, site assessment, and identifying and assessing recognized environmental conditions on site for planned future development.

Great American Parkway Phase I Environmental Site Assessment (ESA) – Santa Clara County, CA (Staff Scientist: June 2014 – July 2014)
Greg served as a Staff Scientist on the Phase I ESA, which involved the Environmental Site Assessment of a technology research and development campus in Santa Clara, California. In this role, Greg was involved in the preparation of the Phase I ESA report, including Regulatory Agency File Review, site assessment, and identifying and assessing recognized environmental conditions on site for planned future sale and purchase of the Site.

Pacific Gas and Electric Company (PG&E) Pipeline 109 Rebuild Project (Planner: March 2014 – Present)
Greg served as a Staff Planner on the Pipeline 109 Rebuild Project, which involved the proposed replacement of three segments of PG&E's natural gas pipeline (Line 109) to accommodate an in-line-inspection (ILI) tool, known as a pipeline inspection gadget (PIG). The upgrades are necessary to conduct inspections in accordance with a U.S. Department of Transportation. The key issue is sensitive biological resources. In this role, Greg assisted with various aspects in the preparation of a Primary Mitigated Negative Declaration (PMND), including drafting several sections of the PMND, including Population and Housing, Utilities, Public Services, Geology and Soils, Mineral Resources, Hazards and Hazardous Materials, Mitigation Measures and Improvement Measures, and Initial Study Authors and Project Sponsor Team Sections. In addition, he assisted with quality assurance/quality control and technical editing of document sections.

California State Lands Commission (CSLC), Avon Marine Oil Terminal Project – Unincorporated Contra Costa County, CA (Planner: February 2014 – Present)
Greg currently serves as a staff planner on the proposed project, which involves the lease renewal of 11.24 acres of sovereign public land from the CSLC for the existing Tesoro Avon Marine Oil Terminal and the modernization on the terminal for compliance with current Marine Oil Terminal Engineering Maintenance Standards (MOTEMS). Researching and preparing a public review draft and final EIR, assessing project-related environmental impacts associated with the anticipated MOTEMS mandated facility upgrades and continued operation of the existing Avon Marine Oil Terminal facility. Greg is tasked with the drafting of the Project Description for the DEIR, as well as, creating associated GIS figures for the Project Description for the DEIR.

California State Lands Commission (CSLC), Amorco Marine Oil Terminal Project – Martinez, CA (Planner: February 2014 – April 2014)
Greg currently serves as a Staff Planner for the project, which involves the lease renewal of 14.9 acres of sovereign public land from the CSLC for the existing Tesoro Amorco Marine Oil Terminal. Researched and prepared environmental compliance documents, including a public review draft and

final Environmental Impact Report (EIR), assessing significant impacts on the environment associated with the inherent risk of spills at an operational facility where petroleum product is routinely transferred over water. In this role, Greg is tasked with quality assurance/quality control of compiling and maintaining references used in the writing of the draft and final EIR.

Ro-Lab Rubber Phase I Environmental Site Assessment (ESA) – San Joaquin County, CA (Staff Scientist: February 2014)
Greg served as a Staff Scientist on the Phase I ESA, which involved the Environmental Site Assessment of a float glass manufacturing facility. In this role, Greg was involved in the preparation of the Phase I ESA report, including Regulatory Agency File Review, site assessment, and identifying and assessing recognized environmental conditions on site for planned future land redevelopment.

Baker Hughes Nevada Mineral and Mining Exploration, Nevada (GIS Technician: February 2014 – March 2014)
Greg currently serves as a GIS technician on the project, which involves managing geospatial data and development of a web map for an industrial mineral exploration project in northern Nevada. The project includes identifying target areas, coordination of field mapping, historical drilling records, geophysical measurements, land acquisition and negotiations, and permitting the targeted prospect areas. Greg is involved with managing lithological and fault geospatial data to be used in associated web map.

Hull and Associates Phase I Environmental Site Assessment (ESA) – San Joaquin County, CA (Staff Scientist: January 2014 – February 2014)
Greg served as a Staff Scientist on the Phase I ESA, which involved the Environmental Site Assessment of a float glass manufacturing facility. In this role, Greg was involved in the preparation of the Phase I ESA report, including Regulatory Agency File Review, site assessment, and identifying and assessing recognized environmental conditions on site for planned future land redevelopment.

Pacific Gas and Electric Company (PG&E) Pipeline 101 and Lomita Park Regulator Station Rebuild Project MND – San Mateo County, CA (Planner: November 2013 – July 2014)
Greg served as a Staff Planner on the Pipeline 101 and Lomita Park Regulator Station Rebuild Project, which involved the proposed replacement of PG&E's natural gas pipeline (Line 101) and rebuild of the Lomita Park Regulator Station to accommodate an in-line-inspection (ILI) tool, known as a pipeline inspection gadget (PIG). The upgrades are necessary to conduct inspections in accordance with a U.S. Department of Transportation. The key issue is sensitive biological resources. In this role, Greg assisted with various aspects in the preparation of a Primary Mitigated Negative Declaration (PMND), including a Notice of Completion (NOC), Notice of Availability, and drafting several sections of the PMND, including Public Services and Hazards and

Hazardous Materials Sections. In addition, he assisted with quality assurance/quality control and technical editing of document sections.

Pacific Gas and Electric Company (PG&E) Cultural Resources Legacy GIS Database Project (GIS Technician: November 2013 – December 2013)
Greg served as a GIS Technician on the Cultural Legacy GIS Database Project, which involved the searching of archived cultural resource reports, extracting and compiling relevant information pertaining to historic sites and artifacts, and digitizing the corresponding areas into functional GIS data. In this role, Greg assisted in computing the GIS data of these historic sites into a PG&E data base to be used as actionable spatial data for future projects.

APPENDIX G:
ENVIRONMENTAL PROFESSIONAL STATEMENT

DEFINITION OF ENVIRONMENTAL PROFESSIONAL AND RELEVANT EXPERIENCE THERETO PURSUANT TO 40 CFR 312

(1) a person who possesses sufficient specific education, training, and experience necessary to exercise professional judgment to develop opinions and conclusions regarding conditions indicative of releases or threatened releases (see §312.1(c)) on, at, in, or to a property, sufficient to meet the objectives and performance factors in §312.20(e) and (f).

(2) Such a person must: (i) hold a current Professional Engineer's or Professional Geologist's license or registration from a state, tribe, or U.S. territory (or the Commonwealth of Puerto Rico) and have the equivalent of three (3) years of full-time relevant experience; or (ii) be licensed or certified by the federal government, a state, tribe, or U.S. territory (or the Commonwealth of Puerto Rico) to perform environmental inquiries as defined in §312.21 and have the equivalent of three (3) years of full-time relevant experience; or (iii) have a Baccalaureate or higher degree from an accredited institution of higher education in a discipline of engineering or science and the equivalent of five (5) years of full-time relevant experience; or (iv) have the equivalent of ten (10) years of full-time relevant experience.

(3) An environmental professional should remain current in his or her field through participation in continuing education or other activities.

(4) The definition of environmental professional provided above does not preempt state professional licensing or registration requirements such as those for a professional geologist, engineer, or site remediation professional. Before commencing work, a person should determine the applicability of state professional licensing or registration laws to the activities to be undertaken as part of the inquiry identified in §312.21(b).

(5) A person who does not qualify as an environmental professional under the foregoing definition may assist in the conduct of all appropriate inquiries in accordance with this part if such person is under the supervision or responsible charge of a person meeting the definition of an environmental professional provided above when conducting such activities.

Relevant experience, as used in the definition of environmental professional in this section, means: participation in the performance of all appropriate inquiries investigations, Initial site assessments, or other site investigations that may include environmental analyses, investigations, and remediation which involve the understanding of surface and subsurface environmental conditions and the processes used to evaluate these conditions and for which professional judgment was used to develop opinions regarding conditions indicative of releases or threatened releases (see §312.1(c)) to the Site. TRC personnel resume(s) are included in **Appendix F**.

I declare that, to the best of my professional knowledge and belief, I meet the definition of environmental professional as defined in §312.10 of 40 CFR 312.

I have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the subject property. I have developed and performed the all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.

Signature of Environmental Professional:  Date: 03/02/2017

APPENDIX E

WATER QUALITY MEMORANDUM

BERKELEY
CARLSBAD
FRESNO
IRVINE
PALM SPRINGS
POINT RICHMOND
RIVERSIDE
ROCKLIN
SAN LUIS OBISPO

MEMORANDUM

DATE: November 7, 2016

TO: Caltrans District 5

FROM: Nicole West, CPSWQ, QSD/QSP

SUBJECT: Water Quality Memorandum for the Gonzales River Road Bridge Replacement Project (BRLS-5944[098]); Caltrans Bridge No. 44C0035; County Bridge No. 309) over Salinas River (LSA Project No. TRT1503)

1.0 INTRODUCTION

The County of Monterey (County) Public Works Department proposes to replace the existing two-lane Gonzales River Road Bridge (Bridge No. 44C0035) over the Salinas River in Monterey County, California (proposed project) with a wider bridge that meets current American Association of State Highway and Transportation Officials (AASHTO) requirements; addresses existing structural deficiencies, such as cracks, exposed reinforcing bars, and failing joints in the superstructure; and improves the conditions for conveying flood flows. The proposed project would also widen the roadway approaches on the north and south ends of the bridge to conform to the new bridge width and profile. After construction, both the bridge and roadway approaches would contain two 12-foot (ft) lanes and two 8 ft shoulders and would meet current AASHTO minimum speed standards.

The purpose of this water quality memorandum is to fulfill the requirements of the National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA), and to provide information, to the extent possible, for National Pollution Discharge Elimination System (NPDES) permitting. The document includes a discussion of the proposed project, the physical setting of the project site, and the regulatory framework with respect to water quality. In addition, this document provides data on surface water and groundwater resources within the project site and the water quality of these waters, describes water quality impairments and beneficial uses, identifies potential water quality impacts/benefits associated with the proposed project, and recommends avoidance and/or minimization measures for potentially adverse impacts.

This water quality memorandum determines whether the construction and operation of the Gonzales River Road Bridge Replacement Project would have an adverse impact on water quality. The determination of impacts is based on the anticipated change in pollutant loads due to changes

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in land use and impervious area percentages between the existing condition and the post-project condition. The analysis includes consideration of Best Management Practices (BMPs) to be implemented as part of the proposed project. This assessment also discusses existing water quality regulations and how the proposed project would comply with those regulations.

2.0 PROJECT DESCRIPTION

2.1 Existing Facility

Existing Facility

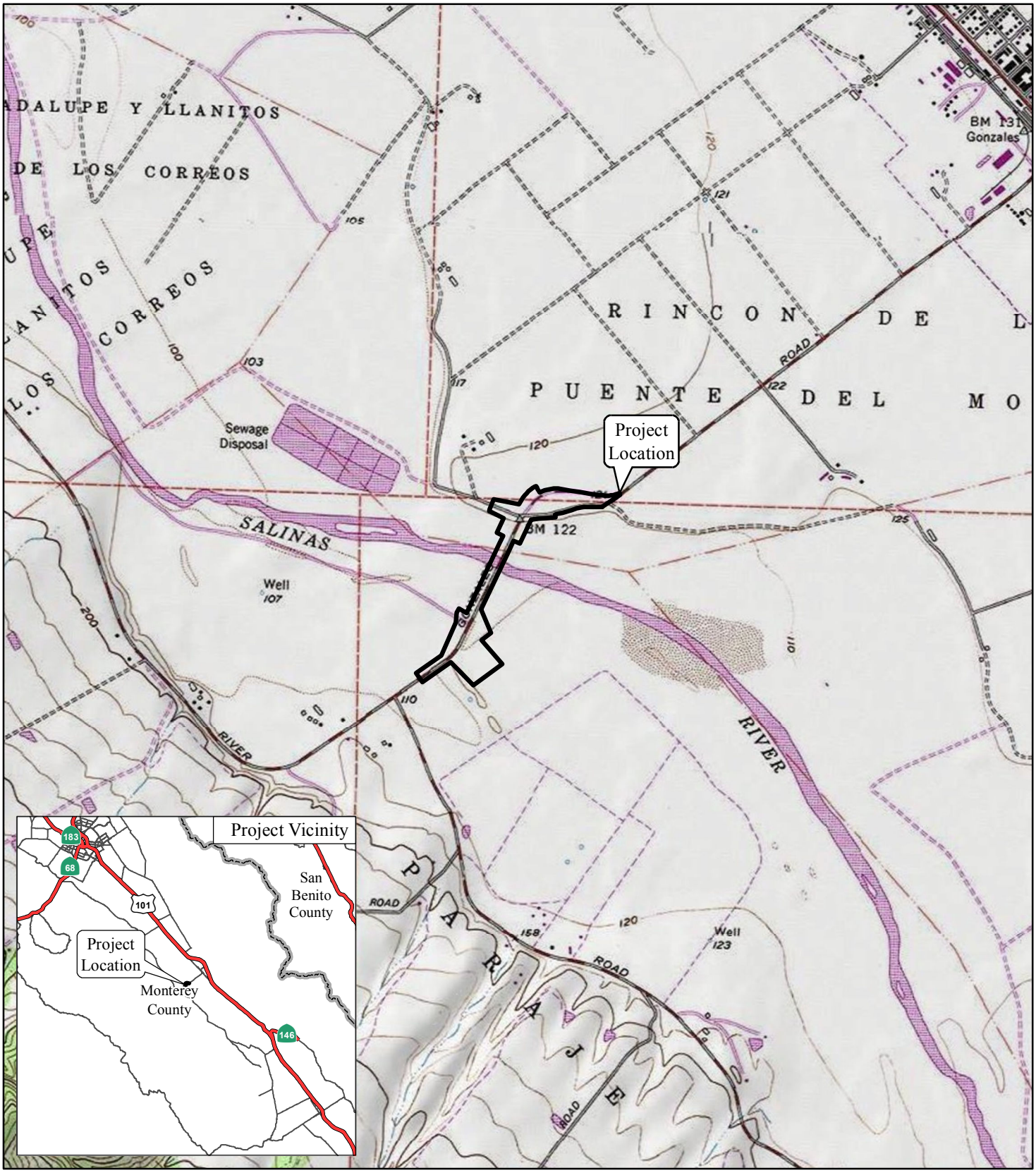
The project area is located in unincorporated Monterey County mid-way between Salinas to the north and Soledad to the South. The bridge is approximately 0.2 miles east of River Road and 2 miles west of U.S. Route 101 (US-101) (refer to Figure 2.1). The bridge runs generally in a north-south direction with the Salinas River flowing under the bridge in generally an east to west direction (refer to Figure 2.2). The surrounding land uses are in agriculture.

The Gonzales River Road Bridge (bridge) was originally constructed in 1930. The bridge is 1,661 ft long and 23 ft wide with two 10 ft travel lanes and no shoulders. In 2001, the bridge underwent a seismic retrofit that included the construction of new foundations and substructures; however, the seismic retrofit did not include replacing the superstructure,[1] which is the focus of the proposed project. The bridge identification information is listed below:

05-MON-0-CR
BRLS-5944(098)
Caltrans Bridge No. 44C0035, County Bridge No. 309
Latitude: 36° 29' 10"
Longitude: 121° 28' 11"

According to the California Department of Transportation (Caltrans) California Road System Map, Gonzales River Road is classified as a Major Collector (Rural Roadway).

[1] Due to the relatively recent replacement of the foundation and substructure to address seismic issues, only the existing superstructure needs to be replaced at this time.



LEGEND

Project Area

FIGURE 2.1

Gonzales River Road Bridge Replacement Project
Monterey County, California
Federal Project Number BRLS-5944(098)

Project Location

0 1000 2000
FEET

SOURCE: USGS 7.5' Quad., *Palo Escrito Peak, CA* (1984); TRC (6/2016)

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LEGEND

Project Area

FIGURE 2.2

Gonzales River Road Bridge Replacement Project
Monterey County, California
Federal Project Number BRLS-5944(098)

Project Area

0 250 500
FEET

SOURCE: Bing Aerial (2011); TRC (6/2016)

I:\TRT1503\GIS\PD_GonzalesRiverRd_ProjectArea.mxd (11/3/2016)

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2.2 Project Purpose and Need

2.2.1 Purpose

The purpose of this project is to:

- Provide for wider travel lanes and shoulders that comply with current AASHTO bridge and road design standards;
- Bring the bridge up to current Caltrans structural standards;
- Improve access for trucks and non-motorized users; and
- Increase the bridge opening, both vertically and horizontally, to improve flood flows and prevent backwater during flood events.

2.2.2 Need

The existing bridge has 10 ft travel lanes, no shoulders, and does not meet AASHTO minimum lane and shoulder width standards for Rural Roads with a future average daily traffic (ADT) of more than 2,000, which is 12 ft and 8 ft, respectively. In addition, the existing roadway approaches have no shoulders, which do not meet the AASHTO 8 ft minimum shoulder width standard for a Local Road. The existing bridge is structurally deficient (Caltrans Bridge Inspection Report, 2010) and does not pass code mandated flood-flow requirements.

2.3 Funding

Funding for the bridge project will come from the Federal Highway Bridge Program (HBP) and local matching funds. It is anticipated that the local match will come from the State Transportation Improvement Program (STIP) funds allocated by the Transportation Agency for Monterey County (TAMC).

2.4 Project Alternatives

The environmental documentation for the proposed project evaluates one Build Alternative. A No Project/No Build Alternative is also evaluated as required by the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA).

2.4.1 No Build Alternative

In the No Build Alternative, no improvements to Gonzales River Road Bridge or Gonzales River Road would be implemented. Gonzales River Road Bridge would remain functionally obsolete in that neither the bridge nor the roadway approaches would meet AASHTO lane width and/or shoulder width standards, the bridge would continue to be structurally deficient, and would remain in non-compliance with code mandated flood flows.

2.4.2 Build Alternative

Bridge Replacement. As part of the Build Alternative, the existing 1,661 ft long, approximately 23 ft wide bridge superstructure (i.e., bridge deck) would be replaced with a new 1,701 ft long and

approximately 43 ft wide bridge superstructure. The new bridge deck would have two 12 ft travel lanes and 8 ft shoulders along each side of the travel lanes. The superstructure would be replaced with prestressed Wide-Flange Girders with a cast-in-place reinforced concrete deck (refer to Figure 2.3). Because the girders are precast, falsework will not be required to be placed in the river for construction of the superstructure. The bridge widening would be symmetrical about the existing centerline. The bridge will include new California ST-10 Bridge Rail, two-bar curb-mountain steel bridge rails, along the bridge. On the south end of the bridge, the terminus of the bridge rail will be protected with guardrails engineered for larger passenger vehicles (Midwest Guardrail System). On the north end of the bridge, the terminus of the bridge rail will be protected with 25 feet of crash cushion guardrail (TRACC system). The profile on the south end of the bridge will be raised approximately 10 ft to meet the grade of the new bridge.

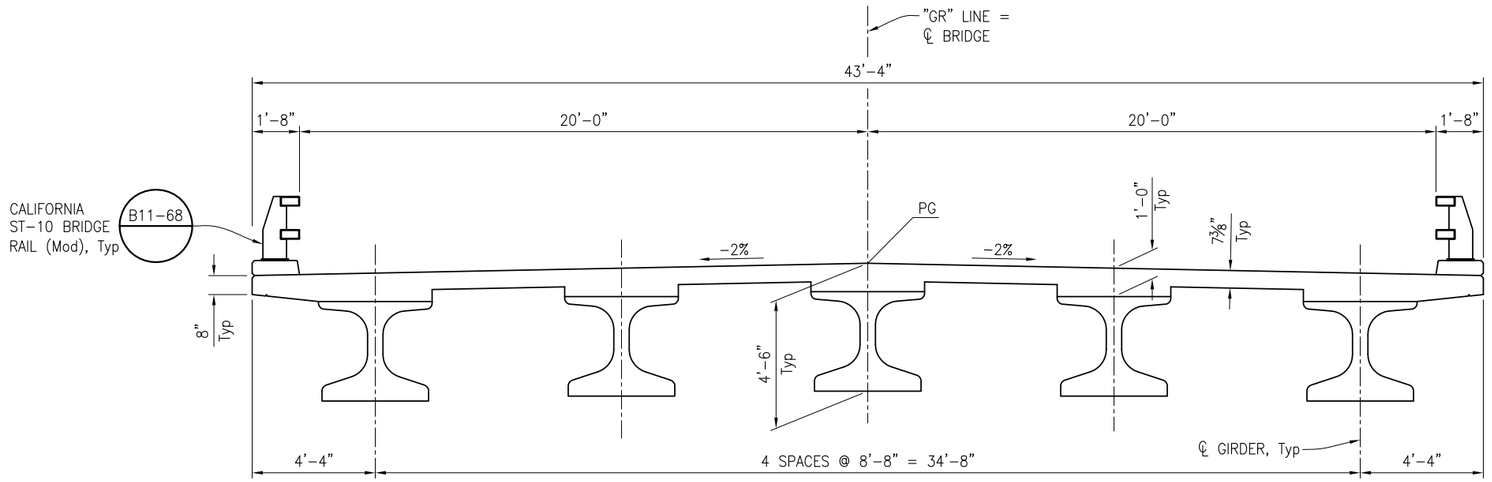
The abutment on the south end of the bridge (Abutment 1) will be replaced and rebuilt approximately 40 ft south of its existing location (refer to Figure 2.4). The abutment on the north end of the bridge (Abutment 30) will be replaced and rebuilt in its existing location. The new bridge abutments will be made of reinforced concrete.

Piers 2 and 4, along with Abutment 1, will be rebuilt (i.e., raised) to meet the profile of the new, higher, elevation of the bridge at the southern end. Minor modifications to the remaining piers, such as adding a small amount of concrete on top, would also be required. In addition, eight (8) existing bridge piers (3, 5, 7, 9, 11, 13, 15 and 29) would be completely removed. Removing 8 piers reduces the total number of spans and increases the distance between them, which will increase the hydraulic conveyance capacity beneath the bridge. The new span configuration would start at Abutment 1 on the south end of the bridge and end at Abutment 22 on the north, which is currently Abutment 30.

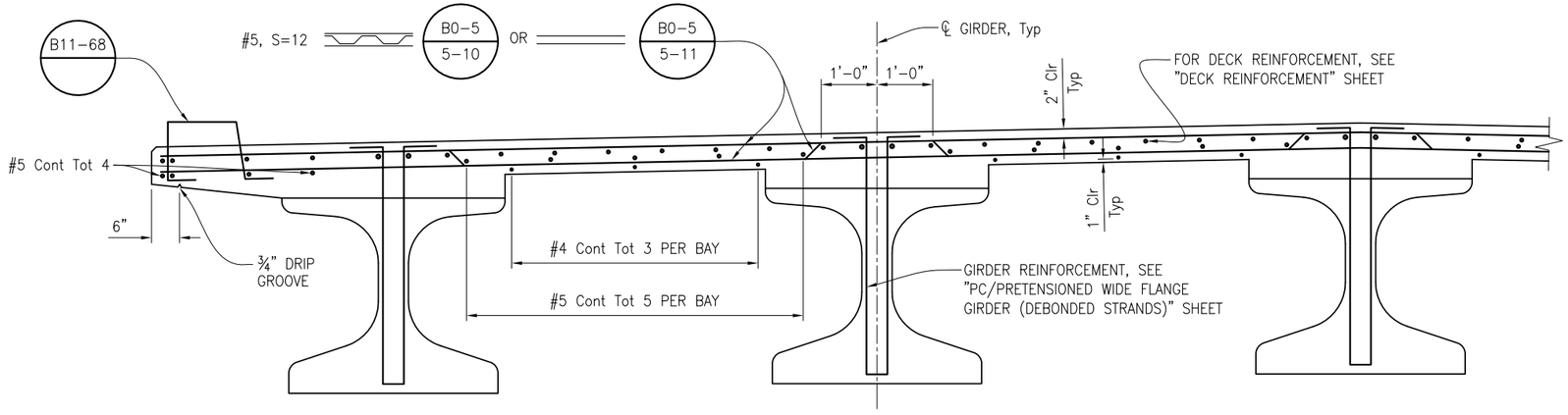
Roadway Approaches. As part of the Build Alternative, the roadway approaches on either end of the bridge, would be widened to 12 ft travel lanes and 8 ft shoulders to match the width of the travel lanes and shoulders on the bridge. The roadway would then be tapered back to 10 ft travel lanes and no shoulders within a few hundred feet of the bridge to conform to the existing width of Gonzales River Road. Approximately 1,025 ft of approach work will be required on the south end of the bridge and 400 ft of approach work will be required on the north end.

On the east side of Gonzales River Road, at the southern approach to the bridge, there is an existing 3 ft to 8 ft deep earth lined ditch with 2:1 side slopes that drains to the Salinas River. This ditch would be impacted by the proposed widening of the roadway. Approximately 1,100 feet of this ditch, with the same shape and 2:1 side slope, would be realigned east of its current location to accommodate the widened roadway.

Within the project area, the existing pavement of Gonzales River Road would be excavated or recycled and a new roadway section would be constructed. The new roadway would be constructed with 3 ft shoulder backing (a strip of granular material used to protect the outside edge of the roadway pavement) and side slopes of 4:1. As with the bridge, the roadway-approach widening will be symmetrical relative to the existing centerline of the road.



TYPICAL SECTION



PART TYPICAL SECTION

FIGURE 2.3

Gonzales River Road Bridge Replacement Project
Monterey County, California
Federal Project Number BRLS-5944(098)

Typical Cross Section

SOURCE: TRC

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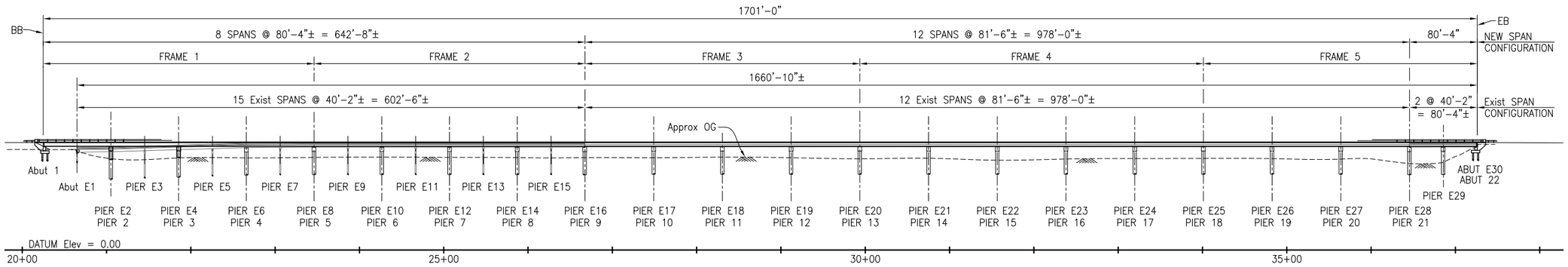
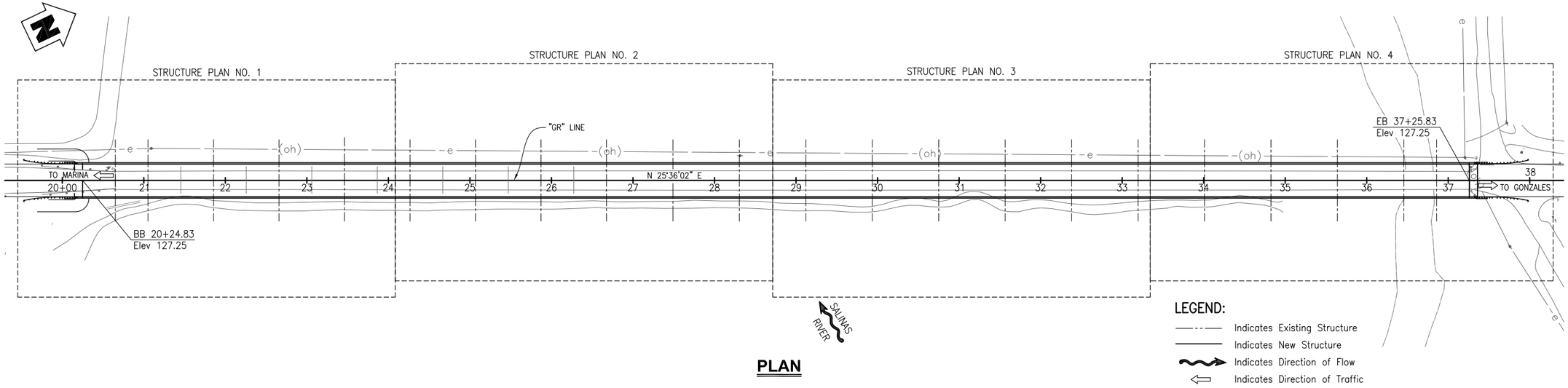
PROFILE GRADE

NO SCALE



ELEVATION



PLAN

FIGURE 2.4
(Sheet 1 of 2)

Gonzales River Road Bridge Replacement Project
Monterey County, California
Federal Project Number BRLS-5944(098)

Bridge General Plan

SOURCE: TRC

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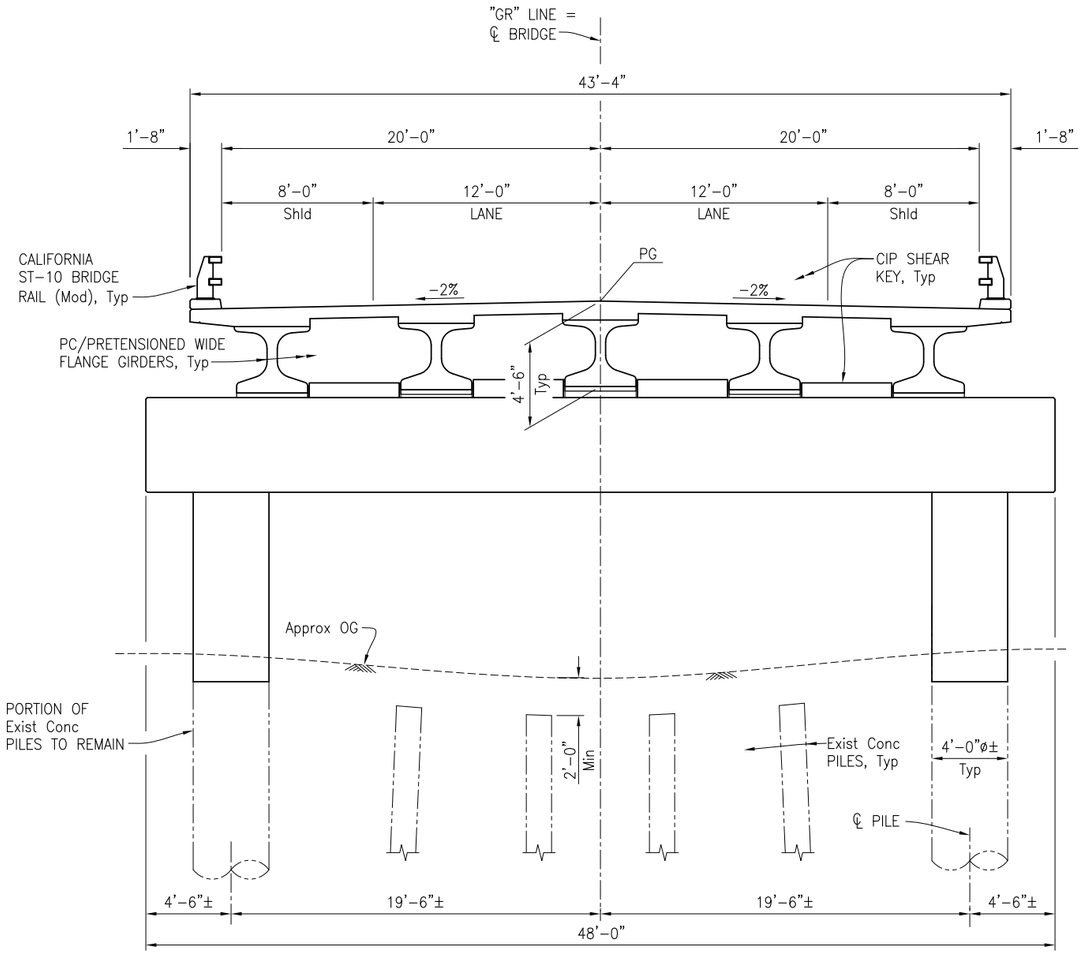
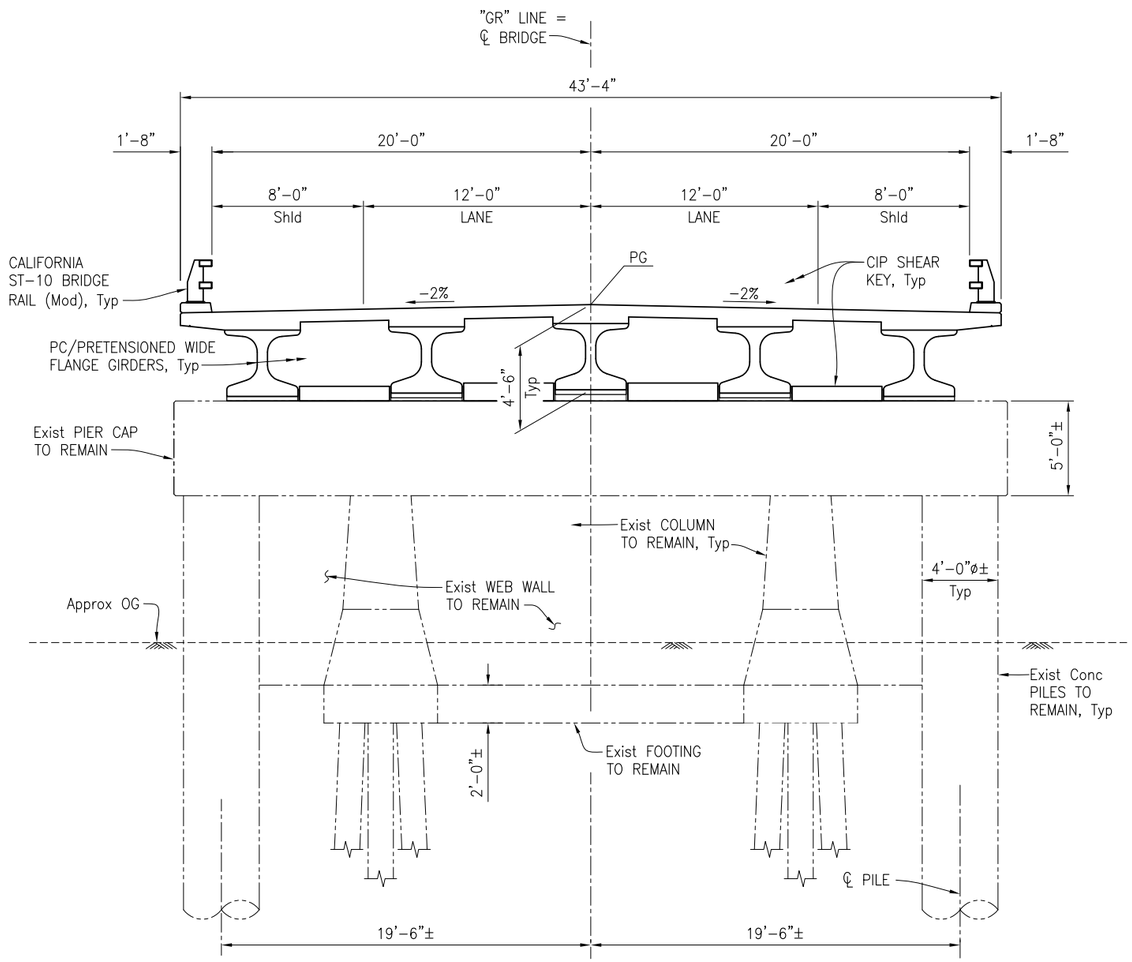


PIER E2 SHOWN, PIER E4 SIMILAR

PIERS 2 & 3



PIER E17 SHOWN, OTHERS SIMILAR

PIERS 4 THRU 21

LEGEND:

Indicates Existing Structure

Indicates New Structure

TYPICAL SECTIONS

FIGURE 2.4
(Sheet 2 of 2)

Gonzales River Road Bridge Replacement Project
Monterey County, California
Federal Project Number BRLS-5944(098)

Bridge General Plan

SOURCE: TRC

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Access Roads. There are two access roads, Short Road and an unnamed river access road, that intersect Gonzales River Road at the north end of the bridge. Short road would be realigned farther north so it meets Gonzales River Road north of the new guard rail. Short road and the unnamed river access road would be modified to meet the new profile grade of Gonzales River Road in this location (refer to Figure 2.5).

A 10 ft wide farm access road is located on the south end of the bridge along the west side of, and parallel to, Gonzales River Road. A new 10 ft wide farm access road would be constructed west of its current location and outside the roadway fill limits, parallel to Gonzales River Road in order to maintain access around the agricultural property.

Utility Rerouting. Overhead electrical and telephone lines are located within the project area. There are three utility poles that would need to be relocated. One pole is located on the west side of the bridge on the south approach and would need to be moved approximately 11 ft west from its current location, outside of the edge of pavement. The telephone line that is located on this pole goes underground and is carried in a conduit along the west side of the bridge. The second pole is located 335 ft south of the bridge on the west side and would need to be moved approximately 7 ft west of its current location. The third pole is located 930 ft south of the south approach to the bridge located on the east side of the roadway and would need to be relocated approximately 10 ft east of its current location (refer to Figure 2.5).

Construction Details. Construction is expected to occur during the summers of 2019 and 2020, with completion by fall of 2020. Although construction would span two seasons, the total duration for construction is anticipated to be 16 months. Construction activities within the river is planned to occur outside of the rainy season, when surface water within the Salinas River is at its seasonal minimum. Construction within the river would take a total of approximately 3.5 months per year for a total duration of 7 months.

Traffic Rerouting. Gonzales River Road Bridge and the roadway approaches would be closed during construction. Vehicles traveling north on US-101 would be notified by advanced warning signage that Gonzales River Road is closed to through traffic and would be routed northwest on Arroyo Seco Road to Fort Romie Road and River Road. Vehicles traveling south on US-101 would be notified by advanced warning signage that Gonzales River Road is closed and they would be routed southwest on Chualar River Road to River Road. Vehicles traveling from the north and south to access Gonzales Road Bridge from the west, would be routed to Arroyo Seco Road or Chualar River Road accordingly. The total detour to the north via Chualar River Road is approximately 17 miles in length and the total detour to the south via Arroyo Seco Road is approximately 24 miles in length. (Refer to Figure 2.6).

Construction Access, River Access and Staging Construction materials and equipment would be staged in two locations within the project limits. One staging area is located southeast of Abutment 1 and the other staging area is located northeast of Abutment 30, which will be numbered Abutment 22 after the proposed project has been completed (refer to Figure 2.5). A 30-foot wide low-water crossing bridge over the low flow channel would be constructed to connect these two staging areas and provide support for the construction and removal of the old superstructure. A

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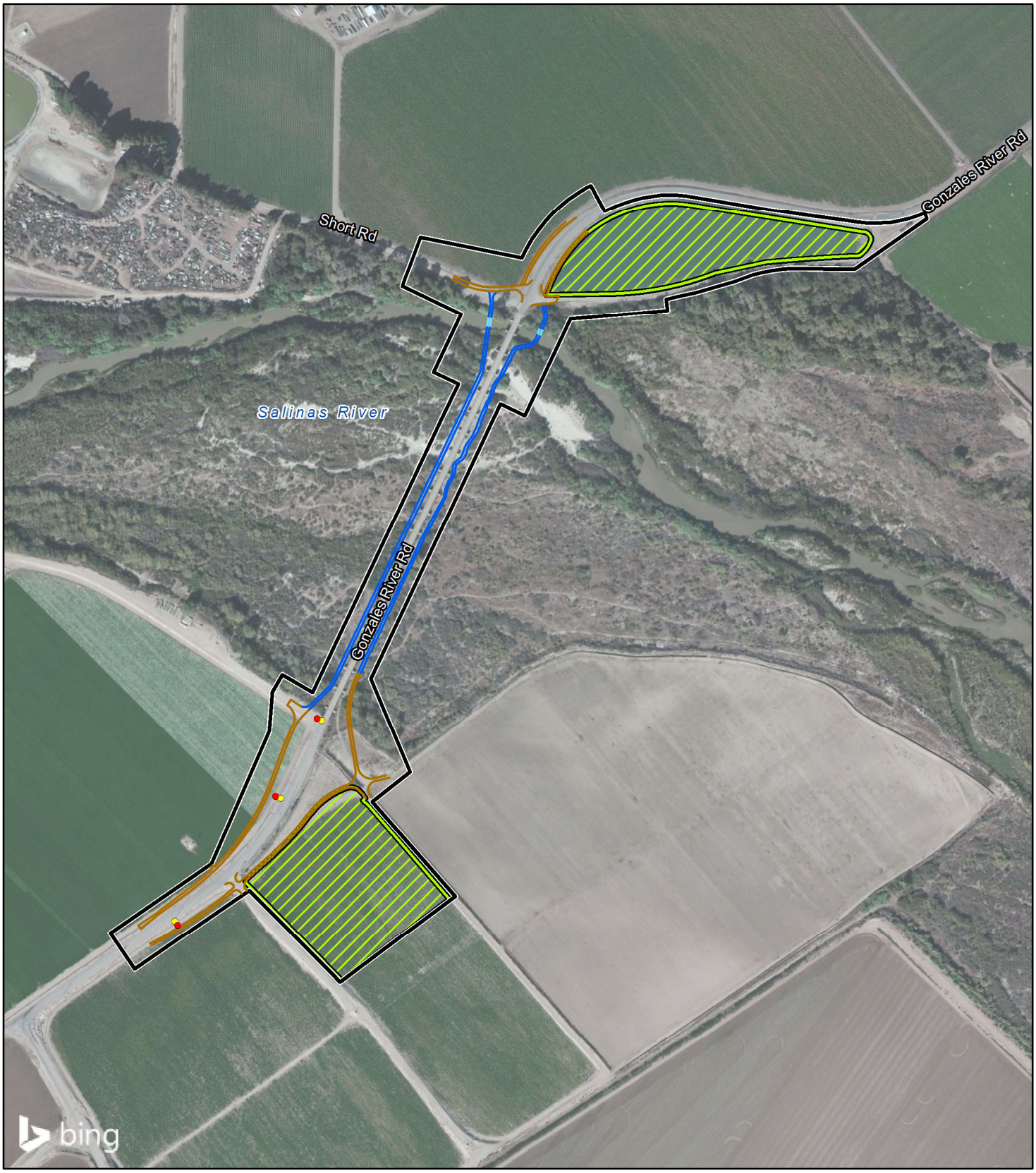

LEGEND

- Project Study Area
- Staging Areas
- Temporary Access Road
- Relocated Farm Road / Driveway
- Low Water Crossing
- Utility Pole to be Relocated
- Approximate Location of Relocated Utility Pole

N

0 250 500
FEET

SOURCE: Bing Aerial (2011); TRC (6/2016)

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FIGURE 2.5

Gonzales River Road Bridge Replacement Project
Monterey County, California
Federal Project Number BRLS-5944(098)

Construction Staging Areas and Access Roads

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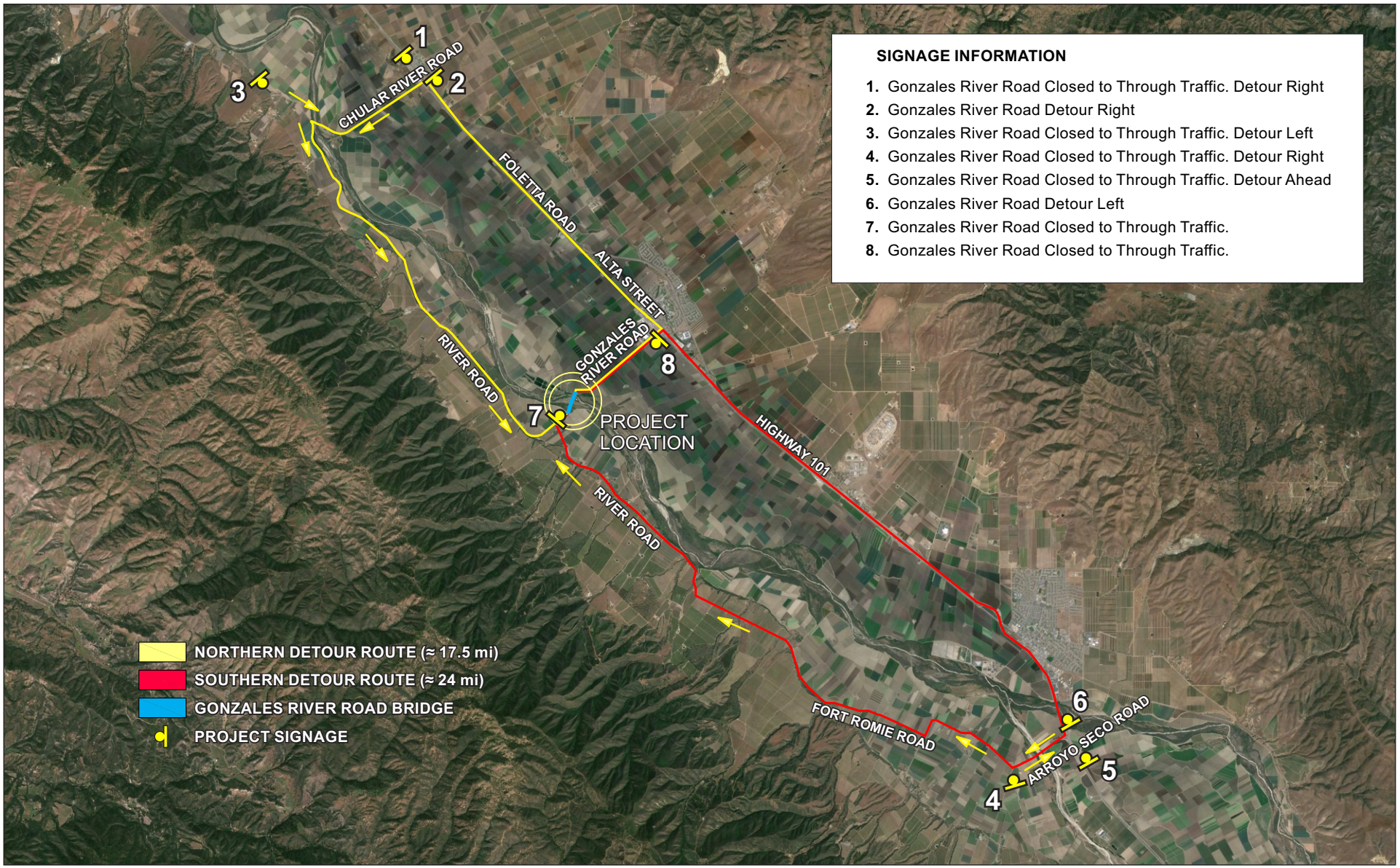

FIGURE 2.6

N

0 1 2

MILES

SOURCE: TRC (2016)

Gonzales River Road Bridge Replacement Project
Monterey County, California
Federal Project Number BRLS-5944(098)

Construction Detour Route

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construction equipment access road would also be constructed on the downstream (west) side of the bridge. Grading and excavation would be required to construct the temporary bridge and access road on the east and west side of the bridge (Refer to Figure 2.5).

Bridge Demolition. Once Gonzales River Road Bridge is closed to traffic, the contractor will remove the existing bridge superstructure using the construction access road located on the east side of the bridge. After the superstructure has been removed, the odd numbered piers from Pier 3 to Pier 15 and Pier 29 will be removed and minor grading will take place around the removed piers.

Project Site Dewatering Construction in the river is scheduled from July to October outside of the rainy season when the riverbed is dry. However, if water is encountered, the river would be channelized during construction so that it is shifted away from the location of any pier/abutment work. If the river is flowing during the time of construction, the contractor would construct a temporary low water crossing across the low flow channel. This crossing would require placing large storm drain pipe in the channel and backfilling the sides and top with soil material. Sandbags may be placed just upstream of the pipe in order to channelize the river water into the pipes if necessary. The size of the storm drain pipes would be dependent on the amount of water flowing at the time of construction.

Construction Equipment. Typical excavators and earthmoving equipment would be used on this project and near and within the river channel. In addition, it is likely that a drill rig, a large pile driving rig, and a supporting crane would be required. Heavy cranes, concrete pump trucks, and other heavy construction equipment would travel along the length of the access road parallel to the bridge during the construction process.

3.0 REGULATORY SETTING

3.1 Federal Laws and Requirements

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 NPDES permit. Known today as the Clean Water Act (CWA), Congress has amended it several times. In the 1987 amendments, Congress directed dischargers of storm water from municipal and industrial/construction point sources to comply with the NPDES permit scheme. 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. Regional Water Quality Control Boards (RWQCB) administer this permitting program in California. Section 402(p) requires permits for discharges of storm water from industrial/construction and Municipal Separate Storm Sewer Systems (MS4s).
- Section 404 establishes a permit program for the discharge of dredge or fill material into waters of the U.S. This permit program is administered by the U.S. Army Corps of Engineers (USACE).

The objective of the CWA is "to restore and maintain the chemical, physical, and biological integrity of the Nation's waters."

USACE issues two types of 404 permits: Standard and General permits. For General permits there are two types: Regional permits and Nationwide permits. Regional permits are issued for a general category of activities when they are similar in nature and cause minimal environmental effect. Nationwide permits are issued to authorize a variety of minor project activities with no more than minimal effects.

There are also two types of Standard permits: Individual permits and Letters of Permission. Ordinarily, projects that do not meet the criteria for a Nationwide Permit may be permitted under one of USACE's Standard permits. For Standard permits, the USACE decision to approve is based on compliance with U.S. Environmental Protection Agency's (EPA) Section 404 (b)(1) Guidelines (U.S. EPA CFR 40 Part 230), and whether permit approval is in the public interest. The 404(b)(1) Guidelines were developed by the U.S. EPA in conjunction with USACE, and allow the discharge of dredged or fill material into the aquatic system (waters of the U.S.) only if there is no practicable alternative which would have less adverse effects. The Guidelines state that USACE may not issue a permit if there is a least environmentally damaging practicable alternative (LEDPA), to the proposed discharge that would have less effects on waters of the U.S., and not have any other significant adverse environmental consequences. Per Guidelines, documentation is needed that a sequence of avoidance, minimization, and compensation measures have been followed, in that order. The Guidelines also restrict permitting activities that violate water quality or toxic effluent standards, jeopardize the continued existence of listed species, violate marine sanctuary protections, or cause "significant degradation" to waters of the U.S. In addition, every permit from the USACE, even if not subject to the 404(b)(1) Guidelines, must meet general requirements. See 33 CFR 320.4.

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 (WDRs) and may be required even when the discharge is already permitted or exempt under the CWA.

The State Water Resources Control Board (SWRCB) and RWQCBs are responsible for establishing the water quality standards (objectives and beneficial uses) required by the CWA, and regulating discharges to ensure compliance with the water quality standards. Details regarding water quality standards in a project area are contained in the applicable RWQCB Basin Plan. In California, Regional Boards designate beneficial uses for all water body segments in their jurisdictions, and then set criteria necessary to protect these uses. Consequently, the water quality standards developed for particular water segments are based on the designated use and vary depending on such use. In addition, the SWRCB identifies waters failing to meet standards for specific pollutants, which are then state-listed in accordance with CWA Section 303(d). If a state determines that waters are impaired for one or more constituents and the standards cannot be met through point source or non-source point controls (NPDES permits or Waste Discharge Requirements), the CWA requires the establishment of Total Maximum Daily Loads (TMDLs). TMDLs specify allowable pollutant loads from all sources (point, non-point, and natural) for a given watershed.

3.2.2 State Water Resources Control Board and Regional Water Quality Control Boards

The SWRCB adjudicates water rights, sets water pollution control policy, and 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.

- **National Pollution Discharge Elimination System (NPDES) Program**
    - **Municipal Separate Storm Sewer Systems (MS4).** Section 402(p) of the CWA requires the issuance of NPDES permits for five categories of storm water 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 storm water.” The SWRCB has identified the Department as an owner/operator of an MS4 pursuant to federal regulations. The Department’s MS4 permit covers all Department rights-of-way, properties, facilities, and activities in the state. The SWRCB or the RWQCB issues NPDES permits for five years, and permit requirements remain active until a new permit has been adopted.

      The Department’s MS4 Permit, currently under revision, contains three basic requirements:

      1. The Department must comply with the requirements of the Construction General Permit (see below);
      2. The Department must implement a year-round program in all parts of the State to effectively control storm water and non-storm water discharges; and

3. The Department storm water discharges must meet water quality standards through implementation of permanent and temporary (construction) Best Management Practices (BMPs) to the Maximum Extent Practicable, and other measures as the SWRCB determines to be necessary to meet the water quality standards.

To comply with the permit, the Department developed the Statewide Storm Water Management Plan (SWMP) to address storm water pollution controls related to highway planning, design, construction, and maintenance activities throughout California. The SWMP assigns responsibilities within the Department for implementing storm water management procedures and practices as well as training, public education and participation, monitoring and research, program evaluation, and reporting activities. The SWMP describes the minimum procedures and practices the Department uses to reduce pollutants in storm water and non-storm water discharges. It outlines procedures and responsibilities for protecting water quality, including the selection and implementation of BMPs. The proposed project will be programmed to follow the guidelines and procedures outlined in the latest SWMP to address storm water runoff.

Because the project area is not within Caltrans right-of-way, it is not subject to the requirements of the Department MS4 Permit.

- **Construction General Permit (CGP).** Construction General Permit (Order No. 2009-009-DWQ, as amended by 2010-0014-DWG), adopted on November 16, 2010, became effective on February 14, 2011. The permit regulates storm water discharges from construction sites which 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. For all projects subject to the CGP, applicants are required to develop and implement an effective Storm Water Pollution Prevention Plan (SWPPP). In accordance with the Department's Standard Specifications, a Water Pollution Control Plan (WPCP) is necessary for projects with DSA less than one acre.

  By law, all storm water discharges associated with construction activity where clearing, grading, and excavation results in soil disturbance of at least one acre must comply with the provisions of the CGP. Construction activity that results in soil disturbances of less than one acre is subject to this CGP if there is potential for significant water quality impairment resulting from the activity as determined by the RWQCB. Operators of regulated construction sites are required to develop storm water pollution prevention plans; to implement sediment, erosion, and pollution prevention control measures; and to obtain coverage under the CGP.

  The CGP separates projects into Risk Levels 1, 2, or 3. Risk levels are determined during the planning and design phases, and are based on potential erosion and transport to receiving waters. Requirements apply according to the Risk Level determined. For example, a Risk Level 3 (highest risk) project would require compulsory storm water runoff pH and turbidity monitoring, and pre- and post-construction aquatic biological assessments during specified seasonal windows.

- Section 401 Permitting. Under Section 401 of the CWA, any project requiring a federal license or permit that may result in a discharge to a water of the United States must obtain

a 401 Certification, which certifies that the project will be in compliance with State water quality standards. The most common federal permit triggering 401 Certification is a CWA Section 404 permit, issued by USACE. The 401 permit certifications are obtained from the appropriate RWQCB, dependent on the project location, and are required before USACE issues a 404 permit.

In some cases the RWQCB may have specific concerns with discharges associated with a project. As a result, the RWQCB may issue a set of requirements known as Waste Discharge Requirements (WDRs) under the State Water Code (Porter-Cologne Act) that define activities, such as the inclusion of specific features, effluent limitations, monitoring, and plan submittals that are to be implemented for protecting or benefiting water quality. WDRs can be issued to address both permanent and temporary discharges of a project.

- **Low Threat Discharge Permit.** The California SWRCB's Water Quality Order 2003-0003-DWQ, Statewide General Waste Discharge Requirements for Discharges to Land with a Low Threat to Water Quality, addresses potential discharges of low-water-quality-threat wastewater, which include construction dewatering discharges. In accordance with this permit, all dischargers must comply with all applicable provisions in the relevant Basin Plan, including any prohibitions and water quality objectives governing the discharge. In addition, the discharge of waste may not cause the spread of groundwater contamination. Discharges must be made to land owned or controlled by the discharger, unless the discharger has a written lease or agreement with the landowner. A Notice of Intent must be filed with the appropriate RWQCB before the activities that would have low-water-quality–threat discharges can proceed.

3.3 Regional and Local Requirements

The Municipal Storm Water Permitting Program regulates storm water discharges from municipal separate storm sewer systems (MS4s). The NPDES MS4 permits are issued in two phases by the SWRCB and RWQCBs. Phase I MS4 permits are issued to medium (serving between 100,000 and 250,000 people) and large (serving more than 250,000 people) municipalities. Most of these permits are issued to a group of co-permittees encompassing an entire metropolitan area. The Phase II MS4 Permits are issued to smaller municipalities (populations of less than 100,000 people), including the County, and nontraditional small MS4s (e.g., military bases, public campuses, and prison and hospital complexes). The Phase II Small MS4 Permit (Order No. 2013-0001-DWQ, NPDES No. CAS000004) covers Phase II permittees statewide and became effective on July 1, 2013. The Phase I and Phase II MS4 permits require the permittees to develop a storm water management program and individual dischargers to develop and implement a Storm Water Management Plan.

The CGP (Order No. 2009-009-DWQ, as amended by 2010-0014-DWG and 2012-12-006-DWG, NPDES No. CAS000002) identifies post-construction requirements for areas outside of the Phase I and Phase II Permit areas, which includes the project area. The CGP regulates storm water discharges from construction sites that result in a land disturbance of 1 ac or greater, and/or are smaller sites that are part of a larger common plan of development. The post-construction requirements establish storm water performance standards to avoid, minimize, and/or mitigate post-construction storm water runoff impacts on water bodies and watersheds. The performance

standards specify runoff reduction requirements to address water quality and channel protection for both hydrologic-based and pollution impacts. The CGP also mandates that post-construction runoff match pre-project runoff for the 85th percentile storm event or the smallest storm event that generates runoff, whichever is larger. These performance standards are intended to ensure that post-construction conditions at the project area do not cause or contribute to direct or indirect water quality impacts upstream and downstream, including channel bank degradation, water pollution, flooding, and impacts to the physical and biological integrity of aquatic ecosystems. The post-construction requirements specify that construction is not deemed complete until post-construction storm water management measures are installed and a long-term maintenance plan is prepared. Sites with a disturbed area greater than 2 ac are required to preserve pre-construction drainage density, defined as the miles of stream length per square mile of drainage area, for all drainage areas in the area serving a first order stream (stream with no tributaries) or a larger stream.

3.3.1 Monterey County Municipal Code

Chapter 16.08 of the County Municipal Code regulates grading activities and requires disturbed surfaces from grading operations be prepared and maintained to control erosion. Chapter 16.12 of the Municipal Code requires that an Erosion Control Plan be prepared for construction projects. The plan must identify the proposed methods for controlling runoff, erosion, and sediment movement. The Erosion Control Plan is to be submitted to the County for review and approval by the appropriate director. Chapter 16.14 of the Municipal Code regulates storm water discharge and specifies requirements for implementation of BMPs for new development and redevelopment that increase impervious surface area by 5,000 sq ft or more.

4.0 AFFECTED ENVIRONMENT

4.1 General Setting

The Gonzales River Road Bridge is located approximately 2 miles west of U.S. Highway 101, 0.2 mile east of River Road, and is about midway between Salinas to the north and Soledad to the south in an unincorporated area of Monterey County.

4.1.1 Population and Land Use

The dominant land use surrounding the project area is agriculture. The project area is located in the Salinas Valley, which is one of the world's most productive agricultural areas. The City of Gonzales lies approximately 2 miles northeast of the project area and had a population of 8,473 in 2015 (United States Census Bureau, 2016). The County of Monterey, according the U.S. Census Bureau (United States Census Bureau, 2106), had a population of 433,898 in 2015.

4.1.2 Topography

Gonzales River Road extends across the broad floodplain of the Salinas River. The topography is essentially flat with an elevation between 110 and 120 feet above mean sea level (USGS 1984).

4.1.3 Hydrology

Regional Hydrology. The project area is located within the Salinas River Watershed (refer to Figure 4.1), which covers approximately 4,600 square miles (sq mi) within the Counties of San Luis Obispo and Monterey and is the Central Coast Region's third-largest watershed (Central Coast Regional Water Quality Control Board 2002).

The Salinas River is the largest river in California Central Coast region. The 170-mile long Salinas River originates in the southern end of the Salinas Valley in San Luis Obispo County, flows northwest, and drains into the Salinas River Lagoon (North) (WRECO 2016); refer to Figure 4.2). The Salinas River is a shallow river with most of its water flow running underground.

There are two subwatersheds that make up the Salinas River Watershed: the Upper Salinas River Watershed and the Lower Salinas River Watershed. The project area is located in the Lower Salinas River Watershed (refer to Figure 4.1). The Lower Salinas River Watershed encompasses the area from north of Bradley to Monterey Bay and is located entirely within Monterey County (RWQCB 2002).

The project area is within the jurisdiction of the Central Coast RWQCB, which covers a 300-mile long by 40-mile wide section of the California central coast (RWQCB 2015). For regulatory purposes, within the Central Coast Regional Hydrologic Planning Area, watersheds are designated as Hydrologic Units (HUs), which are further divided into Hydrological Areas (HAs) and Hydrologic Subareas (HSAs). As designated by the RWQCB, the project area is located within the Salinas HU, the Lower Salinas Valley HA, and the Neponset HSA (RWQCB 2016; refer to Figure 4.1).

Local Hydrology. The Salinas River flows from east to west underneath the Gonzales River Road Bridge and is the primary surface receiving water for storm water originating from the project area. In addition, on the east side of Gonzales River Road, at the southern approach to the bridge, there is an existing 3 ft to 8 ft deep earth-lined ditch with 2:1 side slopes that drains to the Salinas River.

Precipitation and Climate. The climate of Monterey County is characterized as Mediterranean, with warm, dry summers and cool moist winters. The average annual temperature range in the project area is approximately 55 degrees Fahrenheit (°F) in the winter to 62°F in the summer (WeatherDB 2016). Average annual rainfall in the project area is approximately 12.8 inches (WeatherDB 2016). Most of the precipitation and storms occur from October to April.

Surface Streams. The stretch of the Salinas River through the project area is considered an ephemeral stream. Within the project area, the Salinas River has a broad, mostly flat floodplain other than a steep bank along the northern edge of the river channel. Vegetation within the Salinas River in the project area is dominated by relatively natural vegetation types including Fremont cottonwood forest, sandbar willow, and mule fat thickets.

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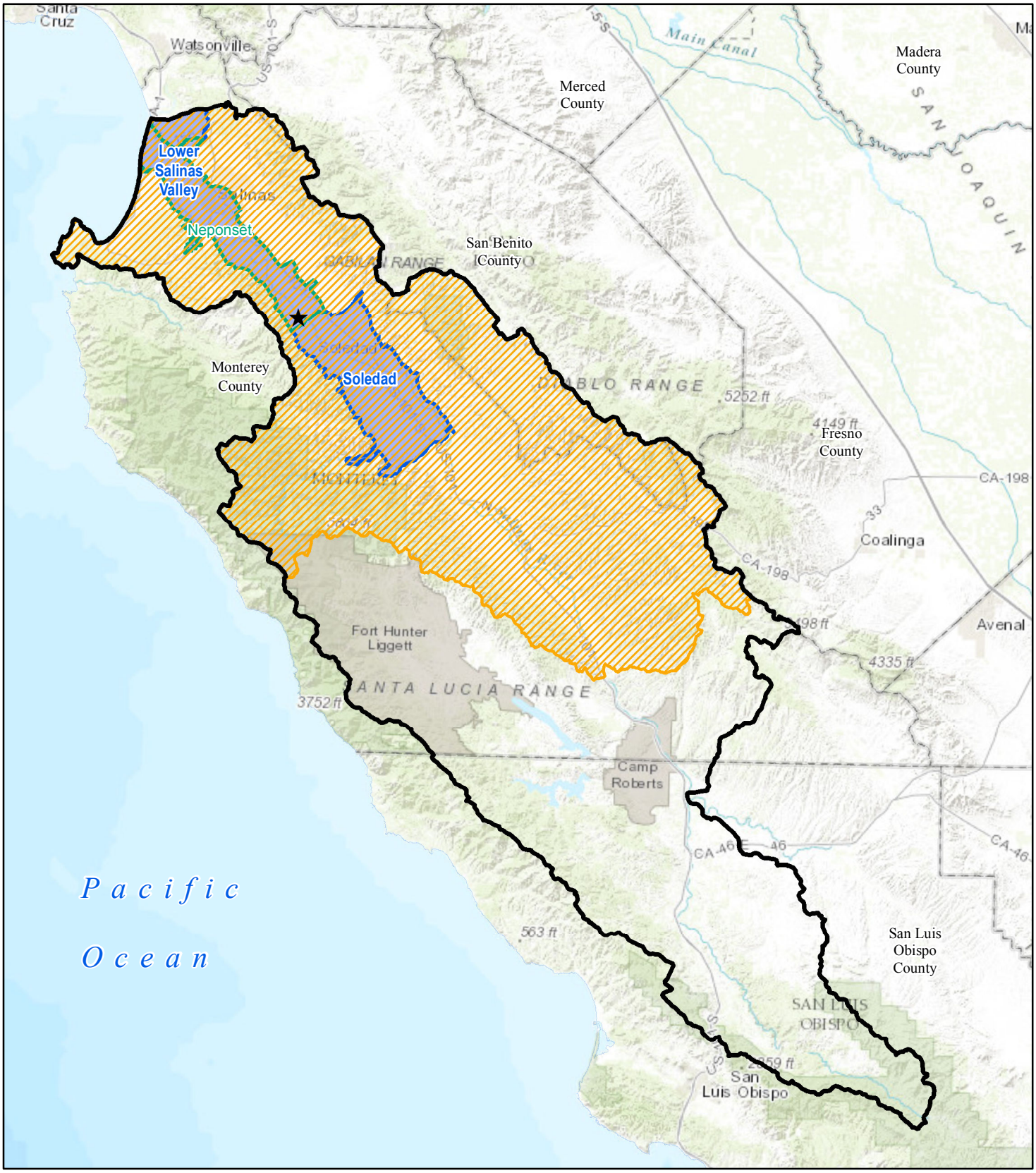

LEGEND

- ★ Project Location
- Salinas River Watershed/Salinas Hydrologic Unit
- Lower Salinas River Watershed
- Hydrologic Areas
- Hydrologic Sub Area

0 7.5 15
MILES

SOURCE: Esri; LSA (2015); CalWaters (2004)

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FIGURE 4.1

Gonzales River Road Bridge Replacement Project
Monterey County, California
Federal Project Number BRLS-5944(098)

Watersheds/Hydrologic Areas

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LEGEND

★ Project Location

Surface Waters

0 1 2
MILES

SOURCE: Bing Maps (2014); ESRI (2014); TRC (12/2015); NHD (2013); CCoWS (2007)

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FIGURE 4.2

Gonzales River Road Bridge Replacement Project
Monterey County, California
Federal Project Number BRLS-5944(098)

Surface Waters

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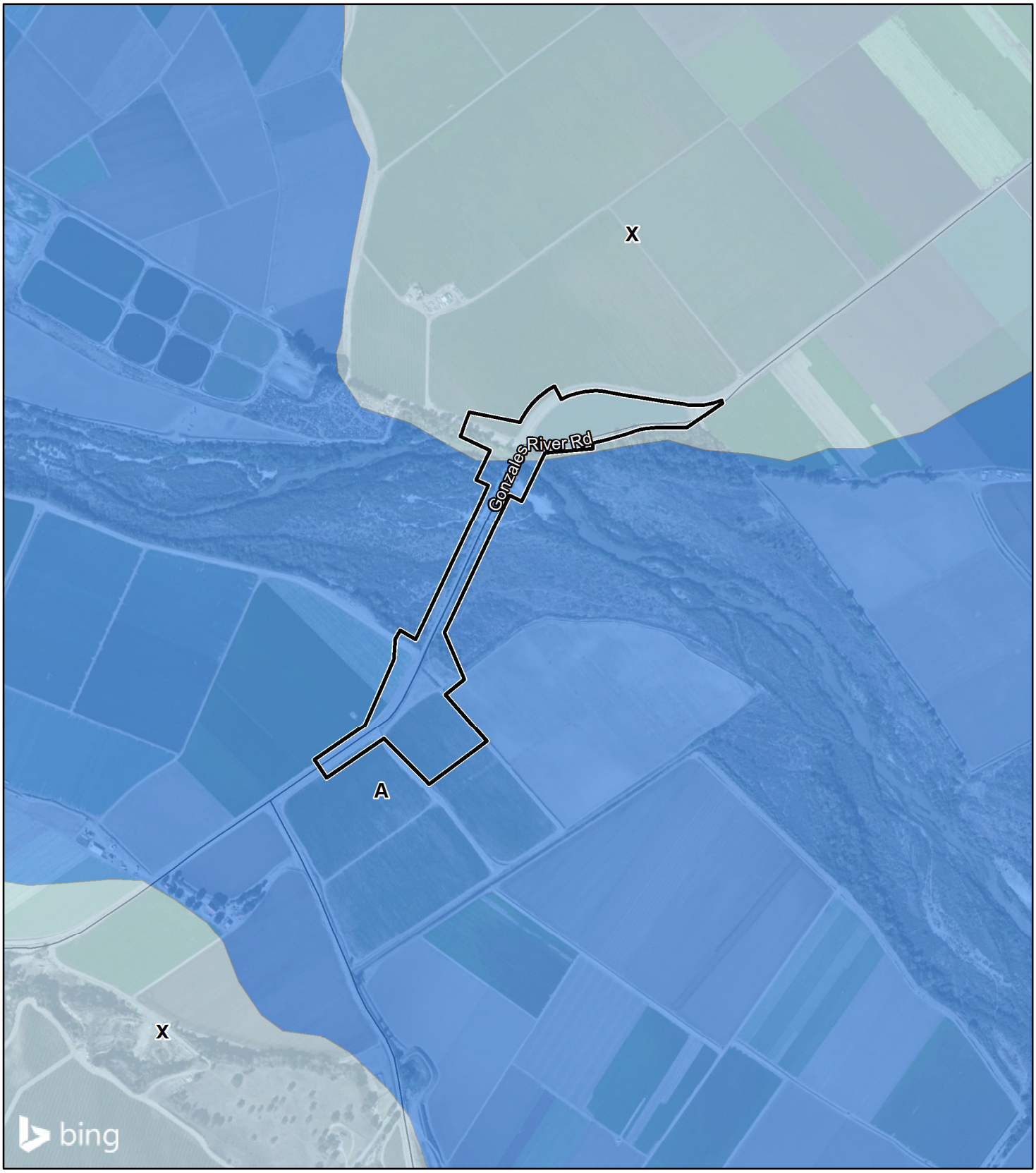

LEGEND

- Project Area
- Zone A: 100-year floodplain (1% annual chance flood)
- Zone X: area determined to be outside the 500-year floodplain (0.2% annual chance flood)

N

0 500 1000
FEET

SOURCE: Bing (~2014); TRC (12/2015); FEMA (2016)

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FIGURE 4.3

Gonzales River Road Bridge Replacement Project
Monterey County, California
Federal Project Number BRLS-5944(098)

Floodplains

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Floodplains. According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) No. 06053C0600G (April 2, 2009), the project area lies within Zone A and Zone X (refer to Figure 4.3). The southern two-thirds of the project area is designated as Zone A, which comprises areas that are subject to inundation by the 1 percent annual chance flood event (100-year floodplain) with base flood elevations not determined. The northern third of the project area is designated as Zone X, which is determined to be outside the 0.2 percent annual chance flood event (500-year floodplain).

Municipal Supply. The majority of water use in the Lower Salinas River Watershed is dedicated to supporting the local agricultural industry, and originates from underlying aquifers (RWQCB 2002). Large agricultural wells are owned and operated by the private sector and used for drawing large volumes of groundwater for irrigation purposes. The watershed receives no imported water (i.e., no water from the State Water Project or other water sources imported from outside its boundaries) except for water from the Salinas River, which flows from San Luis Obispo County (Regional Water Management Group 2013).

Groundwater Hydrology. The project area is located within the Salinas Valley Groundwater Basin and within the 180/400-Foot Aquifer Subbasin (refer to Figure 4.4). The 180/400-Foot Aquifer Subbasin contains two main water-bearing units, the 180-Foot Aquifer and the 400-Foot Aquifer, which are named for the average depths at which they occur. The 180/400-Foot Aquifer Subbasin includes the lower reaches and mouth of the Salinas River.

The thickness of the 180-Foot Aquifer varies from 50 to 150 feet, with an average of 100 feet. The 180-Foot Aquifer consists of a complex zone of interconnected sands, gravels, and clay lenses. The 180-Foot Aquifer is separated from the 400-Foot Aquifer by a zone of discontinuous aquifers and aquitards.[1] The 400-Foot Aquifer has an average thickness of 200 feet and consists of sands, gravels, and clay lenses (Regional Water Management Group 2013).

The subbasin is bound on the northeast by the Salinas Valley-Seaside Area Subbasin along the seaward projection of the King City Fault and Monterey Bay. The subbasin is bound on the north by the Pajaro Valley Groundwater Basin along the inland projection of a 400-foot-deep buried and clay-filled drainage of the Salinas River, as well as the Salinas Valley-Langley Area Subbasin. The northeastern boundary is bound by the Salinas Valley-Eastside Subbasin, which generally coincides with the State Highway 101. The southeastern boundary (near the City of Gonzales) is shared with the adjacent Salinas Valley-Lower Forebay Subbasin (Regional Water Management Group 2013).

Due to the impermeable nature of the clay aquitard above the 180-Foot Aquifer, subbasin recharge (including that from precipitation, agricultural return flows, or river flow) is nonexistent. Instead, recharge is from underflow originating in upper valley areas such as the Arroyo Seco Cone and Salinas River bed or the adjacent Eastside Subbasin, and more recently, from seawater intrusion (Regional Water Management Group 2013).

[1] An aquifer is an underground layer of soil or sand that can transmit groundwater. An aquitard is an underground layer of rock, clay, or silt that restricts the flow of groundwater from one aquifer to another.

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LEGEND

★ Project Location

Subbasins of the Salinas Valley Groundwater Basin

180/400 Foot Aquifer Subbasin

FIGURE 4.4

Gonzales River Road Bridge Replacement Project
Monterey County, California
Federal Project Number BRLS-5944(098)

Groundwater Basin and Subbasins

N

0 7.5 15
MILES

SOURCE: Bing (~2014); TRC (6/2016); Department of Water Resources (2013)

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The groundwater level is expected to follow the Salinas River channel water surface elevation. According to the Preliminary Foundation Investigation (1999) prepared for the project, groundwater was measured at an elevation of approximately 105 ft above mean sea level. In December 1997, the typical channel elevation was approximately 110 ft above mean sea level.

4.1.4 Geology/Soils

Soil Erosion Potential. As shown in Table 4.1, soils in project area, including the Salinas River, include Metz complex, Metz loamy sand, Mocho silt loam, Mocho silty clay loam, Psamments and Fluvents, and Salinas clay loam.

Table 4.1: Soils Present and Soil Data

Soil Map Unit Name	Hydrologic Soil Group	Typical Profile	Slope	K Factor
Metz complex	B	0–12 inches: loamy sand, 12–99 inches: stratified sand to very fine sandy loam	2–9%	0.32
Metz loamy sand	B	0–12 inches: loamy sand, 12–99 inches: stratified sand to very fine sandy loam	0–2%	0.28
Mocho silt loam	B	0–10 inches: silt loam	0–2%	0.32
Mocho silty clay loam	C	0–18 inches: silty clay loam, 18–38 inches: fine sandy loam, 38–39 inches: silty clay loam, 45–60 inches: stratified sand	0–2%	0.37
Psamments and Fluvents, occasionally flooded	A	0–60 inches: sand	0–5%	No rating
Salinas clay loam	C	0–23 inches: clay loam, 23–33 inches: loam, 33–75 inches: very fine sandy loam	0–2%	0.37

Source: United States Department of Agriculture. Natural Resources Conservation Service. Web Soil Survey. Accessed October 21, 2016 from http://websoilsurvey.sc.egov.usda.gov.

The National Resources Conservation Service (NRCS) defines soil types in four broad categories: Groups A, B, C, and D. Soil types for the study area are classified in Groups A, B, and C (A and B soils are present in the Salinas River and Group B and C soils are present to the north and south of the river). Group A soils have low runoff potential and high infiltration rates. Group B soils have moderately low runoff potential and moderate infiltration rates. Group C soils have moderately high runoff potential and low infiltration rates (USDA 2007).

Erosion factor K indicates the susceptibility of a soil to sheet and rill erosion by water, transportability of the sediment, and the amount and rate of runoff given a particular rainfall input, as measured under a standard condition. Factor K is one of six factors used in the Universal Soil Loss Equation (USLE) and the Revised Universal Soil Loss Equation (RUSLE) to predict the average annual rate of soil loss by sheet and rill erosion in tons per acre per year. The estimates are based primarily on percentage of silt, sand, and organic matter and on soil structure and saturated hydraulic conductivity (Ksat). Values of K range from 0.02 to 0.69. Other factors being equal, the higher the

value, the more susceptible the soil is to sheet and rill erosion by water. The K values of soils present, listed in Table 4.1, range from 0.28 to 0.37; therefore, the soils within the project site are characterized by moderate erodibility.

4.1.5 Biological Communities

The information presented in this section is based on the Natural Environment Study (LSA, 2016) prepared for the project.

Aquatic Habitat. Aquatic habitat within the BSA is limited to ephemeral floodwaters in the main stem of the Salinas River. Within the project area, the Salinas River is a low-gradient stream flowing over a sandy bed. No surface water was present in the project area during field surveys conducted in the spring and summer 2015. Surface flows would likely occur in the river after major storm events and, during exceptionally wet winters, the river may have continuous flows over more extended periods.

Special-Status Species. The Salinas River historically supported 17 species of native fishes including steelhead, but three of these species are extinct in the river today. No fish were observed in the study area during field surveys due to the lack of surface water. The section of the river within the study area does not provide suitable spawning or rearing habitat for steelhead due to the lack of perennial surface water.

Several species of special-status semi-aquatic reptiles occur in the Salinas Valley, including the western pond turtle and the two-striped garter snake; however, due to the lack of perennial or ephemeral pools in or adjacent to the BSA surface water, these species would not likely occur here.

Least Bell's vireo and willow flycatcher are federally and state endangered species. Least Bell's vireo and willow flycatcher forage and nest in riparian habitats. Potential nesting habitat for these species is present within the study area; however, focused nesting surveys in the study area in 2015 resulted in a negative finding. Based on the results of the survey, it is doubtful that these species occur in the study area.

The Monterey big-eared woodrat is a California species of special concern. Several Monterey big-eared woodrat nests were found within the study area in the Fremont cottonwood forest along the southern edge of the Salinas River floodplain.

The western red bat is a California species of special concern. The Salinas River Valley is within the range of the western red bat and suitable roosting and foraging habitat is present within the study area; however, none was observed during the field surveys. This bat roosts among the foliage of trees and favors riparian corridors for foraging. Western red bats could roost in the Fremont cottonwood forest within the study area, but they can be difficult to detect due to their solitary roosting habits.

Stream/Riparian Habitats. Floods during winter storm events can scour out riparian vegetation and deposit fresh layers of sediment along the Salinas River channel. Such flood events promote a

diverse mosaic of riparian vegetation with various seral stages of succession. The most biologically diverse area within the study area is located along the Salinas River channel. This area is dominated by relatively natural vegetation types including Fremont cottonwood forest, sandbar willow, and mule fat thickets.

Wetlands. Areas of potential jurisdiction were evaluated according to USACE and CDFW criteria as part of the Jurisdictional Delineation prepared for the proposed project. Within the BSA, potential waters of the United States under USACE jurisdiction consist of the areas within the ordinary high water mark of the Salinas River (approximately 0.823 acre) and a seasonal wetland (0.001 acre). Areas within the Salinas River subject to CDFW jurisdiction in the study area total approximately 11.39 acres.

Fish Passage. As stated previously, the Salinas River within the study area does not provide suitable spawning or rearing habitat for steelhead due to the lack of perennial surface water; however, adult fish moving upstream to spawn and smolts moving downstream to the ocean would be expected to pass through the study area during high flows in the winter and early spring.

4.2 Water Quality Objectives/Standards and Beneficial Uses

4.2.1 Surface Water Quality Objectives/Standards and Beneficial Uses

Table 4.2 summarizes surface water quality objectives for all inland waters, enclosed bays, and estuaries within the Central Coast Region, as identified in the Basin Plan.

Table 4.2: Water Quality Objectives for all Inland Surface Waters, Enclosed Bays, and Estuaries

Constituent	Concentration
Color	Waters shall be free of coloration that causes nuisance or adversely affects beneficial uses. Coloration attributable to materials of waste origin shall not be greater than 15 units or 10 percent above natural background color, whichever is greater.
Tastes and Odors	Waters shall not contain taste or odor-producing substances in concentrations that impart undesirable tastes or odors to fish flesh or other edible products of aquatic origin, that cause nuisance, or that adversely affect beneficial use.
Floating Material	Waters shall not contain floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses.
Suspended Material	Waters shall not contain suspended material in concentrations that cause nuisance or adversely affect beneficial uses.
Settleable Material	Waters shall not contain settleable materials in concentrations that result in deposition of materials that causes nuisance or adversely affect beneficial uses.
Oil and Grease	Waters shall not contain oils, greases, waxes, or other similar materials in concentrations that result in a visible film or coating on the surface of the water or on objects in the water, that cause nuisance, or that otherwise adversely affect beneficial uses.
Biostimulatory Substances	Waters shall not contain biostimulatory substances in concentrations that promote aquatic growth to the extent that such growth causes nuisance or adversely affects beneficial uses.
Sediment	The suspended sediment load and suspended sediment discharge rate of surface waters shall not be altered in such a manner as to cause nuisance or adversely affect beneficial uses.

Table 4.2: Water Quality Objectives for all Inland Surface Waters, Enclosed Bays, and Estuaries

Constituent	Concentration
Turbidity	Waters shall be free of changes in turbidity that cause nuisance or adversely affect beneficial uses. Increase in turbidity attributable to controllable water quality factors shall not exceed the following limits: Where natural turbidity is between 0 and 50 JTU, increases shall not exceed 20 percent. Where natural turbidity is between 50 and 100 JTU, increases shall not exceed 10 percent. Where natural turbidity is greater than 100 JTU, increases shall not exceed 10 percent.
pH	For waters not mentioned by a specific beneficial use, the pH value shall not be depressed below 7.0 or raised above 8.5.
Dissolved Oxygen	For waters not mentioned by a specific beneficial use, dissolved oxygen concentration shall not be reduced below 5.0 mg/l at any time. Median values should not fall below 85 percent saturation as a result of controllable water quality conditions.
Temperature	The natural receiving water temperature of all waters shall not be altered unless it can be demonstrated that such alteration in temperature does not adversely affect beneficial uses.
Toxicity	All waters shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in, human, plant, animal, or aquatic life. The discharge of wastes shall not cause concentrations of unionized ammonia (NH3) to exceed 0.025 mg/l (as N) in receiving waters.
Pesticides	No individual pesticide or combination of pesticides shall be present in concentrations that adversely affect beneficial uses. There shall be no increase in pesticide concentrations found in bottom sediments or aquatic life.
Chemical constituents	Where wastewater effluents are returned to land for irrigation uses, regulatory controls shall be consistent with Title 22 of the California Code of Regulations and other relevant local controls.
Radioactivity	Shall not be present in concentrations that are deleterious to human, plant, animal, or aquatic life or result in the accumulation of radionuclides in the food web which would present a hazard to human, plant, animal, or aquatic life.
Other Organics (Not-To-Be-Exceeded Levels)	
Methylene Blue Activated Substances	0.2 mg/L
Phenols	0.1 mg/L
PCBs	0.3 µg/L
Phthalate Esters	0.002 µg/L

Source: *Water Quality Control Plan for the Central Coastal Basin.* 2016.
µg/L = micrograms per liter
JTU = Jackson Turbidity Units
mg/L = milligrams per liter
mL = milliliter
PCBs = polychlorinated biphenyls
pH = percentage of hydrogen

In addition, the Salinas River (upstream from Spreckels), which includes the project area, has the following site-specific surface water quality objectives:

- **Total Dissolved Solids:** 600 milligrams per liter (mg/L)
- **Chloride:** 80 mg/L

- **Sulfate:** 125 mg/L
- **Boron:** 0.2 mg/L
- **Sodium:** 70 mg/L

Establishing the beneficial uses to be protected in the Central Coastal Region is the cornerstone of water quality protection under the Basin Plan. Beneficial uses of water are defined in the Basin Plan as those necessary for the survival or well-being of humans, plants, and wildlife. Examples of beneficial uses include drinking water supplies, swimming, industrial and agricultural water supply, and the support of freshwater and marine habitats and their organisms (RWQCB 2016).

Table 4.3 provides the present or potential beneficial uses for the Salinas River and the Salinas River Lagoon (North) as identified in the Basin Plan.

Table 4.3: Surface Water Beneficial Uses

Beneficial Uses	Salinas River, Chualar to Nacimiento River	Salinas River, Spreckels to Chualar	Salinas River, downstream of Spreckels	Salinas River Lagoon (North)
MUN: Municipal and Domestic Supply	X	X	X	
AGR: Agricultural Supply	X	X	X	
PROC: Industrial Process Supply	X	X		
IND: Industrial Service Supply	X	X		
GWR: Groundwater Recharge	X	X		
REC-1-Water Contact Recreation	X	X		X
REC-2: Non-Contact Water Recreation	X	X	X	X
WILD: Wildlife Habitat	X	X	X	X
COLD: Cold Freshwater Habitat	X	X	X	X
WARM: Warm Fresh Water Habitat	X	X	X	X
MIGR: Migration of Aquatic Organisms	X	X	X	X
SPWN: Spawning, Reproduction and/or Early Development	X			X
BIOL: Preservation of Biological Habitats of Special Significance				X
RARE: Rare, Threatened or Endangered Species	X			X
EST: Estuarine Habitat				X

Table 4.3: Surface Water Beneficial Uses

Beneficial Uses	Salinas River, Chualar to Nacimiento River	Salinas River, Spreckels to Chualar	Salinas River, downstream of Spreckels	Salinas River Lagoon (North)
FRESH: Freshwater Habitat			X	
COMM-Commercial and Sport Fishing	X	X	X	X
SHELL: Shellfish Harvesting				X

4.2.2 Groundwater Quality Objectives/Standards and Beneficial Uses

Table 4.4 provides the groundwater quality objectives for the Central Coastal Region as designated in the Basin Plan.

Table 4.4: Groundwater Quality Objectives for the Central Coastal Basin

Constituent	Concentration
Bacteria	In groundwaters used for Domestic or Municipal Supply (MUN), the median concentration of coliform organisms over any 7-day period shall be less than 2.2/100 milliliters.
Chemical Constituents	Groundwaters used for Municipal Supply (MUN) shall not contain concentrations of chemical constituents in excess of the limits specified in California Code of Regulations, Title 22, Chapter 15, Article 4, Section 64435, Tables 2 and 3. Groundwaters used for Agricultural Supply (AGR) shall not contain concentrations of chemical constituents in amounts that adversely affect such beneficial use. Interpretation of adverse effect shall be as derived from the University of California Agricultural Extension Service guidelines provided in Table 3-3 of the Basin Plan. In addition, water used for irrigation and livestock watering shall not exceed the concentrations for those chemicals listed in Table 3-4 of the Basin Plan. No controllable water quality factor shall degrade the quality of any ground water resource or adversely affect long-term soil productivity. The salinity control aspects of groundwater management will account for effects from all sources.
Organic Chemicals	Groundwaters used for Municipal Supply (MUN) shall not contain concentrations of organic chemicals in excess of the limiting concentrations set forth in California Code of Regulations, Title 22, Chapter 15, Article 5.5, Section 64444.5, Table 5 and listed in Table 3-1 of the Basin Plan.
Radioactivity	Radionuclides shall not be present in concentrations that are deleterious to human, plant, animal, or aquatic life; or result in the accumulation of radionuclides in the food web to an extent that presents a hazard to human, plant, animal, or aquatic life. Groundwaters used for Municipal Supply (MUN) shall not contain concentrations of radionuclides in excess of the limits specified in California Code of Regulations, Title 22, Chapter 15, Article 5, Section 64443, Table 4.
Tastes and Odors	Groundwaters shall not contain taste or odor-producing substances in concentrations that adversely affect beneficial uses.

Source: *Water Quality Control Plan for the Central Coastal Basin*. 2016.

Table 4.5 lists site-specific groundwater quality objectives for the 180/400-Foot Aquifer Subbasin.

Table 4.5: Subbasin Groundwater Quality Objectives (mg/l)

Aquifer	Total Dissolved Solids (TDS)	Chloride (Cl)	Sulfate (SO4)	Boron (B)	Sodium (Na)	Nitrogen (N)
180-Foot Aquifer	1,500	250	600	0.5	250	1
400-Foot Aquifer	400	50	100	0.2	50	1

The present and potential beneficial uses for groundwater in the Central Coast Region, as identified in the Basin Plan, are listed below:

- **MUN:** Municipal and Domestic Supply;
- **AGR:** Agricultural Supply; and
- **IND:** Industrial Service Supply.

4.3 Existing Water Quality

4.3.1 Regional Water Quality

Surface Water Quality. Actions such as overpumping for irrigation, heavy agricultural use, urbanization, flood control activities, hydromodification of creeks, and mining of sand, gravel, mineral, and oil reserves from various locations throughout the watershed have degraded water quality in the Salinas River Watershed. Water quality issues in the watershed include nutrients (including nitrate), pesticides, heavy metals, and sedimentation. In addition, urbanization and associated increases in impervious surface area have caused flooding, streambank scour, and sediment deportation (RWQCB 2002).

Several water bodies in the Lower Salinas River Watershed have been listed as only partially supporting beneficial uses, primarily due to elevated levels of organic pesticides in shellfish and fish tissues. Agriculture has affected the water quality in the Salinas River and Salinas River Lagoon, which are listed as impaired water bodies under Section 303(d) of the CWA (RWQCB 2002). Refer to Section 4.3.2 for the existing pollutant impairments for the Salinas River and the Salinas River Lagoon.

Groundwater Quality. Groundwater supplies almost all of the water for agricultural uses in the Lower Salinas River Watershed. As a result, groundwater demand has exceeded supply in many parts of the watershed, resulting in overdraft and seawater intrusion. As a result of persistent groundwater overdraft, groundwater levels have dropped below sea level, allowing seawater to intrude from Monterey Bay into the 180-Foot Aquifer and the 400-Foot Aquifer. Currently, more than 16,000 acres of agricultural land near the coast overlie groundwater too salty for agricultural use. Seawater has intruded approximately six miles inland in the 180-Foot Aquifer and three miles inland in the 400-Foot Aquifer (RWQCB 2002).

In addition, there is widespread nitrate contamination of the upper aquifers in the Lower Salinas River Watershed. Nitrate contamination of groundwater has been identified as a serious water quality problem in the Salinas Valley Groundwater Basin for many years. Agricultural wells indicate the presence of nitrates in groundwater throughout the Basin. Although septic systems, improper handling and storage of farm chemicals, and relatively small-scale confined animal facilities have most likely contributed to the nitrate loading, crop application has been identified as the primary source of nitrate. As of 1993, average nitrate concentrations in the 180-Foot Aquifer approached or exceeded the maximum drinking water standard (45 mg/L nitrate as NO_3). Additionally, average nitrate concentrations in the 400-Foot Aquifer started increasing between 1987 and 1993, indicating that nitrate contamination was spreading from the 180-Foot Aquifer into the deeper 400-Foot Aquifer (RWQCB 2002).

4.3.2 List of Impaired Waters

The SWRCB approved the 2012 Integrated Report, a Clean Water Act Section 303(d) List and 305(b) Report, on April 8, 2015. On July 30, 2015, the EPA approved the 2012 California 303(d) List of Water Quality Limited Segments, which indicates the lower Salinas River from the estuary to near the Gonzales Road Bridge is impaired for chlordane, chloride, chlorpyrifos, dichlorodiphenyldichloro-ethane (DDD), diazinon, dieldrin, electrical conductivity, enterococcus, *Escherichia coli* (E. coli), fecal coliform, nitrate, polychlorinated biphenyls (PCBs), pesticides, sodium, total dissolved solids, toxaphene, turbidity, unknown toxicity, and pH. The middle Salinas River from near the Gonzales Road Bridge to the confluence with the Nacimiento River is listed as impaired for E. coli, fecal coliform, water temperature, turbidity, unknown toxicity, and pH. The Salinas River Lagoon (North) is listed as impaired for nutrients and pesticides.

4.3.3 TMDL Requirements

The following TMDLs apply to the Lower Salinas River Watershed.

Chlorpyrifos and Diazinon. TMDLs for chlorpyrifos and diazinon have been developed for the Lower Salinas River Watershed, including the Salinas River and Salinas River Lagoon (North). The chlorpyrifos and diazinon TMDL was approved by the RWQCB on May 5, 2011, and approved by the EPA on October 7, 2011. This TMDL was not adopted through a Basin Plan amendment, but through the RWQCB's approval of Resolution No. R3-2011-005, which states that the Agricultural Order will implement the TMDL (RWQCB 2011). Chlorpyrifos and diazinon are man-made organophosphate pesticides used almost exclusively for the control of agricultural pests. These organophosphate pesticides are present in the Salinas River and Salinas River Lagoon at concentrations that result in toxicity to aquatic organisms.

The numeric targets for chlorpyrifos and diazinon are 0.025 parts per billion (ppb) and 0.16 ppb for acute 1-hour average, respectively (RWQCB 2011).

Fecal Coliform. The fecal coliform TMDL for the Lower Salinas River Watershed, including the Salinas River and Salinas River Lagoon (North), became effective on December 20, 2011, and was approved by the RWQCB, SWRCB, Office of Administrative Law (OAL), and the EPA (RWQCB 2013a). This TMDL was adopted through a Basin Plan amendment via Resolution R-3-2010-0017 and established the

Human Fecal Material Discharge Prohibition and the Domestic Animal Waste Discharge Prohibition for discharges in the Lower Salinas River Watershed. The Implementation Plan for the TMDLs for the Lower Salinas River Watershed requires compliance with Human Fecal Material Discharge Prohibition and the Domestic Animal Waste Discharge Prohibition for discharges in the Lower Salinas River Watershed (RWQCB 2010).

The numeric targets for fecal coliform in the Lower Salinas Watershed are a minimum log mean of 200 most probable number (MPN) per 100 mL, with not more than 10 percent of samples collected during any 30-day period exceeding 400 MPN per 100 mL.

Nutrients. A nutrient TMDL for the Lower Salinas River Watershed, including the Salinas River downstream of Gonzales and the Salinas River Lagoon (North), became effective on May 7, 2014 and was approved by the RWQCB, SWRCB, Office of Administrative Law (OAL), and the EPA (RWQCB 2013b). This TMDL was adopted through a Basin Plan amendment via Resolution R3-2013-0008, which states that the Agricultural Order would implement the TMDL (RWQCB 2013c). Development and implementation of this TMDL is intended to reduce or eliminate nitrate pollution that may impact human health (drinking water) and address degradation of aquatic habitat. Discharges of unionized ammonia, nitrate, and orthophosphate originating from irrigated agriculture, urban lands, grazing lands, and natural sources are contributing loads to receiving waters. Nutrient loads from irrigated lands are the largest source of nutrient loading to water bodies in the TMDL project area (RWQCB 2013b). The numeric target for nitrate (for MUN and GWR beneficial uses) is 10 mg/L (nitrate as N). The numeric target for unionized ammonia (toxicity), a nitrogen compound, is 0.025 mg/L (nitrate as N). The numeric water quality targets for nutrient-response indicators (chlorophyll-a and microcystins) are 15 µg/L and 0.8 µg/L, respectively. The numeric target for dissolved oxygen, another nutrient-response indicator, is the same as the Basin Plan numeric water quality objective, which states that the median dissolved oxygen should not fall below 85 percent saturation as a result of controllable water quality conditions.

The numeric targets for nitrate-N for the Lower Salinas River downstream of Spreckels, including Salinas River Lagoon (north), is 1.4 mg/L in the dry season and 8.0 mg/L in the wet season. The numeric target for orthophosphate-P for the Lower Salinas River downstream of Spreckels, including Salinas River Lagoon (north), is 0.07 mg/L in the dry season and 0.3 mg/L in the wet season.

TMDLs in Development. The RWQCB is currently developing TMDLs for salts, sediment toxicity, and turbidity in the Salinas River Watershed.

4.3.4 Areas of Special Biological Significance (ASBS)

As defined in the California Ocean Plan, ASBSs are areas designated by the SWRCB as ocean areas requiring protection of species or biological communities to the extent that alteration of natural water quality is undesirable. There are five ASBSs in Monterey County: Pacific Grove Marine Gardens Fish Refuge and Hopkins Marine Life Refuge, Carmel Bay, Point Lobos Ecological Reserve, Julia Pfeiffer Burns Underwater Park, and Ocean Area Surrounding the Mouth of Salmon Creek (SWRCB 2016). Runoff from the proposed project does not drain to any of the ASBS.

5.0 ENVIRONMENTAL CONSEQUENCES

5.1 No Build Alternative

Under the No Build Alternative, no improvements to Gonzales River Road Bridge or Gonzales River Road would be implemented. Therefore, the No Build Alternative would not result in any short-term water quality impacts from construction-related activities. In addition, under the No Build Alternative, there would be no permanent increase in impervious surface area along Gonzales River Road. However, Treatment BMPs would not be implemented and storm water would remain untreated. Additionally, the eight existing piers would not be removed and the potential for erosion and scour to occur at those bridge foundations would remain similar to existing conditions.

5.2 Build Alternative

5.2.1 Construction

Pollutants of concern during construction include sediments, trash, petroleum products, concrete waste (dry and wet), sanitary waste, and chemicals. During construction activities, excavated soil would be exposed and there would be an increased potential for soil erosion and transport of sediment downstream compared to existing conditions. Additionally, during a storm event, soil erosion could occur at an accelerated rate. The total disturbed area as a result of construction of the proposed project is 7.07 acres.

During construction, there is also a potential for construction-related pollutants to be spilled, leaked, or transported via storm runoff into drainages adjacent to the project area and thereby into downstream receiving waters. The following construction-related pollutants have the potential to affect water quality: chemicals, liquid products, petroleum products (e.g., paints, solvents, and fuels), and concrete-related waste. These pollutants may be spilled or leaked and would then have the potential to be transported via storm runoff into receiving waters.

As specified in Measure WQ-1, construction of the project would comply with the requirements of the CGP. The requirements of the CGP are based on the risk level of the project. Risk levels range from 1 to 3, with the requirements of the CGP increasing as the risk level increases. Based on the Risk Determination methodology outlined in the CGP, the project has a medium sediment risk and a high receiving water risk, with a combined Risk Level of 2 (medium risk). Risk Level 2 projects are required to prepare and implement an SWPPP; install, inspect, and maintain BMPs; and conduct water quality sampling of effluent from the project site during construction. Additionally, as specified in Measure WQ-2, the County Municipal Code requires preparation of an Erosion Control Plan that describes the methods for the control of runoff, erosion, and sediment movement during project construction.

In compliance with the CGP and County Municipal Code, an SWPPP and Erosion Control Plan would be prepared for the project and Construction BMPs detailed in these plans would be implemented during construction activities to minimize erosion and prevent spills. Construction BMPs would include Erosion Control and Sediment Control BMPs to minimize erosion and retain sediment on site and Good Housekeeping BMPs to prevent spills, leaks, and discharge of construction debris and

waste into receiving waters. The Construction BMPs would be designed to retain sediment and other pollutants on the project area so they would not reach receiving waters. Construction BMPs are anticipated to include, but not be limited to, preservation of existing vegetation, stabilized construction entrance/exit, fiber rolls, hydroseeding, and concrete waste management.

In addition, because the project would be Risk Level 2, effluent monitoring for pH and turbidity would be required during storm events to ensure that the project is not resulting in pH and turbidity levels exceeding the Numeric Action Levels established in the CGP. When Construction BMPs are properly designed, implemented, and maintained to address pollutants of concern, as required in Measures WQ-1 and WQ-2, pollutants of concern would be retained on the project area so they would not reach receiving waters. In addition, water quality sampling would ensure the BMPs are reducing pollutants in storm water runoff to below the Numeric Action Levels.

Construction in the Salinas River is scheduled to occur between July and October, outside of the rainy season, when the riverbed is dry. However, if water is present in the river during construction, the river would be channelized to divert flow away from the location of any pier/abutment work. The contractor would construct a temporary low-water crossing across the low-flow channel. This crossing would require placing a large storm drain pipe in the channel and backfilling the sides and top with soil material. Sandbags may be placed just upstream of the pipe in order to channelize the river water into the pipes if necessary. After construction is complete, the contractor would remove the temporary pipes and restore the river and disturbed areas to pre-construction conditions.

Due to high groundwater levels in the project area, which are expected to follow the Salinas River channel water surface elevation, groundwater dewatering during construction may be required. Groundwater may contain elevated levels of TDS, salinity, nitrates, or other constituents that could affect surface water quality when discharged into the Salinas River. As specified in Measure WQ-3, groundwater dewatering during construction would be conducted in accordance with the requirements of the Low Threat Discharge Permit. This order requires testing and treatment, as necessary, of groundwater encountered during groundwater dewatering prior to its release into surface waters to ensure that effluent limitations for constituents are not exceeded. As a result, groundwater dewatering during project construction would not introduce pollutants to receiving waters or violate water quality standards or waste discharge requirements.

Compliance with the requirements of the CGP, the County Municipal Code, and the Low Threat Discharge Permit, as specified in Measures WQ-1, WQ-2, and WQ-3, would ensure that no adverse water quality impacts would occur during construction of the Build Alternative.

5.2.2 Operation

Pollutants of concern during operation of the Build Alternative include suspended solids/sediments, nutrients, pesticides, heavy metals, oil and grease, toxic organic compounds, and trash and debris. The existing impervious surface area in the project area is approximately 2.13 ac. The project would result in a total of 3.01 ac of impervious surface area, for a net increase of approximately 0.88 ac (a 141 percent increase). An increase in impervious surface area would increase the volume of runoff during a storm, which would increase the amount of pollutants discharged into downstream

receiving waters. The project would also increase the area of 2:1 slopes by 0.39 acre and 4:1 slopes by 2.00 acres. Increases in slope area have the potential to increase the volume and velocity of storm water runoff.

Because the project site lies outside of a Phase I or Phase II MS4, operation of project would be subject to the post-construction requirements of the CGP, as described in Measure WQ-4. The CGP requires that the post-construction runoff match pre-construction runoff for the 85th percentile storm event and requires preservation of the pre-construction drainage density of receiving waters. As specified in Measure WQ-5, the project would include Treatment BMPs in compliance with the County Municipal Code in addition to the post-construction requirements of the CGP. Treatment BMPs would include, but not be limited to, a vegetated swale along the northwest side of Gonzales Road north of the Salinas River. The vegetated swale would target removal of pollutants of concern in storm water runoff as well as attenuate any increases in runoff. As a result, compliance with the County Municipal Code and the CGP post-construction requirements would reduce potential changes to morphology of Salinas River by reducing increases in storm water runoff to at or below existing conditions and would provide protection of water quality by implementing Treatment BMPs. Additionally, removal of eight existing bridge piers would reduce the potential for future scouring at the bridge foundations, which would reduce sediments in the water and improve water quality. When considered together, implementation of Treatment BMPs and removal of bridge piers would result in an overall beneficial impact to water quality.

6.0 AVOIDANCE AND MITIGATION MEASURES

The following regulatory requirements would be implemented with the Build Alternative and would reduce or avoid impacts related to water quality:

Measure WQ-1 **Construction General Permit (CGP).** Prior to commencement of construction activities, the proposed project shall obtain coverage under the State Water Resources Control Board's National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Construction General Permit [CGP]) Order No. 2009-0009-DWQ, as amended by 2010-0014-DWG and 2012-0006-DWQ, NPDES No. CAS000002, or any other subsequent permit. This shall include submission of Permit Registration Documents (PRDs), including a Notice of Intent (NOI) for coverage under the permit to the State Water Resources Control Board via the Stormwater Multiple Application and Report Tracking System (SMARTS). Construction activities shall not commence until a Waste Discharge Identification Number (WDID) is obtained from SMARTS. The project shall comply with the Risk Level 2 requirements of the CGP. A Storm Water Pollution Prevention Plan (SWPPP) shall be prepared and implemented to address all construction-related activities, equipment, and materials that have the potential to affect water quality. The SWPPP shall identify the sources of pollutants that may affect the quality of storm water and include Best Management Practices (BMPs) to ensure that the potential for soil erosion, sedimentation, and spills is minimized and to control the discharge of pollutants in storm water runoff as a result of construction activities. Upon

completion of groundwater dewatering activities, a Notice of Termination (NOT) shall be via SMARTS.

Measure WQ-2 **Erosion Control Plan.** During the plans, specifications, and estimates (PS&E) phase, an Erosion Control Plan shall be prepared and implemented by the County or its designated contractor in compliance with the provisions of the Monterey County Erosion Control Ordinance (Municipal Code, Title 16, Chapter 16.12). The Erosion Control Plan shall indicate the proposed methods for the control of runoff, erosion, and sediment movement during project construction.

Measure WQ-3 **Construction Dewatering.** Prior to commencement of groundwater dewatering activities, the proposed project shall obtain coverage under the State Water Resources Control Board's *Statewide General Waste Discharge Requirements for Discharges to Land with a Low Threat to Water Quality* (Water Quality Order No. 2003-0003-DWQ). This shall include submission of a Notice of Intent (NOI) for coverage under the permit to the State Water Resources Control Board (SWRCB). Construction activities shall not commence until a letter is obtained from the SWRCB stating that the project has obtained coverage under the permit. Construction dewatering activities shall comply with all applicable provisions in the permit, including water sampling, analysis, and reporting of dewatering-related discharges. Upon completion of groundwater dewatering activities, a Notice of Termination (NOT) shall be submitted to the SWRCB.

Measure WQ-4 **Post-Construction CGP Requirements.** Final design of the project shall comply with the post-construction requirements of Construction General Permit. A Post-Construction Water Balance Calculator shall be submitted as part of the Permit Registration Documents (PRDs) that are submitted to the State Water Resources Control Board via the Stormwater Multiple Application and Report Tracking System (SMARTS). In compliance with the post-construction requirements of the CGP, the project engineers shall design the project so that post-construction runoff matches pre-project runoff for the 85^{th} percentile storm event or the smallest storm event that generates runoff, whichever is larger. Additionally, the project engineer shall design the project to preserve the pre-construction drainage density of the Salinas River.

Measure WQ-5 **Treatment BMPs.** Final design of the project shall include Treatment BMPs, including but not limited to a vegetated swale along the northwest side of Gonzales River Road north of the Salinas River. The Treatment BMPs shall comply with the provisions of the Monterey County Urban Stormwater Quality Management and Discharge Control Ordinance (Municipal Code, Title 16, Chapter 16.14) and the post-construction requirements of the Construction General Permit. Project construction shall not be deemed complete until the Treatment BMPs are installed and a long-term BMP maintenance plan is prepared.

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APPENDIX F

TECHNICAL NOISE MEMORANDUM

Gonzales River Road Bridge Replacement Project

Technical Noise Memorandum

Monterey County

05-MON-0 CR

BRLS-5944(098)

August 2016

Gonzales River Road Bridge Replacement Project

Technical Noise Memorandum

Monterey County

05-MON-0 CR

BRLS-5944(098)

August 2016

INTRODUCTION

The County of Monterey (County), with funding administered through the Federal Highway Administration (FHWA) and in coordination with the California Department of Transportation (Caltrans), proposes to replace the existing two-lane bridge (Bridge No. 44C-0035) on Gonzales Road over the Salinas River in Monterey County, California with a wider bridge to meet current American Association of State Highway and Transportation Officials (AASHTO) design standards (proposed project) as well as address existing structural deficiencies, such as cracks, exposed reinforcing bars, and failing joints in the superstructure; and improve the conditions for conveying flood flows. The proposed project would also widen the roadway approaches on the north and south ends of the bridge to conform to the new bridge width and profile. After construction, both the bridge and roadway approaches would contain two 12 foot (ft) lanes and two 8-ft shoulders and would meet current AASHTO minimum speed standards.

The project area is located in unincorporated Monterey County mid-way between Salinas to the north and Soledad to the South. The bridge is approximately 0.2 miles east of River Road and 2 miles west of U.S. Route 101 (US-101) (refer to Figure 1: Project Vicinity Map). The bridge runs generally in a north-south direction with the Salinas River flowing under the bridge in generally an east to west direction. (refer to Figure 2, Project Area). The surrounding land uses are in agriculture.

The Gonzales River Road Bridge was originally constructed in 1930. The bridge is 1,661 ft long and 22.5 ft wide with two 10-ft travel lanes and no shoulders. In 2001, the bridge underwent a seismic retrofit that included the construction of new foundations and substructures; however, the seismic retrofit did not include replacing the superstructure, which is the focus of the proposed project.

According to the Caltrans California Road System Map, Gonzales River Road is classified as a Major Collector (Rural Roadway). The roadway approaches have two 10 ft travel lanes (one lane in each direction) and no shoulders.

PURPOSE AND NEED

Purpose

The purpose of this project is to:

- Provide for wider travel lanes and shoulders that comply with current AASHTO bridge and road design standards;
- Bring the bridge up to current Caltrans structural standards;
- Improve access for trucks and non-motorized users; and
- Increase the bridge opening, both vertically and horizontally, to improve flood flows and prevent backwater during flood events.

Need

The existing bridge has 10 ft travel lanes, no shoulders, and does not meet AASHTO minimum lane and shoulder width standards for Rural Roads with a future average daily traffic (ADT) of more than 2,000 which is 12 ft and 8 ft, respectively. In addition, the existing roadway approaches have no shoulders, which do not meet the AASHTO 8-ft minimum shoulder width standard for a Local Road.

The existing bridge is structurally deficient (Caltrans Bridge Inspection Report, 2010) and does not pass code mandated flood-flow requirements.

PROJECT ALTERNATIVES

The environmental documentation for the proposed project evaluates one Build Alternative. A No Project/No Build Alternative is also evaluated as required by the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA).

No Build Alternative

In the No Build Alternative, no improvements to Gonzales River Road Bridge or Gonzales River Road would be implemented. Gonzales River Road Bridge would remain functionally obsolete in that neither the bridge nor the roadway approaches would meet AASHTO lane width and/or shoulder width standards, the bridge would continue to be structurally deficient, and would remain in non-compliance with code mandated flood flows.

Build Alternative (Proposed Project)

The Build Alternative would include bridge replacement and roadway approaches. The project details and construction details are described in this section.

Bridge Replacement. As part of the Build Alternative, the existing 1,661 ft-long, 23-ft wide bridge superstructure (i.e., bridge deck) would be replaced with a new 1,701-ft long and approximately 43-ft wide bridge superstructure. The new bridge deck would have two 12-ft travel lanes and 8-ft shoulders along each side of the travel lanes. The superstructure would be replaced with prestressed Wide-Flange Girders with a cast-in-place reinforced concrete deck (refer to Figure 3, Typical Cross Section). Because the girders are precast, falsework will not be required to be placed in the river for construction of the superstructure. The bridge widening would be symmetrical about the existing centerline. The bridge will include new California ST-10 Bridge Rail, two-bar curb-mountain steel bridge rails, along the bridge. On the south end of the bridge, the terminus of the bridge rail will be protected with guardrails engineered for larger passenger vehicles (Midwest Guardrail System). On the north end of the bridge, the terminus of the bridge rail will be protected with 25 ft of crash cushion guardrail (TRACC system). The profile on the south end of the bridge will be raised approximately 10 ft to meet the grade of the new bridge.

The abutment on the south end of the bridge (Abutment 1) will be replaced and rebuilt approximately 40 ft south of its existing location (refer to Figure 4, Bridge General Plan). The abutment on the north end of the bridge (Abutment 30) will be replaced and rebuilt in its existing location. The new bridge abutments will be made of reinforced concrete.

Piers 2 and 4, along with Abutment 1, will be rebuilt (i.e., raised) to meet the profile of the new, higher, elevation of the bridge at the southern end. Minor modifications to the remaining piers, such as adding a small amount of concrete on top, would also be required. In addition, eight (8) existing bridge piers (3, 5, 7, 9, 11, 13, 15 and 29) would be completely removed. Removing 8 piers reduces the total number of spans and increases the distance between them, which will increase the hydraulic conveyance capacity beneath the bridge. The new span configuration would start at Abutment 1 on the south end of the bridge and end at Abutment 22 on the north, which is currently Abutment 30.

Roadway Approaches
As part of the Build Alternative, the roadway approaches on either end of the bridge, would be widened to 12 ft travel lanes and 8 ft shoulders to match the width of the travel lanes and shoulders on the bridge. The roadway would then be tapered back to 10 ft travel lanes and no shoulders within a few hundred feet of the bridge to conform to the existing width of Gonzales River Road. Approximately 1,025 ft of approach work will be required on the south end of the bridge and 400 ft of approach work will be required on the north end.

On the east side of Gonzales River Road, at the southern approach to the bridge, there is an existing 3 ft to 8 ft deep earth lined ditch with 2:1 side slopes that drains to the Salinas River. This ditch would be impacted by the proposed widening of the roadway. Approximately 1,100 feet of this ditch, with the same shape and 2:1 side slope, would be realigned east of its current location to accommodate the widened roadway.

Within the project area, the existing pavement of Gonzales River Road would be excavated or recycled and a new roadway section would be constructed. The new roadway would be constructed with 3 ft shoulder backing (a strip of granular material used to protect the outside edge of the roadway pavement) and side slopes of 4:1. As with the bridge, the roadway-approach widening will be symmetrical relative to the existing centerline of the road.

Access Roads
There are two access roads, Short Road and an unnamed river access road, that intersect Gonzales River Road at the north end of the bridge. These access roads would be realigned farther north so that they meet Gonzales River Road north of the new guard rail. The two access roads would also be modified to meet the new profile grade of Gonzales River Road in this location. The access road modifications would be constructed within temporary construction easements.

An existing 10-ft wide farm access road is located on the south end of the bridge along the west side of, and parallel to, Gonzales River Road. A new 10-ft wide farm access road would be constructed further into the property outside the roadway fill limits, parallel to Gonzales River Road in order to maintain access around the agricultural property. The road modifications would be constructed using temporary construction easements.

Utility Rerouting
Overhead electrical and telephone lines are located within the project area. There are three utility poles that would need to be relocated. One pole is located on the west side of the bridge on the south approach and would need to be moved approximately 11 ft west from its current location, outside of the edge of pavement. The telephone line that is located on this pole goes underground and is carried in a conduit along the west side of the bridge. The second pole is located 335 ft south of the bridge on the west side and would need to be moved approximately 7 ft west of its current location. The third pole is located 930 ft south of the south approach to the bridge located on the east side of the roadway and would need to be relocated approximately 10 ft east of its current location.

Construction Details
Construction is expected to occur during the summers of 2019 and 2020, with completion by fall of 2020. Although construction would span two seasons, the total duration for construction is anticipated to be 16 months. Construction activities within the river is planned to occur outside of the rainy

season, when surface water within the Salinas River is at its seasonal minimum. Construction within the river would take a total of approximately 3.5 months per year for a total duration of 7 months.

Traffic Rerouting.
Gonzales River Road Bridge and the roadway approaches would be closed during construction. Vehicles traveling north on US-101 would be notified by advanced warning signage that Gonzales River Road is closed to through traffic and would be routed northwest on Arroyo Seco Road to Fort Romie Road and River Road. Vehicles traveling south on US-101 would be notified by advanced warning signage that Gonzales River Road is closed and they would be routed southwest on Chualar River Road to River Road. Vehicles traveling from the north and south to access Gonzales Road Bridge from the west, would be routed to Arroyo Seco Road or Chualar River Road accordingly. The total detour to the north via Chualar River Road is approximately 17 miles in length and the total detour to the south via Arroyo Seco Road is approximately 24 miles in length (refer to Figure 5, Map of Detour Route).

Construction Access, River Access and Staging. Construction materials and equipment would be staged in two locations within the project limits. One staging area is located southeast of Abutment 1 and the other staging area is located northeast of Abutment 30, which will be numbered Abutment 22 after the proposed project has been completed (refer to Figure 6, Project Staging Areas). A 30-foot wide low-water crossing bridge over the low flow channel would be constructed to connect these two staging areas and provide support for the construction and removal of the old superstructure. A construction equipment access road would also be constructed on the upstream (east) side of the bridge. Grading and excavation would be required to construct the temporary bridge and access road.

Bridge Demolition. Once Gonzales River Road Bridge is closed to traffic, the contractor will remove the existing bridge superstructure using the construction access road located on the east side of the bridge. After the superstructure has been removed, the odd numbered piers from Pier 3 to Pier 15 and Pier 29 will be removed and minor grading will take place around the removed piers.

Project Site Dewatering. Construction in the river is scheduled outside of the rainy season (July through October) when the riverbed is currently dry. However, if water is encountered, the river would be channelized during construction so that it is shifted away from the location of any pier/abutment work. If the river is flowing during the time of construction, the contractor would construct a temporary low water crossing across the low flow channel. This crossing would require placing large storm drain pipe in the channel and backfilling the sides and top with soil material. Sand bags may be placed just upstream of the pipe in order to channelize the river water into the pipes if necessary. The size of the storm drain pipes would be dependent on the amount of water flowing at the time of construction.

Construction Equipment. Typical excavators and earthmoving equipment would be used on this project and near and within the river channel. In addition, it is likely that a drill rig, a large pile driving rig, and a supporting crane would be required. Heavy cranes, concrete pump trucks, and other heavy construction equipment would travel along the length of the access road parallel to the bridge during the construction process.

REGULATORY REQUIREMENTS

Caltrans Protocol Requirements

The Caltrans Traffic Noise Analysis Protocol[1], which supports 23 Code of Federal Regulations (CFR) 772.5, identifies a project as Type I that involves one or more of the following:

1. The construction of a highway on a new location; or
2. The physical alteration of an existing highway where there is either:
   A. Substantial horizontal alteration: A project that halves the distance between the traffic noise source and the closest receptor between the existing condition to the future build condition, or
   B. Substantial vertical alteration: A project that removes shielding thereby exposing the line-of-sight between the receptor and the traffic noise source. This is done by altering either the vertical alignment of the highway or the topography between the highway traffic noise source and the receptor; or
3. The addition of a through-traffic lane(s). This includes the addition of a through-traffic lane that functions as a high-occupancy vehicle (HOV) lane, high-occupancy toll (HOT) lane, bus lane, or truck climbing lane; or
4. The addition of an auxiliary lane, except for when the auxiliary lane is a turn lane; or
5. The addition or relocation of interchange lanes or ramps added to a quadrant to complete an existing partial interchange; or
6. Restriping existing pavement for the purpose of adding a through traffic lane or an auxiliary lane; or
7. The addition of a new or substantial alteration of a weigh station, rest stop, ride-share lot, or toll plaza.

A project that does not meet one or more of the requirements mentioned above is considered a Type III project. While a Type III project does not require an operation related noise analysis, a memo presenting the noise impacts associated with construction activities is typically completed.

Construction Standards

Caltrans Standard Specifications in Section 14-8.02 would be required to minimize construction noise impacts on sensitive land uses near the project site. Caltrans Standard Specifications requires noise levels from the Contractor's operations, between the hours of 9:00 p.m. and 6:00 a.m., to be at or below 86 A-weighted decibels (dBA) maximum instantaneous noise level (L_{max}) at a distance of 50 ft from the job site.[2]

Monterey County Noise Standards

General Plan. Policy S-7.9 states the following regarding construction time limits: No construction activities pursuant to a County permit shall be allowed within 500 ft of a noise sensitive land use during the evening hours of Monday through Saturday, or anytime on Sunday or holidays, prior to completion of a noise mitigation study. Typically, when not specified in a policy or ordinance, that

[1] State of California, California State Transportation Agency, Department of Transportation, 2011. *Traffic Noise Analysis Protocol*. May.
[2] State of California, California State Transportation Agency, Department of Transportation, 2015. *Standard Specifications*.

daytime hours occur from 7:00 a.m. to 7:00 p.m. while evening and nighttime hours occur from 7:00 p.m. to 7:00 a.m.

Municipal Code. Section 10.60.030 of the Monterey County Municipal Code prohibits the operation of any machine, mechanism, device, or contrivance which produces a noise level exceeding 85 dBA measured 50 ft therefrom. The prohibition in this Section shall not apply to aircraft nor to any such machine, mechanism, device or contrivance which is operated in excess of 2,500 ft from any occupied dwelling unit.

EXISTING NOISE SENSITIVE RECEPTORS

The project study area consists of agricultural land and one single-family residence. The single-family residence (APN #223-011-032) is located off of Short Road north and west of the project site. The single-family residence is located 1,275 ft from the Gonzales River Road centerline (refer to Figure 6, Noise Sensitive Receptor Locations).

LONG-TERM OPERATIONAL NOISE IMPACTS

No Build Alternative

No improvements to the Gonzales River Road Bridge would be made other than routine roadway maintenance. Noise-sensitive receptors located within the project area would not be exposed to a new traffic noise impact.

Build Alternative

Since the construction of the proposed project does not meet any of the Type I requirements described in the Traffic Noise Protocol, a detailed Type I long-term operational noise analysis is not required for the proposed project. Rather, the proposed Gonzales River Road Bridge Project is classified as a Type III project which only requires an analysis of noise associated with project construction.

This technical noise memorandum is provided to identify project-related construction noise impacts and prescribe appropriate avoidance, minimization, and/or mitigation measures in order to comply with Caltrans Standard Specification in Section 14-8.02 and Section 10.60.030 of the Monterey County Municipal Code.

CONSTRUCTION NOISE IMPACTS

No Build Alternative. No construction activities would occur under the No Build Alternative and no short-term noise impacts would result.

Build Alternative. Two types of short-term noise impacts would occur during project construction, including: 1) equipment delivery and construction worker commutes; and 2) project construction operations.

The first type of short-term construction noise would result from transport of construction equipment and materials to the project site and construction worker commutes. These transportation activities would incrementally raise noise levels on access roads leading to the site. It is expected that larger trucks used in equipment delivery will generate higher noise impacts than trucks associated with worker commutes. The single-event noise from equipment trucks passing at a distance of 50 ft from a sensitive noise receptor would reach a maximum level of 84 dBA L_{max}. However, the pieces of heavy equipment for grading and construction activities would be moved on-site just one time, then would remain for the duration of each construction phase. This one time trip, when heavy construction equipment is moved on and off-site, would not add to the daily traffic noise in the project vicinity. Furthermore, the projected traffic from the construction worker commutes would be minimal when compared to existing traffic volumes on Gonzales River Road and other affected streets, and its associated long-term noise level change would not be perceptible. Therefore, equipment transport noise and construction-related worker commute impacts would be short-term and would not be substantial.

The second type of short-term noise impact is related to noise generated during project construction. Construction is performed in discrete steps, each having its own mix of equipment and, consequently, its own noise characteristics. These various sequential phases will change the character of the noise generated, as well as the noise levels in the study area as construction progresses. Despite the variety in the type and size of construction equipment, similarities in the dominant noise sources and patterns of operation allow construction-related noise ranges to be categorized by work phase. Table A lists typical construction equipment noise levels (L_{max}) recommended for noise impact assessments based on a distance of 50 ft between the equipment and a noise receptor.

In addition to standard construction equipment, projects involving the construction of a bridge or the need for pile placement may require the use of pile drivers. If pile driving is utilized, as shown in Table A, pile driving generates noise levels of approximately 95 dBA L_{max} at 50 ft.

In addition to pile driving activities, normal construction operations, specifically during the site preparation phase which includes excavation and grading, may generate high noise levels from an active construction area. Earthmoving equipment includes excavating machinery such as backfillers, bulldozers, and front-end loaders. Earthmoving and compacting equipment includes compactors, scrapers, and graders. Typical operating cycles for these types of construction equipment may involve 1 or 2 minutes of full-power operation followed by 3 or 4 minutes at lower power settings.

Noise associated with the use of earthmoving construction equipment is estimated between 55 and 85 dBA L_{max} at a distance of 50 ft from each piece of equipment. As seen in Table A, the maximum noise level generated by each excavator, bulldozer and pick-up truck is assumed to be approximately 85 dBA $L_{max,}$ 85 dBA $L_{max,}$ and 55 dBA L_{max} at 50 ft, respectively. Each piece of construction equipment operates as an individual point source. Utilizing the following equation, a composite noise level can be calculated when multiple sources of noise operate simultaneously:

$$Lmax\ (composite) = 10 * \log_{10}\left(\sum_{1}^{n} 10^{\frac{Ln}{10}}\right)$$

The conservative composite noise level during this phase of construction would be 88 dBA L_{max} at a distance of 50 ft from an active construction area.

Table A: Typical Construction Equipment Noise Levels

Equipment Description	Maximum Noise Level (L_{max}) at 50 Feet [1]
Backhoes	80
Compactor (ground)	80
Cranes	85
Dozers	85
Dump Trucks	84
Excavators	85
Flat Bed Trucks	84
Front-end Loaders	80
Graders	85
Impact Pile Drivers	95
Jackhammers	85
Pick-up Truck	55
Pneumatic Tools	85
Pumps	77
Rock Drills	85
Rollers	85
Scrapers	85
Tractors	84

Source: *Federal Highway Administration Roadway Construction Noise Model* (January 2006).
[1] Maximum noise levels were developed based on Spec 721.560 from the Central Artery/Tunnel (CA/T) program to be consistent with the City of Boston's Noise Code for the "Big Dig" project.
Note: Noise levels reported in this table are rounded to the nearest whole number.
L_{max} = maximum instantaneous sound level

If pile driving is conducted concurrently with standard construction activities, utilizing the same equation above assuming two source levels of 88 dBA L_{max} for general construction and 95 dBA L_{max} for pile driving operations, the active construction area could potentially generate noise levels of 96 dBA L_{max} at a distance of 50 ft.

Once composite noise levels are calculated, reference noise levels can then be adjusted for distance using the following equation:

$$Lmax\ (at\ distance\ X) = Lmax\ (at\ 50\ feet) - 20 * \log_{10}\left(\frac{X}{50}\right)$$

In general, this equation shows that doubling the distance would decrease noise levels by 6 dBA while a halving the distance would increase noise levels by 6 dBA.

The closest residence, the single-family residence off of Short Road is located approximately 1,360 ft from the edge of the proposed construction area. The results of the equations above show that this residence may be subject to short-term noise reaching 68 dBA L_{max} should pile driving and general construction occur simultaneously. This single-family residence would be exposed to short-term construction-related noise levels that are below both the County of Monterey and Caltrans construction noise requirements; therefore, no mitigation is required.

CONSTRUCTION AVOIDANCE, MINIMIZATOIN AND MITTIGATION MEASURES

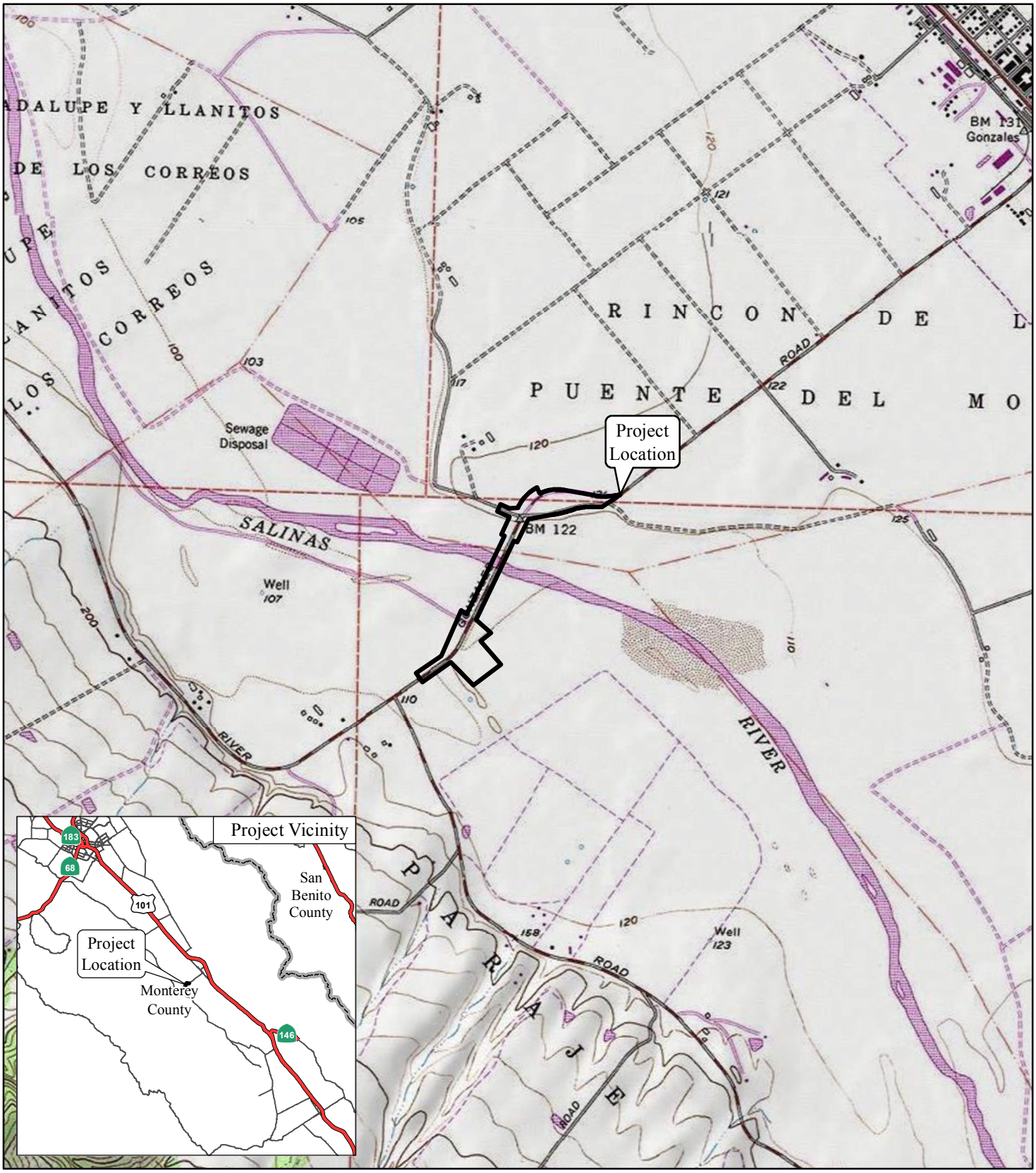
The proposed project shall comply with the County of Monterey General Plan, Policy S-7.9 by ensuring that no construction activities pursuant to a County permit shall be allowed within 500 feet of a noise sensitive land use during the evening hours of Monday through Saturday, or anytime on Sunday or holidays, prior to completion of a noise mitigation study. Typically, when not specified in a policy or ordinance, that daytime hours occur from 7:00 a.m. to 7:00 p.m. while evening and nighttime hours occur from 7:00 p.m. to 7:00 a.m.

Additionally, the following minimization measures shall be incorporated when construction activities occur within 500 ft of any noise sensitive use:

1) The Contractor shall use an alternative warning method instead of a sound signal unless required by safety laws.
2) The Contractor shall equip all internal combustion engines with the manufacturer-recommended muffler and shall not operate any internal combustion engine on the job site without its appropriate muffler.

APPENDIX A

PROJECT FIGURES



LEGEND

Project Area

FIGURE 1

Gonzales River Road Bridge Replacement Project
Monterey County, California
Federal Project Number BRLS-5944(098)

Project Location

0 1000 2000
FEET

SOURCE: USGS 7.5' Quad., *Palo Escrito Peak, CA* (1984); TRC (6/2016)

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LEGEND

Project Area

FIGURE 2

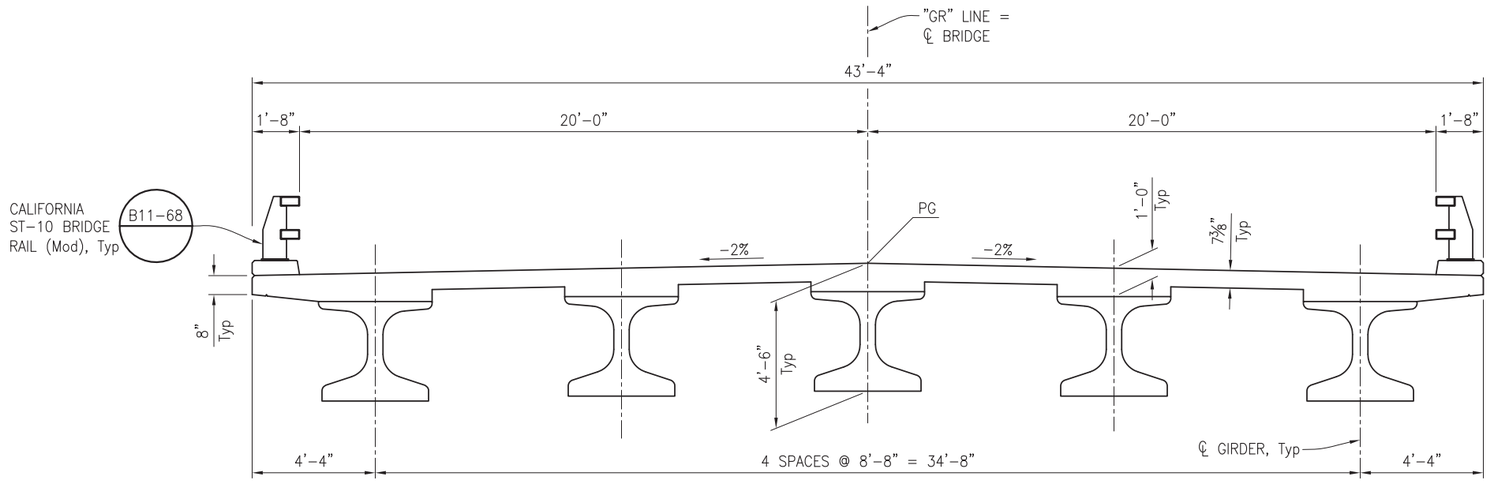
Gonzales River Road Bridge Replacement Project
Monterey County, California
Federal Project Number BRLS-5944(098)

Project Area

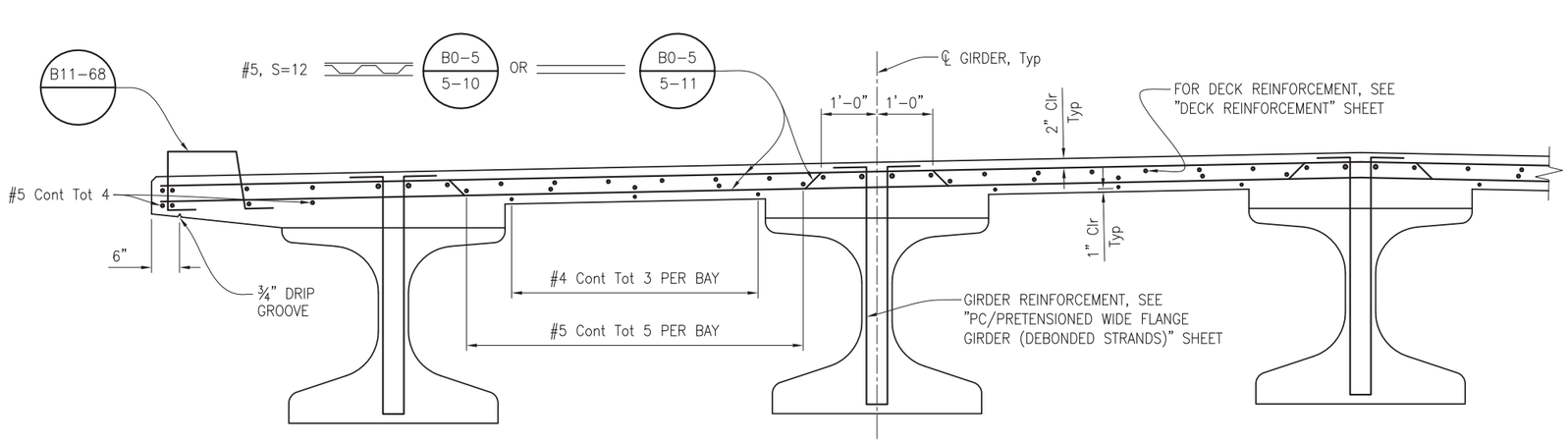
0 250 500
FEET

SOURCE: Bing Aerial (2011); TRC (6/2016)

I:\TRT1503\GIS\PD_GonzalesRiverRd_ProjectArea.mxd (8/22/2016)



TYPICAL SECTION



PART TYPICAL SECTION

FIGURE 3

Gonzales River Road Bridge Replacement Project
Monterey County, California
Federal Project Number BRLS-5944(098)

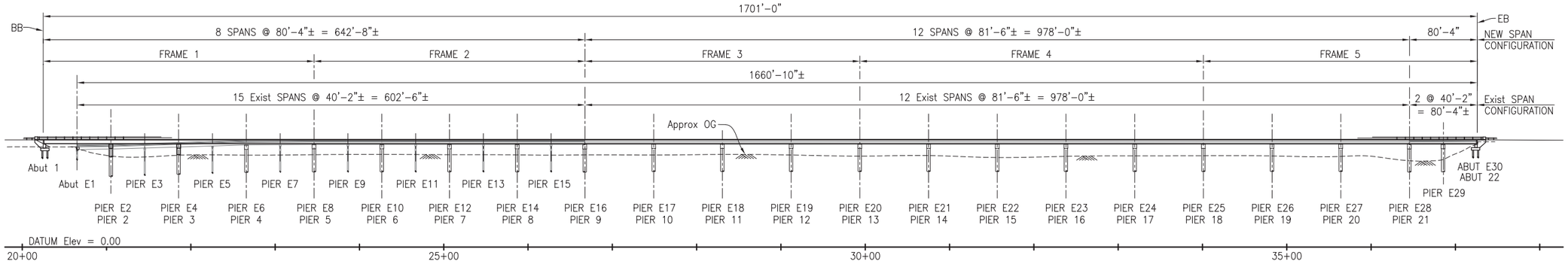
Typical Cross Section

SOURCE: TRC

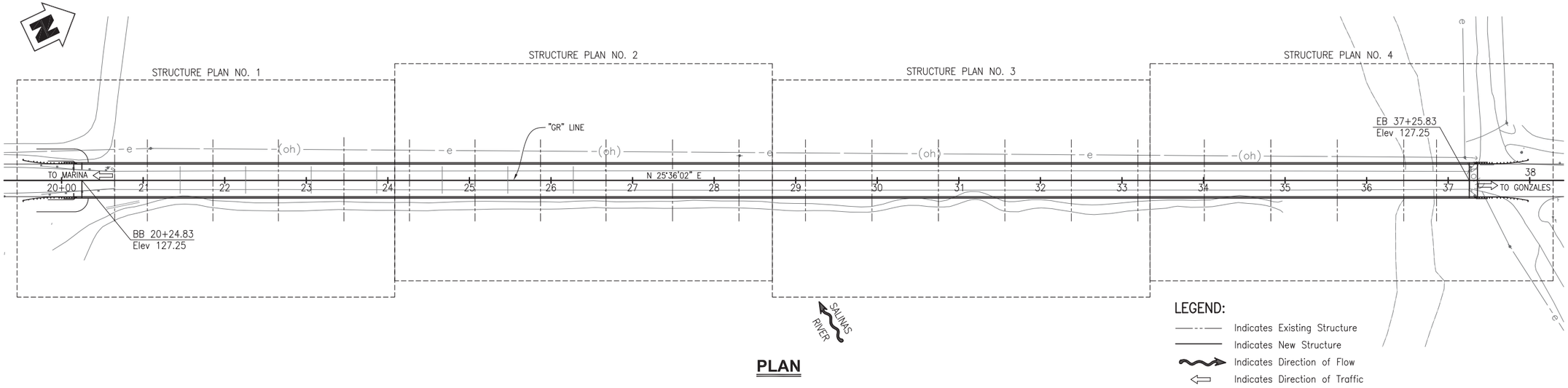
I:\TRT1503\G\Typical Section.cdr (7/25/2016)

PROFILE GRADE

NO SCALE



ELEVATION



PLAN

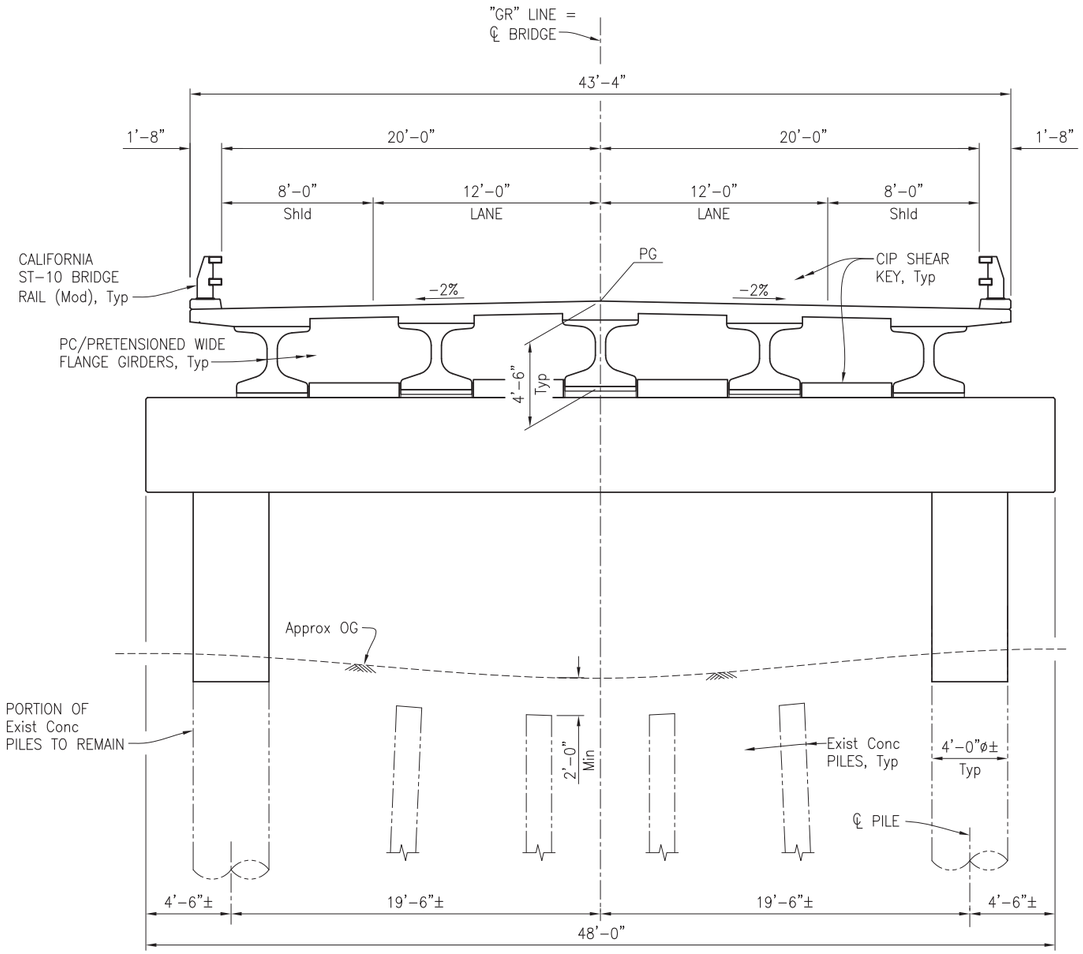
FIGURE 4
(Sheet 1 of 2)

Gonzales River Road Bridge Replacement Project
Monterey County, California
Federal Project Number BRLS-5944(098)

General Plan

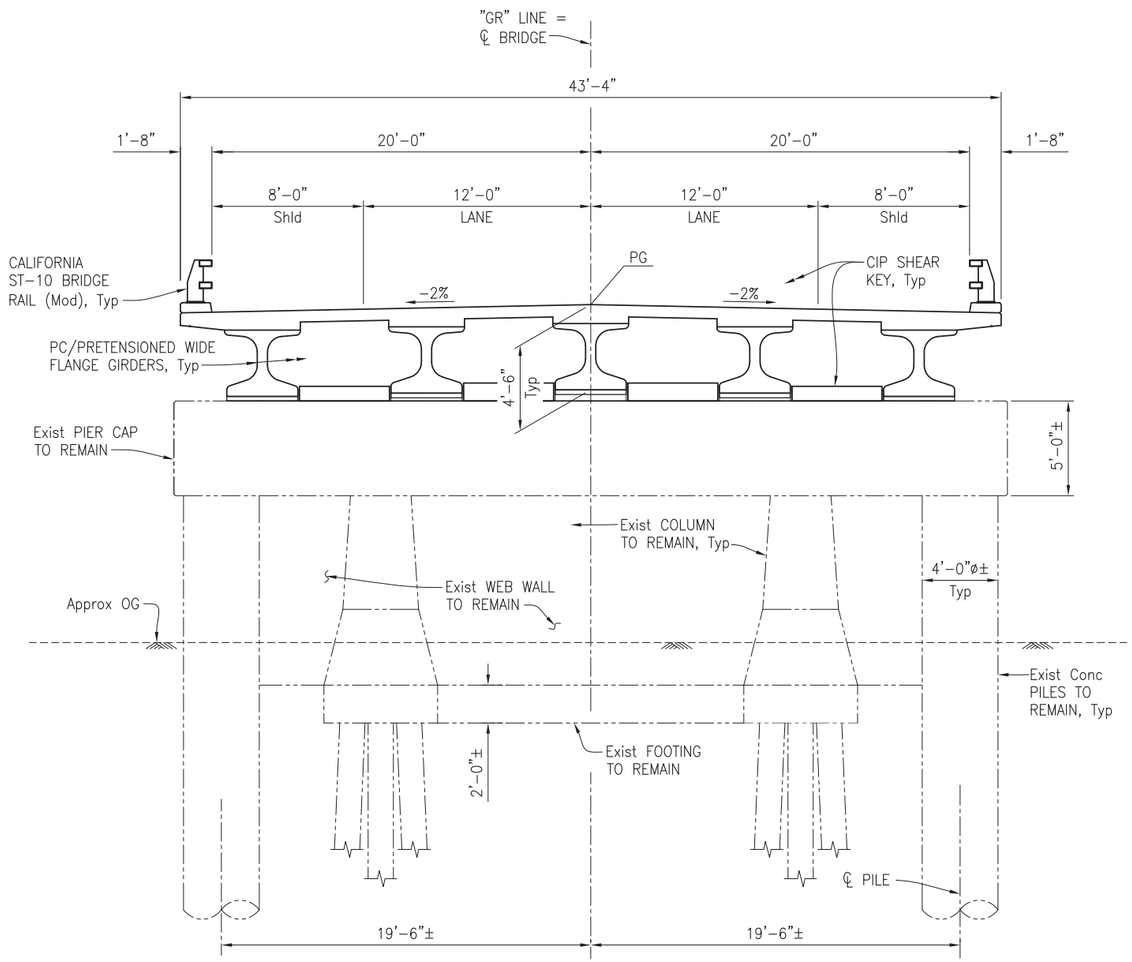
SOURCE: TRC

I:\TRT1503\G\General Plan.cdr (7/25/2016)



PIER E2 SHOWN, PIER E4 SIMILAR

PIERS 2 & 3



PIER E17 SHOWN, OTHERS SIMILAR

PIERS 4 THRU 21

LEGEND:

Indicates Existing Structure

Indicates New Structure

TYPICAL SECTIONS

FIGURE 4
(Sheet 2 of 2)

Gonzales River Road Bridge Replacement Project
Monterey County, California
Federal Project Number BRLS-5944(098)

General Plan

SOURCE: TRC

I:\TRT1503\G\General Plan.cdr (7/25/2016)

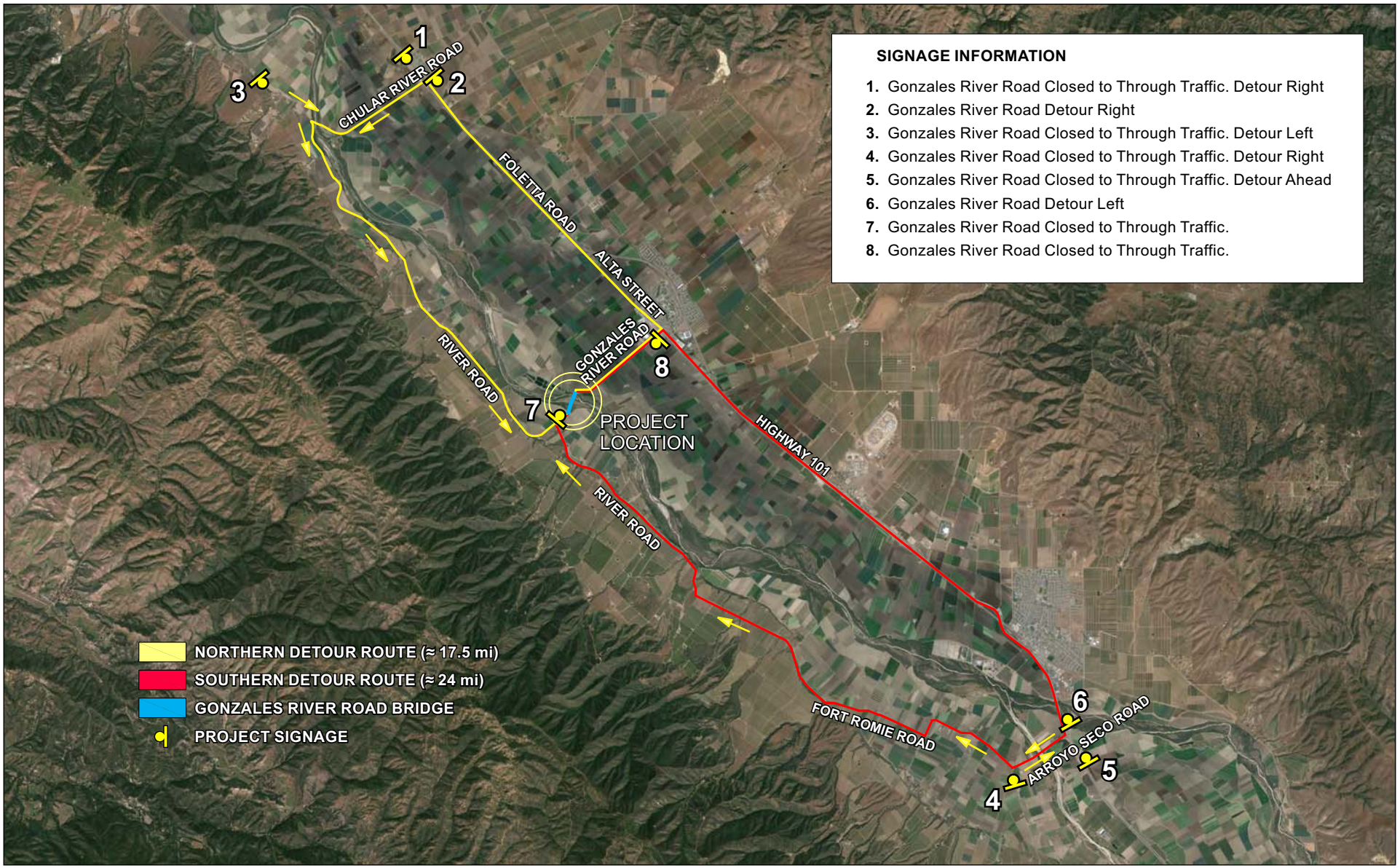


FIGURE 5

N

0 1 2

MILES

SOURCE: TRC (2016)

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Gonzales River Road Bridge Replacement Project
Monterey County, California
Federal Project Number BRLS-5944(098)

Construction Detour

APPENDIX G

PRELIMINARY FOUNDATION INVESTIGATION SEISMIC RETROFIT

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May 18, 1999

Boyle Engineering
100 Howe Avenue, Suite 250N
Sacramento, California 95825

Attention: Mark Imbriani

Subject: Preliminary Foundation Investigation – Seismic Retrofit 1R2/396/122-2.1
Salinas River/Gonzales River Road #309 (44C-0035)
Monterey County, California 36121-D4:405N;275W

This report of foundation investigation is prepared for use in seismic evaluation and proposed retrofit foundation design at the above site in accordance with your request. Limitations of study are discussed in the attached "General Conditions".

Exploration and Testing

Information on the nature and distribution of subsurface materials and conditions was obtained by means of five auger/rotary drilled sampled test borings made at locations behind existing bridge abutments and from bridge deck to maximum 135±ft ground penetration (lowest elev.-25±; 150±ft below bridge deck). The borings behind the abutments were drilled with continuous flight auger until free groundwater was encountered and then advanced by rotary methods to final depth. Borings from deck were made through holes drilled in the deck by rotary methods for full depth. At completion of field exploration, the abutment borings were backfilled with native soil cuttings and holes in the bridge deck were patched with high-strength dry-mix concrete.

Soil samples were recovered from the borings by means of a 2.0-inch OD "standard penetration" sampler advanced with standard 350 ft-lb striking force (ASTM D1586). Driving resistance of the sampler is recorded and can be correlated with earth materials strength and materials parameters. Recovered samples were retained in moisture-proof containers for laboratory testing and reference. Laboratory testing included moisture content-dry density, unconfined compressive strength and classification (gradation and Atterberg limit) tests.

The borings were logged and earth materials field-classified by an engineer as to consistency, color, gradation and texture on the bases of sampler penetration resistance, examination of samples and observation of drill cuttings. Groundwater observations were made in the borings during and after completion of drilling operations.

Field locations were referenced to the existing structure as shown on 1930 bridge plans. Locations, elevations, details of borings and results of tests are shown on the "Log of Test Borings" drawings and Figure-1, attached. T.A. Krause was field engineer for this study.

Earth Materials and Foundation Conditions

Existing bridge deck grade is at elev. 125.6, except for the southerly five spans which are shown to descend at a 5% grade to elev. 115.6 at the south abutment. On the 1930 plans, channel grade is shown level at about elev. 108.5. County ground line survey from November 1971 indicates channel thread at elev. 100± located between Pier-26 and Pier-28, with the rest of the channel bottom at elev. 106-107±. Ground line measurements from December 1997 show channel "thread" at elev. 104-106± between Pier-18 and Pier-23, with typical channel bottom at/near elev. 110± (to elev. 100± near south abutment).

Materials encountered in test borings can be divided into four units considered significant to this project: embankment/levee fill; active channel deposits; recent alluvium of variable texture and consistency; and an underlying sequence of older, more competent alluvium.

At both banks, surface soils consist of 8±ft of compact sandy silt interpreted as embankment fill on the south (with woody material at base of unit) and fill and/or natural levee deposits on the north. These materials are considered erodible where exposed and capable of contributing to structure foundation support.

Materials identified as active channel deposits are comprised of loose to compact sand with silt and gravel. They are absent in the north bank but appear to extend below embankment fill in the south bank. Such materials were encountered to elev. 82± (25-28±ft depth) in the northerly half of the channel and to elev. 90± in the southerly part of the channel and at the south bank. These soils are of variable consistency – commonly weak; in the channel they are interpreted as subject to historic (recurring) scour. Although capable of some local contribution, these materials are considered unreliable for structure foundation support.

Soil interpreted as recent alluvium underlies embankment/levee fill and/or active channel deposits and consists mostly of soft-stiff clay and clayey silt with substantial layers/lenses of compact-dense silty sand with local gravel. The base of this unit descends from elev. 76± on the north to elev. 50± at the south bank. These materials are interpreted as lying below the level of historic scour, but are erodible if/as exposed to channel flow. The soft-stiff clay/silt materials are expected to be significantly compressible under sustained incremental loading, but this unit is capable of making significant contribution to deep foundation support, particularly for transient live or seismic loads.

The lowermost soils unit, penetrated below the "recent alluvium" to the maximum depth of exploration (135±ft; elev.-25±), consists of dense-very dense silty sand and gravel and includes some semicompact-compact silty sand lenses and some zones with cobbles. Although not encountered in borings, the presence of some

boulder size material (larger than 12-inches) within this unit appears likely. This unit is expected to be capable of supporting directly applied and/or superposed, heavy, concentrated foundation loads.

Groundwater levels at borings made in the channel were measured at elev. 105± -- approximating channel water surface at time of field study (December 1997). Free water levels at the banks were measured 4-7±ft lower. The level of groundwater is expected to follow channel water surface. Soils below free groundwater are expected to be saturated and granular materials to be capable of transmitting substantial quantities of seepage to open excavations.

Seismic Data

In accordance with "California Seismic Hazard Index Map 1996" (Caltrans) and CDMG Map No. 6 "Fault Activity of California and Adjacent Areas", this site can be assigned horizontal bedrock acceleration of 0.6 g associated with an event of 7.0 magnitude on the King City-Reliz fault located 1.34 miles (2.2±km) westerly. Based on boring data, the site may be assigned soils profile "Type D" per ATC 32; depth to rock is greater than 80-ft and almost certainly greater than 150-ft. Typical Caltrans practice for Local Agency bridge retrofit has been to increase ARS accelerations by 20% to account for proximity to fault.

Liquefaction and Site Stability

Liquefaction potential of encountered soils was evaluated using field and laboratory test data and the Liquefy2 computer program. A horizontal acceleration of 0.6 g was used for this evaluation. Selected summary output is attached. Settlement associated with liquefaction of sandy soils was estimated from the results of these calculations (after Takimatsu & Seed, 1987). On this basis, potentially liquefiable zones are identified in borings as follows (from north to south) with estimated settlement for that layer shown in parentheses:

Boring-1 – elev. 46-56± (2")
Boring-5 – elev. 43-47± (½") ; elev. 86-103± (2½")
Boring-3 – elev. 82-92± (2"); elev. 96-106± (1")
Boring-4 – elev. 56-62± (1"); elev. 96-102± (1")
Boring-2 – elev. 50-60± (1½") ; elev. 75-80± (1") ; elev. 90-96± (1")

Potential liquefaction requires consideration in evaluating existing foundation capacities and ground stability. Total settlement at ground surface due to liquefaction is estimated in the range of 2-3½ inches.

Stability of slopes on both banks and channel slopes was investigated using the STABL computer program; shear strengths of liquefiable soils are based on published

correlations of standard penetration tests and residual shear strength. Results of selected stability trials are attached.

At the north bank, the stability trials indicate a factor of safety of 1 for horizontal acceleration of 0.5 g; estimated ground movement for this "yield acceleration" is on the order of 1-3 inches. At the south bank, stability trials indicate a factor of safety of 1± at "yield acceleration" of 0.3±g, which results in estimated ground movement on the order of 1-2±ft. Calculated critical failure surfaces occur in the area from 200±ft in front of the south abutment (vicinity Bents 7/8) to 150±ft behind abutment. Base of such ground movement is predicted to occur between elev. 50 and 80±. Stability trials do not identify potential ground movement in the channel, but distortion of local channel slopes could occur where channel activity has resulted in other than very flat ground.

Existing Foundations

Existing foundations are shown on 1930 plans by Monterey County and on 1972 plans for underpinning Piers 26, 27 & 28 and 1974 plans for protective work at Piers 26, 27 & 28. There are some conflicts between pier footing elevations and pile dimensions shown on the 1972 plans and those shown on the 1930 plans.

All original foundation support is shown by means of driven 16-inch square pre-cast piling (tapered in lower 6-ft). Casting lengths for piles are shown as 45-ft at piers and 55-ft at bents. At the piers, bottom of footing is shown at 20-ft below bridge deck (elev. 105.6±) with 1.5-ft pile embedment. At the bents, pile cut-off is about 5-ft below deck grade. Pile design loads are not noted on plans; presumptive design loading in the range of 32 to 37 tons appears reasonable. No pile installation records are available for this bridge.

For supports A-1 through P-23, estimated pile tips appear to be in soft-stiff clay or in potentially liquefiable compact sand and ultimate compression and tension capacities are estimated based on side friction generated only within non-liquefiable soft-stiff clay and dense sand layers. The potential for negative skin friction from liquefaction and compression is neglected, but may result in 2-3 inches of pile settlement.

North of P-23, estimated pile tips appear to penetrate dense-very dense sand/gravel. Ultimate compressive capacities (based on the casting length shown on plans) include substantial end-bearing. Liquefiable zones located well below the tips of these piles are not expected to grossly affect compressive capacity, but may result in settlement.

The pile to footing connection may control the lateral stiffness and tensile capacity of these piles. The lateral stiffness values in the table are based on free-head conditions for lateral load applied at base of footing or ground surface (for pile bents).

If the pile:footing connection at the piers can be considered "fixed", then lateral stiffness of 10 kips/inch may be used. Limiting deflection of about 3-inches is considered applicable to these piles. Lateral pile stiffness may vary considerably across the site, e.g. with changes in ground elevation or in denser local zones.

Based on the 1930 plans and encountered soil conditions, pile cut-off and tip elevations and estimated pile capacities are as follows (south abutment = A-1):

Support	Cutoff Elevation	Lowest Liquefaction	Est. Pile Tip Elevation	Qult (kips)	Tult (kips)	Free-head Lateral Stiffness (kips/inch)
A-1	110.6	50±	55.6	120	60	30
B-2	112.6	50±	57.6	120	60	4
B-3	114.6	50±	59.6	105	50	4
B-4	116.6	50±	61.6	90	45	4
B-5	118.6	50±	63.6	80	40	4
B-6/15	120.6	46±	65.6	80	40	4
P-16/23	107.1	82±	62.1	160	40	4
P-24/28	107.1	43±	62.1	180	40	4
B-29	120.6	45±	65.6	180	50	4
A-30	120.6	46±	65.6	180	90	30

Passive soil resistance at abutments of up to 7.7 ksf (adjusted for effective wall height) is considered acceptable for seismic evaluation. Passive soil resistance is not reliable at pier footings.

County plans for 1974 protective work at Piers 26, 27 & 28 (which is understood to have been constructed), indicate railroad rail piling driven peripheral to footings as containment for rubble backfill from 6-ft below footings. County plan sheets from 1972 show underpinning work proposed at the downstream (west) footing of Pier-26 and both footings at Piers 27 & 28, apparently due to exposure of existing piles and footings by local scour.

Retrofit

Proposed retrofit of this structure as shown on plans by Boyle Engineering dated January 13, 1999 is to construct 48-inch diameter CIDH piles with column extensions to deck level at each end of selected piers.

Soils input data for use with COM624/LPILE computer programs are attached. Top of soils profile is at existing ground surface at that boring and has not been adjusted for scour. Where working at locations between borings, conservative assumptions should be used for interpolation. The elevations/depths are at the top of each layer. Soil parameters have been averaged for each layer; they should be input at the top and bottom of each layer and should not be interpolated. Potentially liquefiable sand layers are indicated and the recommended procedure is to adjust program

generated p-y curves to 10% of the "p" value. The values of "k" for sand and "E50" for clay may be adjusted for pile diameter greater than 2-ft in accordance with ATC 32. It is reasonable to extrapolate the bottom layer of shorter borings to as low as elev.-25±.

The Pile Data Table below has been developed for this project. Boyle provided design tip elevations controlled by lateral loading. Design tip elevations controlled by compression are by this office based on nominal compression loading provided by Boyle. Piling with design tips as indicated are predicted to settle as much as, say, 1-inch under dead load plus seismic liquefaction and downdrag loads. Less settlement can be realized with increased pile penetration (to say, 1/2-inch or less with penetration increase of 10-15 ft).

Location	Type	Design Loading (Service Load)	Nominal Resistance		Cut-off Elevation	Lowest Liquefaction Elevation	Design Tip Elevation	Specified Tip Elevation
			Compression	Tension				
Pier 2	48" CIDH	N / A	1000 Kip	0	107	51	15 (1) (4); 19.5 (3) (4)	15
Pier 4	48" CIDH	N / A	1000 Kip	0	105	52	15 (1) (4); 17.5 (3) (4)	15
Pier 6	48" CIDH	N / A	1000 Kip	0	109	53	15 (1) (4); 21.5 (3) (4)	15
Pier 8	48" CIDH	N / A	1000 Kip	0	108	54	15 (1) (4); 20.5 (3) (4)	15
Pier 10	48" CIDH	N / A	1000 Kip	0	109	55	15 (1) (4); 21.5 (3) (4)	15
Pier 12	48" CIDH	N / A	1000 Kip	0	108	56	30 (1) (4); 20.5 (3) (4)	20
Pier 14	48" CIDH	N / A	1000 Kip	0	106	57	30 (1) (4); 18.5 (3) (4)	18
Pier 16	48" CIDH	N / A	1000 Kip	0	109	57	30 (1) (4);21.5 (3) (4)	21
Pier 17	48" CIDH	N / A	1000 Kip	0	109	57	30 (1) (4); 21.5 (3) (4)	21
Pier 18	48" CIDH	N / A	1000 Kip	0	108	57	30 (1) (4); 20.5 (3) (4)	20
Pier 19	48" CIDH	N / A	1000 Kip	0	106	57	30 (1) (4); 18.5 (3) (4)	18
Pier 20	48" CIDH	N / A	1000 Kip	0	103	57	25 (1) (4); 15.5 (3) (4)	15
Pier 21	48" CIDH	N / A	1000 Kip	0	105	57	25 (1) (4); 17.5 (3) (4)	17
Pier 22	48" CIDH	N / A	1000 Kip	0	104	45	25 (1) (4); 16.5 (3) (4)	16
Pier 23	48" CIDH	N / A	1000 Kip	0	104	44	25 (1) (4); 16.5 (3) (4)	16
Pier 24	48" CIDH	N / A	1000 Kip	0	104	42	25 (1) (4); 16.5 (3) (4)	16
Pier 25	48" CIDH	N / A	1000 Kip	0	110	42	25 (1) (4); 22.5 (3) (4)	22
Pier 26	48" CIDH	N / A	1000 Kip	0	109	44	25 (1) (4); 21.5 (3) (4)	21
Pier 27	48" CIDH	N / A	1000 Kip	0	110	44	25 (1) (4); 22.5 (3) (4)	22
Pier 28	48" CIDH	N / A	1000 Kip	0	108	47	25 (1) (4); 20.5 (3) (4)	20
Pier 29	48" CIDH	N / A	1000 Kip	0	109	47	25 (1) (4); 21.5 (3) (4)	21

Pile tip elevation is controlled by the following demands: (1) compression, (2) tension, (3) lateral, and (4) liquefaction as noted. Pile cut-off elevations are 2-3 ft below existing channel surface elevation.

At Piers-26, 27 and 28, the steel piling and rubble fill should be completely removed (i.e. piles need to be pulled rather than cut off) before installing CIDH piling. The CIDH piling are also potentially in conflict at depth with existing battered piles. A 2-ft projected clearance between existing piles and new CIDH piling is considered minimal and 3+ft clearance is recommended (if not structurally prohibitive). The batter of existing piles should be measured for confirmation of projected clearance prior to

installing new piles. Structural estimation of limits on curvature of reinforced concrete piles might indicate that smaller clearance is reasonable.

New CIDH pile excavations are proposed to extend to and below the tips of existing piles. To maintain existing structure support, the contractor should be required to case the CIDH pile excavations. Alternately (and particularly to the extent that new supports will supersede existing) it may be expedient to provide temporary supplemental structure support (e.g. vertical pipe piling) while new foundations are under construction.

The CIDH piling are to penetrate sand and gravel soils and the foundation contractor should be prepared to case the excavations. The contractor should also be notified that boulders might be present, particularly below about elev. 20. Groundwater is expected to be present for nearly the entire depth of pile excavations and tremie pour should be expected. Dewatering of pile excavations by pumping should not be attempted.

* * * * *

Please call if you have any questions on the foregoing, or earth materials and foundation conditions at this site. We appreciate this opportunity to be of service.

Very truly yours,

TABER CONSULTANTS

Franklin P. Taber
R.C.E. 30920
G.E. 816

REGISTERED PROFESSIONAL ENGINEER
FRANKLIN P. TABER
816
EXP. 3-31-xx
GEOTECHNICAL
STATE OF CALIFORNIA

Attachments:

"General Conditions"
"Gradation Curves" (9 pages)
Liquefaction Calculations
Slope Stability Trials
COM624/LPILE INPUT
"Log of Test Borings" (2 sheets)

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1R2/396/122

GENERAL CONDITIONS

The conclusions and recommendations of this study are professional opinion based upon the indicated project criteria and the limited data described herein. It is recognized there is potential for sufficient variation in subsurface conditions that modification of conclusions and recommendations might emerge from further, more detailed study.

This report is intended only for the purpose, site location and project description indicated and assumes design and construction in accordance with Caltrans practice.

As changes in appropriate standards, site conditions and technical knowledge cannot be adequately predicted, review of recommendations by this office for use after a period of two years is a condition of this report.

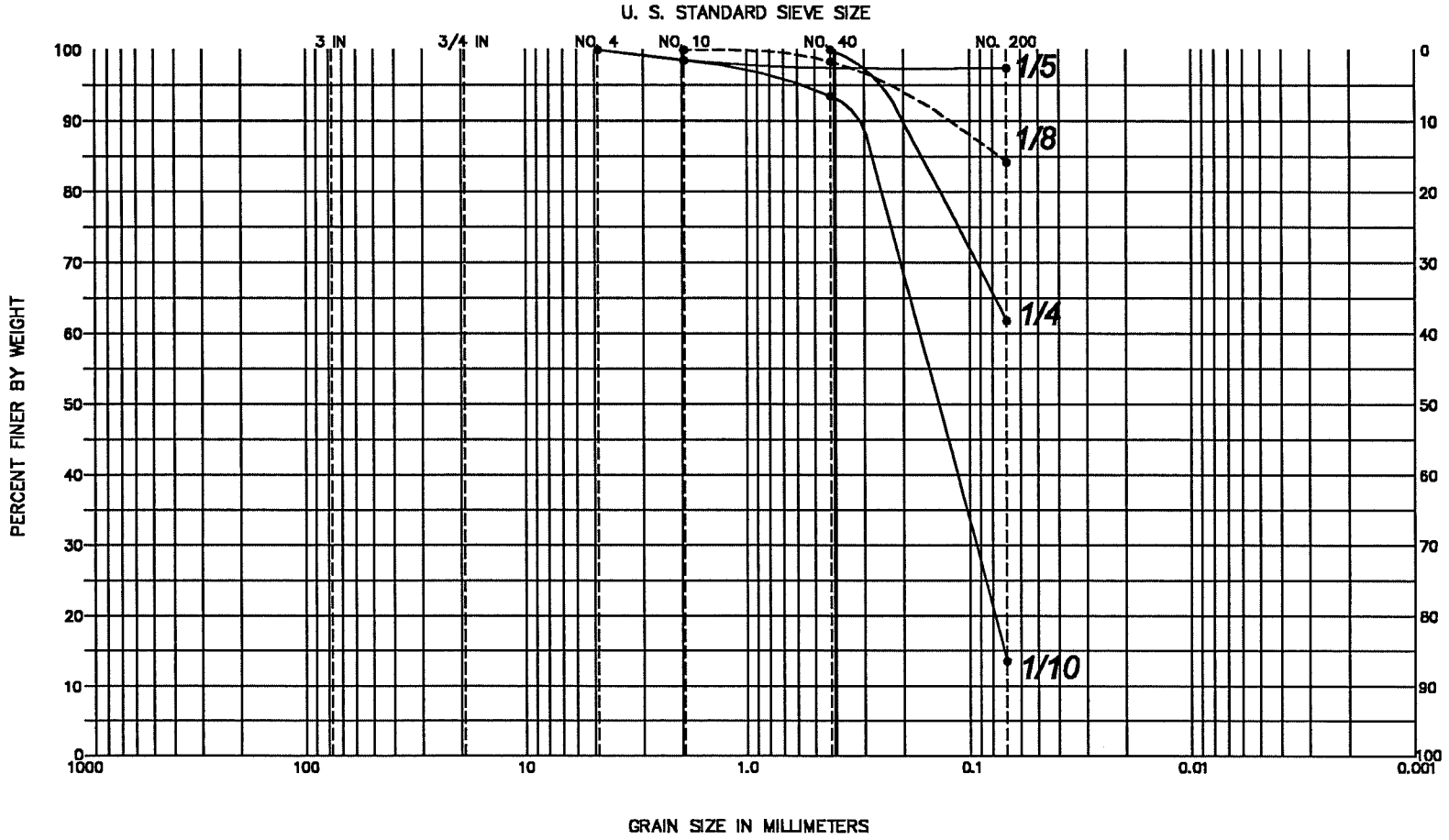
A review by this office of any foundation and/or grading plans and specifications or other work product insofar as they rely upon or implement the content of this report, together with the opportunity to make supplemental recommendations as indicated therefrom is considered an integral part of this study and a condition of recommendations.

Subsequently defined construction observation procedures and/or agencies are an element of work, which may affect supplementary recommendations.

Should there be significant change in the project, or should earth materials or conditions different from those described in this report be encountered during construction, this office should be notified for evaluation and supplemental recommendations as necessary or appropriate.

Opinions and recommendations apply to current site conditions and those reasonably foreseeable for the described development--which includes appropriate operation and maintenance thereof. They cannot apply to site changes occurring, made, or induced, of which this office is not aware and has not had opportunity to evaluate.

The scope of this study specifically excluded sampling and/or testing for, or evaluation of the occurrence and distribution of, hazardous substances. No opinion is intended regarding the presence or distribution of any hazardous substances at this or nearby sites.



COBBLES	GRAVEL		SAND			SILT OR CLAY
	Coarse	Fine	Coarse	Medium	Fine	

Boring/ Sample No.	Depth (ft.)	Classification	NatWC	LL	PL	PI	SE	MDD	OM
1/4	20.0–22.0	CL		32	16	16			
1/5	25.0–27.0	CL		37	22	15			
1/8	40.2–42.2	CL		43	16	27			
1/10	50.2–52.2	SM							

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Project Gonzales River Rd. @ Salinas River

Client Boyle Engineering

Date January 1998

Figure – 1 Page 1 of 9

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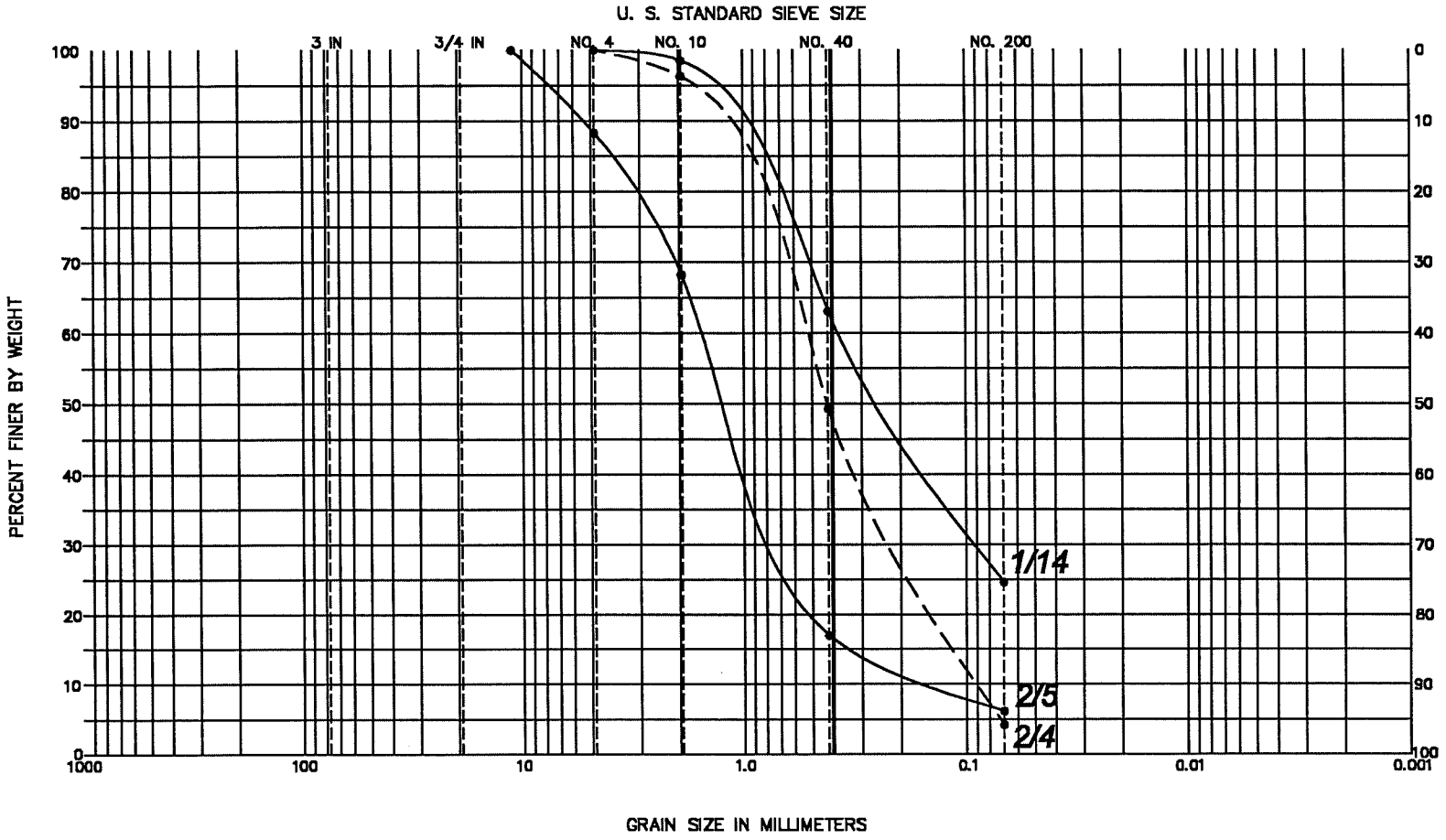

COBBLES	GRAVEL		SAND			SILT OR CLAY
	Coarse	Fine	Coarse	Medium	Fine	

Boring/Sample No.	Depth (ft.)	Classification	NatWC	LL	PL	PI	SE	MDD	OM
1/14	70.2–72.2	SM							
2/4	20.0–22.0	SP							
2/5	25.1–27.1	SW–SM							

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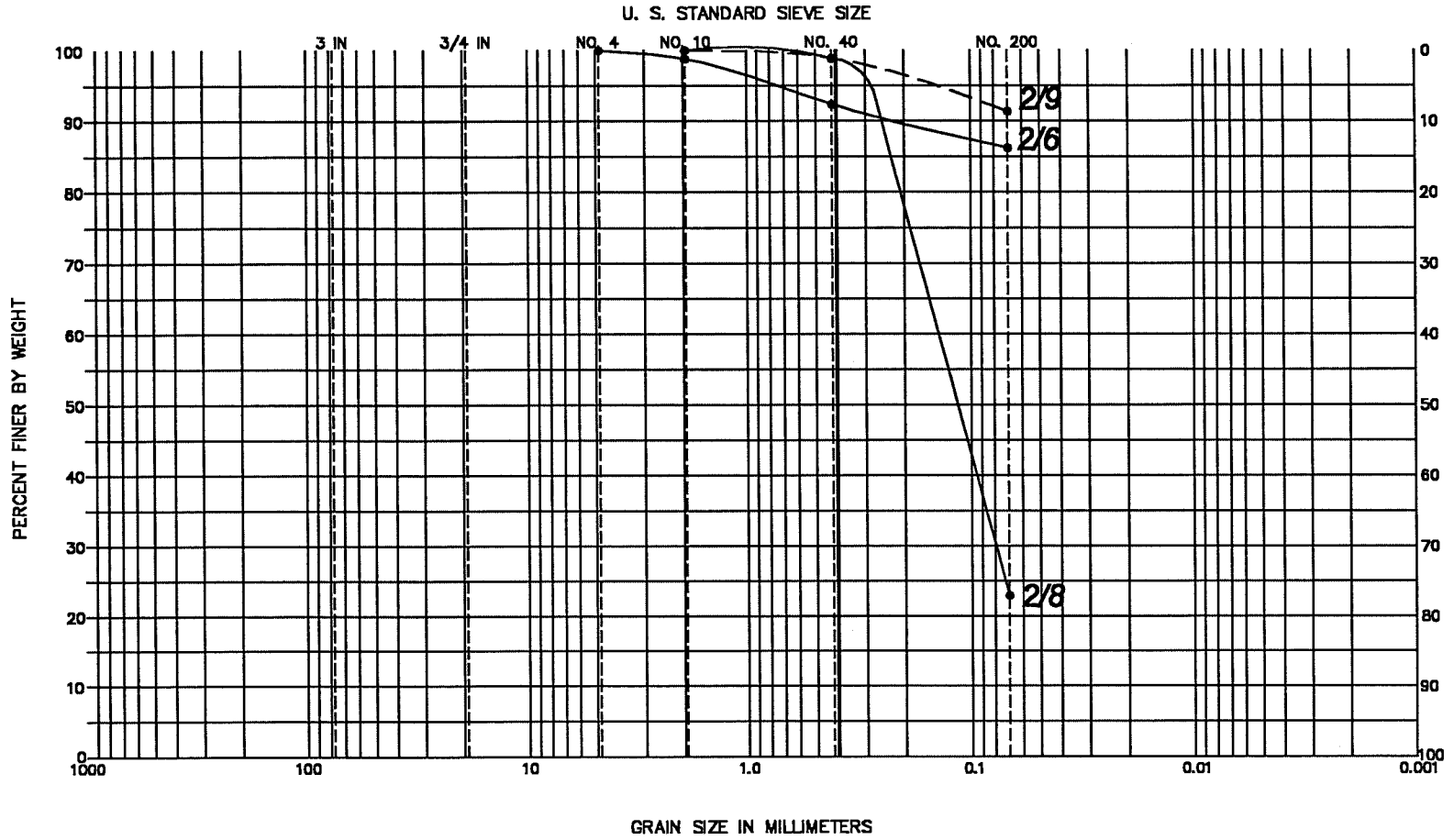

COBBLES	GRAVEL		SAND			SILT OR CLAY
	Coarse	Fine	Coarse	Medium	Fine	

Boring/ Sample No.	Depth (ft.)	Classification	NatWC	LL	PL	PI	SE	MDD	OM
2/6	30.1–32.1	CH		50	19	31			
2/8	40.1–42.1	SM							
2/9	45.1–47.1	CL		48	20	28			

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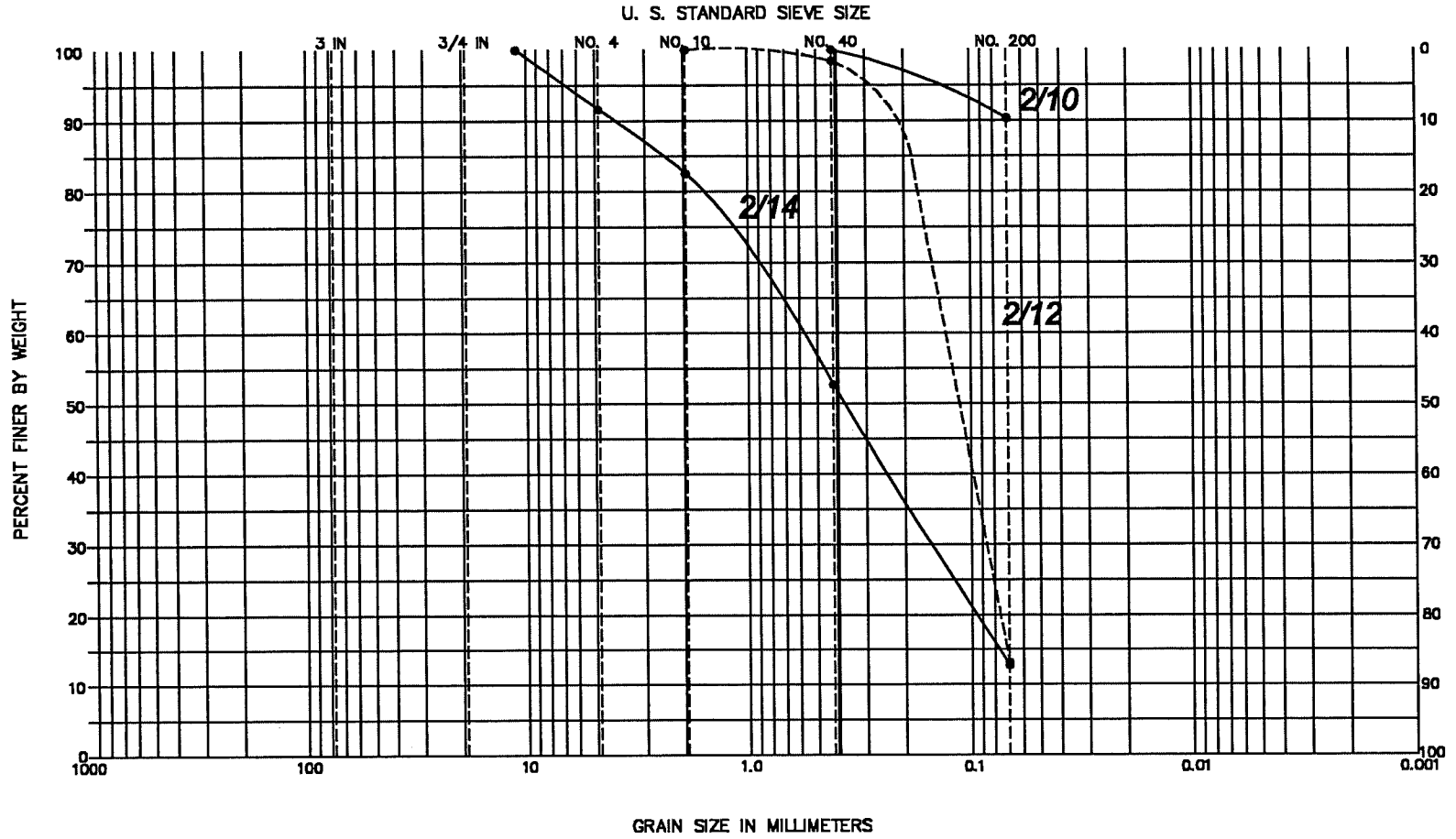

COBBLES	GRAVEL		SAND			SILT OR CLAY
	Coarse	Fine	Coarse	Medium	Fine	

Boring/ Sample No.	Depth (ft.)	Classification	NatWC	LL	PL	PI	SE	MDD	OM
2/10	50.1–52.1	CL		30	16	14			
2/12	60.1–62.1	SM							
2/14	70.1–72.1	SM							

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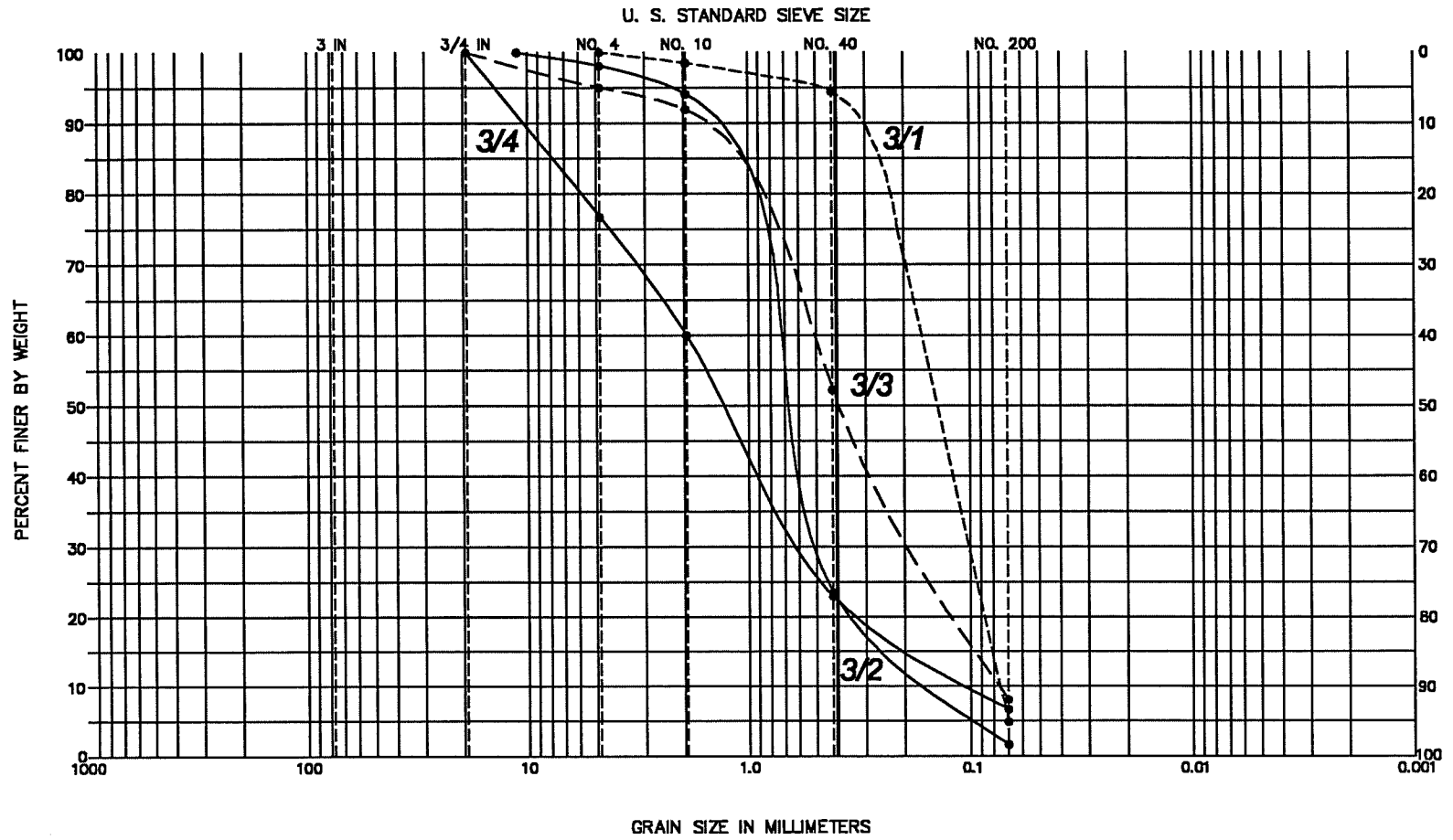

COBBLES	GRAVEL		SAND			SILT OR CLAY
	Coarse	Fine	Coarse	Medium	Fine	

Boring/ Sample No.	Depth (ft.)	Classification	NatWC	LL	PL	PI	SE	MDD	OM
3/1	25.0–27.0	SP							
3/2	30.0–32.0	SP							
3/3	35.0–37.0	SW–SM							
3/4	40.0–42.0	SW–SM							

GRADATION CURVES

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Project Gonzales River Rd. @ Salinas River

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Date January 1998

Figure – 1 Page 5 of 9

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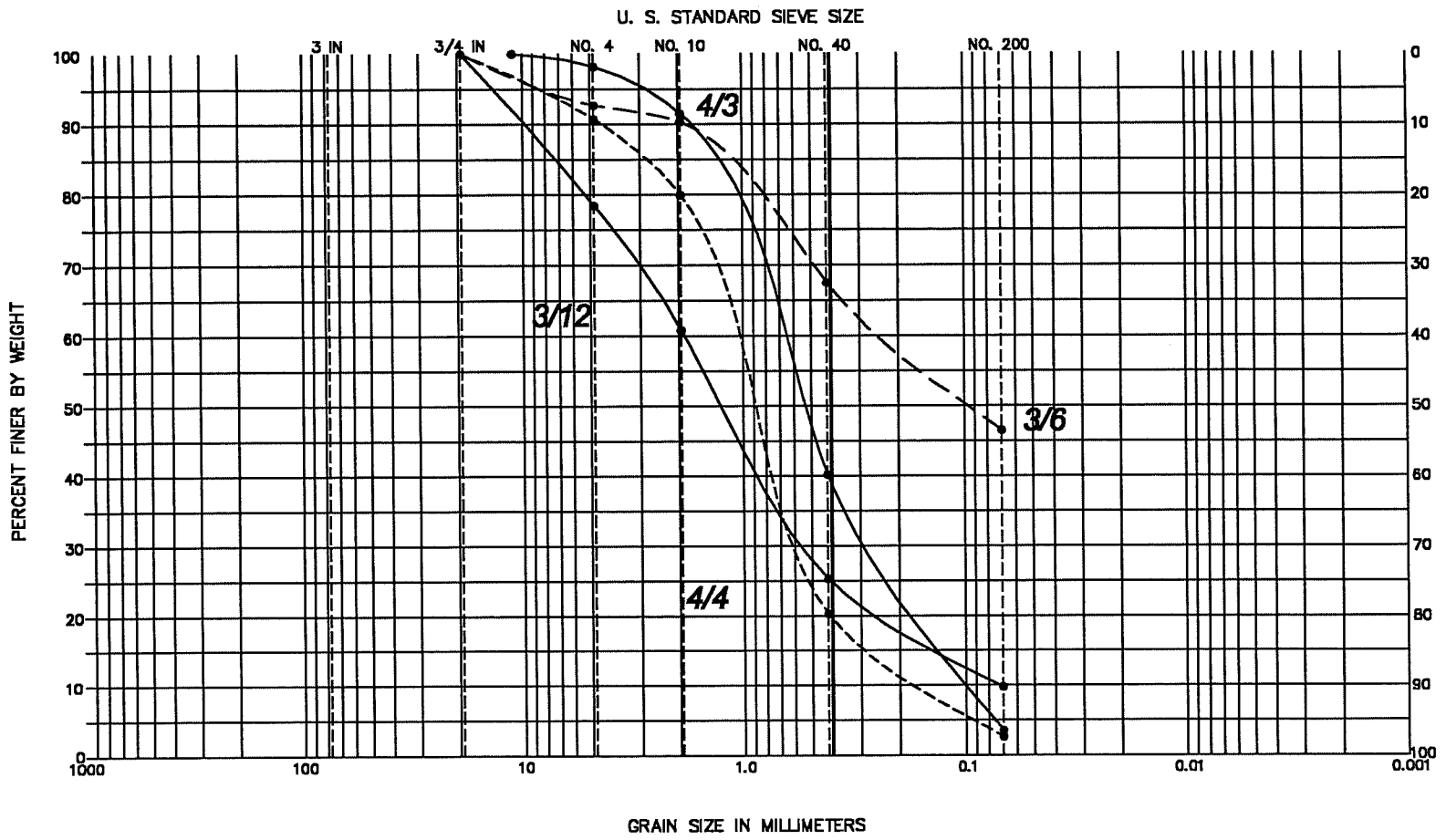

COBBLES	GRAVEL		SAND			SILT OR CLAY
	Coarse	Fine	Coarse	Medium	Fine	

Boring/ Sample No.	Depth (ft.)	Classification	NatWC	LL	PL	PI	SE	MDD	OM
3/6	50.2–52.2	SC		35	16	19			
3/12	80.2–82.2	SP–SM							
4/3	25.2–27.2	SW							
4/4	30.2–32.2	SP							

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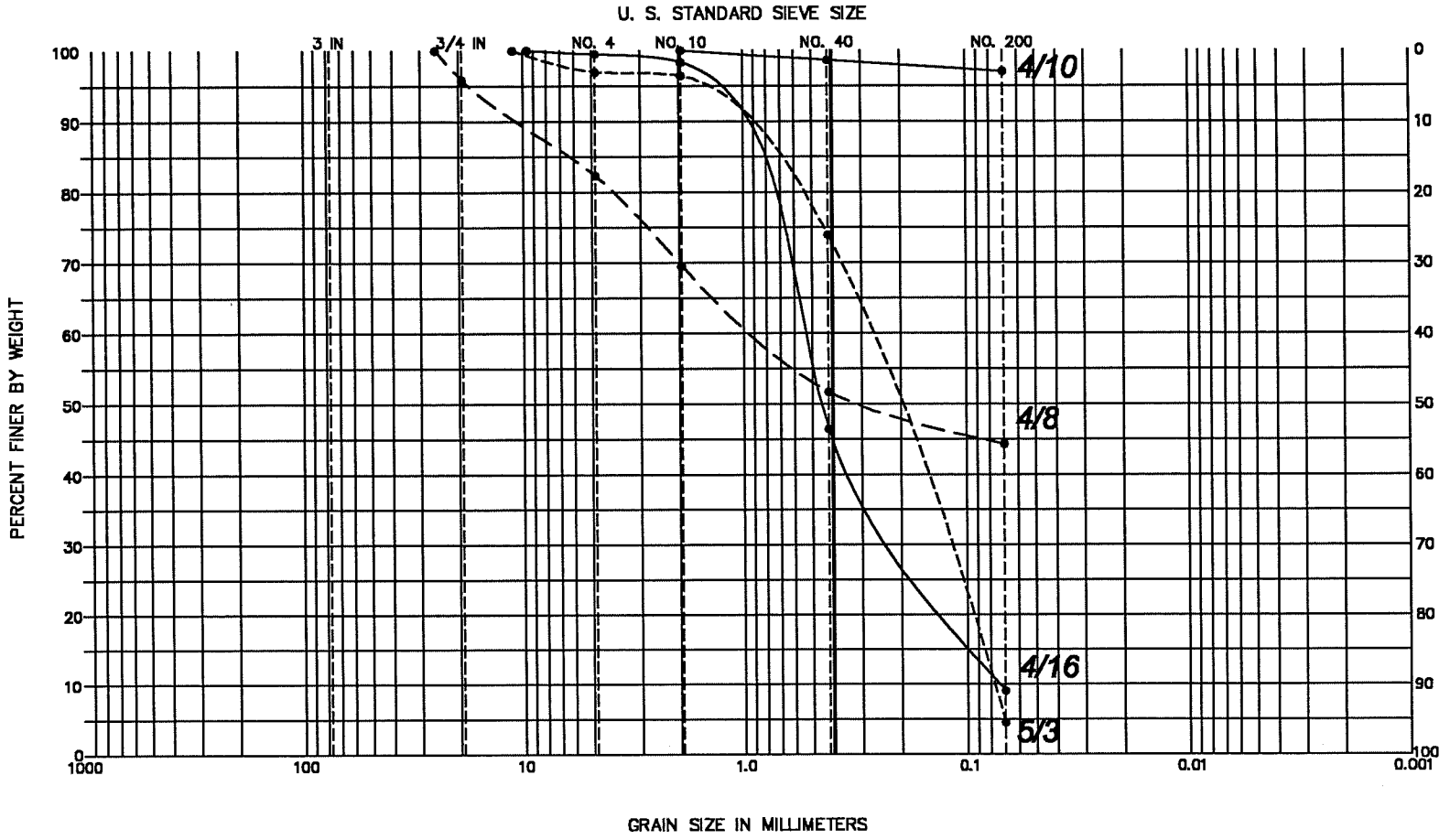

COBBLES	GRAVEL		SAND			SILT OR CLAY
	Coarse	Fine	Coarse	Medium	Fine	

Boring/Sample No.	Depth (ft.)	Classification	NatWC	LL	PL	PI	SE	MDD	OM
4/8	50.2–52.2	SC							
4/10	60.2–62.2	CL		41	22	19			
4/16	90.2–92.2	SW							
5/3	25.2–27.2	SP–SM							

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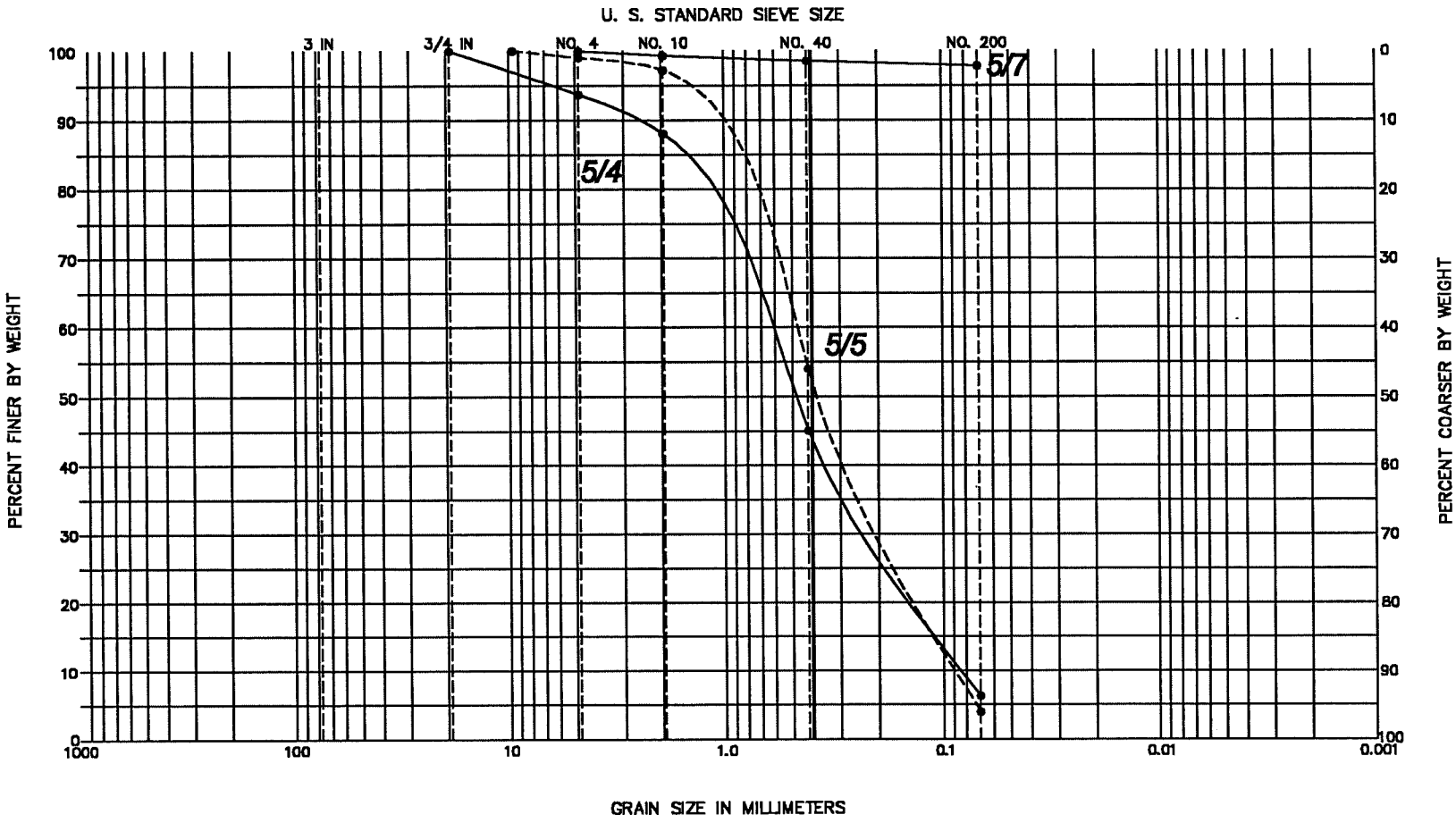

COBBLES	GRAVEL		SAND			SILT OR CLAY
	Coarse	Fine	Coarse	Medium	Fine	

Boring/ Sample No.	Depth (ft.)	Classification	NatWC	LL	PL	PI	SE	MDD	OM
5/4	30.2–32.2	SW–SM							
5/5	35.2–37.2	SP							
5/7	45.2–47.2	CH		58	22	36			

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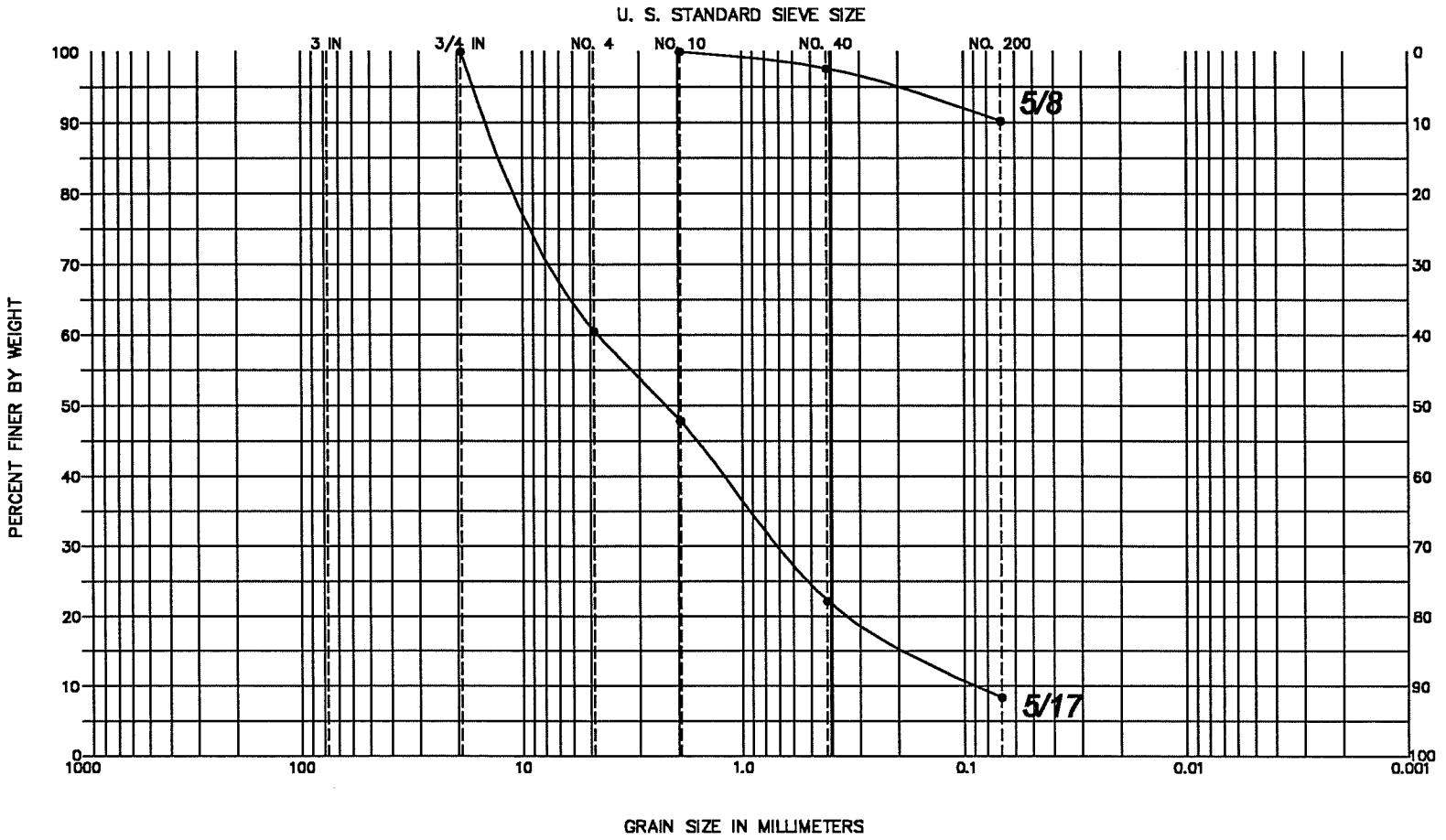

COBBLES	GRAVEL		SAND			SILT OR CLAY
	Coarse	Fine	Coarse	Medium	Fine	

Boring/ Sample No.	Depth (ft.)	Classification	NatWC	LL	PL	PI	SE	MDD	OM
5/8	50.2–52.2	CH		51	20	31			
5/17	100.2–101.7	SW–SM							

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Project Gonzales River Rd. @ Salinas River

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EMPIRICAL PREDICTION OF
EARTHQUAKE-INDUCED LIQUEFACTION POTENTIAL

JOB NUMBER: 1R2/396/122-1 DATE: Thursday, January 15, 1998

JOB NAME: Gonzalez River Rd at Salinas River

LIQUEFACTION CALCULATION NAME: Boring 1

SOIL-PROFILE NAME: slnsrvr1

GROUND WATER DEPTH: 27.3 ft

DESIGN EARTHQUAKE MAGNITUDE: 7.00

SITE PEAK GROUND ACCELERATION: 0.600 g

K sigma BOUND: M

rd BOUND: M

N60 CORRECTION: 1.00

FIELD SPT N-VALUES < 10 FT DEEP ARE CORRECTED FOR SHORT LENGTH OF DRIVE RODS

NOTE: Relative density values listed below are estimated using equations of Giuliani and Nicoll (1982).

LIQUEFACTION ANALYSIS SUMMARY

Seed and Others [1985] Method

SOIL NO.	CALC. DEPTH (ft)	TOTAL STRESS (tsf)	EFF. STRESS (tsf)	FIELD N (B/ft)	Est.D r (%)	C N	CORR. (N1)60 (B/ft)	LIQUE. STRESS RATIO	r d	INDUC. STRESS RATIO	LIQUE. SAFETY FACTOR
1	0.25	0.014	0.014	32	~	@	@	@	@	@	@ @
1	0.75	0.041	0.041	32	~	@	@	@	@	@	@ @
1	1.25	0.069	0.069	32	~	@	@	@	@	@	@ @
1	1.75	0.096	0.096	32	~	@	@	@	@	@	@ @
1	2.25	0.124	0.124	32	~	@	@	@	@	@	@ @
1	2.75	0.151	0.151	32	~	@	@	@	@	@	@ @
1	3.25	0.179	0.179	32	~	@	@	@	@	@	@ @
1	3.75	0.206	0.206	32	~	@	@	@	@	@	@ @
2	4.25	0.234	0.234	32	~	@	@	@	@	@	@ @
2	4.75	0.261	0.261	32	~	@	@	@	@	@	@ @
2	5.25	0.289	0.289	32	~	@	@	@	@	@	@ @
2	5.75	0.316	0.316	32	~	@	@	@	@	@	@ @
2	6.25	0.344	0.344	32	~	@	@	@	@	@	@ @
2	6.75	0.371	0.371	32	~	@	@	@	@	@	@ @
2	7.25	0.399	0.399	32	~	@	@	@	@	@	@ @
2	7.75	0.426	0.426	32	~	@	@	@	@	@	@ @
3	8.25	0.454	0.454	23	~	@	@	@	@	@	@ @
3	8.75	0.483	0.483	23	~	@	@	@	@	@	@ @
3	9.25	0.512	0.512	23	~	@	@	@	@	@	@ @
3	9.75	0.541	0.541	23	~	@	@	@	@	@	@ @
3	10.25	0.569	0.569	23	~	@	@	@	@	@	@ @
3	10.75	0.598	0.598	23	~	@	@	@	@	@	@ @
3	11.25	0.627	0.627	23	~	@	@	@	@	@	@ @
3	11.75	0.656	0.656	23	~	@	@	@	@	@	@ @
3	12.25	0.684	0.684	23	~	@	@	@	@	@	@ @
3	12.75	0.713	0.713	23	~	@	@	@	@	@	@ @
4	13.25	0.742	0.742	22	~	@	@	@	@	@	@ @
4	13.75	0.771	0.771	22	~	@	@	@	@	@	@ @
4	14.25	0.799	0.799	22	~	@	@	@	@	@	@ @
4	14.75	0.828	0.828	22	~	@	@	@	@	@	@ @
4	15.25	0.857	0.857	22	~	@	@	@	@	@	@ @
4	15.75	0.886	0.886	22	~	@	@	@	@	@	@ @
4	16.25	0.914	0.914	22	~	@	@	@	@	@	@ @
4	16.75	0.943	0.943	22	~	@	@	@	@	@	@ @
4	17.25	0.972	0.972	22	~	@	@	@	@	@	@ @
4	17.75	1.001	1.001	22	~	@	@	@	@	@	@ @
5	18.25	1.031	1.031	17	~	@	@	@	@	@	@ @
5	18.75	1.062	1.062	17	~	@	@	@	@	@	@ @
5	19.25	1.093	1.093	17	~	@	@	@	@	@	@ @
5	19.75	1.124	1.124	17	~	@	@	@	@	@	@ @
5	20.25	1.156	1.156	17	~	@	@	@	@	@	@ @
5	20.75	1.187	1.187	17	~	@	@	@	@	@	@ @
5	21.25	1.218	1.218	17	~	@	@	@	@	@	@ @
5	21.75	1.249	1.249	17	~	@	@	@	@	@	@ @
5	22.25	1.281	1.281	17	~	@	@	@	@	@	@ @
5	22.75	1.312	1.312	17	~	@	@	@	@	@	@ @

SOIL NO.	CALC. DEPTH (ft)	TOTAL STRESS (tsf)	EFF. STRESS (tsf)	FIELD N (B/ft)	Est.D r (%)	C N	CORR. (N1)60 (B/ft)	LIQUE. STRESS RATIO	r d	INDUC. STRESS RATIO	LIQUE. SAFETY FACTOR
6	23.25	1.342	1.342	6	~	@	@	@	@	@	@ @
6	23.75	1.370	1.370	6	~	@	@	@	@	@	@ @
6	24.25	1.398	1.398	6	~	@	@	@	@	@	@ @
6	24.75	1.426	1.426	6	~	@	@	@	@	@	@ @
6	25.25	1.454	1.454	6	~	@	@	@	@	@	@ @
6	25.75	1.482	1.482	6	~	@	@	@	@	@	@ @
6	26.25	1.510	1.510	6	~	@	@	@	@	@	@ @
6	26.75	1.538	1.538	6	~	@	@	@	@	@	@ @
6	27.25	1.566	1.566	6	~	@	@	@	@	@	@ @
6	27.75	1.594	1.578	6	~	~	~	~	~	~	~~
7	28.25	1.622	1.590	11	~	~	~	~	~	~	~~
7	28.75	1.650	1.603	11	~	~	~	~	~	~	~~
7	29.25	1.678	1.615	11	~	~	~	~	~	~	~~
7	29.75	1.706	1.628	11	~	~	~	~	~	~	~~
7	30.25	1.734	1.640	11	~	~	~	~	~	~	~~
7	30.75	1.762	1.652	11	~	~	~	~	~	~	~~
7	31.25	1.790	1.665	11	~	~	~	~	~	~	~~
7	31.75	1.818	1.677	11	~	~	~	~	~	~	~~
7	32.25	1.846	1.690	11	~	~	~	~	~	~	~~
7	32.75	1.874	1.702	11	~	~	~	~	~	~	~~
8	33.25	1.901	1.714	11	~	~	~	~	~	~	~~
8	33.75	1.929	1.726	11	~	~	~	~	~	~	~~
8	34.25	1.956	1.738	11	~	~	~	~	~	~	~~
8	34.75	1.984	1.750	11	~	~	~	~	~	~	~~
8	35.25	2.011	1.762	11	~	~	~	~	~	~	~~
8	35.75	2.039	1.774	11	~	~	~	~	~	~	~~
8	36.25	2.066	1.785	11	~	~	~	~	~	~	~~
8	36.75	2.094	1.797	11	~	~	~	~	~	~	~~
8	37.25	2.121	1.809	11	~	~	~	~	~	~	~~
8	37.75	2.149	1.821	11	~	~	~	~	~	~	~~
9	38.25	2.177	1.834	11	~	~	~	~	~	~	~~
9	38.75	2.207	1.848	11	~	~	~	~	~	~	~~
9	39.25	2.236	1.862	11	~	~	~	~	~	~	~~
9	39.75	2.266	1.876	11	~	~	~	~	~	~	~~
9	40.25	2.295	1.890	11	~	~	~	~	~	~	~~
9	40.75	2.325	1.904	11	~	~	~	~	~	~	~~
9	41.25	2.354	1.917	11	~	~	~	~	~	~	~~
9	41.75	2.384	1.931	11	~	~	~	~	~	~	~~
9	42.25	2.413	1.945	11	~	~	~	~	~	~	~~
9	42.75	2.443	1.959	11	~	~	~	~	~	~	~~
10	43.25	2.472	1.973	8	~	~	~	~	~	~	~~
10	43.75	2.502	1.987	8	~	~	~	~	~	~	~~
10	44.25	2.531	2.001	8	~	~	~	~	~	~	~~
10	44.75	2.561	2.015	8	~	~	~	~	~	~	~~
10	45.25	2.590	2.029	8	~	~	~	~	~	~	~~
10	45.75	2.620	2.043	8	~	~	~	~	~	~	~~
10	46.25	2.649	2.056	8	~	~	~	~	~	~	~~
10	46.75	2.679	2.070	8	~	~	~	~	~	~	~~
10	47.25	2.708	2.084	8	~	~	~	~	~	~	~~
10	47.75	2.738	2.098	8	~	~	~	~	~	~	~~
11	48.25	2.769	2.114	56	~	~	~	~	~	~	~~
11	48.75	2.801	2.130	56	~	~	~	~	~	~	~~
11	49.25	2.834	2.147	56	~	~	~	~	~	~	~~

SOIL NO.	CALC. DEPTH (ft)	TOTAL STRESS (tsf)	EFF. STRESS (tsf)	FIELD N (B/ft)	Est.D r (%)	C N	CORR. (N1)60 (B/ft)	LIQUE. STRESS RATIO	r d	INDUC. STRESS RATIO	LIQUE. SAFETY FACTOR
11	49.75	2.866	2.164	56	~	~	~	~	~	~	~~
11	50.25	2.899	2.181	56	~	~	~	~	~	~	~~
11	50.75	2.931	2.198	56	~	~	~	~	~	~	~~
11	51.25	2.964	2.215	56	~	~	~	~	~	~	~~
11	51.75	2.996	2.232	56	~	~	~	~	~	~	~~
11	52.25	3.029	2.249	56	~	~	~	~	~	~	~~
11	52.75	3.061	2.266	56	~	~	~	~	~	~	~~
12	53.25	3.094	2.283	80	~	~	~	~	~	~	~~
12	53.75	3.126	2.299	80	~	~	~	~	~	~	~~
12	54.25	3.159	2.316	80	~	~	~	~	~	~	~~
12	54.75	3.191	2.333	80	~	~	~	~	~	~	~~
12	55.25	3.224	2.350	80	~	~	~	~	~	~	~~
12	55.75	3.256	2.367	80	~	~	~	~	~	~	~~
12	56.25	3.289	2.384	80	~	~	~	~	~	~	~~
12	56.75	3.321	2.401	80	~	~	~	~	~	~	~~
12	57.25	3.354	2.418	80	~	~	~	~	~	~	~~
12	57.75	3.386	2.435	80	~	~	~	~	~	~	~~
13	58.25	3.419	2.452	48	~	~	~	~	~	~	~~
13	58.75	3.451	2.468	48	~	~	~	~	~	~	~~
13	59.25	3.484	2.485	48	~	~	~	~	~	~	~~
13	59.75	3.516	2.502	48	~	~	~	~	~	~	~~
13	60.25	3.549	2.519	48	~	~	~	~	~	~	~~
13	60.75	3.581	2.536	48	~	~	~	~	~	~	~~
13	61.25	3.614	2.553	48	~	~	~	~	~	~	~~
13	61.75	3.646	2.570	48	~	~	~	~	~	~	~~
13	62.25	3.679	2.587	48	~	~	~	~	~	~	~~
13	62.75	3.711	2.604	48	~	~	~	~	~	~	~~
14	63.25	3.744	2.621	47	~	~	~	~	~	~	~~
14	63.75	3.776	2.637	47	~	~	~	~	~	~	~~
14	64.25	3.809	2.654	47	~	~	~	~	~	~	~~
14	64.75	3.841	2.671	47	~	~	~	~	~	~	~~
14	65.25	3.874	2.688	47	~	~	~	~	~	~	~~
14	65.75	3.906	2.705	47	~	~	~	~	~	~	~~
14	66.25	3.939	2.722	47	~	~	~	~	~	~	~~
14	66.75	3.971	2.739	47	~	~	~	~	~	~	~~
14	67.25	4.004	2.756	47	~	~	~	~	~	~	~~
14	67.75	4.036	2.773	47	~	~	~	~	~	~	~~
15	68.25	4.068	2.788	20	50	0.552	11.0	0.182	0.603	0.343	0.53
15	68.75	4.098	2.803	20	50	0.552	11.0	0.182	0.600	0.342	0.53
15	69.25	4.128	2.817	20	50	0.552	11.0	0.182	0.597	0.341	0.53
15	69.75	4.158	2.832	20	50	0.552	11.0	0.181	0.595	0.340	0.53
15	70.25	4.188	2.846	20	50	0.552	11.0	0.181	0.592	0.340	0.53
15	70.75	4.218	2.860	20	50	0.552	11.0	0.181	0.589	0.339	0.53
15	71.25	4.248	2.875	20	50	0.552	11.0	0.181	0.587	0.338	0.54
15	71.75	4.278	2.889	20	50	0.552	11.0	0.181	0.584	0.338	0.54
15	72.25	4.308	2.904	20	50	0.552	11.0	0.180	0.582	0.337	0.54
15	72.75	4.338	2.918	20	50	0.552	11.0	0.180	0.580	0.336	0.54
16	73.25	4.368	2.932	22	51	0.534	11.8	0.188	0.577	0.335	0.56
16	73.75	4.398	2.947	22	51	0.534	11.8	0.188	0.575	0.334	0.56
16	74.25	4.428	2.961	22	51	0.534	11.8	0.188	0.572	0.334	0.56
16	74.75	4.458	2.976	22	51	0.534	11.8	0.188	0.570	0.333	0.56
16	75.25	4.488	2.990	22	51	0.534	11.8	0.187	0.568	0.332	0.56
16	75.75	4.518	3.004	22	51	0.534	11.8	0.187	0.566	0.332	0.57

SOIL NO.	CALC. DEPTH (ft)	TOTAL STRESS (tsf)	EFF. STRESS (tsf)	FIELD N (B/ft)	Est.D r (%)	C N	CORR. (N1)60 (B/ft)	LIQUE. STRESS RATIO	r d	INDUC. STRESS RATIO	LIQUE. SAFETY FACTOR
16	76.25	4.548	3.019	22	51	0.534	11.8	0.187	0.564	0.331	0.57
16	76.75	4.578	3.033	22	51	0.534	11.8	0.187	0.562	0.331	0.57
16	77.25	4.608	3.048	22	51	0.534	11.8	0.187	0.560	0.330	0.57
16	77.75	4.638	3.062	22	51	0.534	11.8	0.186	0.558	0.330	0.57

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EMPIRICAL PREDICTION OF
EARTHQUAKE-INDUCED LIQUEFACTION POTENTIAL

JOB NUMBER: 1R2/396/122-1 DATE: Thursday, January 15, 1998

JOB NAME: Gonzalez River Rd at Salinas River

LIQUEFACTION CALCULATION NAME: Boring 2

SOIL-PROFILE NAME: slnsrvr2

GROUND WATER DEPTH: 17.2 ft

DESIGN EARTHQUAKE MAGNITUDE: 7.00

SITE PEAK GROUND ACCELERATION: 0.600 g

K sigma BOUND: M

rd BOUND: M

N60 CORRECTION: 1.00

FIELD SPT N-VALUES < 10 FT DEEP ARE CORRECTED FOR SHORT LENGTH OF DRIVE RODS

NOTE: Relative density values listed below are estimated using equations of Giuliani and Nicoll (1982).

LIQUEFACTION ANALYSIS SUMMARY

Seed and Others [1985] Method

SOIL NO.	CALC. DEPTH (ft)	TOTAL STRESS (tsf)	EFF. STRESS (tsf)	FIELD N (B/ft)	Est.D r (%)	C N	CORR. (N1)60 (B/ft)	LIQUE. STRESS RATIO	r d	INDUC. STRESS RATIO	LIQUE. SAFETY FACTOR
1	0.25	0.015	0.015	33	~	@	@	@	@	@	@ @
1	0.75	0.045	0.045	33	~	@	@	@	@	@	@ @
1	1.25	0.075	0.075	33	~	@	@	@	@	@	@ @
1	1.75	0.105	0.105	33	~	@	@	@	@	@	@ @
1	2.25	0.135	0.135	33	~	@	@	@	@	@	@ @
1	2.75	0.165	0.165	33	~	@	@	@	@	@	@ @
1	3.25	0.195	0.195	33	~	@	@	@	@	@	@ @
1	3.75	0.225	0.225	33	~	@	@	@	@	@	@ @
2	4.25	0.255	0.255	33	~	@	@	@	@	@	@ @
2	4.75	0.285	0.285	33	~	@	@	@	@	@	@ @
2	5.25	0.315	0.315	33	~	@	@	@	@	@	@ @
2	5.75	0.345	0.345	33	~	@	@	@	@	@	@ @
2	6.25	0.375	0.375	33	~	@	@	@	@	@	@ @
2	6.75	0.405	0.405	33	~	@	@	@	@	@	@ @
2	7.25	0.435	0.435	33	~	@	@	@	@	@	@ @
2	7.75	0.465	0.465	33	~	@	@	@	@	@	@ @
2	8.25	0.495	0.495	33	~	@	@	@	@	@	@ @
2	8.75	0.525	0.525	33	~	@	@	@	@	@	@ @
3	9.25	0.554	0.554	42	~	@	@	@	@	@	@ @
3	9.75	0.583	0.583	42	~	@	@	@	@	@	@ @
3	10.25	0.612	0.612	42	~	@	@	@	@	@	@ @
3	10.75	0.641	0.641	42	~	@	@	@	@	@	@ @
3	11.25	0.669	0.669	42	~	@	@	@	@	@	@ @
3	11.75	0.698	0.698	42	~	@	@	@	@	@	@ @
3	12.25	0.727	0.727	42	~	@	@	@	@	@	@ @
3	12.75	0.756	0.756	42	~	@	@	@	@	@	@ @
3	13.25	0.784	0.784	42	~	@	@	@	@	@	@ @
3	13.75	0.813	0.813	42	~	@	@	@	@	@	@ @
4	14.25	0.843	0.843	34	~	@	@	@	@	@	@ @
4	14.75	0.873	0.873	34	~	@	@	@	@	@	@ @
4	15.25	0.903	0.903	34	~	@	@	@	@	@	@ @
4	15.75	0.933	0.933	34	~	@	@	@	@	@	@ @
4	16.25	0.963	0.963	34	~	@	@	@	@	@	@ @
4	16.75	0.993	0.993	34	~	@	@	@	@	@	@ @
4	17.25	1.023	1.015	34	~	~	~	~	~	~	~~
4	17.75	1.053	1.029	34	~	~	~	~	~	~	~~
4	18.25	1.083	1.044	34	~	~	~	~	~	~	~~
4	18.75	1.113	1.058	34	~	~	~	~	~	~	~~
5	19.25	1.143	1.073	31	80	0.951	29.5	Infin	0.959	0.399	Infin
5	19.75	1.174	1.089	31	80	0.951	29.5	Infin	0.958	0.403	Infin
5	20.25	1.206	1.104	31	80	0.951	29.5	Infin	0.957	0.407	Infin
5	20.75	1.237	1.120	31	80	0.951	29.5	Infin	0.955	0.411	Infin
5	21.25	1.268	1.136	31	80	0.951	29.5	Infin	0.954	0.415	Infin
5	21.75	1.299	1.151	31	80	0.951	29.5	Infin	0.952	0.419	Infin
5	22.25	1.331	1.167	31	80	0.951	29.5	Infin	0.951	0.423	Infin
5	22.75	1.362	1.183	31	80	0.951	29.5	Infin	0.949	0.426	Infin

SOIL NO.	CALC. DEPTH (ft)	TOTAL STRESS (tsf)	EFF. STRESS (tsf)	FIELD N (B/ft)	Est.D r (%)	C N	CORR. (N1)60 (B/ft)	LIQUE. STRESS RATIO	r d	INDUC. STRESS RATIO	LIQUE. SAFETY FACTOR
5	23.25	1.393	1.198	31	80	0.951	29.5	Infin	0.947	0.430	Infin
5	23.75	1.424	1.214	31	80	0.951	29.5	Infin	0.946	0.433	Infin
6	24.25	1.456	1.229	16	56	0.881	14.1	0.182	0.944	0.436	0.42
6	24.75	1.487	1.245	16	56	0.881	14.1	0.182	0.943	0.439	0.41
6	25.25	1.518	1.261	16	56	0.881	14.1	0.182	0.941	0.442	0.41
6	25.75	1.549	1.276	16	56	0.881	14.1	0.181	0.939	0.444	0.41
6	26.25	1.581	1.292	16	56	0.881	14.1	0.181	0.937	0.447	0.41
6	26.75	1.612	1.308	16	56	0.881	14.1	0.181	0.934	0.449	0.40
6	27.25	1.643	1.323	16	56	0.881	14.1	0.181	0.932	0.451	0.40
6	27.75	1.674	1.339	16	56	0.881	14.1	0.181	0.930	0.454	0.40
6	28.25	1.706	1.355	16	56	0.881	14.1	0.181	0.928	0.456	0.40
6	28.75	1.737	1.370	16	56	0.881	14.1	0.181	0.926	0.458	0.40
7	29.25	1.768	1.385	11	~	~	~	~	~	~	~~
7	29.75	1.798	1.400	11	~	~	~	~	~	~	~~
7	30.25	1.828	1.414	11	~	~	~	~	~	~	~~
7	30.75	1.858	1.429	11	~	~	~	~	~	~	~~
7	31.25	1.888	1.443	11	~	~	~	~	~	~	~~
7	31.75	1.918	1.457	11	~	~	~	~	~	~	~~
7	32.25	1.948	1.472	11	~	~	~	~	~	~	~~
7	32.75	1.978	1.486	11	~	~	~	~	~	~	~~
7	33.25	2.008	1.501	11	~	~	~	~	~	~	~~
7	33.75	2.038	1.515	11	~	~	~	~	~	~	~~
8	34.25	2.068	1.529	9	~	~	~	~	~	~	~~
8	34.75	2.098	1.544	9	~	~	~	~	~	~	~~
8	35.25	2.128	1.558	9	~	~	~	~	~	~	~~
8	35.75	2.158	1.573	9	~	~	~	~	~	~	~~
8	36.25	2.188	1.587	9	~	~	~	~	~	~	~~
8	36.75	2.218	1.601	9	~	~	~	~	~	~	~~
8	37.25	2.248	1.616	9	~	~	~	~	~	~	~~
8	37.75	2.278	1.630	9	~	~	~	~	~	~	~~
8	38.25	2.308	1.645	9	~	~	~	~	~	~	~~
8	38.75	2.338	1.659	9	~	~	~	~	~	~	~~
9	39.25	2.368	1.674	18	55	0.745	13.4	0.225	0.858	0.474	0.48
9	39.75	2.399	1.690	18	55	0.745	13.4	0.225	0.855	0.473	0.48
9	40.25	2.431	1.705	18	55	0.745	13.4	0.225	0.850	0.473	0.48
9	40.75	2.462	1.721	18	55	0.745	13.4	0.224	0.845	0.472	0.48
9	41.25	2.493	1.737	18	55	0.745	13.4	0.224	0.840	0.471	0.48
9	41.75	2.524	1.752	18	55	0.745	13.4	0.224	0.836	0.470	0.48
9	42.25	2.556	1.768	18	55	0.745	13.4	0.224	0.831	0.468	0.48
9	42.75	2.587	1.784	18	55	0.745	13.4	0.224	0.826	0.467	0.48
9	43.25	2.618	1.799	18	55	0.745	13.4	0.223	0.821	0.466	0.48
9	43.75	2.649	1.815	18	55	0.745	13.4	0.223	0.816	0.465	0.48
10	44.25	2.679	1.829	10	~	~	~	~	~	~	~~
10	44.75	2.708	1.842	10	~	~	~	~	~	~	~~
10	45.25	2.737	1.856	10	~	~	~	~	~	~	~~
10	45.75	2.766	1.869	10	~	~	~	~	~	~	~~
10	46.25	2.794	1.882	10	~	~	~	~	~	~	~~
10	46.75	2.823	1.895	10	~	~	~	~	~	~	~~
10	47.25	2.852	1.908	10	~	~	~	~	~	~	~~
10	47.75	2.881	1.921	10	~	~	~	~	~	~	~~
10	48.25	2.909	1.934	10	~	~	~	~	~	~	~~
10	48.75	2.938	1.948	10	~	~	~	~	~	~	~~
11	49.25	2.967	1.961	10	~	~	~	~	~	~	~~

SOIL NO.	CALC. DEPTH (ft)	TOTAL STRESS (tsf)	EFF. STRESS (tsf)	FIELD N (B/ft)	Est.D r (%)	C N	CORR. (N1)60 (B/ft)	LIQUE. STRESS RATIO	r d	INDUC. STRESS RATIO	LIQUE. SAFETY FACTOR
11	49.75	2.996	1.974	10	~	~	~	~	~	~	~~
11	50.25	3.024	1.987	10	~	~	~	~	~	~	~~
11	50.75	3.053	2.000	10	~	~	~	~	~	~	~~
11	51.25	3.082	2.013	10	~	~	~	~	~	~	~~
11	51.75	3.111	2.026	10	~	~	~	~	~	~	~~
11	52.25	3.139	2.040	10	~	~	~	~	~	~	~~
11	52.75	3.168	2.053	10	~	~	~	~	~	~	~~
11	53.25	3.197	2.066	10	~	~	~	~	~	~	~~
11	53.75	3.226	2.079	10	~	~	~	~	~	~	~~
12	54.25	3.254	2.092	15	~	~	~	~	~	~	~~
12	54.75	3.283	2.105	15	~	~	~	~	~	~	~~
12	55.25	3.312	2.119	15	~	~	~	~	~	~	~~
12	55.75	3.341	2.132	15	~	~	~	~	~	~	~~
12	56.25	3.369	2.145	15	~	~	~	~	~	~	~~
12	56.75	3.398	2.158	15	~	~	~	~	~	~	~~
12	57.25	3.427	2.171	15	~	~	~	~	~	~	~~
12	57.75	3.456	2.184	15	~	~	~	~	~	~	~~
12	58.25	3.484	2.197	15	~	~	~	~	~	~	~~
12	58.75	3.513	2.211	15	~	~	~	~	~	~	~~
13	59.25	3.543	2.224	31	66	0.699	21.7	0.321	0.666	0.414	0.78
13	59.75	3.573	2.239	31	66	0.699	21.7	0.321	0.661	0.412	0.78
13	60.25	3.603	2.253	31	66	0.699	21.7	0.320	0.657	0.410	0.78
13	60.75	3.633	2.268	31	66	0.699	21.7	0.320	0.654	0.408	0.78
13	61.25	3.663	2.282	31	66	0.699	21.7	0.320	0.650	0.407	0.79
13	61.75	3.693	2.296	31	66	0.699	21.7	0.319	0.646	0.405	0.79
13	62.25	3.723	2.311	31	66	0.699	21.7	0.319	0.643	0.404	0.79
13	62.75	3.753	2.325	31	66	0.699	21.7	0.319	0.639	0.402	0.79
13	63.25	3.783	2.340	31	66	0.699	21.7	0.318	0.635	0.401	0.80
13	63.75	3.813	2.354	31	66	0.699	21.7	0.318	0.632	0.399	0.80
14	64.25	3.843	2.369	33	67	0.678	22.4	0.335	0.628	0.397	0.84
14	64.75	3.874	2.385	33	67	0.678	22.4	0.334	0.624	0.396	0.85
14	65.25	3.906	2.400	33	67	0.678	22.4	0.334	0.621	0.394	0.85
14	65.75	3.937	2.416	33	67	0.678	22.4	0.334	0.618	0.393	0.85
14	66.25	3.968	2.432	33	67	0.678	22.4	0.333	0.615	0.392	0.85
14	66.75	3.999	2.447	33	67	0.678	22.4	0.333	0.612	0.390	0.85
14	67.25	4.031	2.463	33	67	0.678	22.4	0.332	0.609	0.389	0.86
14	67.75	4.062	2.479	33	67	0.678	22.4	0.332	0.606	0.388	0.86
14	68.25	4.093	2.494	33	67	0.678	22.4	0.332	0.603	0.386	0.86
14	68.75	4.124	2.510	33	67	0.678	22.4	0.331	0.600	0.385	0.86
15	69.25	4.155	2.525	37	70	0.656	24.3	0.400	0.597	0.383	1.04
15	69.75	4.186	2.540	37	70	0.656	24.3	0.399	0.595	0.382	1.05
15	70.25	4.217	2.556	37	70	0.656	24.3	0.399	0.592	0.381	1.05
15	70.75	4.248	2.571	37	70	0.656	24.3	0.398	0.589	0.380	1.05
15	71.25	4.278	2.586	37	70	0.656	24.3	0.398	0.587	0.379	1.05
15	71.75	4.309	2.601	37	70	0.656	24.3	0.397	0.584	0.378	1.05
15	72.25	4.340	2.616	37	70	0.656	24.3	0.397	0.582	0.377	1.05
15	72.75	4.371	2.631	37	70	0.656	24.3	0.396	0.580	0.375	1.06
15	73.25	4.401	2.646	37	70	0.656	24.3	0.396	0.577	0.374	1.06
15	73.75	4.432	2.662	37	70	0.656	24.3	0.396	0.575	0.373	1.06

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* L I Q U E F Y 2 *
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*  Version 1.20  *
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EMPIRICAL PREDICTION OF
EARTHQUAKE-INDUCED LIQUEFACTION POTENTIAL

JOB NUMBER: 1R2/396/122-1 DATE: Thursday, January 15, 1998

JOB NAME: Gonzalez River Rd at Salinas River

LIQUEFACTION CALCULATION NAME: Boring 3

SOIL-PROFILE NAME: slnsrvr3

GROUND WATER DEPTH: 2.0 ft

DESIGN EARTHQUAKE MAGNITUDE: 7.00

SITE PEAK GROUND ACCELERATION: 0.600 g

K sigma BOUND: M

rd BOUND: M

N60 CORRECTION: 1.00

FIELD SPT N-VALUES < 10 FT DEEP ARE NOT CORRECTED FOR SHORT LENGTH OF DRIVE RODS

NOTE: Relative density values listed below are estimated using equations of Giuliani and Nicoll (1982).

LIQUEFACTION ANALYSIS SUMMARY

Seed and Others [1985] Method

SOIL NO.	CALC. DEPTH (ft)	TOTAL STRESS (tsf)	EFF. STRESS (tsf)	FIELD N (B/ft)	Est.D r (%)	C N	CORR. (N1)60 (B/ft)	LIQUE. STRESS RATIO	r d	INDUC. STRESS RATIO	LIQUE. SAFETY FACTOR
1	0.25	0.015	0.015	7	54	@	@	@	@	@	@ @
1	0.75	0.046	0.046	7	54	@	@	@	@	@	@ @
1	1.25	0.076	0.076	7	54	@	@	@	@	@	@ @
1	1.75	0.107	0.107	7	54	@	@	@	@	@	@ @
1	2.25	0.137	0.129	7	54	2.000	14.0	0.167	0.996	0.412	0.41
1	2.75	0.168	0.144	7	54	2.000	14.0	0.167	0.995	0.451	0.37
1	3.25	0.198	0.159	7	54	2.000	14.0	0.167	0.994	0.482	0.35
1	3.75	0.229	0.174	7	54	2.000	14.0	0.167	0.993	0.508	0.33
1	4.25	0.259	0.189	7	54	2.000	14.0	0.167	0.992	0.530	0.32
1	4.75	0.290	0.204	7	54	2.000	14.0	0.167	0.991	0.549	0.30
2	5.25	0.320	0.219	7	49	1.886	13.2	0.157	0.990	0.565	0.28
2	5.75	0.351	0.234	7	49	1.886	13.2	0.157	0.988	0.578	0.27
2	6.25	0.381	0.249	7	49	1.886	13.2	0.157	0.987	0.590	0.27
2	6.75	0.412	0.264	7	49	1.886	13.2	0.157	0.986	0.601	0.26
2	7.25	0.442	0.278	7	49	1.886	13.2	0.157	0.985	0.610	0.26
2	7.75	0.473	0.293	7	49	1.886	13.2	0.157	0.984	0.619	0.25
2	8.25	0.503	0.308	7	49	1.886	13.2	0.157	0.983	0.626	0.25
2	8.75	0.534	0.323	7	49	1.886	13.2	0.157	0.982	0.633	0.25
2	9.25	0.564	0.338	7	49	1.886	13.2	0.157	0.981	0.639	0.25
2	9.75	0.595	0.353	7	49	1.886	13.2	0.157	0.980	0.644	0.24
3	10.25	0.626	0.368	29	94	1.476	42.8	Infin	0.979	0.649	Infin
3	10.75	0.657	0.384	29	94	1.476	42.8	Infin	0.978	0.653	Infin
3	11.25	0.688	0.400	29	94	1.476	42.8	Infin	0.977	0.656	Infin
3	11.75	0.719	0.415	29	94	1.476	42.8	Infin	0.976	0.659	Infin
3	12.25	0.751	0.431	29	94	1.476	42.8	Infin	0.975	0.662	Infin
3	12.75	0.782	0.447	29	94	1.476	42.8	Infin	0.974	0.665	Infin
3	13.25	0.813	0.462	29	94	1.476	42.8	Infin	0.972	0.667	Infin
3	13.75	0.844	0.478	29	94	1.476	42.8	Infin	0.971	0.669	Infin
3	14.25	0.876	0.493	29	94	1.476	42.8	Infin	0.970	0.671	Infin
3	14.75	0.907	0.509	29	94	1.476	42.8	Infin	0.969	0.673	Infin
4	15.25	0.940	0.526	13	61	1.348	17.5	0.209	0.968	0.674	0.31
4	15.75	0.974	0.545	13	61	1.348	17.5	0.209	0.967	0.674	0.31
4	16.25	1.008	0.564	13	61	1.348	17.5	0.209	0.966	0.674	0.31
4	16.75	1.042	0.582	13	61	1.348	17.5	0.209	0.965	0.674	0.31
4	17.25	1.077	0.601	13	61	1.348	17.5	0.209	0.964	0.673	0.31
4	17.75	1.111	0.620	13	61	1.348	17.5	0.209	0.963	0.673	0.31
4	18.25	1.145	0.638	13	61	1.348	17.5	0.209	0.961	0.673	0.31
4	18.75	1.179	0.657	13	61	1.348	17.5	0.209	0.960	0.673	0.31
4	19.25	1.214	0.675	13	61	1.348	17.5	0.209	0.959	0.672	0.31
4	19.75	1.248	0.694	13	61	1.348	17.5	0.209	0.958	0.672	0.31
5	20.25	1.282	0.713	18	66	1.129	20.3	0.264	0.957	0.671	0.39
5	20.75	1.317	0.732	18	66	1.129	20.3	0.264	0.955	0.670	0.39
5	21.25	1.351	0.751	18	66	1.129	20.3	0.264	0.954	0.670	0.39
5	21.75	1.386	0.770	18	66	1.129	20.3	0.264	0.952	0.669	0.39
5	22.25	1.420	0.788	18	66	1.129	20.3	0.264	0.951	0.668	0.40
5	22.75	1.455	0.807	18	66	1.129	20.3	0.264	0.949	0.667	0.40

SOIL NO.	CALC. DEPTH (ft)	TOTAL STRESS (tsf)	EFF. STRESS (tsf)	FIELD N (B/ft)	Est.D r (%)	C N	CORR. (N1)60 (B/ft)	LIQUE. STRESS RATIO	r d	INDUC. STRESS RATIO	LIQUE. SAFETY FACTOR
5	23.25	1.489	0.826	18	66	1.129	20.3	0.264	0.947	0.666	0.40
5	23.75	1.524	0.845	18	66	1.129	20.3	0.264	0.946	0.665	0.40
5	24.25	1.558	0.864	18	66	1.129	20.3	0.264	0.944	0.664	0.40
5	24.75	1.593	0.883	18	66	1.129	20.3	0.264	0.943	0.663	0.40
6	25.25	1.624	0.899	40	~	~	~	~	~	~	~~
6	25.75	1.653	0.912	40	~	~	~	~	~	~	~~
6	26.25	1.681	0.925	40	~	~	~	~	~	~	~~
6	26.75	1.710	0.938	40	~	~	~	~	~	~	~~
6	27.25	1.738	0.950	40	~	~	~	~	~	~	~~
6	27.75	1.767	0.963	40	~	~	~	~	~	~	~~
6	28.25	1.795	0.976	40	~	~	~	~	~	~	~~
6	28.75	1.824	0.989	40	~	~	~	~	~	~	~~
6	29.25	1.852	1.002	40	~	~	~	~	~	~	~~
6	29.75	1.881	1.015	40	~	~	~	~	~	~	~~
7	30.25	1.911	1.029	16	~	~	~	~	~	~	~~
7	30.75	1.942	1.045	16	~	~	~	~	~	~	~~
7	31.25	1.973	1.061	16	~	~	~	~	~	~	~~
7	31.75	2.004	1.076	16	~	~	~	~	~	~	~~
7	32.25	2.036	1.092	16	~	~	~	~	~	~	~~
7	32.75	2.067	1.108	16	~	~	~	~	~	~	~~
7	33.25	2.098	1.123	16	~	~	~	~	~	~	~~
7	33.75	2.129	1.139	16	~	~	~	~	~	~	~~
8	34.25	2.161	1.154	65	~	~	~	~	~	~	~~
8	34.75	2.192	1.170	65	~	~	~	~	~	~	~~
8	35.25	2.223	1.186	65	~	~	~	~	~	~	~~
8	35.75	2.254	1.201	65	~	~	~	~	~	~	~~
8	36.25	2.286	1.217	65	~	~	~	~	~	~	~~
8	36.75	2.317	1.233	65	~	~	~	~	~	~	~~
8	37.25	2.348	1.248	65	~	~	~	~	~	~	~~
8	37.75	2.379	1.264	65	~	~	~	~	~	~	~~
9	38.25	2.411	1.280	30	~	~	~	~	~	~	~~
9	38.75	2.442	1.295	30	~	~	~	~	~	~	~~
9	39.25	2.473	1.311	30	~	~	~	~	~	~	~~
9	39.75	2.504	1.327	30	~	~	~	~	~	~	~~
9	40.25	2.536	1.342	30	~	~	~	~	~	~	~~
9	40.75	2.567	1.358	30	~	~	~	~	~	~	~~
9	41.25	2.598	1.374	30	~	~	~	~	~	~	~~
9	41.75	2.629	1.389	30	~	~	~	~	~	~	~~
9	42.25	2.661	1.405	30	~	~	~	~	~	~	~~
9	42.75	2.692	1.421	30	~	~	~	~	~	~	~~
10	43.25	2.723	1.436	22	63	0.848	18.7	0.218	0.821	0.607	0.36
10	43.75	2.754	1.452	22	63	0.848	18.7	0.218	0.816	0.604	0.36
10	44.25	2.786	1.467	22	63	0.848	18.7	0.218	0.811	0.601	0.36
10	44.75	2.817	1.483	22	63	0.848	18.7	0.218	0.806	0.597	0.37
10	45.25	2.848	1.499	22	63	0.848	18.7	0.218	0.801	0.594	0.37
10	45.75	2.879	1.514	22	63	0.848	18.7	0.218	0.796	0.591	0.37
10	46.25	2.911	1.530	22	63	0.848	18.7	0.217	0.791	0.587	0.37
10	46.75	2.942	1.546	22	63	0.848	18.7	0.217	0.786	0.583	0.37
11	47.25	2.973	1.561	82	~	~	~	~	~	~	~~
11	47.75	3.004	1.577	82	~	~	~	~	~	~	~~
11	48.25	3.036	1.593	82	~	~	~	~	~	~	~~
11	48.75	3.067	1.608	82	~	~	~	~	~	~	~~
11	49.25	3.098	1.624	82	~	~	~	~	~	~	~~

SOIL NO.	CALC. DEPTH (ft)	TOTAL STRESS (tsf)	EFF. STRESS (tsf)	FIELD N (B/ft)	Est.D r (%)	C N	CORR. (N1)60 (B/ft)	LIQUE. STRESS RATIO	r d	INDUC. STRESS RATIO	LIQUE. SAFETY FACTOR
11	49.75	3.129	1.640	82	~	~	~	~	~	~	~~
11	50.25	3.161	1.655	82	~	~	~	~	~	~	~~
11	50.75	3.192	1.671	82	~	~	~	~	~	~	~~
11	51.25	3.223	1.687	82	~	~	~	~	~	~	~~
11	51.75	3.254	1.702	82	~	~	~	~	~	~	~~

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* L I Q U E F Y 2 *
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EMPIRICAL PREDICTION OF
EARTHQUAKE-INDUCED LIQUEFACTION POTENTIAL

JOB NUMBER: 1R2/396/122-1 DATE: Thursday, January 15, 1998

JOB NAME: Gonzalez River Rd at Salinas River

LIQUEFACTION CALCULATION NAME: Boring 4

SOIL-PROFILE NAME: slnsrvr4

GROUND WATER DEPTH: 5.0 ft

DESIGN EARTHQUAKE MAGNITUDE: 7.00

SITE PEAK GROUND ACCELERATION: 0.600 g

K sigma BOUND: M

rd BOUND: M

N60 CORRECTION: 1.00

FIELD SPT N-VALUES < 10 FT DEEP ARE NOT CORRECTED FOR SHORT LENGTH OF DRIVE RODS

NOTE: Relative density values listed below are estimated using equations of Giuliani and Nicoll (1982).

LIQUEFACTION ANALYSIS SUMMARY

Seed and Others [1985] Method

SOIL NO.	CALC. DEPTH (ft)	TOTAL STRESS (tsf)	EFF. STRESS (tsf)	FIELD N (B/ft)	Est.D r (%)	C N	CORR. (N1)60 (B/ft)	LIQUE. STRESS RATIO	r d	INDUC. STRESS RATIO	LIQUE. SAFETY FACTOR
1	0.25	0.011	0.011	6	~	@	@	@	@	@	@ @
1	0.75	0.033	0.033	6	~	@	@	@	@	@	@ @
1	1.25	0.055	0.055	6	~	@	@	@	@	@	@ @
1	1.75	0.077	0.077	6	~	@	@	@	@	@	@ @
1	2.25	0.099	0.099	6	~	@	@	@	@	@	@ @
1	2.75	0.121	0.121	6	~	@	@	@	@	@	@ @
1	3.25	0.143	0.143	6	~	@	@	@	@	@	@ @
1	3.75	0.165	0.165	6	~	@	@	@	@	@	@ @
2	4.25	0.191	0.191	26	95	@	@	@	@	@	@ @
2	4.75	0.221	0.221	26	95	@	@	@	@	@	@ @
2	5.25	0.251	0.243	26	95	1.912	49.7	Infin	0.990	0.398	Infin
2	5.75	0.281	0.258	26	95	1.912	49.7	Infin	0.988	0.421	Infin
2	6.25	0.311	0.272	26	95	1.912	49.7	Infin	0.987	0.440	Infin
2	6.75	0.341	0.286	26	95	1.912	49.7	Infin	0.986	0.458	Infin
2	7.25	0.371	0.301	26	95	1.912	49.7	Infin	0.985	0.474	Infin
2	7.75	0.401	0.315	26	95	1.912	49.7	Infin	0.984	0.488	Infin
3	8.25	0.432	0.330	15	68	1.486	22.3	0.270	0.983	0.501	0.54
3	8.75	0.463	0.346	15	68	1.486	22.3	0.270	0.982	0.513	0.53
3	9.25	0.494	0.362	15	68	1.486	22.3	0.270	0.981	0.523	0.52
3	9.75	0.525	0.377	15	68	1.486	22.3	0.270	0.980	0.532	0.51
3	10.25	0.557	0.393	15	68	1.486	22.3	0.270	0.979	0.541	0.50
3	10.75	0.588	0.409	15	68	1.486	22.3	0.270	0.978	0.549	0.49
3	11.25	0.619	0.424	15	68	1.486	22.3	0.270	0.977	0.556	0.49
3	11.75	0.650	0.440	15	68	1.486	22.3	0.270	0.976	0.563	0.48
3	12.25	0.682	0.455	15	68	1.486	22.3	0.270	0.975	0.569	0.47
3	12.75	0.713	0.471	15	68	1.486	22.3	0.270	0.974	0.575	0.47
4	13.25	0.744	0.487	26	85	1.303	33.9	Infin	0.972	0.580	Infin
4	13.75	0.775	0.502	26	85	1.303	33.9	Infin	0.971	0.585	Infin
4	14.25	0.806	0.517	26	85	1.303	33.9	Infin	0.970	0.589	Infin
4	14.75	0.837	0.533	26	85	1.303	33.9	Infin	0.969	0.594	Infin
4	15.25	0.868	0.548	26	85	1.303	33.9	Infin	0.968	0.598	Infin
4	15.75	0.899	0.564	26	85	1.303	33.9	Infin	0.967	0.602	Infin
4	16.25	0.930	0.579	26	85	1.303	33.9	Infin	0.966	0.605	Infin
4	16.75	0.961	0.594	26	85	1.303	33.9	Infin	0.965	0.608	Infin
4	17.25	0.992	0.610	26	85	1.303	33.9	Infin	0.964	0.611	Infin
4	17.75	1.023	0.625	26	85	1.303	33.9	Infin	0.963	0.614	Infin
5	18.25	1.055	0.641	48	~	~	~	~	~	~	~~
5	18.75	1.087	0.658	48	~	~	~	~	~	~	~~
5	19.25	1.120	0.675	48	~	~	~	~	~	~	~~
5	19.75	1.152	0.692	48	~	~	~	~	~	~	~~
5	20.25	1.185	0.709	48	~	~	~	~	~	~	~~
5	20.75	1.217	0.726	48	~	~	~	~	~	~	~~
5	21.25	1.250	0.743	48	~	~	~	~	~	~	~~
5	21.75	1.282	0.760	48	~	~	~	~	~	~	~~
6	22.25	1.313	0.774	52	~	~	~	~	~	~	~~
6	22.75	1.341	0.787	52	~	~	~	~	~	~	~~

SOIL NO.	CALC. DEPTH (ft)	TOTAL STRESS (tsf)	EFF. STRESS (tsf)	FIELD N (B/ft)	Est.D r (%)	C N	CORR. (N1)60 (B/ft)	LIQUE. STRESS RATIO	r d	INDUC. STRESS RATIO	LIQUE. SAFETY FACTOR
6	23.25	1.369	0.800	52	~	~	~	~	~	~	~~
6	23.75	1.397	0.812	52	~	~	~	~	~	~	~~
6	24.25	1.426	0.825	52	~	~	~	~	~	~	~~
6	24.75	1.454	0.838	52	~	~	~	~	~	~	~~
6	25.25	1.482	0.850	52	~	~	~	~	~	~	~~
6	25.75	1.510	0.863	52	~	~	~	~	~	~	~~
6	26.25	1.539	0.876	52	~	~	~	~	~	~	~~
6	26.75	1.567	0.888	52	~	~	~	~	~	~	~~
7	27.25	1.596	0.902	55	~	~	~	~	~	~	~~
7	27.75	1.626	0.916	55	~	~	~	~	~	~	~~
7	28.25	1.656	0.931	55	~	~	~	~	~	~	~~
7	28.75	1.686	0.945	55	~	~	~	~	~	~	~~
7	29.25	1.716	0.959	55	~	~	~	~	~	~	~~
7	29.75	1.746	0.974	55	~	~	~	~	~	~	~~
8	30.25	1.776	0.988	55	~	~	~	~	~	~	~~
8	30.75	1.806	1.003	55	~	~	~	~	~	~	~~
8	31.25	1.836	1.017	55	~	~	~	~	~	~	~~
8	31.75	1.866	1.031	55	~	~	~	~	~	~	~~
8	32.25	1.896	1.046	55	~	~	~	~	~	~	~~
8	32.75	1.926	1.060	55	~	~	~	~	~	~	~~
8	33.25	1.956	1.075	55	~	~	~	~	~	~	~~
8	33.75	1.986	1.089	55	~	~	~	~	~	~	~~
9	34.25	2.016	1.104	15	~	~	~	~	~	~	~~
9	34.75	2.047	1.119	15	~	~	~	~	~	~	~~
9	35.25	2.077	1.133	15	~	~	~	~	~	~	~~
9	35.75	2.108	1.148	15	~	~	~	~	~	~	~~
9	36.25	2.138	1.163	15	~	~	~	~	~	~	~~
9	36.75	2.169	1.178	15	~	~	~	~	~	~	~~
9	37.25	2.199	1.193	15	~	~	~	~	~	~	~~
9	37.75	2.230	1.208	15	~	~	~	~	~	~	~~
9	38.25	2.260	1.223	15	~	~	~	~	~	~	~~
9	38.75	2.291	1.238	15	~	~	~	~	~	~	~~
10	39.25	2.322	1.253	60	~	~	~	~	~	~	~~
10	39.75	2.353	1.269	60	~	~	~	~	~	~	~~
10	40.25	2.384	1.284	60	~	~	~	~	~	~	~~
10	40.75	2.415	1.300	60	~	~	~	~	~	~	~~
10	41.25	2.447	1.316	60	~	~	~	~	~	~	~~
10	41.75	2.478	1.331	60	~	~	~	~	~	~	~~
10	42.25	2.509	1.347	60	~	~	~	~	~	~	~~
10	42.75	2.540	1.363	60	~	~	~	~	~	~	~~
10	43.25	2.572	1.378	60	~	~	~	~	~	~	~~
10	43.75	2.603	1.394	60	~	~	~	~	~	~	~~
11	44.25	2.634	1.409	16	~	~	~	~	~	~	~~
11	44.75	2.664	1.423	16	~	~	~	~	~	~	~~
11	45.25	2.694	1.438	16	~	~	~	~	~	~	~~
11	45.75	2.724	1.452	16	~	~	~	~	~	~	~~
11	46.25	2.754	1.467	16	~	~	~	~	~	~	~~
11	46.75	2.784	1.481	16	~	~	~	~	~	~	~~
11	47.25	2.814	1.495	16	~	~	~	~	~	~	~~
11	47.75	2.844	1.510	16	~	~	~	~	~	~	~~
11	48.25	2.874	1.524	16	~	~	~	~	~	~	~~
11	48.75	2.904	1.539	16	~	~	~	~	~	~	~~
12	49.25	2.934	1.553	25	66	0.816	20.4	0.238	0.760	0.560	0.43

SOIL NO.	CALC. DEPTH (ft)	TOTAL STRESS (tsf)	EFF. STRESS (tsf)	FIELD N (B/ft)	Est.D r (%)	C N	CORR. (N1)60 (B/ft)	LIQUE. STRESS RATIO	r d	INDUC. STRESS RATIO	LIQUE. SAFETY FACTOR
12	49.75	2.964	1.567	25	66	0.816	20.4	0.238	0.755	0.557	0.43
12	50.25	2.994	1.582	25	66	0.816	20.4	0.238	0.750	0.554	0.43
12	50.75	3.024	1.596	25	66	0.816	20.4	0.237	0.745	0.551	0.43
12	51.25	3.054	1.611	25	66	0.816	20.4	0.237	0.741	0.548	0.43
12	51.75	3.084	1.625	25	66	0.816	20.4	0.237	0.736	0.545	0.44
12	52.25	3.114	1.639	25	66	0.816	20.4	0.237	0.731	0.542	0.44
12	52.75	3.144	1.654	25	66	0.816	20.4	0.237	0.726	0.539	0.44
12	53.25	3.174	1.668	25	66	0.816	20.4	0.236	0.722	0.535	0.44
12	53.75	3.204	1.683	25	66	0.816	20.4	0.236	0.717	0.532	0.44

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EMPIRICAL PREDICTION OF
EARTHQUAKE-INDUCED LIQUEFACTION POTENTIAL

JOB NUMBER: 1R2/396/122-1 DATE: Thursday, January 15, 1998

JOB NAME: Gonzalez River Rd at Salinas River

LIQUEFACTION CALCULATION NAME: Boring 5

SOIL-PROFILE NAME: slnsrvr5

GROUND WATER DEPTH: 4.0 ft

DESIGN EARTHQUAKE MAGNITUDE: 7.00

SITE PEAK GROUND ACCELERATION: 0.600 g

K sigma BOUND: M

rd BOUND: M

N60 CORRECTION: 1.00

FIELD SPT N-VALUES < 10 FT DEEP ARE NOT CORRECTED FOR SHORT LENGTH OF DRIVE RODS

NOTE: Relative density values listed below are estimated using equations of Giuliani and Nicoll (1982).

LIQUEFACTION ANALYSIS SUMMARY

Seed and Others [1985] Method

SOIL NO.	CALC. DEPTH (ft)	TOTAL STRESS (tsf)	EFF. STRESS (tsf)	FIELD N (B/ft)	Est.D r (%)	C N	CORR. (N1)60 (B/ft)	LIQUE. STRESS RATIO	r d	INDUC. STRESS RATIO	LIQUE. SAFETY FACTOR
1	0.25	0.014	0.014	4	~	@	@	@	@	@	@ @
1	0.75	0.041	0.041	4	~	@	@	@	@	@	@ @
1	1.25	0.069	0.069	4	~	@	@	@	@	@	@ @
1	1.75	0.096	0.096	4	~	@	@	@	@	@	@ @
1	2.25	0.124	0.124	4	~	@	@	@	@	@	@ @
1	2.75	0.151	0.151	4	~	@	@	@	@	@	@ @
2	3.25	0.179	0.179	27	98	@	@	@	@	@	@ @
2	3.75	0.208	0.208	27	98	@	@	@	@	@	@ @
2	4.25	0.237	0.229	27	98	1.979	53.4	Infin	0.992	0.400	Infin
2	4.75	0.266	0.242	27	98	1.979	53.4	Infin	0.991	0.424	Infin
2	5.25	0.294	0.255	27	98	1.979	53.4	Infin	0.990	0.445	Infin
2	5.75	0.323	0.269	27	98	1.979	53.4	Infin	0.988	0.464	Infin
2	6.25	0.352	0.282	27	98	1.979	53.4	Infin	0.987	0.481	Infin
2	6.75	0.381	0.295	27	98	1.979	53.4	Infin	0.986	0.497	Infin
2	7.25	0.409	0.308	27	98	1.979	53.4	Infin	0.985	0.511	Infin
2	7.75	0.438	0.321	27	98	1.979	53.4	Infin	0.984	0.524	Infin
3	8.25	0.468	0.335	14	67	1.535	21.5	0.258	0.983	0.535	0.48
3	8.75	0.498	0.349	14	67	1.535	21.5	0.258	0.982	0.546	0.47
3	9.25	0.528	0.364	14	67	1.535	21.5	0.258	0.981	0.555	0.47
3	9.75	0.558	0.378	14	67	1.535	21.5	0.258	0.980	0.564	0.46
3	10.25	0.588	0.393	14	67	1.535	21.5	0.258	0.979	0.572	0.45
3	10.75	0.618	0.407	14	67	1.535	21.5	0.258	0.978	0.579	0.45
3	11.25	0.648	0.421	14	67	1.535	21.5	0.258	0.977	0.586	0.44
3	11.75	0.678	0.436	14	67	1.535	21.5	0.258	0.976	0.592	0.44
3	12.25	0.708	0.450	14	67	1.535	21.5	0.258	0.975	0.597	0.43
3	12.75	0.738	0.465	14	67	1.535	21.5	0.258	0.974	0.603	0.43
4	13.25	0.768	0.479	13	61	1.339	17.4	0.216	0.972	0.608	0.36
4	13.75	0.798	0.493	13	61	1.339	17.4	0.216	0.971	0.612	0.35
4	14.25	0.828	0.508	13	61	1.339	17.4	0.216	0.970	0.617	0.35
4	14.75	0.858	0.522	13	61	1.339	17.4	0.216	0.969	0.621	0.35
4	15.25	0.888	0.537	13	61	1.339	17.4	0.216	0.968	0.625	0.35
4	15.75	0.918	0.551	13	61	1.339	17.4	0.216	0.967	0.628	0.35
4	16.25	0.948	0.565	13	61	1.339	17.4	0.216	0.966	0.631	0.34
4	16.75	0.978	0.580	13	61	1.339	17.4	0.216	0.965	0.634	0.34
4	17.25	1.008	0.594	13	61	1.339	17.4	0.216	0.964	0.637	0.34
4	17.75	1.038	0.609	13	61	1.339	17.4	0.216	0.963	0.640	0.34
5	18.25	1.068	0.624	16	64	1.212	19.4	0.231	0.961	0.642	0.36
5	18.75	1.099	0.639	16	64	1.212	19.4	0.231	0.960	0.644	0.36
5	19.25	1.131	0.655	16	64	1.212	19.4	0.231	0.959	0.646	0.36
5	19.75	1.162	0.671	16	64	1.212	19.4	0.231	0.958	0.648	0.36
5	20.25	1.193	0.686	16	64	1.212	19.4	0.231	0.957	0.649	0.36
5	20.75	1.224	0.702	16	64	1.212	19.4	0.231	0.955	0.650	0.36
5	21.25	1.256	0.717	16	64	1.212	19.4	0.231	0.954	0.651	0.36
5	21.75	1.287	0.733	16	64	1.212	19.4	0.231	0.952	0.652	0.35
5	22.25	1.318	0.749	16	64	1.212	19.4	0.231	0.951	0.653	0.35
5	22.75	1.349	0.764	16	64	1.212	19.4	0.231	0.949	0.653	0.35

SOIL NO.	CALC. DEPTH (ft)	TOTAL STRESS (tsf)	EFF. STRESS (tsf)	FIELD N (B/ft)	Est.D r (%)	C N	CORR. (N1)60 (B/ft)	LIQUE. STRESS RATIO	r d	INDUC. STRESS RATIO	LIQUE. SAFETY FACTOR
6	23.25	1.381	0.780	32	87	1.090	34.9	Infin	0.947	0.654	Infin
6	23.75	1.412	0.796	32	87	1.090	34.9	Infin	0.946	0.655	Infin
6	24.25	1.443	0.811	32	87	1.090	34.9	Infin	0.944	0.655	Infin
6	24.75	1.474	0.827	32	87	1.090	34.9	Infin	0.943	0.656	Infin
6	25.25	1.506	0.843	32	87	1.090	34.9	Infin	0.941	0.656	Infin
6	25.75	1.537	0.858	32	87	1.090	34.9	Infin	0.939	0.656	Infin
6	26.25	1.568	0.874	32	87	1.090	34.9	Infin	0.937	0.655	Infin
6	26.75	1.599	0.890	32	87	1.090	34.9	Infin	0.934	0.655	Infin
6	27.25	1.631	0.905	32	87	1.090	34.9	Infin	0.932	0.655	Infin
6	27.75	1.662	0.921	32	87	1.090	34.9	Infin	0.930	0.655	Infin
7	28.25	1.691	0.934	7	~	~	~	~	~	~	~~
7	28.75	1.717	0.945	7	~	~	~	~	~	~	~~
7	29.25	1.744	0.956	7	~	~	~	~	~	~	~~
7	29.75	1.770	0.967	7	~	~	~	~	~	~	~~
7	30.25	1.797	0.978	7	~	~	~	~	~	~	~~
7	30.75	1.823	0.989	7	~	~	~	~	~	~	~~
7	31.25	1.850	1.000	7	~	~	~	~	~	~	~~
7	31.75	1.876	1.010	7	~	~	~	~	~	~	~~
7	32.25	1.903	1.021	7	~	~	~	~	~	~	~~
7	32.75	1.929	1.032	7	~	~	~	~	~	~	~~
8	33.25	1.956	1.044	12	~	~	~	~	~	~	~~
8	33.75	1.984	1.056	12	~	~	~	~	~	~	~~
8	34.25	2.011	1.067	12	~	~	~	~	~	~	~~
8	34.75	2.039	1.079	12	~	~	~	~	~	~	~~
8	35.25	2.066	1.091	12	~	~	~	~	~	~	~~
8	35.75	2.094	1.103	12	~	~	~	~	~	~	~~
8	36.25	2.121	1.115	12	~	~	~	~	~	~	~~
8	36.75	2.149	1.127	12	~	~	~	~	~	~	~~
8	37.25	2.176	1.139	12	~	~	~	~	~	~	~~
8	37.75	2.204	1.151	12	~	~	~	~	~	~	~~
9	38.25	2.234	1.165	85	~	~	~	~	~	~	~~
9	38.75	2.266	1.182	85	~	~	~	~	~	~	~~
9	39.25	2.299	1.199	85	~	~	~	~	~	~	~~
9	39.75	2.331	1.216	85	~	~	~	~	~	~	~~
9	40.25	2.364	1.233	85	~	~	~	~	~	~	~~
9	40.75	2.396	1.250	85	~	~	~	~	~	~	~~
9	41.25	2.429	1.267	85	~	~	~	~	~	~	~~
9	41.75	2.461	1.283	85	~	~	~	~	~	~	~~
9	42.25	2.494	1.300	85	~	~	~	~	~	~	~~
9	42.75	2.526	1.317	85	~	~	~	~	~	~	~~
10	43.25	2.558	1.334	47	~	~	~	~	~	~	~~
10	43.75	2.589	1.349	47	~	~	~	~	~	~	~~
10	44.25	2.621	1.365	47	~	~	~	~	~	~	~~
10	44.75	2.652	1.381	47	~	~	~	~	~	~	~~
10	45.25	2.683	1.396	47	~	~	~	~	~	~	~~
10	45.75	2.714	1.412	47	~	~	~	~	~	~	~~
10	46.25	2.746	1.427	47	~	~	~	~	~	~	~~
10	46.75	2.777	1.443	47	~	~	~	~	~	~	~~
10	47.25	2.808	1.459	47	~	~	~	~	~	~	~~
10	47.75	2.839	1.474	47	~	~	~	~	~	~	~~
11	48.25	2.870	1.489	56	~	~	~	~	~	~	~~
11	48.75	2.900	1.504	56	~	~	~	~	~	~	~~
11	49.25	2.930	1.518	56	~	~	~	~	~	~	~~

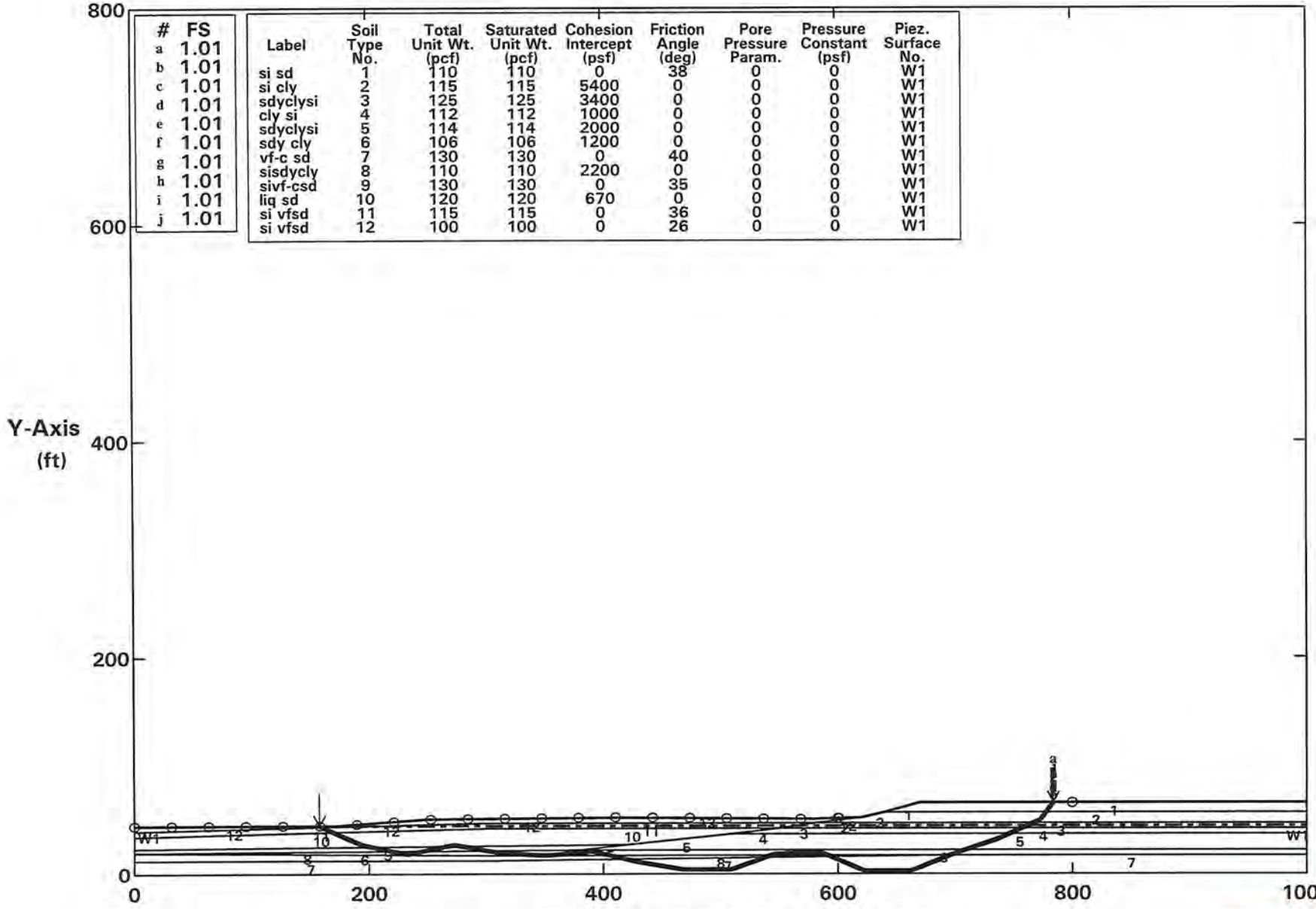
SOIL NO.	CALC. DEPTH (ft)	TOTAL STRESS (tsf)	EFF. STRESS (tsf)	FIELD N (B/ft)	Est.D r (%)	C N	CORR. (N1)60 (B/ft)	LIQUE. STRESS RATIO	r d	INDUC. STRESS RATIO	LIQUE. SAFETY FACTOR
11	49.75	2.960	1.533	56	~	~	~	~	~	~	~~
11	50.25	2.990	1.547	56	~	~	~	~	~	~	~~
11	50.75	3.020	1.561	56	~	~	~	~	~	~	~~
11	51.25	3.050	1.576	56	~	~	~	~	~	~	~~
11	51.75	3.080	1.590	56	~	~	~	~	~	~	~~
12	52.25	3.111	1.605	60	~	~	~	~	~	~	~~
12	52.75	3.142	1.621	60	~	~	~	~	~	~	~~
12	53.25	3.173	1.637	60	~	~	~	~	~	~	~~
12	53.75	3.204	1.652	60	~	~	~	~	~	~	~~
12	54.25	3.236	1.668	60	~	~	~	~	~	~	~~
12	54.75	3.267	1.684	60	~	~	~	~	~	~	~~
12	55.25	3.298	1.699	60	~	~	~	~	~	~	~~
12	55.75	3.329	1.715	60	~	~	~	~	~	~	~~
13	56.25	3.361	1.730	60	~	~	~	~	~	~	~~
13	56.75	3.392	1.746	60	~	~	~	~	~	~	~~
13	57.25	3.423	1.762	60	~	~	~	~	~	~	~~
13	57.75	3.454	1.777	60	~	~	~	~	~	~	~~
13	58.25	3.486	1.793	60	~	~	~	~	~	~	~~
13	58.75	3.517	1.809	60	~	~	~	~	~	~	~~
13	59.25	3.548	1.824	60	~	~	~	~	~	~	~~
13	59.75	3.579	1.840	60	~	~	~	~	~	~	~~
14	60.25	3.611	1.856	73	~	~	~	~	~	~	~~
14	60.75	3.644	1.873	73	~	~	~	~	~	~	~~
14	61.25	3.676	1.890	73	~	~	~	~	~	~	~~
14	61.75	3.709	1.907	73	~	~	~	~	~	~	~~
14	62.25	3.741	1.924	73	~	~	~	~	~	~	~~
14	62.75	3.774	1.941	73	~	~	~	~	~	~	~~
15	63.25	3.806	1.958	33	71	0.739	24.4	0.290	0.635	0.482	0.60
15	63.75	3.839	1.975	33	71	0.739	24.4	0.290	0.632	0.479	0.61
15	64.25	3.871	1.991	33	71	0.739	24.4	0.290	0.628	0.476	0.61
15	64.75	3.904	2.008	33	71	0.739	24.4	0.289	0.624	0.473	0.61
15	65.25	3.936	2.025	33	71	0.739	24.4	0.289	0.621	0.471	0.61
15	65.75	3.969	2.042	33	71	0.739	24.4	0.289	0.618	0.469	0.62
15	66.25	4.001	2.059	33	71	0.739	24.4	0.288	0.615	0.466	0.62
15	66.75	4.034	2.076	33	71	0.739	24.4	0.288	0.612	0.464	0.62

Gonzalez River Rd at Salinas River Horiz. Acceleration = 0.48g

Ten Most Critical. C:SLNS_EQ.PLT By: Franklin P. Taber 01-16-98 9:03am

#	FS
a	1.01
b	1.01
c	1.01
d	1.01
e	1.01
f	1.01
g	1.01
h	1.01
i	1.01
j	1.01

Label	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Pore Pressure Param.	Pressure Constant (psf)	Piez. Surface No.
si sd	1	110	110	0	38	0	0	W1
si cly	2	115	115	5400	0	0	0	W1
sdyclysi	3	125	125	3400	0	0	0	W1
cly si	4	112	112	1000	0	0	0	W1
sdyclysi	5	114	114	2000	0	0	0	W1
sdy cly	6	106	106	1200	0	0	0	W1
vf-c sd	7	130	130	0	40	0	0	W1
sisdycly	8	110	110	2200	0	0	0	W1
sivf-csd	9	130	130	0	35	0	0	W1
liq sd	10	120	120	670	0	0	0	W1
si vfsd	11	115	115	0	36	0	0	W1
si vfsd	12	100	100	0	26	0	0	W1



PCSTABL5M FSmin = 1.01 X-Axis (ft)

Factors Of Safety Calculated By The Modified Janbu Method

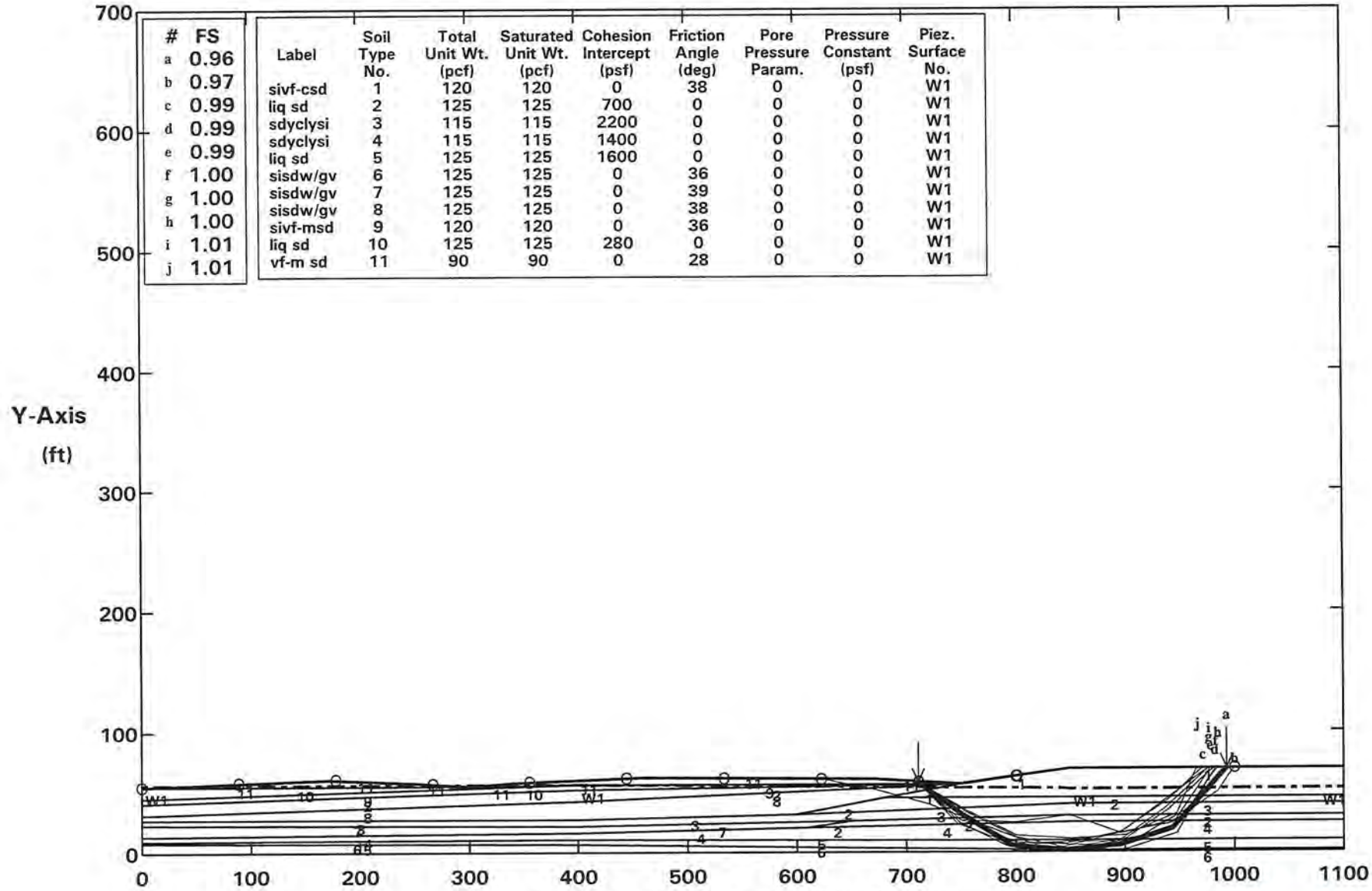
Taber
Since 1954

Gonzales River Road at Salinas River Horiz. Accleration = 0.29g

Ten Most Critical. C:SLNS_WQ.PLT By: Franklin P. Taber 01-27-98 4:55pm

#	FS
a	0.96
b	0.97
c	0.99
d	0.99
e	0.99
f	1.00
g	1.00
h	1.00
i	1.01
j	1.01

Label	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Pore Pressure Param.	Pressure Constant (psf)	Piez. Surface No.
sivf-csd	1	120	120	0	38	0	0	W1
liq sd	2	125	125	700	0	0	0	W1
sdyclysi	3	115	115	2200	0	0	0	W1
sdyclysi	4	115	115	1400	0	0	0	W1
liq sd	5	125	125	1600	0	0	0	W1
sisdw/gv	6	125	125	0	36	0	0	W1
sisdw/gv	7	125	125	0	39	0	0	W1
sisdw/gv	8	125	125	0	38	0	0	W1
sivf-msd	9	120	120	0	36	0	0	W1
liq sd	10	125	125	280	0	0	0	W1
vf-m sd	11	90	90	0	28	0	0	W1



PCSTABL5M FSmin = 0.96 X-Axis (ft)

Factors Of Safety Calculated By The Modified Janbu Method

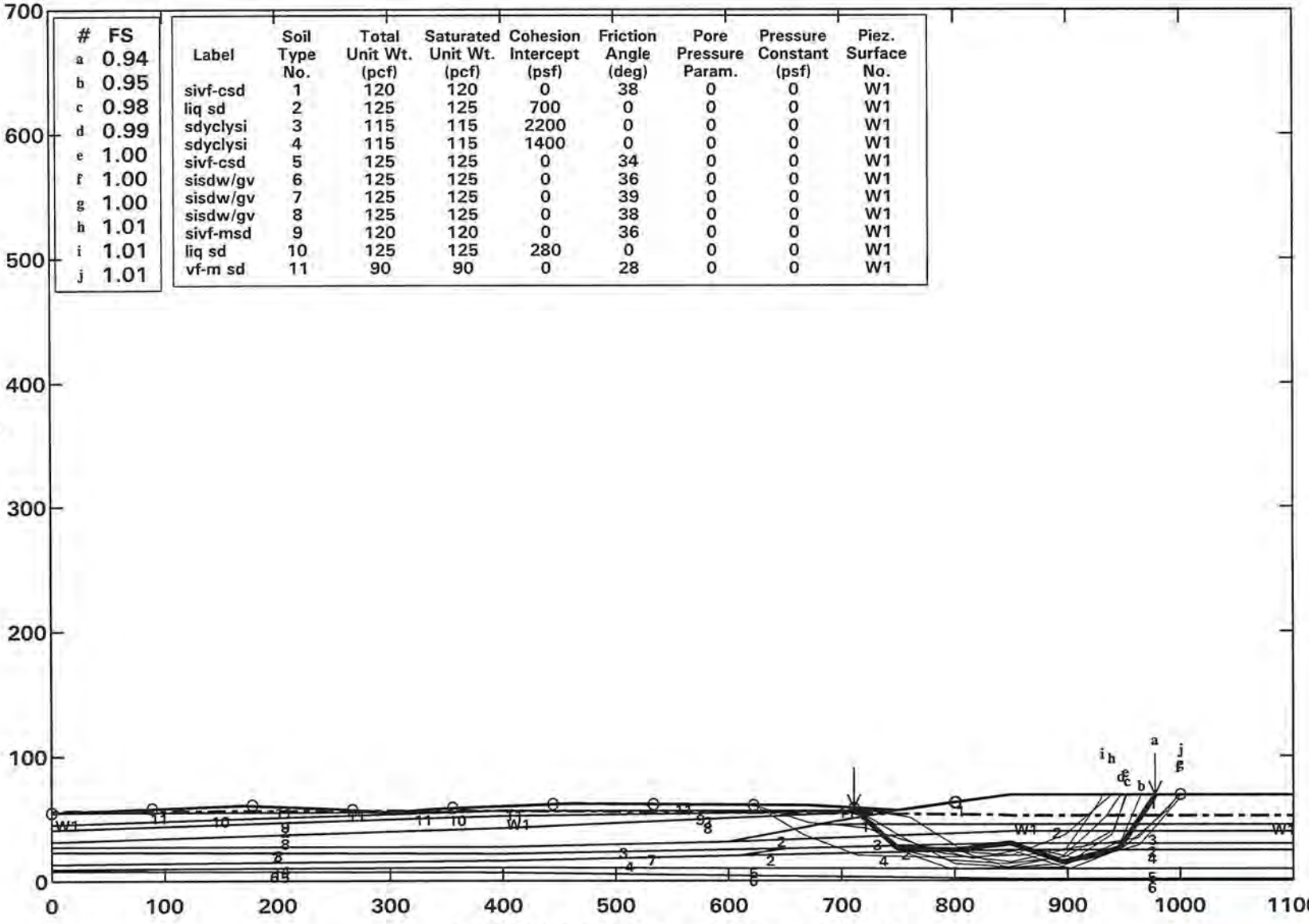
Taber
Since 1954

Gonzales River Road at Salinas River Horiz. Accleration = 0.31g

Ten Most Critical. C:SLNS_WQ2.PLT By: Franklin P. Taber 01-16-98 3:22pm

#	FS
a	0.94
b	0.95
c	0.98
d	0.99
e	1.00
f	1.00
g	1.00
h	1.01
i	1.01
j	1.01

Label	Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Pore Pressure Param.	Pressure Constant (psf)	Piez. Surface No.
sivf-csd	1	120	120	0	38	0	0	W1
liq sd	2	125	125	700	0	0	0	W1
sdyclysi	3	115	115	2200	0	0	0	W1
sdyclysi	4	115	115	1400	0	0	0	W1
sivf-csd	5	125	125	0	34	0	0	W1
sisdw/gv	6	125	125	0	36	0	0	W1
sisdw/gv	7	125	125	0	39	0	0	W1
sisdw/gv	8	125	125	0	38	0	0	W1
sivf-msd	9	120	120	0	36	0	0	W1
liq sd	10	125	125	280	0	0	0	W1
vf-m sd	11	90	90	0	28	0	0	W1



PCSTABL5M FSmin = 0.94 X-Axis (ft)

Factors Of Safety Calculated By The Modified Janbu Method

Taber
Since 1954

Taber
Since 1954

						1P2/396/122-2.1		
Salinas River/Gonzales River Rd Bridge -- COM624/LPILE INPUT						5/18/99		
Boring No.	1							
	Top of Layer							
Layer No.	Elevation	Depth	Soil Type	Unit Weight	Friction	Cohesion	k	E50
	(ft)	(in)		(pci)	Angle	(psi)	(pci)	
1	125.0	0	sand	0.064	36	xx	90	xx
2	118.0	156	clay	0.068	xx	14.8	1000	0.005
3	100.0	300	clay	0.030	xx	5.1	100	0.01
4	77.0	576	sand	0.040	42	xx	125	xx
5*	57.0	816	liquefiable sand	0.033	32	xx	20	xx
6	47.0	936	sand	0.044	44	xx	125	xx
	25.0	1200	bottom of boring					
Groundwater at about elev 100.								
Boring No.	2							
	Top of Layer							
Layer No.	Elevation	Depth	Soil Type	Unit Weight	Friction	Cohesion	k	E50
	(ft)	(in)		(pci)	Angle	(psi)	(pci)	
1	118.0	0	sand	0.071	36	xx	90	xx
2	110.0	96	sand	0.071	39	xx	90	xx
3*	96.0	264	liquefiable sand	0.039	30	xx	20	xx
4	90.0	336	clay	0.030	xx	6.9	100	0.01
5*	80.0	456	liquefiable sand	0.033	30	xx	20	xx
6	75.0	516	clay	0.030	xx	5.3	100	0.01
7*	60.0	696	liquefiable sand	0.037	36	xx	20	xx
8	50.0	816	sand	0.038	42	xx	125	xx
	18.0	1200	bottom of boring					
Groundwater at about elev 96.								

Taber
Since 1954

						1P2/396/122-2.1		
Salinas River/Gonzales River Rd Bridge -- COM624/LPILE INPUT						1/30/98		
Boring No.	3							
	Top of Layer							
Layer No.	Elevation	Depth	Soil Type	Unit Weight	Friction	Cohesion	k	E50
	(ft)	(in)		(pci)	Angle	(psi)	(pci)	
1*	105.0	0	liquefiable sand	0.038	30	xx	20	xx
2	82.0	276	sand	0.044	38	xx	60	xx
3	77.0	336	clay	0.030	xx	9.0	500	0.007
4	72.0	396	sand	0.039	42	xx	125	xx
5	64.0	492	clay	0.030	xx	9.0	500	0.007
6	60.0	540	sand	0.038	44	xx	125	xx
	23.0	984	bottom of boring					
Groundwater at about elev. 105.								
Boring No.	4							
	Top of Layer							
Layer No.	Elevation	Depth	Soil Type	Unit Weight	Friction	Cohesion	k	E50
	(ft)	(in)		(pci)	Angle	(psi)	(pci)	
1*	110.0	0	liquefiable sand	0.029	32	xx	20	xx
2	92.0	216	sand	0.035	42	xx	125	xx
3	76.0	408	clay	0.034	xx	9.0	500	0.007
4	71.0	468	sand	0.037	42	xx	125	xx
5	65.0	540	clay	0.034	xx	9.0	500	0.007
6*	61.0	588	liquefiable sand	0.037	36	xx	20	xx
7	56.0	672	sand	0.041	42	xx	125	xx
8	30.0	960	sand	0.041	44	xx	125	xx
	-15.0	1500	bottom of boring					
Groundwater at about elev. 110.								
Boring No.	5							
	Top of Layer							
Layer No.	Elevation	Depth	Soil Type	Unit Weight	Friction	Cohesion	k	E50
	(ft)	(in)		(pci)	Angle	(psi)	(pci)	
1*	110.0	0	liquefiable sand	0.033	30	xx	20	xx
2	82.0	336	clay	0.026	xx	5.9	100	0.01
3	72.0	456	sand	0.039	42	xx	125	xx
4*	47.0	756	liquefiable sand	0.036	36	xx	20	xx
5	43.0	804	sand	0.042	44	xx	125	xx
	-25.0	1620	bottom of boring					
Groundwater at about elev. 110.								

DIST.	COUNTY	ROUTE	MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
05	Mon	0	CR		

REGISTERED GEOTECHNICAL ENGINEER — 4-30-99

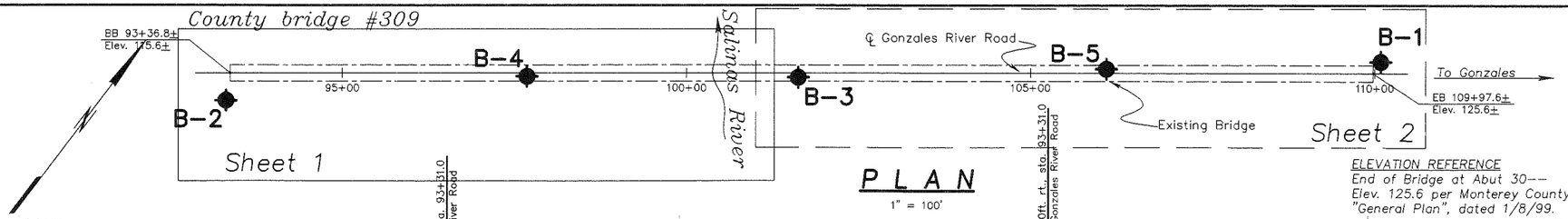
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER FRANKLIN P. TABER No. 816 EXP. 3-31-00 GEOTECHNICAL STATE OF CALIFORNIA

TABER CONSULTANTS
3911 West Capitol Avenue
West Sacramento, CA 95691

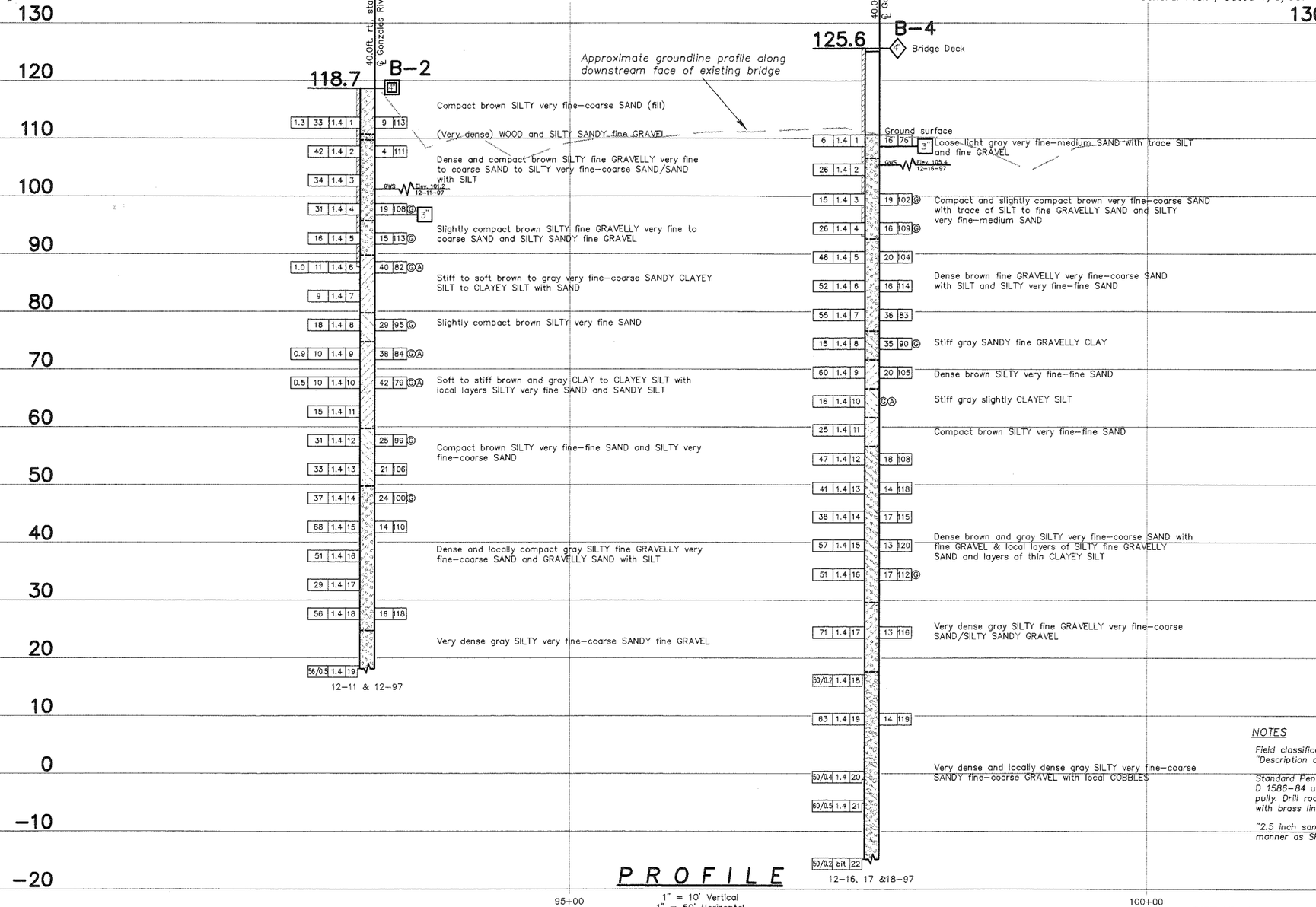
JOB No. 1R2/396/122-2.1 LOCATION: 36121-D4:405N:275W

Boyle Engineering Corporation
100 Howe Ave., Suite 250N
Sacramento, CA 95825



PLAN
1" = 100'

ELEVATION REFERENCE
End of Bridge at Abut 30--
Elev. 125.6 per Monterey County "General Plan", dated 1/8/99.



PROFILE
1" = 10' Vertical
1" = 50' Horizontal

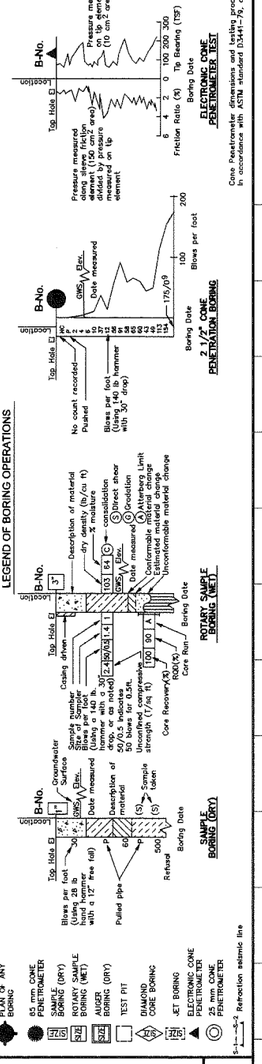
NOTES

Field classification of soils was in accordance with ASTM D 2488–69 "Description and Identification of Soils (Visual–Manual Procedure)".

Standard Penetration tests were performed in accordance with ASTM D 1586–84 using a safety hammer operated with cat–head, rope and pully. Drill rods were 1–5/8" diameter "A"–rods; sampler was driven with brass liners.

"2.5 inch sampler": ID=2.5 inch, OD=2.85 inch. Driven in same manner as SPT ("1.4 inch") sampler.

LEGEND OF BORING OPERATIONS



LEGEND OF EARTH MATERIALS

GRAVEL · SAND · SILT · CLAY · SANDY CLAY or CLAYEY SAND · SANDY SILT or SILTY SAND · SILTY CLAY · CLAYEY SILT · PEAT and/or ORGANIC MATTER · FILL MATERIAL · IGNEOUS ROCK · SEDIMENTARY ROCK · METAMORPHIC ROCK

CONSISTENCY CLASSIFICATION FOR SOILS
According to the Standard Penetration Test

Standard Penetration N-Value	Granular	Cohesive
0–4	Very loose	Very soft
5–9	Loose	Soft
10–19	Slightly compact	Stiff
20–34	Compact	Very stiff
35–69	Dense	Hard
>70	Very dense	Very hard

NOTE: Classification of earth material as shown on this sheet is based upon field inspection and is not to be construed to imply mechanical analysis.

DESIGN OVERSIGHT	DRAWN BY	T. M. Arkus	T. A. Krause FIELD INVESTIGATOR	PREPARED FOR MONTEREY COUNTY	Todd J. Lambert PROJECT ENGINEER
SIGN OFF DATE	CHECKED BY	H. C. Valencia	DATE December 1997		

BRIDGE NO.	EARTHQUAKE RETROFIT
44C-0035	GONZALES RIVER ROAD BRIDGE
POST MILES	LOG OF TEST BORINGS (1 of 2)

1/98 1R2396122-21b.dwg

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

CU EA

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES (PRELIMINARY STAGE ONLY) | SHEET | OF

DIST.	COUNTY	ROUTE	MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
05	Mon	0	CR		

REGISTERED GEOTECHNICAL ENGINEER — 4.30.99

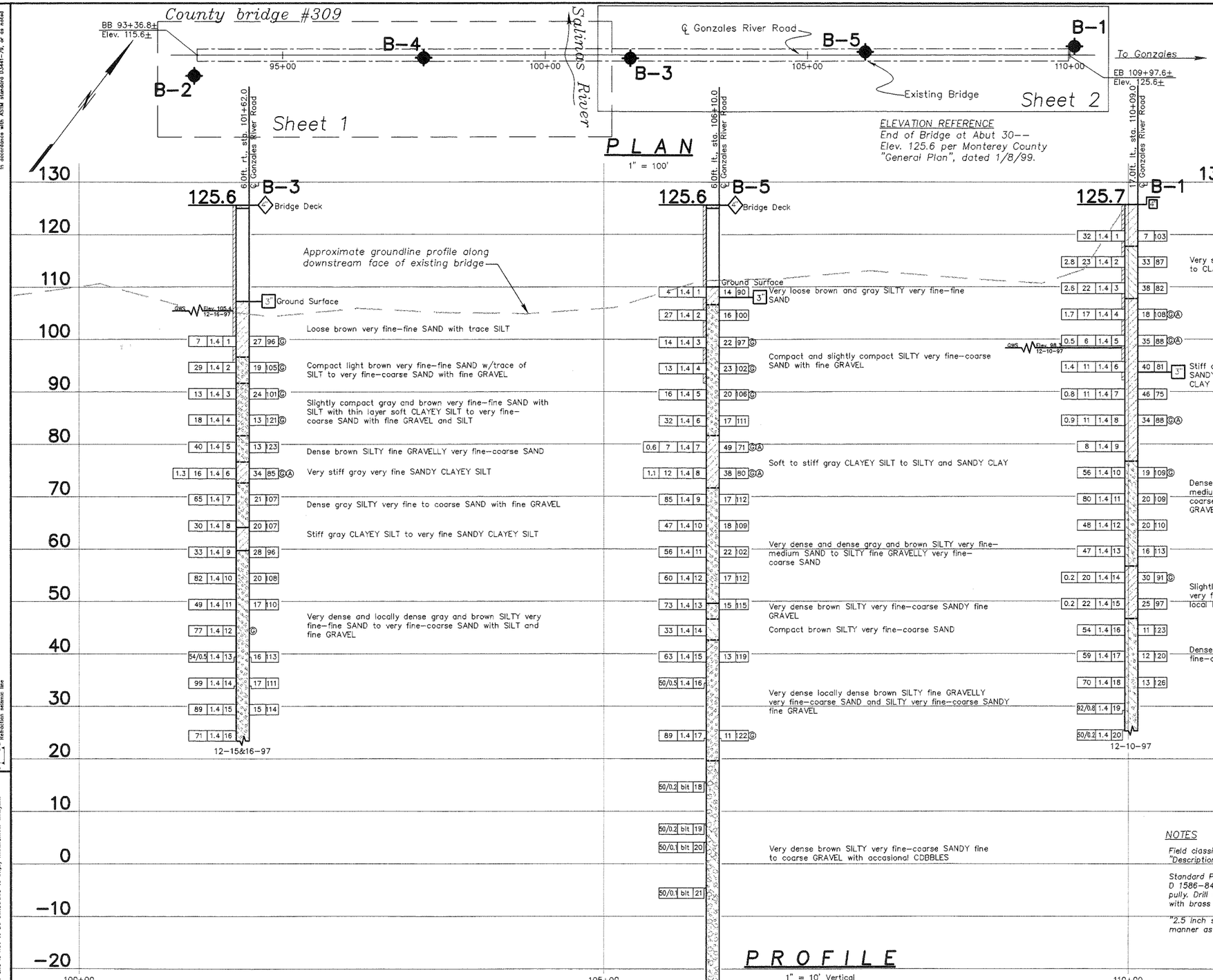
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — FRANKLIN P. TABER — No. 816 — EXP. 3-31-00 — GEOTECHNICAL — STATE OF CALIFORNIA

TABER CONSULTANTS
3911 West Capitol Avenue
West Sacramento, CA 95691

JOB No. 1R2/396/122-2.1 LOCATION: 36121-D4: 405N: 275W

Boyle Engineering Corporation
100 Howe Ave., Suite 250N
Sacramento, CA 95825



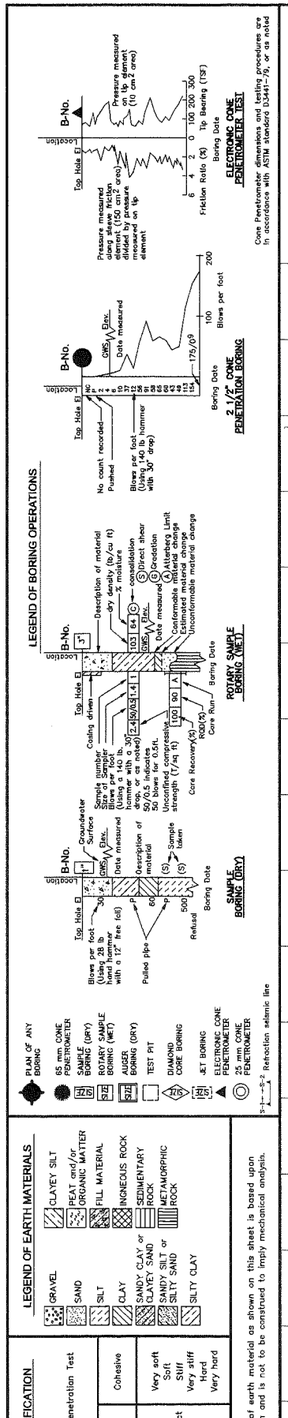
NOTES

Field classification of soils was in accordance with ASTM D 2488-69 "Description and Identification of Soils (Visual-Manual Procedure)".

Standard Penetration tests were performed in accordance with ASTM D 1586-84 using a safety hammer operated with cat-head, rope and pully. Drill rods were 1-5/8" diameter "A"-rods; sampler was driven with brass liners.

"2.5 inch sampler": ID=2.5 inch, OD=2.85 inch. Driven in same manner as SPT ("1.4 inch") sampler.

LEGEND OF BORING OPERATIONS



LEGEND OF EARTH MATERIALS

GRAVEL; SAND; SILT; CLAY; SANDY CLAY or CLAY SAND; SANDY SILT or SILTY SAND; SILTY CLAY; CLAYEY SILT; PEAT and/or ORGANIC MATTER; FILL MATERIAL; INGNEOUS ROCK; SEDIMENTARY ROCK; METAMORPHIC ROCK

CONSISTENCY CLASSIFICATION FOR SOILS

According to the Standard Penetration Test

Standard Penetration "N"-Value	Granular	Cohesive
0-4	Very loose	Very soft
5-9	Loose	Soft
10-19	Slightly compact	Stiff
20-34	Compact	Very stiff
35-69	Dense	Hard
>70	Very dense	Very hard

NOTE: Classification of earth material as shown on this sheet is based upon field inspection and is not to be construed to imply mechanical analysis.

DESIGN OVERSIGHT	DRAWN BY	T. M. Arkus	T. A. Krause, FIELD INVESTIGATOR
SIGN OFF DATE	CHECKED BY	H. C. Valencia	DATE December 1997

PREPARED FOR
MONTEREY COUNTY

Todd J. Lambert
PROJECT ENGINEER

BRIDGE NO.	EARTHQUAKE RETROFIT
44C-0035	GONZALES RIVER ROAD BRIDGE
POST MILES	LOG OF TEST BORINGS (2 of 2)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

CU
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DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY) | SHEET | OF

1/98 1R2396122-21a.dwg

APPENDIX H

GEOTECHNICAL MEMORANDUM

Crawford & Associates, Inc.
Geotechnical Engineering, Design and Construction Services
Sacramento | Modesto | Pleasanton | Rocklin | Ukiah

Corporate Office: 1100 Corporate Drive, Suite 230 | Sacramento, CA 95831 | (916) 455-4225
Modesto: 1165 Scenic Drive, Suite A | Modesto, CA 95350 | (209) 312-7668
Pleasanton: 6200 Stoneridge Mall Road, Suite 330 | Pleasanton, CA 94588 | (925) 401-3515
Rocklin: 4220 Rocklin Road, Suite 1 | Rocklin, CA 95677 | (916) 455-4225
Ukiah: 100 North Pine Street | Ukiah, CA 95482| (707) 240-4400

September 28, 2021
Crawford No. 16-301.1

Mark Imbriani, PE
TRC
10680 White Rock Road, Suite 100
Rancho Cordova, CA 95670

GEOTECHNICAL MEMORANDUM
Gonzales River Road Bridge
Monterey County, California

In accordance with your request, this memorandum provides our preliminary evaluation of available geotechnical resistance for the existing (in-place) bridge pier piles.

To prepare this memorandum, Crawford & Associates, Inc. (Crawford):

- discussed the project with Mark Imbriani and Cameron Pinkerton with TRC;
- reviewed a reported titled "Preliminary Foundation Investigation - Seismic Retrofit" dated May 18, 1999 prepared by Taber Consultants;
- reviewed the May 30, 1999 Log of Test Borings prepared by Taber Consultants;
- reviewed a Draft Bridge Design Hydraulic Study Report dated October 2016 by Wreco;
- reviewed CIDH Pile Reports dated May 1, 2001 to August 8, 2001 prepared by AGRA Foundations, Inc.
- reviewed various Gamma-Gamma Log (GGL) reports prepared by EarthSpectives between May 23, 2001 and September 7, 2001;
- reviewed Contract Change Order No. 2 dated 10/25/2001 prepared by Monterey County;
- reviewed a letter titled CIDH Pile Anomalies at Gonzales River Road Bridge, County Br. No. 309 dated August 16, 2001 prepared by Boyle; and
- completed preliminary analysis to evaluate geotechnical resistance of existing bridge pier piles.

The 1999 Log of Test Borings (2 sheets) prepared by Taber Consultants are appended to this memorandum for reference.

PROJECT LOCATION AND BRIDGE DESCRIPTION

The project is located about two miles southwest of Gonzales, California where Gonzales River Road crosses over the Salinas River. The site coordinates are approximately 36.4864°N, -121.4696°W (at about mid-point of the bridge where it crosses over the river). The elevations referenced within this memorandum are based on the North American Vertical Datum of 1988 (NAVD 88), unless otherwise noted.

Taber
Since 1954

The existing bridge, constructed in 1930 and retrofitted in 2001-2002, consists of 29-spans and is about 1,661-ft long by 22.5-ft wide that accommodates two travel lanes with no shoulders. Spans 1 through 15, 28 and 29 are 40-ft, 2-inches long; spans 16 through 17 are 81-ft, 6-inches long. The original bridge foundations are shown on the 1930 plans by Monterey County to be driven 16-inch square precast concrete piles that taper in the lower 6 ft. Pile lengths vary from 45 ft (Existing Pier 16 through 23) to 55 ft (Existing Bent 2 though 15 and Existing Bent 29) in length.

In 2001-2002, the bridge substructure was seismically retrofitted and widened to accommodate a wider (future) superstructure. Where adjacent spans are 40-ft, 2-inches long, every other pier was retrofitted; where spans are 81-ft, 6-inches long, all piers were retrofitted. The retrofitted piers were designed as 48-inch diameter cast-in-drilled-hole (CIDH) piles with pile extensions tying into new 44-ft long pier caps.

The existing Piers 3, 5, 7, 9, 11 ,13 and 15 will be removed as part of superstructure replacement. Therefore, the existing pier designations will be renumbered with new pier designations.

AS-BUILT FOUNDATION DATA (SEISMIC RETROFIT)

Our review of the 2001 seismic retrofit construction documentation indicates that all CIDH piles were installed with a diameter of 4.26 ft (51.1-inches) to the as-built pile tip elevations. As-built CIDH pile details are shown in Table 1. The existing Piers 3, 5, 7, 9, 11 ,13 and 15 will be removed.

Table 1: As-Built 4.26 ft Diameter CIDH Pile Foundation Data

Support Location		Left / Right	Cut-Off Elevation (feet)	Pile Length (feet)	Pile Tip Elevation (feet)
Existing	New				
Pier 2	Pier 2	Left	105.8	90.8	15.0
		Right	104.1	89.1	15.0
Pier 4	Pier 3	Left	105.1	90.1	15.0
		Right	105.3	90.3	15.0
Pier 6	Pier 4	Left	106.2	91.2	15.0
		Right	106.1	91.1	15.0
Pier 8	Pier 5	Left	106.8	91.8	15.0
		Right	106.1	91.1	15.0
Pier 10	Pier 6	Left	107.1	92.1	15.0
		Right	107.3	92.3	15.0
Pier 12	Pier 7	Left	106.4	86.4	20.0
		Right	107.0	87.0	20.0
Pier 14	Pier 8	Left	106.3	88.3	18.0
		Right	106.5	88.5	18.0

Table 1: As-Built 4.26 ft Diameter CIDH Pile Foundation Data					
Support Location		Left / Right	Cut-Off Elevation (feet)	Pile Length (feet)	Pile Tip Elevation (feet)
Existing	New				
Pier 16	Pier 9	Left	106.1	85.1	21.0
		Right	106.2	85.2	21.0
Pier 17	Pier 10	Left	106.1	85.1	21.0
		Right	106.0	85.0	21.0
Pier 18	Pier 11	Left	105.8	85.8	20.0
		Right	105.7	85.7	20.0
Pier 19	Pier 12	Left	106.1	88.1	18.0
		Right	104.3	88.3	18.0
Pier 20	Pier 13	Left	104.3	89.3	15.0
		Right	103.7	88.7	15.0
Pier 21	Pier 14	Left	106.4	89.4	17.0
		Right	106.0	89.0	17.0
Pier 22	Pier 15	Left	105.8	89.8	16.0
		Right	105.5	89.5	16.0
Pier 23	Pier 16	Left	106.2	90.2	16.0
		Right	105.9	89.9	16.0
Pier 24	Pier 17	Left	103.8	87.8	16.0
		Right	103.7	87.7	16.0
Pier 25	Pier 18	Left	104.1	82.1	22.0
		Right	104.4	82.4	22.0
Pier 26	Pier 19	Left	102.7	81.7	21.0
		Right	103.0	82.0	21.0
Pier 27	Pier 20	Left	102.9	80.9	22.0
		Right	102.9	80.9	22.0
Pier 28	Pier 21	Left	102.9	82.9	20.0
		Right	103.3	83.3	20.0
Pier 29	Pier 22	Left	104.2	83.2	21.0
		Right	103.4	82.4	21.0

Pile integrity tests indicate anomalies recorded at existing Pier 23L, Pier 26L and Pier 27L in the uppermost 8 to 15 ft of the piles; at existing Pier 4R, Pier 17R, Pier 18 R, Pier 19R, Pier 27R, Pier 28R and Pier 29R in the uppermost 1 to 6 ft of the piles; and at existing Pier 6R between 40 and 45 ft below the top of the pile. Construction documentation suggests that these anomalies were repaired, but it is uncertain (particularly at Pier 6R). According to the documentation, the anomaly at Pier 6R appeared to be limited to the surface of the pile and a 10% reduction was

recommended between 40 and 45 ft below the top of the pile (cut-off elevation). These anomalies are not expected to adversely impact the geotechnical resistance of the as-built CIDH piles.

SCOUR DATA

Based on our review of the Draft Bridge Hydraulic Report by Wreco, the scour data for Piers 2 through 21 (new location designations) is summarized in Table 2. The lowest total scour is at elev. 85.1 ft (Piers 9 and 10).

Table 2: Scour Data

Support Location		Long Term Scour (Degradation and Contraction) Elevation (ft)	Short Term Scour (Local) Depth (ft)
Existing	New		
Pier 2	Pier 2	93.8	3.8
Pier 4	Pier 3	93.8	3.8
Pier 6	Pier 4	93.8	3.8
Pier 8	Pier 5	93.8	3.8
Pier 10	Pier 6	93.8	3.8
Pier 12	Pier 7	93.8	7.0
Pier 14	Pier 8	93.8	8.6
Pier 16	Pier 9	93.8	8.7
Pier 17	Pier 10	93.8	8.7
Pier 18	Pier 11	93.8	8.2
Pier 19	Pier 12	93.8	8.2
Pier 20	Pier 13	93.8	8.2
Pier 21	Pier 14	93.8	8.2
Pier 22	Pier 15	93.8	2.7
Pier 23	Pier 16	93.8	1.9
Pier 24	Pier 17	93.8	6.5
Pier 25	Pier 18	93.8	1.3
Pier 26	Pier 19	93.8	5.9
Pier 27	Pier 20	93.8	5.9
Pier 28	Pier 21	93.8	5.0

Channel thalweg is reported at elev. 105.1 ft; Wreco does not report scour data for existing Pier 29/Proposed Pier 22.

SEISMIC INFORMATION

SHEAR WAVE VELOCITY

A correlated shear wave velocity (V_{S30}) in the upper 100 ft of the soil profile equal to 240 meters per second (about 787 ft/sec) was used in our evaluation. This value corresponds to a "stiff soil" with 180 m/s < Vs < 360 m/s (Soil Profile Type D) for the upper 100 ft of the soil profile.
The V_{S30} value was determined based on the subsurface data shown on the 1999 LOTB sheets prepared by Taber Consultants and correlations with SPT blow count N-values corrected for hammer efficiency (assumed to be 60% for manually operated hammer used in 1999 field exploration) using the equations outlined in Appendix A of Caltrans' *Methodology for Developing Design Response Spectrum for Use in Seismic Design Recommendations*, November 2012. For our evaluation, we used latitude 36.4864 °N and longitude -121.4696°W for the site coordinates.

The correlated V_{S30} values estimated from the 1999 test boring logs are shown in Table 3.

Table 3: Correlated Shear Wave Velocity

Support Existing	Boring Designation	Top of Boring Elevation* (ft)	Bottom of Boring Elevation (ft)	Total Boring Depth (ft)	Correlated Shear Wave Velocity in Upper 100 ft	
					V_{S30} (m/sec)	V_{S30} (ft/sec)
Piers 2 and 4	Boring 2	118.7	18.0	108.7	249	817
Piers 6, 8, 10, 12 and 14	Boring 4	110.0	-15.0	125.0	239	784
Piers 16 through 21	Boring 3	107.0	23.0	84.0	250	820
Piers 22 through 27	Boring 5	110.0	-25.0	135.0	235	770
Piers 28 and 29	Boring 1	125.7	25.0	100.7	253	830

* Ground surface elevation at time of 1999 field exploration.

GROUND MOTION PARAMETERS

The Caltrans ARS Online (3.0.2)[1] web-based tool was used to calculate the probabilistic acceleration response spectra for the site based on criteria outlined in Appendix B of Caltrans Seismic Design Criteria version 2.0.

For this evaluation we used the design spectrum at the Safety Evaluation Earthquake (SEE) for Ordinary bridges. A probabilistic evaluation approach is used to determine the SEE design spectrum taken as the spectrum based on the 2008 USGS Seismic Hazard Map for the 5% in 50 years probability of exceedance (or 975-year return period). The SEE design spectrum was developed using the Caltrans ARS Online Tool V3.0.2.

[1] https://arsonline.dot.ca.gov/, accessed 9/20/2021.

Caltrans structure design practice requires an increase to spectra due to fault proximity (near-fault factor) and when the site is located over a deep sedimentary basin (basin factor). The near-fault adjustment factor is applied for locations with a site to rupture plane distance (Rrup) of 25 km (15.6 miles) or less to the causative fault and is based on the deaggregated mean distance for spectral acceleration at a period of 1.0 second. The basin factor does not apply to this site, and the near-fault adjustment factor does apply to the site.

The mean magnitude value reported by Caltrans ARS Online V3.0.2 is not used in the ground motion calculation. It is included to support simplified liquefaction analysis and is obtained from a hazard deaggregation performed at the Peak Ground Acceleration (PGA).

Based on the above information, the ground motion parameters used in our evaluation/ analysis are as follows:

- Shear Wave Velocity, V_{S30}: 240 m/s (787 ft/s)
- Peak Ground Acceleration (PGA): 0.57g;
- Magnitude (M) at PGA: 6.55; and
- Mean Site-to-Fault Distance at 1.0 Second: 24.7 km / 15.3 mi.

LIQUEFACTION POTENTIAL AND GROUND SETTLEMENT

TABER CONSULTANTS 1999

The potentially liquefiable zones identified in the 1999 Taber report are shown in Table 4.

Table 4: Potentially Liquefiable Soil Zones/Layers (1999)

Support Location Existing	Boring Designation	Potentially Liquefiable Soil Zones/Layers		Layer Thickness (ft)
		Depth (ft)	Elevation (ft)	
Piers 2 and 4	Boring 2	23 to 29	96 to 90	6.0
		39 to 44	80 to 75	5.0
		59 to 69	60 to 50	10.0
Piers 6, 8, 10, 12 and 14	Boring 4	8 to 14	102 to 96	6.0
		48 to 54	62 to 56	6.0
Piers 16 through 21	Boring 3	2 to 12	106 to 96	10.0
		16 to 26	91 to 81	10.0
Piers 22 through 27	Boring 5	7 to 24	103 to 86	17.0
		63 to 67	47 to 43	4.0
Piers 28 and 29	Boring 1	70 to 81	56 to 45	11.0

Taber reported the total settlement at ground surface due to liquefaction in the range of 2 to 3.5-inches across the project site.

CRAWFORD 2021

To evaluate the potential for soil liquefaction to occur at the project site, Crawford used the simplified procedure outlined by Youd et al. (2001)[2] and guidelines/modifications consistent with current liquefaction evaluation outlined in the Caltrans Geotechnical Manual (Liquefaction Evaluation Module, January 2020), the 1999 Taber boring data, groundwater at measured depth/elevation when drilled, a site-to-fault distance of 15.3 miles, Magnitude (M) of 6.55, and a Peak Ground Acceleration (PGA) of 0.57g.

To evaluate and identify the lowest liquefied soil layer that is likely to cause surface manifestation of liquefaction (i.e., ground settlement), we used the procedures outlined in the Caltrans Geotechnical Manual (Liquefaction-Induced Downdrag Module, January 2020). Potentially liquefiable soil layers below the bottom of the identified lowest soil layer that causes surface manifestation of liquefaction will not contribute to downdrag.

To evaluate earthquake-induced settlement of layers identified as potentially susceptible to liquefaction, we used a simplified approach by C. Y. Lee (2007)[3] that approximates the volumetric strain based on the Tokimatsu and Seed (1987) procedure. This approach tends to slightly overestimate strain at larger $N1_{60}$ values. Only the layers identified as capable of surface manifestation of liquefaction are considered in the determination of ground settlement. Our analysis indicates about 1.4 to 4.7-inches of post-liquefaction ground settlement across the site.

The results of our liquefaction analysis that identify the potentially critical liquefiable soil zones (Factor of Safety < 1.0) with estimated post-liquefaction settlement of layers capable of surface manifestation of liquefaction are summarized in Table 5.

Table 5: Potentially Liquefiable Soil Zones/Layers (2021)

Support Location Existing	Boring Number	Potentially Liquefiable Soil Zone/Layer		Layer Thickness (feet)	Surface Manifestation of Liquefaction	Layer Contributes to Downdrag	Estimated Post-Liquefaction Settlement (inches)
		Depth (feet)	Elevation (feet)				
Piers 2 and 4	Boring 2	23 to 29	96 to 90	6.0	Yes	Yes	1.4
		39 to 44	80 to 75	5.0	No	No	Not Applicable
		59 to 73	60 to 46	16.0	No	No	Not Applicable
Piers 6, 8, 10, 12 and 14	Boring 4	8 to 14	102 to 96	6.0	Yes	Yes	1.1
		48 to 54	62 to 56	6.0	No	No	Not Applicable
Piers 16 through 21	Boring 3	2 to 12	106 to 96	10.0	Yes	Yes	4.7
		16 to 26	91 to 81	10.0	Yes	Yes	
Piers 22 through 27	Boring 5	7 to 24	103 to 86	17.0	Yes	Yes	3.5
		63 to 67	47 to 43	4.0	Non-Liquefiable	Not Applicable	Not Applicable
Piers 28 and 29	Boring 1	70 to 81	56 to 45	11.0	Non-Liquefiable	Not Applicable	Not Applicable

[2] Youd, T. L., et al, Liquefaction Resistance of Soils: Summary Report from the 1996 NCEER and 1998 NCEER/NSF Workshops on Evaluation of Liquefaction Resistance of Soils, Journal of Geotechnical and Geoenvironmental Engineering, Vol. 127, No. 10, October 2001, pp. 817-833.
[3] Lee, C.Y., Earthquake-Induced Settlements in Saturated Sandy Soils, Asian Research Publishing Network Journal of Engineering and Applied Sciences, Vol. 2, No. 4, August 2007.

In boring B-1, the potentially liquefiable zone between elev. 56 and 45 identified by Taber is described as slightly compact to compact silty/clayey sand and silty sand with thin very stiff clay layers. The samples tested in this layer exhibit nominal undrained shear strength of about 200 psf. In our opinion this layer is expected to exhibit more clay-like behavior and is therefore considered non-liquefiable in our evaluation/analysis. Also, the depth of this layer precludes it from contributing to downdrag if it were to be considered liquefiable.

GEOTECHNICAL DESIGN PARAMETERS

Idealized soil profiles with geotechnical design parameters were developed for this project based on our review of the 1999 boring data and our evaluation. The generalized engineering properties and strength/bearing characteristics of foundation materials selected for use in our analysis have been derived/established from a combination of:

- earth materials descriptions/classifications as shown on the 1999 LOTB;
- average unit weight values based on the 1999 LOTB and/or published correlations;
- average friction angles based on published blow count correlations;
- average undrained shear strength (cohesion) values based on unconfined compressive strength test results and/or published blow count correlations;
- average N_{SPT} values recorded in the soil borings and corrected for hammer efficiency (N_{60}) and/or overburden pressure ($N1_{60}$), as applicable); and
- engineering experience and judgement based on past projects with similar geologic environment/profile.

The idealized soil parameters used in our analysis of geotechnical resistance of the pier piles with respect to new designations are shown in Tables 6 to 10.

Table 6: Idealized Soil Parameters New Piers 2 and 3 (Boring 2)

Soil Layer	Elevation (feet)	Material Type	Total Unit Weight (pcf)	N_{60} Value	$N1_{60}$ Value	Friction Angle (degrees)	Undrained Shear Strength, Su (psf)	Residual Undrained Shear Strength,Sr* (psf)
1	119 - 97	Sand	120	35	40	38	0	--
2	97 - 90	Sand	130	16	15	32	0	500
3	90 - 80	Clay	115	10	9	0	1,000	--
4	80 - 75	Sand	123	18	15	32	0	580
5	75 - 60	Clay	113	12	9	0	760	--
6	60 - 46	Sand	125	34	24	34	0	1,800
7	46 - 15	Sand	128	51	33	36	0	--

* Kramer, S.L. and Wang, C. (2015), Empirical Model for Estimation of the Residual Shear Strength of Liquified Soil, Journal of Geotechnical and Geoenvironmental Engineering, ASCE, 141(9):04015038.

Table 7: Idealized Soil Parameters New Piers 4 through 8 (Boring 4)								
Soil Layer	Elevation (feet)	Material Type	Total Unit Weight (pcf)	N_{60} Value	$N1_{60}$ Value	Friction Angle (degrees)	Undrained Shear Strength, Su (psf)	Residual Undrained Shear Strength,Sr* (psf)
1	105 - 102	Sand	120	26	39	36	0	--
2	102 - 96	Sand	120	15	24	33	0	820
3	96 - 92	Sand	125	26	32	36	0	--
4	92 - 76	Sand	123	52	55	38	0	--
5	76 - 71	Clay	122	15	23	0	1,500	--
6	71 - 66	Sand	125	60	55	38	0	--
7	66 - 61	Clay	125	16	14	0	1,500	--
8	61 - 56	Sand	125	25	29	33	0	1,100
9	56 - 15	Sand	130	54	38	38	0	--

* Kramer, S.L. and Wang, C. (2015), Empirical Model for Estimation of the Residual Shear Strength of Liquified Soil, Journal of Geotechnical and Geoenvironmental Engineering, ASCE, 141(9):04015038.

Table 8: Idealized Soil Parameters New Piers 9 through 14 (Boring 3)								
Soil Layer	Elevation (feet)	Material Type	Total Unit Weight (pcf)	N_{60} Value	$N1_{60}$ Value	Friction Angle (degrees)	Undrained Shear Strength, Su (psf)	Residual Undrained Shear Strength,Sr* (psf)
1	107 - 96	Sand	120	7	10	30	0	150
2	96 - 91	Sand	125	29	38	36	0	--
3	91 - 81	Sand	130	16	18	32	0	720
4	81 - 76	Sand	135	40	41	36	0	--
5	76 - 72	Clay	114	16	16	0	1,300	--
6	72 - 60	Sand	125	43	38	36	0	--
7	60 - 15	Sand	130	80	59	38	0	--

* Kramer, S.L. and Wang, C. (2015), Empirical Model for Estimation of the Residual Shear Strength of Liquified Soil, Journal of Geotechnical and Geoenvironmental Engineering, ASCE, 141(9):04015038.

Table 9: Idealized Soil Parameters New Piers 15 through 20 (Boring 5)								
Soil Layer	Elevation (feet)	Material Type	Total Unit Weight (pcf)	N_{60} Value	$N1_{60}$ Value	Friction Angle (degrees)	Undrained Shear Strength, Su (psf)	Residual Undrained Shear Strength,Sr* (psf)
1	110 - 106	Sand	103	4	8	28	0	--
2	106 - 103	Sand	116	27	38	36	0	--
3	103 - 86	Sand	120	18	22	34	0	560
4	86 - 82	Sand	130	32	33	37	0	--
5	82 - 71	Clay	108	10	9	0	1,100	--
6	71 - 38	Sand	130	60	49	38	0	--
7	38 - 16	Gravel	135	95	64	40	0	--

* Kramer, S.L. and Wang, C. (2015), Empirical Model for Estimation of the Residual Shear Strength of Liquified Soil, Journal of Geotechnical and Geoenvironmental Engineering, ASCE, 141(9):04015038.

Table 10: Idealized Soil Parameters New Piers 21 and 22 (Boring 1)								
Soil Layer	**Elevation (feet)**	**Material Type**	**Total Unit Weight (pcf)**	**N_{60} Value**	**$N1_{60}$ Value**	**Friction Angle (degrees)**	**Undrained Shear Strength, Su (psf)**	**Residual Undrained Shear Strength,Sr* (psf)**
1	125 - 108	Clay	113	26	32	0	2,000	--
2	108 - 77	Clay	118	11	9	0	1,000	--
3	77 - 57	Sand	130	58	41	38	0	--
4	57 - 47	Sand	120	21	13	31	0	--
5	47 - 25	Gravel	134	60	36	36	0	--

* Kramer, S.L. and Wang, C. (2015), Empirical Model for Estimation of the Residual Shear Strength of Liquified Soil, Journal of Geotechnical and Geoenvironmental Engineering, ASCE, 141(9):04015038.

GEOTECHNICAL RESISTANCE OF EXISTING PIER PILES

For preliminary analysis to evaluate the geotechnical resistance of the existing piles we used/considered the following:

- 51-inch diameter CIDH piles at retrofitted pier locations;
- modeled the worst case scour condition at all pier supports; elev. 89.5 ft at Strength Limit State and elev. 93.8 at Extreme Limit State (based on the available scour data);
- modeled groundwater at elev. 105 ft;
- evaluated CIDH pile foundations using the equations for clay, sand and gravel presented in AASHTO LRFD Bridge Design Specifications (8th Edition) with current Caltrans amendments (including scour);
- neglected the tip resistance of the CIDH piles in axial compression under strength limit state load;
- evaluated the geotechnical resistance of the CIDH piles under extreme event (compression and downdrag) using the guidelines and procedures presented in Caltrans' Liquefaction-Induced Downdrag Module (January 2020);
- a maximum permanent extreme event limit state load of 1,000 kips/pile to evaluate downdrag;
- modeled the maximum depth of downdrag at the bottom of the lowest potentially liquefiable layer that will induce settlement at the ground surface (i.e., surface manifestation of liquefaction);
- significant geotechnical resistance at the pile tips (on order of 850 kips/pile) is considered available under extreme event (compression and downdrag) for CIDH piles that are founded in very dense granular soils (sand/gravel);
- anomalies recorded in the 2001 construction documents do not adversely impact the geotechnical resistance of the as-built CIDH piles; and

- calculated the axial (compressive) resistance of the existing 16-inch square concrete piles based on the as-built pile lengths using Apile v.2014.6.10 computer program developed by Ensoft, Inc. using the Federal Highway Administration (FHWA) method.

Based on the results of our preliminary analysis, the strength limit load under scour condition is expected to control at all pier supports. The extreme event (compression and downdrag) does not control at any pier support assuming a maximum permanent load ≤ 1,000 kips/pile. We expect the actual maximum permanent load to be less than 1,000 kips/pile. The geotechnical resistance of the as-built piles is shown in Table 11.

Table 11: Geotechnical Resistance of (As-built) Piles

Support Location		Soil Profile	As-built Pile Tip Elevation (51" CIDH Pile)	Strength Limit State (51" CIDH Pile)	Geotechnical Resistance Existing 16-inch Concrete Pile
Existing	New			Compression	Compression
			(feet)	(kips/pile)	(kips/pile)
Pier 2	Pier 2	2	15	1100	Cut Off
Pier 4	Pier 3		15	1100	Cut Off
Pier 6	Pier 4	4	15	1300	140
Pier 8	Pier 5		15	1300	140
Pier10	Pier 6		15	1300	140
Pier 12	Pier 7		20	1190	140
Pier 14	Pier 8		18	1240	140
Pier 16	Pier 9	3	21	1260	115
Pier 17	Pier 10		21	1260	115
Pier 18	Pier 11		20	1280	115
Pier 19	Pier 12		18	1330	115
Pier 20	Pier 13		15	1390	115
Pier 21	Pier 14		17	1350	115
Pier 22	Pier 15	5	16	1570	70
Pier 23	Pier 16		16	1570	70
Pier 24	Pier 17		16	1570	70
Pier 25	Pier 18		22	1370	70
Pier 26	Pier 19		21	1400	70
Pier 27	Pier 20		22	1370	70
Pier 28	Pier 21	1	20	1600	Not Applicable
Pier 29	Pier 22		21	1570	Not Applicable

No liquefiable layers modeled at Piers 28 and 29.

LIMITATIONS

Crawford performed these services in accordance with generally accepted geotechnical engineering principles and practices currently used in this area. This memorandum is based on the current site and project conditions and should be used only for the evaluation and design for the Gonzales River Road Bridge Project.

It is assumed the soil and groundwater conditions interpreted from the 1999 borings are representative of the subsurface conditions at the site. Actual conditions between explorations could be different. The transition between materials may be abrupt or gradual.

Shawn Leyva
Project Engineer

W. Eric Nichols, CEG, PE
Principal

Attachment: Taber Consultants 1999 Log of Test Borings (2 sheets)

DIST.	COUNTY	ROUTE	MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
05	Mon	0	CR		

REGISTERED GEOTECHNICAL ENGINEER — 4-30-99

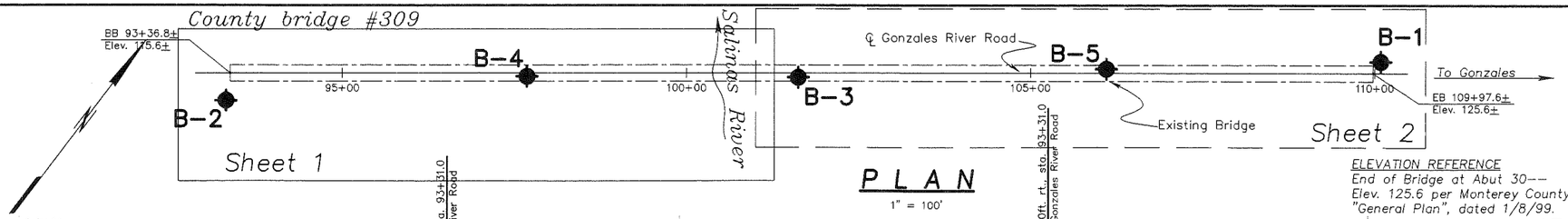
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER FRANKLIN P. TABER No. 816 EXP. 3-31-00 GEOTECHNICAL STATE OF CALIFORNIA

TABER CONSULTANTS
3911 West Capitol Avenue
West Sacramento, CA 95691

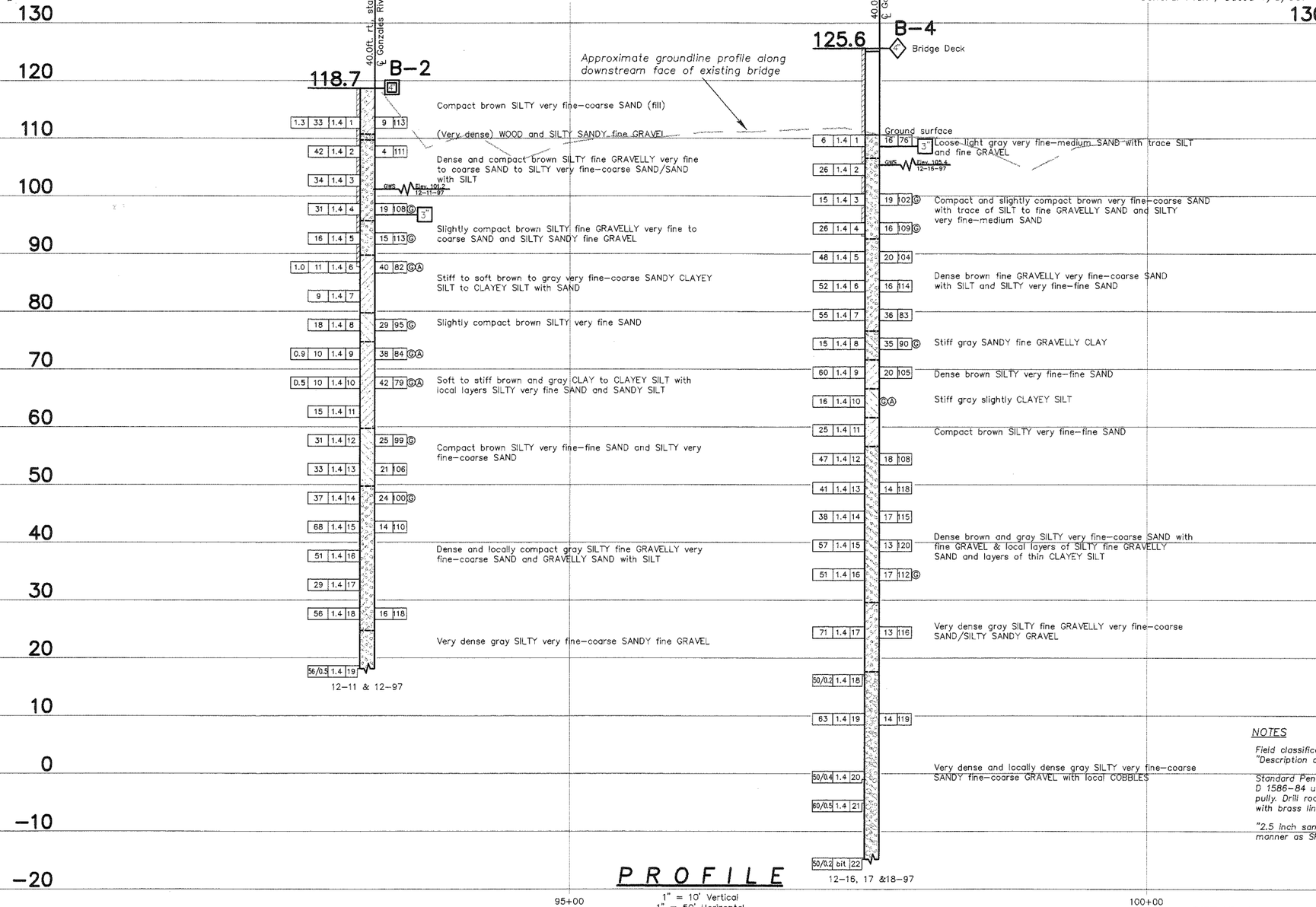
JOB No. 1R2/396/122-2.1 LOCATION: 36121-D4:405N:275W

Boyle Engineering Corporation
100 Howe Ave., Suite 250N
Sacramento, CA 95825



PLAN
1" = 100'

ELEVATION REFERENCE
End of Bridge at Abut 30--
Elev. 125.6 per Monterey County "General Plan", dated 1/8/99.



PROFILE
1" = 10' Vertical
1" = 50' Horizontal

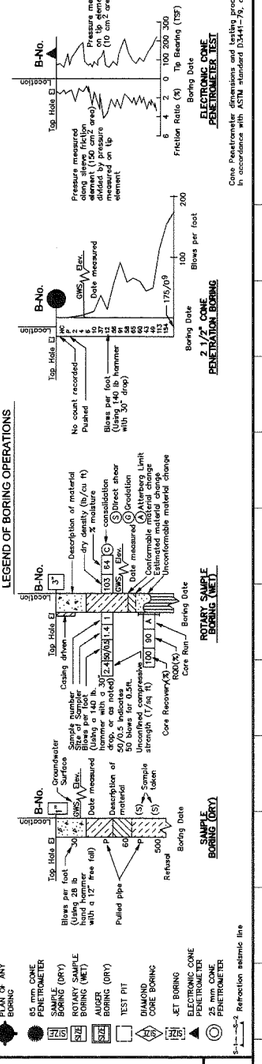
NOTES

Field classification of soils was in accordance with ASTM D 2488–69 "Description and Identification of Soils (Visual–Manual Procedure)".

Standard Penetration tests were performed in accordance with ASTM D 1586–84 using a safety hammer operated with cat–head, rope and pully. Drill rods were 1–5/8" diameter "A"–rods; sampler was driven with brass liners.

"2.5 inch sampler": ID=2.5 inch, OD=2.85 inch. Driven in same manner as SPT ("1.4 inch") sampler.

LEGEND OF BORING OPERATIONS



LEGEND OF EARTH MATERIALS

GRAVEL · SAND · SILT · CLAY · SANDY CLAY or CLAYEY SAND · SANDY SILT or SILTY SAND · SILTY CLAY · CLAYEY SILT · PEAT and/or ORGANIC MATTER · FILL MATERIAL · IGNEOUS ROCK · SEDIMENTARY ROCK · METAMORPHIC ROCK

CONSISTENCY CLASSIFICATION FOR SOILS
According to the Standard Penetration Test

Standard Penetration N-Value	Granular	Cohesive
0–4	Very loose	Very soft
5–9	Loose	Soft
10–19	Slightly compact	Stiff
20–34	Compact	Very stiff
35–69	Dense	Hard
>70	Very dense	Very hard

NOTE: Classification of earth material as shown on this sheet is based upon field inspection and is not to be construed to imply mechanical analysis.

DESIGN OVERSIGHT	DRAWN BY	T. M. Arkus	T. A. Krause FIELD INVESTIGATOR	PREPARED FOR MONTEREY COUNTY	Todd J. Lambert PROJECT ENGINEER
SIGN OFF DATE	CHECKED BY	H. C. Valencia	DATE December 1997		

BRIDGE NO.	EARTHQUAKE RETROFIT
44C-0035	GONZALES RIVER ROAD BRIDGE
POST MILES	LOG OF TEST BORINGS (1 of 2)

1/98 1R2396122-21b.dwg

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

CU EA

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES (PRELIMINARY STAGE ONLY) | SHEET | OF

DIST.	COUNTY	ROUTE	MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
05	Mon	0	CR		

REGISTERED GEOTECHNICAL ENGINEER — 4.30.99

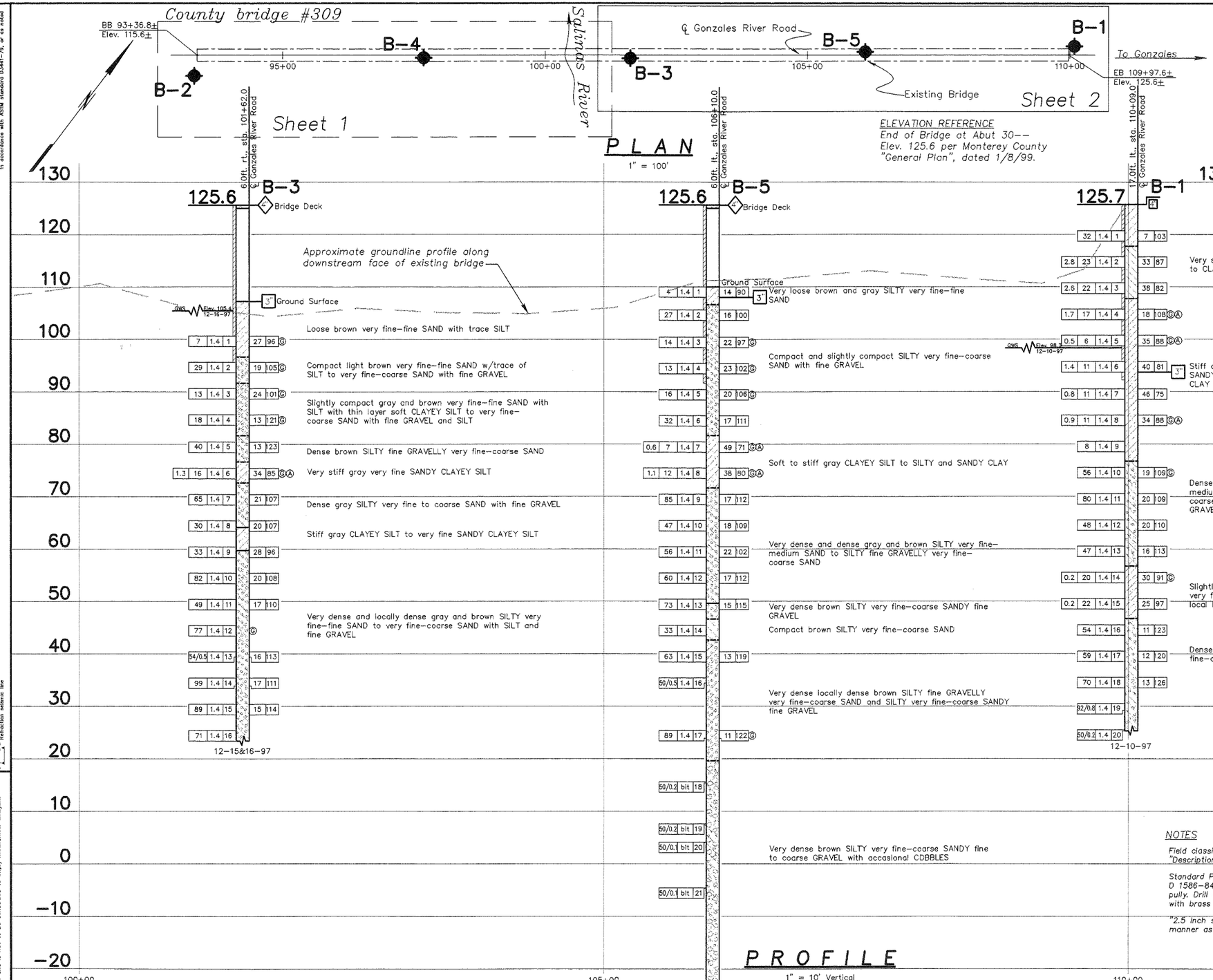
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — FRANKLIN P. TABER — No. 816 — EXP. 3-31-00 — GEOTECHNICAL — STATE OF CALIFORNIA

TABER CONSULTANTS
3911 West Capitol Avenue
West Sacramento, CA 95691

JOB No. 1R2/396/122-2.1 LOCATION: 36121-D4: 405N: 275W

Boyle Engineering Corporation
100 Howe Ave., Suite 250N
Sacramento, CA 95825



NOTES

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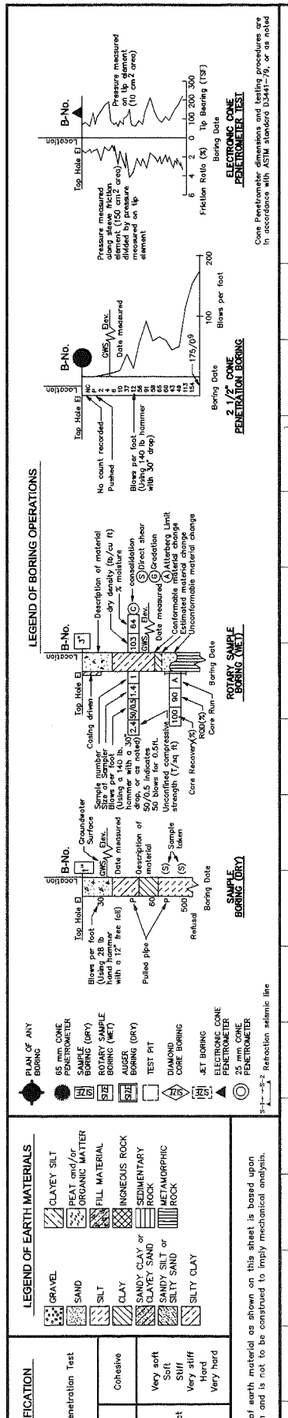
LEGEND OF BORING OPERATIONS



LEGEND OF EARTH MATERIALS

GRAVEL; SAND; SILT; CLAY; SANDY CLAY or CLAY SAND; SANDY SILT or SILTY SAND; SILTY CLAY; CLAYEY SILT; PEAT and/or ORGANIC MATTER; FILL MATERIAL; INGNEOUS ROCK; SEDIMENTARY ROCK; METAMORPHIC ROCK

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NOTE: Classification of earth material as shown on this sheet is based upon field inspection and is not to be construed to imply mechanical analysis.

DESIGN OVERSIGHT	DRAWN BY	T. M. Arkus	T. A. Krause, FIELD INVESTIGATOR
SIGN OFF DATE	CHECKED BY	H. C. Valencia	DATE December 1997

PREPARED FOR
MONTEREY COUNTY

Todd J. Lambert
PROJECT ENGINEER

BRIDGE NO.	EARTHQUAKE RETROFIT
44C-0035	GONZALES RIVER ROAD BRIDGE
POST MILES	LOG OF TEST BORINGS (2 of 2)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

CU
EA

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY) | SHEET | OF

1/98 1R2396122-21a.dwg

APPENDIX I

LOCATION HYDRAULIC STUDY REPORT

Gonzales River Road Bridge over Salinas River Replacement Project
Monterey County, California
Federal-Aid Project No. BRLS-5944(098)
Existing Bridge No. 44C0035

Location Hydraulic Study Report

Prepared for:

Prepared by:

February 2017

Gonzales River Road Bridge over Salinas River Replacement Project
Monterey County, California
Federal-Aid Project No. BRLS-5944(098)
Existing Bridge No. 44C0035

Location Hydraulic Study Report

Submitted to:
County of Monterey

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

2/2/2017
Date

February 2017

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Figures

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Appendices

Executive Summary

The County of Monterey (County) Public Works Department proposes to replace the existing superstructure portion of the bridge on Gonzales River Road over the Salinas River in Monterey County, California, to alleviate structural deficiencies and widen the shoulders to meet current American Association of State Highway and Transportation Officials standards. The Gonzales River Road Bridge over Salinas River Replacement Project (Project) is located in Central Monterey County, approximately 16.6 miles (mi) southeast of the City of Salinas, approximately 2 mi southwest of the City of Gonzales, and approximately 0.2 mi east of River Road. The bridge runs generally in a north-south direction, and the flow in the Salinas River runs generally in an east-to-west direction under the bridge.

The existing 29-span bridge was constructed in 1930 and retrofitted in 2001-2002. The existing bridge is approximately 1,661 feet (ft) long and 22 ft, 6 inches (in.) wide, and accommodates two travel lanes with no shoulders. According to the 2012 California Department of Transportation bridge inspection report, the bridge has a sufficiency rating of 48.1 and is flagged as functionally obsolete due to insufficient lane width and a lack of shoulders. In addition, the bridge is considered structurally deficient due to the condition of the superstructure. The bridge has been designated as fracture critical since June 2007. The low sufficiency rating and identified structural deficiencies qualify this bridge for a superstructure replacement using Highway Bridge Program funds.

The purpose of the Project is to remove the entire superstructure of the existing bridge and to replace it with a new precast/prestressed wide flange girder superstructure to prevent unexpected failure and increase safety. In addition, eight existing piers will be removed, two existing piers will be reconstructed to raise the profile grade of the south end of the bridge up to that of the remainder of the bridge, the south abutment will be removed and replaced approximately 40 ft from its existing location, and the north abutment will be rebuilt in its existing location to bring it up to current standards. Roadway approach work will be required within 1,025 ft of the south approach to meet current design standards of allowing the curve preceding the bridge to roll out of the superelevation transition. Profile grade modifications and shoulder tapers are expected to be accomplished within 400 ft of the north abutment to conform to the existing roadway. Because the roadway profile will be raised by some amount, these access roads will need to be modified to meet the new profile grade and conform back to existing. They will be constructed within temporary construction easements to be obtained.

The purpose of this Location Hydraulic Study is to examine and analyze the existing base (100-year) floodplain within the Project limits, to document any potential impacts to or encroachments upon the floodplain, and to recommend any avoidance, minimization, or mitigation.

The Project site is located within Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) number 06053C0600G, effective April 2, 2009. The

FIRM indicates that the Project site is located in an area classified by FEMA as Special Flood Hazard Area Zone A, which represents areas subject to flooding by the 100-year flood event determined by approximate methods where Base Flood Elevations (BFEs) are not shown. Because detailed analyses are not performed for such areas, BFEs and depths have not been determined by FEMA for the Project vicinity.

The 100-year peak discharge for Salinas River at the Project site was evaluated using the peak flow rate of Salinas River in the Project vicinity provided in the FEMA Flood Insurance Study, the Flood Study for the Salinas River Stream Maintenance Program prepared by Cardno ENTRIX, and the hydrologic analysis based on the most current United States Geological Survey (USGS) stream gaging station flows by WRECO. The most conservative peak discharge estimated by WRECO was selected for use in the hydraulic analysis. The 100-year peak discharge in Salinas River at the Project location was estimated to be 176,700 cubic feet per second (cfs).

The hydraulic analyses of Salinas River at the Project location were performed using the United States Army Corps of Engineers' Hydrologic Engineering Center River Analysis System (HEC-RAS) (Version 5.0.1) to determine the design 100-year water surface elevations (WSEs) of Salinas River at the Project vicinity. The HEC-RAS model of Salinas River developed by Cardno ENTRIX in their January 2013 flood study for Salinas River Stream Maintenance Program was used as the base hydraulic model for the Project.

For both the existing and proposed bridge conditions, southern (left) bridge approach area would be submerged during the 100-year storm event. The proposed bridge, with a gentler southern bridge approach slope, would increase the flood flow obstruction compared to the existing bridge with steep bridge approach slope. The proposed bridge would result in a maximum increase in the 100-year WSE of 0.1 ft from the upstream face to approximately 5,235 ft upstream of the proposed bridge, and the WSEs match the existing 100-year WSEs farther upstream and at the downstream side of the proposed bridge.

The existing Gonzales River Road bridge is overtopped during a base flood but the proposed bridge deck will be raised to be higher than the based flood. The southern approach areas to the existing and proposed bridge crossing would be overtopped during 100-year flood.

The Project will result in permanently affected area associated with construction of the replacement bridge, and temporary impact associated with ground disturbance during the construction of the replacement bridge and removal of the existing bridge superstructure. Potential short-term adverse effects of the Project to the natural and beneficial floodplain values include: 1) loss of vegetation during construction activity; and 2) temporary disturbance of fish and wildlife habitat. The construction of new piers in the channel will be within the base floodplain and may have the potential to impact the natural and beneficial floodplain values.

The alignment of the proposed bridge would not be parallel to the direction of flow in Salinas River; therefore, the proposed action would not be a longitudinal encroachment to the existing floodplain. The proposed action would not create new access to developed or undeveloped land within the 100-year floodplain. The Project would not trigger incompatible floodplain development in Salinas River.

The widening of the Gonzales River Road bridge crossing and the roadway approach area will not significantly increase the impervious surface area within the Salinas River watershed. The Project will introduce fill inside the 100-year floodplain. The results of the hydraulic analysis indicated that the proposed bridge would not significantly modify the characteristics of the existing 100-year floodplain. Overall, the risk associated with the proposed Project would be low.

Acronyms

23 CFR 650A	Title 23, Code of Federal Regulations, Part 650, Subpart A
ADT	average daily traffic
AASHTO	American Association of State Highway and Transportation Officials
BFE	base flood elevations
BIR	bridge inspection report
Caltrans	California Department of Transportation
CFR	Code of Federal Regulations
CIDH	cast-in-drilled-hole
CIP	cast-in-place
County	County of Monterey
cfs	cubic feet per second
DOT	Department of Transportation
FEMA	Federal Emergency Management Agency
FFRMS	Federal Flood Risk Management Standard
FHWA	Federal Highway Administration
FIRM	Flood Insurance Rate Map
FIS	Flood Insurance Study
ft	foot and feet
HBP	Highway Bridge Program
HEC-RAS	Hydrologic Engineering Center River Analysis System
in.	inches
mi	miles
NAVD 88	North American Vertical Datum of 1988
NFIP	National Flood Insurance Program
PC/PS	precast/prestressed
Project	Gonzales River Road Bridge over Salinas River Replacement Project
RC	reinforced concrete
RS	river station
sq mi	square miles
USACE	United States Army Corps of Engineers
USGS	United States Geological Survey
WSE	water surface elevation

Location Hydraulic Study Form

Dist. 5 Co. Monterey County Rte. Gonzales River Road K.P. N/A
EA: N/A Federal-Aid Project Number: BRLS-5944(098) Bridge No. 44C0035

Floodplain Description:
The Project is located within Monterey County, California and Incorporated Areas Flood Insurance Rate Map (FIRM) Number 06053C0600G, effective April 2, 2009. The Project is within Zone A, which represents an area with a 1% annual chance of flooding. Because detailed analyses are not performed for such areas, no depths or base flood elevations are shown in the FIRMs within these zones.

1. Description of Proposal *(include any physical barriers i.e. concrete barriers, soundwalls, etc. and design elements to minimize floodplain impacts)*
The County of Monterey Public Works Department proposes to replace the existing superstructure portion of the bridge on Gonzales River Road over the Salinas River in Monterey County, California. The Project is located 0.2 miles east of River Road. The roadway approaches will be modified to be consistent with the new bridge width and profile grade. The limits of the Project will be from approximately 400 feet north of the bridge to 1,025 feet south of the bridge.

2. ADT: Current 1,800 (2010) Projected 4,333 (2034)

3. Hydraulic Data: Base Flood Q100= 176,700 ft^3 / s WSE100= 125.4 ft NAVD 88
The flood of record, if greater than Q100:
Q100= N/A ft^3 / s WSE100= N/A
Overtopping flood Q= N/A ft^3 / s WSE= N/A

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 ✓

Location Hydraulic Study Form cont.

Dist. 5 Co. Monterey County Rte. Gonzales River Road K.P. N/A
EA: N/A Federal-Aid Project Number: BRLS-5944(098) Bridge No. 44C0035

7. Estimated duration of traffic interruption for 100-year event hours: N/A

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.

Signature – Local Agency/Consulting Hydraulic Engineer

(Item numbers 3,4,5,7,9) _____ Date 2/2/2017

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.

Signature – Local Agency Project Manager

(Item numbers 1,2,6,8) _____ Date Feb. 2, 2017

Summary Floodplain Encroachment Report

Dist. 5 Co. Monterey County Rte. Gonzales River Road K.P. N/A
EA: N/A Federal-Aid Project Number: BRLS-5944(098) Bridge No. 44C0035

Limits:
The Project limits on Gonzales River Road will be approximately 400 feet north of the bridge to 1,025 feet south of the bridge, including the existing two-lane bridge over Salinas River.

Floodplain Description:
The Project is located within Monterey County, California and Incorporated Areas Flood Insurance Rate Map (FIRM) Number 06053C0600G, effective April 2, 2009. The Project is within Zone A, which represents an area with a 1% annual chance of flooding. Because detailed analyses are not performed for such areas, no depths or base flood elevations are shown in the FIRMs within these zones.

		No	Yes
1.	Is the proposed action a longitudinal encroachment of the base floodplain?	✓	
2.	Are the risks associated with the implementation of the proposed action significant?	✓	
3.	Will the proposed action support probable incompatible floodplain development?	✓	
4.	Are there any significant impacts on natural and beneficial floodplain values?	✓	
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.	✓	
6.	Does the proposed action constitute a significant floodplain encroachment as defined in 23 CFR, Section 650.105(q)?	✓	
7.	Are Location Hydraulic Studies that document the above answers on file? If not explain.		✓

PREPARED BY:

Signature –Consulting Hydraulic Engineer — Date: 2/2/2017

Signature - Dist. Environmental Branch Chief — Date: 2/7/17

Signature - Dist. Local Assistance Engineer — Date: 2/7/17

REGISTERED PROFESSIONAL ENGINEER (HAI-BIN LIANG) No. C043604 Exp. 6/30/18 CIVIL STATE OF CALIFORNIA

1 GENERAL DESCRIPTION

1.1 Project Description

The County of Monterey (County) Public Works Department proposes to replace the existing superstructure portion of the bridge on Gonzales River Road over the Salinas River in Monterey County, California, to alleviate structural deficiencies and widen the shoulders to meet current American Association of State Highway and Transportation Officials (AASHTO) standards. The bridge identification information is listed below:

California Department of Transportation (Caltrans) Bridge No. 44C0035
County Bridge No. 309
District-County-Route-PM: 05-MON-0-CR
Fed Project No.: BRLS-5944(098)

The Gonzales River Road Bridge over Salinas River Replacement Project (Project) is located in Central Monterey County, approximately 16.6 miles (mi) southeast of the City of Salinas, approximately 2 mi southwest of the City of Gonzales, and approximately 0.2 mi east of River Road. Current land uses surrounding the Project site include active agricultural lands. (See Figure 1 for the Project location map, Figure 2 for the vicinity map, and Figure 3 for the aerial map.)

Funding sources for the Project include funds from the Federal Highway Bridge Program (HBP) and a local match possibly from State Transportation Improvement Program funds allocated by the Transportation Agency for Monterey County.

1.2 Purpose of Project and Need

The existing bridge is rated as functionally obsolete for inadequate shoulder and lane widths and also rated as structurally deficient. The purpose of the Project is to remove the entire superstructure of the existing bridge including existing steel bearing and anchor bolts, and to replace it with a new precast/prestressed (PC/PS) wide flange girder superstructure to alleviate the deficiencies of the existing bridge so as to prevent unexpected failure and increase safety.

The existing bridge was constructed in 1930, and it was seismically retrofitted in 2001. As part of the retrofit, new foundations and substructures were constructed, with the provision to allow convenient replacement of the superstructure at some point in the future. So while the existing bridge is rated as functionally obsolete and structurally deficient, only the existing superstructure needs to be completely replaced. Along with complete replacement of the bridge superstructure, the roadway approaches will be modified to be consistent with the new bridge width and profile grade.

Further, the bridge does not pass code-mandated flood flows; thus, the waterway opening needs to be enlarged to prevent backwater effects. To achieve this, the first five spans of

the bridge will need to be raised up to 10 feet (ft) from their current condition; and thus, the south approach work will be more extensive than the north.

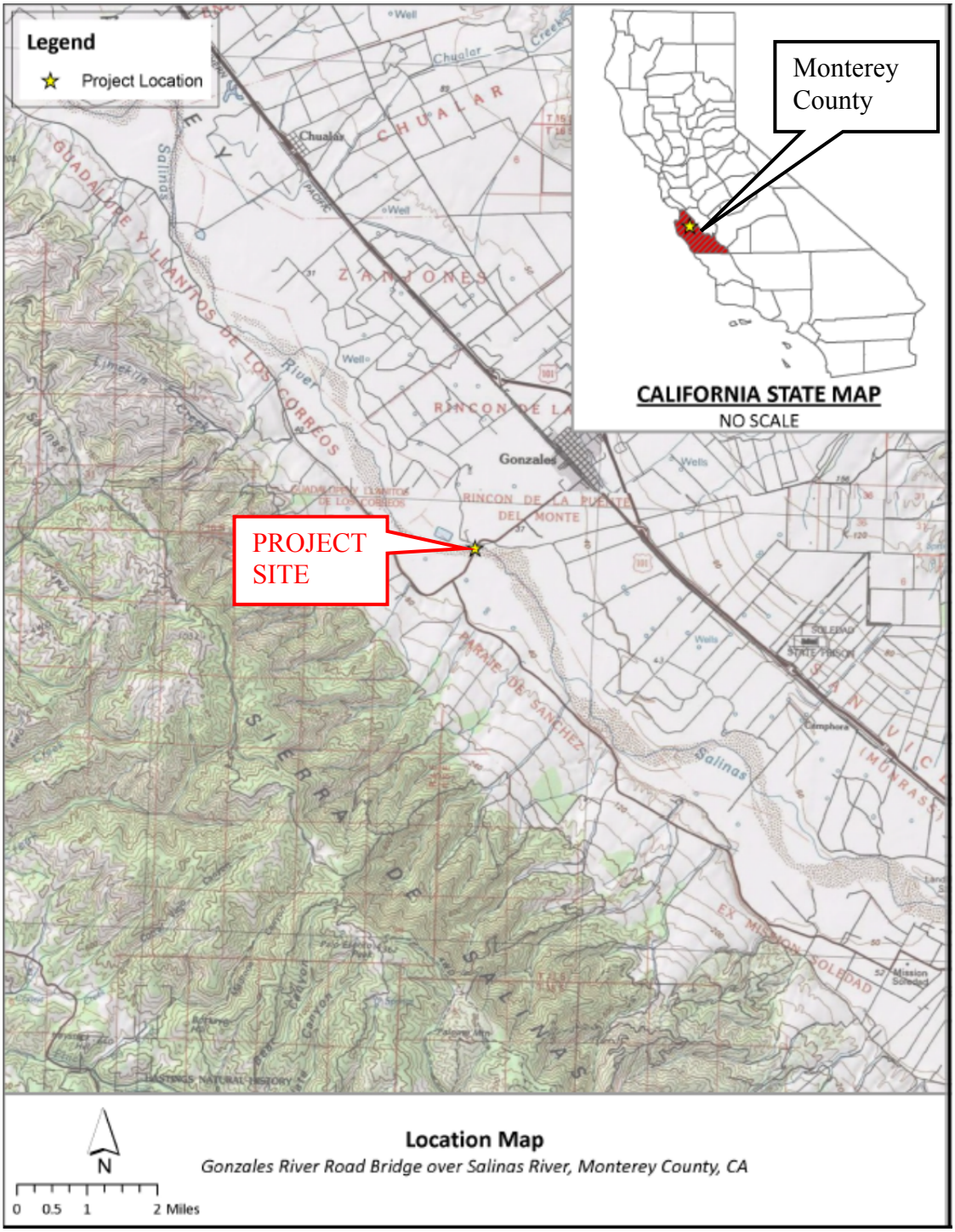

Figure 1. Project Location Map

Source: United States Geological Survey (USGS)

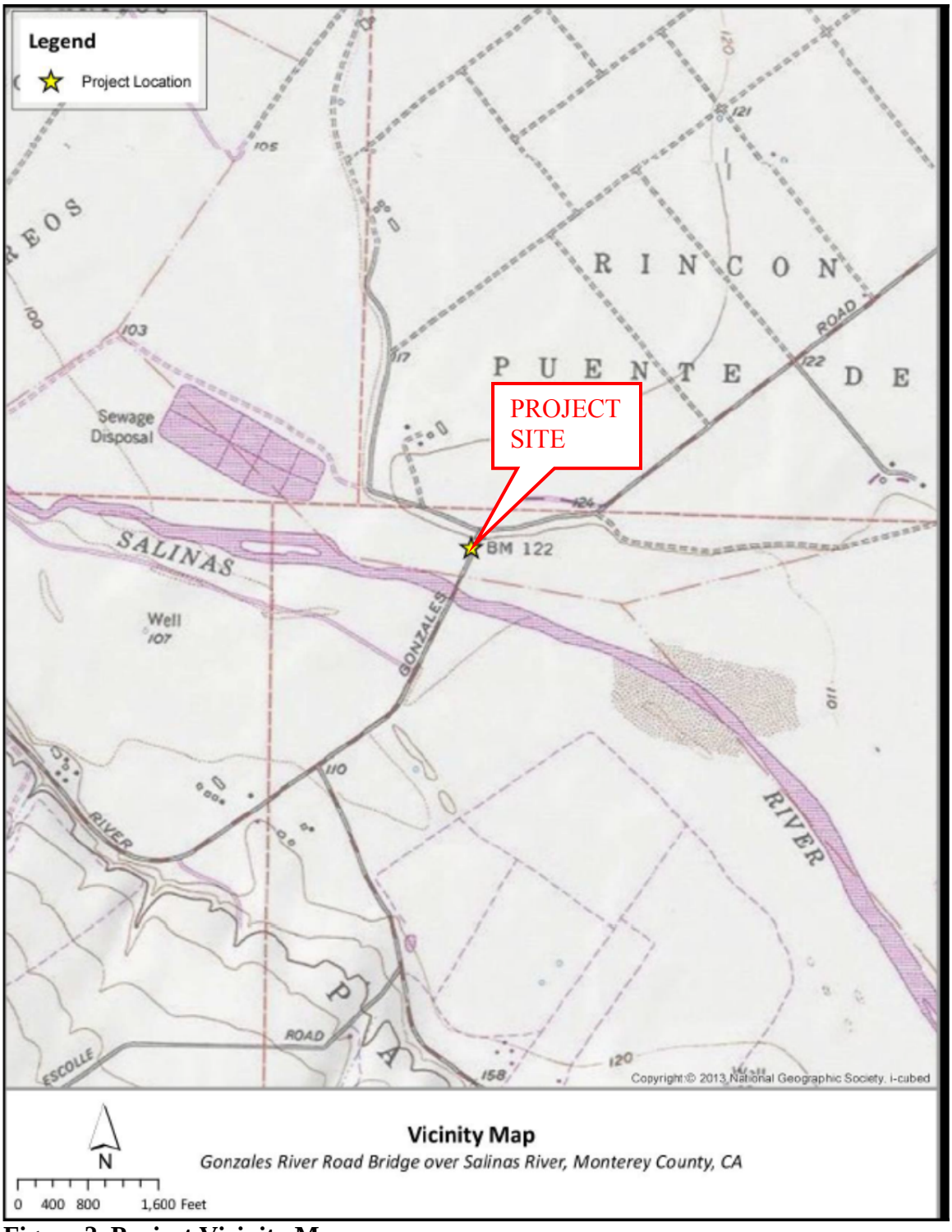

Figure 2. Project Vicinity Map

Source: USGS

Figure 3. Project Aerial Map

Source: ESRI

1.3 Existing Bridge

The existing 29-span Gonzales River Road bridge over Salinas River was constructed in 1930 and retrofitted in 2001-2002. The bridge runs generally in a north-south direction, and the flow in the Salinas River runs generally in an east-to-west direction under the bridge. The existing bridge is approximately 1,661 ft long and 22 ft, 6 inches (in.) wide, and accommodates two travel lanes with no shoulders (see Photo 1). The abutments are reinforced concrete (RC) seat-type abutments on 16 in. square PC/PS piling. Spans 1 through 15, as well as span 28 and 29, are 40 ft, 2 in. long and are composed of rolled steel girders with a non-composite cast-in-place (CIP) concrete deck, covered with an asphalt concrete wearing surface. Spans 16 through 27 are 81 ft, 6 in. long and are composed of riveted steel plate through girders with a non-composite CIP concrete deck, covered with an asphalt concrete wearing surface. The superstructure is in poor condition with many cracks, spalls, exposed reinforcing bars and failing joints.

Photo 1. Existing Bridge (Looking West)

Source: Caltrans Bridge Inspection Report (BIR)

According to the 2012 Caltrans BIR, the bridge has a sufficiency rating of 48.1 and is flagged as functionally obsolete due to insufficient lane width and a lack of shoulders. The July 2015 Local Agency Bridge Structure Inventory and Appraisal sheet indicates a sufficiency rating of 49.1, which also flagged the bridge functionally obsolete. In addition, the bridge is considered structurally deficient due to the condition of the

superstructure. The bridge is designated fracture critical since June 2007. The low sufficiency rating and identified structural deficiencies qualify this bridge for a superstructure replacement using HBP funds.

The focus of the 2001-2002 seismic retrofit was on the substructure and anticipated that the superstructure would be replaced at a later date. Where the spans are 40 ft, 2 in. long, every other pier was retrofitted and widened to accommodate a wider superstructure. All piers were retrofitted where the span lengths are 81 ft, 6 in. At the retrofitted piers, cast-in-drilled-hole (CIDH) pilings 48 in. in diameter were constructed with pile extensions tying into larger, 44 ft long pier caps.

1.4 Proposed Bridge

The proposed Project recommends widening the existing bridge and roadway to current AASHTO standards. The proposed bridge will be 1,701 ft long, and 42 ft, 10 in. wide to accommodate two 12-ft-wide lanes of traffic with two 8-ft shoulders and a 1 ft, 5 in. wide concrete Type 732 barrier rail at each edge of deck to meet current AASHTO and the County standards. The centerline of the proposed bridge will match the existing bridge centerline and will bear straight at approximately 25°36′02″ north latitude. The profile grade of the existing bridge is at an elevation of 125.6 ft except the southerly five spans, which descend at a grade of 5% to elevation 108.5 ft at the south abutment (Abutment E1) (see Figure 4). In addition to replacing the superstructure, Piers E3, E5, E7, E9, E11, E13, E15 and E29 will be removed (see Figure 4). Piers E2 and E4 will be reconstructed to raise the profile grade of the south end of the bridge up to that of the remainder of the bridge. Abutment E1 will be removed and replaced approximately 40 ft from its existing location to create a span of approximately 80 ft to match the other spans. Abutment E30 will be rebuilt in its existing location to bring it up to current standards. If possible, the existing piles will be incorporated into the new abutment. Abutment 1 and Piers E2 and E4 will be rebuilt to match the elevation of the other existing piers, and the replacement superstructure will be set on the piers, resulting in a new profile grade elevation of 127.25 ft.

A Type Selection Memorandum dated April 14, 2016 was submitted to Caltrans for review and was approved by Caltrans on May 9, 2016. The 21-span configuration as previously described, and a superstructure consisting of PC/PS wide-flange girders with a CIP RC deck with a structure depth of 4 ft, 6 in. was approved.

As introduced above, the existing bridge abutments will be removed and replaced with new RC abutments to support the width of the new bridge. Each abutment would include an RC footing supported on multiple piles. Piles will be 2 ft in diameter and will be either CIDH piles or driven steel shell piles that are filled with RC. The footing size will be approximately 10 ft by 43 ft, 4 in. and 3 ft thick. The footing will not be visible as it will have a minimum of 2 ft of earthen cover over it. The depth of each pile will be approximately 40 to 60 ft, or more, depending on soil conditions. Each abutment will also have a structure approach slab. This slab will basically be a RC slab cast on grade and supported by the bridge abutment and the approach fill. These slabs will be 10 ft

long measured along the road, the width will be the same as the bridge width, and the thickness will be approximately 1 ft.

In addition to the removal of some piers as mentioned earlier, major modifications to Pier E2 and E4 and minor modifications to the remaining existing piers will be required. In order to increase the profile grade at Piers E2 and E4, the existing pier caps will be removed entirely and approximately 4 ft of concrete on the top of the outrigger columns will be removed and the existing reinforcement will be protected in place. New column reinforcement bars will be mechanically spliced onto the existing main column reinforcement, the columns will be extended upwards, and a new RC pier cap will be constructed. Work at the remaining piers will include construction of riser blocks to create the crowned 2% cross-slope of the superstructure and to attain the specified profile grade.

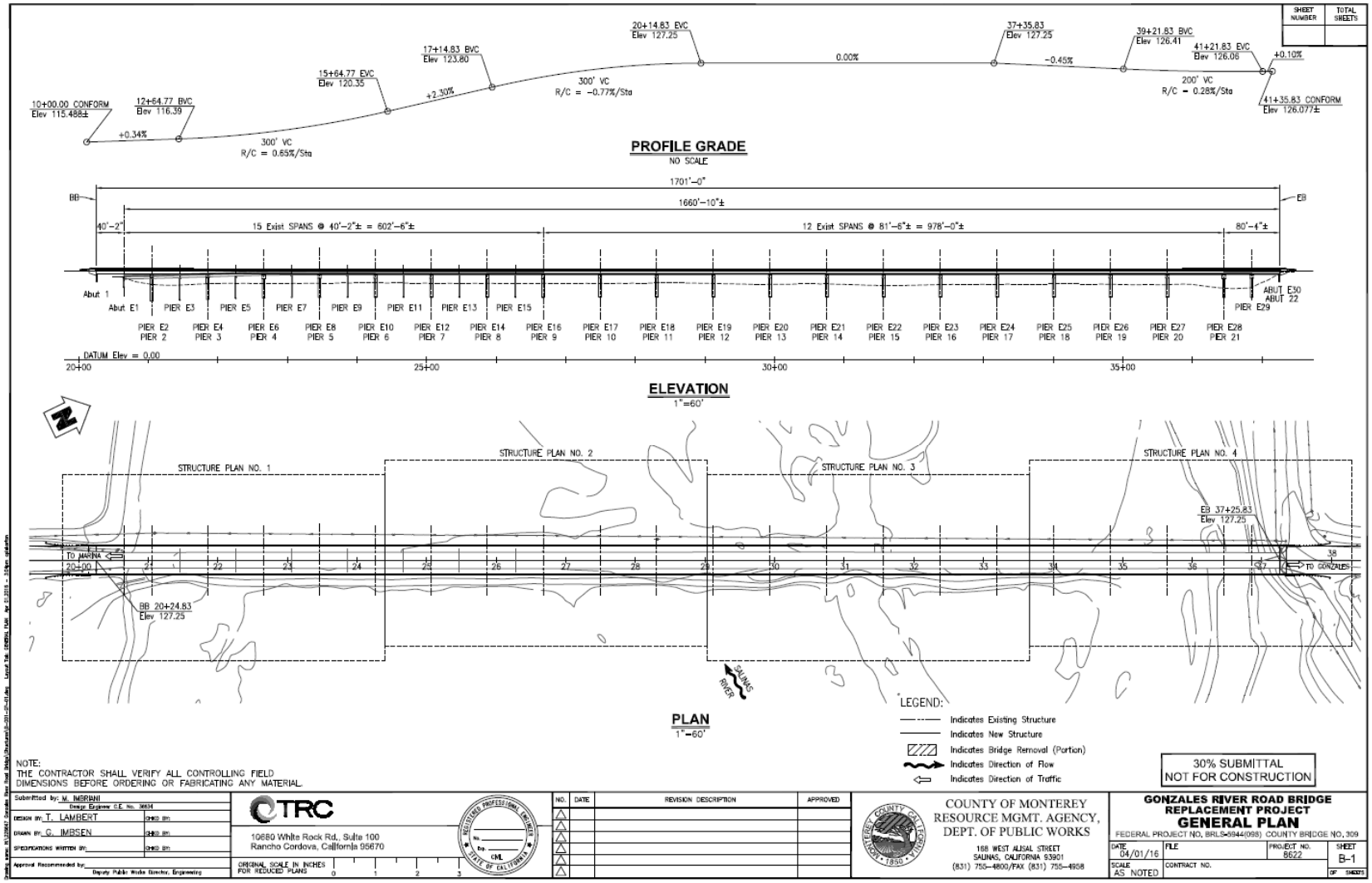

Figure 4. Proposed Bridge General Plan

Source: TRC

1.5 Roadway Approaches

This Project is on the National Highway System; therefore, it is typically only eligible for only 200 ft of roadway approach work on each end of the bridge. However, it is estimated that 1,025 ft of approach work will be required on the south approach to meet current design standards of allowing the curve preceding the bridge to roll out of the superelevation transition. Profile grade modifications and shoulder tapers are expected to be accomplished within 400 ft of the north abutment to conform to the existing roadway (see Figure 5).

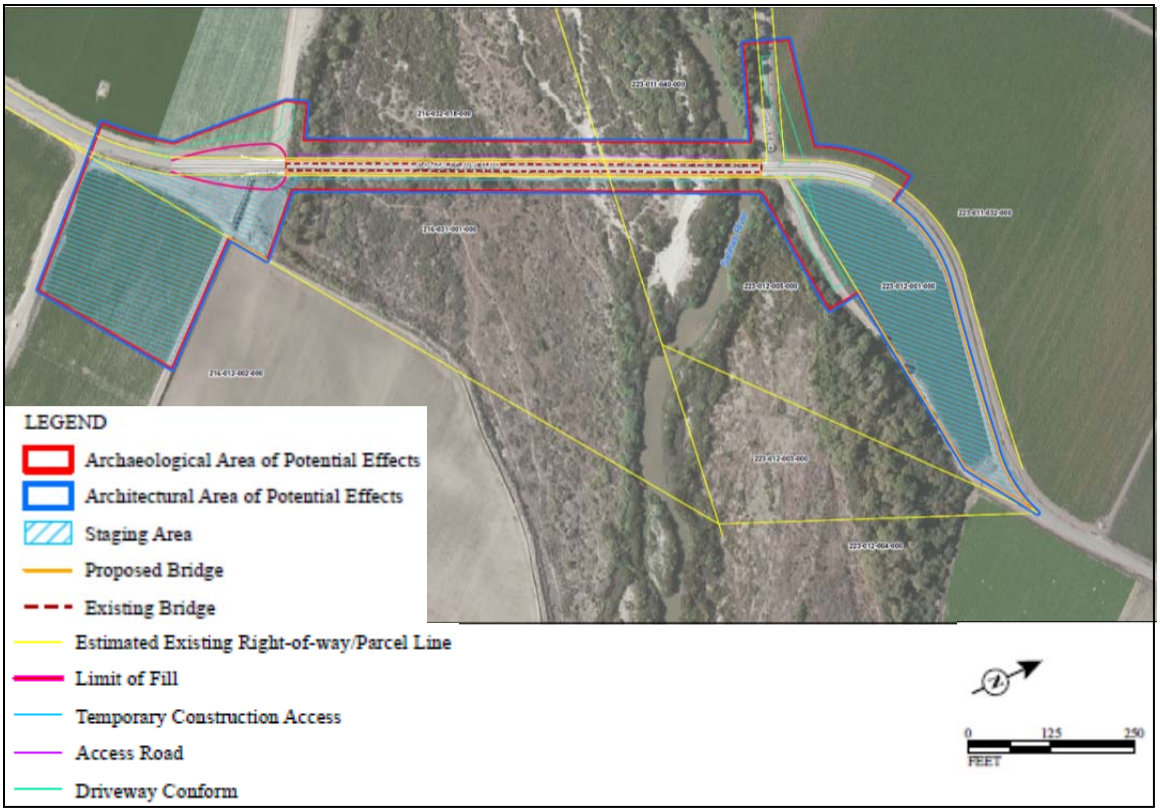

Figure 5. Area of Potential Impacts

Source: TRC

The profile at the south end of the bridge is going to be raised to meet the rest of the existing bridge deck at an elevation of 127.25 ft. Based on the estimated 10 ft increase in profile grade required at the south abutment, and the realignment of Short Road to the north (to provide adequate site distance past the bridge barriers for cars entering Gonzales River Road from Short Road) the extended approach roadwork limits mentioned above are necessary. On the southern approach, the proposed roadway profile varies in longitudinal slope from 0.3% to 2.30% and proposes to match the existing grade as close as possible. The slopes of the adjacent agriculture properties to the roadway in this segment are flat, and the roadway can be constructed with minimal grading to provide smooth vertical profile transitions along the roadway. On the northern roadway

approach, the proposed profile grade will match the existing profile grade at a 0.45% slope.

1.6 Access Roads and Roadside Ditches

On the east side of Gonzales River Road at the southern approach to the bridge, an existing 3 ft to 8 ft deep earth lined ditch with 2:1 side slopes drains to the Salinas River. This ditch would be impacted by the proposed widening. Approximately 1,100 ft of this ditch consisting of the same shape would be realigned on the east side of the roadway parallel to Gonzales River Road.

Short Road and one private access road intersect with Gonzales River Road on the north end of the bridge. Graded farm access roads, 10 ft wide, would be re-graded outside of the TRACC system guard rails, which are 25 ft in length. Because the roadway profile would be raised by some amount, these access roads would need to be modified to meet the new profile grade and conform back to existing and would be constructed within temporary construction easements to be obtained.

Similarly, a 10 ft wide farm access road is also located along the west side of the roadway running parallel to Gonzales River Road on the adjacent agricultural property. A new 10 ft graded access road would be constructed at grade outside of the roadway fill limits parallel to Gonzales River Road, in order to maintain access around the property.

1.7 Channel Properties

Salinas River at the Project location is a wide sandy channel with moderate vegetation on banks (see Photo 2). The channel width measured along the Gonzales Road bridge is approximately 1,660 ft. During the dry season, Salinas River could be dry at the Project location. Aerial photos taken in May 1994, October 2007, and April 2015 did not show surface water at the Project location. The Caltrans BIR dated April 10, 2014 also noted that Salinas River was dry at the time of inspection. When the river flows are low, the low flow channel is in Spans 27 and 28 on the northern end of the bridge.

1.8 Purpose of Study

The purpose of this Location Hydraulic Study is to examine and analyze the existing floodplain within the Project limits, to document any potential impacts to or encroachments upon the floodplain, and to recommend any avoidance, minimization, or mitigation measures that may be required. As defined by the Federal Highway Administration (FHWA) Title 23, Code of Federal Regulations (CFR), Part 650, Subpart A (23 CFR 650A), a significant encroachment is a highway encroachment or any action to promote base floodplain development that involves one or more of the following construction or flood related impacts: 1) a significant potential for the interruption or termination of a transportation facility that is needed for emergency vehicles or that provides a community's only evacuation route; 2) a significant risk; or 3) a significant adverse impact on the natural and beneficial floodplain values.

Photo 2. River Channel within Span 28 (Looking East)

Source: Caltrans BIR

1.9 Regulatory Setting

1.9.1 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. Requirements for compliance are outlined in 23 CFR 650A titled "Location and Hydraulic Design of Encroachment on Floodplains."

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.

1.9.2 Executive Order 13690 (Establishing a Federal Flood Risk Management Standard and a Process for Further Soliciting and Considering Stakeholder Input)

The Federal Flood Risk Management Standard (FFRMS) is the national flood risk management standard established by Executive Order 13690 to be incorporated into existing processes used to implement Executive Order 11988. Executive Order 13690 amends "Executive Order 11988, Floodplain Management," and directs all federal agencies to avoid conducting, allowing, or supporting construction in the base floodplain. The executive order also directs federal agencies to take action to reduce the risk of flood loss, minimize the impact of floods on human safety, health, and welfare, and restore and preserve the natural and beneficial values served by the floodplain. The floodplain elevation and flood hazard area should be the result of using a climate-informed science approach.

The FFRMS requires all future federal investments in and affecting floodplains to meet the level of resilience as established by the Executive Order 13690. The vertical flood elevation and corresponding horizontal floodplain, determined using the approaches in the FFRMS, establish the level to which a structure or facility must be resilient. This may include using structural or nonstructural methods to reduce or prevent damage; elevating a structure; or, where appropriate, designing it to adapt to, withstand and rapidly recover from a flood event. The implementation of Executive Order 13690 for floodplains gives agencies the flexibility to select one of four approaches for establishing the flood elevation and hazard area used in siting, design, and construction:

- Use data and methods informed by best-available actionable hydrologic and hydraulic data and methods that integrate current and future changes in flooding based on climate-informed science;
- Build 2 ft above the 100-year (1%-annual-chance) flood elevation for standard non-critical projects, and 3 ft above the 100-year flood elevation for critical projects such as hospitals and evacuation centers;
- Build to the 500-year (0.2%-annual-chance) flood elevation; or
- Build to an elevation and flood hazard area that results from using any other method identified in an update to the FFRMS.

Executive Order 13690 is not a self-implementing requirement. Both the United States Department of Transportation (DOT) and FHWA have to take actions to update their procedures before they apply to FHWA projects. The U.S. DOT has been working on an implementation plan to comply with Executive Order 13690. However, no FHWA programs should deviate from the existing requirements (23 CFR 650A) until promulgation of any new/revised regulation, policies, and guidance for compliance with Executive Order 13690.

Therefore, the Project will continue to be compliant with FHWA regulations contained in 23 CFR 650A, the "Location and Hydraulic Design of Encroachments on Flood Plains."

These regulations are the FHWA's current method for implementing Executive Order 11988, which relates to Floodplain Management.

1.9.3 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 (FIRMs) 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' Division of Flood Management. Under California's NFIP, communities have a mutual agreement with the State and Federal government to regulate floodplain development according to certain criteria and standards, which is further detailed in the NFIP.

1.9.4 Monterey County Floodplain Data

Typically, each county (or community) has a Flood Insurance Study (FIS), which is used to locally develop FIRMs and Base Flood Elevations (BFEs). Monterey County's effective FIS, number 06053CV00A, was published on April 2, 2009, and includes both unincorporated and incorporated areas. This FIS is divided into three volumes. Volume 1 includes flow rates for Salinas River at four locations, which are presented in Table 1. The Project site is between the "At King City" location and the "At Spreckels" location, but is closer to the "At Spreckels" location.

Table 1. 100-Year Flow Rates for Salinas River

Location	Drainage Area (square miles [sq mi])	100-Year Flow Rates (cubic feet per second [cfs])
At Bradley	2,536	88,000
At King City	3,220	86,000*
At Spreckels	4,156	85,000*
Downstream of Salinas River Overbank	4,156	81,000**

Note: * Constant or reduced flows due to infiltration into riverbed.
** Reduction in flow due to spill over Nashua Road.

Source: FEMA FIS

1.10 Design Standards

1.10.1 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.

1.10.2 FHWA Standards

The FHWA criterion refers to the California Amendments to AASHTO Load Resistance Factor Design Bridge Design Specifications (2014), which indicates that 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.

1.10.3 Caltrans Standards

The Caltrans 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) or the flood of record, whichever is greater, with adequate freeboard to pass anticipated drift. Two feet of freeboard is commonly used in bridge designs. The bridge should 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.

1.11 Traffic

The Gonzales River Road bridge over Salinas River is located in predominantly rural agricultural areas, and agricultural trucks access this bridge. It is currently used as an emergency evacuation route and used by emergency vehicles. Additionally, it is used by school buses and as a mail route. Gonzales River Road is classified as a Major Collector (Rural Roadway) and according to the County Public Works Department, the annual

average daily traffic (2013) is 2,500 vehicles. The year 2010 average daily traffic (ADT) was 1,800 (10% Trucks), and the future ADT is 4,333 in the year 2034.

The existing bridge will be closed to public traffic during construction. There is a 17.5 mi long northern detour and 24-mi southern detour available as shown in Figure 6.

Figure 6. Detour Routes Map

Source: TRC

1.12 Vertical Datum

The Project references the North American Vertical Datum of 1988 (NAVD 88).

2 AFFECTED ENVIRONMENT

2.1 Geographic Location

The Project is located in Central Monterey County, approximately 16.6 mi southeast of the City of Salinas, approximately 2 mi southwest of the City of Gonzales, and approximately 0.2 mi east of River Road. According to the Caltrans BIRs, the existing Gonzales River Road bridge over Salinas River is located at 36°29'02.58" north latitude and 121°28'15.28" west longitude.

2.2 Watershed Description

The Salinas River is the largest river in California Central Coast region. It flows northward from the mountains in central San Luis Obispo County toward Monterey Bay. The distance from the headwater to Monterey Bay is approximately 170 mi, and it drains a watershed with an area of approximately 4,600 sq mi. The contributing watershed for Salinas River at Gonzales River Road is approximately 4,000 sq mi (see Figure 7) (USGS 2015).

Figure 7. Project Watershed Map

Source: USGS

2.3 FEMA Floodplains

The Project site is located within FIRM number 06053C0600G, effective April 2, 2009 (see Figure 8 and Appendix A). The FIRM indicates that the Project site is located in an area classified by FEMA as Special Flood Hazard Area Zone A, which represents areas subject to flooding by the 100-year flood event determined by approximate methods where BFEs are not shown. Because detailed analyses are not performed for such areas, BFEs and depths have not been determined by FEMA for the Project vicinity.

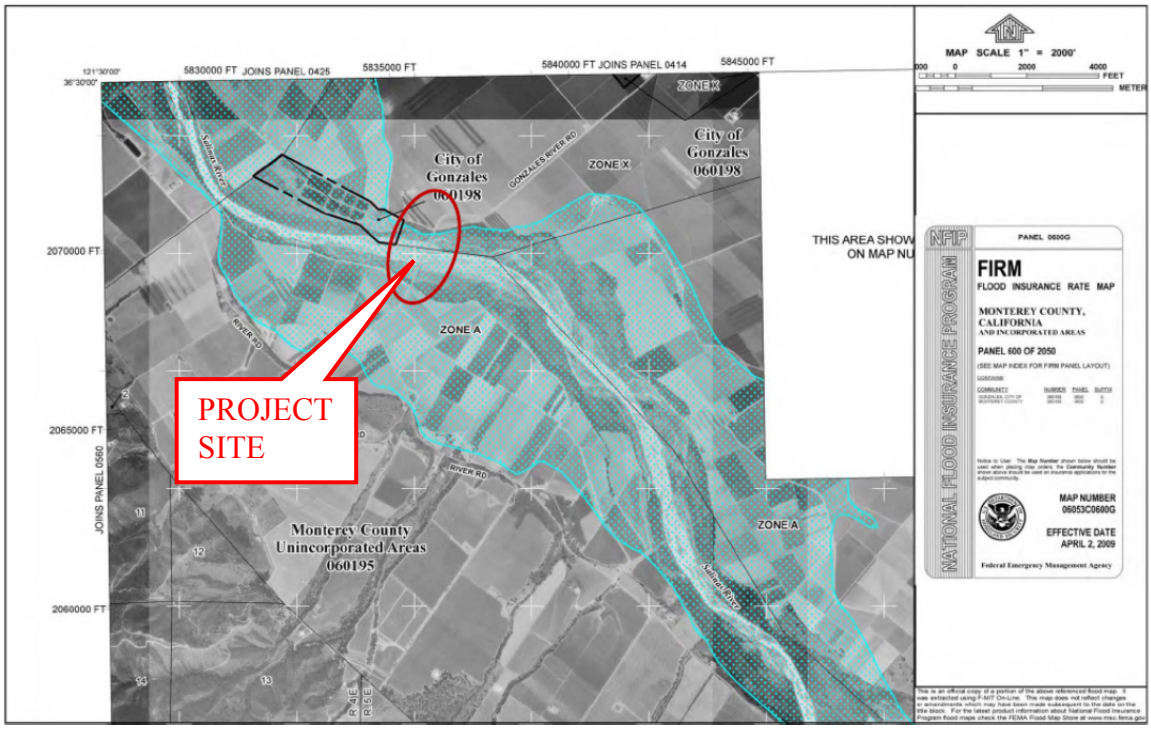

Figure 8. FEMA FIRM

Source: FEMA

3 HYDROLOGY AND HYDRAULICS

3.1 Hydrologic Assessment

WRECO evaluated the hydrology at the Project site using the methods and/or data available from the following sources:

1. FEMA FIS
2. Cardno ENTRIX Report
3. USGS Stream Flow Gaging Station

The following sub-sections describe the hydrologic data sources that were used to estimate the flows for the Project site.

3.1.1 FEMA Flood Insurance Study

The FEMA FIS (2009) for Monterey County, California and Incorporated Areas provided the peak flows of Salinas River in the Project vicinity. The available locations with peak discharges bounding the Project site along the Salinas River are identified in Figure 9. The peak discharges from the FEMA FIS are summarized in Table 2.

Table 2. FEMA FIS Hydrologic Data Summary

Location	Peak Discharges (cfs)			
	10-year	50-year	100-year	500-year
At King City	35,000	66,000	86,000	123,000
At Spreckels	35,000*	64,000*	85,000*	121,000*

Note: *Constant or reduced flows due to infiltration into riverbed.

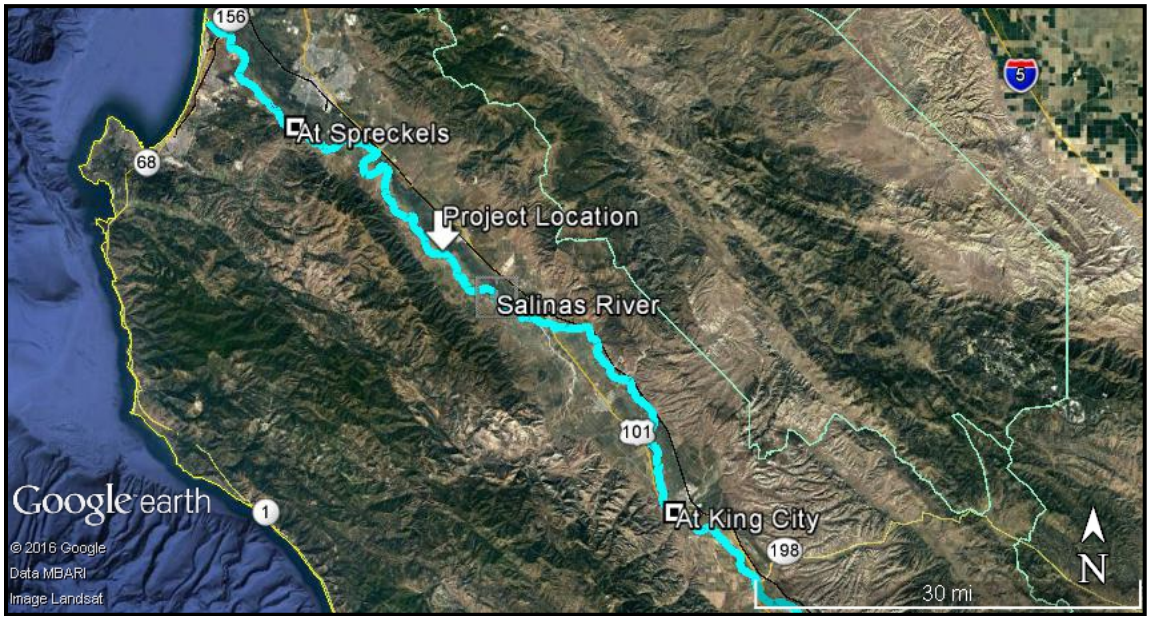

Figure 9. FEMA FIS Flood Source Location

Sources: FEMA and Google Earth

The peak discharges for the Salinas River from the FEMA FIS were calculated using the annual peak flows recorded at the USGS stream flow gaging station near Spreckels (USGS Stream Gage No. 11152500). The statistical method used was the Log-Pearson Type III distribution, and the annual peak flows used were from 1930 to 1956. These annual flows were prior to the construction of the Nacimiento and San Antonio dams.

3.1.2 Cardno ENTRIX Report

Cardno ENTRIX prepared the Flood Study for the Salinas River Stream Maintenance Program in January 2013 for the Monterey County Water Resources Agency to evaluate the effects of the maintenance activity proposed by the Salinas River Stream Maintenance Program. Their study included the hydrologic analysis of Salinas River for each of the four USGS stream flow gaging stations on Salinas River. Their analysis used the annual peak flows from the regulated flow period 1966 to 2010 recorded at the gaging stations. San Antonio Dam was constructed in 1965 and Nacimiento Dam was constructed in 1957, and both dams have a substantial effect on flood flows. The peak flows were computed using the USGS flood frequency analysis program, Peakfq, which uses the USGS Bulletin 17B guidelines for determining the flood flow frequency. The peak 100-year flows at the USGS stream flow gages from their study are summarized in Table 3. The locations of the USGS stream flow gaging stations are identified in Figure 10.

Table 3. Peak Flows at the USGS Stream Gaging Stations

USGS Stream Gaging Station and Number	100-year Peak Discharge (cfs)
Bradley (11150500)	191,200
Soledad (11151700)	221,900
Chualar (11152300)	116,700
Spreckels (11152500)	170,500

Source: Cardno ENTRIX (2013)

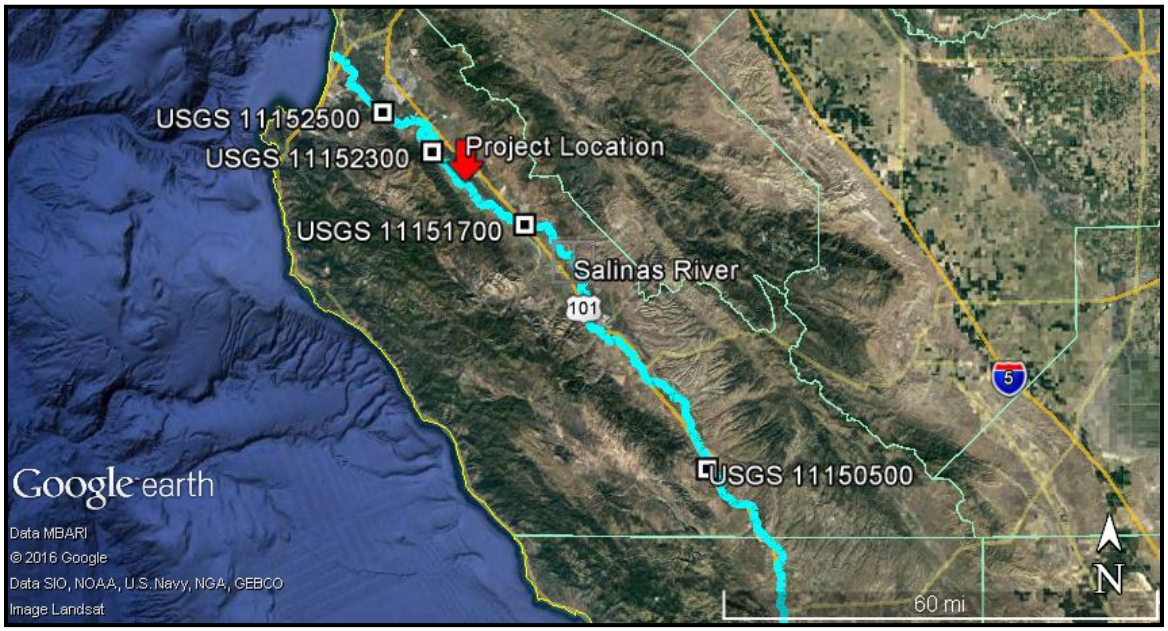

Figure 10. USGS Stream Flow Gage Locations

Sources: USGS and Google Earth

3.1.3 USGS Stream Gaging Station Flow

WRECO adopted the Cardno ENTRIX's methods for the hydrologic analysis and estimated the peak discharges of Salinas River at the USGS gaging station near Spreckels (Gage No. 11152500) using the annual peak flows from 1966 to 2014 as identified in Figure 11. The other three upstream gages were not evaluated because of their remote locations from the Project site. The general information of this stream flow gaging station and the computed 100-year flow are summarized in Table 4.

Table 4. USGS Stream Gage No. 11152500

Annual Peak Flow				Peak Flow
Maximum		Minimum		100-year
Date	(cfs)	Date	(cfs)	(cfs)
March 12, 1999	95,000	November 3, 1989	4.4	176,700

Source: USGS

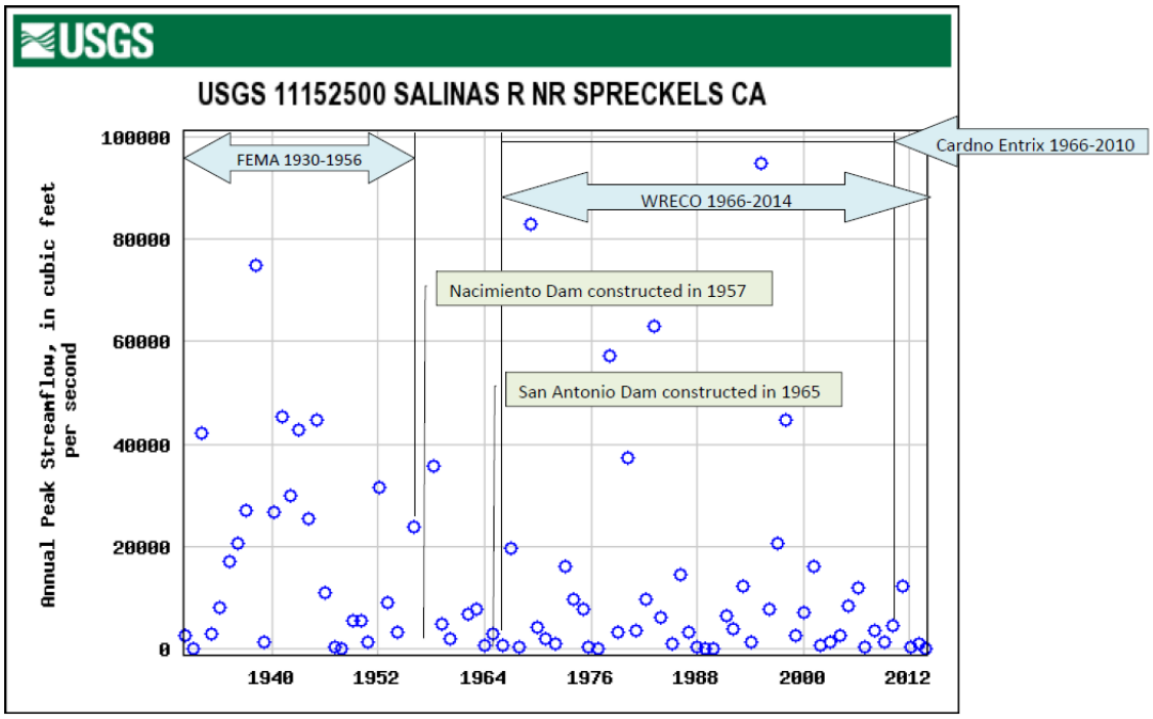

Figure 11. Illustration of Three Hydrologic Assessment Methods

Sources: USGS

3.2 Selected Design Discharge

The peak discharges at the Project site from the various sources are summarized in Table 5. The peak 100-year flows computed using the annual peak flows recorded at the USGS stream flow gaging station No. 11152500 between 1966 and 2014 were the most conservative and were based on the most current information. Therefore, the peak 100-year flow of 176,700 cfs was selected to use in the hydraulic analysis.

Table 5. Summary of Peak discharges at Project Site

Data Source	100-year Peak Discharge (cfs)
FEMA FIS	85,000
Cardno ENTRIX	170,500
WRECO (USGS Stream Gaging Station Flow)	176,700

3.3 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.

3.3.1 Study Tool

A steady-state hydraulic model was developed using the United States Army Corps of Engineers' (USACE) Hydrologic Engineering Center River Analysis System (HEC-RAS) modeling software (Version 5.0.1), to assess the hydraulic characteristics of the existing bridge and assess the changes to the hydraulic characteristics based on the proposed Project improvements.

3.3.2 Cross Section Data

The HEC-RAS model of Salinas River developed by Cardno ENTRIX in their January 2013 Flood Study for the Salinas River Stream Maintenance Program was used as the base hydraulic model for the Project. Their model included approximately 537 cross sections with a reach length of approximately 508,200 ft (see Figure 12). The downstream limit of the hydraulic model is at the outfall to Monterey Bay located approximately 180,400 ft downstream of the Gonzales River Road bridge. The upstream limit of the hydraulic model is located approximately 327,800 ft upstream of the Gonzales River Road bridge, which is near USGS stream gaging station No. 11150500 (see Figure 10). No changes were made to the channel cross sections included in the base HEC-RAS model in this study. The cross section naming convention is by river station (RS) with the cross section number increasing in RS (measured in feet) going upstream.

3.3.3 Modeled Hydraulic Structures

The base HEC-RAS model included 14 bridges crossing Salinas River. According to Cardno ENTRIX's Flood Study, input parameters for the bridges included in the HEC-RAS model were based on the bridge crossing plans provided by the Monterey County Water Resources Agency. The base HEC-RAS model did not include bridge piers. WRECO added existing bridge piers into the HEC-RAS model based on the existing bridge structure information provided by TRC. The roadway profile of the existing Gonzales River Road bridge was revised. The proposed condition bridge configuration was based on the general plans provided by TRC (see Figure 4). The remaining bridges in the base HEC-RAS model remained unchanged.

3.3.4 Model Boundary Condition

According to the FEMA FIS for Monterey County and Incorporated Areas, the 50- and 100-year stillwater elevations of Pacific Ocean at Monterey are 7.7 ft and 7.8 ft NAVD 88, respectively (see Appendix D) (FEMA 2009). These two stillwater elevations were selected as the water surface elevation (WSE) at the Salinas River mouth in the HEC-RAS model for both the existing and proposed conditions.

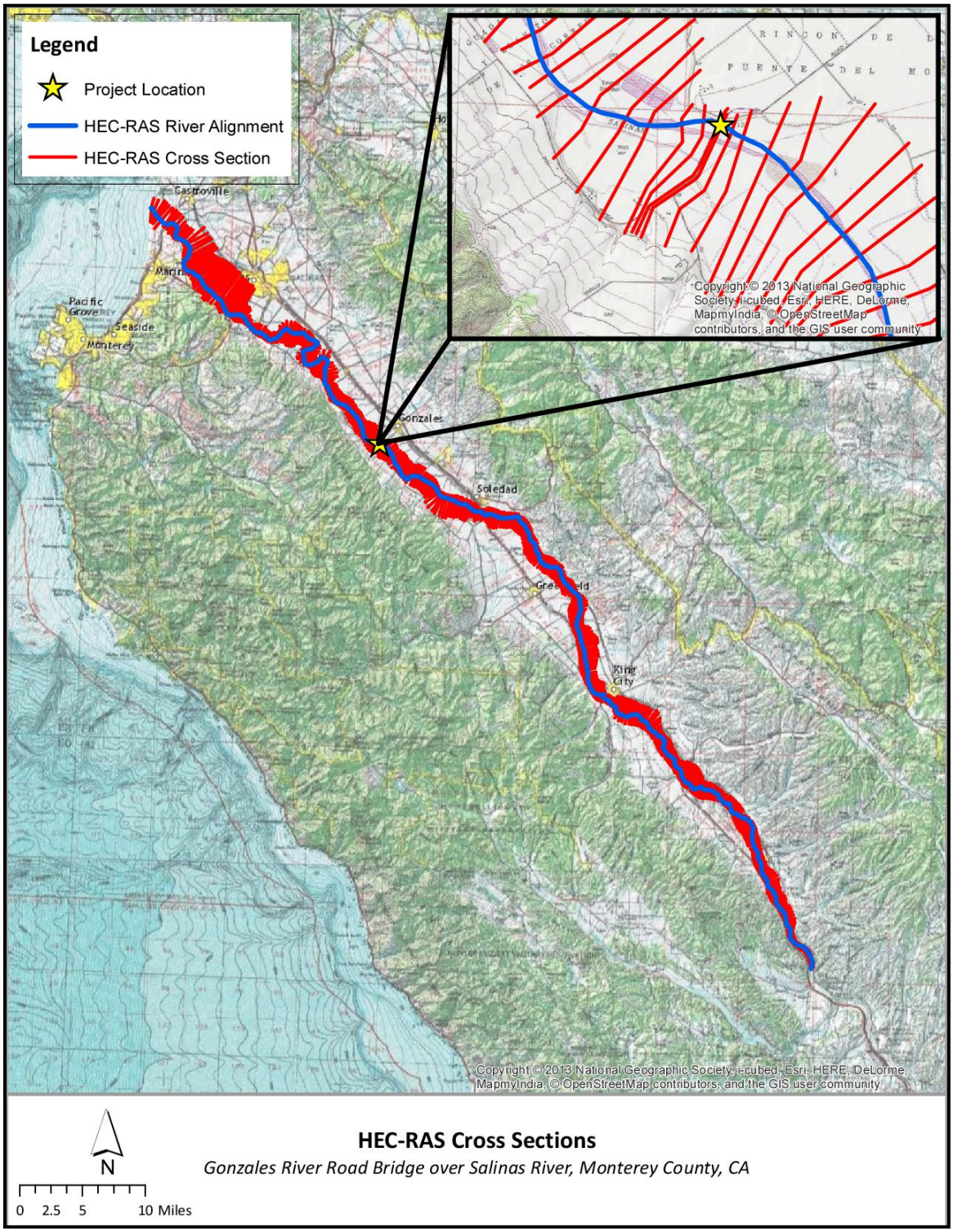

Figure 12. Cross Section Locations

Source: Cardno ENTRIX 2013

3.3.5 Manning's Roughness Coefficients

Manning's roughness coefficients were used in the hydraulic model to estimate energy losses in the flow due to friction. According to the Cardno ENTRIX's Flood Study, Manning's roughness coefficients used in the base HEC-RAS model varied from 0.030 to 0.160. The Manning's roughness coefficient of 0.030 represented active channel or river flat with little to no vegetation (see Photo 2). The Manning's roughness coefficient of 0.160 represented dense Arundo thickets or trees with dense shrub understory. WRECO did not adjust Manning's roughness coefficients included in the base HEC-RAS model.

3.3.6 Expansion and Contraction Coefficients

Expansion and contraction coefficients were used in the hydraulic model to represent energy losses in the channel. The base HEC-RAS model used an expansion coefficient of 0.3 and a contraction coefficient of 0.1 represent a channel with gradual transitions between cross sections. At the bridge crossings, an expansion coefficient of 0.5 and a contraction coefficient of 0.3 were used represent rapid transition at the bridge upstream and downstream faces.

3.3.7 Water Surface Elevations

The WSEs for Salinas River were estimated for the existing and proposed bridge conditions using the hydraulic models created in HEC-RAS. See Table 6 for the comparison of the WSEs in the vicinity of the bridges during the 100-year storm. The cross sections facing downstream at the upstream sides of the existing and proposed bridges are shown in Figure 13 and Figure 14, respectively. The water surface profiles along the studied stream reach are presented for the existing and proposed bridges in Figure 15 for the 100-year storm.

Table 6. Summary of 100-Year Water Surface Elevations

Location/Distance from Existing Bridge Centerline	Water Surface Elevations (ft NAVD 88)	
	Existing Bridge	Proposed Bridge
6,000 ft Upstream/RS 186434	127.3	127.3
5,235 ft Upstream/RS 185683	126.4	126.4
52 ft Upstream/RS 180500	125.3	125.4
Existing/Proposed Bridge Upstream Face	125.3	125.4
Existing/Proposed Bridge Downstream Face	125.1	125.1
67 ft Downstream/RS 180380	125.1	125.1
640 ft Downstream/RS 179805	124.6	124.6

For both the existing and proposed conditions, the southern (left) bridge approach area would be submerged during the 100-year storm event. The proposed bridge with a gentler southern bridge approach slope would increase the flood flow obstruction compared to the existing bridge with its steep approach slope (see Figure 13 and Figure 14). The proposed bridge would result in a maximum increase in the 100-year WSE of 0.1 ft from the upstream face to approximately 5,235 ft upstream of the proposed bridge,

and the WSE matches the existing 100-year WSEs farther upstream and at the downstream side of the proposed bridge.

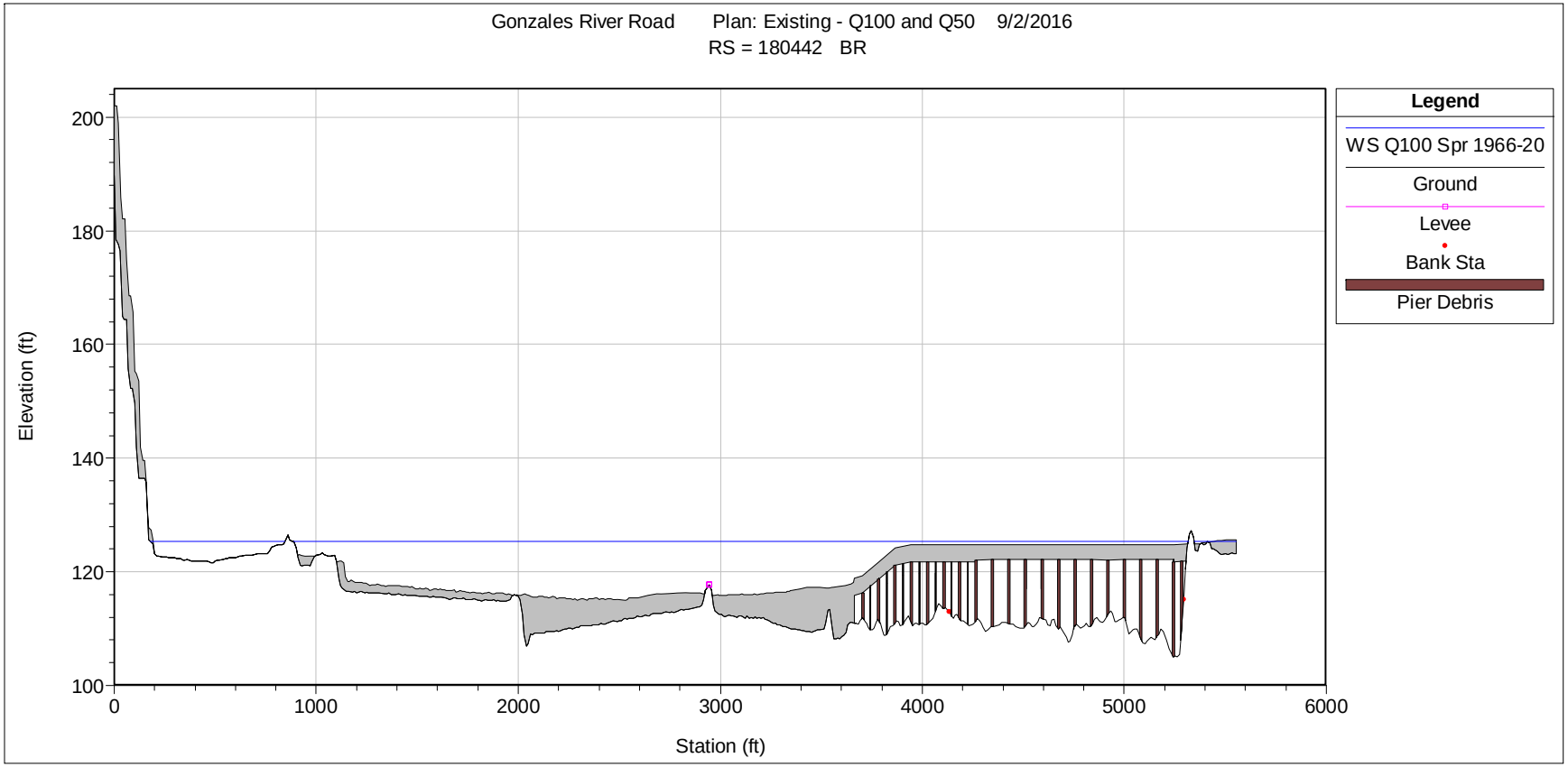

Figure 13. Upstream Face of Existing Bridge, Looking Downstream (Northwest)

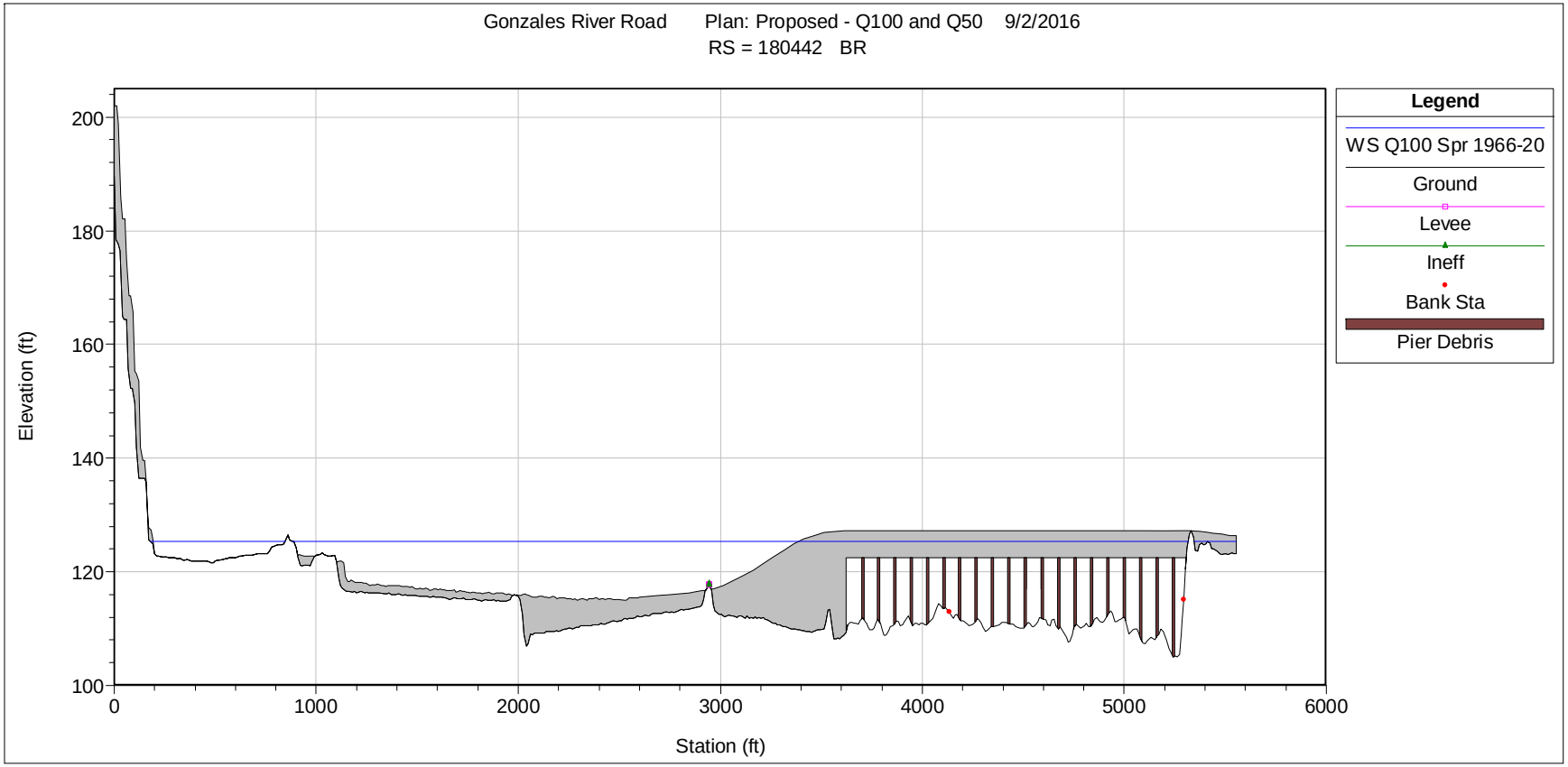

Figure 14. Upstream Face of Proposed Bridge, Looking Downstream (Northwest)

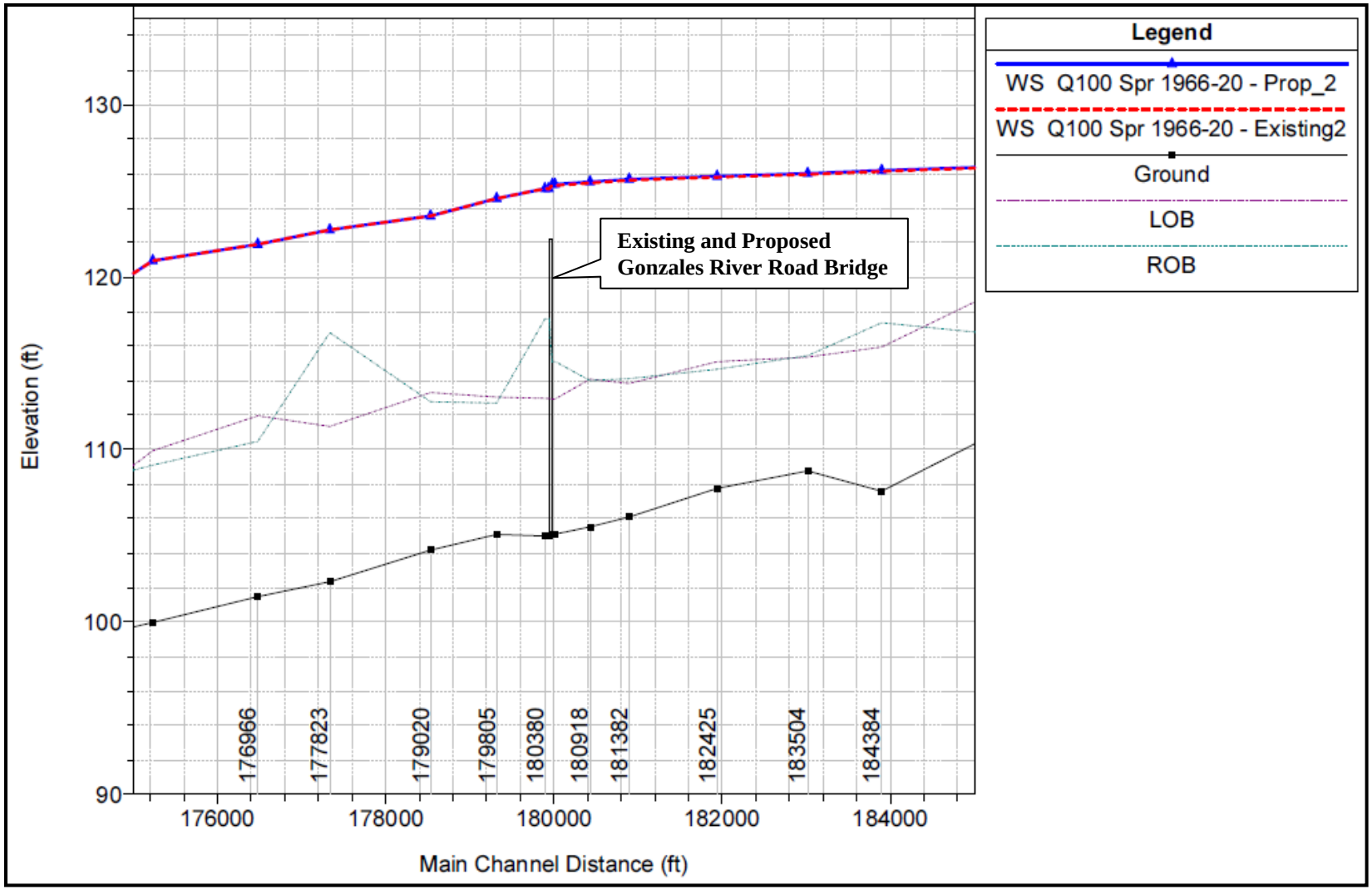

Figure 15. Water Surface Profile Plot for the Existing and Proposed 100-year Storm Events

3.3.8 Freeboard

The freeboard requirements are discussed in Section 1.10. To summarize, the FHWA criterion requires that the proposed bridge profiles should provide adequate freeboard to pass the 50-year design flood with anticipated drift, to pass the 100-year base flood without freeboard, or the flood of record without freeboard, whichever is greater; and the Caltrans criterion requires bridges to pass the 50-year recurrence interval design discharge (2 ft of freeboard is recommended) and the 100-year recurrence interval design discharge.

The available bridge freeboard during the 100-year storm event is summarized in Table 7. The proposed bridge would not meet the FHWA or Caltrans freeboard criteria. This Project has been reviewed by Robert Zezoff of Caltrans Structures Local Assistance, and the bridge is not required to be raised to meet these criteria, as the roadway south of the bridge would be overtopped in such a flood event.

Table 7. Gonzales River Road Bridge Minimum Soffit Elevation, 100-Year Water Surface Elevations, and Available Freeboard

Alternatives	Location	Minimum Soffit Elevation (ft NAVD 88)	Water Surface Elevation (ft NAVD 88)	Available Freeboard (ft)
Existing Bridge	Upstream Face	115.8	125.3	-9.5
	Downstream Face	115.8	125.1	-9.3
Proposed Bridge	Upstream Face	122.4	125.4	-3.0
	Downstream Face	122.4	125.1	-2.7

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 WSE. The measures to minimize the potential floodplain impacts associated with the action are summarized in Section 5.

4.1.1 Change in Land Use

The Project proposes to remove the entire superstructure of the existing bridge and replace it with a new superstructure at the same location. Except for the existing bridge and roadway widening, changes in the land use in the Project vicinity are not anticipated to occur from the proposed Project. In addition, the County is not proposing to change the overall land uses within the watershed as a part of this Project.

4.1.2 Change in Impervious Surface Area

The widening of the Gonzales River Road bridge crossing and the roadway approach area will not significantly increase the impervious surface area within the Salinas River watershed. The added impervious area resulting from the proposed Project would be insignificant compared to the watershed of Salinas River at the Project location, given that the total watershed area of Salinas River at the Project site is approximately 4,000 sq. mi. Therefore, the peak 100-year flow at the Project site would not increase significantly from this Project.

4.1.3 Fill Inside the Floodplain

In addition to replace the superstructure of the existing bridge, the Project proposes to reconstruct two existing abutments and two piers, remove eight existing piers, and raise the south end of the bridge to the existing bridge deck. Overall, the proposed action will result in fill inside the 100-year floodplain.

4.1.4 Change in the 100-Year Water Surface Elevation

The results of the hydraulic analysis indicated that the proposed bridge would result in a maximum increase in WSE of 0.1 ft from the upstream face to approximately 5,235 ft upstream of the proposed bridge, and the WSEs match the existing condition WSEs

farther upstream and at downstream of the bridge. Therefore, the proposed action would not significantly modify the characteristics of the existing 100-year floodplain.

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 existing Gonzales River Road bridge is overtopped during a base flood but the proposed bridge deck will be raised to be higher than the based flood. The southern approach areas to the existing and proposed bridge crossing would be overtopped.

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.

The Project will result in permanently affected area associated with construction of the replacement bridge, and temporary impact associated with ground disturbance during the construction of the replacement bridge and removal of the existing bridge superstructure.

Potential short-term adverse effects of the Project to the natural and beneficial floodplain values include: 1) loss of vegetation during construction activity; and 2) temporary disturbance of fish and wildlife habitat. The placement of new piers in the channel will be within the base floodplain and may have the potential to impact the natural and beneficial floodplain values. Measures to restore and preserve the natural and beneficial floodplain values are discussed in Section 5.2.

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 proposed bridge superstructure will be placed at the same centerline as the existing bridge. Upon completion of the Project, no new access route to developed or undeveloped lands will result from this Project.

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." The requirement for consideration of avoidance alternatives must be included in a Location Hydraulic Study by including an evaluation and a discussion of the practicability of alternatives to any significant encroachment or any support of incompatible floodplain development.

The alignment of the proposed bridge will not be parallel to the direction of flow in Salinas River; therefore, the proposed action would not be a longitudinal encroachment to the existing floodplain.

5 AVOIDANCE, MINIMIZATION, AND/OR MITIGATION MEASURES

5.1 Minimize Floodplain Impacts

Although the proposed bridge condition will add impervious areas and introduce fill in the 100-year floodplain, the results of the hydraulic analysis indicated that the proposed bridge condition would result in a maximum increase in WSE of 0.1 ft within the study limits. This occurs at the upstream face to approximately 5,235 ft upstream of the proposed bridge. The overall Project's possible impact to the floodplain would be minimal, and minimization measures would not be required.

5.2 Restore and Preserve Natural and Beneficial Floodplain Values

Temporary environmental impacts could be minimized with measures such as best management practices, seasonal work restrictions, revegetation, establishing a boundary for work around sensitive habitat, implementing erosion control measures, and other activities that are part of the Project's permit conditions. Special construction techniques should be considered and implemented during construction to avoid disturbance of aquatic habitats.

The Natural Environment Study or Biological report for this Project would identify mitigation and minimization measures necessary to avoid potential impacts to the natural and beneficial floodplain values.

5.3 Alternatives to Significant Encroachments

Risk associated with the proposed action is minimal, because Project would have insignificant impact to the base 100-year flood profile. Overall, the Project would have no significant encroachments at the Project location. Therefore, alternatives to significant encroachments were not evaluated for this Project.

5.4 Alternatives to Longitudinal Encroachments

The proposed Gonzales River Road bridge over Salinas River would not be a longitudinal encroachment to the existing floodplain. In addition, modifications are not proposed to the main channel of Salinas River. Overall, the Project would not be a longitudinal encroachment to the floodplain. Therefore, alternatives to longitudinal encroachments were not analyzed.

5.5 Coordination with Local, State, and Federal Water Resources and Floodplain Management Agencies

The County of Monterey Public Works Department will coordinate with local, state, and federal water resource and floodplain management agencies as necessary during all

aspects of the proposed Project. Regulating permits and approvals would be required as the Project enters the final design phase. A 1602 Streambed Alteration Agreement with the California Department of Fish and Wildlife, 404 Nationwide Permit with the USACE, and 401 Water Quality Certification with the Regional Water Quality Control Board are expected to be required for the Project.

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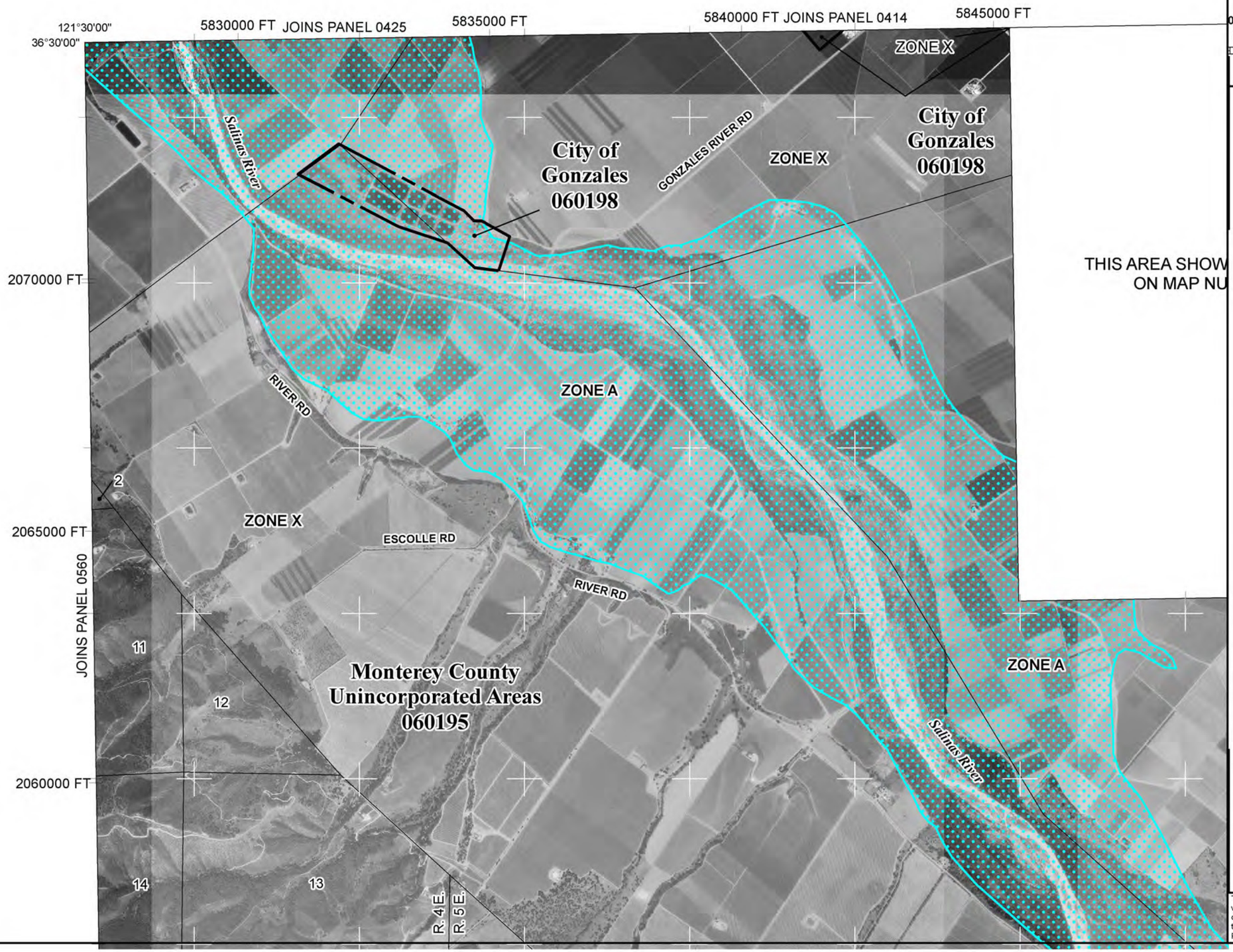
Appendix A Federal Emergency Management Agency Flood Insurance Rate Map



THIS AREA SHOW
ON MAP NU

MAP SCALE 1" = 2000'

000 0 2000 4000 FEET

METER

NFIP

PANEL 0600G

NATIONAL FLOOD INSURANCE PROGRAM

FIRM

FLOOD INSURANCE RATE MAP

MONTEREY COUNTY, CALIFORNIA AND INCORPORATED AREAS

PANEL 600 OF 2050

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
GONZALES, CITY OF	060198	0600	G
MONTEREY COUNTY	060195	0600	G

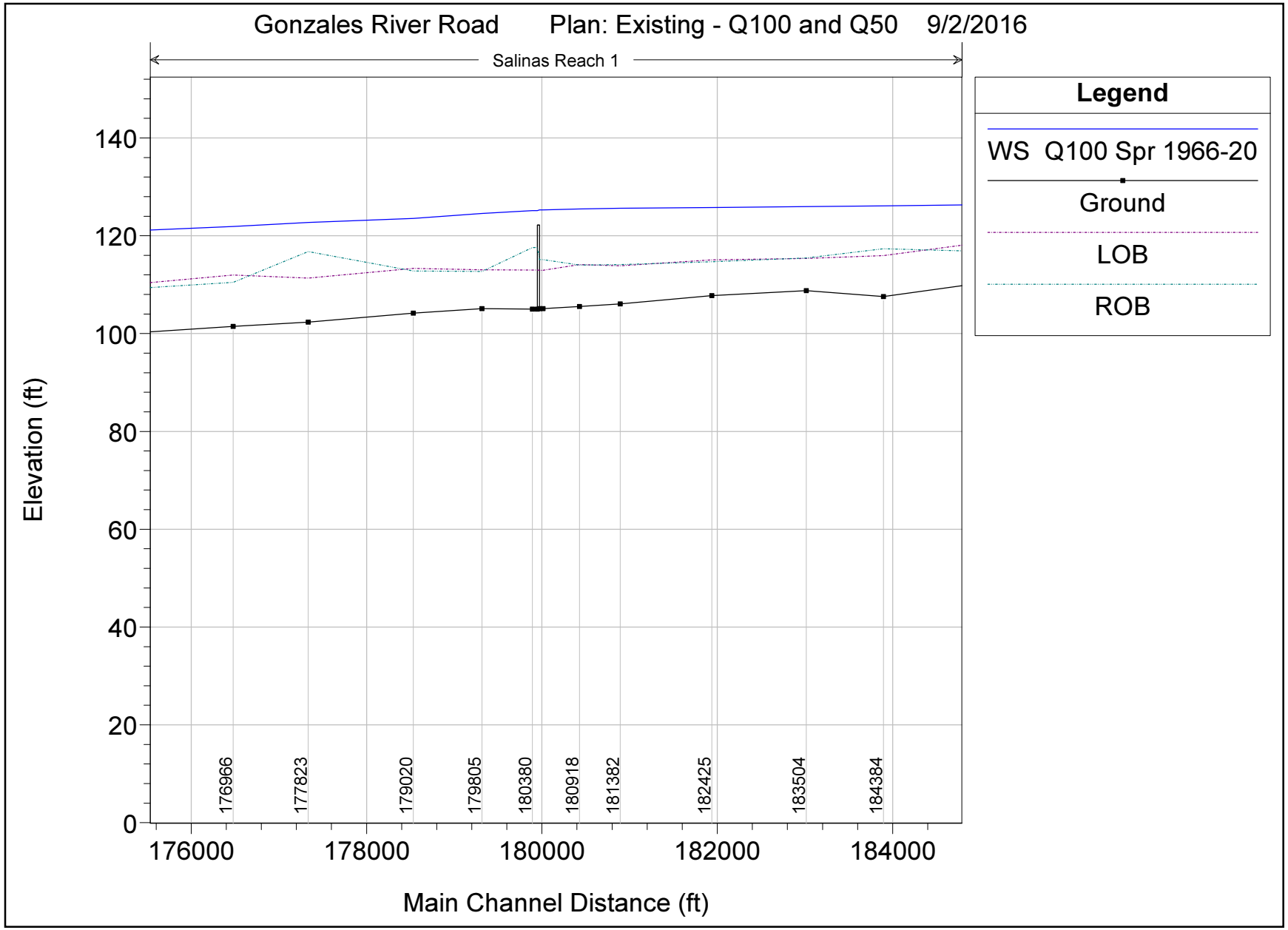
Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
06053C0600G

EFFECTIVE DATE
APRIL 2, 2009

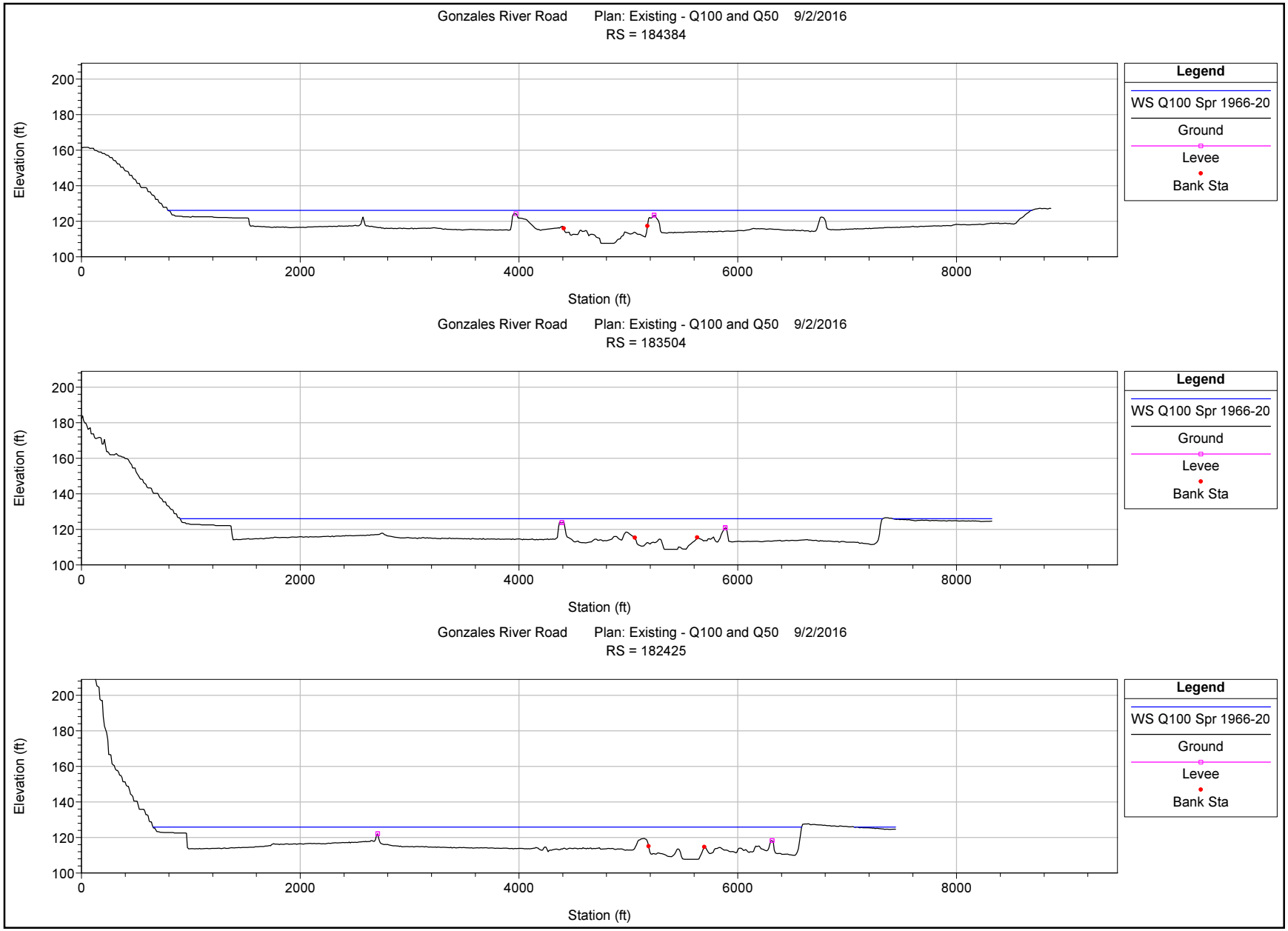
Federal Emergency Management Agency

Appendix B Hydraulic Analysis: Existing Condition


Gonzales River Road
Plan: Existing - Q100 and Q50
9/2/2016
Salinas Reach 1
Legend
WS Q100 Spr 1966-20
Ground
LOB
ROB
Elevation (ft)
140
120
100
80
60
40
20
0
176966
177823
179020
179805
180380
180918
181382
182425
183504
184384
176000
178000
180000
182000
184000
Main Channel Distance (ft)

HEC-RAS Plan: Existing2 River: Salinas Reach: Reach 1 Profile: Q100 Spr 1966-20

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	Hydr Depth	Hydr Depth C	Length Chnl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)		(ft)	(ft)	(ft)
Reach 1	184384	Q100 Spr 1966-20	176700.00	107.59	126.13	123.45	126.23	0.000179	3.42	74655.92	7895.05	0.16	9.46	14.37	879.55
Reach 1	183504	Q100 Spr 1966-20	176700.00	108.76	125.96	121.07	126.06	0.000186	2.91	70893.17	7321.54	0.13	9.68	14.87	1078.68
Reach 1	182425	Q100 Spr 1966-20	176700.00	107.75	125.79	117.87	125.90	0.000180	2.48	66513.42	6274.18	0.11	10.60	15.81	1043.79
Reach 1	181382	Q100 Spr 1966-20	176700.00	106.09	125.62	117.20	125.74	0.000169	3.27	62623.41	5187.41	0.15	12.07	15.64	463.83
Reach 1	180918	Q100 Spr 1966-20	176700.00	105.52	125.46	116.22	125.60	0.000281	2.01	60152.86	5423.25	0.09	11.09	17.02	417.62
Reach 1	180500	Q100 Spr 1966-20	176700.00	105.09	125.31	116.40	125.46	0.000331	2.31	58658.14	5298.79	0.10	11.07	15.08	40.00
Reach 1	180442 Gonzales River RBR U	Q100 Spr 1966-20	176700.00	105.09	125.31	118.44	125.46		3.75	42172.09	5167.84	0.20	8.16	10.66	25.00
Reach 1	180442 Gonzales River RBR D	Q100 Spr 1966-20	176700.00	104.99	125.13	118.38	125.30		3.50	43668.45	5175.37	0.20	8.44	11.24	54.68
Reach 1	180380	Q100 Spr 1966-20	176700.00	104.99	125.13	116.67	125.30	0.000414	2.24	57962.71	5541.90	0.10	10.46	14.30	575.08
Reach 1	179805	Q100 Spr 1966-20	176700.00	105.08	124.55	119.44	124.84	0.001508	3.80	42092.07	5298.77	0.17	7.94	15.19	785.19
Reach 1	179020	Q100 Spr 1966-20	176700.00	104.17	123.54	119.48	123.93	0.001699	5.15	36577.57	5201.97	0.23	7.03	15.81	1197.13
Reach 1	177823	Q100 Spr 1966-20	176700.00	102.33	122.74	118.17	122.97	0.000485	1.79	52099.39	6305.40	0.08	8.26	15.36	856.51
Reach 1	176966	Q100 Spr 1966-20	176700.00	101.47	121.90	117.81	122.37	0.001277	5.34	32531.05	6784.30	0.23	7.62	16.13	1248.58



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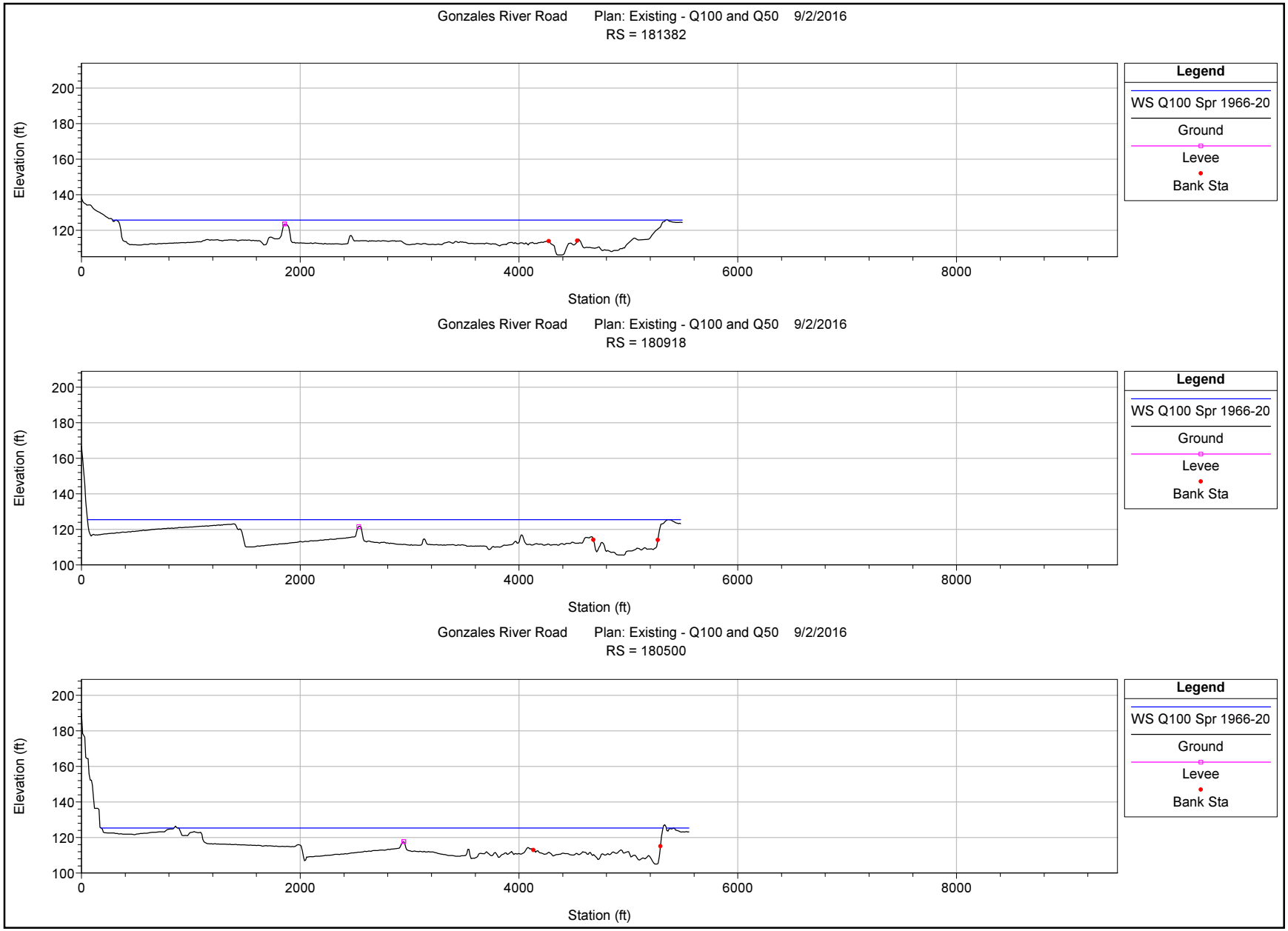

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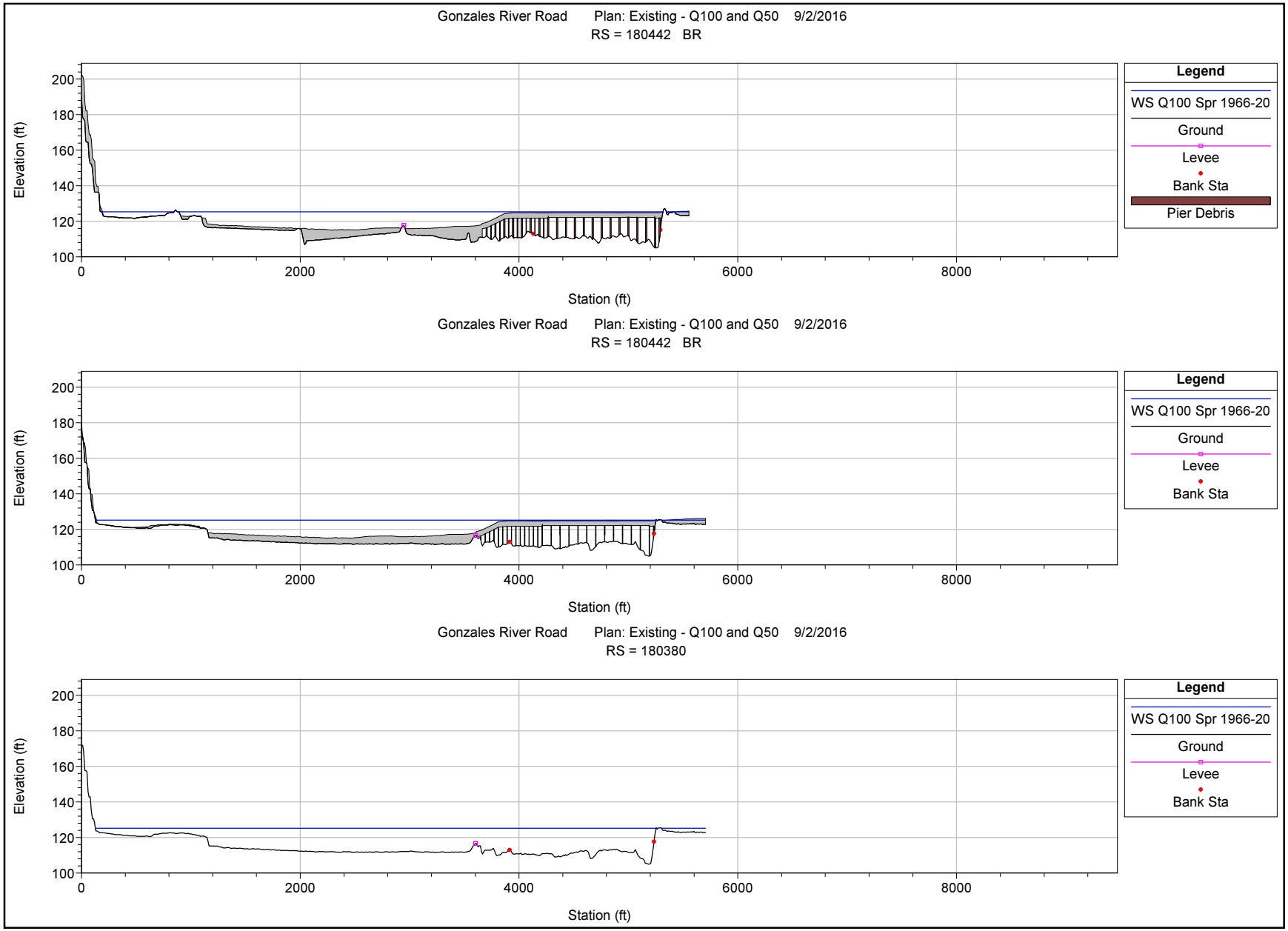

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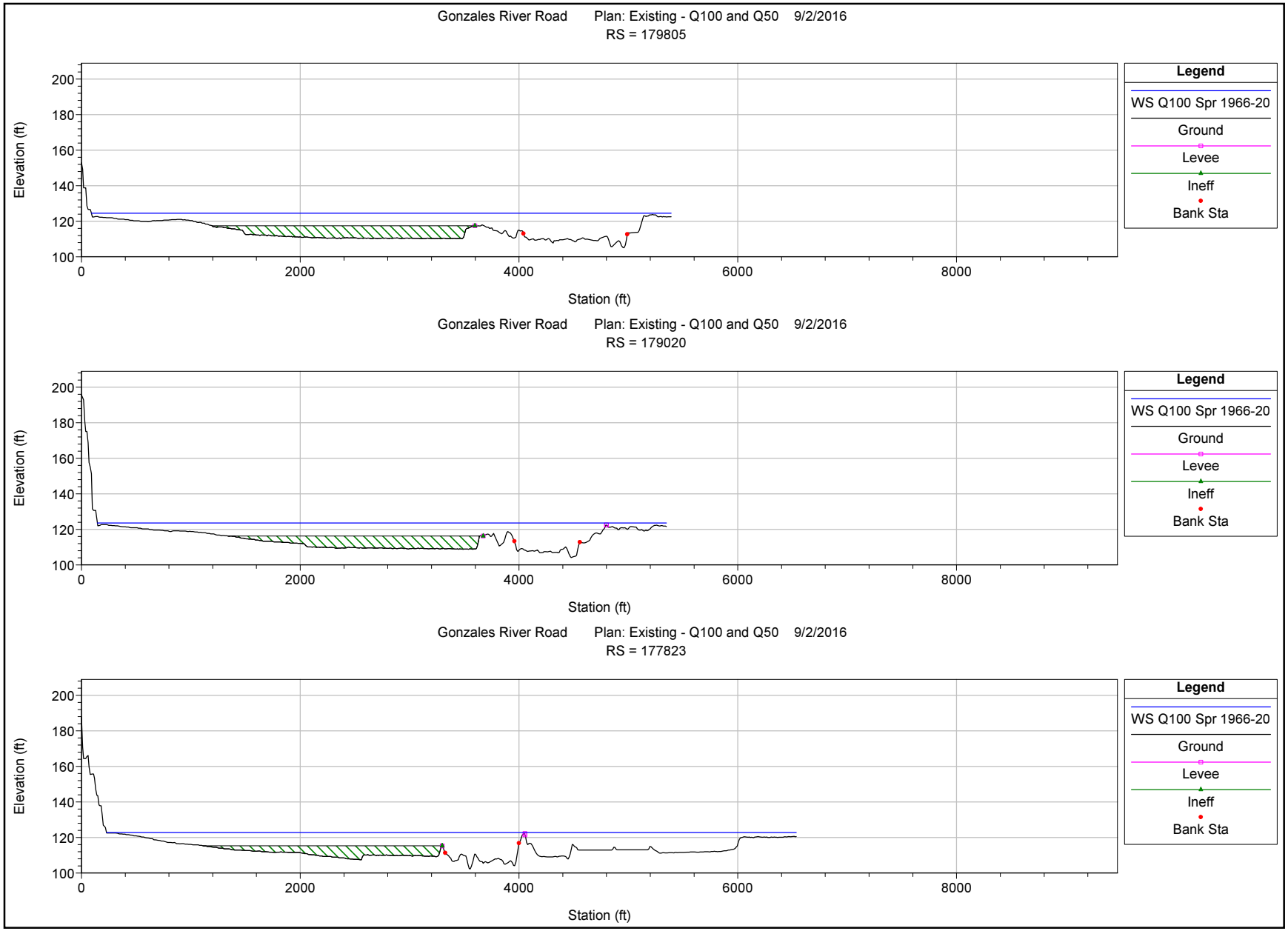
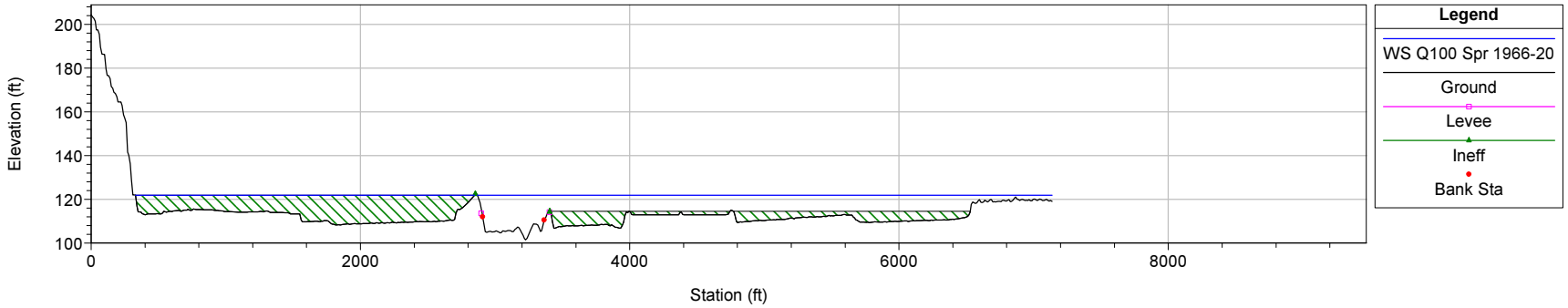


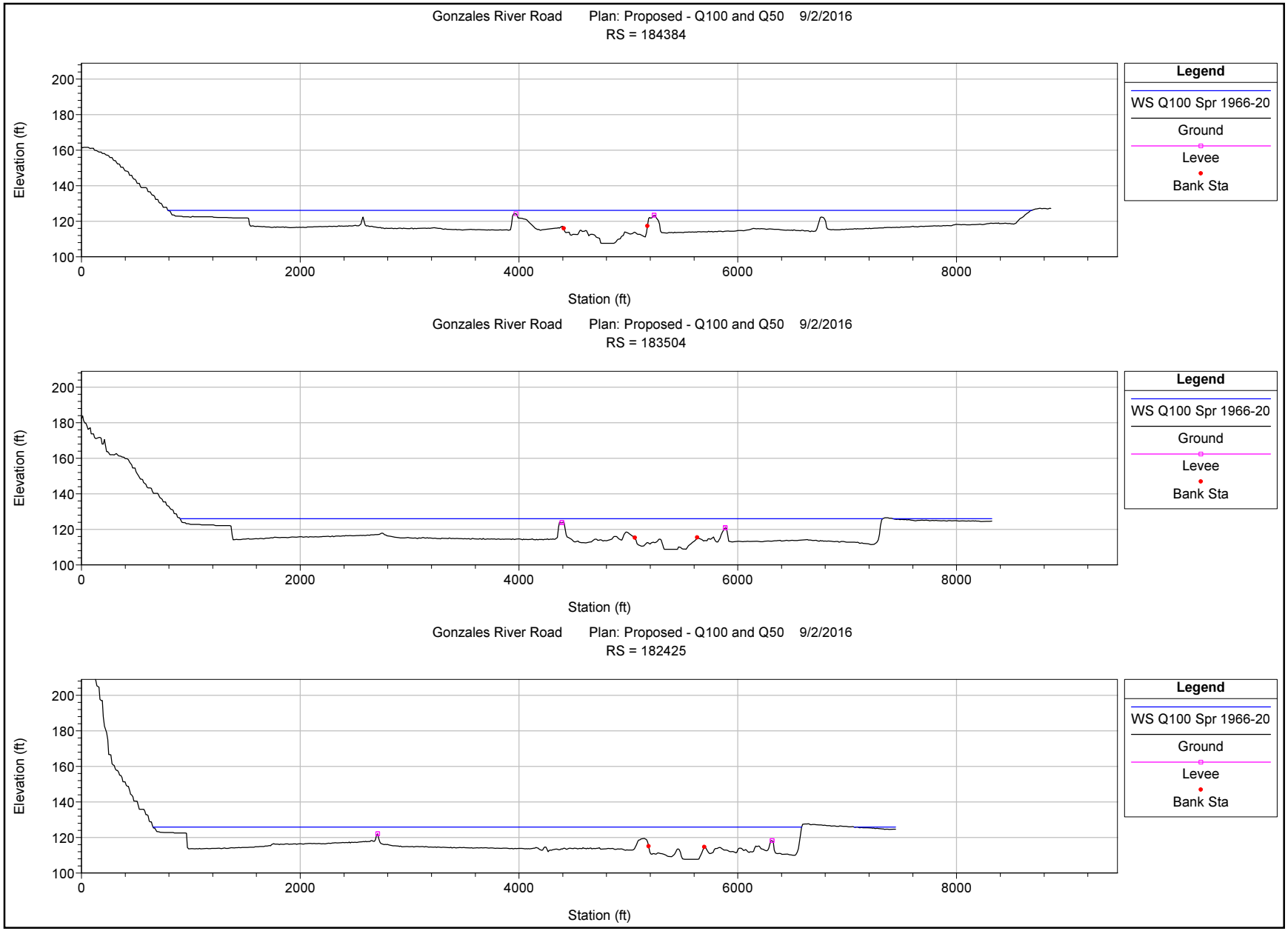
1 in Horiz. = 1300 ft 1 in Vert. = 80 ft

Gonzales River Road Plan: Existing - Q100 and Q50 9/2/2016
RS = 176966



1 in Horiz. = 1300 ft 1 in Vert. = 80 ft

Appendix C Hydraulic Analysis: Proposed Condition



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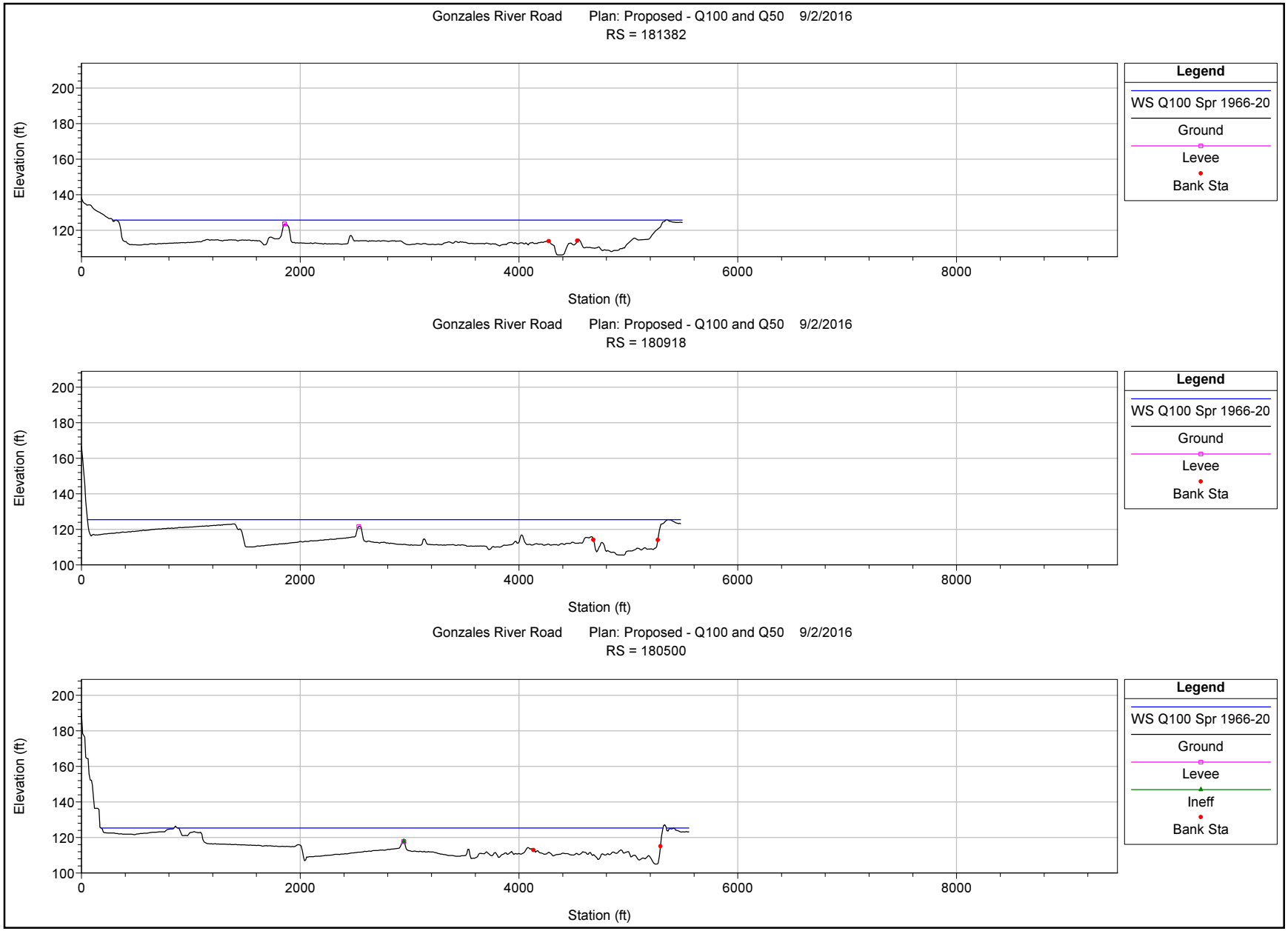

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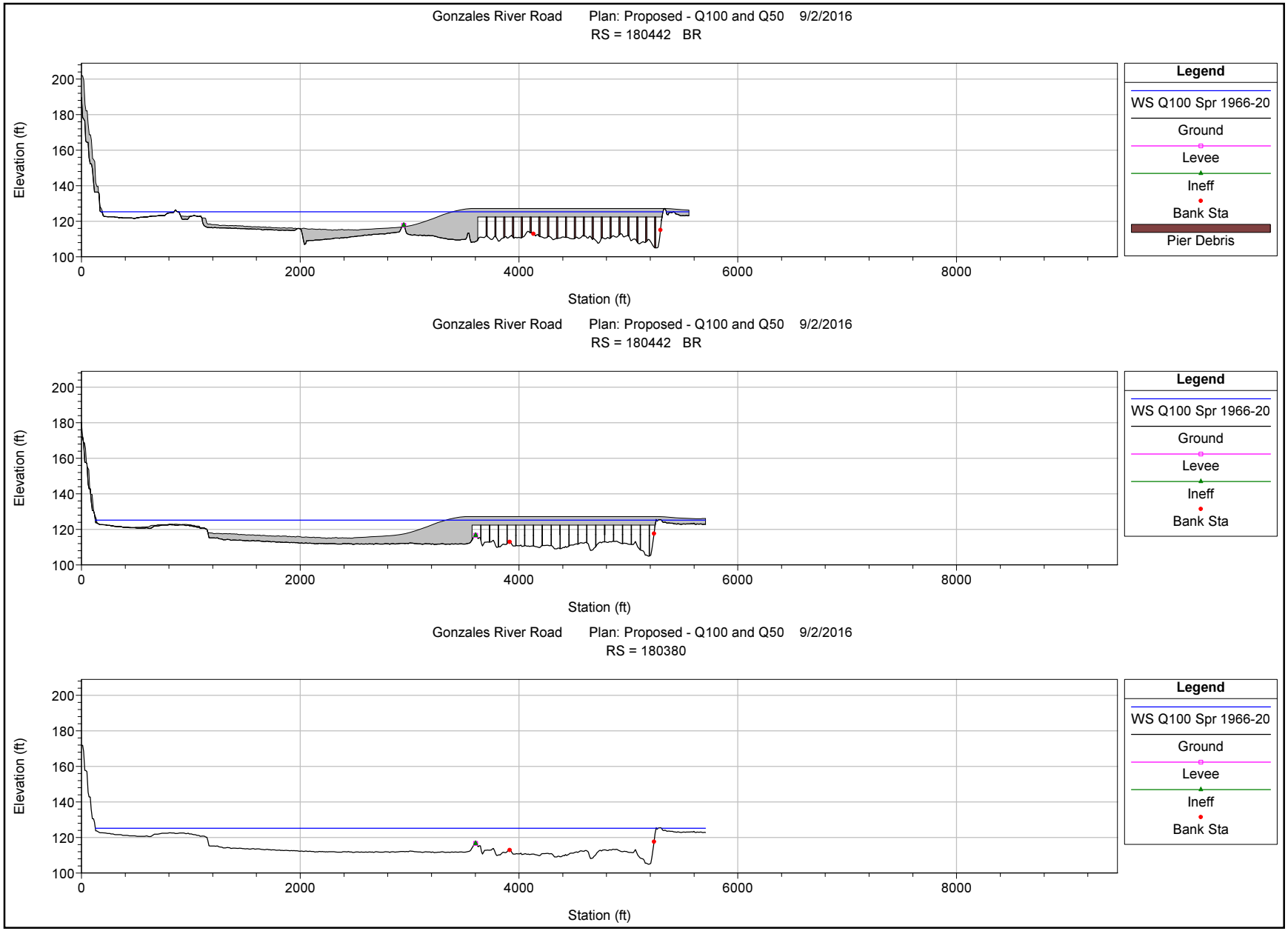

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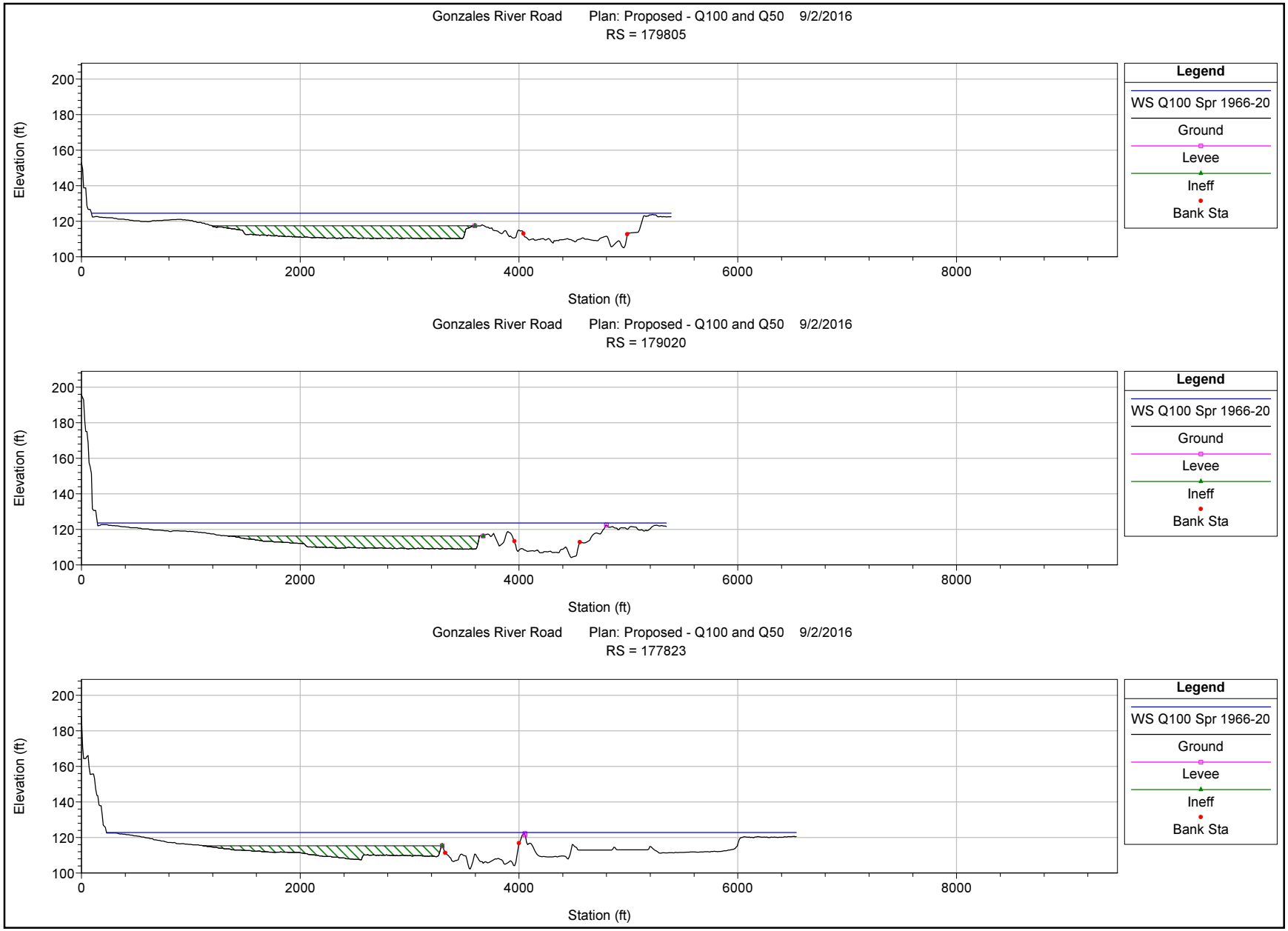
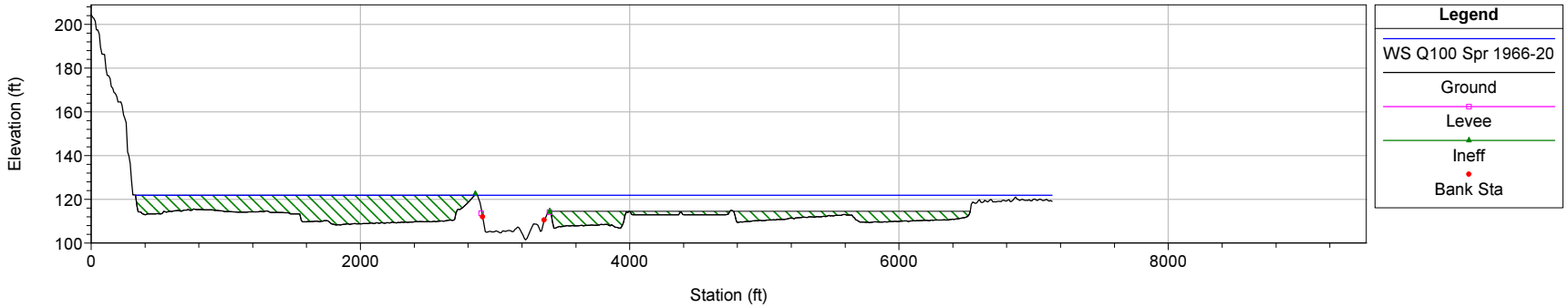


1 in Horiz. = 1300 ft 1 in Vert. = 80 ft

Gonzales River Road Plan: Proposed - Q100 and Q50 9/2/2016
RS = 176966



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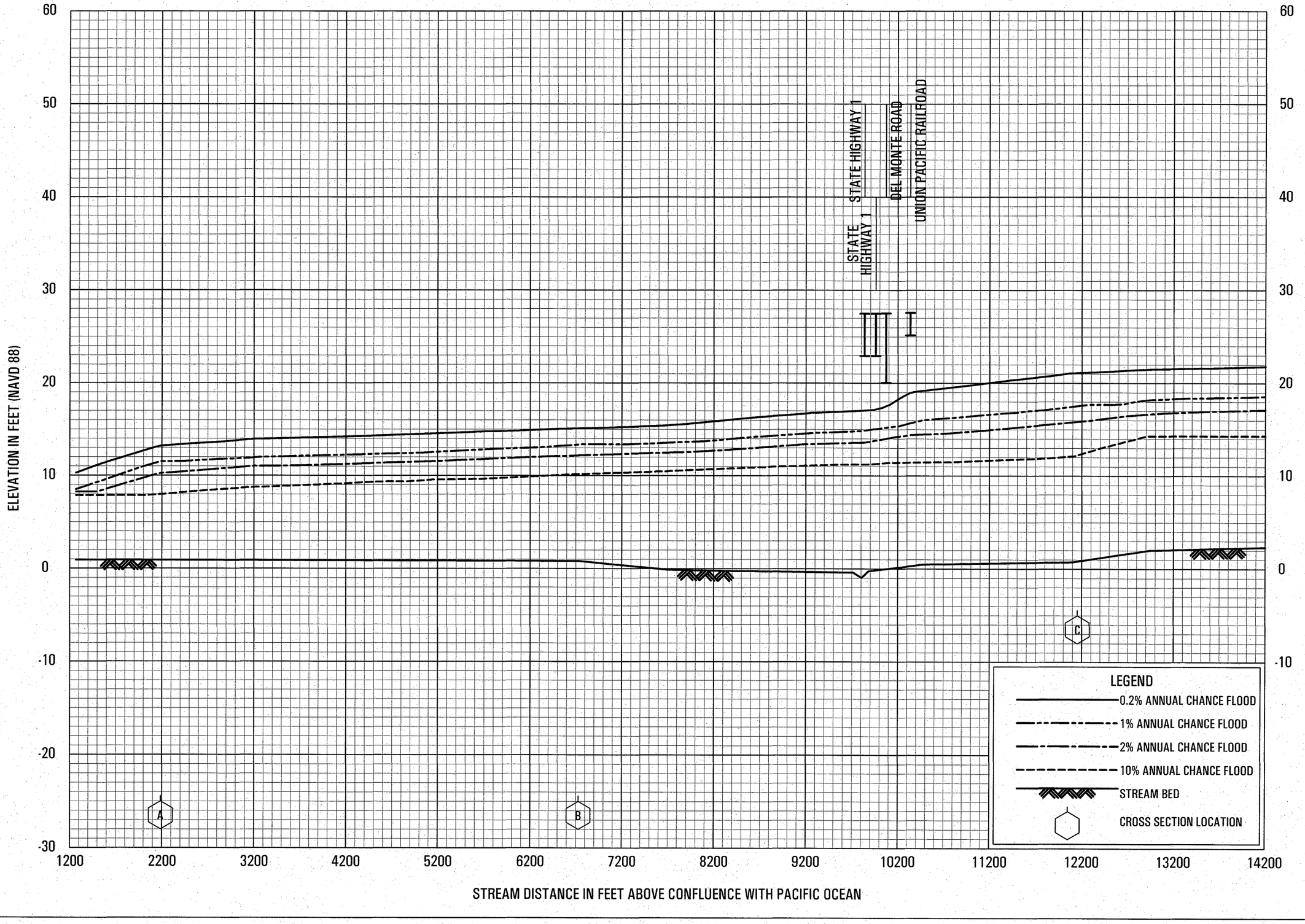
Appendix D Federal Emergency Management Agency Flood Profile of Salinas River



FLOOD PROFILES

SALINAS RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

MONTEREY COUNTY, CA

AND INCORPORATED AREAS