FOR CONTRACT NO.: 02-2C110**4**

INFORMATION HANDOUT

WATER QUALITY

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

PERMITS

STATE OF CALIFORNIA
DEPARTMENT OF FISH AND GAME

UNITED STATES ARMY CORPS OF ENGINEERS
NON-REPORTING NATIONWIDE 404 PERMIT

MATERIALS INFORMATION

TEHAMA COUNTY AIR POLLUTION CONTROL DISTRICT, COMPLIANCE ASSISTANCE BULLETIN FUGITIVE DUST

STRUCTURE HYDRAULICS & HYDROLOGY FINAL HYDRAULIC REPORT FOR CRAIG CREEK DATED MAY 29, 2008

FOUNDATION REPORT FOR CRAIG CREEK BRIDGE, Br. No. 08-0168, DATED JULY 1, 2009

DIVISION OF STRUCTURES FINAL HYDRAULICS REPORT, REVISED, FOR SUNSET CANAL DATED MAY 19, 2008

FOUNDATION REPORT FOR SUNSET CANAL BRIDGE, Br. No. 08-0010, DATED JULY 1, 2009

ROUTE: 02-TEH-99-15.4/15.7, 20.9/21.3

California Regional Water Quality Control Board
Central Valley Region
Karl E. Longley, ScD, P.E., Chair.

Linda S. Adams
Secretary for
Environmental Protection

415 Knollcrest Drive, Suite 100, Redding, California 96002
(530) 224-4845 • Fax (530) 224-4857
http://www.waterboards.ca.gov/centralvalley

Arnold Schwarzenegger
Governor

7 October 2009

Mr. Eric Akana
Caltrans, District 2
1657 Riverside Drive
Redding, CA 96001

ACTION ON REQUEST FOR CLEAN WATER ACT §401 WATER QUALITY CERTIFICATION FOR DISCHARGE OF DREDGED AND/OR FILL MATERIALS FOR THE SUNSET CANAL & CRAIG CREEK BRIDGE REPLACEMENT PROJECT, WDID NO. 5A52CR00103, LOS MOLINOS, TEHAMA COUNTY

ACTION:

1. ☐ Order for Standard Certification
2. ■ Order for Technically-conditioned Certification
3. ☐ Order for Denial of Certification

WATER QUALITY CERTIFICATION STANDARD CONDITIONS:

1. This certification action is subject to modification or revocation upon administrative or judicial review, including review and amendment pursuant to §13330 of the California Water Code and §3867 of Title 23 of the California Code of Regulations (23 CCR).

2. This certification action is not intended and shall not be construed to apply to any discharge from any activity involving a hydroelectric facility requiring a Federal Energy Regulatory Commission (FERC) license or an amendment to a FERC license unless the pertinent certification application was filed pursuant to 23 CCR subsection 3855(b) and the application specifically identified that a FERC license or amendment to a FERC license for a hydroelectric facility was being sought.

3. The validity of any non-denial certification action shall be conditioned upon total payment of the full fee required under 23 CCR §3833, unless otherwise stated in writing by the certifying agency.

4. Certification is valid for the duration of the described project. The Discharger shall notify the Central Valley Water Board in writing within 7 days of project completion.

ADDITIONAL CONDITIONS (for Certification Action 2):

In addition to the four standard conditions, the applicant shall satisfy the following:

1. Discharger shall notify the Central Valley Regional Water Quality Control Board (Central Valley Water Board) in writing of the start of any in-water activities.

2. Except for activities permitted by the U.S. Army Corps of Engineers (Corps) under §404 of the Clean Water Act, soil, silt, or other organic materials shall not be placed where such materials could pass into surface water or surface water drainage courses.

3. The discharge of petroleum products or other excavated materials to surface waters is prohibited.

4. Activities shall not cause turbidity increases in surface waters to exceed:

   a. Where natural turbidity is less than 1 Nephelometric Turbidity Units (NTUs), controllable factors shall not cause downstream turbidity to exceed 2 NTU;
   b. Where natural turbidity is between 1 and 5 NTUs, increases shall not exceed 1 NTU;
   c. Where natural turbidity is between 5 and 50 NTUs, increases shall not exceed 20 percent;
   d. Where natural turbidity is between 50 and 100 NTUs, increases shall not exceed 10 NTUs;
   e. Where natural turbidity is greater than 100 NTUs, increases shall not exceed 10 percent.

   Except that these limits will be eased during in-water working periods to allow a turbidity increase of 15 NTU over background turbidity as measured in surface waters 300 feet downstream from the working area. In determining compliance with the above limits, appropriate averaging periods may be applied provided that beneficial uses will be fully protected.

5. Activities shall not cause settleable matter to exceed 0.1 mL/l in surface waters as measured in surface waters 300 feet downstream from the project.

6. Activities shall not cause visible oil, grease, or foam in the work area or downstream.

7. All areas disturbed by project activities shall be protected from washout or erosion.

8. In the event that project activities result in the deposition of soil materials or creation of a visible plume in surface waters, the following monitoring shall be conducted immediately upstream and 300 feet downstream of the work site and the results reported to this office within two weeks:

Parameter	Unit	Type of Sample	Frequency of Sample
Turbidity	**NTU**	**Grab**	Every 4 hours during in water work
Settleable Material	**mL/l**	**Grab**	Same as above.

9. Discharger shall notify the Central Valley Water Board immediately if the above criteria for turbidity, settleable matter, oil/grease, or foam are exceeded.

10. Discharger shall ensure all equipment has been inspected and is free of leaks (fuel, hydraulic and oil) before use in channel areas.

11. Discharger shall notify the Central Valley Water Board immediately of any spill of petroleum products or other organic or earthen materials.

12. In the event of any violation or threatened violation of the conditions of this certification, the violation or threatened violation shall be subject to any remedies, penalties, process or sanctions as provided for under state law. For purposes §401(d) of the Clean Water Act, the applicability of any state law authorizing remedies, penalties, process or sanctions for the violation or threatened violation constitutes a limitation necessary to assure compliance with the water quality standards and other pertinent requirements incorporated into this certification.

13. In response to a suspected violation of any condition of this certification, the Central Valley Water Board may require the holder of any permit or license subject to this certification to furnish, under penalty of perjury, any technical or monitoring reports the Central Valley Water Board deems appropriate, provided that the burden, including costs, of the reports shall be a reasonable relationship to the need for the reports and the benefits to be obtained from the reports.

14. In response to any violation of the conditions of this certification, the Central Valley Water Board may add to or modify the conditions of this certification as appropriate to ensure compliance.

15. Discharger complies with all Department of Fish and Game 1600 requirements for the project as required in Lake & Streambed Alteration Agreement No. R1-2009-0267.

16. The California Department of Transportation shall comply with their General NPDES Permit Order No 99-06-DWQ (NPDES No. CAS 000003) issued by the State Water Resources Control Board.

CENTRAL VALLEY WATER BOARD CONTACT PERSON:

Scott A. Zaitz, R.E.H.S., Redding Branch Office, 415 Knollcrest Drive, Suite 100, Redding, California 96002, (530) 224-4784; szaitz@waterboards.ca.gov

WATER QUALITY CERTIFICATION:

I hereby issue an order certifying that any discharge from the Sunset Canal & Craig Creek Bridge Replacement Project (WDID No. 5A52CR00103) will comply with the applicable provisions of §301 ("Effluent Limitations"), §302 ("Water Quality Related Effluent Limitations"), §303 ("Water Quality Standards and Implementation Plans"), §306 ("National Standards of Performance"), and §307 ("Toxic and Pretreatment Effluent Standards") of the Clean Water

Act. This discharge is also regulated under State Water Resources Control Board Water Quality Order No. 2003-0017 DWQ "Statewide General Waste Discharge Requirements For Dredged Or Fill Discharges that have received State Water Quality Certification (General WDRs)".

Except insofar as may be modified by any preceding conditions, all certification actions are contingent on (a) the discharge being limited and all proposed mitigation being completed in strict compliance with the applicant's project description and the attached Project Information Sheet, and (b) compliance with all applicable requirements of the Central Valley Water Board, Water Quality Control Plan (Basin Plan).

(for) PAMELA C. CREEDON
Executive Officer

SAZ: clg/sae

enclosure: Project Information

cc: Mr. Matt Kelley, U.S. Army Corp of Engineers
U.S. Fish and Wildlife Service, Sacramento
Ms. Donna Cobb, Department of Fish and Game, Region 1, Redding
Mr. Bill Jennings, CALSPA, Stockton

cc by email: Mr. Dave Smith, U.S. EPA, Region 9, San Francisco
Mr. Bill Orme, SWRCB, Certification Unit, Sacramento

PROJECT INFORMATION

Application Date: 23 July 2009

Applicant: Caltrans, District 2, Attn: Eric Akana

Applicant Representatives: Not Applicable

Project Name: Sunset Canal & Craig Creek Bridge Replacement Project

Central Valley Board: Central Valley Regional Water Quality Control Board-Redding Office

Central Valley Board Application Number: WDID No. 5A52CR00103

U.S. Corps Application Number: Non-Reporting Nationwide Permit No. 14 (Linear Transportation Projects)

Type of Project: Replace the bridges at Sunset Canal and Craigs Creek on Highway 99 just north of the community of Los Molinos.

Project Location: On Highway 99 just north of Los Molinos. Sunset Canal Bridge is located at post mile Marker (PM) 15.55 and Craig Creek Bridge is located at PM 21.13, Section Rio de Berrendos Spanish Land Grant, Township 27N & 26N, Range 2W, M.D.B.&M., Latitude: 39°58'46. 4"N and Longitude: 122°02'55. 3"W

County: Tehama County

Receiving Water (hydrologic unit): Sunset Canal, which is an intermittent tributary to Dye Creek, which is tributary to the Sacramento River. Eastern Tehama Hydrologic Unit-Dye Creek Hydrologic Area No. 509.62

Water Body Type: Intermittent Stream

Designated Beneficial Uses: The Basin Plan for the Central Valley Regional Water Quality Control Board has designated beneficial uses for surface and ground waters within the region. Beneficial uses that could be impacted by the project include: Agricultural Irrigation Supply and Stock Watering (AGR); Warm Freshwater Habitat (WARM); Cold Freshwater Habitat (COLD); Cold Water Migration (MGR); Warm Water Spawning (SPWN); and Wildlife Habitat (WILD).

Project Description (purpose/goal): Caltrans is proposing a bridge improvement project to protect an existing bridge at Sunset Canal, and replace an existing bridge at Craig Creek. Work at Sunset Canal would include pouring a concrete slab between the existing abutments of the bridge. The slab would have a V-shape and be set below the existing bed of the canal.

Preliminary Water Quality Concerns: Turbidity, suspended matter, settleable matter, and various pollutants associated with construction activities.

Proposed Mitigation to Address Concerns: Discharger will implement Best Management Practices (BMPs) to control sedimentation and erosion. All disturbed areas must have an effective combination of erosion and sediment control BMP's in place during the rainy season. All temporary affected areas will be restored to pre-construction contours and conditions upon completion of construction activities. Discharger will conduct turbidity and settleable matter testing during water work, stopping work if Basin Plan criteria are exceeded and/or observed.

Fill/Excavation Area: Project implementation will permanently impact 0.03 areas (66 linear feet) of unvegetated streambed and temporarily impact 0.09 areas of riparian and 0.12 areas unvegetated streambed.

Dredge Volume: Not applicable

U.S. Army Corps of Engineers Permit Number: The applicant proposes to utilize Non-Reporting Nationwide Permit No. 14 (Linear Transportation Projects) for this project.

Central Valley Water Board Public Notice: Information regarding this project was noticed on the Central Valley Water Board's website from 24 July 2009 to 14 August 2009. No comments were received.

Department of Fish & Game Streambed Alteration Agreement: Caltrans must comply with all conditions in Lake or Streambed Alteration Agreement R1-2009-0267.

Possible Listed Species: Based on the Natural Environment Study and the Biological Assessment conducted by Caltrans the following Federal Threatened or Endangered species have potential to occur in the project area: Valley Elderberry Longhorn Beetle, Sacramento River winter-run Chinook, Central Valley spring-run Chinook, Central Valley steelhead, and California Red-legged frog, River Lamprey, Fall-run Chinook, Western Pond Turtle, Yellow Warbler, Yellow-breasted Chat,

Status of CEQA Compliance: Caltrans signed a National Environmental Policy Act (NEPA) Categorical Exclusion and completed a Focused Initial Study in January 2009. Caltrans District Director John Bulinski signed a negative declaration on 14 May 2009.

Compensatory Mitigation: The discharger proposes to mitigate for the loss of 0.03 acres (66 linear feet) of unvegetated streambed by planting on site riparian species at 1:1 ratio and 2:1 off site at the Toomes Creek Conservation area to offset the potential disturbance to VELB with transplanting of 3 elderberry bushes from the project site to the Toomes Creek Conservation area.

Application Fee Provided: A certification fee of $728.00 was submitted on 23 July 2009 as required by 23 CCR §3833b(2)(A) and by 23 CCR § 2200(e). A remaining certification fee of $572.00 was received on 6 October 2009.

California Natural Resources Agency
DEPARTMENT OF FISH AND GAME
Northern Region
601 Locust Street, Redding, CA 96001
www.dfg.ca.gov

***ARNOLD SCHWARZENEGGER**, Governor*
***DONALD KOCH,** Director*

NOTIFICATION NO. R1-09-0267

AGREEMENT REGARDING PROPOSED LAKE OR STREAMBED ALTERATION

THIS AGREEMENT, entered into between the State of California, Department of Fish and Game, hereinafter called DFG, and **Mr. Steve Rogers, representing the California Department of Transportation**, hereinafter jointly and severally called the Entity (Responsible Party), is as follows:

WHEREAS, pursuant to Division 2, Chapter 6 of the California Fish and Game Code (Code), the Responsible Party, on **July 29, 2009**, notified DFG of the intention to divert or obstruct the natural flow of, or change the bed, channel, or bank of, or use material from the streambed of, the following waters: **Craig Creek and Sunset Canal, tributary to the Sacramento River and Dye Creek, respectively**, in the County of **Tehama**. Craig Creek is located in **Rio de Los Berrendos Spanish Land Grant, T 27 N, R 2 W;** Sunset Canal is located in **Rio de Los Molinos Spanish Land Grant, T 26 N, R 2 W, Mount Diablo Base and Meridian,** on the **Red Bluff East and Los Molinos USGS 7.5-minute quadrangles, respectively**; and

WHEREAS, DFG has determined that without implementation of the conditions contained within this Agreement, such operations may substantially adversely affect existing fish and wildlife resources including, but not limited to: **Chinook salmon (*Oncorhynchus tshawytscha*), steelhead trout (*O. mykiss*), California roach (*Lavinia symmetricus*), valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*), nesting swallows (*Hirundo spp.*),** other non-game and game fishes, amphibians, reptiles, aquatic invertebrates, mammals, birds, and other aquatic and riparian species.

THEREFORE, DFG hereby proposes measures to protect fish and wildlife resources during the Responsible Party's work. The Responsible Party hereby agrees to accept and conduct all activities in accordance with the following:

ADMINISTRATIVE PROVISIONS:

1) If the Responsible Party's work changes from that stated in the notification specified above, this Agreement is no longer valid and a new notification shall be submitted to DFG. Failure to comply with the provisions of this Agreement and with other pertinent Code sections, including but not limited to Sections 5650, 5652, 5901, 5937, and 5948, may result in prosecution.

2) Nothing in this Agreement authorizes the Responsible Party to trespass on any land or property, nor does it relieve the Responsible Party of responsibility for compliance with applicable federal, state, or local laws or ordinances. A consummated Agreement does not constitute DFG endorsement of the proposed operation, or assure DFG's concurrence with permits required from other agencies.

3) The provisions contained in this Agreement constitute the limit of activities agreed to and resolved by this Agreement. The signing of this Agreement does not imply that the

Responsible Party is precluded from doing other activities at the site. However, activities not specifically agreed to and resolved by this Agreement shall be subject to separate notification pursuant to Code Section 1600 *et seq.*

4) In accordance with Code Section 1605, the Responsible Party may request one extension of this Agreement, provided that the request is made in writing prior to the expiration of its original term. DFG shall grant the extension if the appropriate extension fee is paid unless it determines that the Agreement requires modification because the measures contained in the Agreement no longer protect the fish and wildlife resources that the activity may substantially adversely affect. If the Responsible Party fails to request the extension prior to the Agreement's termination then the Responsible Party shall submit a new notification with fees and required information to DFG. Any activity conducted under an expired Agreement is a violation of Code Section 1600 *et seq.*

5) The Responsible Party shall provide a copy of this Agreement to all contractors, subcontractors, and the Responsible Party's project supervisors. Copies of the Agreement and any amendment thereto shall be readily available at work sites at all times during periods of active work and must be presented to any DFG personnel, or personnel from another agency upon demand.

6) DFG reserves the right to enter the project site at any time to ensure compliance with measures and/or monitoring of this Agreement, provided DFG: a) provides 24 hours advance notice; and b) allows the Responsible Party or representatives to participate in the inspection and/or monitoring. This condition does not apply to DFG enforcement personnel.

7) All provisions of this Agreement remain in force throughout the term of the Agreement. Any provisions of the Agreement may be amended or the Agreement may be terminated at any time provided such amendment and/or termination are agreed to in writing by both parties. Mutually-approved amendments become part of the original Agreement and are subject to all previously negotiated provisions.

8) It is understood DFG will enter into this Agreement for purposes of establishing protective features for fish and wildlife. The decision to proceed with the project is the sole responsibility of the Responsible Party. It is further agreed all liability and/or incurred cost related to or arising out of the Responsible Party's project and the fish and wildlife protective measures of this Agreement, remain the sole responsibility of the Responsible Party. The Responsible Party agrees to hold harmless the State of California and DFG against any related claim made by any party or parties for personal injury or any other damages.

9) This Agreement is not intended as an approval of a project or of specific project features by DFG. Independent review and recommendations will be provided by DFG as appropriate on those projects where local, state, or federal permits or other environmental reports are required.

10) Suspension and Cancellation. DFG may suspend or cancel this Agreement if DFG determines that circumstances warrant suspension or cancellation. The circumstances that might warrant suspension or cancellation include, but are not limited to, the following:

a) Failure by the Responsible Party, or his/her employees, agents, representatives, contractors, and/or subcontractors, to comply with any of the terms and measures of this Agreement.

b) DFG determines that the information the Responsible Party provided to DFG to develop this Agreement, or the information contained in a notification, is incomplete or inaccurate.

c) DFG obtains new information that shows the work authorized by this Agreement could substantially adversely affect fish and wildlife resources, notwithstanding Responsible Party's compliance with the Agreement.

d) DFG determines that measures to protect fish and wildlife resources different from those included in this Agreement are necessary to protect those resources.

e) There is a substantial change in conditions. For purposes of this Agreement, "substantial change in conditions" shall mean one or more of the following: 1) the work described in this Agreement is substantially changed; 2) conditions affecting fish and wildlife resources substantially change; and/or 3) the work conducted under this Agreement have adversely affected, or will adversely affect, fish and wildlife resources, notwithstanding that Responsible Party has complied, or will comply with, the terms and measures of this Agreement.

Scope of Suspension. At the discretion of DFG, any action to suspend this Agreement may be limited in scope to address the specific problem or problems resulting in the suspension. Hence, DFG may limit the suspension to specified work or specified areas. DFG shall notify Responsible Party of any suspension of the Agreement, or any part thereof, in writing. Any suspension shall take effect immediately upon receipt of such notice by Responsible Party, or in accordance with the instructions contained in the notice. Such notice will identify the reason or reasons for the suspension, the actions necessary to correct the problem, and the scope of the suspension.

Reinstatement Following Suspension. DFG may lift any suspension when it has determined that Responsible Party has adequately addressed the problem or problems resulting in the suspension and that reinstatement of the Agreement will not cause harm to fish and wildlife resources.

Other Laws Regarding Habitat and Species Protection.

11) No direct or indirect impacts shall occur to any threatened or endangered species as a result of implementing the project or the project's activities. If any threatened or endangered species could be impacted by the work proposed, the Responsible Party shall obtain the required state and federal permits. This Agreement does not authorize the take of any federal or state threatened or endangered species.

12) The California Endangered Species Act (CESA) (Code Sections 2090 to 2097) is administered by DFG and prohibits the take of plant and animal species designated by the Fish and Game Commission as either threatened or endangered in the state of California.

13) If the project could result in the "take" of a state listed threatened or endangered species, the Responsible Party has the responsibility to obtain from DFG, a California Endangered Species Act Permit (CESA 2081 Permit). DFG may formulate a management plan that will avoid or mitigate take.

14) The U.S. Army Corps of Engineers (Corps) has permitting requirements for certain instream projects under Section 404 of the Federal Clean Water Act. If this project features the placement of dredged or fill materials into the channels of streams (below the ordinary high water mark) that are waters of the United States, a permit may be required by the Corps. If your project needs a permit from the Corps, you will also need to obtain a Water Quality Certification pursuant to Section 401 of the Federal Clean Water Act from the Regional Water Quality Control Board (Regional Water Board). In addition, if your project will involve disturbance within or discharges of pollutants to waters of the State of California, the Regional Water Boards may require a permit, whether or not the Corps requires a permit. If there is any question regarding the possibility of the project meeting the above limitations, the Responsible Party should contact the Corps and the Regional Water Board prior to beginning work. This Agreement in no way represents permitting requirements by the Corps or the Regional Water Board. It is the responsibility of the Responsible Party to contact the Corps, and to comply with the provisions of any Section 404 permit issued, if required by the Corps. Similarly, it is the responsibility of the Responsible Party to contact the Regional Water Board and to comply with the provisions of any Section 401 Certification, Regional Water Board Waste Discharge Requirements or waiver of Waste Discharge Requirements issued by the Regional Water Board.

15) The Responsible Party may have certain other responsibilities pursuant to the Federal Endangered Species Act resulting in mitigative project features required by the U.S. Fish and Wildlife Service and/or National Marine Fisheries Service.

16) The Responsible Party shall comply with all litter and pollution laws. All contractors, subcontractors and employees shall also obey these laws and it shall be the responsibility of the Responsible Party to ensure compliance.

OPERATIONAL PROVISIONS

NOTIFICATION MATERIALS AND PROJECT DESCRIPTION

17) Responsible Party's notification (Notification of Lake or Streambed Alteration, received July 29, 2009, together with all maps, plans, photographs, drawings, and all other supporting documents submitted with notification to describe the activity) are hereby incorporated by reference into this Agreement. Responsible Party shall conduct project activities within the work areas and using the mitigative features described in the notification and supporting documents, unless such project activities, work areas or mitigative features are modified by the provisions of this Agreement, in which case the activities shall be conducted as described in this Agreement.

The work under this Agreement is limited to those activities required to replace the existing Craig Creek Bridge and improve and protect the existing Sunset Canal Bridge on State Route (SR) 99 in Tehama County. All work shall be in accordance with submitted plans and diagrams and any subsequent revisions approved by the DFG in writing.

Specific work includes the following:

Craig Creek Bridge (Bridge No. 08-0014)

Work at Craig Creek will consist of removing the existing bridge and replacing it with a new, clear-span bridge. In addition to the bridge replacement, it will be necessary to stabilize an existing irrigation riser on the south side of the creek downstream from the bridge. Hand crews will construct concrete forms and pour a stable foundation to secure the riser prior to driving piles for the bridge abutments.

The new bridge will be constructed using prefabricated structural elements that will be assembled on site. In order to maintain traffic, the bridge will be replaced one lane at a time (phased construction). Access to the area beneath the bridge will be provided by a temporary access road on the north side of the creek, east of the highway. Temporary culverts may be placed in the creek bed to cleanly divert water through the construction site if stream flow becomes present during construction. The temporary culverts will be covered with a layer of clean, washed, spawning gravel that will serve as a construction pad for the duration of the project.

New abutments will be constructed behind the existing abutments at each end of the bridge. The new abutments will be constructed one half at a time, similar to the bridge deck. Each abutment will require six 2-foot-diameter hollow steel piles that will be driven to a depth of approximately 65 feet. Soil will be augured from the hollow steel cases so concrete can be poured inside to form the piles. Once the concrete has cured, one half of the precast abutment will be placed on top of the piles.

When the abutments are finished, a crane will set the precast concrete box girders in place to support the new 5-inch concrete slab bridge deck. When both halves of the new bridge are completed, any temporary culverts and support structures will be removed from the streambed. A thin layer of gravel will remain in the creek bed to be spread out to make a smooth transition with the upstream and downstream portions of the channel. The temporary access road will be removed and restored as close as possible to its original condition. All disturbed areas will be reseeded with native grass species after completion of construction.

Sunset Canal (Bridge No. 08-0010)

Work at Sunset Canal will include pouring a concrete invert slab with cut-off walls under the bridge structure. The bridge deck will also be resurfaced with a new polyester concrete overlay. If water is present during construction, temporary culverts will be installed to divert flow around the work area. The concrete slab will have a V-shape and be set below the bed of the canal. After the slab has cured, it will be covered with 6-18 inches of Backing No. 3 material and covered with 2.5 inches of clean sand and gravel. The finished height of the new materials will match the existing inlet and outlet elevations of the channel. In addition, a 30-foot-long section of rock slope protection (RSP) will be placed along the south bank of the canal on the downstream side of the bridge.

18) The Responsible Party shall notify DFG, in writing, at least five (5) days prior to initiation of construction (project) activities and at least five (5) days prior to completion of construction (project) activities. Notification shall be faxed to the DFG at (530) 225-0324, Attn: Craig Martz, Staff Environmental Scientist and shall reference Agreement Number R1-09-0267.

IMPACTS

19) The Responsible Party shall not impact more than **0.08 acre** of riparian habitat including the removal of three (3) elderberry shrubs.

COMPENSATORY MITIGATION

20) Impacts to riparian vegetation shall be offset at a minimum 3:1 ratio by acreage. The Responsible Party shall revegetate areas of temporary construction disturbance that do not require rock slope protection at a 1:1 ratio using native riparian species including valley oak, sycamore, and narrow-leaved willow. An additional 0.48 acre of riparian habitat shall be established at the Toomes Creek Conservation Area in conjunction with the mitigation for valley longhorn elderberry beetle.

PROJECT TIMING AND COORDINATION

21) All work on the stream banks or within the stream channel, shall be confined to the period commencing July 15, and ending October 15, of any year in which this Agreement is valid, provided Craig Creek is dry or Sunset Canal is at its lowest flow. If weather conditions permit and Craig Creek remains dry or Sunset Canal is at its lowest flow, the Responsible Party may perform work within the stream channel or on the banks of Craig Creek or Sunset Canal before July 15 or after October 15, provided a written request is made to DFG at least 5 days before the proposed work period variance. Written approval from DFG for the proposed work period variance must be received by the Responsible Party prior to the start or continuation of work prior to July 15 or after October 15.

22) If work is performed within the stream channel or on the banks before July 15 or after October 15 as provided above, the Responsible Party shall do all of the following:

- Stage erosion and sediment control materials at the work site.
- Monitor the seventy-two (72) hour forecast from the National Weather Service.
- When the 72-hour forecast indicates a probability of precipitation of 60% or greater, or at the onset of any precipitation, ground disturbing activities shall cease and erosion control measures shall be implemented to stabilize exposed soils and prevent the mobilization of sediment into the stream channel or adjacent wetland/riparian habitats.

23) The Responsible Party shall instruct all persons who will be completing any ground disturbing activity at a worksite to comply with the conditions set forth in this Agreement and shall inspect each work site before, during, and after completion of any ground-disturbing activity at the work site.

PETROLEUM, CHEMICAL AND OTHER POLLUTION

24) Staging, storage, and re-fueling areas for machinery, equipment, and materials shall be located outside of the stream a minimum distance of 100 feet from waters of the State.

25) No equipment or machinery shall be operated within any flowing stream.

26) Any equipment or vehicles driven and/or operated within or adjacent to the stream channel shall be checked and maintained daily to prevent leaks of materials that, if introduced to water, could be deleterious to aquatic life, wildlife, or riparian habitat.

27) All activities performed in or near a stream shall have absorbent materials designated for spill containment and clean up activity site for use in case of accidental spill. Clean-up of all spills shall begin immediately. The Responsible Party shall immediately notify the California Emergency Management Agency at 1-800-852-7550. DFG shall be notified by the Responsible Party and consulted regarding clean-up procedures.

28) The Responsible Party shall comply with all litter and pollution laws. All contractors, subcontractors and employees shall also obey these laws and it shall be the responsibility of the Responsible Party to ensure compliance.

29) No debris, soil, silt, sand, bark, slash, sawdust, rubbish, cement or concrete or washings thereof, asphalt, paint or other coating material, oil or petroleum products or other organic or earthen material from any construction, or associated activity of whatever nature shall be allowed to enter into, or placed where it may be washed by rainfall or runoff into, waters of the State. When operations are completed, any excess materials or debris shall be removed from the work area. No rubbish shall be deposited within 150 feet of the high water mark of any stream or lake.

CLEAR WATER DIVERSION and DEWATERING

30) Any equipment work within the stream channel shall be performed in isolation from the flowing stream.

31) Responsible Party shall prepare a clear water diversion and dewatering plan for review and approval by DFG prior to construction. The plan shall identify the location of any stream diversion points. A coffer dam, berm, or other flow barrier shall be constructed to temporarily divert the flow around the project site. Diversion berms shall be constructed of onsite bedload of low silt content, inflatable dams, sand bags, or other materials approved by DFG. Barriers shall not be made of earth or other substances subject to erosion unless first enclosed by sheet piling, rock rip-rap, or other protective material. The enclosure and the supportive material shall be removed from the work site when the work is completed. Clean bedload may be left in the stream, but the barrier must be breached to return the stream flow to its natural channel and to provide fish passage.

Measures shall be taken immediately downstream of the work site to capture suspended sediment. Silt catchment fences, filter berms of clean river bedload, or other containment devices approved by DFG shall be constructed for this purpose. Silt fences and other non-native materials shall be removed from the stream following completion of the project. Berms constructed out of native bedload may be left in place after breaching, provided they do not impede the stream flow or fish passage.

32) The intake pipe used to divert flow around the work site, either by pump or gravity flow, shall be fitted with a fish screen to prevent entrainment or impingement of small fish. The screen may be constructed of any rigid, woven, perforated, or slotted material that provides water passage while physically excluding fish. Screen material shall provide a minimum of

27% open area, but more open area is better. Round openings in the screen shall not exceed 3/32 inch in diameter, woven wire openings shall not exceed 3/32 inch measured diagonally, and slotted openings shall not exceed 0.069 inch in width.

33) Any turbid water pumped from the work site shall be disposed of in an upland location where it will not drain directly into any stream channel.

34) Dewatering shall be done in a manner that prevents the discharge of material that could be deleterious to fish, plant life, or bird life into waters of the state and maintains adequate flows to downstream reaches during all times natural flow would have supported aquatic life. Such flows shall be of sufficient quality and quantity to support fish and other aquatic life above and below the diversion. Normal flows shall be restored to the affected stream immediately upon completion of work at that location.

35) Dewatering activities shall be conducted in such a manner so as to minimize downstream sedimentation and turbidity, and to minimize channel disturbance.

HABITAT AND SPECIES PROTECTION

36) Except where provided for within this Agreement, the removal of native vegetation from the streambed or streambanks is prohibited without prior written approval from the Department. The work area shall be identified to all workers, as represented in plans.

37) Environmentally Sensitive Area (ESA) fencing shall be installed prior to beginning construction activities to protect riparian and valley elderberry longhorn beetle habitat from inadvertent impacts. The location of all ESA fencing shall be clearly indicated on the project plans and made known to the contractor and construction personnel. ESA fencing shall be inspected and approved by DFG before the start of construction.

38) Restoration shall include the revegetation of stripped or exposed areas with vegetation native to the area.

39) The Responsible Party shall install netting or use other approved exclusion methods to preclude swallows from nesting on the existing Craig Creek and Sunset Canal bridges. Nest exclusion devices must be installed prior to February 15 and monitored and repaired as needed for the duration of construction activities below the Sunset Canal Bridge and until the Craig Creek Bridge is demolished.

EROSION AND SEDIMENT CONTROL

40) The project shall at all time feature adequate erosion and sediment control devices to prevent the degradation of water quality.

41) Gravel used for the gravel access pad shall be clean, pre-washed, uncrushed natural river rock. Gravel must be washed at least once and have cleanliness value of 85 or higher (California Test No. 227). Particle size shall be graded with at least 80% in the 0.5" – 2.5" range and 20% in the 2.5" – 4.0" range. Gravel must be completely free of oils or any other petroleum based material, clay, debris, and other types of organic matter. Gravel may be stockpiled near the project site, but mixing with any earthen material is prohibited.

42) The Responsible Party shall prevent the discharge of sediment, and/or muddy, turbid, or silt-laden waters, resulting from the project, into the stream channel. Where necessary to prevent such discharge, the Responsible Party shall properly install and maintain sediment barriers (including but not limited to filter fabric fencing, fiber mats, rice straw or fiber wattles or rolls) capable of preventing downstream sedimentation/turbidity. Said devices shall be cleaned of all trapped sediment as necessary to maintain proper function. Recovered sediment shall be disposed of where it shall not return to the waters of the State. Said devices shall be completely removed from the channel, along with all temporary fills, upon completion of operations.

43) Soils exposed by project operations shall be treated to prevent sediment runoff and transport. Erosion control measures shall comply with contract specifications and may include applications of seed, rice straw, compost, fiber, commercial fertilizer, stabilizing emulsion and mulch, or combinations thereof. All exposed soils and fills shall be reseeded with a mix of appropriate species common to the area, free from seeds of noxious or invasive weed species, and applied at a rate which will ensure establishment. To prevent the spread of non-native weedy species, only certified weed-free erosion control materials shall be used.

44) Upon DFG determination that turbidity/siltation levels resulting from project related activities constitute a threat to aquatic life, activities associated with the turbidity/siltation, shall be halted until effective DFG approved control devices are installed, or abatement procedures are initiated.

EQUIPMENT ACCESS

45) Vehicle and equipment access to the stream channel shall be limited to designated access points. Vehicles and equipment shall not operate outside of designated work areas.

46) Vehicles shall not be driven, or equipment operated, in water covered portions of a stream, or where wetland vegetation, riparian vegetation, or aquatic organisms may be destroyed, except as otherwise provided for in the Agreement to complete authorized work.

47) Staging/storage areas for equipment and materials shall be located a minimum of 100 feet from the stream.

CULVERTS AND INSTREAM STRUCTURES

48) All permanent crossings shall accommodate the estimated 100-year flow and shall be installed in accordance with submitted plans and diagrams.

49) Temporary culverts shall be sized to accommodate all flow volumes that may occur during the July 15 to October 15 in-channel work period.

50) Installation of bridges, culverts or other permanent structures shall be such that water flow is not impaired and upstream or downstream passage of fish and all aquatic life-forms is assured at all times. In order to ensure that fish passage criteria are met, the Responsible Party shall submit final plans for the Sunset Canal Bridge to DFG for review and approval prior to construction. Final plans must comply with DFG's Culvert Criteria for Fish Passage (2002). This document is available at:
http://www.dfg.ca.gov/fish/Resources/Reports/index.asp

51) Structures and associated materials not designed to withstand high seasonal flows shall be removed to areas above the high water mark before such flows occur.

ROCK SLOPE PROTECTION (RSP) AND ENERGY DISSIPATION DEVICES

52) RSP and energy dissipater materials shall consist of clean rock, competent for the application, sized and properly installed to resist washout. RSP slopes shall be supported with competent boulders keyed into a footing trench with a depth sufficient to properly seat the footing course boulders and prevent instability (typically at least 1/3 diameter of footing course boulders). Excavation spoils shall not be side-cast into the channel nor is any manipulation of the substrate of the channel authorized except as herein expressly provided. Energy dissipation devices within the stream banks shall be replanted or seeded to encourage regrowth of riparian vegetation.

This Agreement becomes effective on the date of Department's signature and terminates on December 31, 2011.

CONCURRENCE

RESPONSIBLE PARTY

(Signature)

STEVE ROGERS
(Print Name)

PROJECT MANAGER / CALTRANS
(Title/Organization)

12/8/09
(Date)

CALIFORNIA DEPARTMENT OF FISH AND GAME

Kenneth C. Moore
Habitat Conservation Program Manager
Northern Region

12/10/09
(Date)

Prepared by: Staff Environmental Scientist Craig P. Martz, Revised December 7, 2009

APPLICATION FOR DEPARTMENT OF ARMY PERMIT (33 CFR 325) NON-REPORTING NWP #14	OMB APPROVAL NO. 0710-003

Public reporting burden for this collection of information is estimated to average 5 hours per response, including the time for reviewing instruction, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Department of Defense, Washington Headquarters Service Directorate of Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington VA 22202-4302; and to the Office of Management and Budget, Paperwork Reduction Project (0710-003), Washington, DC 20503. Please DO NOT RETURN your form to either of those addresses. Completed applications must be submitted to the District Engineer having jurisdiction over the location of the proposed activity.

PRIVACY ACT STATEMENT

Authority: 33 USC 401, Section 10; 1413, Section 404. Principal Purpose: These laws require permits authorizing activities in, or affecting, navigable waters of the United States; the discharge of dredged or fill material into waters of the United States, and the transportation of dredged material for the purpose of dumping it into ocean waters. Routine uses: Information provided on this form will be used in evaluating the application for a permit. Disclosure: Disclosure of requested information is voluntary. If information is not provided, however, the permit application cannot be processed nor can a permit be issued.

One set of original drawings or good reproducible copies which show the location and character of the proposed activity must be attached to this application (see sample drawings and instructions) and be submitted to the District Engineer having jurisdiction over the proposed activity. An application that is not completed in full will be returned.

(ITEMS 1 THRU 4 TO BE FILLED BY THE CORPS)

1. APPLICATION NO.	2. FIELD OFFICE CODE	3. DATE RECEIVED	4. DATE APPLICATION COMPLETED

(ITEMS BELOW TO BE FILLED BY APPLICANT)

5. APPLICANT'S NAME	8. AUTHORIZED AGENT'S NAME & TITLE (an agent is not required)
Eric Akana, Project Manager	Andre Benoist, Environmental Coordinator
6. APPLICANT'S ADDRESS	**9. AGENT'S ADDRESS**
1657 Riverside Drive, Redding, CA 96001	Same
7. APPLICANT'S PHONE NUMBERS WITH AREA CODE	**10. AGENT'S PHONE NUMBERS WITH AREA CODE**
a. 530-225-3530	a. 530-225-3302

11. **STATEMENT OF AUTHORIZATION**

I hereby authorize Andre' Benoist to act in my behalf as my agent in the processing of this application and to furnish, upon request, supplemental information in support of this permit application.

APPLICANT'S SIGNATURE

7/15/09

DATE

NAME, LOCATION, AND DESCRIPTION OF PROJECT OR ACTIVITY

12. PROJECT NAME OR TITLE (see instructions)

Sunset Canal and Craig Creek Bridges.

13. NAME THE WATERBODY, IF KNOWN (if applicable)

Sunset Canal and Craig Creek

14. PROJECT STREET ADDRESS (if applicable)

On Highway 99 in Tehama County, 2 miles north of Los Molinos. Sunset Canal bridge is located at post mile 15.55 and Craig Creek bridge is located at post mile 21.13.

15. LOCATION OF PROJECT

COUNTY: Tehama STATE: CA

16. OTHER LOCATION DESCRIPTIONS, IF KNOWN (see instructions)

Sunset Canal Bridge: Long -122.1006, Lat: 40.0747
Craig Creek Bridge: Long: -122.1379, Lat: 40.1476

17. DIRECTIONS TO THE SITE

From the City of Red Bluff, drive 20 miles south on Highway 99 to Sunset Canal bridge at post mile 15.55 and Craig Creek bridge at post mile 21.13.

18. NATURE OF ACTIVITY (Description of project, include all features)

PROJECT DESCRIPTION

The California Department of Transportation (Caltrans), District 2, is proposing a bridge improvement project to protect an existing bridge at Sunset Canal, and replace an existing bridge at Craig Creek.

BRIDGE SAFETY IMPROVEMENTS:

Sunset Canal (PM 15.55) Bridge Number 08-0010. Work at Sunset Canal would include pouring a concrete slab between the existing abutments of the bridge. The slab would have a V-shape and be set below the existing bed of the canal. After the concrete has cured, the slab would be covered with 6-18 inches of clean, washed sand and gravel. The finished height of the slab and gravel would match the existing elevation of the canal channel. Other work includes placing a 30-foot-long and 3-foot-tall section of rock slope protection (RSP) along the south bank of the canal, on the downstream side of the bridge, and resurfacing the bridge deck with polyester concrete.

Craig Creek (PM 21.13) Bridge Number 08-0014.

Work at Craig Creek would consist of removing the existing bridge, including the supporting piers from the creek channel, and replacing it with a new clear-span bridge. The new bridge would be 2 feet wider and 18 feet longer than the existing bridge and would not require supporting piers in the creek channel. The new bridge would be made of prefabricated structural elements and would be assembled at the project site.

19. PROJECT PURPOSE (Describe the reason or purpose of the project, see instructions)

Sunset Canal and Craig Creek Bridges were originally constructed in the early 1920's. Since that time, natural processes such as erosion and scour have exposed the support structures on both bridges. If the erosion and scour problems are not fixed at each location, the bridges would eventually fail (collapse).

The purpose of this project is to correct the erosion and scour problem at Sunset Canal and Craig Creek.

The project is scheduled to begin and end in the summer of 2010.

USE BLOCKS 20-22 IF DREDGED AND/OR FILL MATERIAL IS TO BE DISCHARGED

20. REASON(S) FOR DISCHARGE

Sunset Canal: At Sunset Canal, fill material and concrete will be discharged. The reason for the discharge is to stabilize the bottom and the banks of the canal in order to repair the erosion that has taken place and protect the stability of the bridge.

Craig Creek: At Craig Creek, fill material in the form of clean, washed gravel will be used to create a temporary building pad that will be used to demolish the existing bridge and assemble the replacement

bridge. After the new bridge is constructed, excess gravel will be removed and the remaining gravel will be spread evenly across the creek bed and will blend in with the surface elevation of the creek upstream and downstream of the project area.

No dredging activities will occur with this project, therefore no dredged material will be discharged at either location.

21. TYPE(S) OF MATERIAL BEING DISCHARGED AND THE AMOUNT OF EACH TYPE IN CUBIC YARDS.

Sunset Canal: 48 yd^3 of concrete, 42 yd^3 of ¼-ton RSP, 58 yd^3 of clean, 5-inch cobble, 44 yd^3 of clean sand and gravel.
Craig Creek: 350 yd^3 of clean, washed spawning gravel.

22. SURFACE AREA IN ACRES OF WETLANDS OR OTHER WATERS FILLED (see instructions)

At Sunset Canal, the fill material will be set below the surface of the canal bottom and the finished elevation of the material will match the elevation of the canal bottom. The area of the concrete pad is approximately 0.03 acres.

At Craig Creek, excess fill material will be removed and the remaining material will be spread evenly across the creek bottom to improve the habitat for aquatic species. Approximately 0.12 acres of will be temporarily impacted by the temporary gravel work pad.

Both bridge locations do not contain wetlands, only waters of the US. Activities at both locations will result in temporary effects only. Following construction at each location, the channel will be restored to pre-construction conditions.

23. IS ANY PORTION OF THE WORK ALREADY COMPLETE? YES ☐ NO ☒ IF YES, DESCRIBE THE WORK

24. ADDRESSES OF ADJOINING PROPERTY OWNERS, LESSEES, ETC. WHOSE PROPERTY ADJOINS THE WATERBODY (If more than can be entered here, please attach a supplemental list)
N/A

25. LIST OF OTHER CERTIFICATIONS OR APPROVALS/DENIALS RECEIVED FROM OTHER FEDERAL, STATE, OR LOCAL AGENCIES FOR WORK DESCRIBED IN THIS APPLICATION

AGENCY	TYPE APPROVAL*	IDENTIFICATION NUMBER	DATE APPLIED	DATE APPROVED	DATE DENIED
RWQCB	401	Pending	July 2009	--	
DF&G	1600	Pending	July 2009	--	

*Would include but is not restricted to zoning, building and flood plain permits.

26. Application is hereby made for a permit or permits to authorize the work described in this application. I certify that the information in this application is complete and accurate. I further certify that I possess the authority to undertake the work described herein or am acting as the duly authorized agent of the applicant.

Signature of Applicant	Date	Signature of Agent	Date
	7/15/09		7/15/09

The application must be signed by the person who desires to undertake the proposed activity (applicant) or it may be signed by a duly authorized agent if the statement in block 11 has been filled out and signed.
18 U.S.C. Section 1001 provides that: Whoever, in any manner within the jurisdiction of any department or agency of the United States knowingly and willfully falsifies, conceals, or covers up any trick, scheme, or disguises a material fact or makes any false, factitious, or fraudulent statement or entry, shall be fined not more that $10,000 or imprisoned not more than five years or both.

— NON REPORTING — 2C110. SUNSET CANAL AND CRAIG CREEK.

Nationwide Permit Summary

U S Army Corps of Engineers
Sacramento District

33 CFR Part 330; Issuance of Nationwide Permits – March 19, 2007 includes corrections of May 8, 2007 and addition of regional conditions December 2007

14. Linear Transportation Projects. Activities required for the construction, expansion, modification, or improvement of linear transportation projects (e.g., roads, highways, railways, trails, airport runways, and taxiways) in waters of the United States. For linear transportation projects in non-tidal waters, the discharge cannot cause the loss of greater than 1/2-acre of waters of the United States. For linear transportation projects in tidal waters, the discharge cannot cause the loss of greater than 1/3-acre of waters of the United States. Any stream channel modification, including bank stabilization, is limited to the minimum necessary to construct or protect the linear transportation project; such modifications must be in the immediate vicinity of the project.

This NWP also authorizes temporary structures, fills, and work necessary to construct the linear transportation project. Appropriate measures must be taken to maintain normal downstream flows and minimize flooding to the maximum extent practicable, when temporary structures, work, and discharges, including cofferdams, are necessary for construction activities, access fills, or dewatering of construction sites. Temporary fills must consist of materials, and be placed in a manner, that will not be eroded by expected high flows. Temporary fills must be removed in their entirety and the affected areas returned to pre-construction elevations. The areas affected by temporary fills must be revegetated, as appropriate.

This NWP cannot be used to authorize non-linear features commonly associated with transportation projects, such as vehicle maintenance or storage buildings, parking lots, train stations, or aircraft hangars.

Notification: The permittee must submit a pre-construction notification to the district engineer prior to commencing the activity if: (1) the loss of waters of the United States exceeds 1/10 acre; or (2) there is a discharge in a special aquatic site, including wetlands. (See general condition 27.) (Sections 10 and 404) 1,2 DO NOT APPLY. NON-REPORTING.

Note: Some discharges for the construction of farm roads or forest roads, or temporary roads for moving mining equipment, may qualify for an exemption under Section 404(f) of the Clean Water Act (see 33 CFR 323.4)

A. Nationwide Permit General Conditions

Note: To qualify for NWP authorization, the prospective permittee must comply with the following general conditions, as appropriate, in addition to any regional or case-specific conditions imposed by the division engineer or district engineer. Prospective permittees should contact the appropriate Corps district office to determine if regional conditions have been imposed on an NWP. Prospective permittees should also contact the appropriate Corps district office to determine the status of Clean Water Act Section 401 water quality certification and/or Coastal Zone Management Act consistency for an NWP.

N/A ☒ ~~**1. Navigation.**~~

☐ (a) No activity may cause more than a minimal adverse effect on navigation.

☐ (b) Any safety lights and signals prescribed by the U.S. Coast Guard, through regulations or otherwise, must be installed and maintained at the permittee's expense on authorized facilities in navigable waters of the United States.

☐ (c) The permittee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration, of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.

☑ **2. Aquatic Life Movements**. No activity may substantially disrupt the necessary life cycle movements of those species of aquatic life indigenous to the waterbody, including those species that normally migrate through the area, unless the activity's primary purpose is to impound water. Culverts placed in streams must be installed to maintain low flow conditions.

N/A ☒ ~~**3. Spawning Areas.**~~ Activities in spawning areas during spawning seasons must be avoided to the maximum extent practicable. Activities that result in the physical destruction (e.g., through excavation, fill, or downstream smothering by substantial turbidity) of an important spawning area are not authorized.

N/A ☒ ~~**4. Migratory Bird Breeding Areas.**~~ Activities in waters of the United States that serve as breeding areas for migratory birds must be avoided to the maximum extent practicable.

N/A ☒ ~~**5. Shellfish Beds.**~~ No activity may occur in areas of concentrated shellfish populations, unless the activity is directly related to a shellfish harvesting activity authorized by NWPs 4 and 48.

☑ **6. Suitable Material**. No activity may use unsuitable material (e.g., trash, debris, car bodies, asphalt, etc.). Material used for construction or discharged must be free from toxic pollutants in toxic amounts (see Section 307 of the Clean Water Act).

N/A ☒ ~~**7. Water Supply Intakes.**~~ No activity may occur in the proximity of a public water supply intake, except where the activity is for the repair or improvement of public water supply intake structures or adjacent bank stabilization.

N/A ☒ ~~**8. Adverse Effects From Impoundments.**~~ If the activity creates an impoundment of water, adverse effects to the aquatic system due to accelerating the passage of water, and/or

restricting its flow must be minimized to the maximum extent practicable.

☑ **9. Management of Water Flows**. To the maximum extent practicable, the pre-construction course, condition, capacity, and location of open waters must be maintained for each activity, including stream channelization and storm water management activities, except as provided below. The activity must be constructed to withstand expected high flows. The activity must not restrict or impede the passage of normal or high flows, unless the primary purpose of the activity is to impound water or manage high flows. The activity may alter the pre-construction course, condition, capacity, and location of open waters if it benefits the aquatic environment (e.g., stream restoration or relocation activities).

☑ **10. Fills Within 100-Year Floodplains**. The activity must comply with applicable FEMA-approved state or local floodplain management requirements.

☑ **11. Equipment**. Heavy equipment working in wetlands or mudflats must be placed on mats, or other measures must be taken to minimize soil disturbance.

☑ **12. Soil Erosion and Sediment Controls**. Appropriate soil erosion and sediment controls must be used and maintained in effective operating condition during construction, and all exposed soil and other fills, as well as any work below the ordinary high water mark or high tide line, must be permanently stabilized at the earliest practicable date. Permittees are encouraged to perform work within waters of the United States during periods of low-flow or no-flow.

☑ **13. Removal of Temporary Fills**. Temporary fills must be removed in their entirety and the affected areas returned to pre-construction elevations. The affected areas must be revegetated, as appropriate.

☑ **14. Proper Maintenance**. Any authorized structure or fill shall be properly maintained, including maintenance to ensure public safety.

N/A ☐ ~~**15. Wild and Scenic Rivers.**~~ No activity may occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a "study river" for possible inclusion in the system while the river is in an official study status, unless the appropriate Federal agency with direct management responsibility for such river, has determined in writing that the proposed activity will not adversely affect the Wild and Scenic River designation or study status. Information on Wild and Scenic Rivers may be obtained from the appropriate Federal land management agency in the area (e.g., National Park Service, U.S. Forest Service, Bureau of Land Management, U.S. Fish and Wildlife Service).

N/A ☐ ~~**16. Tribal Rights.**~~ No activity or its operation may impair reserved tribal rights, including, but not limited to, reserved water rights and treaty fishing and hunting rights.

☑ **17. Endangered Species**.

☑ (a) No activity is authorized under any NWP which is likely to jeopardize the continued existence of a threatened or endangered species or a species proposed for such designation, as identified under the Federal Endangered Species Act (ESA), or which will destroy or adversely modify the critical habitat of such species. No activity is authorized under any NWP which "may affect" a listed species or critical habitat, unless Section 7 consultation addressing the effects of the proposed activity has been completed.

☑ (b) Federal agencies should follow their own procedures for complying with the requirements of the ESA. Federal permittees must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements.

N/A ☐ (c) Non-federal permittees shall notify the district engineer if any listed species or designated critical habitat might be affected or is in the vicinity of the project, or if the project is located in designated critical habitat, and shall not begin work on the activity until notified by the district engineer that the requirements of the ESA have been satisfied and that the activity is authorized. For activities that might affect Federally-listed endangered or threatened species or designated critical habitat, the pre-construction notification must include the name(s) of the endangered or threatened species that may be affected by the proposed work or that utilize the designated critical habitat that may be affected by the proposed work. The district engineer will determine whether the proposed activity "may affect" or will have "no effect" to listed species and designated critical habitat and will notify the non-Federal applicant of the Corps' determination within 45 days of receipt of a complete pre-construction notification. In cases where the non-Federal applicant has identified listed species or critical habitat that might be affected or is in the vicinity of the project, and has so notified the Corps, the applicant shall not begin work until the Corps has provided notification the proposed activities will have "no effect" on listed species or critical habitat, or until Section 7 consultation has been completed.

☑ (d) As a result of formal or informal consultation with the FWS or NMFS the district engineer may add species-specific regional endangered species conditions to the NWPs.

☑ (e) Authorization of an activity by a NWP does not authorize the "take" of a threatened or endangered species as defined under the ESA. In the absence of separate authorization (e.g., an ESA Section 10 Permit, a Biological Opinion with "incidental take" provisions, etc.) from the U.S. FWS or the NMFS, both lethal and non-lethal "takes" of protected species are in violation of the ESA. Information on the location of threatened and endangered species and their critical habitat can be obtained directly from the offices of the U.S. FWS and NMFS or their world wide Web pages at http://www.fws.gov/ and http://www.noaa.gov/fisheries.html respectively.

N/A ☐ ~~**18. Historic Properties.**~~

☐ (a) In cases where the district engineer determines that the activity may affect properties listed, or eligible for listing, in the National Register of Historic Places, the activity is not authorized, until the requirements of Section 106 of the National Historic Preservation Act (NHPA) have been satisfied.

☐ (b) Federal permittees should follow their own procedures for complying with the requirements of Section 106 of the National Historic Preservation Act. Federal permittees must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements.

☐ (c) Non-federal permittees must submit a pre-construction notification to the district engineer if the authorized activity may have the potential to cause effects to any historic properties listed, determined to be eligible for listing on, or potentially eligible for listing on the National Register of Historic Places, including previously unidentified properties. For such activities, the pre-construction notification must state which historic properties may be affected by the proposed work or include a vicinity map indicating the location of the historic properties or the potential for the presence of historic properties. Assistance regarding information on the location of or potential for the presence of historic resources can be sought from the State Historic Preservation Officer or Tribal Historic Preservation Officer, as appropriate, and the National Register of Historic Places (see 33 CFR 330.4(g)). The district engineer shall make a reasonable and good faith effort to carry out appropriate identification efforts, which may include background research, consultation, oral history interviews, sample field investigation, and field survey. Based on the information submitted and these efforts, the district engineer shall determine whether the proposed activity has the potential to cause an effect on the historic properties. Where the non-Federal applicant has identified historic properties which the activity may have the potential to cause effects and so notified the Corps, the non-Federal applicant shall not begin the activity until notified by the district engineer either that the activity has no potential to cause effects or that consultation under Section 106 of the NHPA has been completed.

☐ (d) The district engineer will notify the prospective permittee within 45 days of receipt of a complete pre-construction notification whether NHPA Section 106 consultation is required. Section 106 consultation is not required when the Corps determines that the activity does not have the potential to cause effects on historic properties (see 36 CFR §800.3(a)). If NHPA section 106 consultation is required and will occur, the district engineer will notify the non-Federal applicant that he or she cannot begin work until Section 106 consultation is completed.

☐ (e) Prospective permittees should be aware that section 110k of the NHPA (16 U.S.C. 470h-2(k)) prevents the Corps from granting a permit or other assistance to an applicant who, with intent to avoid the requirements of Section 106 of the NHPA, has intentionally significantly adversely affected a historic property to which the permit would relate, or having legal power to prevent it, allowed such significant adverse effect to occur, unless the Corps, after consultation with the Advisory Council on Historic Preservation (ACHP), determines that circumstances justify granting such assistance despite the adverse effect created or permitted by the applicant. If circumstances justify granting the assistance, the Corps is required to notify the ACHP and provide documentation specifying the circumstances, explaining the degree of damage to the integrity of any historic properties affected, and proposed mitigation. This documentation must include any views obtained from the applicant, SHPO/THPO, appropriate Indian tribes if the undertaking occurs on or affects historic properties on tribal lands or affects properties of interest to those tribes, and other parties known to have a legitimate interest in the impacts to the permitted activity on historic properties.

☑ **19. Designated Critical Resource Waters.** Critical resource waters include, NOAA-designated marine sanctuaries, National Estuarine Research Reserves, state natural heritage sites, and outstanding national resource waters or other waters officially designated by a state as having particular environmental or ecological significance and identified by the district engineer after notice and opportunity for public comment. The district engineer may also designate additional critical resource waters after notice and opportunity for comment.

☑ (a) Discharges of dredged or fill material into waters of the United States are not authorized by NWPs 7, 12, 14, 16, 17, 21, 29, 31, 35, 39, 40, 42, 43, 44, 49, and 50 for any activity within, or directly affecting, critical resource waters, including wetlands adjacent to such waters.

☐ (b) For NWPs 3, 8, 10, 13, 15, 18, 19, 22, 23, 25, 27, 28, 30, 33, 34, 36, 37, and 38, notification is required in accordance with general condition 27, for any activity proposed in the designated critical resource waters including wetlands adjacent to those waters. The district engineer may authorize activities under these NWPs only after it is determined that the impacts to the critical resource waters will be no more than minimal.

☐ ~~**20. Mitigation.**~~ The district engineer will consider the following factors when determining appropriate and practicable mitigation necessary to ensure that adverse effects on the aquatic environment are minimal:

☐ (a) The activity must be designed and constructed to avoid and minimize adverse effects, both temporary and permanent, to waters of the United States to the maximum extent practicable at the project site (i.e., on site).

☐ (b) Mitigation in all its forms (avoiding, minimizing, rectifying, reducing, or compensating) will be required to the extent necessary to ensure that the adverse effects to the aquatic environment are minimal.

☐ (c) Compensatory mitigation at a minimum one-for-one ratio will be required for all wetland losses that exceed 1/10 acre and require pre-construction notification, unless the district engineer determines in writing that some other form of mitigation would be more environmentally appropriate and provides a project-specific waiver of this requirement. For wetland losses of 1/10 acre or less that require pre-construction notification, the district engineer may determine on a case-by-case basis that compensatory mitigation is required to ensure that the activity results in minimal adverse effects on the

aquatic environment. Since the likelihood of success is greater and the impacts to potentially valuable uplands are reduced, wetland restoration should be the first compensatory mitigation option considered.

☐ (d) For losses of streams or other open waters that require pre-construction notification, the district engineer may require compensatory mitigation, such as stream restoration, to ensure that the activity results in minimal adverse effects on the aquatic environment.

☐ (e) Compensatory mitigation will not be used to increase the acreage losses allowed by the acreage limits of the NWPs. For example, if an NWP has an acreage limit of 1/2 acre, it cannot be used to authorize any project resulting in the loss of greater than 1/2 acre of waters of the United States, even if compensatory mitigation is provided that replaces or restores some of the lost waters. However, compensatory mitigation can and should be used, as necessary, to ensure that a project already meeting the established acreage limits also satisfies the minimal impact requirement associated with the NWPs.

☐ (f) Compensatory mitigation plans for projects in or near streams or other open waters will normally include a requirement for the establishment, maintenance, and legal protection (e.g., conservation easements) of riparian areas next to open waters. In some cases, riparian areas may be the only compensatory mitigation required. Riparian areas should consist of native species. The width of the required riparian area will address documented water quality or aquatic habitat loss concerns. Normally, the riparian area will be 25 to 50 feet wide on each side of the stream, but the district engineer may require slightly wider riparian areas to address documented water quality or habitat loss concerns. Where both wetlands and open waters exist on the project site, the district engineer will determine the appropriate compensatory mitigation (e.g., riparian areas and/or wetlands compensation) based on what is best for the aquatic environment on a watershed basis. In cases where riparian areas are determined to be the most appropriate form of compensatory mitigation, the district engineer may waive or reduce the requirement to provide wetland compensatory mitigation for wetland losses.

☐ (g) Permittees may propose the use of mitigation banks, in-lieu fee arrangements or separate activity-specific compensatory mitigation. In all cases, the mitigation provisions will specify the party responsible for accomplishing and/or complying with the mitigation plan.

☐ (h) Where certain functions and services of waters of the United States are permanently adversely affected, such as the conversion of a forested or scrub-shrub wetland to a herbaceous wetland in a permanently maintained utility line right-of-way, mitigation may be required to reduce the adverse effects of the project to the minimal level.

☑ **21. Water Quality.** Where States and authorized Tribes, or EPA where applicable, have not previously certified compliance of an NWP with CWA Section 401, individual 401 Water Quality Certification must be obtained or waived (see 33 CFR 330.4(c)). The district engineer or State or Tribe may require additional water quality management measures to ensure that the authorized activity does not result in more than minimal degradation of water quality.

N/A ☐ ~~**22. Coastal Zone Management**~~. In coastal states where an NWP has not previously received a state coastal zone management consistency concurrence, an individual state coastal zone management consistency concurrence must be obtained, or a presumption of concurrence must occur (see 33 CFR 330.4(d)). The district engineer or a State may require additional measures to ensure that the authorized activity is consistent with state coastal zone management requirements.

N/A ☐ ~~**23. Regional and Case-By-Case Conditions**~~. The activity must comply with any regional conditions that may have been added by the Division Engineer (see 33 CFR 330.4(e)) and with any case specific conditions added by the Corps or by the state, Indian Tribe, or U.S. EPA in its section 401 Water Quality Certification, or by the state in its Coastal Zone Management Act consistency determination.

N/A ☐ ~~**24. Use of Multiple Nationwide Permits**~~. The use of more than one NWP for a single and complete project is prohibited, except when the acreage loss of waters of the United States authorized by the NWPs does not exceed the acreage limit of the NWP with the highest specified acreage limit. For example, if a road crossing over tidal waters is constructed under NWP 14, with associated bank stabilization authorized by NWP 13, the maximum acreage loss of waters of the United States for the total project cannot exceed 1/3-acre.

N/A ☐ ~~**25. Transfer of Nationwide Permit Verifications**~~. If the permittee sells the property associated with a nationwide permit verification, the permittee may transfer the nationwide permit verification to the new owner by submitting a letter to the appropriate Corps district office to validate the transfer. A copy of the nationwide permit verification must be attached to the letter, and the letter must contain the following statement and signature:

> "When the structures or work authorized by this nationwide permit are still in existence at the time the property is transferred, the terms and conditions of this nationwide permit, including any special conditions, will continue to be binding on the new owner(s) of the property. To validate the transfer of this nationwide permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below."
>
> ---
>
> (Transferee)
>
> ---
>
> (Date)

N/A ☐ ~~**26. Compliance Certification**~~. Each permittee who received an NWP verification from the Corps must submit a signed certification regarding the completed work and any required mitigation. The certification form must be forwarded by the Corps with the NWP verification letter and will include:

☐ (a) A statement that the authorized work was done in accordance with the NWP authorization, including any general or specific conditions;

☐ (b) A statement that any required mitigation was completed in accordance with the permit conditions; and

☐ (c) The signature of the permittee certifying the completion of the work and mitigation.

N/A ☐ ~~27. Pre-Construction Notification.~~

☐ (a) **Timing**.. Where required by the terms of the NWP, the prospective permittee must notify the district engineer by submitting a pre-construction notification (PCN) as early as possible. The district engineer must determine if the PCN is complete within 30 calendar days of the date of receipt and, as a general rule, will request additional information necessary to make the PCN complete only once. However, if the prospective permittee does not provide all of the requested information, then the district engineer will notify the prospective permittee that the PCN is still incomplete and the PCN review process will not commence until all of the requested information has been received by the district engineer. The prospective permittee shall not begin the activity until either:

☐ (1) He or she is notified in writing by the district engineer that the activity may proceed under the NWP with any special conditions imposed by the district or division engineer; or

☐ (2) Forty-five calendar days have passed from the district engineer's receipt of the complete PCN and the prospective permittee has not received written notice from the district or division engineer. However, if the permittee was required to notify the Corps pursuant to general condition 17 that listed species or critical habitat might affected or in the vicinity of the project, or to notify the Corps pursuant to general condition 18 that the activity may have the potential to cause effects to historic properties, the permittee cannot begin the activity until receiving written notification from the Corps that is "no effect" on listed species or "no potential to cause effects" on historic properties, or that any consultation required under Section 7 of the Endangered Species Act (see 33 CFR 330.4(f)) and/or Section 106 of the National Historic Preservation (see 33 CFR 330.4(g)) is completed. Also, work cannot begin under NWPs 21, 49, or 50 until the permittee has received written approval from the Corps. If the proposed activity requires a written waiver to exceed specified limits of an NWP, the permittee cannot begin the activity until the district engineer issues the waiver. If the district or division engineer notifies the permittee in writing that an individual permit is required within 45 calendar days of receipt of a complete PCN, the permittee cannot begin the activity until an individual permit has been obtained. Subsequently, the permittee's right to proceed under the NWP may be modified, suspended, or revoked only in accordance with the procedure set forth in 33 CFR 330.5(d)(2).

☐ (b) Contents of Pre-Construction Notification: The PCN must be in writing and include the following information:

☐ (1) Name, address and telephone numbers of the prospective permittee;

☐ (2) Location of the proposed project;

☐ (3) A description of the proposed project; the project's purpose; direct and indirect adverse environmental effects the project would cause; any other NWP(s), regional general permit(s), or individual permit(s) used or intended to be used to authorize any part of the proposed project or any related activity. The description should be sufficiently detailed to allow the district engineer to determine that the adverse effects of the project will be minimal and to determine the need for compensatory mitigation. Sketches should be provided when necessary to show that the activity complies with the terms of the NWP. (Sketches usually clarify the project and when provided result in a quicker decision.);

☐ (4) The PCN must include a delineation of special aquatic sites and other waters of the United States on the project site. Wetland delineations must be prepared in accordance with the current method required by the Corps. The permittee may ask the Corps to delineate the special aquatic sites and other waters of the United States, but there may be a delay if the Corps does the delineation, especially if the project site is large or contains many waters of the United States. Furthermore, the 45 day period will not start until the delineation has been submitted to or completed by the Corps, where appropriate;

☐ (5) If the proposed activity will result in the loss of greater than 1/10 acre of wetlands and a PCN is required, the prospective permittee must submit a statement describing how the mitigation requirement will be satisfied. As an alternative, the prospective permittee may submit a conceptual or detailed mitigation plan.

☐ (6) If any listed species or designated critical habitat might be affected or is in the vicinity of the project, or if the project is located in designated critical habitat, for non-Federal applicants the PCN must include the name(s) of those endangered or threatened species that might be affected by the proposed work or utilize the designated critical habitat that may be affected by the proposed work. Federal applicants must provide documentation demonstrating compliance with the Endangered Species Act; and

☐ (7) For an activity that may affect a historic property listed on, determined to be eligible for listing on, or potentially eligible for listing on, the National Register of Historic Places, for non-Federal applicants the PCN must state which historic property may be affected by the proposed work or include a vicinity map indicating the location of the historic

property. Federal applicants must provide documentation demonstrating compliance with Section 106 of the National Historic Preservation Act.

☐ (c) Form of Pre-Construction Notification: The standard individual permit application form (Form ENG 4345) may be used, but the completed application form must clearly indicate that it is a PCN and must include all of the information required in paragraphs (b)(1) through (7) of this general condition. A letter containing the required information may also be used.

☐ (d) Agency Coordination:

☐ (1) The district engineer will consider any comments from Federal and state agencies concerning the proposed activity's compliance with the terms and conditions of the NWPs and the need for mitigation to reduce the project's adverse environmental effects to a minimal level.

☐ (2) For all NWP 48 activities requiring pre-construction notification and for other NWP activities requiring pre-construction notification to the district engineer that result in the loss of greater than 1/2-acre of waters of the United States, the district engineer will immediately provide (e.g., via facsimile transmission, overnight mail, or other expeditious manner) a copy of the PCN to the appropriate Federal or state offices (U.S. FWS, state natural resource or water quality agency, EPA, State Historic Preservation Officer (SHPO) or Tribal Historic Preservation Office (THPO), and, if appropriate, the NMFS). With the exception of NWP 37, these agencies will then have 10 calendar days from the date the material is transmitted to telephone or fax the district engineer notice that they intend to provide substantive, site-specific comments. If so contacted by an agency, the district engineer will wait an additional 15 calendar days before making a decision on the pre-construction notification. The district engineer will fully consider agency comments received within the specified time frame, but will provide no response to the resource agency, except as provided below. The district engineer will indicate in the administrative record associated with each pre-construction notification that the resource agencies' concerns were considered. For NWP 37, the emergency watershed protection and rehabilitation activity may proceed immediately in cases where there is an unacceptable hazard to life or a significant loss of property or economic hardship will occur. The district engineer will consider any comments received to decide whether the NWP 37 authorization should be modified, suspended, or revoked in accordance with the procedures at 33 CFR 330.5.

☐ (3) In cases of where the prospective permittee is not a Federal agency, the district engineer will provide a response to NMFS within 30 calendar days of receipt of any Essential Fish Habitat conservation recommendations, as required by Section 305(b)(4)(B) of the Magnuson-Stevens Fishery Conservation and Management Act.

☐ (4) Applicants are encouraged to provide the Corps multiple copies of pre-construction notifications to expedite agency coordination.

☐ (5) For NWP 48 activities that require reporting, the district engineer will provide a copy of each report within 10 calendar days of receipt to the appropriate regional office of the NMFS.

☐ (e) In reviewing the PCN for the proposed activity, the district engineer will determine whether the activity authorized by the NWP will result in more than minimal individual or cumulative adverse environmental effects or may be contrary to the public interest. If the proposed activity requires a PCN and will result in a loss of greater than 1/10 acre of wetlands, the prospective permittee should submit a mitigation proposal with the PCN. Applicants may also propose compensatory mitigation for projects with smaller impacts. The district engineer will consider any proposed compensatory mitigation the applicant has included in the proposal in determining whether the net adverse environmental effects to the aquatic environment of the proposed work are minimal. The compensatory mitigation proposal may be either conceptual or detailed. If the district engineer determines that the activity complies with the terms and conditions of the NWP and that the adverse effects on the aquatic environment are minimal, after considering mitigation, the district engineer will notify the permittee and include any conditions the district engineer deems necessary. The district engineer must approve any compensatory mitigation proposal before the permittee commences work. If the prospective permittee elects to submit a compensatory mitigation plan with the PCN, the district engineer will expeditiously review the proposed compensatory mitigation plan. The district engineer must review the plan within 45 calendar days of receiving a complete PCN and determine whether the proposed mitigation would ensure no more than minimal adverse effects on the aquatic environment. If the net adverse effects of the project on the aquatic environment (after consideration of the compensatory mitigation proposal) are determined by the district engineer to be minimal, the district engineer will provide a timely written response to the applicant. The response will state that the project can proceed under the terms and conditions of the NWP.

If the district engineer determines that the adverse effects of the proposed work are more than minimal, then the district engineer will notify the applicant either: (1) That the project does not qualify for authorization under the NWP and instruct the applicant on the procedures to seek authorization under an individual permit; (2) that the project is authorized under the NWP subject to the applicant's submission of a mitigation plan that would reduce the adverse effects on the aquatic environment to the minimal level; or (3) that the project is authorized under the NWP with specific modifications or conditions. Where the district engineer determines that mitigation is required to ensure no more than minimal adverse effects occur to the aquatic environment, the activity will be authorized within the 45-day PCN period. The authorization will include the necessary conceptual or specific mitigation or a requirement that the applicant

submit a mitigation plan that would reduce the adverse effects on the aquatic environment to the minimal level. When mitigation is required, no work in waters of the United States may occur until the district engineer has approved a specific mitigation plan.

☐ **(a) 28. Single and Complete Project.** The activity must be a single and complete project. The same NWP cannot be used more than once for the same single and complete project.

B. Regional Conditions:

I. Sacramento District (All States, except Colorado)

N/A ~~1.~~ When pre-construction notification (PCN) is required, the prospective permittee shall notify the Sacramento District in accordance with General Condition 27 using either the South Pacific Division Preconstruction Notification (PCN) Checklist or a completed application form (ENG Form 4345). In addition, the PCN shall include:

a. A written statement explaining how the activity has been designed to avoid and minimize adverse effects, both temporary and permanent, to waters of the United States;

b. Drawings, including plan and cross-section views, clearly depicting the location, size and dimensions of the proposed activity. The drawings shall contain a title block, legend and scale, amount (in cubic yards) and size (in acreage) of fill in Corps jurisdiction, including both permanent and temporary fills/structures. The ordinary high water mark or, if tidal waters, the high tide line should be shown (in feet), based on National Geodetic Vertical Datum (NGVD) or other appropriate referenced elevation; and

c. Pre-project color photographs of the project site taken from designatedlocations documented on the plan drawing.

N/A ~~2.~~ The permittee shall complete compensatory mitigation required by special conditions of the NWP verification before or concurrent with construction of the authorized activity, except when specifically determined to be impracticable by the Sacramento District. When project mitigation involves use of a mitigation bank or in-lieu fee program, payment shall be made before commencing construction.

N/A ~~3.~~ The permittee shall record the NWP verification with the Registrar of Deeds or other appropriate official charged with the responsibility for maintaining records of title to or interest in real property against areas (1) designated to be preserved as part of mitigation for authorized impacts, including any associated covenants or restrictions, or (2) where structures such as boat ramps or docks, marinas, piers, and permanently moored vessels will be constructed in or adjacent to navigable waters (Section 10 and Section 404). The recordation shall also include a map showing the surveyed location of the authorized structure and any associated areas preserved to minimize or compensate for project impacts.

N/A ~~4.~~ The permittee shall place wetlands, other aquatic areas, and any vegetative buffers preserved as part of mitigation for impacts into a separate "preserve" parcel prior to discharging dredged or fill material into waters of the United States, except where specifically determined to be impracticable by the Sacramento District. Permanent legal protection shall be established for all preserve parcels, following Sacramento District approval of the legal instrument.

✓ 5. The permittee shall allow Corps representatives to inspect the authorized activity and any mitigation areas at any time deemed necessary to determine compliance with the terms and conditions of the NWP verification. The permittee will be notified in advance of an inspection.

N/A ~~6.~~ For NWPs 29, 39, 40, 42, 43, 44, and 46, requests to waive the 300 linear foot limitation for intermittent or ephemeral waters of the U.S. shall include an evaluation of functions and services provided by the waterbody taking into account the watershed, measures to be implemented to avoid and minimize impacts, other measures to avoid and minimize that were found to be impracticable, and a mitigation plan for offsetting impacts.

✓ 7. Road crossings shall be designed to ensure fish passage, especially for anadromous fisheries. Permittees shall employ bridge designs that span the stream or river, utilize pier or pile supported structures, or involve large bottomless culverts with a natural streambed, where the substrate and streamflow conditions approximate existing channel conditions. Approach fills in waters of the United States below the ordinary high water mark are not authorized under the NWPs, except where avoidance has specifically been determined to be impracticable by the Sacramento District.

N/A ~~8.~~ For NWP 12, clay blocks, bentonite, or other suitable material shall be used to seal the trench to prevent the utility line from draining waters of the United States, including wetlands.

N/A ~~9.~~ For NWP 13, bank stabilization shall include the use of vegetation or other biotechnical design to the maximum extent practicable. Activities involving hard-armoring of the bank toe or slope requires submission of a PCN per General Condition 27.

N/A ~~10.~~ For NWP 23, the PCN shall include a copy of the signed Categorical Exclusion document and final agency determinations regarding compliance with Section 7 of the Endangered Species Act, Essential Fish Habitat under the Magnussen-Stevens Act, and Section 106 of the National Historic Preservation Act.

N/A ~~11.~~ For NWP 44, the discharge shall not cause the loss of more than 300 linear feet of streambed. For intermittent and ephemeral streams, the 300 linear foot limit may be waived in writing by the Sacramento District. This NWP does not authorize discharges in waters of the United States supporting anadromous fisheries.

N/A ~~12.~~ For NWPs 29 and 39, channelization or relocation of intermittent or perennial drainage, is not authorized, except when, as determined by the Sacramento District, the relocation would result in a net increase in functions of the aquatic ecosystem within the watershed.

N/A ~~13.~~ For NWP 33, temporary fills for construction access in waters of the United States supporting fisheries shall be accomplished with clean, washed spawning quality gravels where practicable as determined by the Sacramento District, in consultation with appropriate federal and state wildlife agencies.

N/A ~~14.~~ For NWP 46, the discharge shall not cause the loss of greater than 0.5 acres of waters of the United States or the loss of more than 300 linear feet of ditch, unless this 300 foot linear foot limit is waived in writing by the Sacramento District.

N/A ~~15.~~ For NWPs 29, 39, 40, 42, and 43, upland vegetated buffers shall be established and maintained in perpetuity, to the maximum extent practicable, next to all preserved open waters, streams and wetlands including created, restored, enhanced or preserved waters of the U.S., consistent with General Condition 20. Except in unusual circumstances, vegetated buffers shall be at least 50 feet in width.

N/A ~~16.~~ All NWPs except 3, 6, 20, 27, 32, 38, and 47, are revoked for activities in histosols and fens and in wetlands contiguous with fens. Fens are defined as slope wetlands with a histic epipedon that are hydrologically supported by groundwater. Fens are normally saturated throughout the growing season, although they may not be during drought conditions. For NWPs 3, 6, 20, 27, 32, and 38, prospective permittees shall submit a PCN to the Sacramento District in accordance with General Condition 27.

N/A ~~17.~~ For all NWPs, when activities are proposed within 100 feet of the point of groundwater discharge of a natural spring, prospective permittees shall submit a PCN to the Sacramento District in accordance with General Condition 27. A spring source is defined as any location where ground water emanates from a point in the ground. For purposes of this condition, springs do not include seeps or other discharges which lack a defined channel.

II. California Only

N/A ~~1.~~ In the Lake Tahoe Basin, all NWPs are revoked. Activities in this area shall be authorized under Regional General Permit 16 or through an individual permit.

N/A ~~2.~~ In the Primary and Secondary Zones of the Legal Delta, NWPs 29 and 39 are revoked. New development activities in the Legal Delta will be reviewed through the Corps' standard permit process.

N/A ~~**III. Nevada Only**~~

1. In the Lake Tahoe Basin, all NWPs are revoked. Activities in this area shall be authorized under Regional General Permit 16 or through an individual permit.

N/A ~~**IV. Utah Only**~~

1. For all NWPs, except NWP 47, prospective permittees shall submit a PCN in accordance with General Condition 27 for any activity, in waters of the United States, below 4217 feet mean sea level (msl) adjacent to the Great Salt Lake and below 4500 feet msl adjacent to Utah Lake.

2. A PCN is required for all bank stabilization activities in a perennial stream that would affect more than 100 linear feet of stream

3. For NWP 27, facilities for controlling stormwater runoff, construction of water parks such as kayak courses, and use of grout or concrete to construct in-stream structures are not authorized. A PCN is required for all projects exceeding 1500 linear feet as measured on the stream thalweg, using in stream structures exceeding 50 cubic yards per structure and/or incorporating grade control structures exceeding 1 foot vertical drop. For any stream restoration project, the post project stream sinuosity shall be appropriate to the geomorphology of the surrounding area and shall be equal to, or greater than, pre project sinuosity. Sinuosity is defined as the ratio of stream length to project reach length. Structures shall allow the passage of aquatic organisms, recreational water craft or other navigational activities unless specifically waived in writing by the District Engineer.

N/A ~~**V. Colorado Only**~~

N/A ~~1.~~ Final Regional Conditions Applicable to Specific Nationwide Permits within Colorado.

a. Nationwide Permit Nos. 12 and 14, Utility Line Activities and Linear Transportation Projects. In the Colorado River Basin, utility line and road activities crossing perennial water or special aquatic sites require notification to the District Engineer in accordance with General Condition 27 (Pre-Construction Notification).

b. Nationwide Permit No. 13 Bank Stabilization. In Colorado, bank stabilization activities necessary for erosion prevention in streams that average less than 20 feet in width (measured between the ordinary high water marks) are limited to the placement of no more than 1/4 cubic yard of suitable fill* material per running foot below the plane of the ordinary high water mark. Activities greater than 1/4 cubic yard may be authorized if the permittee notifies the District Engineer in accordance with General Condition 27 (Pre-Construction Notification) and the Corps determines the adverse environmental effects are minimal. [* See (g) for definition of Suitable Fill]

c. Nationwide Permit No. 27 Aquatic Habitat Restoration, Establishment, and Enhancement Activities.

(1) For activities that include a fishery enhancement component, the Corps will send the Pre-Construction Notification to the Colorado Division of Wildlife (CDOW) for review. In accordance with General Condition 27 (Pre-Construction Notification), CDOW will have 10 days from the receipt of Corps notification to indicate that they will be commenting on the proposed project. CDOW will then have an additional 15 days after the initial 10-day period to provide those comments. If CDOW raises concerns, the applicant may either modify their plan, in coordination with CDOW, or apply for a standard individual permit.

(2) For activities involving the length of a stream, the post-project stream sinuosity will not be significantly reduced, unless it is demonstrated that the reduction in sinuosity is consistent with the natural morphological evolution of the stream (sinuosity is the ratio of stream length to project reach length).

(3) Structures will allow the upstream and downstream passage of aquatic organisms, including fish native to the reach, as well as recreational water craft or other navigational activities, unless specifically waived in writing by the District Engineer. The use of grout and/or concrete in

building structures is not authorized by this nationwide permit.

(4) The construction of water parks (i.e., kayak courses) and flood control projects are not authorized by this nationwide permit.

d. Nationwide Permits Nos. 29 and 39; Residential Developments and Commercial and Institutional Developments. A copy of the existing FEMA/locally-approved floodplain map must be submitted with the Pre-Construction Notification. When reviewing proposed developments, the Corps will utilize the most accurate and reliable FEMA/locally-approved pre-project floodplain mapping, not post-project floodplain mapping based on a CLOMR or LOMR. However, the Corps will accept revisions to existing floodplain mapping if the revisions resolve inaccuracies in the original floodplain mapping and if the revisions accurately reflect pre-project conditions.

N/A ~~2.~~ Final Regional Conditions Applicable to All Nationwide Permits within Colorado

e. Removal of Temporary Fills. General Condition 13 (Removal of Temporary Fills) is amended by adding the following: When temporary fills are placed in wetlands in Colorado, a horizontal marker (i.e. fabric, certified weed-free straw, etc.) must be used to delineate the existing ground elevation of wetlands that will be temporarily filled during construction.

f. Spawning Areas. General Condition 3 (Spawning Areas) is amended by adding the following: In Colorado, all Designated Critical Resource Waters (see enclosure 1) are considered important spawning areas. Therefore, In accordance with General Condition 19 (Designated Critical Resource Waters), the discharge of dredged or fill material in not authorized by the following nationwide permits in these waters: NWPs 7, 12, 14, 16, 17, 21, 29, 31, 35, 39, 40, 42, 43, 44, 49, and 50. In addition, in accordance with General Condition 27 (Pre-Construction Notification), notification to the District Engineer is required for use of the following nationwide permits in these waters: NWPs 3, 8, 10, 13, 15, 18, 19, 22, 23, 25, 27, 28, 30, 33, 34, 36, 37 and 38".

g. Suitable Fill. In Colorado, use of broken concrete as fill material requires notification to the District Engineer in accordance with General Condition 27 (Pre-Construction Notification). Permittees must demonstrate that soft engineering methods utilizing native or non-manmade materials are not practicable (with respect to cost, existing technology, and logistics), before broken concrete is allowed as suitable fill. Use of broken concrete with exposed rebar is prohibited in perennial waters and special aquatic sites.

h. Invasive Aquatic Species. General Condition 11 is amended by adding the following condition for work in perennial or intermittent waters of the United States: If heavy equipment is used for the subject project that was previously working in another stream, river, lake, pond, or wetland within 10 days of initiating work, one the following procedures is necessary to prevent the spread of New Zealand Mud Snails and other aquatic hitchhikers:

(1) Remove all mud and debris from equipment (tracks, turrets, buckets, drags, teeth, etc.) and keep the equipment dry for 10 days. OR

(2) Remove all mud and debris from Equipment (tracks, turrets, buckets, drags, teeth, etc.) and spray/soak equipment with either a 1:1 solution of Formula 409 Household Cleaner and water, or a solution of Sparquat 256 (5 ounces Sparquat per gallon of water). Treated equipment must be kept moist for at least 10 minutes. OR

(3) Remove all mud and debris from equipment (tracks, turrets, buckets, drags, teeth, etc.) and spray/soak equipment with water greater than 120 degrees F for at least 10 minutes.

N/A ~~3.~~ Final Regional Conditions for Revocation/Special Notification Specific to Certain Geographic Areas

i. Fens: All Nationwide permits, except permit Nos. 3, 6, 20, 27, 32, 38 and 47, are revoked in fens and wetlands adjacent to fens. Use of nationwide permit Nos. 3, 20, 27 and 38, requires notification to the District Engineer, in accordance with General Condition 27 (Pre-Construction Notification), and the permittee may not begin the activity until the Corps determines the adverse environmental effects are minimal. The following defines a fen:

Fen soils (histosols) are normally saturated throughout the growing season, although they may not be during drought conditions. The primary source of hydrology for fens is groundwater. Histosols are defined in accordance with the U.S. Department of Agriculture, Natural Resources Conservation Service publications on Keys to Soil Taxonomy and Field Indicators of Hydric Soils in the United States (http://soils.usda.gov/technical/classification/taxonomy).

j. Springs: Within the state of Colorado, all NWPs, except permit 47 (original 'C'), require preconstruction notification pursuant to General Condition 27 for discharges of dredged or fill material within 100 feet of the point of groundwater discharge of natural springs. A spring source is defined as any location where groundwater emanates from a point in the ground. For purposes of this regional condition, springs do not include seeps or other discharges which do not have a defined channel.

N/A ~~4.~~ Additional Information

The following provides additional information regarding minimization of impacts and compliance with existing general Conditions:

a. Permittees are reminded of the existing General Condition No. 6 which prohibits the use of unsuitable material. Organic debris, building waste, asphalt, car bodies, and trash are not suitable material. Also, General Condition 12 requires appropriate erosion and sediment controls (i.e. all fills must be permanently stabilized to

prevent erosion and siltation into waters and wetlands at the earliest practicable date). Streambed material or other small aggregate material placed along a bank as stabilization will not meet General Condition 12. Also, use of erosion control mates that contain plastic netting may not meet General Condition 12 if deemed harmful to wildlife.

b. Designated Critical Resource Waters in Colorado. In Colorado, a list of designated Critical Resource Waters has been published in accordance with General Condition 19 (Designated Critical Resource Waters). This list will be published on the Albuquerque District Regulatory home page (http://www.spa.usace.army.mil/reg/)

c. Federally-Listed Threatened and Endangered Species. General condition 17 requires that nod-federal permittees notify the District Engineer if any listed species or designated critical habitat might be affected or is in the vicinity of the project. Information on such species, to include occurrence by county in Colorado, may be found at the following U.S. Fish and Wildlife Service website: http://www.fws.gov/mountain%2Dprairie/endspp/name_county_search.htm

C. Further Information

1. District Engineers have authority to determine if an activity complies with the terms and conditions of an NWP.

2. NWPs do not obviate the need to obtain other federal, state, or local permits, approvals, or authorizations required by law.

3. NWPs do not grant any property rights or exclusive privileges.

4. NWPs do not authorize any injury to the property or rights of others.

5. NWPs do not authorize interference with any existing or proposed Federal project.

D. Definitions FYI

Best management practices (BMPs): Policies, practices, procedures, or structures implemented to mitigate the adverse environmental effects on surface water quality resulting from development. BMPs are categorized as structural or non-structural.

Compensatory mitigation: The restoration, establishment (creation), enhancement, or preservation of aquatic resources for the purpose of compensating for unavoidable adverse impacts which remain after all appropriate and practicable avoidance and minimization has been achieved.

Currently serviceable: Useable as is or with some maintenance, but not so degraded as to essentially require reconstruction.

Discharge: The term "discharge" means any discharge of dredged or fill material.

Enhancement: The manipulation of the physical, chemical, or biological characteristics of an aquatic resource to heighten, intensify, or improve a specific aquatic resource function(s). Enhancement results in the gain of selected aquatic resource function(s), but may also lead to a decline in other aquatic resource function(s). Enhancement does not result in a gain in aquatic resource area.

Ephemeral stream: An ephemeral stream has flowing water only during, and for a short duration after, precipitation events in a typical year. Ephemeral stream beds are located above the water table year-round. Groundwater is not a source of water for the stream. Runoff from rainfall is the primary source of water for stream flow.

Establishment (creation): The manipulation of the physical, chemical, or biological characteristics present to develop an aquatic resource that did not previously exist at an upland site. Establishment results in a gain in aquatic resource area.

Historic Property: Any prehistoric or historic district, site (including archaeological site), building, structure, or other object included in, or eligible for inclusion in, the National Register of Historic Places maintained by the Secretary of the Interior. This term includes artifacts, records, and remains that are related to and located within such properties. The term includes properties of traditional religious and cultural importance to an Indian tribe or Native Hawaiian organization and that meet the National Register criteria (36 CFR part 60).

Independent utility: A test to determine what constitutes a single and complete project in the Corps regulatory program. A project is considered to have independent utility if it would be constructed absent the construction of other projects in the project area. Portions of a multi-phase project that depend upon other phases of the project do not have independent utility. Phases of a project that would be constructed even if the other phases were not built can be considered as separate single and complete projects with independent utility.

Intermittent stream: An intermittent stream has flowing water during certain times of the year, when groundwater provides water for stream flow. During dry periods, intermittent streams may not have flowing water. Runoff from rainfall is a supplemental source of water for stream flow.

Loss of waters of the United States: Waters of the United States that are permanently adversely affected by filling, flooding, excavation, or drainage because of the regulated activity. Permanent adverse effects include permanent discharges of dredged or fill material that change an aquatic area to dry land, increase the bottom elevation of a waterbody, or change the use of a waterbody. The acreage of loss of waters of the United States is a threshold measurement of the impact to jurisdictional waters for determining whether a project may qualify for an NWP; it is not a net threshold that is calculated after considering compensatory mitigation that may be used to offset losses of aquatic functions and services. The loss of stream bed includes the linear feet of stream bed that is filled or excavated. Waters of the United States temporarily filled, flooded, excavated, or drained, but restored to pre-construction contours and elevations after construction, are not included in the measurement of loss of waters of the United States. Impacts resulting from activities eligible for exemptions under Section 404(f) of the Clean Water Act are not considered when calculating the loss of waters of the United States.

Non-tidal wetland: A non-tidal wetland is a wetland that is not subject to the ebb and flow of tidal waters. The definition of a wetland can be found at 33 CFR 328.3(b). Non-tidal wetlands

contiguous to tidal waters are located landward of the high tide line (i.e., spring high tide line).

Open water: For purposes of the NWPs, an open water is any area that in a year with normal patterns of precipitation has water flowing or standing above ground to the extent that an ordinary high water mark can be determined. Aquatic vegetation within the area of standing or flowing water is either non-emergent, sparse, or absent. Vegetated shallows are considered to be open waters. Examples of "open waters" include rivers, streams, lakes, and ponds.

Ordinary High Water Mark: An ordinary high water mark is a line on the shore established by the fluctuations of water and indicated by physical characteristics, or by other appropriate means that consider the characteristics of the surrounding areas (see 33 CFR 328.3(e)).

Perennial stream: A perennial stream has flowing water year-round during a typical year. The water table is located above the stream bed for most of the year. Groundwater is the primary source of water for stream flow. Runoff from rainfall is a supplemental source of water for stream flow.

Practicable: Available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes.

Pre-construction notification: A request submitted by the project proponent to the Corps for confirmation that a particular activity is authorized by nationwide permit. The request may be a permit application, letter, or similar document that includes information about the proposed work and its anticipated environmental effects. Pre-construction notification may be required by the terms and conditions of a nationwide permit, or by regional conditions. A pre-construction notification may be voluntarily submitted in cases where pre-construction notification is not required and the project proponent wants confirmation that the activity is authorized by nationwide permit.

Preservation: The removal of a threat to, or preventing the decline of, aquatic resources by an action in or near those aquatic resources. This term includes activities commonly associated with the protection and maintenance of aquatic resources through the implementation of appropriate legal and physical mechanisms. Preservation does not result in a gain of aquatic resource area or functions.

Re-establishment: The manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural/historic functions to a former aquatic resource. Re-establishment results in rebuilding a former aquatic resource and results in a gain in aquatic resource area.

Rehabilitation: The manipulation of the physical, chemical, or biological characteristics of a site with the goal of repairing natural/historic functions to a degraded aquatic resource. Rehabilitation results in a gain in aquatic resource function, but does not result in a gain in aquatic resource area.

Restoration: The manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural/historic functions to a former or degraded aquatic resource. For the purpose of tracking net gains in aquatic resource area, restoration is divided into two categories: re-establishment and rehabilitation.

Riffle and pool complex: Riffle and pool complexes are special aquatic sites under the 404(b)(1) Guidelines. Riffle and pool complexes sometimes characterize steep gradient sections of streams. Such stream sections are recognizable by their hydraulic characteristics. The rapid movement of water over a course substrate in riffles results in a rough flow, a turbulent surface, and high dissolved oxygen levels in the water. Pools are deeper areas associated with riffles. A slower stream velocity, a streaming flow, a smooth surface, and a finer substrate characterize pools.

Riparian areas: Riparian areas are lands adjacent to streams, lakes, and estuarine-marine shorelines. Riparian areas are transitional between terrestrial and aquatic ecosystems, through which surface and subsurface hydrology connects waterbodies with their adjacent uplands. Riparian areas provide a variety of ecological functions and services and help improve or maintain local water quality. (See general condition 20.)

Shellfish seeding: The placement of shellfish seed and/or suitable substrate to increase shellfish production. Shellfish seed consists of immature individual shellfish or individual shellfish attached to shells or shell fragments (i.e., spat on shell). Suitable substrate may consist of shellfish shells, shell fragments, or other appropriate materials placed into waters for shellfish habitat.

Single and complete project: The term "single and complete project" is defined at 33 CFR 330.2(i) as the total project proposed or accomplished by one owner/developer or partnership or other association of owners/developers. A single and complete project must have independent utility (see definition). For linear projects, a "single and complete project" is all crossings of a single water of the United States (i.e., a single waterbody) at a specific location. For linear projects crossing a single waterbody several times at separate and distant locations, each crossing is considered a single and complete project. However, individual channels in a braided stream or river, or individual arms of a large, irregularly shaped wetland or lake, etc., are not separate waterbodies, and crossings of such features cannot be considered separately.

Stormwater management: Stormwater management is the mechanism for controlling stormwater runoff for the purposes of reducing downstream erosion, water quality degradation, and flooding and mitigating the adverse effects of changes in land use on the aquatic environment.

Stormwater management facilities: Stormwater management facilities are those facilities, including but not limited to, stormwater retention and detention ponds and best management practices, which retain water for a period of time to control runoff and/or improve the quality (i.e., by reducing the concentration of nutrients, sediments, hazardous substances and other pollutants) of stormwater runoff.

Stream bed: The substrate of the stream channel between the ordinary high water marks. The substrate may be bedrock or inorganic particles that range in size from clay to boulders. Wetlands contiguous to the stream bed, but outside of the ordinary high water marks, are not considered part of the stream bed.

Stream channelization: The manipulation of a stream's course, condition, capacity, or location that causes more than minimal

interruption of normal stream processes. A channelized stream remains a water of the United States.

Structure: An object that is arranged in a definite pattern of organization. Examples of structures include, without limitation, any pier, boat dock, boat ramp, wharf, dolphin, weir, boom, breakwater, bulkhead, revetment, riprap, jetty, artificial island, artificial reef, permanent mooring structure, power transmission line, permanently moored floating vessel, piling, aid to navigation, or any other manmade obstacle or obstruction.

Tidal wetland: A tidal wetland is a wetland (i.e., water of the United States) that is inundated by tidal waters. The definitions of a wetland and tidal waters can be found at 33 CFR 328.3(b) and 33 CFR 328.3(f), respectively. Tidal waters rise and fall in a predictable and measurable rhythm or cycle due to the gravitational pulls of the moon and sun. Tidal waters end where the rise and fall of the water surface can no longer be practically measured in a predictable rhythm due to masking by other waters, wind, or other effects. Tidal wetlands are located channelward of the high tide line, which is defined at 33 CFR 328.3(d).

Vegetated shallows: Vegetated shallows are special aquatic sites under the 404(b)(1) Guidelines. They are areas that are permanently inundated and under normal circumstances have rooted aquatic vegetation, such as seagrasses in marine and estuarine systems and a variety of vascular rooted plants in freshwater systems.

Waterbody: For purposes of the NWPs, a waterbody is a jurisdictional water of the United States that, during a year with normal patterns of precipitation, has water flowing or standing above ground to the extent that an ordinary high water mark (OHWM) or other indicators of jurisdiction can be determined, as well as any wetland area (see 33 CFR 328.3(b)). If a jurisdictional wetland is adjacent--meaning bordering, contiguous, or neighboring--to a jurisdictional waterbody displaying an OHWM or other indicators of jurisdiction, that waterbody and its adjacent wetlands are considered together as a single aquatic unit (see 33 CFR 328.4(c)(2)). Examples of "waterbodies" include streams, rivers, lakes, ponds, and wetlands.

COUNTY OF TEHAMA
Tehama County Air Pollution Control District
ALAN ABBS
AIR POLLUTION CONTROL OFFICER
1750 Walnut Street * Red Bluff, California 96080
Phone: (530) 527-3717
Fax: (530) 527-0959

COMPLIANCE ASSISTANCE BULLETIN
FUGITIVE DUST

Fugitive Dust Control at Construction Sites

Rule 4:24, Fugitive Dust Emissions; of the District's Rules and Regulations apply to many activities that generate fugitive dust, and particularly to construction sites.

Fugitive dust is emitted into the air by activities that disturb the soil, such as earthmoving and vehicular/equipment traffic on unpaved surfaces. Windblown dust is also of concern where soil has been disturbed at construction sites.

The District adopted Rule 4:24 in 1987 and its most recent amendments became effective on February 5, 2008. This is a basic summary of the regulation's requirements as they apply to construction sites.

These regulations affect all workers at a construction site, including everyone from the landowner to the subcontractors. Violations of Rule 4:24 are subject to enforcement action including fines.

Visible Dust Emissions (VDE) may not exceed 20% opacity during periods when soil is being disturbed by equipment or by wind at any time. Visible Dust Emissions opacity of 20% means dust that would obstruct an observer's view of an object by 20%. District inspectors are state certified to evaluate visible emissions. Dust control may be achieved by applying water before/during earthwork and onto unpaved traffic areas, phasing work to limit dust, and setting up wind fences to limit wind blown dust.

Soil Stabilization is required at construction sites after normal working hours and on weekends and holidays. This requirement also applies to inactive construction areas such as phased projects where disturbed land is left unattended. Applying water to form a visible crust on the soil and restricting vehicle access are often effective for short-term stabilization of disturbed surface areas. Long-term methods include applying dust suppressants and establishing vegetative cover.

Carryout and Trackout occur when materials from emptied or loaded vehicles falls onto a paved surface or shoulder of a public road or when materials adhere to vehicle tires and are deposited onto a paved surface or shoulder of a public road. Should either occur, the material must be cleaned up at least daily, and immediately if it extends more than 50 feet from the exit point onto a paved road. The appropriate clean-up methods require the complete removal and cleanup of mud and dirt from the paved surface and shoulder. Using a blower device or dry sweeping with any mechanical device other than a PM10-efficient street sweeper is not effective. Larger construction sites, or sites with a high amount of traffic on one or more days, must prevent carryout and trackout from occurring by installing gravel pads, grizzlies, wheel washers, paved interior roads, or a combination thereof at each exit point from the site. In many cases, cleaning up track-out with water is also prohibited as it may lead to plugged storm drains and raise turbidity levels in nearby waterways. Prevention is the best method.

Unpaved Access and Haul Roads, as well as unpaved vehicle and equipment traffic areas at construction sites must have dust control. Speed limit signs limiting vehicle speed to 15 mph or less at construction sites should be posted every 500 feet on uncontrolled and unpaved roads.

Storage Piles and Bulk Materials have handling, storage, and transportation requirements that include applying water when handling materials, wetting or covering stored materials, and installing wind barriers to limit VDE. Also, limiting vehicle speeds, loading haul trucks with a freeboard of six inches or greater along with applying water to the top of the load, and covering the cargo compartments are effective measures for reducing VDE and carryout from vehicles transporting bulk materials.

Demolition activities require the application of water to the exterior of the buildings, debris piles, and to unpaved surfaces where materials may fall. A Dust Control Plan will be required for large demolition projects. Consider all structures built before 1988, slated for demolition as possibly being regulated due to potential asbestos. Contact the District for more information concerning asbestos.

Dust Control Plans identify the dust sources and describe the dust control measures that will be implemented before, during, and after any dust generating activity for the duration of the project. Owners or operators are required to submit plans to the District at least 30 days prior to commencing the work for the following:

- Residential developments of one hundred or more acres of disturbed surface area.
- Non-residential developments of five or more acres of disturbed surface area.
- The relocation of more than 7,700 cubic yards per day of materials on at least three days.

Operations may not commence until the District has approved the Dust Control Plan. A copy of the plan must be on site and available to workers and District employees. **All work on the site is subject to the requirements of the approved dust control plan. A failure to abide by the plan by anyone on site may be subject to enforcement action.**

Exemptions exist for several activities. District Rule 4:24 *Fugitive Dust Emissions*, exempts the following construction and earthmoving activities:

- Movement of less than 2,000 cubic yards of soil.
- Maintenance or remodeling of existing buildings less than 10,000 square feet.
- Additions to single family dwellings.
- The disking of weeds and vegetation for fire prevention.
- Spreading of daily landfill cover to preserve public health and safety and to comply with California Integrated Waste Management Board requirements.

Nuisances are prohibited at all times because District Rule 4:4 – *Nuisance* applies to all construction sources of fugitive dust, whether or not they are exempt from Rule 4:24. It is important to monitor dust-generating activities and implement appropriate dust control measures to limit the public's exposure to fugitive dust.

Fugitive Dust Permits can be obtained from the District office located at 1750 Walnut Street, Red Bluff, CA. Permit Fees total $144.00 and the permit is valid for one year, from the date of issuance, at the designated permit location. For more information please contact the District at 530-527-3717.

Print Form

Submit by Email

TEHAMA COUNTY AIR POLLUTION CONTROL DISTRICT

1750 Walnut Street (P.O. Box 8069), Red Bluff, CA 96080
Phone: (530) 527-3717 Fax: (530) 527-0959

Fugitive Dust Permit Application Permit Fee: $144.00 ❑

and/or

Land Clearing Burn Permit Application Permit Fee: $56.50 ❑

APPLICANT INFORMATION

Please specify the legal name and address of the partnership, company, corporation or agency to be named on the permit.

Company: _____ Contact: _____

Phone: _____ Fax: _____ Email: _____

Address: _____

City/St/Zip: _____

PROJECT INFORMATION

Project Name: _____

Address: _____ City: _____

Nearest Cross Street: _____

Project Duration: _____

Project Description: _____

Other Information:

Sources of Fugitive Emissions:

_____

Distance to Nearest Sensitive Receptor (If Applicable):

_____

Description of Receptor:

_____

Type of Burn (Grass, trees, brush, etc.)

_____

Amount (acres)

_____

(A Sensitive Receptor is Defined as a School, Hospital, Recovery Center, Outpatient Care Center, Hospice, Childrens Day Care Center, Retirement Home, or Any other site that may contain persons sensitive to Fugitive Dust or Smoke emissions.)

Signature: _____ Title: _____

(Signature of responsible official, partner, or sole proprietor. Original signature required NO photocopies.)

Print Name: _____ Date: _____

STRUCTURE HYDRAULICS & HYDROLOGY
FINAL HYDRAULIC REPORT

Craig Creek

Located northwest of the town of Dairyville
on State Route 99 over Craig Creek in Tehama County

JOB:
Bridge No. 08-0014 (Existing)
Bridge No. 08-0168 (Replacement)

LOCATION:
02-Teh-99-PM21.13

EA: 02-2C1101

WRITTEN BY:
Diane O'Brien

DATE:
May 29, 2008

REVIEWED BY:
Ronald McGaugh

DATE:
May 29, 2008

Craig Creek
Br. No. 08-0168
02-Teh-99-PM21.13
EA 02-2C1101

Hydrology/Hydraulics Report

General

It is proposed to replace the existing scour critical structure at Craig Creek (Bridge No. 08-0014). The new structure will be Bridge No. 08-0168. The SM&I Scour Evaluations Section identified the existing structure as scour critical in 2003 due to footing exposure and concerns with channel migration. The bridge also had a long history of erosion of both abutment fills. The bridge is located approximately 1.5 miles northwest of the town of Dairyville on State Route 99 in Tehama County.

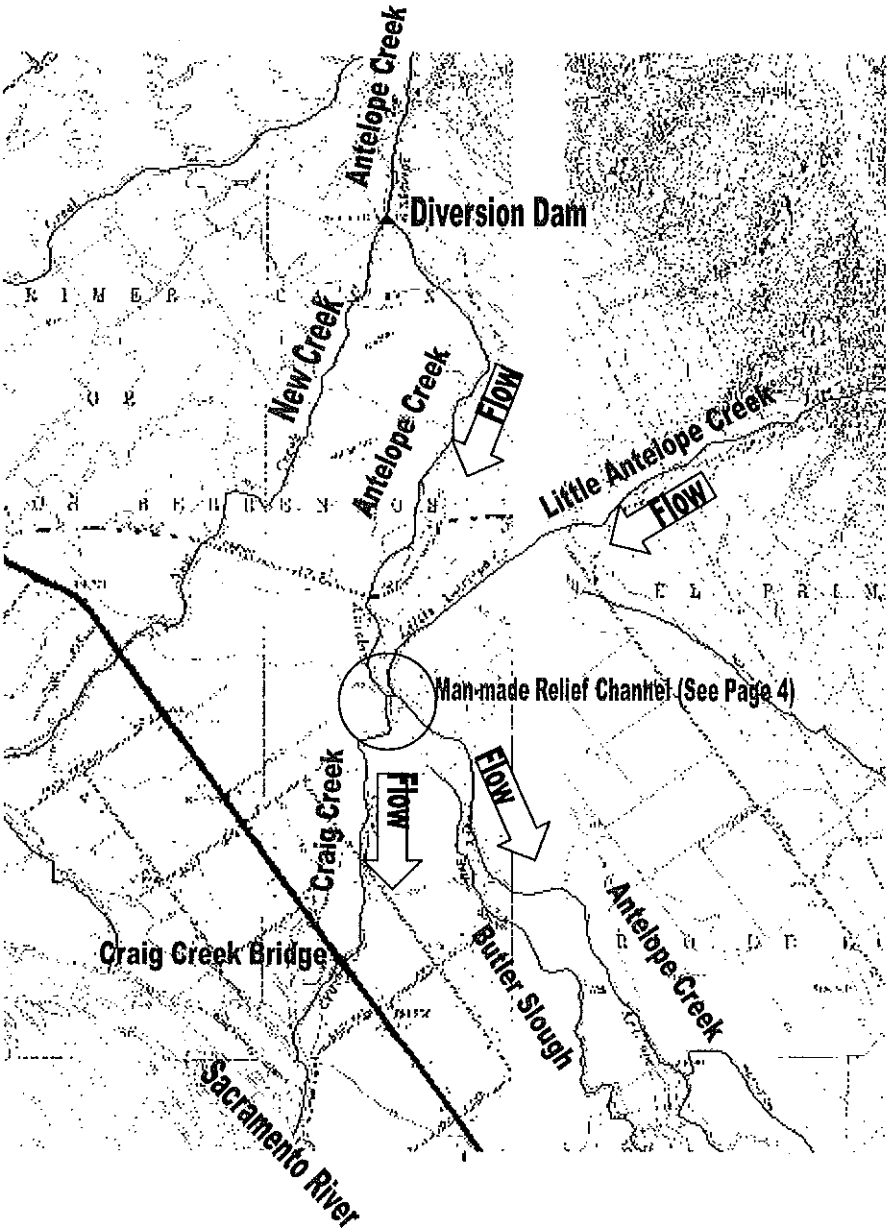
The existing structure is three spans, with a total length of 89.5 feet and a total width of 42.3 feet. The existing concrete Tee Girder bridge has a structure depth of 2' 7". The bents are reinforced concrete columns on spread footings and the abutments are reinforced concrete on footings with drilled piles.

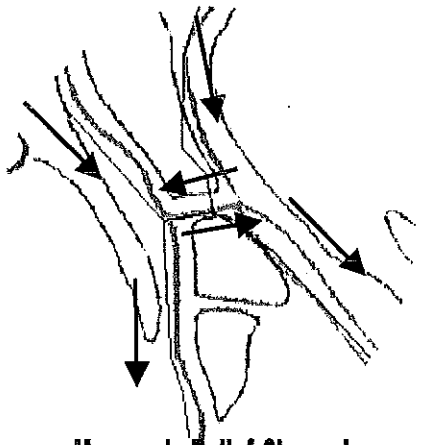
The proposed new bridge is a 108-foot-long, 58-foot-wide, two-span, precast, prestressed slab bridge on two-foot-diameter cast-in-steel-shell concrete piles. The structure depth is 2.25 feet.

All calculated elevations in this report are based on the Vertical Datum NAVD88.

Basin

Craig Creek serves as the main outlet for Antelope Creek and also receives overflow from Little Antelope Creek. The Antelope Creek and Little Antelope Creek watersheds are approximately 124 square miles and 39 square miles, respectively. Antelope Creek and Little Antelope Creek are east-west trending drainages that originate in the Cascade-Sierra Nevada Mountains and flow westerly into the Sacramento Valley. "Above the foothill line rugged topography characterizes the watersheds. Below the foothill line the topography consists of alluvial fans, which spread out toward the almost flat plain along the Sacramento River with decreasing gradient."[1] New Creek splits off from Antelope Creek at a diversion dam approximately three miles upstream of the bridge.





Approximately one mile upstream of the Craig Creek Bridge site there is a man-made flat channel through a marshy area that connects Antelope and Little Antelope Creeks and acts as a relief to redistribute the flows to Craig Creek and Antelope Creek/Butler Slough. When Antelope Creek has large flows, some will flow to Craig Creek and some will go through the channel and continue down Antelope Creek or be diverted to Butler Slough. When Little Antelope Creek has large flows some of it will be diverted to Craig Creek through the same channel. The remaining discharge continues down Antelope Creek/Butler Slough. Please see the map on the previous page for the relative locations of these waterways.

This area is on an alluvial plain and relatively flat. Overflow from Antelope Creek is distributed to New Creek, Craig Creek, Butler Slough, and overland sheet flow. Overflow from Little Antelope Creek will go into Craig Creek, Antelope Creek, Butler Slough and overland sheet flow. Craig Creek, Antelope Creek, New Creek and Butler Slough all discharge into the Sacramento River, which is approximately 3800 feet downstream of the Craig Creek Bridge site.

Elevations within the drainage areas vary from approximately 260 feet at the bridge site to over 6500 feet at the upper end of the Antelope Creek watershed. The Mean Annual Precipitation for the Antelope Basin is 43.3 inches and for the Little Antelope Basin is 33.4 inches.

Discharge

Antelope Creek is a gauged (USGS 11379000) watershed with 41 years of record. A Log Pearson Type III frequency computation method was used to determine the discharge as it emerges from the foothills, upstream of New Creek. Some of this flow will go down New Creek when it reaches the diversion dam. The hydraulic features of this diversion dam are unknown. The relative channel capacities of New Creek and Antelope Creek were used to estimate how much flow will remain in Antelope Creek.

Basin Transfer was used to estimate the discharge for the Little Antelope Creek drainage based on the same stream gage records. Little Antelope is the adjacent drainage south of Antelope Creek. Depending on the size and location of the rainfall events, some of the combined flow from Antelope and Little Antelope Creeks will go down Craig

Creek, some will go down Antelope Creek and Butler Slough, and some will come out of the channels upstream of the bridge and sheet flow across low lying areas, which is typical of alluvial fan geoforms. This area is subject to frequent local flooding. Determining how much flow will go where is dependent on the relative discharges of the various waterways and the level of the Sacramento River. Accurate predictions cannot be made. Assumptions were made to determine the maximum flow that could make it down to the Craig Creek Bridge site.

A one-dimensional water surface profile program, HEC-RAS 3.1.3, was used to model flows into Craig Creek. The 100-year discharge was computed to be 2700 cfs without backwater from the Sacramento River. The 50-year discharge is also 2700 cfs, since both the 100-year and 50-year combined discharges from Antelope and Little Antelope Creeks are greater than the capacity of the Craig Creek channel. High velocity and low water surface elevation are characteristic of the Craig Creek 100-year discharge occurring with no backwater from the Sacramento River. Therefore these velocity values were used for the scour calculations.

When both the Sacramento River and Craig Creek are flowing at 100-year flood stage, the backwater effects will be significant. This will slow down and back up the flow under the Craig Creek Bridge and result in a much higher water surface elevation but lower velocities. This scenario was used to compute the maximum water surface elevation/minimum soffit elevation.

Stage

The design flood is defined as the greater of the Q50 plus freeboard or the flood-of-record. In addition, the bridge must be designed to safely pass the Q100. As stated above, the maximum water surface elevation will occur when the Sacramento River is at flood stage concurrent with high flows at Craig Creek. The flood of record occurred in December 1937 and is 256.6 feet after adjustment to NAVD88.

There is a high potential for drift at the bridge site due to the erosion of the vegetated banks upstream. The Q50/Q100 maximum water surface elevation without backwater effects, plus three feet of freeboard, is less than the flood of record.

There is no freeboard requirement for the backwater-affected flood-of-record water surface elevation due to the low velocities, and because the event occurred before regulation of the Sacramento River by Shasta Dam and Orville Dam and is not expected to happen again due to this regulation.

Based on compliance with the Memo to Designers 1-23, the recommended minimum soffit elevation is 256.6 feet based on the flood of record.

Velocity

The water surface elevation and velocities corresponding to the 100-year discharge with no backwater effects from the Sacramento River were computed using BrEase version 3.1.1. A Manning's roughness coefficient of 0.027 was used. The average velocity through the proposed bridge site during the 100-year flood event is approximately 7.6 ft/sec. A peak velocity of 9.6 ft/sec is estimated to be experienced at the thalweg.

Streambed

The streambed is composed of silty clay, clayey silt, sand and gravel. This material is scourable and subject to erosion. The long-term degradation over the life of the new structure is estimated to be 3 feet. The current thalweg Elevation of 237.0 feet was measured in the field by SM&I Hydraulics Branch staff on May 11, 2007. This elevation was adjusted from NGVD29 to NAVD88 using the vertical datum transformation of +2.42 provided by Preliminary Investigations.

The potential local scour depth for the proposed 2-foot-diameter Pier 2 is estimated to be 5.0 feet. No contraction scour is anticipated. Adding degradation and local scour, and assuming a migrating thalweg, the total scour depth is 8.0 feet. This corresponds to Elevation 229.0 feet. Abutment 1 and Abutment 3 foundations should be designed for scour to Elevation 235.0 feet.

The thalweg has stayed between Piers 2 and 3 since the widening in 1952-3. However, erosion of the embankments at both abutments has been a problem throughout the history of the existing bridge. The increased length of the proposed new bridge and abutment foundations designed for scour will prevent this from being a threat to the new structure. Bank protection is not required to protect the structure. District may place rock slope protection to protect the roadway as needed.

References

1. Preliminary Reconnaissance Watershed Survey Antelope Creek, Salt Creek and Tributaries, for the Lassen View Sold Conservation District, by Charles S. McCandless & Company, Consulting Engineers, March 1963.

2. Craig Creek Bridge (Replace) General Plan No. 1 dated 2/5/08.

3. Caltrans Bridge Maintenance Records.

Summary Information for the Bridge Designer

Below is a summary of key design parameters based on the hydrologic and hydraulic analysis performed for this structure:

Minimum Soffit Elevation	256.6 ft
Potential Total Scour Elevation at Pier 2	229.0 ft
Potential Scour Elevation at Abutments 1 & 3	235.0 ft
Average Velocity	7.6 ft/sec

HYDROLOGIC AND HYDRAULIC SUMMARY			
Drainage Area: See "Basin" paragraphs			
	Design Flood	Base Flood	
Frequency	50-year	100-year	
Discharge*	2700 cfs	2700 cfs	
Water Surface Elevation at Bridge**	256.6 ft	256.6 ft	
Flood plain data are based upon information available when the plans were prepared and are shown to meet federal requirements. The accuracy of said information is not warranted by the State and interested or affected parties should make their own investigation.			

* **Design Flood and Base Flood discharges were calculated assuming no backwater effects from the Sacramento River. The 100-year and 50-year discharges are the same because the capacity of Craig Creek is controlling.**

** **Design Flood and Base Flood maximum water surface elevations assume the Sacramento River is flowing at flood stage concurrently. The historic high water elevation exceeds both Q50 and Q100 computations.**

ALL CALCULATED ELEVATIONS IN THIS REPORT ARE BASED ON THE VERTICAL DATUM NAVD88.

Craig Creek
Br. No. 08-0168
02-Teh-99-PM21.13
EA 02-2C1101

This report has been prepared under my direction as the professional engineer in responsible charge of the work, in accordance with the provisions of the Professional Engineers Act of the State of California.

Diane K. O'Brien 5/29/08

REGISTERED CIVIL ENGINEER (SIGNATURE)

REGISTRATION NUMBER C 48483 DATE: May 29, 2008

State of California
DEPARTMENT OF TRANSPORTATION

Business, Transportation and Housing Agency

Memorandum

Flex your power!
Be energy efficient!

To: JOSEPH E. DOWNING
Bridge Design Branch 3
Office of Bridge Design North
Structure Design
Division of Engineering Services MS 9-4/8I

Date: November 5, 2008

File: Craig Creek
Br. No. 08-0168
02-Teh-99-PM21.13
02-2C1101

From: DIANE O'BRIEN, P.E.
Structure Hydraulics and Hydrology – Scour Mitigation
Office of Design and Technical Services

Subject: Revised Minimum Soffit Elevation

The minimum soffit elevation recommended in the Final Hydraulic Report (FHR) dated May 29, 2008 was based on the historic high water elevation. Backwater from the Sacramento River will cause high water at the bridge site above the maximum water surface elevation resulting from Craig Creek discharge alone. The high water elevation, measured in December 11, 1937, is shown on the As-Builts and noted on a 1941 Bridge Inspection Report.

The regulation of the Sacramento River by Shasta Dam beginning in December 1943 significantly changed the flood characteristics of the river below the dam and decreased the 100-year flood on the Sacramento River. The large discharge on the Sacramento River that resulted in the historic high water at the bridge is now greater than the current 100-year flood.

The proposed new bridge had two spans because the structure depth required for a single span could not be accommodated with the minimum soffit elevation originally recommended in the FHR. The Department of Fish and Game, per letter dated September 22, 2008, has numerous objections to bridge piers in the middle of the channel. These comments, in addition to the hydraulic advantages of a single span structure, led to the effort to determine a modern Q100 water surface elevation at the bridge based on current estimates of the 100-year flood on the Sacramento River.

The new calculated minimum soffit elevation was based on the 2002 hydraulic model of the Upper Sacramento River developed by The California State Department of Water Resources, Division of Planning and Local Assistance, Northern District, for the US Army Corps of Engineers' Sacramento and San Joaquin River Basins Comprehensive Study. **The revised minimum soffit elevation that reflects the current regulation of the Sacramento River is Elevation 254.7 feet NAVD88.**

If you have any questions, please call Diane O'Brien at 916-227-0444 or me at 916-227-8018.

Sincerely,

STEVE NG, Branch Chief
Structure Hydraulics and Hydrology

c: Hydraulic File

Memorandum

Flex your power!
Be energy efficient!

To: MR. JOSEPH E. DOWNING
Branch Chief
Bridge Design Branch 3
Office of Bridge Design North

Attention: Mr. Randip Bains

Date: July 1, 2009

File: 02-Teh-99-PM21.13
EA 02-2C1101
Craig Creek Bridge
(Replace)
Br. No. 08-0168

From: **DEPARTMENT OF TRANSPORTATION**
DIVISION OF ENGINEERING SERVICES
GEOTECHNICAL SERVICES – MS 5

Subject: Foundation Report

Per your request, the Office of Geotechnical Design-North (OGD-N) has prepared this Foundation Report for the proposed Craig Creek Bridge replacement (New Bridge No. 08-0168) which is to replace the existing Craig Creek Bridge, Br. No. 08-0014. This report is based on review and evaluation of the existing bridge files, and recent field investigation. The vertical datum used in this report is NAVD88.

Geology

The subject site is located in the northern portion of the Great Valley geomorphic province of California. The Geologic Map of California, Redding Sheet (DMG 1962) scale 1:250,000, indicates the site is underlaid by recent river and major stream channel deposits (Qsc) and recent alluvial fan deposits (Qf), which consist of sand, gravel, silt, and minor clay.

The recent field investigation includes three mud rotary soil test borings. The soil test borings were drilled to depths of approximately 51 feet, 86.5 feet, and 90 feet in the summer of 2008. The shallow soils, to a depth of approximately 20 feet are loose to medium dense silty sand with poorly graded fine-grained sand lenses. Below a depth of approximately 20 feet the soils are well graded, dense to very dense gravel and cobbles with sand. The amount and the size of cobbles generally increases with depth, especially below the depth of 40 feet. The cobbles are fresh, hard to very hard, subrounded-rounded, and derived from various rock types. For detailed soil descriptions, please see the LOTBs.

Seismicity

Based on the Caltrans California Seismic Hazard Map 1996, the controlling fault is the Coast Ranges-Sierran Block Boundary Zone fault (CSB) with a maximum credible earthquake moment magnitude of Mw=7.0 and is located about 44.3 km north of the project site. The Peak Bedrock Acceleration (PBA), based on the Geomatrix 97 attenuation equation is rounded up to be 0.2g. The potential for surface rupture at the site due to fault movement is considered insignificant since there are no known faults projecting towards or passing directly through the project site.

Liquefaction analysis based on the recent geotechnical investigation indicates liquefaction potential should be considered minimal.

Based on the LOTBs, the Caltrans Seismic Design Criteria Acceleration Response Spectrum Curve corresponding to soil profile Type D is recommended for design (Figure 1).

Groundwater

The "As Built" LOTBs for the existing bridge show that groundwater was measured at elevation 237.7 feet on May 24, 1951. Ground water was measured at elevation approximately 242.0 feet in Boring R-08-001 during the 2008 field investigation. Groundwater level may fluctuate with surface water in the creek channel and with other factors.

Scour

Based on the "Final Hydraulics Report" by the Office of Structure Hydraulic & Hydrology dated December 31, 2008, the current thalweg elevation is 237.0 feet and "the long-term degradation over the life of the new structure is estimated to be 3 feet." The report also recommended that "the Abutment 1 and Abutment 2 foundations should be designed for scour to elevation 235.0 feet."

Corrosivity

Due to the granular nature of the subsurface soils and fresh water (not brackish) at the site the foundation materials should be considered to be non-corrosive to construction materials or structural elements.

Foundation Recommendations

Two-foot diameter opened-end steel pipe piles were selected as the foundation elements to support the proposed bridge. The following tables present our foundation pile tip elevation recommendations.

Table 2. Foundation Recommendations for Abutments

Abutment Foundations Recommendations									
Support Location	Pile Type	Cut-off Elevation (ft)	LRFD Service-I Limit State Load per Support (kips)		LRFD Service-I Limit State Total Load (kips) per Pile	Nominal Resistance (kips)	Design Tip Elevations (ft)	Specified Tip Elevation[5] (ft)	Nominal Driving Resistance Required (kips)
			Total	Permanent	Compression				
Abut. 1	CISS NPS 24"x0.5"	250.45	1333	1040	240	480	185.0(a), 200.0(b)	185.0	520
Abut. 2	CISS NPS 24"x0.5"	250.45	1333	1040	240	480	185.0(a), 200.0(b)	185.5	520

Notes:

1) *Design tip elevations are controlled by: (a) Compression, and (b) Lateral Load, respectively.*
2) *Lateral Load controlled tip elevation was provided by Structure Design.*
3) *The specified tip elevation shall not be raised above the design tip elevations for lateral.*
4) *The nominal driving resistance required is equal to the nominal resistance needed to support the factored load plus driving resistance from the unsuitable penetrated soil layers (very soft, liquefiable, scourable, etc.), if any, which do not contribute to the design resistance. Unsuitable soil layers (scourable) that do not contribute to the design nominal resistance at Abutment 1 and 2 extend to elevation 235.0 ft.*

Table 3. Pile Data Table

Pile Data Table						
Support Location	Pile Type	Nominal Resistance (kips)		Design Tip Elevation (ft)	Specified Tip Elevation (ft)	Nominal Driving Resistance (kips)
		Compression	Tension			
Abut. 1	CISS NPS 24"x0.5"	480	0	185.0(a), 200.0(b)	185.0	520
Abut. 2	CISS NPS 24"x0.5"	480	0	185.0(a), 200.0(b)	185.0	520

Notes:

1) *Design tip elevations for Abutments are controlled by: (a) Compression, (b) Lateral Load*
2) *Lateral Load controlled tip elevation was provided by the Structure Design.*
3) *The specified tip elevation shall not be raised above the design tip elevations for lateral.*
4) *Unsuitable soil layers (scourable) that do not contribute to the design nominal resistance at Abutment 1 and 2 extend to elevation 235.0 ft.*

Construction Considerations

1. Groundwater may not be encountered for the abutment footing excavations if the excavations for the foundations occur during the dry season or when the water level in the creek channel is low.

2. Hard driving of the steel pipe piles should be anticipated through the dense to very dense gravel and cobble layers encountered at the site. A steel pipe pile toe protection (driving shoe) is recommended and shall be provided for the installation of all the piles. The outer diameter of the selected driving shoes shall be identical to that of the steel pipe piles.

3. Due to high ground water elevation and the subsurface granular soil nature, equipment or methods used to drill holes in the steel shell shall not cause quick soil conditions.

4. At the Engineer's option, after the lateral tip has been achieved during pile driving, if a steel pipe pile refuses before reaching the specified tip elevation, this Office shall be notified and the piles may be cut off. We consider refusal as when the pile driving resistance reaches at least 3 times nominal resistance based on Caltrans Standard Specifications 49-1.08 Pile Driving Acceptance Criteria (May 2006).

PROJECT INFORMATION

Standard Special Provisions S5-280, "Project Information," discloses to bidders and contractors a list of pertinent information available for their inspection prior to bid opening. The following is an excerpt from SSP S5-280 disclosing information originating from Geotechnical Services. Items listed to be included in the Information Handout will be provided in Acrobat (.pdf) format to the addressee(s) of this report via electronic mail.

Data and information attached with the project plans are:

A. Log of Test Borings for Craig Creek Bridge, Bridge Number 08-0168.

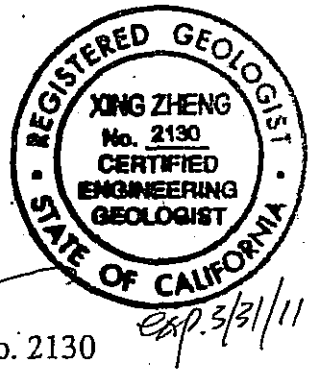
Data and information included in the Information Handout provided to the bidders and contractors are:

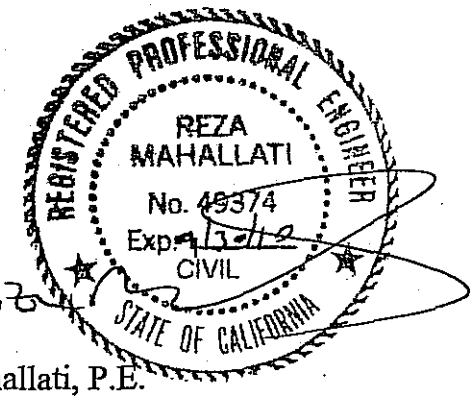
A. Foundation Report for Craig Creek Bridge, Bridge Number 08-0168, dated July 1, 2009.

Data and information available for inspection at the District Office:
None

Data and information available for inspection at the Transportation Laboratory:
None

If you have any questions regarding this report, please contact Xing Zheng at 916-227-1036 or Reza Mahallati at 916-227-1033.





Xing Zheng, C.E.G. No. 2130
Engineering Geologist
Geotechnical Design – North

Reza Mahallati, P.E.
Senior Materials and Research Engineer
Geotechnical Design – North

c: ReidBuell
R.E. Pending
Structure OE (E-copy)
Eskinder Taddese-PCE (E-copy)
Lerose Lane DME (E-copy)
GDN File
GS File Room

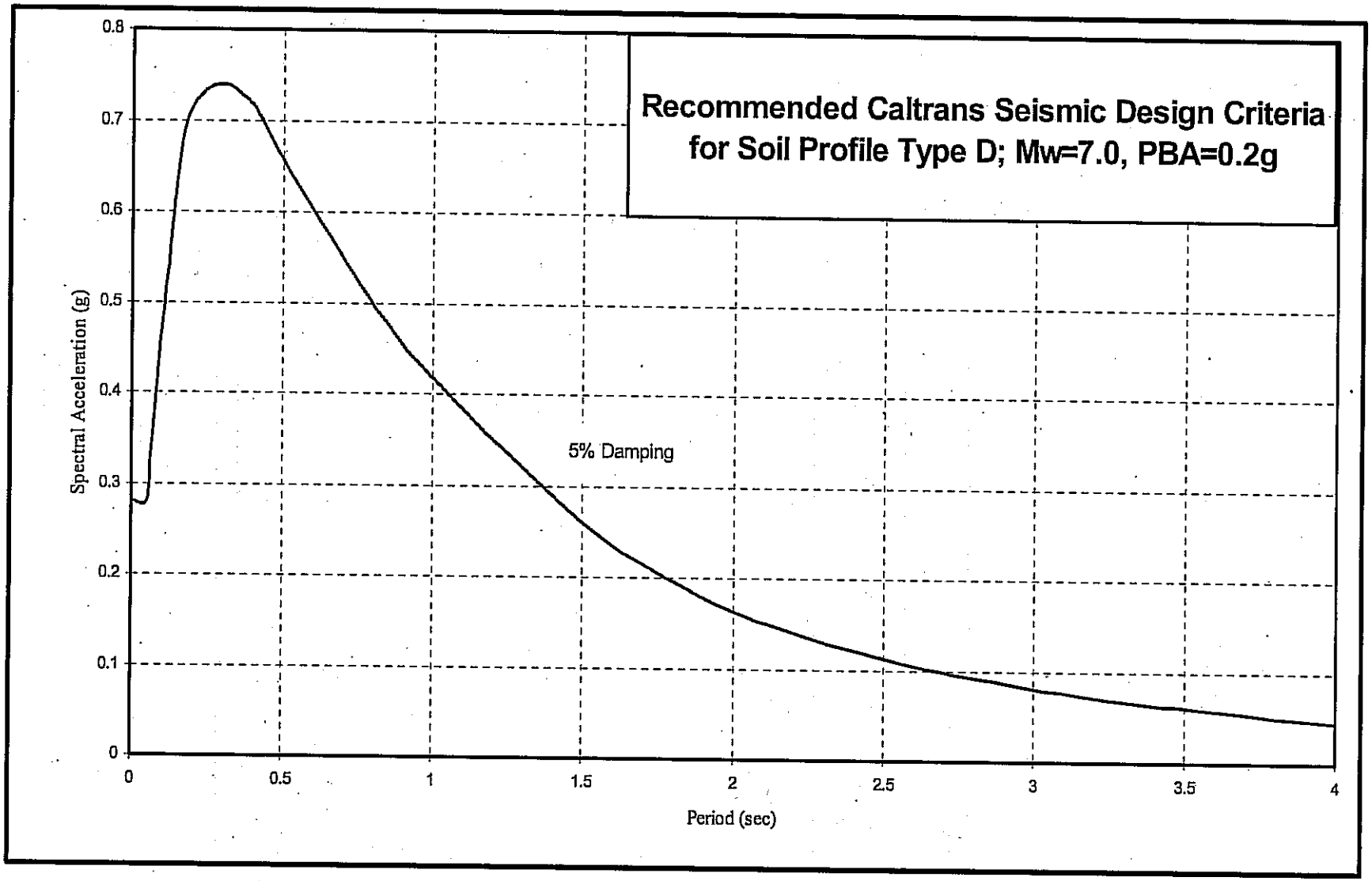


Figure 1. Acceleration Response Spectrum Recommended for Design

State of California Department of Transportation Structure Hydraulics

DIVISION OF STRUCTURES FINAL HYDRAULIC REPORT Revised

Sunset Canal

Located 3.5 miles North of the Town of Los Molinos
on State Route 99 over Sunset Canal in Tehama County

JOB:
Bridge No. 10-0080 Bridge Rehab

LOCATION:
02-Teh-99-15.55

WRITTEN BY:	DATE:
Sharon Ropp	May 19, 2008

REVIEWED BY:	DATE:
Tony Nedwick	May 19, 2008

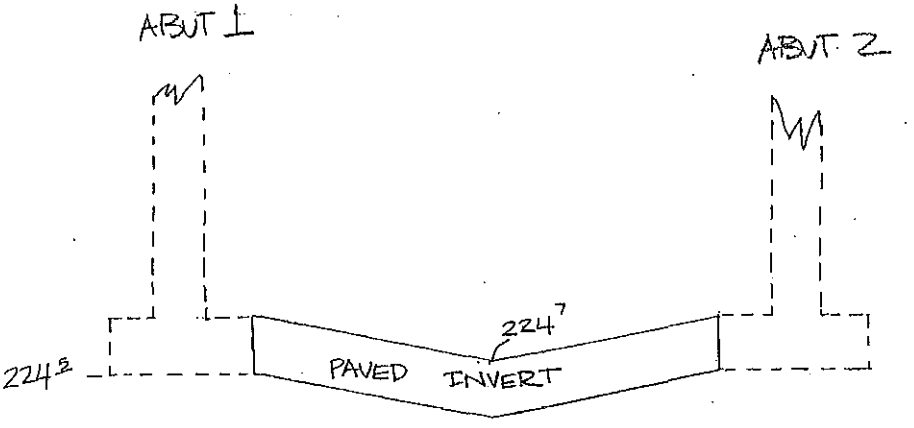
Hydrology/Hydraulics Report

General:

Due to a history of scour at both abutments, this structure, Sunset Canal (Br. No. 08-0010), is considered Scour Critical. The structure is located North of the town of Los Molinos on Route 99 in Tehama County. It was constructed in 1920 and widened on both the upstream and downstream sides in 1952. This single span structure is constructed as a reinforced concrete girder structure with the widened portions being reinforced concrete slabs. The substructure is made up of reinforced concrete strutted abutments on spread footings. According to a field survey taken May 6, 2008, the bottom of footing elevation on both the original portion and the widened portion is 224.5 feet.[iii] The structure is approximately 26 feet long.[i]

Recommendation:

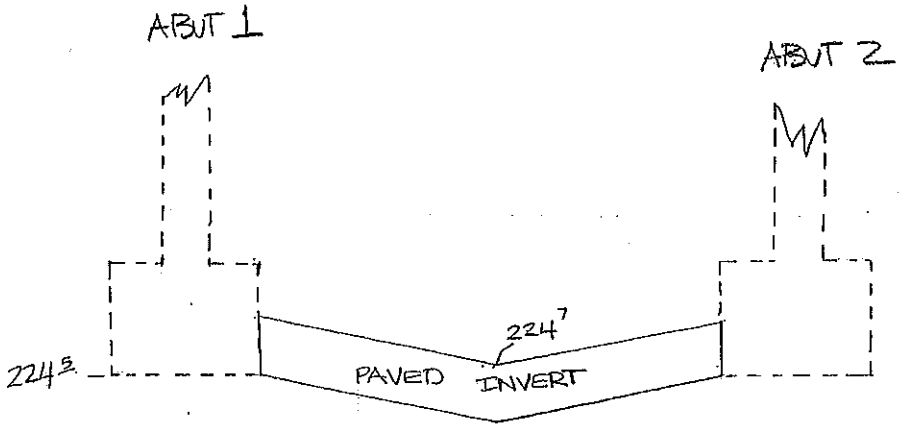
It is recommended to line the channel under this structure with reinforced concrete. This reinforced lining should extend from abutment to abutment and cover the entire length of the channel under the bridge to the end of the wing wall footings. The top of the lining should match the top of the original footing elevation (approximate elevation 225.5 feet[iii]) at the edges. It should slope down to elevation 224.7 feet[iii] in the center of the channel, which is the elevation of the channel thalweg based on the May 11, 2007 channel cross section. The thickness of the invert is to be determined by Structures Design (see Figure One and Figure Two).



Paved Invert at Original Portion of the Bridge

Elevation 224.7 – Notch in paved invert[iii]
Elevation 224.5 – Bottom of footings – original portion[iii]

Figure One



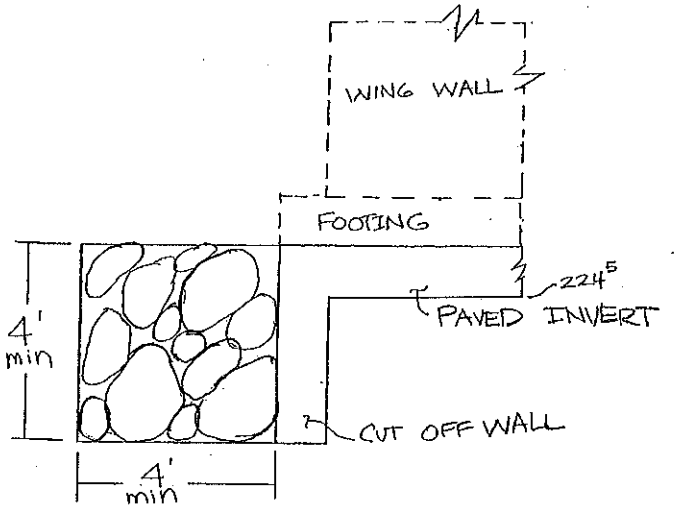
Paved Invert at Widened Portion of the Bridge

Elevation 224.7 – Notch in paved invert[iii]
Elevation 224.5 – Bottom of footings – widened portion[iii]

Figure Two

Recommendation (cont):

Both the upstream and downstream ends of the lining should have a cut off wall that extends at least four feet deep. Well graded, ¼ ton angular rock should be placed next to the cut off walls, to the same depth as the wall, and extending out approximately four feet into the channel, prior to backfilling the excavation site. Reference CalTrans Standard Specifications, section 72, method B placement. (See Figure Three).



Cut Off Wall

Figure Three

Basin:

Sunset Canal is a short tributary that starts at approximately 320 feet elevation in the Rio De Los Molinos area of Tehama County. It crosses under Route 99 at about 230 feet elevation. Sunset Canal then runs west of Route 99 where it eventually feeds into the Sacramento River at approximately 220 feet elevation.[ii] The watershed area above this structure is approximately 3.47 square miles.

Discharge:

The design 50-year and 100-year discharges for the proposed bridge are approximately 600 cfs (cubic feet per second) and 750 cfs, respectively. The 100-year discharge was estimated using the high water mark of 1937. Mannings "n" of 0.065 and a slope of 0.0028 ft/ft were also used in the calculation. The 50-year discharge was derived from the 100-year discharge.

Stage:

The 50-year discharge and 100-year discharge were modeled through the existing bridge site using the BREASE hydraulic modeling program. The peak velocity, average velocity and water surface elevations for the structure are listed below.

SUNSET CANAL BRIDGE		
Watershed Area – 3.47 mi^2		
	50-Year Discharge (600 cfs)	100-Year Discharge (750 cfs)
Average Velocity (upstream of bridge)	4 ft/s	4.4 ft/s
Peak Velocity	4.7 ft/s	5.1 ft/s
Water Surface Elevation w/ Existing Structure[iii]	232.92 ft	233.80 ft
Water Surface Elevation w/ Concrete Lined Invert[iii]	230.04 ft	231.94 ft

Scour:

The existing bridge is considered Scour Critical. Due to the history of abutment footing exposure and channel degradation the bridge foundations have been determined to be unstable. The footing exposure has been noted mainly on the widened portion of the footings from as early as 1965. Placement of RSP (Rock Slope Protection) was recommended at this site in 1965, 1981 and again in 1991. There is no indication that this work was ever done.

The upstream flow impacts the widened portion of Abutment 2 with a hydraulic skew of approximately five degrees. This has caused footing exposure on the upstream widened portion of Abutment 2. The flow then meanders and hits the widened portion of Abutment 1 on the downstream side, also with an approximate hydraulic skew of five degrees, which has caused footing exposure at the widened portion of the downstream end of Abutment 1.

Concrete lining the channel, constructing cut off walls and placing rock in the channel to protect the cut off walls will minimize, or eliminate, the potential for future scour at this location.

Streambed:

According to the "Log of Test Borings" dated September 17, 1951, this site consists of compact sand and clay on top of coarse sand and gravel with some broken rock. The boring was taken to approximately 212 feet elevation. All earth materials at this site are susceptible to scour.

The stream channel is relatively clear of vegetation. The banks upstream and downstream of the structure are heavily vegetated with grasses, shrubs and trees.

Debris:

Debris build up has not been noted to be a problem at this structure in past history.

This report has been prepared under my direction as the professional engineer in responsible charge of the work, in accordance with the provisions of the Professional Engineers Act of the State of California.

Sharon B Ropp

REGISTERED CIVIL ENGINEER SIGNATURE

REGISTRATION NUMBER: C65602 DATE: May 19, 2008

References:

[i] Bridge Report Br. No. 08-0010, dated June 12, 2006.
[ii] The following USGS quadrangle was used in determining the basin information: Los Molinos
[iii] These elevations are based on the As-Built plan elevations plus 2.4 feet to convert to NAVD88 datum.

State of California Business, Transportation and Housing Agency

Memorandum

To: JOE DOWNING
Bridge Design Branch 3
Office of Bridge Design Services
Structures Design

Date: February 26, 2009

File: 02-Teh-99-15.55
Sunset Canal Bridge
Br. No. 08-0010
02-2C1101

From: SHARON B. ROPP, P.E.
Hydraulic/Hydrology Engineer
Structures Hydraulics and Hydrology
Office of Design and Technical Services
DIVISION OF ENGINEERING SERVICES

Subject: Addendum to Final Hydraulics Report for Sunset Canal Bridge

The following is a change to the FHR on the above mentioned project, dated May 19, 2008. This change is due to design change on the project. The draft GP with this change is dated February 10, 2009.

On page 2 of the Final Hydraulics Report, in the "**Recommendation**" section, the fourth sentence should read:

> *"It should slope down to elevation 223.25 feet[iii] in the center of the channel."*

Also on page 2 in Figure One and page 3 in Figure Two, any reference to elevation "224.7" should be changed to elevation "223.25".

If you have any questions or need any further assistance with this project, please contact me at 227-9470.

Memorandum

Flex your power!
Be energy efficient!

To: MR. JOSEPH E. DOWNING
Branch Chief
Bridge Design Branch 3
Office of Bridge Design North

Attention: Mr. Randip Bains

Date: July 1, 2009

File: 02-Teh-99-PM15.55
EA 02-2C1101
Sunset Canal Bridge
(Paved Concrete Liner)
Br. No. 08-0010

From: **DEPARTMENT OF TRANSPORTATION**
DIVISION OF ENGINEERING SERVICES
GEOTECHNICAL SERVICES – MS 5

Subject: Foundation Report

Per your request, the Office of Geotechnical Design-North (OGD-N) has prepared this Foundation Report for the Sunset Canal Bridge (Bridge No. 08-0010) scour mitigation. The proposed scour mitigation is to line the existing channel bed with an 8-inch thick paved concrete liner and construct 4 feet deep cut off walls both upstream and downstream to prevent the abutment spread footings from scour. This report is based on review and evaluation of the existing bridge files.

The bridge is located on State Highway 99, approximately 3.5 miles north of Los Molinos in Tehama County. The existing single span bridge was built in 1920 and widened in 1952. The existing bridge is 26 feet long, approximately 42.5 feet wide.

The vertical datum used in the "As-Built" Plans was NGVD 29 and vertical datum used in current design Plans is NAVD 88. To coincide with current design plans, all elevations used in this report refer to the vertical datum NAVD 88. We converted the NGVD 29 to NAVD 88 by using a conversion factor of +2.4 feet for this report. The conversion factor was provided by your Office.

Geology

The subject site is located in the northern portion of the Great Valley geomorphic province of California. The Geologic Map of California, Redding Sheet (DMG 1962) scale 1:250,000, indicates the site is underlaid by recent river and major stream channel

deposits (Qsc) and recent alluvial fan deposits (Qf), which consist of sand, gravel, silt, and minor clay.

One, 1-inch diameter sample boring was driven to a depth of approximately 12 feet on April 6, 1951. The soil encountered was coarse sand and gravel, and compact sand and clay. Based on the "As-built" Log of Test Boring (LOTB), the granular soils are interpreted to be dense to very dense.

Seismicity

Based on the Caltrans California Seismic Hazard Map 1996, the controlling fault is the Coast Ranges-Sierran Block Boundary Zone fault (CSB) with a maximum credible earthquake moment magnitude of M_w=7.0 and is located about 28.5 miles north of the project site. The Peak Bedrock Acceleration (PBA), based on the Geomatrix 97 attenuation equation is rounded up to be 0.2g. The potential for surface rupture at the site due to fault movement is considered insignificant since there are no known faults projecting towards or passing directly through the project site.

Liquefaction analysis based on the "As-Built" LOTB indicates liquefaction potential should be considered minimal.

Based on the "As-Built" LOTB, the Caltrans Seismic Design Criteria Acceleration Response Spectrum Curve corresponding to soil profile Type D is recommended for design (Figure 1).

Ground water

Ground water depth was not shown in the "As Built" LOTB. In this report, we assume groundwater depth is correlated with water in the canal channel and the cannel channel water elevation may reflect the groundwater depth.

Scour

Based on "Final Hydraulic Report" dated May 19, 2008, Structure Hydraulics identified Sunset Canal Bridge to be scour critical. The report also states that the Abutment spread

footings have been exposed due to channel degradation and the bridge foundations have been determined to be unstable.

Structure Hydraulics recommends scour mitigation by constructing a paved concrete liner with cut off walls and placing rock in the channel. According to the report the proposed scour mitigation will minimize or eliminate the potential future scour to protect the abutment foundations.

Corrosivity

Due to the granular nature of the subsurface soils and fresh water (not brackish) at the site the foundation materials should be considered to be non-corrosive to construction materials or structural elements.

Foundation Recommendations

Based on the "As-Built" LOTB, Table 1 below is our recommended bearing resistance for the proposed concrete liner.

Table 1. Foundation Design Recommendations for Concrete Liner, Bridge No. 08-0010 [1,2]

Support Location	Concrete Liner Size[3] (ft)		Bottom of Concrete Liner Elevation[3] (ft)	Minimum Footing Embedment Depth (ft)	WSD (LRFD Service-I Limit State Load)		LRFD		
							Service	Strength $\varphi = 0.45$	Extreme Event $\varphi = 1.0$
	B	L			Permissible Gross Contact Stress (ksf)	Allowable Gross Bearing Capacity (ksf)	Net Permissible Contact Stress, (ksf)	Factored Gross Nominal Bearing Resistance, (ksf)	Factored Gross Nominal Bearing Resistance, (ksf)
Concrete Liner	See Plan		222.8	N/A	N/A	N/A	2.0	4.5	10.0

Notes:
1) Recommendations are based on the foundation geometry and the load data provided by Structure Design in the Foundation Design Data Sheet. The footing contact area is taken as equal to the effective footing area, where applicable.
2) See MTD 4-1 for definitions and applications of the recommended design parameters.
3) The concrete liner size and bottom of concrete liner elevation should conform to the Construction Plans.

Construction Considerations

1. The Sunset Canal channel within the construction section will be in dry condition during the concrete liner construction. The canal flow will be diverted with pumps and pipes or the canal flow will be shut off entirely.

2. The bottom of the concrete liner should be placed on undisturbed soil and be free of any loose materials prior to placing concrete.

PROJECT INFORMATION

Standard Special Provisions S5-280, "Project Information," discloses to bidders and contractors a list of pertinent information available for their inspection prior to bid opening. The following is an excerpt from SSP S5-280 disclosing information originating from Geotechnical Services. Items listed to be included in the Information Handout will be provided in Acrobat (.pdf) format to the addressee(s) of this report via electronic mail.

Data and information attached with the project plans are:

A. "As-Built" Log of Test Borings for Sunset Canal Bridge, Bridge Number 08-0010.

Data and information included in the Information Handout provided to the bidders and contractors are:

A. Foundation Report for Sunset Canal Bridge, Bridge Number 08-0010, dated July 1, 2009.

Data and information available for inspection at the District Office:

None

Data and information available for inspection at the Transportation Laboratory:

None

If you have any questions regarding this report, please contact Xing Zheng at 227-1036 or Reza Mahallati at 227-1033.

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Xing Zheng, C.E.G. No. 2130 Exp. 3/31/11
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CIVIL
STATE OF CALIFORNIA

Reza Mahallati, P.E.
Senior Materials and Research Engineer
Geotechnical Design – North

c: ReidBuell
R.E. Pending
Structure OE (E-copy)
Eskinder Taddese-PCE (E-copy)
Lerose Lane DME (E-copy)
GDN File
GSFile Room

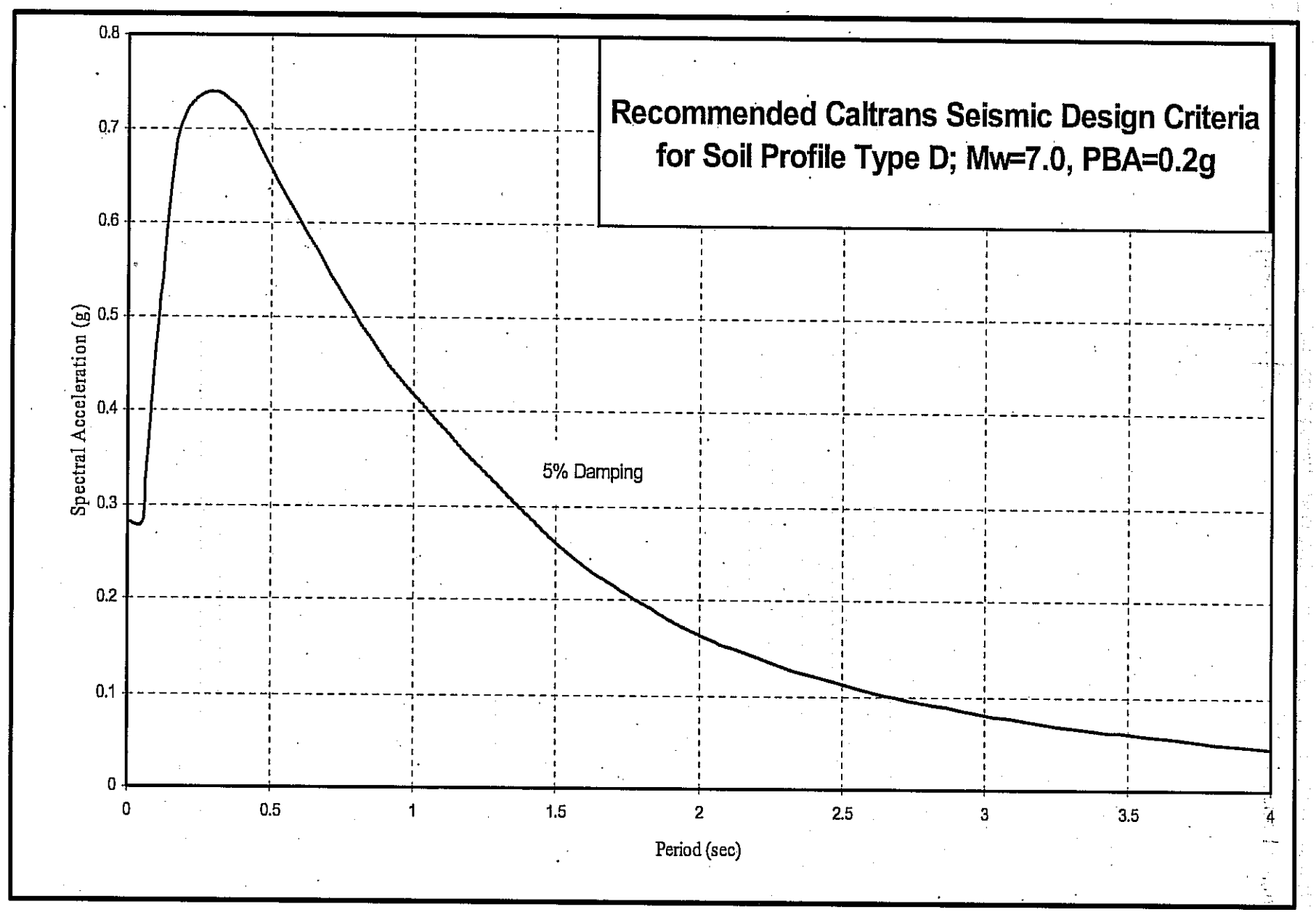

Figure 1. Acceleration Response Spectrum Recommended for Design