

# Capell Creek Bridge Replacement Project

NAPA COUNTY, CALIFORNIA  
STATE ROUTE 128 – NAP PM 19.7/20.7  
EA 04- 4G840; Project ID 04-1300-0051

## Initial Study with Proposed Mitigated Negative Declaration



Prepared by the  
California Department of Transportation

January 2016





## General Information about This Document

### What's in this document:

The California Department of Transportation (Caltrans) has prepared this Initial Study (IS), which examines the potential environmental impact of the proposed State Route (SR) 128 Capell Creek Bridge Replacement project in Napa County, California. Caltrans is the lead agency under the California Environmental Quality Act (CEQA). The document tells you why the project is being proposed, how the existing environment could be affected by the project, the potential impacts of each proposed activity, and the proposed avoidance, minimization, and/or mitigation measures.

### What you should do:

- Please read this document.
- Additional copies of this document and related technical studies are available for review at:

Caltrans District 4 Office, 111 Grand Avenue, Oakland, CA 94612

Napa Main Library, 580 Coombs Street, Napa, CA 94559

You can also download or view the report online at <http://www.dot.ca.gov/dist4/envdocs.htm>

- We'd like to hear what you think. If you have any comments about the proposed project, please send your written comments to Caltrans by the deadline.

- Send your comments via post mail to:

California Department of Transportation, District 4, Attn: Thomas Rosevear, P. O. Box 23660, MS 8-B, Oakland, CA 94623-0660.

- Send comments via email to: [Thomas\\_Rosevear@dot.ca.gov](mailto:Thomas_Rosevear@dot.ca.gov)

- A public open house/map display is scheduled for this project on Tuesday, February 9, 2016 from 6:00 PM to 8:00 PM at the Capell Valley Fire Station, 1193 Capell Valley Road, Napa, CA 94558.

- Be sure to send comments by the deadline: March 1, 2016.

### What happens next:

After comments are received from the public and reviewing agencies, Caltrans may (1) give environmental approval to the proposed project, (2) do additional environmental studies, or (3) abandon the project. Caltrans may design and construct all or part of the project if the project is given environmental approval and funding is obtained.



# INITIAL STUDY WITH PROPOSED MITIGATED NEGATIVE DECLARATION

04 – NAP – 128

NAP – 128 – 19.7/20.7

EA 4G840;

Project ID # 04-1300-0051

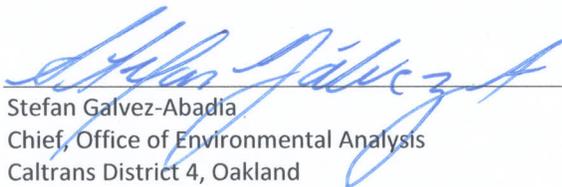
Dist.-Co.-Rte.

P.M/P.M.

E.A.

Project Title:	Capell Creek Bridge Replacement Project
Lead agency name and address:	California Department of Transportation 111 Grand Ave., Oakland, CA 94612
Contact person and phone number:	Thomas Rosevear, Environmental Planner (510) 286-5360
Project Location:	Napa County, California
General plan description:	Transportation
Zoning:	Transportation
Other public agencies whose approval is required (e.g., environmental permits); CEQA Responsible Agencies are denoted with a *:	<ul style="list-style-type: none"> <li>• Biological Opinion from the U.S. Fish and Wildlife Service</li> <li>• Lake and Streambed Alteration Agreement from California Department of Fish and Wildlife*</li> <li>• Clean Water Act 404 Permit from the U.S. Army Corps of Engineers</li> <li>• Clean Water Act 401 Water Quality Certification from the Central Valley Regional Water Quality Control Board*</li> <li>• California Transportation Commission*</li> </ul>

Additional copies of this document, as well as the technical studies this document relies on, are available for review at the district office, 111 Grand Ave., Oakland, CA 94612.

  
Stefan Galvez-Abadia  
Chief, Office of Environmental Analysis  
Caltrans District 4, Oakland

  
Date

For individuals with sensory disabilities, this document can be made available in Braille, in large print, on audiocassette, or on computer disk. To obtain a copy in one of these alternate formats, please call or write to California Department of Transportation, Attn: Thomas Rosevear, Environmental Planning, 111 Grand Avenue, MS 8-B, Oakland, CA 94612, or use the California Relay Service 1 (800) 735-2929 (TTY), 1 (800) 735-2929 (Voice) or 711.



## **Project Information**

### **Location**

The California Department of Transportation (Caltrans) proposes to replace the Capell Creek Bridge (Bridge No. 21-0078) and to install horizontal drains in the vicinity of the bridge, located at post mile (PM) 20.23 on State Route (SR) 128 in unincorporated Napa County. The proposed project is located approximately ten miles from the community of Rutherford. SR 128 within the project limits is also referred to as Capell Valley Road. It is a north-south two-lane undivided conventional highway. The new bridge structure will be constructed at the same location as the existing bridge. The project limits are between PMs 19.7 and 20.7.

### **Existing Facility**

The existing Capell Creek Bridge will be demolished as part of this project. It was built in 1956 and is a reinforced concrete/steel girder three-span bridge with one lane in each direction. It is approximately 32 feet wide and 205 feet long, with span lengths of 60–89–60 feet. (This the distance from the beginning of the bridge to the center of the first bent, from the center of the first bent to the center of the second bent, and from the center of the second bent to the end of the bridge.) The existing bridge roadbed width is 26 feet and provides 11-foot lanes and 2-foot shoulders, with baluster rails.

The bridge consists of two continuous-welded steel girders with reinforced concrete slabs on top, two reinforced concrete column bents, and two reinforced concrete "U" abutments. Foundations are 45-ton driven steel pipe piles, ranging in depth length from 14 feet to 60 feet. The roadway approaching the bridge has two 11-foot lanes and zero to 2-foot shoulders.

There is a private driveway approximately 250 feet south of the existing bridge that will be impacted by the temporary roadway widening. A temporary minor realignment of a portion of the driveway will be necessary. Every effort will be made to provide uninterrupted access for users of the driveway during construction.

East of the roadway, the state right-of-way extends approximately 50 feet from the existing edge of pavement. West of the roadway, the state right-of-way extends approximately 120 feet from the existing edge of pavement to the north of the bridge and gradually reduces to about 35 ft from existing edge of pavement to the south of the bridge.

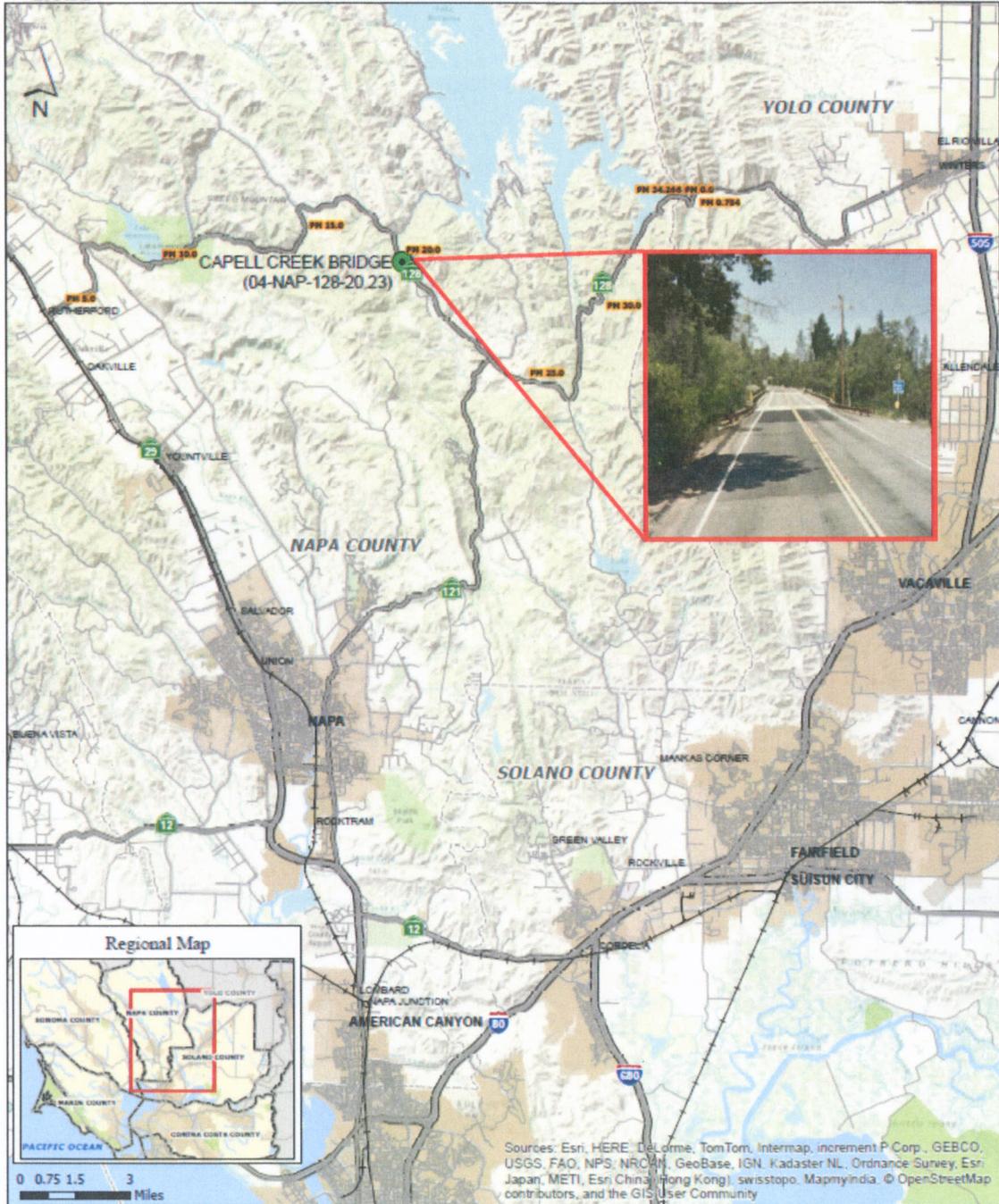
### **Project Goal**

This project proposes to address the stability of the adjacent hillside and deterioration of the structural elements of the Capell Creek Bridge. Earth movement in the hillside adjacent to Capell Creek Bridge has exerted loads of unknown magnitude on the bridge.



# Rte 128 Capell Creek Bridge Project NAP-128-19.7/20.7

EA 04-4G840  
ID 04-1300-0051



Project Vicinity and Location Map

Slope stability issues within the project area have been documented as early as 1965. Slide monitoring has detected landslide movement occurring on the northwest side of the channel. The slide has caused Abutment 1 to move southerly toward Abutment 4 on the south side of the channel.

In 1972, as part of the first landslide monitoring program, a number of slope inclinometers were placed throughout the toe area of the landslide to monitor the direction and rate of earth movement and the groundwater level. Additional slope inclinometers were installed in 1999, 2001, and 2008.

Slide movement has occurred periodically. From 1973 to 1985 slide monitoring recorded a cumulative displacement near Abutment 1 of about 3.5 inches. From 1985 to 1995 the slide was believed to be dormant; however, additional displacement was detected recently. From 2000 to 2011 cumulative displacement of about 1.5 inches was recorded.

Groundwater level monitoring has recorded a fluctuating groundwater level. From 1972 to 1984 the groundwater level was recorded between 10 and 14 feet below ground surface. However, more recently the level has varied considerably. From 2001 to 2006, it was about 26 feet below ground surface and from 2007 to 2011 it was about 5 feet below ground surface.

Some measures have been attempted previously to address the earth movement. Horizontal drains are proposed at the roadway at the slide area in order to lower the groundwater level and slow down the slide movement.

As such, bridge structure deficiencies have arisen, including multiple retained system joints and gaps, fatigue issues, and a lack of redundancy in support and system connection releases.

#### **Horizontal Drains Project**

Caltrans previously prepared an Initial Study with Mitigated Negative Declaration (MND) for the *Capell Creek Slope Indicators and Drainage* project to install horizontal drains, and approved the MND on May 30, 2015. Its Expenditure Authorization is 3G760 and its Project Number is 0412000170. Its State Clearinghouse number is 2013022053.

In 2015 it was determined that the installation of horizontal drains be added to the scope of this project. The project footprint, technical studies and analysis of impacts prepared for this bridge replacement Initial Study now incorporate those of the horizontal drains project.

#### **Project Funding and Programming**

The project is funded from the 2014 State Highway Operation and Protection Program (SHOPP), under the Bridge Rehabilitation Program 201.110. The project capital outlay cost (escalated to mid-construction of 2020) is \$11,745,000.

## **Project Description**

Preliminary project plans and cross section are located in Appendix D. These plans are not the final design of the project.

### **Bridge Construction**

Two bridges will be constructed: (1) A new replacement bridge will be constructed at the existing bridge location; and (2) a detour bridge will be constructed immediately east of the replacement bridge for traffic-handling during demolition and construction of the replacement bridge. The existing bridge will continue to be used for traffic while the detour bridge is being constructed.

The proposed replacement bridge is approximately 53 feet wide and 244 feet long, with span lengths of 72–100–72 feet to each pair of bents. The roadbed is 50 feet wide and provides standard 12-foot lanes and 8-foot shoulders, with a reinforced concrete bridge deck and standard concrete barriers with railings constructed on the outside shoulders. Additional roadway surface outside the edge of shoulder is to be delineated with chevron markings. During construction, the detour bridge provides an 11-foot lane and 1-foot shoulders. The detour bridge follows the same construction methodology as the replacement bridge.

The foundations for the permanent bents and abutments will consist of a total of 54 CIDH piles, with 3 piles at each bent and 24 piles at each abutment. CIDH piles for the two bents will be 5 feet in diameter and 50 feet long. Each CIDH pile for Abutment 1 and Abutment 4 will be 2 feet in diameter and 30 feet long with permanent casings.

Reinforced concrete seat abutments (bridge structural component on which the bridge superstructure seats, on bearing devices), will be built at both bridge approaches. Approximately 24 piles will be installed at each abutment. The group of 24 piles at each abutment will be capped off with a pile cap. The pile cap, located 12 feet below the deck, will be approximately 8 feet wide, 58 feet long, and 2 feet thick. Reinforced concrete wingwalls, approximately 20 feet long and 10 feet high, will be constructed on each side of the abutments.

A 30-foot long approach slab will be built at both bridge approaches in order to transition from the asphalt pavement (flexible structure) to the bridge deck (rigid structure). It will be formed concrete with steel reinforcement. After the replacement bridge is constructed, a 2.5 feet closure pour, defined as a gap that divides one pour from the next that is used to allow shrinkage to take place, will be constructed between the detour bridge and the replacement bridge.

### **Bridge Demolition**

Bridge demolition will begin in the middle of the bridge span and continue outward. The bridge concrete deck, steel truss underneath the deck, and piers will be saw-cut into individual slabs, lifted from their supports using a crane, and hauled away by trucks. The remaining portions of the bridge abutments and piles will be cut down to 3 feet below existing channel grade and hauled away.

### **Horizontal Drains Installation**

New horizontal directional drain pipes will be installed into the hillside at the Capell Creek channel elevation. The drains will be installed immediately west of Capell Creek Bridge and north of Capell Creek. Thirteen new plastic 3-inch diameter drain pipes will be drilled approximately 200 feet into the hill. The pipe ends will extend approximately 5 feet from the face of the hill and will empty into one of two new dissipater pads (used to reduce the effect of applied energy) that will be constructed immediately above the Capell Creek bank. Water will drain off the dissipater pads into Capell Creek.

### **Roadway Widening**

Minor roadway widening is needed for the project, which will occur in a stretch of approximately 200 feet south of the bridge and 200 feet north of the bridge. This is required in order to taper the width of the proposed 50 feet bridge roadbed to the existing 26 feet roadbed of the roadway. Approximately 2 to 10 feet of roadway widening is required on both sides of the existing roadway. The existing roadway will receive 0.15 feet of grind and overlay.

Additional roadway widening is required for detouring traffic to the detour bridge immediately east of the existing bridge. This widening will occur within the same limits as the permanent roadway widening, and extends up to 40 feet east of the existing roadway.

Construction of the embankment slope southwest of the existing bridge requires construction of up to a 3-tier gabion wall (compartmented wire baskets filled with stones) for a length of 120 linear feet. Maximum depth of excavation for the gabion wall is approximately 9 feet.

There is a private driveway approximately 250 feet south of the existing bridge that will be temporarily impacted by the roadway widening. Therefore, a temporary minor realignment of a portion of the driveway will be necessary and the driveway will require traffic control when one-way traffic control is utilized for the highway. Every effort will be made to minimize access interruption for users of the driveway during construction.

### **Pedestrian and Bicycle Facilities**

There are no existing dedicated pedestrian, bicycle or other non-motorized facilities within the project corridor. SR 128 within the project limits lacks standard shoulders for use by pedestrians and non-motorized users, and the paved shoulder width varies from zero to 2 feet. In addition, pedestrian and non-motorized users may encounter rocks and soil on the roadway due to frequent minor rockslides.

Transportation improvements cited in the 2009 *Napa County General Plan* and reflected in the Regional Transportation Plan include upgrading the project corridor to a primary bicycle route. This project proposes to upgrade the existing lane and shoulder widths to standard on the bridge and bridge approaches, which complies with the Caltrans Highway Design Manual minimum standard width for bicycle routes.

### **Utilities Relocation**

The relocation of utilities is anticipated. Utility owners within the project limits are Pacific Gas & Electric (PG&E), American Telephone & Telegraph (AT&T), Comcast, Napa Water District and Napa Sanitation District. Utility verification and coordination is required throughout the design phase of the project to determine where conflicting utilities are to be relocated. Several existing joint utility poles and associated facilities are in conflict with proposed work.

For utilities that require relocation, all associated utility features such as poles, guy wires, conduits, service and pull boxes, manholes, and vaults within the boundaries of the proposed work will also be relocated. It is anticipated that all existing utilities impacted by this project will be relocated within State right of way prior to construction.

### **Transportation Management Plan for Use during Construction**

A Transportation Management Plan (TMP) will be prepared and implemented during the design phase in order to minimize or prevent delays and inconveniences to the traveling public and to address traffic impacts from stage construction and specific traffic handling concerns during construction.

The existing bridge will continue to be used for highway traffic while the detour bridge is being constructed. Limited closures of the existing bridge will occur in order to construct the new bridge approach spans and perform the final paving and striping operations. Aside from these limited closures, the existing bridge or detour bridge will remain open to traffic until construction is completed. One-way traffic control will be utilized and it will include traffic signals in order to direct traffic during operation.

Temporary concrete k-rails or plastic barriers will be used, as well as changeable message signs to notify motorists of construction zone activities. The need for nighttime and/or weekend lane closures will be identified during the design phase.

The TMP may include press releases to notify and inform motorists, businesses, community groups, local entities, emergency services, and local officials of upcoming closures or detours.

### **Staging and Temporary Access Road**

A temporary unpaved access road will be constructed approximately 500 feet south of the existing bridge. The temporary access road connects the roadway to an existing unpaved road approximately 150 feet west of the roadway. This road will be utilized for access to the creek and beneath the structure. After construction, the temporary access road will be restored to pre-construction conditions in accordance with applicable permits and Caltrans requirements.

Staging areas will be used for equipment storage and stockpiling temporary materials. Materials containing possible contaminants, such as fuels, lubricants, oils, or solvents, will be stored off-site or in sealable containers at designated locations per applicable permits and Caltrans requirements.

### **Temporary Creek Diversion System**

Construction access to the worksite at Capell Creek requires temporary dewatering. A temporary creek diversion system will be constructed to divert creek flow through the worksite during the proposed construction season.

The temporary creek diversion system consists of a diversion pipe with temporary cofferdams located at the upstream and downstream ends. The cofferdams will be constructed across the existing creek channel with sand bags wrapped in impermeable plastic sheeting. A cut-off trench will be provided at both the upstream and downstream cofferdams to reduce seepage into the construction work area.

Platforms will be installed to provide a construction work area over the creek bed. The temporary creek diversion system and associated platforms will be constructed and removed during each construction season.

Additional temporary dewatering may be required where subsurface excavation is performed below the ground water table. Dewatering and discharging activities will be conducted per Caltrans requirements. For dewatering systems that require pumping, all intakes will be completely screened with wire mesh to prevent fish entrainment.

### **Bridge Drainage Systems**

Existing drainage systems within the project limits include an 18-inch corrugated steel pipe (CSP) cross culvert located 340 feet northwest of the bridge, a 12-inch CSP downdrain from the west cut-slope 230 feet northwest from the bridge, and an 18-inch CSP cross-culvert 320 feet southeast of the bridge. There is a dike along eastbound Route 128 downstream of the bridge that extends approximately 800 feet from the bridge. There are 1-foot wide openings in the dike at a sag point 300 feet southeast of the bridge and another approximately 70 feet southeast of the sag point at the temporary construction entrance.

At present, runoff from the cut slope south of the northwest cross culvert either flows directly down to its base, or to a bench that is drained by the 12-inch CSP downdrain. There is an existing roadway swale next to the eastbound lane that conveys runoff from the aforementioned areas and groundwater from horizontal drains towards the bridge and outlets into Capell Creek. Runoff from the westbound lane flows into a roadside ditch that drains into Capell Creek. Runoff from the eastbound lane flows along the dike to the opening at the sag point. The dike opening at the temporary construction entrance drains runoff from Route 128 starting from the end of the dike 800 feet southeast of the bridge.

The inverts of both 18-inch CSP cross culverts are corroded. These cross culverts were installed in 1957, and are past their service life. The dike openings are nonstandard features and do not drain efficiently.

The existing cross culverts northwest and southeast of the bridge will be replaced. The existing side-opening inlet of the southeastern cross culvert will be replaced with a grated inlet. The non-standard

dike openings at the sag point and the temporary construction entrance will be replaced with standard drains. The proposed wider bridge will require a roadway transition that will fill portions of the existing swale north of the bridge. A drainage system will be placed in this location. This drainage system will consist of 3 drainage inlets connected by 18-inch pipe and will outlet at the existing outfall of the swale to the creek. The transition from the bridge to the existing roadway downstream of the bridge will necessitate removing a portion of the existing dike. This dike will be replaced. A cross drainage system will also be placed downstream of the southeastern bridge approach to drain bridge runoff. This drainage system will consist of 2 drainage inlets, one on each side of the highway, connected with 18-inch pipe and will outfall to the existing ditch next to the westbound lane. Rock Slope Protection (RSP) will be placed at the outfalls of all drainage systems to prevent scour.

### **Stage Construction**

Construction activity will take place during daytime and nighttime hours. No long-term closures are proposed. Construction in the creek or near any aquatic habitat will be limited to June 1 to October 15 or as allowed to meet permit conditions. The total time of work within the creek is estimated to be 8 months. Out-of-water work will typically start in April and end in December, if weather permits and permit conditions are met. Other work items that do not require work in the water, such as abutment foundation and bridge superstructure (portion above its foundations) will occur year-round.

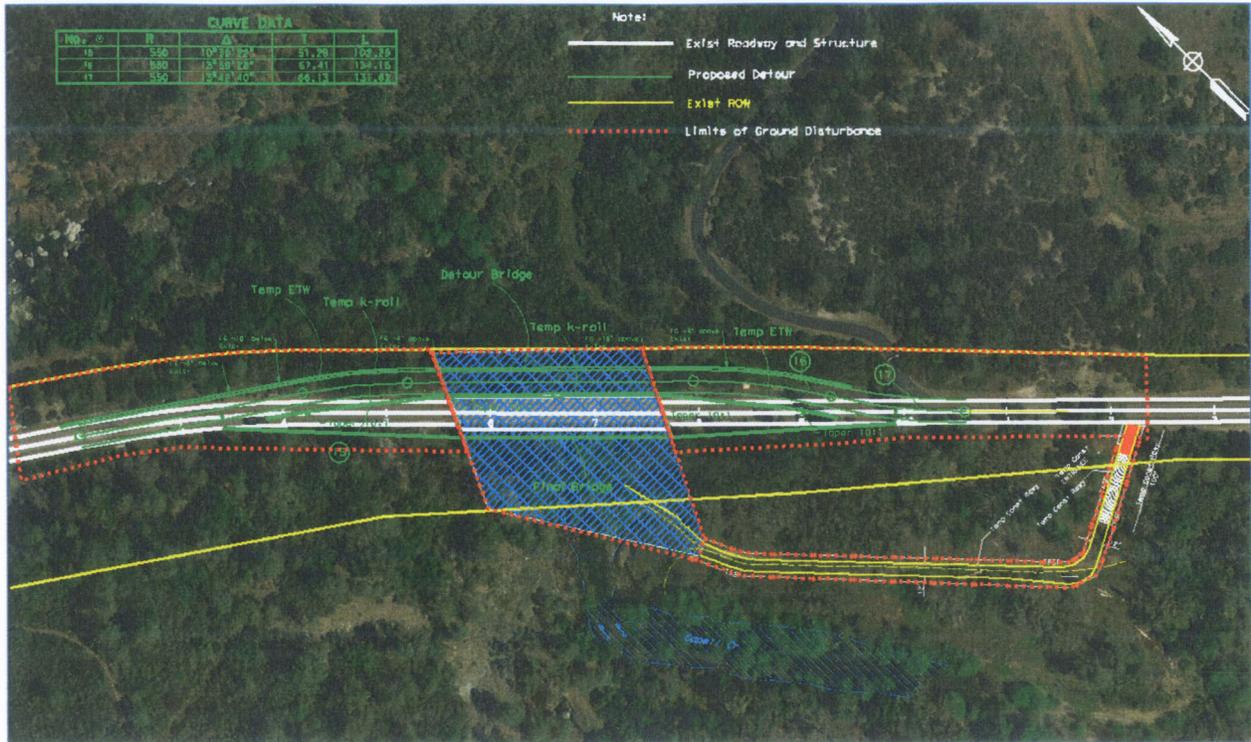
All nest avoidance requirements for the Migratory Bird Treaty Act and California Department of Fish and Game code will be observed. As such, all vegetation removal will be scheduled outside the bird nesting season (February 15 to August 15) or as allowed to meet permit conditions. If for any reason this schedule cannot be met, a biologist will be present on-site as appropriate, to inspect for federally-listed bird species and migratory birds. All attempts will be made to restore areas of temporary disturbance associated with construction.

The scheduled begin construction date is tentatively in early 2019 and work is to be completed in two construction seasons (note some construction activities listed below can be constructed concurrently):

#### **Season 1:**

- Install construction area signs
- Clear and grub
- Construct temporary access road
- Construct creek diversion, cofferdams, and associated Best Management Practices (BMPs)
- Install horizontal drains
- Construct detour bridge formwork
- Construct detour bridge deck and associated detour widening
- Shift traffic to detour bridge
- Construct falsework and ground cover to collect falling debris
- Demolish and haul away existing bridge
- Remove creek diversion and cofferdams

# Stage Construction



Stage Construction (continued)



**Season 2:**

- Clear and grub
- Construct creek diversion, cofferdams, and associated BMPs
- Construct bridge formwork
- Construct bridge deck and widen roadway approaches
- Shift traffic to proposed new bridge
- Reconstruct detour bridge into permanent portion of new bridge shoulder
- Remove temporary access road, creek diversion and cofferdams
- Implement permanent erosion control and site cleanup
- Remove construction area signs

**Erosion Control**

Standard temporary erosion control measures will be implemented on all disturbed soil areas (DSAs). All state/federal waters and wetlands will be protected from sediment and pollutant discharges in accordance with applicable laws, permits and Caltrans requirements.

Permanent erosion control measures, such as placing hydroseed and coir netting, will be applied to all impacted areas prior to construction completion. Contours and vegetation cover will be reestablished to pre-construction conditions in accordance with Caltrans requirements. All construction spoils and debris will be environmentally cleared for handling and disposing, and will be hauled to a permitted disposal site.

Tightly woven fiber netting or similar material shall be used for erosion control and other purposes at the project site to ensure that that wildlife does not become trapped or entangled.

**Restoration**

Vegetation will be cleared only when necessary and will be cut above original ground level, except in areas that will be excavated. Approximately 65 trees will be removed for the project. Plant stems and tree stumps will be ground down, where required, to a sufficient depth in order to proceed with subsequent construction activities. Cleared vegetation will be removed from the work site.

Disturbed areas will be re-contoured to the natural grade and revegetated with native species appropriate for the site conditions. If planting cannot be accomplished on-site due to a general lack of suitable planting area, off-site mitigation options will be pursued.

**Right-of-Way Requirements**

All proposed cut/fill limits are to remain within State right-of-way. Construction of the embankment slope at the horizontal drains requires permanent easements that have been previously acquired.

The project will not result in the displacement of residents or businesses. However, right-of-way is anticipated to be acquired during the design phase of the project in the form of easements on portions of the following properties:

Address	Napa County Assessor Parcel #	Right of Way Requirement
1962 Capell Valley Road, Napa	032-100-034-000	Temporary construction and temporary access easements
1987 Capell Valley Road, Napa	032-100-038-000	Temporary construction easement
1995 Capell Valley Road, Napa	032-100-059-000	Permanent drainage easement

### Alternatives Considered but Eliminated from Further Discussion

#### *Rejected Alternative 1: Abutment Rehabilitation and Earthquake Retrofit*

The scope of work for this rejected alternative included rehabilitation of Abutment 1 with added external concrete bolsters and retrofit of the bridge with keys/catcher blocks (structural restraining elements used to resist seismic forces, consisting of blocks used to catch or limit the superstructure drop in case of failure) and girder/backwall modifications, and bent work including keys/catcher blocks, column/footing collars (casings placed around the column/footings to strengthen them), footing strengthening and added external CIDH piles.

This alternative was rejected because the existing bridge structure is nearing the end of its design life. Since this rejected alternative proposed a bridge retrofit rather than bridge replacement, some existing bridge structural issues and challenges would have continued to worsen. In effect, structure maintenance work would have become more frequent and associated costs would have continued to rise.

#### *Rejected Alternative 2: Abutment Replacement and Earthquake Retrofit*

The scope of work for this rejected alternative included replacement of Abutment 1 with a special seat type abutment and retrofit of the bridge with keys/catcher blocks and girder/backwall modifications, and bent work including keys/catcher blocks, column/footing collars, footing strengthening and added external CIDH piles.

Similar to Rejected Alternative 1, this alternative was rejected because the existing bridge structure is nearing the end of its design life. Since this rejected alternative proposed bridge retrofit rather than bridge replacement, some existing bridge structural issues and challenges would have continued to worsen. In effect, structure maintenance work would have become more frequent and associated costs would have continued to rise.

### *Rejected Alternative 3: Bridge Replacement on a New Alignment*

The scope of work for this rejected alternative included realigning the roadway approximately 50 feet to the east in order to construct a new cast-in-place/reinforced concrete box girder bridge and to upgrade the facility to meet current design standards. The existing bridge will be demolished.

This alternative was rejected because the additional work east of the existing roadway would have required additional right of way impacts, a larger environmental footprint, and additional items of work, which would have increases costs.

#### **Environmental Setting**

The proposed project is in a rural part of Napa County approximately ten miles east of Rutherford, the nearest town, which had a population of 164 residents reported in the 2010 United States Census. The bridge is roughly two miles southwest of Lake Berryessa, the largest lake in Napa County and a regional recreational destination.

The project is in a rural area that is sparsely populated, hilly and features a thin pine forest. The landscape is characterized by a mixed conifer and broadleaf forest with steep hillsides and the Capell Creek canyon. Low hills are present along the east side of the roadway and west and northwest of the existing bridge.

The land use within the project vicinity is primarily rural with sparse residential development with some agricultural use and marginal commercial use. The area is zoned for agriculture, watershed and open space.

The project vicinity is located at an elevation of approximately 700 feet above sea level at the northern end of the Capell Valley. The major drainage pattern is generally to the northeast toward Lake Berryessa. From the project site, Capell Creek flows approximately 2.5 miles north where it enters Lake Berryessa.



View of existing bridge looking south



View of existing bridge looking north



View of existing bridge abutment



View of existing bridge exterior and rail

### A. ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The environmental factors checked below would be potentially affected by this project. Please see the checklist beginning on page 15 for additional information.

<input checked="" type="checkbox"/>	Aesthetics	<input type="checkbox"/>	Agriculture and Forestry	<input type="checkbox"/>	Air Quality
<input checked="" type="checkbox"/>	Biological Resources	<input type="checkbox"/>	Cultural Resources	<input type="checkbox"/>	Geology/Soils
<input type="checkbox"/>	Greenhouse Gas Emissions	<input checked="" type="checkbox"/>	Hazards and Hazardous Materials	<input checked="" type="checkbox"/>	Hydrology/Water Quality
<input type="checkbox"/>	Land Use/Planning	<input type="checkbox"/>	Mineral Resources	<input type="checkbox"/>	Noise
<input type="checkbox"/>	Population/Housing	<input type="checkbox"/>	Public Services	<input type="checkbox"/>	Recreation
<input type="checkbox"/>	Transportation/Traffic	<input type="checkbox"/>	Utilities/Service Systems	<input checked="" type="checkbox"/>	Mandatory Findings of Significance

### B. DETERMINATION

On the basis of this initial evaluation:

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

Signature:	Date:
Printed Name:	For:

# Proposed Mitigated Negative Declaration

Pursuant to: Division 13, Public Resources Code

## Project Description

The California Department of Transportation (Caltrans) proposes a project to replace the existing structurally deficient Capell Creek Bridge (Bridge No. 21-0078), and to install horizontal drains in the vicinity of the bridge located at Post Mile 20.23 on State Route (SR) 128 in Napa County approximately ten miles from the community of Rutherford in Napa County. The existing bridge will be demolished and the new bridge structure will be constructed at the same location as the existing bridge. The SR 128 bridge approaches will be widened to conform to the new structure.

## Determination

This proposed Mitigated Negative Declaration (MND) is included to give notice to interested agencies and the public that it is Caltrans' intent to adopt an MND for this project. This does not mean that Caltrans' decision regarding the project is final. This MND is subject to change based on comments received by interested agencies and the public.

The Department has prepared an Initial Study for this project, and pending public review, has determined from this study that the proposed project would not have a significant effect on the environment for the following reasons:

The proposed project would have no effect on agriculture and forestry, air quality, cultural resources, geology/soils, land use/planning, mineral resources, noise, population/housing, public services, recreation, transportation/traffic, and utilities/service systems.

In addition, the proposed project would have less than significant effects to aesthetics, hazards and hazardous materials, and hydrology/water quality.

With the following mitigation measures incorporated, the proposed project would have less than significant effects to biological resources.

- Compensatory mitigation for riparian woodland and the California red-legged frog.

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Melanie Brent  
Deputy District Director, Environmental Planning and Engineering  
District 4  
California Department of Transportation

Date

# CEQA Environmental Checklist

This checklist identifies physical, biological, social and economic factors that might be affected by the proposed project. In many cases, background studies performed in connection with the projects indicate no impacts. A NO IMPACT answer in the last column reflects this determination. Where there is a need for clarifying discussion, the discussion is included either following the applicable section of the checklist or is within the body of the environmental document itself. The words "significant" and "significance" used throughout the following checklist are related to CEQA, not NEPA, impacts. The questions in this form are intended to encourage the thoughtful assessment of impacts and do not represent thresholds of significance. Please note that content-based changes to the text from the draft environmental document to this final environmental document will be noted with a line in the right hand margin.

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
<b>I. AESTHETICS:</b> Would the project:				
a) Have a substantial adverse effect on a scenic vista	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

## Visual Resources and Resource Change

Visual resources in the project corridor are identified by visual character and visual quality. Resource change is determined by evaluating differences in visual character and visual quality between pre-project and post-project conditions. This is accomplished by envisioning conditions with the project in place before construction actually occurs.

By examining the vividness, intactness, and unity of the landscape, as these characteristics relate to the highway corridor and the specific project site, the visual quality of the landscape and the impact the project would have can be better understood.

Overall, the State Route 128 corridor through Napa County has a high degree of vividness, meaning that the landscape is highly memorable. Views occurring in this area are typical of the undisturbed rural settings of the general area. Features of the proposed project would not significantly change the views from the highway or other locations within this area of Napa County.

The level of intactness, or the integrity of the visual order of the landscape, and the extent to which the landscape along the winding forested route is free from non-harmonious visual intrusions is

high. Visual resources within this segment of the corridor are highly intact with a high sense of forested seclusion. The proposed 100-foot graded section of the slope on the northwest side of the bridge would, in time, blend in with the character of the bridge site. The thirteen horizontal drains and the gabion wall will be below the bridge and unseen from any portion of the bridge or roadway. The new bridge railings and metal-beam guard rail (MBGR) will not reduce the current level of intactness.

The degree of unity, or the aesthetic integration and visual coherence of the natural and developed environment, within the project area is high. With a few exceptions, constructed elements, including the existing highway facility and the sparse development within the wooded open space, blend well with their surroundings and appear to contribute to the visual appeal of the setting. The proposed project would be consistent with existing highway features.

The degree of resource change resulting from implementation of the proposed project, meaning changes to visual resources exhibited by changes in visual character and visual quality, would be low. The proposed new bridge would retain the approximate current road profile. Tree removal would be necessary to provide access for construction equipment and work crews to remove the existing bridgework, contour grade the creek banks at the bridge abutments, and construct the new bridge. Most of the trees to be removed are not visible from the bridge or roadway. The bridge rails and metal beam guardrail would be the most apparent components seen by highway users as they pass by. Proposed avoidance and minimization measures would reduce the magnitude of perceptible changes related to project features. The area below the highway where the bridge abutments would be constructed is vegetated and has a natural appearance. That condition would be unchanged by the project in the long term once the area of disturbance has recovered.

#### *Viewers and Viewer Response*

*Neighbors*, people with views to the road and the proposed project site, are absent in this case. The closest neighbor can't see the bridge because vegetation and landform block the view. Highway users (people with views *from* the road) are motorists and cyclists on SR 128. Both groups would be minimally affected by the proposed project. This can be better understood by exploring the concepts of viewer exposure and viewer sensitivity.

The duration of viewer exposure to the proposed project site would be short. The project site is approximately 300 feet in length. Motorists and cyclists would briefly see the bridge site as they approach and pass over it. Traveling either north or southbound, the bridge site would be in view at close range for a matter of seconds. The site is out of view from any users not on the roadway.

Viewers of the project may include persons traveling for pleasure on SR 128 including tourists and persons visiting the Lake Berryessa area and local residents. Their sensitivity to change in the landscape is considered high since they come to the area expecting high quality scenery. Additionally, local values and attitudes toward landscape aesthetics include the retention of high visual quality. There are no private residences or structures within view of the project site. The average viewer response to project-related changes is expected to be low because their exposure to the project site would be brief and long-term visible changes would be minor. The average response of all viewer groups would be low.

### *Visual Impacts*

Temporary impacts during construction will be related to the presence of construction workers, materials and equipment. These involve one-way traffic control and temporary traffic barriers, phased construction of the new bridge, excavation beneath the new bridge, temporary and final grading operations. Visual impacts will only last as long as construction was ongoing and site restoration was taking place.

Following construction and site restoration, any residual visual effects will be related to the new bridge structure. The proposed bridge will not change the existing grade of the roadway. The bridge will be widened to provide for standard lane and shoulder widths. Minor roadway widening will occur to the north and south of the bridge in order to conform to the new bridge deck.

Trees and other vegetation will be removed to provide access to the creek channel beneath the bridge by workers and equipment, and to provide space for the widened bridge. The tree cover along the highway in this area is intermittent. Removing some trees and opening the space around the new structure will not cause the bridge to stand out along the corridor. Many existing trees on both sides of the bridge will be unaffected by the project. Areas where trees are removed will be replanted where possible. Trees removed from the visual foreground will be replaced on-site at the staging area adjacent to the bridge. Many of the trees to be removed will not be visible to travelers as they are located below the bridge in the deeper canyon. Those trees will also be replaced but outside the visual foreground, as well as at the Pope Creek restoration site (not at the location of the new bridge).

Disturbed ground surfaces will be re-graded and replanted. The wider shoulders on the bridge deck will result in a nominal increase in the total width of the roadway. The see through rails of the existing bridge will be replaced by new see through Type 80 concrete barrier rails with a tubular bike railing. Travelers will observe these changes briefly while approaching and passing over the bridge.

The level of visual impact attributable to the project will be moderate even though the project will ultimately cause a low degree of resource change. This is because viewer sensitivity to change is high along this portion of SR 128. The visual character of the proposed bridge project will be compatible with the existing character of the corridor. Visual quality will not be substantially diminished.

### *Avoidance and Minimization Measures*

Avoidance or minimization measures have been identified and can lessen visual impacts caused by the project. Also, the inclusion of aesthetic features in the project design previously discussed can help generate public acceptance of the proposed project. This section describes additional avoidance and/or minimization measures to address specific visual impacts. These will be designed and implemented with concurrence of the District Landscape Architect. The measures include:

- The Type 80 barrier will be colored a dark brown.
- The metal tubular bicycle railing will be darkened with stain to give it a rustic appearance. The MBGR on both ends of the bridge will also receive this rustic treatment.

- Trees will be replanted on-site and off-site. Approximately 15 trees will be planted at the existing staging area adjacent to the bridge. Additional trees removed will be replanted on the creek banks and off-site at the Pope Creek restoration site.
- All disturbed areas will be graded as necessary and seeded with native vegetation.
- The hillside next to the widened roadway will be graded to conform and left with a natural rock slate appearance.
- The proposed gabion wall on the southwest corner of the project will be treated with erosion control measures, although it is not visible from any portion of the bridge or roadway.

The primary means of minimizing the project's visual impact involves restoring areas that are disturbed during construction so they blend with the surrounding area. Disturbed areas will be vegetated by hydro seeding with a mix of locally native plants. The bridge rail barriers will have see-through characteristics and exhibit a design that is appropriate for the rural setting of this portion of SR 128.

Based on the studies conducted, the proposed project will not affect views or vistas in any way. The design of the proposed project will be consistent with the visual quality and character of the highway corridor. No scenic resources as defined by CEQA will be significantly affected. The project will not result in a new source of light or glare.

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

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Result in the loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

The project will not convert farmland to non-agricultural use. The land in the project area is not used as farmland. The project area is zoned for agriculture, watershed and open space, but is not currently being used for agricultural purposes. There is no land under the Williamson Act in the project area. The project area is not zoned as forest land or timber land, nor is it zoned for timberland production.

**III. AIR QUALITY:** Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:

- |   |                          |                          |                          |                                     |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a) Conflict with or obstruct implementation of the applicable air quality plan?   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) Expose sensitive receptors to substantial pollutant concentrations?  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| e) Create objectionable odors affecting a substantial number of people?   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

The project will have no effect on the implementation of an air quality plan, is exempt from the requirement for a conformity determination, will not result in a cumulatively considerable net increase in any criteria pollutant, will not expose sensitive receptors to substantial pollutant concentrations, and will not create objectionable odors.

Short term air quality effects during the proposed project's construction period will be addressed by Caltrans Special Provision and Standard Specification 14-9.02. Trucks and construction equipment emit hydrocarbons, oxides of nitrogen, carbon monoxide and particulates. Most project-related pollution during construction will consist of wind-blown dust generated by excavation, grading, hauling and various other activities. The effects from these activities will vary from day to day as construction progresses. The Special Provisions and Standard Specifications will include requirements to minimize or eliminate dust during construction through the application of water or dust palliatives.

IV. BIOLOGICAL RESOURCES: Would the project:

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Wildlife or US Fish and Wildlife Service?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

The biological study area (BSA) for the project includes the area within the project footprint plus a 50-foot buffer, and includes all temporary and permanent impacts. The BSA consists of approximately six acres associated with the creek, banks, riparian areas, and SR 128.

To reduce potential impacts to sensitive biological resources, Caltrans proposes to incorporate Caltrans standard construction Best Management Practices (BMPs) and avoidance and minimization measures into the proposed project as shown in Appendix C.

**Vegetation Communities**

Vegetation communities in the BSA include grey pine (*Pinus sabiniana*)/leather oak (*Quercus durata*) woodland, annual grassland, and riparian woodland. Trees surveyed include coast live oaks (*Quercus agrifolia*), interior live oaks (*Quercus wislizeni*), California bay (*Umbellularia californica*), Douglas fir (*Pseudotsuga menziesii*), and gray pine (*Pinus sabiniana*). Caltrans

Biologists concluded that the project area is dominated with grey pine and oak woodland, including some riparian trees.

#### *Impacts to Vegetation Communities*

The project will impact approximately 0.7 acre of grey pine/leather oak and riparian woodland. Approximately 40 riparian trees including white alder and arroyo willow are expected to be removed as a result of construction activities. All trees that need to be removed pursuant to the work will be cut off no lower than ground level to promote rapid regrowth.

#### *Compensatory Mitigation for Vegetation Communities*

In addition to the measures shown in Appendix C, Caltrans proposes to compensate for impacts to riparian woodland at a 3:1 acreage ratio resulting in a total of 2.1 acres of off-site mitigation (0.7 acre of on-site disturbance). On-site tree and shrub planting will occur as part of a revegetation plan as a separate landscaping project to follow the bridge/roadway construction project. This plan will have a three year plant establishment period. The on-site planting will likely occur in the planned staging area to the southwest of the project.

Maintenance of the site is expected to be minimal, as the native plants should be well established by the completion of the three year plant establishment period.

All disturbed areas will be revegetated with appropriate native, non-invasive species or non-persistent hybrids that will serve to stabilize site conditions.

Filter fabric will line the access roads to protect existing vegetation and will be removed after each construction phase. These access roads will be re-contoured to pre-construction conditions, to the maximum extent practicable, within the same construction season.

Caltrans will consult with the California Department of Fish & Wildlife (CDFW) regarding the removal of the trees within the riparian zone of the project area. Due to limited planting availability on-site, an off-site planting project for impacts is currently being developed through a habitat restoration project along the nearby Pope Creek watershed in coordination with the Napa County Resource Conservation District (RCD).

#### ***Wetlands and Other Waters of the United States***

No wetland communities have been observed in the BSA. Other waters of the United States within the BSA include 0.42 acre of Capell Creek.

#### *Impacts to Wetlands and Other Waters of the United States*

A temporary water diversion system will be in-place during the construction dry seasons (June 1 through October 15). The temporary creek diversion system will consist of a diversion channel with temporary cofferdams located at the upstream and downstream ends. Depending on the water flow at time of construction, dewatering of foundations in the streambed may also be required. The cofferdams will be constructed across the existing creek channel with sand bags wrapped in impermeable plastic sheeting. A cut-off trench will be provided at both the upstream

and downstream cofferdams to reduce seepage into the working area. Caltrans will submit the water diversion plan to United States Fish & Wildlife (USFWS)/CDFW for review prior to construction. A total of 0.016 acres of temporarily impacts and 0.019 permanent impacts will occur to waters of the United States.

#### *Avoidance and Minimization for Wetlands and Other Waters of the United States*

A falsework platform will be suspended beneath the existing bridge to capture any construction debris from the demolition work. The proposed project plans will not impact wetlands. All temporary impacts will be restored on-site. All temporary impacts will be minimized to the greatest extent possible through implementation of Caltrans BMPs, working during the dry season (June 1-October 15), and incorporating applicable water quality measures during the construction period. No off-site mitigation is proposed.

#### ***Special Status Plant Species***

No rare, federally threatened, or federally endangered plants were observed during biological surveys.

#### ***Special-status Wildlife Species - California red-legged frog (*Rana Draytonii*)***

Based on literature review, aerial images, site visits, and California Natural Diversity Database (CNDDDB) searches, potential breeding habitat for the California red-legged frog (CRLF) was identified within the project area. Additionally, non-riparian vegetated areas within the BSA provide suitable upland aestivation (dormant season) and dispersal habitat and non-breeding aquatic habitat for this species.

A review of the CNDDDB identified one CRLF extant populations/breeding locations within five miles of the BSA (CDFW 2015). The closest CRLF occurrence was reported 3.6 mile southeast of the BSA in a tributary to Oak Moss Creek, on the south edge of Highway 128, approximately 0.1 mile east of Highway 121 in Capell Valley. Two adults were observed crossing Highway 128 at night on May 21, 1983. Frogs have been heard calling at this site many times over the years, and most recently in January 2003. The habitat at this location consists of constructed ponds at the head of Oak Moss Creek, found within a gently sloping meadow in at thin oak woodland (Occurrence #739 [CDFW 2015]).

#### *Critical Habitat*

According to new designated critical habitat maps for CRLF, the closest designated CRLF critical habitat is NAPA-1. The NAPA-1, designated CRLF critical habitat is approximately 3.3 miles southeast of the BSA, where SR 121 meets SR 128. The unit provides aquatic habitat for breeding and non-breeding activities and upland habitat for foraging and dispersal activities. The unit is currently occupied by CRLF (Occurrence # 739) and provides connectivity between the populations. The unit is held by state, local government, and private owners.

The proposed Project area is within Recovery Unit 3, the North Coast and North San Francisco Bay, as documented by the CRLF recovery plan (USFWS, 2002). No designated or proposed critical habitat for the California red-legged frog will be impacted by this project.

### *Impacts to the CRLF*

By implementing Caltrans general avoidance and minimization measures shown in Appendix C, and CRLF specific avoidance and minimization measures discussed below, Caltrans anticipates adverse direct and indirect impacts to CRLF to be minimized. However, even with such measures, take of an individual CRLF may occur.

Potential project impacts include both adverse direct and indirect impacts to individuals as well as estimated temporary and permanent losses to upland/aestivation and aquatic non-breeding/aestivation habitat for CRLF.

Potential adverse direct impacts to individuals and estimated temporary and permanent losses of habitat that may occur as a result of this project include:

- Construction activities (i.e., clearing, grubbing, wildlife exclusion fence, access roads, equipment access, demolition, construction of new bridge, cut and fill, widening of approaching roadways) occurring within upland dispersal/aestivation habitat and aquatic non-breeding CRLF habitat. These activities could result in harassment, injury or death (take) of individual CRLF from ground disturbance, trapping individuals within the project area, and/or temporarily disrupting normal behaviors;

Impacts to the aforementioned habitats are as follows:

- Construction activities are expected to cause a temporary loss to 0.357 acre of CRLF upland dispersal/aestivation and 0.261 acre of potential aquatic breeding/aestivation habitat;
- Construction activities are expected to result in the permanent loss of approximately 0.092 acre of upland dispersal/aestivation habitat.
- The project will result in the temporary loss of approximately 0.261 acre (11,369 square feet) of potential CRLF aquatic breeding and 0.357 acre (15,550 square feet) to upland dispersal habitat, and a permanent loss of approximately 0.092 acre (4,007 square feet) to upland dispersal habitat.

Indirect impacts are those that are caused by the proposed action, or are later in time, but still are reasonably certain to occur. Indirect impacts to individuals and habitat can include potential continued sedimentation and runoff later in time resulting from increased impervious surfaces. While there are potential adverse indirect impacts associated with the project, the majority of these impacts will be avoided by implementing avoidance and minimization measures listed in Appendix C. Additional habitat shading from the new bridge will impact approximately 0.032 acre of potential aquatic habitat and 0.092 acre of upland dispersal habitat. This is unlikely to cause any adverse impacts to essential life functions of the CRLF.

The proposed project will have no impact on CRLF designated critical habitat, the closest of which is located 3.3 miles to the southeast of the project area.

### *Avoidance and Minimization Measures for the CRLF*

Caltrans will implement both the general avoidance and minimization measures listed in Appendix C, as well as measures specific for the CRLF that are also discussed in detail in Appendix C: Proper Use of Erosion Control Devices, Preconstruction Surveys, Biological Monitoring, and Protocol for Species Observation and Handling.

### *Compensatory Mitigation for the CRLF*

Caltrans will implement reasonable and prudent measures to minimize and avoid take of listed species. Caltrans is developing a mitigation project that addresses all impacts to CRLF habitat through an off-site riparian habitat restoration along the nearby Pope Creek watershed in coordination with the Napa County RCD. This off-site mitigation proposes to restore approximately 2.1 acres total of CRLF habitat which sufficiently covers all on-site impacts at an acreage ratio of 3:1 for permanent impacts and 1.1:1 for temporary impacts.

### ***Western Pond Turtle (*Actinemys marmorata*)***

According to the CNDDDB, the closest recorded occurrence of western pond turtle (WPT) is about 4.1 miles from the project area. Several observations within the project area were made by Caltrans biological monitors during the course of the horizontal drains project in 2014.

### *Impacts to the WPT*

Construction activities will result in 0.18 acre of temporary impacts, and 0.20 acre of permanent impacts to the WPT. Potential project impacts to known on-site occurrences of WPT include direct impact (potential loss of individuals during grading and heavy equipment movement, temporary breeding habitat loss, and temporary disturbance to dispersal habitat) and indirect impacts (e.g., sedimentation and runoff resulting from increased impervious surfaces). While there are potential indirect impacts associated with the project, these impacts will be minimized through the avoidance and minimization measures described in Appendix C. The proposed project is not expected to increase light, visual, and/or vibration disturbances.

### *Avoidance and Minimization for the WPT*

Please see Appendix C for avoidance and minimization measures that will be implemented to minimize impacts to the WPT.

### *Compensatory Mitigation for the WPT*

Impacts to the WPT can be avoided or minimized by implementing the minimization measures previously described. Thus no compensatory mitigation is proposed. If WPT are found during preconstruction surveys, potential impacts to WPT will be minimized by relocating individual turtles to a safe location.

Compensatory mitigation for riparian woodland and CRLF as previously discussed will also benefit the WPT. Caltrans is proposing to restore approximately 2.1 acres of compensatory off-site mitigation in the nearby Pope Creek watershed.

### ***Foothill Yellow-Legged Frog (*Rana boylei*)***

According to the CNDDDB, the closest recorded occurrence of foothill yellow-legged frog (FYLF) are about 2.8 miles to the west of the project area. Additionally, several individual observations and an egg mass observation were made in 2013 within the project area by Caltrans biological monitors during the course of the horizontal drains project. Two individuals were also identified in Capell Creek about 3.9 miles south of the project area, on May 20, 2010 in relation to a separate Caltrans bridge replacement project.

#### *Impacts to the FYLF*

Construction activities will result in 0.18 acre of temporary impacts, and 0.20 acre of permanent impacts to the FYLF. Potential project impacts to known FYLF populations include direct impact (potential loss of individuals during grading and heavy equipment movement, temporary breeding habitat loss, and temporary disturbance to dispersal habitat) and indirect impacts (e.g., sedimentation and runoff over time resulting from increased impervious surfaces). While there are indirect impacts associated with the project, these impacts will be minimized through the avoidance and minimization measures described below and in Appendix C. The proposed project is not expected to increase light, visual, and/or vibration disturbances.

#### *Avoidance and Minimization for the FYLF*

Caltrans will implement reasonable and prudent measures to minimize and avoid take of FYLF. Due to proximity of habitat and documented occurrences of the FYLF within the project area, Caltrans will implement both the general avoidance and minimization measures listed in Appendix C, as well as the following specific measures for FYLF, that are also discussed in detail in Appendix C: Work Window avoidance, Proper Use of Erosion Control Devices, Preconstruction Surveys, Biological Monitoring and Protocol for Species Observation and Handling.

#### *Compensatory Mitigation for the FYLF*

Based on the project schedule and work window restrictions there are no anticipated impacts to FYLF breeding. There are potential impacts associated with construction; however, the implementation of the proposed avoidance, minimization and mitigation (AMMs) should avoid adverse impacts to potential adult and juvenile frogs. No compensatory mitigation is proposed. If FYLF are found during preconstruction surveys, potential impacts to the FYLF will be minimized by relocating individual frogs outside the construction area.

Compensatory mitigation for riparian woodland and CRLF as previously discussed will also benefit FYLF. Caltrans is proposing to restore approximately 2.1 acres of compensatory off-site mitigation in the nearby Pope Creek watershed.

### ***Migratory Birds***

Common migratory bird species found in the oak woodland community within the BSA include: Acorn woodpeckers (*Melanerpes formicivorus*), western blue bird (*Sialia Mexicana*), yellow-billed magpie (*Pica nuttalli*), Anna's hummingbird (*Calypte anna*), Lazuli bunting (*Passerina amoena*),

and Cooper's hawk (*Accipiter cooperii*). No observations of nest colonies of any of these species have been found within the BSA.

### *Impacts to Migratory Birds*

With avoidance and minimization measures mentioned below, there will be no impacts to migratory birds. Through implementation of the proposed AMMs there should be no impacts to nesting or migratory birds.

### *Avoidance and Minimization for Migratory Birds*

Migratory birds may nest on the ground, on structures, or in trees, shrubs, or other vegetation within the BSA. The following measures will be implemented to avoid or minimize impacts to nesting birds:

- A pre-construction bird nesting survey will be conducted to survey active migratory bird nests in potentially impacted trees and shrubs prior to the beginning of construction. These surveys will be conducted no more than 72 hours prior to construction activities. Surveys will include at least one survey conducted one full breeding season prior to the beginning of construction. Inactive bird nests, other than those of eagles and threatened or endangered species, may be removed, and active bird nests that are in the proximity of construction will be monitored. Caltrans may remove unoccupied nests during the non-nesting period prior to or during construction. During nesting season, inactive nests of non-special status species may be removed after being cleared by a biological monitor.
- Exclusion methods will be used to prevent migratory birds from nesting and roosting within the project area. Such methods may include the use of small mesh netting, which will be installed prior to the nesting season. The nesting season typically extends from February 15 to August 15 for most species.
- With the exception of nests of special status bird species, unoccupied nests—nests without birds or eggs—will be removed to deter birds from re-establishing nests within the project area.

If occupied nests—nests with birds or eggs—are present within the project area, work within 300 feet of raptor species or 50 feet of all other species will be avoided. Preconstruction and construction nest surveys will be conducted within the BSA for all bird species, and if special-status species are detected, Caltrans will consult with CDFW or USFWS to ensure compliance with all MBTA, CESA, and FESA requirements. If non-special status species are detected in the project area, Caltrans will consult with CDFW or USFWS to ensure compliance with MBTA requirements.

### ***Federal Endangered Species Act Consultation Summary***

Caltrans initiates consultation with USFWS or National Marine Fisheries Service (for fish species) when a project has the potential to affect a federally listed species and/or adversely modify designated critical habitat. Formal Section 7 consultation with USFWS under the Federal Endangered Species Act will be initiated with the submission of a Biological Assessment prepared for the project.

For the proposed project, a Biological Opinion (BO) will be obtained from the USFWS as Caltrans has determined that the project is likely to affect the CRLF. Caltrans has made a no effects determination on all other federally listed species that may occur within the BSA. If prior to commencement of construction FYLF or WPT become federally-listed then a Section 7 consultation will be initiated for those species.

#### ***California Endangered Species Act Consultation Summary***

The California Endangered Species Act (CESA) generally parallels the main provisions of the federal ESA, but extends the take prohibitions to species proposed for listing. Section 2080 & 2081 of California Fish & Game Code prohibits the take (defined as hunting, pursuing, catching, capturing, or killing) of endangered, threatened, or candidate species unless otherwise authorized by permit.

The CESA allows for take incidental to otherwise lawful projects except for those species listed as fully protected. State lead agencies are required to consult with CDFW to ensure that any action they undertake is not likely to jeopardize the continued existence of any listed or candidate species, or result in destruction or adverse modification of essential habitat. Caltrans is not required at this date and time to seek an incidental take permit for FYLF or WPT. However, should these species become state listed between now and commencement of construction then Caltrans will apply for an incidental take permit for WPT and FYLF respectively.

#### ***Other Regulatory Requirements***

The project will also require a 404 Nationwide Permit from the United States Army Corps of Engineers and a 1602 Lake and Streambed Alteration Agreement from the CDFW.

Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
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**V. CULTURAL RESOURCES:** Would the project:

- |   |                          |                          |                          |                                     |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?    | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?       | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) Disturb any human remains, including those interred outside of formal cemeteries?                          | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

The Area of Potential Effects (APE) was established to include all locations where construction activities will take place and site boundaries of cultural resources within the project area. The current project APE includes the project footprint and up to the Caltrans right-of-way on both sides of SR 128 and outside of the right-of-way to include the access road and staging area west of the highway. The APE extends 600 feet north of the bridge and 600 feet south of the bridge to encompass lane widening, construction signage, drainage installation and culvert replacements. The vertical APE includes area where excavation will impact the project area below the surface. 42 CIDH piles will range between 80 and 150 feet deep.

A Record search was completed March 17, 2015 using the Northwest Information Center database, Rohnert Park, California. No Cultural Resources are recorded in the project area. Two Caltrans project cultural studies covered previously surveyed the area. Pedestrian Surveys were conducted on August 26, 2015 and November 12, 2015. No cultural resources were noted.

Bridge #21-0078 (Capell Creek Bridge) is listed as Category 5 in the Caltrans Historic Highway Bridge Inventory. Category 5 means it has previously been determined not eligible for inclusion in the National Register of Historic Places.

The Native American Heritage Commission (NAHC) was contacted on March 17, 2015 requesting a review of their Sacred Lands file to determine if there were known cultural resource sites within or near the APE of the proposed project. The NAHC responded on April 3, 2015. The record search of the Sacred Land file failed to indicate the presence of Native American cultural resources in the immediate project area. A list of Native American individuals and organizations who may have interest in the area was provided. Caltrans staff subsequently contacted each interested party and responses were received and responded to as needed.

If cultural materials are discovered during construction, all earth-moving activity within and around the immediate discovery area will be diverted until a qualified archaeologist can assess the nature and significance of the find.

If human remains are discovered, State Health and Safety Code Section 7050.5 states that further disturbances and activities shall stop in any area or nearby area suspected to overlie remains, and the County Coroner contacted. Pursuant to CA Public Resources Code (PRC) Section 5097.98, if the remains are thought to be Native American, the coroner will notify the Native American Heritage Commission (NAHC), which will then notify the Most Likely Descendent (MLD). At this time, the person who discovered the remains will contact Brett Rushing, District Office Chief, Caltrans District 4 Office of Cultural Resource Studies, at the same time as the coroner so that they may work with the MLD on the respectful treatment and disposition of the remains. Further provisions of PRC 5097.98 are to be followed as applicable.

No Impacts to sensitive paleontological resources is anticipated.

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
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**VI. GEOLOGY AND SOILS:** Would the project:

- |  |                          |                          |                          |                                     |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| ii) Strong seismic ground shaking?   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| iii) Seismic-related ground failure, including liquefaction?   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| iv) Landslides?  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Result in substantial soil erosion or the loss of topsoil?  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

The project contains no components which would contribute to soil or slope instability. The installation of horizontal drains is intended to reduce the possibility of the poorly draining earth mass adjacent to and above Abutment 1 of the Capell Creek Bridge sliding further towards the bridge and the roadway. This earth movement in the hillside has exerted loads of unknown magnitude on the structural elements of the bridge, thus necessitating that its deterioration be addressed.

**VII. GREENHOUSE GAS EMISSIONS:** Would the project:

- a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?
- b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

While Caltrans has included this good faith effort in order to provide the public and decision-makers as much information as possible about the project, it is Caltrans' determination that in the absence of further regulatory or scientific information related to GHG emissions and CEQA significance, it is too speculative to make a significance determination regarding the project's direct and indirect impact with respect to climate change. Caltrans does remain firmly committed to implementing measures to help reduce the potential effects of the project. See [http://www.dot.ca.gov/hq/tpp/offices/ogm/key\\_reports\\_files/State\\_Wide\\_Strategy/Caltrans\\_Climate\\_Action\\_Program.pdf](http://www.dot.ca.gov/hq/tpp/offices/ogm/key_reports_files/State_Wide_Strategy/Caltrans_Climate_Action_Program.pdf)

Climate change refers to long-term changes in temperature, precipitation, wind patterns, and other elements of the earth's climate system. An ever-increasing body of scientific research attributes these climatological changes to greenhouse gas (GHG) emissions, particularly those generated from the production and use of fossil fuels.

While climate change has been a concern for several decades, the establishment of the Intergovernmental Panel on Climate Change (IPCC) by the United Nations and World Meteorological Organization in 1988 has led to increased efforts devoted to GHG emissions reduction and climate change research and policy. These efforts are primarily concerned with the emissions of GHGs generated by human activity including carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), tetrafluoromethane, hexafluoroethane, sulfur hexafluoride (SF<sub>6</sub>), HFC-23 (fluoroform), HFC-134a (s, s, s, 2-tetrafluoroethane), and HFC-152a (difluoroethane).

In the U.S., the main source of GHG emissions is electricity generation, followed by transportation. In California, however, transportation sources (including passenger cars, light-duty trucks, other trucks, buses, and motorcycles make up the largest source of GHG-emitting sources. The dominant GHG emitted is CO<sub>2</sub>, mostly from fossil fuel combustion.

There are typically two terms used when discussing the impacts of climate change: "Greenhouse Gas Mitigation" and "Adaptation." "Greenhouse Gas Mitigation" is a term for reducing GHG emissions to reduce or "mitigate" the impacts of climate change. "Adaptation" refers to the effort of planning for and adapting to impacts resulting from climate change (such as adjusting transportation design standards to withstand more intense storms and higher sea levels)<sup>1</sup>.

There are four primary strategies for reducing GHG emissions from transportation sources: 1) improving the transportation system and operational efficiencies, 2) reducing travel activity, 3) transitioning to lower GHG-emitting fuels, and 4) improving vehicle technologies/efficiency. To be most effective, all four strategies should be pursued cooperatively.<sup>2</sup>

<sup>1</sup> [http://climatechange.transportation.org/ghg\\_mitigation/](http://climatechange.transportation.org/ghg_mitigation/)

<sup>2</sup> [http://www.fhwa.dot.gov/environment/climate\\_change/mitigation/](http://www.fhwa.dot.gov/environment/climate_change/mitigation/)

## ***Regulatory Setting***

### ***State***

With the passage of several pieces of legislation including State Senate and Assembly bills and Executive Orders, California launched an innovative and proactive approach to dealing with GHG emissions and climate change.

Assembly Bill 1493 (AB 1493), Pavley, Vehicular Emissions: Greenhouse Gases, 2002: This bill requires the California Air Resources Board (ARB) to develop and implement regulations to reduce automobile and light truck GHG emissions. These stricter emissions standards were designed to apply to automobiles and light trucks beginning with the 2009-model year.

Executive Order (EO) S-3-05 (June 1, 2005): The goal of this EO is to reduce California's GHG emissions to 1) year 2000 levels by 2010, 2) year 1990 levels by 2020, and 3) 80 percent below the year 1990 levels by 2050. In 2006, this goal was further reinforced with the passage of Assembly Bill 32.

Assembly Bill 32 (AB 32), Núñez and Pavley, The Global Warming Solutions Act of 2006: AB 32 sets the same overall GHG emissions reduction goals as outlined in EO S-3-05, while further mandating that ARB create a scoping plan and implement rules to achieve "real, quantifiable, cost-effective reductions of greenhouse gases."

Executive Order S-20-06 (October 18, 2006): This order establishes the responsibilities and roles of the Secretary of the California Environmental Protection Agency (Cal/EPA) and state agencies with regard to climate change.

Executive Order S-01-07 (January 18, 2007): This order set forth the low carbon fuel standard for California. Under this EO, the carbon intensity of California's transportation fuels is to be reduced by at least 10 percent by 2020.

Senate Bill 97 (SB 97) Chapter 185, 2007, Greenhouse Gas Emissions: This bill required the Governor's Office of Planning and Research (OPR) to develop recommended amendments to the California Environmental Quality Act (CEQA) Guidelines for addressing GHG emissions. The amendments became effective on March 18, 2010.

Senate Bill 375 (SB 375), Chapter 728, 2008, Sustainable Communities and Climate Protection: This bill requires the California Air Resources Board (CARB) to set regional emissions reduction targets from passenger vehicles. The Metropolitan Planning Organization (MPO) for each region must then develop a "Sustainable Communities Strategy" (SCS) that integrates transportation, land-use, and housing policies to plan for the achievement of the emissions target for their region.

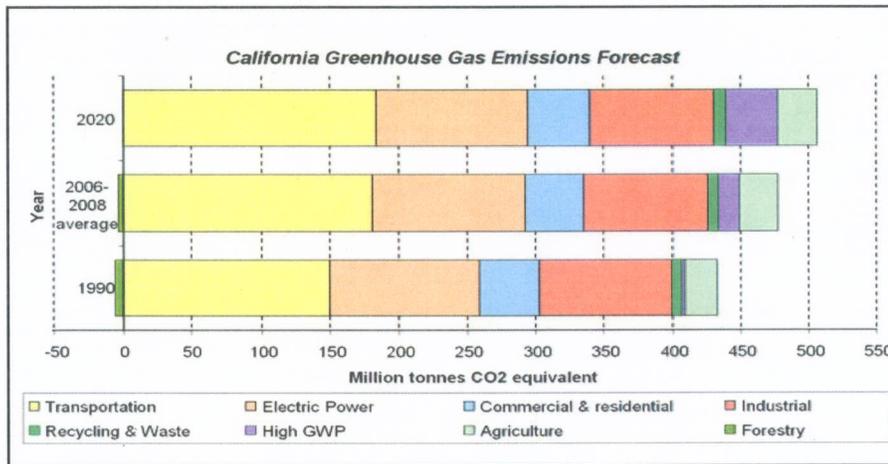
### ***Project Analysis***

An individual project does not generate enough GHG emissions to significantly influence global climate change. Rather, global climate change is a cumulative impact. This means that a project may contribute to a potential impact through its incremental change in emissions when combined

with the contributions of all other sources of GHG.<sup>3</sup> In assessing cumulative impacts, it must be determined if a project's incremental effect is "cumulatively considerable" (CEQA Guidelines sections 15064(h)(1) and 15130). To make this determination the incremental impacts of the project must be compared with the effects of past, current, and probable future projects. To gather sufficient information on a global scale of all past, current, and future projects in order to make this determination is a difficult, if not impossible, task.

The AB 32 Scoping Plan mandated by AB 32 contains the main strategies California will use to reduce GHG emissions. As part of its supporting documentation for the Draft Scoping Plan, ARB released the GHG inventory for California (forecast last updated: October 28, 2010). The forecast is an estimate of the emissions expected to occur in the year 2020 if none of the foreseeable measures included in the Scoping Plan were implemented. The base year used for forecasting emissions is the average of statewide emissions in the GHG inventory for 2006, 2007, and 2008.

*California Greenhouse Gas Forecast*



Caltrans and its parent agency, the State Transportation Agency, have taken an active role in addressing GHG emission reduction and climate change. Recognizing that 98 percent of California's GHG emissions are from the burning of fossil fuels and 40 percent of all human made GHG emissions are from transportation, Caltrans has created and is implementing the Climate Action Program at Caltrans that was published in December 2006.<sup>4</sup>

The purpose of this project is to address the stability of the adjacent hillside and deterioration of the structural elements of the Capell Creek Bridge. This project proposes to replace the bridge and to install horizontal drains in the vicinity of the bridge. The proposed project is not a capacity increasing project so it is not anticipated to have any increase in operational GHG emissions as a

<sup>3</sup> This approach is supported by the AEP: Recommendations by the Association of Environmental Professionals on How to Analyze GHG Emissions and Global Climate Change in CEQA Documents (March 5, 2007), as well as the South Coast Air Quality Management District (Chapter 6: The CEQA Guide, April 2011) and the US Forest Service (Climate Change Considerations in Project Level NEPA Analysis, July 13, 2009).

<sup>4</sup> Caltrans' Climate Action Program is located at the following web address:  
[http://www.dot.ca.gov/hq/tpo/offices/ogm/key\\_reports\\_files/State\\_Wide\\_Strategy/Caltrans\\_Climate\\_Action\\_Program.pdf](http://www.dot.ca.gov/hq/tpo/offices/ogm/key_reports_files/State_Wide_Strategy/Caltrans_Climate_Action_Program.pdf)

result. Additionally the project is located in a very rural area that sees low volumes of traffic, and the surrounding communities not likely to experience a significant increase in growth. As discussed below, construction emissions will be unavoidable, but there will likely be long-term GHG benefits associated reduced maintenance and improved operation through smoother pavement surfaces.

### ***Construction Emissions***

Greenhouse gas emissions for transportation projects can be divided into those produced during construction and those produced during operations. Construction GHG emissions include emissions produced as a result of material processing, emissions produced by on-site construction equipment, and emissions arising from traffic delays due to construction. These emissions will be produced at different levels throughout the construction phase; their frequency and occurrence can be reduced through innovations in plans and specifications and by implementing better traffic management during construction phases.

In addition, with innovations such as longer pavement lives, improved traffic management plans, and changes in materials, the GHG emissions produced during construction can be mitigated to some degree by longer intervals between maintenance and rehabilitation events.

### ***CEQA Conclusion***

Although construction emissions are unavoidable and are expected to be minimal, the proposed project will not increase capacity and is not expected to result in additional operational CO<sub>2</sub> emissions. However, it is Caltrans' determination that in the absence of further regulatory or scientific information related to greenhouse gas emissions and CEQA significance, it is too speculative to make a determination regarding significance of the project's direct impact and its contribution on the cumulative scale to climate change. However, Caltrans is firmly committed to implementing measures to help reduce the potential effects of the project. These measures are outlined in the following section.

### ***Greenhouse Gas Reduction Strategies***

There are typically two terms used when discussing the impacts of climate change. "Greenhouse Gas Mitigation" is a term for reducing GHG emissions in order to reduce or "mitigate" the impacts of climate change. "Adaptation" refers to the effort of planning for and adapting to impacts resulting from climate change (such as adjusting transportation design standards to withstand more intense storms and higher sea levels).<sup>5</sup>

### ***Greenhouse Gas Mitigation***

AB 32 Compliance – Caltrans continues to be actively involved on the Governor's Climate Action Team as ARB works to implement Executive Orders S-3-05 and S-1-07 and help achieve the targets set forth in AB 32. Many of the strategies Caltrans is using to help meet the targets in AB 32 come from the California Strategic Growth Plan, which is updated each year.

The following measures will be included in the project to reduce the GHG emissions and potential climate change impacts from the project:

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<sup>5</sup> [http://climatechange.transportation.org/g\\_hg\\_mitigation/](http://climatechange.transportation.org/g_hg_mitigation/)

1) According to Caltrans' Standard Specifications, the contractor must comply with all of the Bay Area Air Quality Management District rules, ordinances, and regulations regarding air quality restrictions.

2) Compliance with Title 13, California Code of Regulations §2449(d)(3)-Adopted by the Air Resources Board on June 15, 2008, this regulation would restrict idling of construction vehicles to no longer than 5 consecutive minutes. The Contractor must comply with this regulation in order to reduce harmful emissions from diesel-powered construction vehicles.

3) To the extent that it is feasible for the project, the use of reclaimed water may be used to reduce GHG emissions produced during construction. Currently 30 percent of the electricity used in California is used for the treatment and delivery of water. Use of reclaimed water helps conserve this energy, which reduces greenhouse gas emissions from electricity production.

### ***Adaptation Strategies***

"Adaptation strategies" refer to how Caltrans and others can plan for the effects of climate change on the State's transportation infrastructure and strengthen or protect the facilities from damage.

Climate change is expected to produce increased variability in precipitation, rising temperatures, rising sea levels, variability in storm surges and intensity, and the frequency and intensity of wildfires. These changes may affect the transportation infrastructure in various ways, such as damage to roadbeds from longer periods of intense heat; increasing storm damage from flooding and erosion; and inundation from rising sea levels. These effects will vary by location and may, in the most extreme cases, require that a facility be relocated or redesigned. There may also be economic and strategic ramifications as a result of these types of impacts to the transportation infrastructure.

Interim guidance has been released by The Coastal Ocean Climate Action Team (CO-CAT) as well as Caltrans as a method to initiate action and discussion of potential risks to the State's infrastructure due to projected sea level rise.

Executive Order S-13-08 also directed the Business, Transportation, and Housing Agency to prepare a report to assess vulnerability of transportation systems to sea level rise affecting safety, maintenance and operational improvements of the system, and economy of the state. Caltrans continues to work on assessing the transportation system vulnerability to climate change, including the effect of sea level rise.

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
<b>VIII. HAZARDS AND HAZARDOUS MATERIALS:</b> Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

The project is within an area where soil likely contains naturally occurring asbestos (NOA), which could potentially pose a health risk if disturbed. Since this project involves soil disturbance activities (excavation and pile driving), a soil investigation that confirms the presence or absence of NOA in the soils will be necessary during the Design phase of the project. An asbestos and lead-containing paint survey of the existing bridge will be needed.

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
<b>IX. HYDROLOGY AND WATER QUALITY:</b> Would the project:				
a) Violate any water quality standards or waste discharge requirements?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Otherwise substantially degrade water quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
j) Inundation by seiche, tsunami, or mudflow	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

There are no base floodplains within the project area.

Section 404 of the CWA regulates discharges to Waters of the US and is administered nationwide by the US Army Corps of Engineers (USACE). CWA Section 401 requires that states certify 404 permits, and such 401 certification is provided in California by the State Water Resources Control Board (SWRCB) or Regional Water Quality Control Boards (RWQCBs). This project is under jurisdiction of the Central Valley Regional Water Quality Control Board. The project requires Section 401 certification because of permanent fill to Waters of the United States and construction activities in the creek.

Section 402 of the CWA establishes the National Pollutant Discharge Elimination System (NPDES) permit system, which is a framework for regulating municipal and industrial storm water discharges. The current Caltrans statewide NPDES storm water permit (Order No. 2012-0011-DWQ, as amended 2014-0077-DWQ), applies to Caltrans projects which completed their Project Initiation Document (PID) design phase on July 1, 2013 or after. This project completed its PID phase before July 1, 2013 and is therefore subject to the previous Caltrans statewide NPDES storm water permit (Order No. 99-06-DWQ).

The statewide Construction General Permit (2009-0009-DWQ, CAS000002, as amended by 2010-0014-DWQ and 2012-0006-DWQ) for construction activities applies to storm water discharges from land where clearing, grading, and excavation result in an acre or more of disturbed soil area (DSA).

Construction that is subject to the Construction General Permit (CGP) requires a Storm Water Pollution Prevention Plan (SWPPP). Construction not subject to the CGP must comply with the Water Pollution Control Program (WPCP) section of Caltrans Standard Specifications. This project has 2 acres of DSA and will require a SWPPP.

#### *Impacts*

New post-construction water quality impacts to receiving waters may result from 0.3 acre of new pavement. Potential water quality impacts to receiving waters during construction may result from sediment discharges from DSA, pH changes to receiving waters from new and old concrete and turbidity increases from fine sediment and temporary increases in runoff flow rates.

Pollutants commonly found in runoff from Caltrans facilities include: Total Suspended Solids (TSS), nutrients, pesticides, metals (particulate and dissolved), pathogens, litter, Biochemical Oxygen Demand (BOD), Total Dissolved Solids (TDS) zinc (total or dissolved), phosphorous, copper (total or dissolved), sediments and general metals. These pollutants were identified by Caltrans studies throughout California.

#### *Minimization and Restoration*

Treatment BMPs address post-construction water quality impacts and remove pollutants from storm water runoff before it is discharged to receiving waters. This project will need to treat runoff from new (0.30 acre) and replaced pavement (0.04 acre).

The preferred treatment technologies for post-construction water quality impacts is determined by the Central Valley Regional Water Quality Control Board when the project requires 401 Certification. These technologies usually include biofiltration strips and swales.

An area at the low point of the roadway profile has been identified as being suitable for placing a biofiltration swale to meet the project's treatment obligation of 0.34 acre. This area, on the south side of the roadway, will receive some runoff from outside the project limits, on the east.

Disturbed soil areas in upland areas (outside the creek) will result from grading the embankments at the bridge approaches, the detour road, temporary access road, drill pads and stockpile areas.

Sediment discharges from these areas will be prevented by implementing measures required in the Construction General Permit.

These typically include: temporary cover, silt fences, fiber rolls, temporary inlet protection, construction entrances, street sweeping, scheduling work outside rain events and diverting flows around active DSAs.

Inactive DSAs will be stabilized as soon as possible with temporary erosion control measures, such as covering with straw or bonded fiber matrix. Areas where soil disturbing activities are complete will be stabilized with permanent erosion control measures shown in project plans.

Disturbed soil areas in the creek will occur in the dry working environment between the stream diversion berms. Potential water pollution sources, such as fuels, chemicals, and stockpiles of soil, will be minimized in the dry working environment, in case it needs to be evacuated quickly because of an overtopping event.

Some material, such as boards and sheets of plastic and plywood, will be secured to the ground or fixed objects to prevent them from being washed into the stream by an overtopping event. Refuelling, vehicle maintenance, vehicle cleaning and unnecessary storage of vehicles and tools will not be allowed in the dry working environment.

The dry working environment will be restored to its original topography and condition when the stream diversion system is no longer needed.

Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
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**X. LAND USE AND PLANNING:** Would the project:

a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

This project is consistent with state, regional, and local plans and programs.

#### *State Planning*

The 2013 *State Route 128 Transportation Concept Report* states that this section of roadway has no need to add capacity and recommends maintaining the current number of vehicle lanes. No operational issues were identified.

#### *Regional Planning*

The long-range regional transportation plan (RTP), called *Plan Bay Area*, was adopted by the Metropolitan Transportation Commission (MTC) in July 2013. *Plan Bay Area* does not identify any roadway improvement projects for this section of roadway. However, it identifies Project Identification # 240612, which proposes to "Build out countywide primary bicycle network" in Napa County. The 2012 *Napa County Transportation & Planning Agency (NCTPA) Countywide Bicycle Plan* proposes this section of roadway as a proposed primary bicycle route, as reflected in the RTP proposal.

#### *Local Planning*

The 2009 *Napa County General Plan* lists this section of roadway as a rural throughway. Several Plan policies discuss the design of roadway features in rural areas of Napa County:

Policy CIR-5: Roadways outside the urbanized areas of the county shall reflect the rural character of the county.

Policy CIR-7: Roadway improvements shall be designed to conform to existing landforms and shall include landscaping and/or other treatments to ensure that aesthetics and rural character are preserved.

Policy CIR-8: Roadway, culvert, and bridge improvements and repairs shall be designed and constructed to minimize fine-sediment and other pollutant delivery to waterways, to minimize increases in peak flows and flooding on adjacent properties, and where applicable to allow for fish passage and migration, consistent with all applicable codes and regulations.

The 2009 *Napa County General Plan* lists this section of roadway as a scenic roadway as well. Several Plan policies discuss the design of roadway features designated as scenic roadway:

Policy CC-8: Scenic roadways which shall be subject to the Viewshed Protection Program are those shown in Figure CC-3, or designated by the Board of Supervisors in the future.

Policy CC-10: Consistent with the County's Viewshed Protection Program, new developments in hillside areas should be designed to minimize their visibility from the County's scenic roadways and discourage new encroachments on natural ridgelines. The County shall continue implementation of the Viewshed Protection Program and shall apply the protective provisions of the program to all public projects.

**XI. MINERAL RESOURCES:** Would the project:

- a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?
- b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?

There are no documented mineral resources within the project area.

**XII. NOISE:** Would the project result in:

- a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?
- b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?
- c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?
- d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?
- e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?
- f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?

The project will not introduce new noise impacts or increase ambient noise levels. Construction noise will be temporary and will be within acceptable levels for construction activity. There are no sensitive receptors within the area. Sensitive receptors are those such as hospitals, schools, churches, libraries, auditoriums, public meeting rooms, motels, hotels, residences, recreational facilities and lands on which serenity and quiet are of extraordinary importance and which serve an important public need.

Construction noise is regulated by Caltrans Standard Specifications Section 7-1.011, "Sound Control Requirements", which states that noise levels generated during construction shall comply with applicable local, state and federal regulations, and that all equipment shall be fitted with adequate mufflers according to the manufacturer's specifications.

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

The project will not displace any housing units or people. The project is not growth inducing.

**XIV. PUBLIC SERVICES:**

a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

The proposed project will have no effect on the provision of or the need for public services. To maintain the flow of traffic during construction, Caltrans will prepare a Transportation Management Plan (TMP) that will ensure accessibility through the project area for vehicles associated with essential services.

Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
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**XV. RECREATION:**

a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

The project does not include any recreational areas, nor will it limit the access to recreational areas.

**XVI. TRANSPORTATION/TRAFFIC:** Would the project:

a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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- |  |                          |                          |                          |                                     |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| e) Result in inadequate emergency access?  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| f) Conflict with adopted policies, plans or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

There are no existing dedicated pedestrian or non-motorized facilities within the project corridor. SR 128 within the project limits lacks standard shoulders for use by pedestrians and non-motorized users; the paved shoulder width varies from zero to 2 feet. In addition, pedestrian and non-motorized users may encounter rocks and soil on the roadway due to frequent minor rockslides.

Transportation improvements cited in the 2009 *Napa County General Plan* and reflected in the Regional Transportation Plan include upgrading the project corridor to a primary bicycle route. This project proposes to upgrade the existing lane and shoulder widths to standard on the bridge and bridge approaches, which complies with the Caltrans Highway Design Manual minimum standard width for bicycle routes.

Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
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**XVII. UTILITIES AND SERVICE SYSTEMS:** Would the project:

- |  |                          |                          |                          |                                     |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?          | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

- |   |                          |                          |                          |                                     |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| g) Comply with federal, state, and local statutes and regulations related to solid waste?   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

The proposed project includes the construction of new storm water drainage facilities to prevent further movement of the hillside adjacent to the Capell Creek Bridge and SR 128. The proposed project is not expected to produce solid waste other than temporary debris related to construction, which will have no effect on the environment.

Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
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**XVIII. MANDATORY FINDINGS OF SIGNIFICANCE**

- |  |                          |                                     |                          |                                     |
|--|--------------------------|-------------------------------------|--------------------------|-------------------------------------|
| a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            |
| b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?   | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?  | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

If a project will not cause direct or indirect impact on a resource, it will not contribute to a cumulative impact on that resource. A cumulative impact analysis focuses only on those resources that are significantly impacted by the project.

The only resources identified that will have a significant effect on the environment are for biological resources, specifically riparian woodland and California red-legged frog. With the mitigation measures employed as described elsewhere in this Initial Study, the impacts to these resources will be reduced to a level of insignificance. Within the biological resource study area, the recently completed Caltrans SR 121 Capell Creek Bridge Replacement project (EA 0A020) and the proposed Caltrans SR 121 Storm Damage Repair project (EA 2J570) were identified. No other projects were identified. These projects

went through, or are required to undergo, an environmental review to identify, account for and mitigate for potential significant impacts. All projects will incorporate AMMs including standard Caltrans BMPs, which will protect surrounding habitat and water quality. Therefore, Caltrans does not anticipate any cumulative effects as a result of the proposed project.



## Appendix A: References

Caltrans District 4 Office of Biological Studies and Permits. Natural Environment Study for the Capell Creek Bridge Replacement Project. Oakland, CA. December 18, 2015.

Caltrans District 4 Office of Cultural Resources. Memorandum, "Section 106 Compliance for the Capell Creek Bridge Replacement Project". Oakland, CA. December 9, 2015.

Caltrans District 4 Office of Water Quality. Water Quality Study for the Capell Creek Bridge Replacement Project. Oakland, CA. November 19, 2015.

Caltrans District 4 Office of Landscape Architecture. Capell Creek Bridge Replacement Project Visual Impact Analysis. Oakland, CA. November 19, 2015.

Caltrans District 4 Office of Geotechnical Design – West. Paleontological Identification Report for Capell Creek Replacement Project. Oakland, CA. March 16, 2015.

Caltrans District 4 Office of Geotechnical Design – West. Memorandum, "Structures Preliminary Geotechnical Report for Capell Creek Bridge." Oakland, CA. November 27, 2012.

Caltrans District 4 Office of Environmental Engineering. Memorandum, "Comments from the Air/Noise/Energy Branch" and "Comments from the Hazardous Waste Branch". Memorandum, March 5, 2015.



## Appendix B: List of Preparers

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## Appendix C: Avoidance, Minimization and Mitigation Measures for Biological Resources

Caltrans has incorporated several avoidance, minimization and mitigation measures into the proposed project to avoid and minimize the impacts of this project on special-status species, migratory birds, and protected resources that occur in the project area. Special-status species known to occur or with a potential to occur in the project area include the California red-legged frog (CRLF), western pond turtle (WPT), foothill yellow-legged frog (FYLF), and migratory birds. Measures taken to minimize the likelihood of take of federally listed species (CRLF, WPT, FYLF) will be identified through consultation with the USFWS pursuant to section 7 of the federal Endangered Species Act. The principal measures listed below are not all inclusive and not an iterative list. For example, the final biological opinion contains several, very specific measures that will ultimately be incorporated into the contractor's bid package but are not listed here. The list below is categorized by species and includes a general overview of the most important and applicable measures. The proposed avoidance, minimization and mitigation measures are as follows:

Protected or Regulated Resource	Proposed Avoidance, Minimization and Mitigation Measures
<p><b>General Avoidance and Minimization Measures</b></p>	<ol style="list-style-type: none"> <li data-bbox="691 907 1414 1066">1. <b>Seasonal Avoidance.</b> To the extent practicable, construction will not occur during the wet season when California red-legged frogs are most active. Except for limited vegetation clearing (necessary to minimize effects to nesting birds), work within riparian habitat will be limited to the period from June 1 to October 15.</li> <li data-bbox="691 1094 1414 1556">2. <b>Worker Environmental Awareness Training.</b> Before the onset of construction activities, a qualified biologist will conduct an education program for all construction personnel. At a minimum the training will include a description of CRLF, FYLF, WPT, migratory birds and their habitats; the occurrence of these species within the project area; an explanation of the status of these species and protection under the Federal Endangered Species Act (FESA) and California Endangered Species Act (CESA); the measures to be implemented to conserve listed species and their habitats as they relate to the work site; and boundaries within which construction may occur. A fact sheet conveying this information will be prepared and distributed to all construction and project personnel entering the project area. Upon completion of the training program, personnel will sign a form stating that they attended the program and understand all the avoidance and minimization measures and implications of FESA.</li> <li data-bbox="691 1612 1414 1904">3. <b>Environmental Sensitive Area (ESA) Fencing.</b> Prior to the start of construction, ESAs (defined as areas containing sensitive habitats adjacent to or within construction work areas for which physical disturbance is not allowed) will be clearly delineated using high-visibility orange fencing. The ESA fencing will remain in place throughout the duration of the project and will prevent the encroachment of construction equipment/personnel from entering sensitive habitat areas. The final project plans will depict all locations where ESA fencing will be installed and how it will be installed. The special provisions in the bid solicitation package will clearly describe</li> </ol>

Protected or Regulated Resource	Proposed Avoidance, Minimization and Mitigation Measures
	<p>acceptable fencing material and prohibited construction-related activities, vehicle operation, material and equipment storage and other surface-disturbing activities within ESAs.</p> <p><b>4. Wildlife Exclusion Fencing (WEF).</b> Prior to the start of construction, WEF will be installed along the project footprint in all areas where CRLF, FYLF, and WPT could enter the project site. The WEF location will be surveyed and included on the project plans. The final project plans will show where and how the WEF will be installed. The bid solicitation package special provisions will clearly describe acceptable fencing material and proper WEF installation and maintenance. The WEF will remain in place throughout the duration of the project, while construction activities are ongoing, and will be regularly inspected and fully maintained. WEF will be in place during each construction phase and will be removed after each phase is completed.</p> <p><b>5. Implementation of Water Quality/Erosion Control BMPs.</b> A Storm Water Pollution Prevention Plan (SWPPP) and erosion control best management practices will be developed and implemented to minimize any wind or water related erosion. They will also be in compliance with the requirements of the RWQCB. Caltrans' BMP Guidance Handbook will provide guidance for design staff to include provisions in construction contracts for measures to protect sensitive areas and prevent and minimize storm water and non-storm water discharges. Protective measures will include, at a minimum:</p> <ol style="list-style-type: none"> <li>a. Disallowing any discharging of pollutants from vehicle and equipment cleaning into any storm drains or watercourses.</li> <li>b. Keeping vehicle and equipment fueling and maintenance operations at least 50 feet away from watercourses, except at established commercial gas stations or established vehicle maintenance facility.</li> <li>c. Collecting and disposing of concrete wastes in washouts and water from curing operations. Neither will be allowed into watercourses.</li> <li>d. Maintaining spill containment kits on-site at all times during construction operations and/or staging or fueling of equipment.</li> <li>e. Using water trucks and dust palliatives to control dust in excavation-and-fill areas, covering temporary access road entrances and exits with rock (rocking), and covering of temporary stockpiles when weather conditions require.</li> <li>f. Installing coir rolls or straw wattles along or at the base of slopes during construction to capture sediment.</li> <li>g. Protecting graded areas from erosion using a combination of silt fences, fiber rolls along toes of slopes or along edges of designated staging areas, and erosion control netting (such as jute or coir) as appropriate on sloped areas.</li> </ol>

Protected or Regulated Resource	Proposed Avoidance, Minimization and Mitigation Measures
	<p data-bbox="784 300 1388 380">h. Establishing permanent erosion control measures to receive storm water discharges from the highway, or other impervious surfaces.</p> <p data-bbox="690 409 1333 489"><b>6. Construction Site Best Management Practices.</b> The following site restrictions will be implemented to avoid or minimize impacts to listed species and their habitats:</p> <ul style="list-style-type: none"> <li data-bbox="784 518 1388 598">a. Enforcing a speed limit of 15 miles per hour (mph) within the project footprint in unpaved and paved areas to reduce dust and excessive soil disturbance.</li> <li data-bbox="784 602 1388 871">b. Locating construction access, staging, storage, and parking areas within the project right-of-way outside of any designated ESA or outside of the right-of-way in areas environmentally cleared and permitted by the contractor. The following areas will be limited to the minimum necessary to construct the proposed project: access routes, staging and storage areas and contractor parking. Routes and boundaries of roadwork will be clearly marked prior to initiating construction or grading.</li> <li data-bbox="784 875 1360 926">c. Certifying to the maximum extent practicable, any borrow material to be nontoxic and weed free.</li> <li data-bbox="784 930 1388 1010">d. Enclosing all food and food-related trash items in sealed trash containers and removing them from the site at the end of each day.</li> <li data-bbox="784 1014 1344 1064">e. Prohibiting all pets within the project area during construction.</li> <li data-bbox="784 1068 1388 1148">f. Prohibiting firearms within the project site except for those carried by authorized security personnel, or local, State or Federal law enforcement officials.</li> <li data-bbox="784 1152 1404 1337">g. Maintaining all equipment in order to prevent the leakage of vehicle fluids such as gasoline, oils or solvents and developing a Spill Response Plan. Hazardous materials such as fuels, oils, solvents, etc. will be stored in sealable containers in a designated location that is at least 50 feet from wetlands and aquatic habitats.</li> <li data-bbox="784 1341 1349 1446">h. Servicing vehicles and construction equipment including fueling, cleaning, and maintenance will occur at least 50 feet from the channel unless separated by topographic or drainage barrier.</li> </ul> <p data-bbox="690 1476 1404 1778"><b>7. Avoidance of Entrapment.</b> To prevent inadvertent entrapment of animals during construction, all excavated, steep-walled holes or trenches more than one foot deep will be covered at the close of each working day by plywood or similar materials, or provided with one or more escape ramps constructed of earth fill or wooden planks. Before such holes or trenches are filled they must be thoroughly inspected for trapped animals. All replacement pipes, culverts, or similar structures stored within the project area overnight will be inspected before they are subsequently moved, capped and/or buried.</p> <p data-bbox="690 1808 1404 1913"><b>8. Handling of Listed Species.</b> If at any time a listed species is discovered, the Resident Engineer and USFWS-approved biologist will be immediately informed. The USFWS-approved biologist will determine if relocating the species is necessary</p>

Protected or Regulated Resource	Proposed Avoidance, Minimization and Mitigation Measures
	<p>and will work with the USFWS and CDFW prior to handling or relocating unless otherwise authorized.</p> <p><b>9. Vegetation Removal.</b> Any vegetation that is within the cut and fill line or growing in locations where permanent structures will be placed (e.g., road alignment, shoulder widening, etc.) will be cleared. Vegetation will be cleared only where necessary and will be cut above soil level except in areas that will be excavated for roadway construction. This will allow plants that reproduce vegetatively to resprout after construction. All clearing and grubbing of woody vegetation will occur by hand tools or using light construction equipment such as backhoes and excavators. If clearing and grubbing occurs between February 15 and August 15, a qualified biologist(s) will survey for nesting birds within the area(s) to be disturbed including a perimeter buffer of 300 feet for raptors and 50 feet for all other birds, from the State right-of-way, before clearing activities begin. All nest avoidance requirements of the MBTA and CDFG Code will be observed. All cleared vegetation will be removed from the project footprint to prevent attracting animals to the project site. The contractor will be responsible for obtaining all permits, licenses and environmental clearances for properly disposing of such materials.</p> <p><b>10. USFWS-Approved Biologist.</b> A USFWS-approved biologist will be present during all vegetation clearing and grubbing activities. If at any point CRLF or other listed species are discovered during these activities, the USFWS-approved biologist through the Resident Engineer or their designee, will halt all work within 50 feet of the animal and contact the USFWS to determine how to proceed.</p> <p><b>11. Replant, Reseed, and Restore Disturbed Areas.</b> Caltrans will restore temporarily disturbed areas to the pre-construction function and values to the maximum extent practicable. Exposed slopes and bare ground will be reseeded with native grasses and shrubs to stabilize and prevent erosion. Where disturbance includes the removal of trees and woody shrubs, native species will be replanted, based on the local species composition.</p> <p><b>12. Reduce Spread of Invasive Species.</b> To reduce the spread of invasive nonnative plant species and minimize the potential decrease of palatable vegetation for wildlife species, Caltrans will comply with Executive Order 13112. This order is provided to prevent the introduction of invasive species and provide for their control in order to minimize the economic, ecological, and human health impacts. In the event that noxious weeds are disturbed or removed during construction-related activities, the contractor will be required to contain the plant material associated with these noxious weeds and dispose of it in a manner that will not promote the spread of the species. The contractor will be responsible for obtaining all permits, licenses and environmental clearances for properly disposing of materials. Areas subject to noxious weed removal or</p>

Protected or Regulated Resource	Proposed Avoidance, Minimization and Mitigation Measures
	<p>disturbance will be replanted with fast-growing native grasses or a native erosion control seed mixture. If seeding is not possible, the area within the project area should be covered to the extent practicable with heavy black plastic solarization material until the end of the project.</p>
<p><b>Riparian Woodland</b></p>	<p>Caltrans proposes to compensate for impacts to riparian woodland at a 3:1 acreage ratio resulting in a total of 2.1 acres of off-site mitigation (0.7 acres of on-site disturbance). On-site tree and shrub planting will occur as part of a revegetation plan as a separate landscaping project to follow the bridge/roadway construction project. This plan will have a three year plant establishment period. The on-site planting will likely occur in the planned staging area to the southwest of the project.</p> <p>Maintenance of the site is expected to be minimal, as the native plants should be well established by the completion of the three year plant establishment period.</p> <p>All disturbed areas will be revegetated with appropriate native, non-invasive species or non-persistent hybrids that will serve to stabilize site conditions.</p> <p>Filter fabric will line the access roads to protect existing vegetation and will be removed after each construction phase. These access roads will be re-contoured to pre-construction conditions, to the maximum extent practicable, within the same construction season.</p> <p>Caltrans will consult with CDFW regarding the removal of the trees within the riparian zone in the project area. Due to limited planting availability on-site, an off-site planting project for impacts is currently being developed through a habitat restoration project along the nearby Pope Creek watershed in coordination with the Napa County Resource Conservation District.</p>
<p><b>Wetlands and other Waters of the United States</b></p>	<p>A falsework platform will be suspended beneath the existing bridge to capture any construction debris from the demolition work.</p> <p>All temporary impacts will be restored on-site. All temporary impacts will be minimized to the greatest extent possible through implementation of Caltrans BMPs, working during the dry season (June 1-October 15), and incorporating applicable water quality measures during the construction period.</p>
<p><b>California red-legged frog (CRLF)</b></p>	<ol style="list-style-type: none"> <li><b>1. Proper Use of Erosion Control Devices.</b> To prevent California red-legged frogs from becoming entangled or trapped in erosion control materials, plastic monofilament netting (i.e., erosion control matting) or similar material will not be used within the action area. Acceptable substitutes include coconut coir matting or tackified hydroseeding compounds.</li> <li><b>2. Preconstruction Surveys.</b> Preconstruction surveys will be conducted by a USFWS approved biologist. Visual encounter surveys will be conducted immediately prior to within areas subject to ground disturbing activities. All suitable aquatic and upland habitat within the project area including refugia habitat such as under shrubs, downed logs, small woody debris, burrows, etc., will be thoroughly inspected. If a California red-</li> </ol>

Protected or Regulated Resource	Proposed Avoidance, Minimization and Mitigation Measures
	<p>legged frog is observed, the individual(s) will be evaluated and relocated in accordance with the observation and handling protocol outlined below. All fossorial mammal burrows will be inspected for signs of frog usage to the maximum extent practicable. If it is determined that a burrow may be occupied by a California red-legged frog, the burrow will be excavated by hand, if possible, and the individual(s) relocated in accordance with the observation and handling protocol promulgated by the USFWS.</p> <p>3. <b>Biological Monitoring.</b> A USFWS approved biologist will be present on-site during construction to monitor for California red-legged frogs. Through communication with the Resident Engineer or their designee, the USFWS approved biologist may stop work if deemed necessary for any reason to protect listed species and will advise the Resident Engineer or designee on how to proceed accordingly. The USFWS approved biologist will be present during all construction activities where take of a listed species could occur.</p> <p>4. <b>Protocol for Species Observation and Handling.</b> If CRLF are encountered in the project area, work within 50 feet of the animal will cease immediately and the Resident Engineer and USFWS approved biologist will be notified. Based on the professional judgment of the USFWS approved biologist, if project activities can be conducted without harming or injuring the animal(s), it may be left at the location of discovery and monitored by the USFWS approved biologist. All project personnel will be notified of the finding and at no time shall work occur within 50 feet of the animal without a biological monitor present. If it is determined by the approved biologist that relocating the CRLF is necessary, the following steps will be followed: Prior to handling and relocation the USFWS-approved biologist will take precautions to prevent introduction of amphibian diseases in accordance with the <i>Revised Guidance on Site Assessments and Field Surveys for the California Red-legged Frog</i> (USFWS, 2005). Disinfecting equipment and clothing is especially important when biologists are coming to the project to handle amphibians after working in other aquatic habitats. CRLF will be captured by hand, dipnet or other USFWS approved methodology, transported by hand, dipnet or temporary holding container, and released as soon as practicable the same day of capture. Handling of CRLF will be minimized to the maximum extent practicable. Holding/transporting containers and dip nets will be thoroughly cleaned and disinfected prior to transporting to the project and will be rinsed with freshwater on-site immediately prior to usage unless doing so would result in the injury or death of the animal(s) due to the time delay.</p> <p>CRLF will be relocated to the nearest suitable habitat outside of the area where actions will not result in harm or harassment, and released on the same side of SR 128 where they were discovered. The individual(s) will be released within suitable habitat in the Caltrans right-of-way or another property acceptable to the property owner, and the USFWS will be notified. If suitable habitat cannot be identified, the USFWS should be contacted to determine an acceptable alternative. Transporting CRLF to a location other than the location described herein will require written authorization of the USFWS.</p>

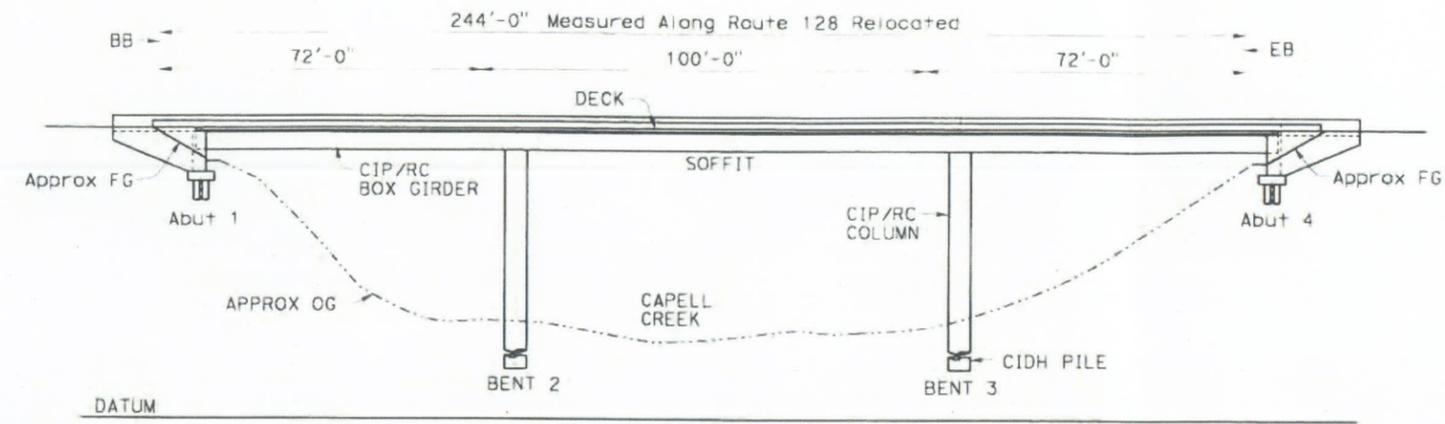
Protected or Regulated Resource	Proposed Avoidance, Minimization and Mitigation Measures
	<p>Caltrans will implement reasonable and prudent measures to minimize and avoid take of listed species. Caltrans is developing a mitigation project that addresses all impacts to CRLF habitat through an off-site riparian habitat restoration along the nearby Pope Creek watershed in coordination with the Napa County RCD. This off-site mitigation proposes to restore approximately 2.1 acres total of CRLF habitat which sufficiently covers all on-site impacts at an acreage ratio of 3:1 for permanent impacts and 1.1:1 for temporary impacts.</p> <p>During construction, Caltrans will implement standard construction BMPs and CRLF specific avoidance and minimization measures such as: restricting work to the dry season; conducting worker environmental awareness training; installing wildlife exclusion fencing; and having a USFWS approved biological monitor on-site during construction activities.</p>
<p><b>Western pond turtle</b></p>	<p>If western pond turtle (WPT) are found during preconstruction surveys, potential impacts to WPT will be minimized by relocating individual turtles to a safe location.</p>
<p><b>Foothill yellow-legged frog</b></p>	<ol style="list-style-type: none"> <li>1. <b>Work Window avoidance.</b> To the maximum extent practicable, construction will not occur during the wet season when Foothill yellow-legged frogs are most active and avoid the species breeding season. Except for limited vegetation clearing (necessary to minimize effect to nesting birds), work within riparian habitat will be limited from June 1-October 15.</li> <li>2. <b>Proper Use of Erosion Control Devices.</b> To prevent Foothill yellow-legged frogs from becoming entangled or trapped in erosion control materials, plastic monofilament netting (i.e., erosion control matting) or similar material will not be used within the action area. Acceptable substitutes include coconut coir matting or tackified hydroseeding compounds.</li> <li>3. <b>Preconstruction Surveys.</b> Preconstruction surveys will be conducted by a USFWS approved biologist. Visual encounter surveys will be conducted immediately prior to within areas subject to ground disturbing activities. All suitable aquatic and upland habitat within the project area including refugia habitat such as under shrubs, downed logs, small woody debris, burrows, etc., will be thoroughly inspected. If a California red-legged frog is observed, the individual(s) will be evaluated and relocated in accordance with the observation and handling protocol outlined below. All fossorial mammal burrows will be inspected for signs of frog usage to the maximum extent practicable. If it is determined that a burrow may be occupied by a Foothill yellow-legged frog, the burrow will be excavated by hand, if possible, and the individual(s) relocated in accordance with the observation and handling protocol promulgated by the USFWS.</li> <li>4. <b>Biological Monitoring.</b> A USFWS approved biologist will be present on-site during construction to monitor for Foothill yellow-legged frogs. Through communication with the Resident Engineer or their designee, the USFWS approved biologist may stop work if deemed necessary for any reason to protect listed</li> </ol>

Protected or Regulated Resource	Proposed Avoidance, Minimization and Mitigation Measures
	<p>species and will advise the Resident Engineer or designee on how to proceed accordingly. The USFWS approved biologist will be present during all construction activities where take of a listed species could occur.</p> <p>5. <b>Protocol for Species Observation and Handling.</b> If FYLF are observed within the active construction area, the professional judgment of the USFWS approved biologist will be utilized if project activities can be conducted without harming or injuring the animal(s) and it may be left at the location of discovery and monitored by the USFWS approved biologist. All project personnel will be notified of the finding and at no time shall work occur within 50 feet of the animal without a biological monitor present. If it is determined by the approved biologist that relocating the FYLF is necessary, the following steps will be followed: FYLF will be captured by hand, dipnet or other USFWS-approved methodology, transported by hand, dipnet or temporary holding container, and released as soon as practicable the same day of capture. Handling of FYLF will be minimized to the maximum extent practicable. Holding/transporting containers and dip nets will be thoroughly cleaned and disinfected prior to transporting to the project and will be rinsed with freshwater on-site immediately prior to usage unless doing so would result in the injury or death of the animal(s) due to the time delay. FYLF will be relocated to the nearest suitable habitat outside of the area where actions will not result in harm or harassment, and released on the same side of SR 128 where they were discovered. The individual(s) will be released within suitable habitat in the Caltrans right-of-way or another property acceptable to the property owner, and the USFWS and CDFW will be notified.</p>
<p><b>Migratory birds</b></p>	<p>A pre-construction bird nesting survey will be conducted to survey active migratory bird nests in potentially impacted trees and shrubs prior to the beginning of construction. These surveys will be conducted no more than 72 hours prior to construction activities. Surveys will include at least one survey conducted one full breeding season prior to the beginning of construction. Inactive bird nests, other than those of eagles and threatened or endangered species, may be removed, and active bird nests that are in the proximity of construction will be monitored. Caltrans may remove unoccupied nests during the non-nesting period prior to or during construction.</p> <p>Exclusion methods will be used to prevent migratory birds from nesting and roosting within the project area. Such methods may include the use of small mesh netting, which will be installed prior to the nesting season. The nesting season typically extends from February 15 to August 15 for most species.</p> <p>With the exception of nests of listed bird species, unoccupied nests—nests without birds or eggs—will be removed to deter birds from re-establishing nests within the project area.</p> <p>If occupied nests—nests with birds or eggs—are present within the project area, work within 300 feet of raptor species or 50 feet of all other species will be avoided. Preconstruction and construction nest surveys will be conducted within the BSA for all bird species, and if special-status species are detected, Caltrans will consult with CDFW or USFWS.</p>

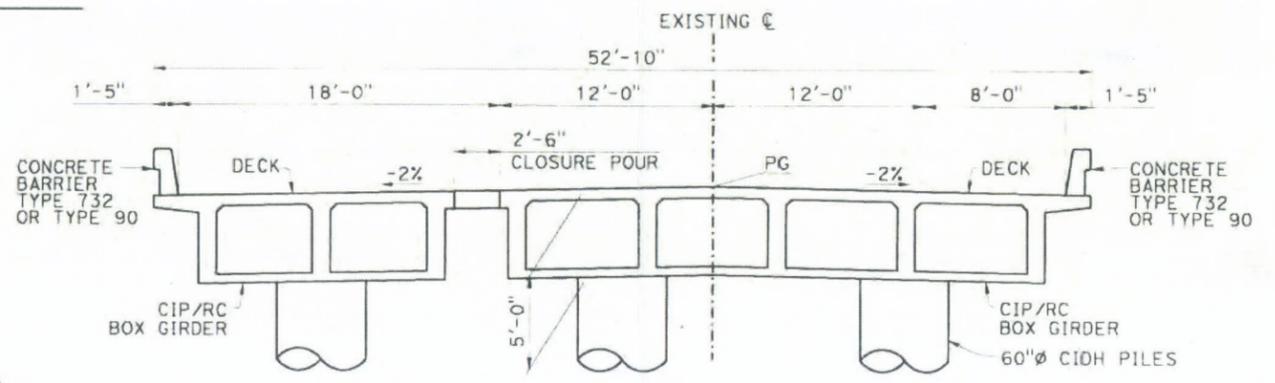
**Appendix D: Preliminary Project Plans and Cross Section**



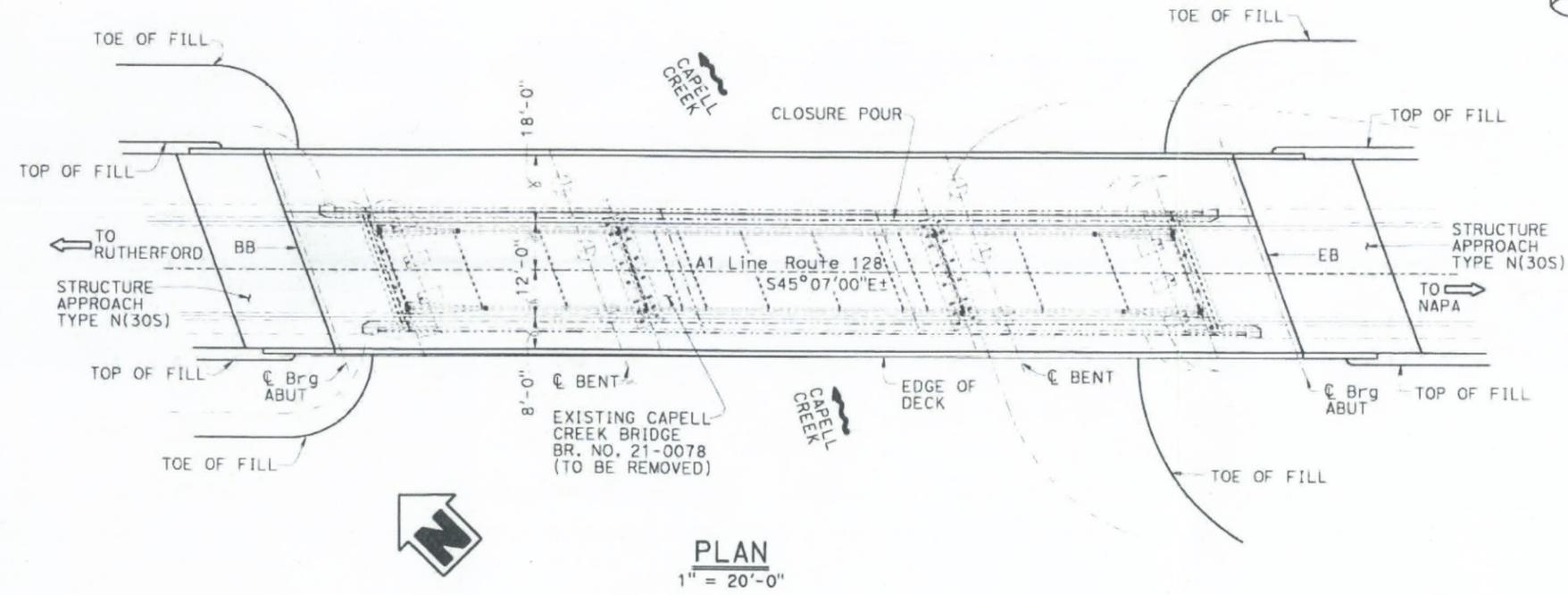
DIST	COUNTY	ROUTE	POST MILE
04	Nap	128	20.23



**ELEVATION**  
1" = 20'-0"  
Existing Bridge Not Shown



**TYPICAL SECTION AT COMPLETION**  
1" = 5'-0"



**PLAN**  
1" = 20'-0"

DATE OF ESTIMATE	=	_____
BRIDGE REMOVAL	=	_____
STRUCTURE DEPTH	=	_____
LENGTH	=	_____
WIDTH	=	_____
AREA	=	_____
COST/ft <sup>2</sup> INCLUDING TRO, MOBILIZATION & 25% CONTINGENCY	=	_____
TOTAL COST	=	_____

For Notes, Assumptions and Additional Sections, see Sheet 2

**ALTERNATIVE 6**

<b>PLANNING STUDY</b>	
<b>BRIDGE REPLACEMENT</b>	
<b>CAPELL CREEK BRIDGE</b>	
UNIT: 3594	BRIDGE No. 21-0078
SCALE: Varies	PROJECT No. & PHASE: 041300051K

- Legend:**
- Denotes Traffic Direction
  - Denotes Existing Structure
  - Denotes New Construction

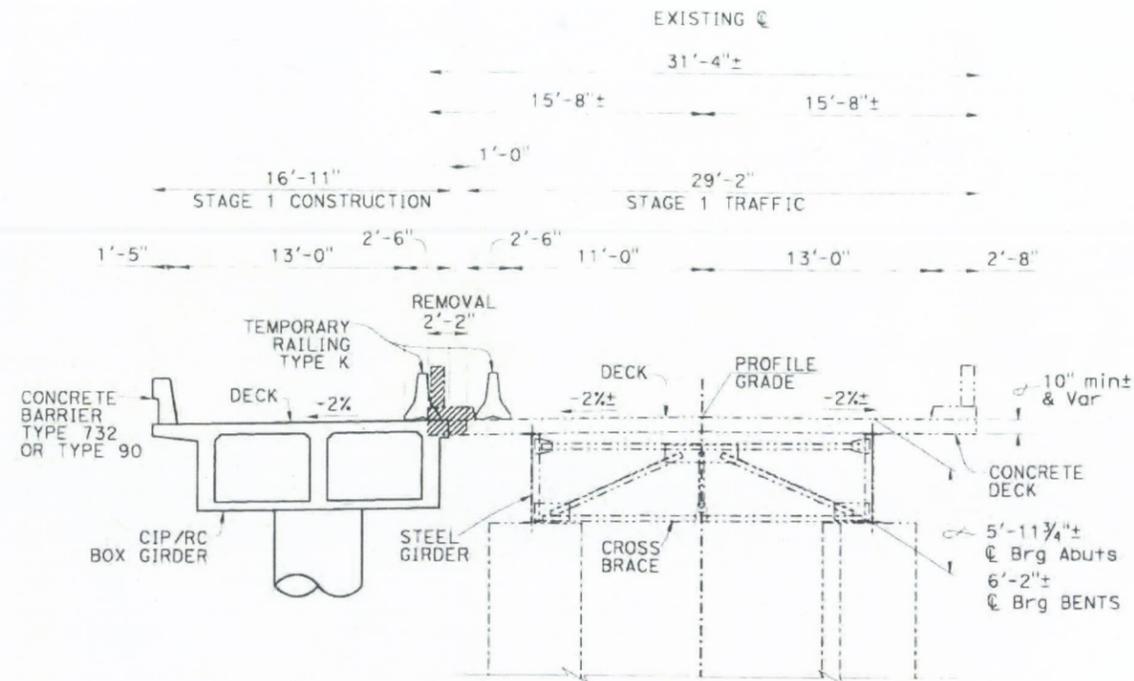
DESIGNED BY	Isaias Yalan	DATE	9/2015
DRAWN BY	Isaias Yalan	DATE	9/2015
CHECKED BY	Richard Melko	DATE	9/2015
APPROVED	Richard Melko	DATE	9/2015

**STRUCTURE DESIGN BRANCH**  
**9**

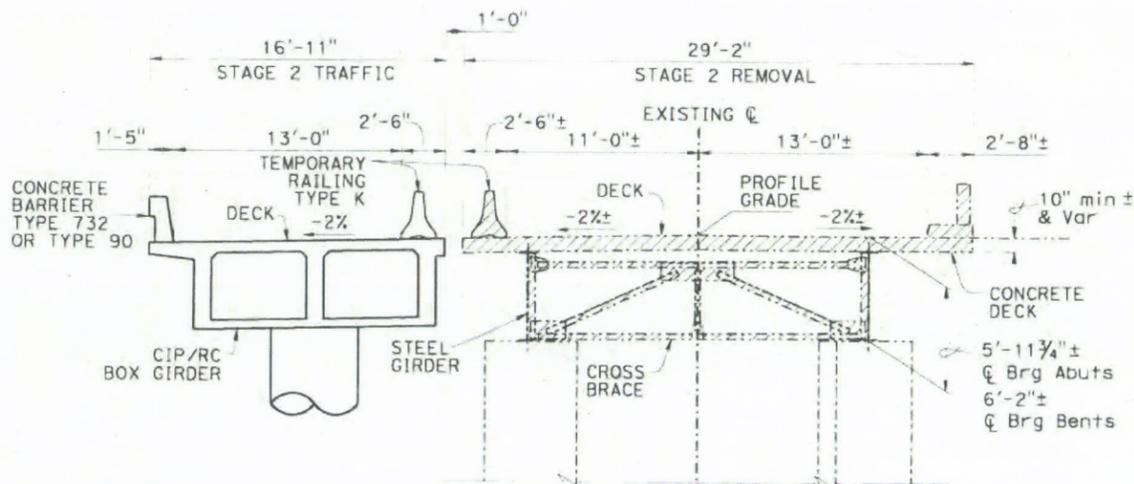
NOTE: THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.



DIST	COUNTY	ROUTE	POST MILE
04	Nap	128	20.23

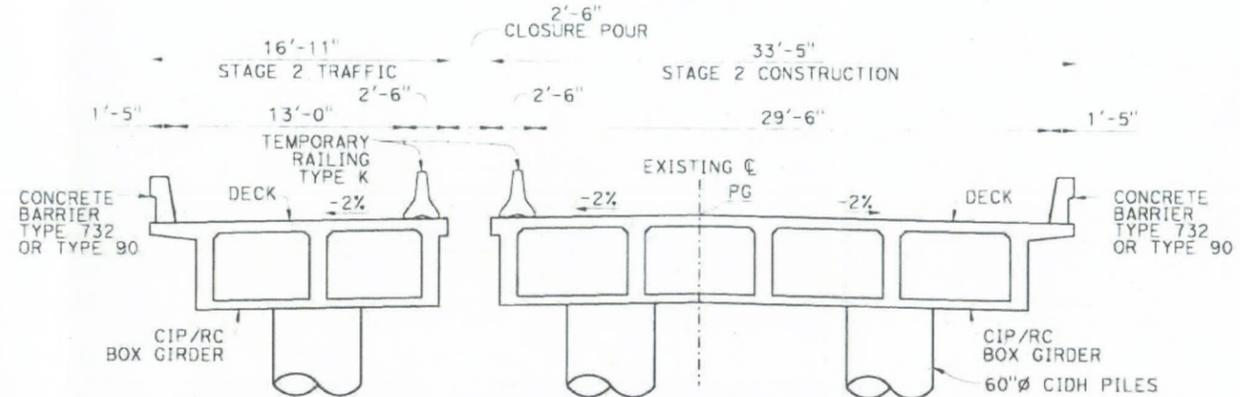


**TYPICAL SECTION AT STAGE 1 CONSTRUCTION**  
1" = 5'-0"



**TYPICAL SECTION AT STAGE 2 REMOVAL**  
1" = 5'-0"

**Legend:**  
 Denotes Traffic Direction  
 Denotes Existing Structure  
 Denotes New Construction



**TYPICAL SECTION AT STAGE 2 CONSTRUCTION**  
1" = 5'-0"

**NOTES AND ASSUMPTIONS**

- Traffic Will be on Temporary Structure During Construction
- Traffic Will Not Pass Under the Structure During Construction
- Adequate Construction Staging/Storage Areas and Access
- Falsework will be Required Under Structure
- Existing Channel Grading/Recontouring Potentially Required
- Scour Potential at the Site Considered
- CIDH Piles Employed for all Foundations
- Assume Temporary Steel Casings For All CIDH Pile Placements
- Large Diameter CIDH Piles Employed at Bent 2 and Bent 3
- Abutment 1 Approach Fill Strengthening Included in Study
- Assumed No Seasonal Construction Restrictions
- Assumed No R/W Restrictions
- Assumed No Contaminated/Hazardous Materials Presence
- Assumed Geologic Difficulties/Lateral spreading
- Assumed CIDH Drilling Difficulties From Topography and Substrata
- Utility Conflicts Not Anticipated
- No Architectural Treatment Included in the Study-Barrier Only
- No Retaining Walls Required as Part of Structure Replacement
- Ground Water Anticipated at Bent CIDH Pile Locations
- Rock Presence Anticipated at Certain Foundation Locations
- Cave-In Potential Anticipated for all CIDH Pile Construction
- Potential Need for Permanent Steel Casings Considered Bent CIDH Piles
- CIDH Pile Depths Per Location Conservatively Assumed
- CIDH Pile Diameters Per Locations Conservatively Assumed
- Assumptions Made Regarding Abutment Locations vs Topography

NOTE:  
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

ORIGINAL SCALE IN INCHES 0 1 2 3

DESIGNED BY	Isaias Yalan	DATE	9/2015
DRAWN BY	Isaias Yalan	DATE	9/2015
CHECKED BY	Richard Melko	DATE	9/2015
APPROVED	Richard Melko	DATE	9/2015

**STRUCTURE DESIGN BRANCH**  
**9**

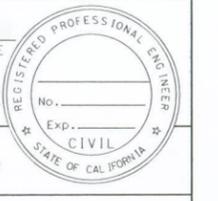
**ALTERNATIVE 6**  
**PLANNING STUDY**

**BRIDGE REPLACEMENT**  
**CAPELL CREEK BRIDGE**

UNIT: 3594	BRIDGE No. 21-0078
SCALE: Varies	PROJECT No. & PHASE: 0413000051K

CONTRACT No.: 04-4G840K

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Nap	128	19.7/20.7		



**NOTE:**

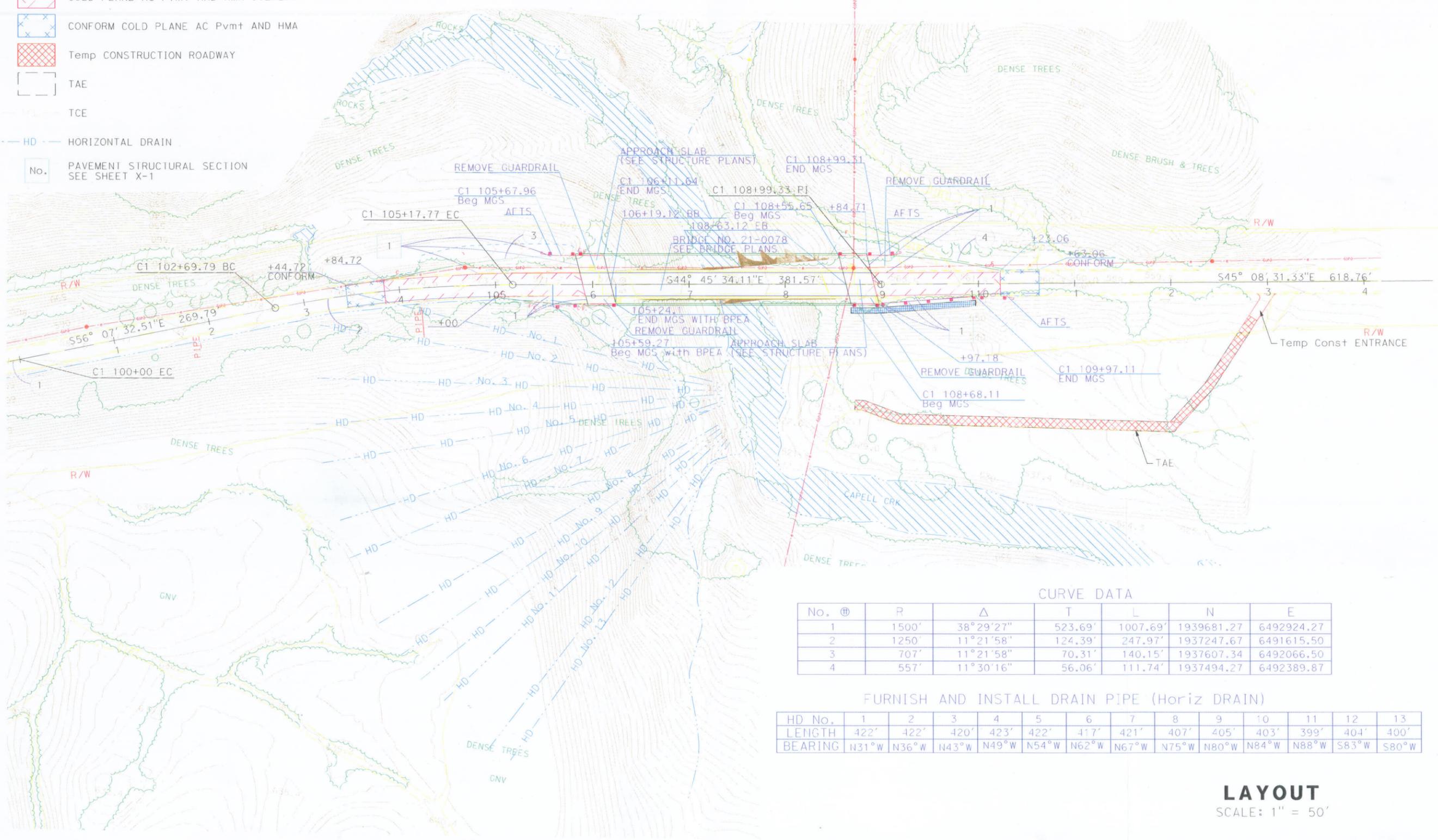
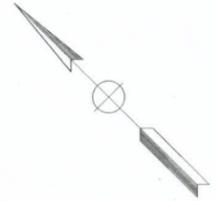
- FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
- COORDINATE VALUES SHOWN ARE CCS 83 ZONE 2

**ABBREVIATIONS:**

- AFTS ALTERNATIVE FLARED TERMINAL SYSTEM  
TAE TEMPORARY ACCESS EASEMENT  
BPEA BURIED POST END ANCHOR

**LEGEND:**

- COLD PLANE AC Pvm+ AND HMA OVERLAY
- CONFORM COLD PLANE AC Pvm+ AND HMA
- Temp CONSTRUCTION ROADWAY
- TAE
- TCE
- HD HORIZONTAL DRAIN
- PAVEMENT STRUCTURAL SECTION SEE SHEET X-1



**CURVE DATA**

No. @	R	Δ	T	L	N	E
1	1500'	38°29'27"	523.69'	1007.69'	1939681.27	6492924.27
2	1250'	11°21'58"	124.39'	247.97'	1937247.67	6491615.50
3	707'	11°21'58"	70.31'	140.15'	1937607.34	6492066.50
4	557'	11°30'16"	56.06'	111.74'	1937494.27	6492389.87

**FURNISH AND INSTALL DRAIN PIPE (Horiz DRAIN)**

HD No.	1	2	3	4	5	6	7	8	9	10	11	12	13
LENGTH	422'	422'	420'	423'	422'	417'	421'	407'	405'	403'	399'	404'	400'
BEARING	N31°W	N36°W	N43°W	N49°W	N54°W	N62°W	N67°W	N75°W	N80°W	N84°W	N88°W	S83°W	S80°W

**LAYOUT**  
SCALE: 1" = 50'

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
 Functional Supervisor  
 Calculated-Designed By  
 Revised By  
 Checked By  
 Date Revised

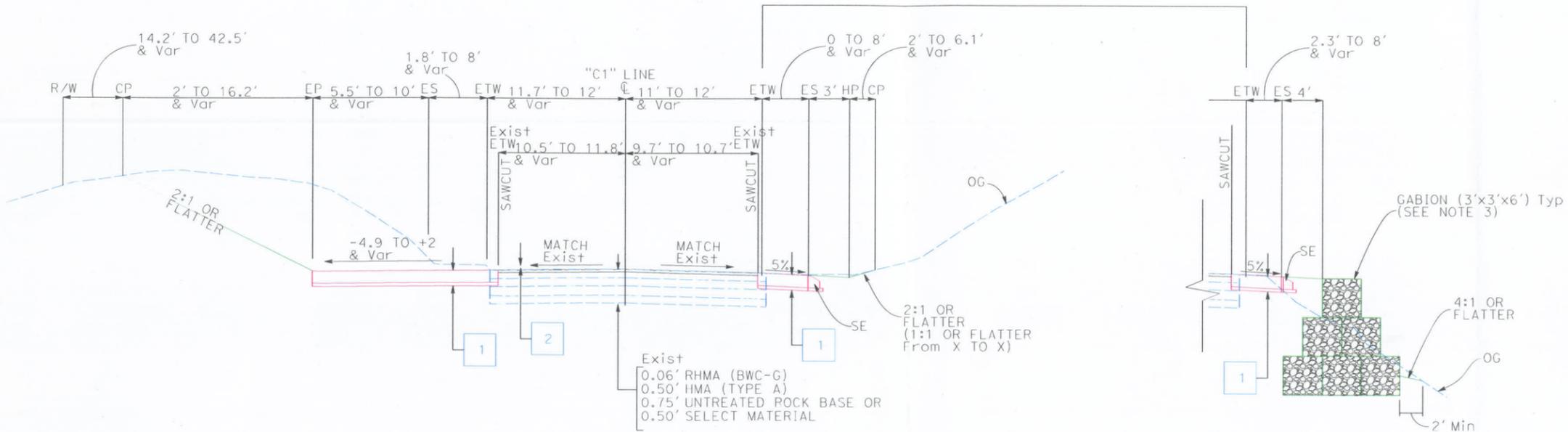


STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans**  
 FUNCTIONAL SUPERVISOR  
 CALCULATED-DESIGNED BY  
 CHECKED BY  
 REVISED BY  
 DATE REVISED

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Nap	128	19.7/20.7		

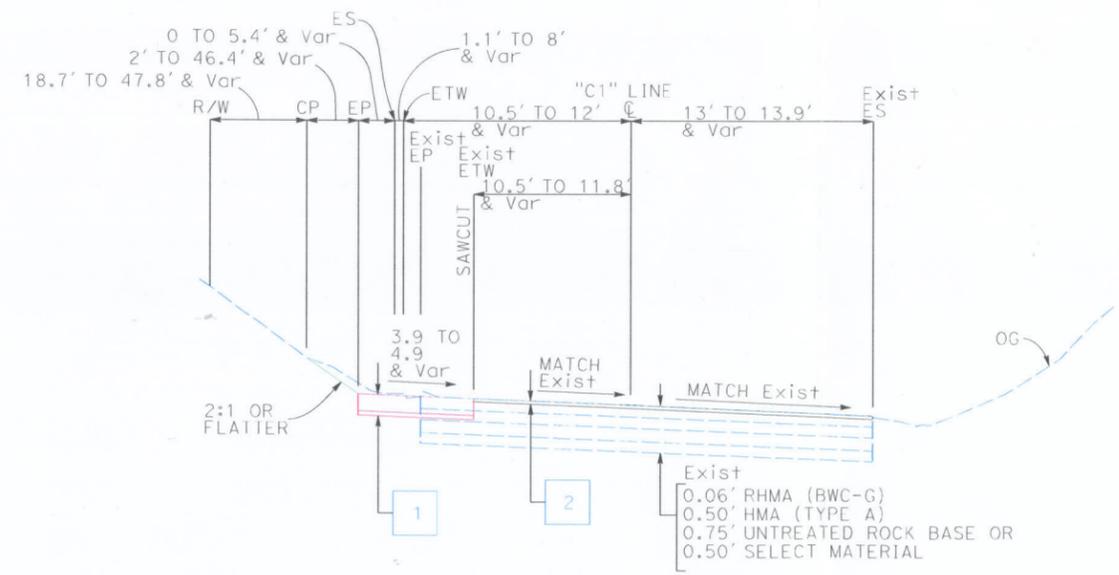
REGISTERED CIVIL ENGINEER DATE \_\_\_\_\_  
 PLANS APPROVAL DATE \_\_\_\_\_

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



"C1" 104+99.10 TO 106+19.12 BB  
 "C1" 108+63.12 EB TO 109+98.10

"C1" 108+63.12 TO 109+98.10



"C1" 103+84.72 TO 104+99.10  
 "C1" 109+98.10 TO 110+20.05

**LEGEND:**  
 No. STRUCTURAL SECTION NUMBER

ROUTE 128  
 DESIGN DESIGNATION  
 TI (20) = 8.50  
 ESAL = 552,000

- NOTES:**
- DIMENSIONS OF THE PAVEMENT STRUCTURES (STRUCTURAL SECTIONS) ARE SUBJECT TO TOLERANCES SPECIFIED IN THE STANDARD SPECIFICATIONS.
  - FOR PAVEMENT EDGE TREATMENT SEE REVISED STANDARD PLANS NO. RSP P74 AND RSP P76
  - GABION WALL CONSISTS OF 1 TO 3 ROWS.

**ABBREVIATIONS:**  
 BWC-G BONDED WEARING COURSE-GAP-GRADED

- TYPICAL PAVEMENT STRUCTURAL SECTIONS
- 1 0.95' HMA (TYPE A)  
0.25' CLASS 4 AS
  - 2 0.15' COLD PLANE HMA  
0.15' HMA SURFACING

**TYPICAL CROSS SECTIONS**

NO SCALE

LAST REVISION DATE PLOTTED -> DATE