

FOR CONTRACT NO.: 10-2A2904

# **INFORMATION HANDOUT**

## **WATER QUALITY**

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
CENTRAL VALLEY REGION

## **PERMITS**

STATE OF CALIFORNIA  
DEPARTMENT OF FISH AND GAME

NOTIFICATION NO. 2009-0214-R4

UNITED STATES ARMY CORPS OF ENGINEERS

## **MATERIALS INFORMATION**

REVISED FINAL FOUNDATION AND SEISMIC REPORT NO 3

**ROUTE: 10-Sta-33-23.4**



Linda S. Adams  
Secretary for  
Environmental  
Protection

# California Regional Water Quality Control Board Central Valley Region

Katherine Hart, Chair

11020 Sun Center Drive #200, Rancho Cordova, California 95670-6114  
Phone (916) 464-3291 • FAX (916) 464-4645  
<http://www.waterboards.ca.gov/centralvalley>



Arnold  
Schwarzenegger  
Governor

30 April 2010

Virginia Strohl  
California Department of Transportation  
2015 E. Shields Avenue, Suite 100  
Fresno, CA 93726-5428

## **CLEAN WATER ACT §401 TECHNICALLY CONDITIONED WATER QUALITY CERTIFICATION AND WASTE DISCHARGE REQUIREMENTS FOR DISCHARGE OF DREDGED AND/OR FILL MATERIALS; INGRAM CREEK BRIDGE REPLACEMENT (WDID#5B50CR00041), STANISLAUS COUNTY**

This order responds to your 14 January 2010 application submittal for Water Quality Certification for a bridge replacement project temporarily impacting approximately 0.0067 acre and permanently impacting approximately 0.0933 acre of waters of the United States.

### **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. This certification is no longer valid if the project (as described) is modified, or coverage under Section 404 of the Clean Water Act has expired.

**California Environmental Protection Agency**

### **ADDITIONAL TECHNICALLY CONDITIONED CERTIFICATION CONDITIONS:**

In addition to the four standard conditions, California Department of Transportation (Caltrans) shall satisfy the following:

1. Caltrans shall notify the Central Valley Water Quality Control Board (Central Valley Water Board) in writing 7 days in advance of the start of any in-water activities.
2. Except for activities permitted by the U.S. Army 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. All areas disturbed by project activities shall be protected from washout or erosion.
4. Caltrans shall maintain a copy of this Certification and supporting documentation (Project Information Sheet) at the Project site during construction for review by site personnel and agencies. All personnel (employees, contractors, and subcontractors) performing work on the proposed project shall be adequately informed and trained regarding the conditions of this Certification.
5. An effective combination of erosion and sediment control Best Management Practices (BMPs) must be implemented and adequately working during all phases of construction.
6. All temporarily affected areas will be restored to pre-construction contours and conditions upon completion of construction activities.
7. Caltrans shall perform surface water sampling: 1) When performing any in-water work; 2) In the event that project activities result in any materials reaching surface waters or; 3) When any activities result in the creation of a visible plume in surface waters. The following monitoring shall be conducted immediately upstream out of the influence of the project and 300 feet downstream of the active work area. Sampling results shall be submitted to this office within two weeks of initiation of sampling and every two weeks thereafter. The sampling frequency may be modified for certain projects with written permission from the Central Valley Water Board.

<b>Parameter</b>	<b>Unit</b>	<b>Type of Sample</b>	<b>Frequency of Sample</b>
Turbidity	NTU	Grab	Every 4 hours during in water work
Settleable Material	ml/l	Grab	Same as above.
Visible construction related pollutants	Observations	Visible Inspections	Continuous throughout the construction period

8. Activities shall not cause turbidity increases in surface water 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. Averaging periods may only be assessed by prior permission of the Central Valley Water Board.

9. 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.
10. The discharge of petroleum products or other excavated materials to surface water is prohibited. Activities shall not cause visible oil, grease, or foam in the work area or downstream. Caltrans shall notify the Central Valley Water Board immediately of any spill of petroleum products or other organic or earthen materials.
11. Caltrans shall notify the Central Valley Water Board immediately if the above criteria for turbidity, settleable matter, oil/grease, or foam are exceeded.
12. Caltrans shall comply with all Department of Fish and Game 1600 requirements for the project.
13. Caltrans must obtain coverage under the NPDES General Permit for Storm Water Discharges Associated with Construction Activities issued by the State Water Resources Control Board for any project disturbing an area of 1 acre or greater.
14. The Conditions in this water quality certification are based on the information in the attached "Project Information." If the information in the attached Project Information is modified or the project changes, this water quality certification is no longer valid until amended by the Central Valley Water Board.
15. All material from the existing bridge must be removed from the site and disposed of properly.
16. Notice of Completion. Caltrans shall provide a Notice of Completion (NOC) no later than 30 days after the project completion. The NOC shall demonstrate that the project has been carried out in accordance with the project's description [and any amendments

approved]. The NOC shall include a map of the project location(s), including final boundaries of any in situ restoration area(s), if appropriate, and representative pre and post construction photographs. Each photograph shall include a descriptive title, date taken, photographic site, and photographic orientation.

17. Raw cement, concrete or washing thereof, asphalt, drilling fluids or lubricants, paint or other coating material, oil or other petroleum products, or any other substances which could be hazardous to fish and wildlife resulting from or disturbed by project-related activities, shall be prevented from contaminating the soil and/or entering "Waters of the United States".
18. When work in a flowing stream is unavoidable, the entire stream flow shall be diverted around or through the work area during the excavation and/or construction operations. Stream flow shall be diverted using gravity flow through temporary culverts/pipe's or pumped around the work site with the use of hoses. When any dam or other artificial obstruction is being constructed, maintained, or placed in operation, sufficient water shall at all times be allowed to pass downstream to maintain aquatic life below the dam pursuant to Fish and Game Code section 5937. Any temporary dam or other artificial obstruction constructed shall only be built from clean materials such as sandbags, gravel bags, water dams, or clean/washed gravel which will cause little or no siltation.
19. Construction, dewatering, and removal of the temporary cofferdam shall not create conditions where the above criteria for turbidity, settleable matter, oil/grease, or foam are exceeded. If water quality criteria are exceeded Caltrans shall notify the Central Valley Water Board immediately.
20. In the event of any violation or threatened violation of the conditions of this Order, the violation or threatened violation shall be subject to any remedies, penalties, process, or sanctions as provided for under State law and section 401 (d) of the federal 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 ensure compliance into this Order.
  - a. If Caltrans or a duly authorized representative of the project fails or refuses to furnish technical or monitoring reports, as required under this Order, or falsifies any information provided in the monitoring reports, the applicant is subject to civil, for each day of violation, or criminal liability.
  - b. In response to a suspected violation of any condition of this Order, the Central Valley Water Board may require Caltrans to furnish, under penalty of perjury, any technical or monitoring reports the Central Valley Water Board deems appropriate, provided that the burden, including cost of the reports, shall be in reasonable relationship to the need for the reports and the benefits to be obtained from the reports.
  - c. Caltrans shall allow the staff(s) of the Central Valley Water Board, or an authorized representative(s), upon the presentation of credentials and other documents, as may be required by law, to enter the project premises for inspection, including taking photographs and securing copies of project-related records, for the purpose of

assuring compliance with this certification and determining the ecological success of the project.

#### **ADDITIONAL STORM WATER QUALITY CONDITIONS:**

Caltrans shall also satisfy the following additional storm water quality conditions:

1. During the construction phase, Caltrans must employ strategies to minimize erosion and the introduction of pollutants into storm water runoff. These strategies must include the following:
  - (a) the Storm Water Pollution Prevention Plan (SWPPP) must be prepared during the project planning and implemented, as appropriate, design phases and before construction;
  - (b) an effective combination of erosion and sediment control Best Management Practices (BMPs) must be implemented and adequately working prior to the rainy season and during all phases of construction.
  
2. Caltrans must minimize the short and long-term impacts on receiving water quality from the Ingram Creek Bridge Replacement by implementing the following post-construction storm water management practices:
  - (a) provide treatment BMPs to reduce pollutants in runoff;
  - (b) ensure existing waters of the State (e.g., wetlands, vernal pools, or creeks) are not used as pollutant source controls and/or treatment controls;
  - (c) preserve and, where possible, create or restore areas that provide important water quality benefits, such as riparian corridors, wetlands, and buffer zones;
  - (d) limit disturbances of natural water bodies and natural drainage systems caused by development (including development of roads, highways, and bridges);

#### **REGIONAL WATER QUALITY CONTROL BOARD CONTACT PERSON:**

Skyler Anderson, Environmental Scientist  
11020 Sun Center Drive #200  
Rancho Cordova, California 95670-6114  
[sanderson@waterboards.ca.gov](mailto:sanderson@waterboards.ca.gov)  
(916) 464-4849

#### **WATER QUALITY CERTIFICATION:**

I hereby issue an order certifying that any discharge from Caltrans, Ingram Creek Bridge Replacement (WDID# 5B50CR00041) 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 Caltrans's project description and the attached Project Information Sheet, and (b) compliance with all applicable requirements of the Regional Water Quality Control Board's Water Quality Control Plan (Basin Plan).



Pamela C. Creedon  
Executive Officer

Enclosure: Project Information

cc: See enclosure, page 9

## PROJECT INFORMATION

**Application Date:** 14 January 2010

**Applicant:** Virginia Strohl  
California Department of Transportation  
2015 E. Shields Avenue, Suite 100  
Fresno, CA 93726-5428

**Project Name:** Ingram Creek Bridge Replacement

**Application Number:** WDID# 5B50CR00041

**U.S. Army Corps File Number:** None - Nationwide permit #14 "non-reporting"

**Type of Project:** Bridge replacement

**Project Location:** Section 18, Township 4 South, Range 7 East, MDB&M.  
Latitude: 37.588828° and Longitude: -121.242217°

**County:** Stanislaus County

**Receiving Water(s) (hydrologic unit):** Ingram Creek, San Joaquin Hydrologic Basin, San Joaquin Valley Floor Hydrologic Unit #535.30, Riverbank HA

**Water Body Type:** Streambed

**Designated Beneficial Uses:** The Basin Plan for the Sacramento and San Joaquin River Basin has designated beneficial uses for surface and ground waters within the region. Beneficial uses that could be impacted by the project include: Municipal and Domestic Water Supply (MUN); Agricultural Supply (AGR); Industrial Supply (IND); Hydropower Generation (POW); Groundwater Recharge, Water Contact Recreation (REC-1); Non-Contact Water Recreation (REC-2); Warm Freshwater Habitat (WARM); Cold Freshwater Habitat (COLD); and Wildlife Habitat (WILD).

**Project Description (purpose/goal):** Caltrans proposes to replace the existing Ingram Creek Bridge. The project is located in a rural area west of the City of Modesto. Land use surrounding the project site consists only of agriculture fields. Ingram Creek does not flow a natural route, but is often re-routed through agriculture canals.

The proposed project will include replacing the entire Ingram Creek Bridge (35.5 feet long by 40 feet wide) with a clear span bridge (44 feet long by 43 feet wide). The project will require the removal of the existing bridge abutments and center support structure resulting in a net gain of undisturbed waterway within a water of the United States.

On the west side of the creek, the existing levee access roads will be realigned to accommodate the new bridge. An existing culvert will be replaced, reinforced and extended. The culvert will channel flow from the existing roadside ditch, under the new access road and into the west side of the creek. Additionally, two new culverts will be installed along the

roadside to channel storm water from the roadway into the east side of the creek. Reinforced slope protection will be installed at all three culvert locations along the creek.

Work will occur during the dry season from April to October; however agriculture irrigation will likely be present at times. Agriculture runoff in the creek will be diverted around the other side of the highway with a type of coffer dam or downstream berm system with flexible pipe funneling water through the work area.

A total of 85.4 linear feet (0.0067 acre) of permanent impacts will occur as a result of pile driving, abutment replacement and culvert work. Temporary impacts to 173.6 linear feet of the channel (0.0933 acre) will occur due to construction easements for staging and equipment and culvert work.

**Preliminary Water Quality Concerns:** Construction activities may impact surface water with increased turbidity and settleable matter.

**Proposed Mitigation to Address Concerns:** Caltrans will implement Best Management Practices (BMPs) to control sedimentation and erosion. All temporary affected areas will be restored to pre-construction contours and conditions upon completion of construction activities. Caltrans will conduct turbidity and settleable matter testing during in-water work, stopping work if Basin Plan criteria are exceeded or are observed.

**Fill/Excavation Area:** Approximately 15.5 cubic yards of fill material will be used. It will consist of concrete pipe and rock material.

**Dredge Volume:** None

**U.S. Army Corps of Engineers Permit Number:** Nationwide Permit #14

**Department of Fish and Game Streambed Alteration Agreement:** Caltrans applied for a Streambed Alteration Agreement on 21 December 2009.

**Possible Listed Species:** Western burrowing owl, ferruginous hawk, Swainson's hawk, mountain plover, greater sandhill crane, Lewis' woodpecker. Ingram creek is not considered suitable habitat for any special-status fish; however, the creek eventually empties into the San Joaquin River where special-status are known to be present.

**Status of CEQA Compliance:** Caltrans approved the categorical exemption for this project on 31 December 2009. The project qualifies for a categorical exemption under title 14, chapter 3, article 19, section 15301 (d) of the California Code of Regulations, which exempts; Restoration or rehabilitation of deteriorated or damaged structures, facilities, or mechanical equipment to meet current standards of public health and safety.

**Compensatory Mitigation:** None

**Application Fee Provided:** Total fees of \$2,298.00 have been submitted to the Central Valley Water Board as required by 23 CCR §3833b (3) (A) and by 23 CCR §2200(e).

## DISTRIBUTION LIST

U.S. Army Corp of Engineers  
Sacramento District Office  
Regulatory Section, Room 1480  
1325 J Street  
Sacramento, CA 95814-2922

Dave Smith  
Wetlands Section Chief (W-3)  
United States Environmental Protection Agency  
75 Hawthorne Street  
San Francisco, CA 94105

United States Fish & Wildlife Service  
Sacramento Fish & Wildlife Office  
2800 Cottage Way  
Sacramento, CA 95825

Jeff Drongesen  
Department of Fish and Game  
1701 Nimbus Road, Suite A  
Rancho Cordova, CA 95670

Bill Orme  
State Water Resources Control Board  
401 Certification and Wetlands Unit Chief  
P.O. Box 100  
Sacramento, CA 95814

Bill Jennings  
CA Sportfishing Protection Alliance  
3536 Rainier Avenue  
Stockton, CA 95204



California Natural Resources Agency  
DEPARTMENT OF FISH AND GAME  
Central Region  
1234 East Shaw Avenue  
Fresno, California 93710  
(559) 243-4005  
<http://www.dfg.ca.gov>

ARNOLD SCHWARZENEGGER, Governor  
JOHN McCAMMAN, Director



February 1, 2010

Virginia Strohl  
California Department of Transportation  
2015 East Shields Avenue, Suite 100  
Fresno, California 93726

Subject: Final Lake or Streambed Alteration Agreement  
Notification No. 2009-0214-R4  
Ingram Creek - Stanislaus County  
SR 33 Ingram Creek Bridge Replacement Project  
STA 33 PM 23.4 EA 10- 2A2901

Dear Ms. Strohl:

Enclosed is the final Streambed Alteration Agreement ("Agreement") for the Ingram Creek Bridge Replacement Project ("Project"). Before the Department may issue an Agreement, it must comply with the California Environmental Quality Act ("CEQA"). In this case, the Department, acting as a Responsible Agency, determined your Project is exempt from CEQA and will file a Notice of Exemption ("NOE").

Under CEQA, filing an NOE starts a 35-day period within which a party may challenge the filing agency's approval of the Project. You may begin your Project before the 35-day period expires if you have obtained all necessary local, State, and Federal permits or other authorizations. However, if you elect to do so, it will be at your own risk.

If you have any questions regarding this matter, please contact Laura Peterson-Diaz, Environmental Scientist, at (559) 243-4014, extension 225, or [lpdiaz@dfg.ca.gov](mailto:lpdiaz@dfg.ca.gov).

Sincerely,

Jeffrey R. Single, Ph.D.  
Regional Manager

Enclosures

cc: Laura Peterson-Diaz  
Department of Fish and Game

*Conserving California's Wildlife Since 1870*

## NOTICE OF EXEMPTION

**To:** Office of Planning and Research  
Post Office Box 3044  
Sacramento, California 95812-3044

**From:** California Department of Fish and Game  
Central Region  
1234 East Shaw Avenue  
Fresno, California 93710

County Clerk  
County of Stanislaus

**Project Title:** Agreement 2009-0214-R4; Ingram Creek Bridge Replacement.

**Project Location (Specific):** The work authorized by this Agreement will occur on SR 33 at Post Miles 23.43 Ingram Creek; in Section 18, Township 4 South, Range 7 East, MDB&M.

**Project Location (City and County):** Stanislaus County

**Description of Project:** The proposed Project will replace the existing Ingram Creek Bridge (35.5 feet long by 40 feet wide) with a clear span bridge (44 feet long by 42 feet 10 inches wide). This will require removal of the existing bridge abutments and the existing center bent, realignment of the existing levee access roads, extending an existing 24-inch culvert which flows from an existing roadside ditch, under the levee access road and into the creek and placing rock slope protection (RSP) (12 feet x 6 feet) at the outlet. In order to meet current storm water standards, two new 18-inch concrete pipes will be installed along either side of the road to channel storm water from the "V" ditches which collect runoff from the roadway before the water is allowed to enter the creek. RSP (9 feet by 4.5 feet) will be placed at the outlet of each culvert to prevent erosion.

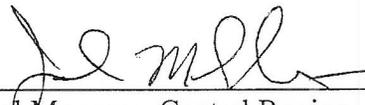
**Name of Public Agency Approving Project:** California Department of Fish and Game (Central Region)

**Name of Agency Carrying Out Project:** California Department of Transportation

**Exempt Status (Class and Guidelines Section):** Categorically Exempt under Section 15301 Class 1(d) - Restoration or rehabilitation of deteriorated or damaged structures, facilities, or mechanical equipment to meet current standards of public health and safety.

**Reasons Why Project is Exempt:** The project meets the Class 1(d) Exemption because it consists of the replacing an already existing structure (Ingram Creek bridge) involving no expansion of purpose or capacity beyond that which was existing at the time of determination.

**Lead Agency Contact Person:** Laura Peterson-Diaz **Phone:** (559) 243-4017, ext.225

**Signature:**   
**Title:** Regional Manager, Central Region

**Date:** 2/3/10

**Date received for filing at OPR:** \_\_\_\_\_

# AGREEMENT



**California Fish and Game Code Section 1602  
Stream Alteration Agreement No. 2009-0214-R4  
California Department of Transportation  
Ingram Creek - Stanislaus County  
SR 33 Ingram Creek Bridge Replacement Project  
STA 33 PM 23.4 EA 10- 2A2901**

**Parties:**

**California Department of Fish and Game  
Central Region  
1234 East Shaw Avenue  
Fresno, California 93710**

**California Department of Transportation  
Virginia Strohl  
2015 East Shields Avenue, Suite 100  
Fresno, California 93726**

**1 WHEREAS:**

2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22

1. Ms. Dena Gonzalez, representing the California Department of Transportation (referred to as "Caltrans") on December 22, 2009, notified ("Notification" No. 2009-0214-R4) the Department of Fish and Game ("Department") of their intent to divert or obstruct the natural flow of, or change the bed or banks of, or use materials from Ingram Creek in Stanislaus County, waters over which the Department asserts jurisdiction pursuant to Division 2, Chapter 6 of the California Fish and Game Code.
2. Caltrans may not commence any activity that is subject to Fish and Game Code Sections 1600 et seq., until the Department has found that such Project shall not substantially adversely affect an existing fish or wildlife resource or until the Department's proposals, or the decisions of a panel of arbitrators, have been incorporated into such projects.
3. Fish and Game Code Sections 1600 et seq., make provisions for the negotiation of agreements regarding the delineation and definition of appropriate activities, Project modifications and/or specific measures necessary to protect fish and wildlife resources.
4. The Department has determined that without the protective features identified in this Agreement, the activities proposed in the Notification could substantially adversely affect fish and wildlife.

Agreement No. 2009-0214-R4  
Department of Transportation  
Ingram Creek - Stanislaus County

1 **NOW THEREFORE, IT IS AGREED THAT:**

2  
3 1. The receipt of this document ("Agreement"), by Caltrans, satisfies the  
4 Department's requirement to notify Caltrans of the existence of an existing fish and  
5 wildlife resource that may be substantially adversely affected by the Project that is  
6 described in the Notification.

7  
8 2. The contents of this Agreement constitute the Department's proposals as to  
9 measures necessary to protect fish and wildlife resources, and satisfy the Department's  
10 requirement to submit these proposals to Caltrans.

11  
12 3. The signature of Caltrans' representative on this Agreement constitutes Caltrans'  
13 commitment to incorporate the Department's proposals into the Project that is described  
14 in the Notification.

15  
16 4. This Agreement does not exempt Caltrans from complying with all other applicable  
17 local, State and Federal law, or other legal obligations.

18  
19 5. This Agreement, alone, does not constitute or imply the approval or endorsement  
20 of a Project, or of specific Project features, by the Department, beyond the  
21 Department's limited scope of responsibility, established by Fish and Game Code  
22 Sections 1600 et seq. This Agreement does not therefore assure concurrence, by the  
23 Department, with the issuance of permits from this or any other agency. Independent  
24 review and recommendations shall be provided by the Department as appropriate on  
25 those projects where local, State, or Federal permits, or environmental reports are  
26 required.

27  
28 6. This Agreement does not authorize the "take" (defined in Fish and Game Code  
29 Section 86 as hunt, pursue, catch, capture, or kill; or attempt to hunt, pursue, catch,  
30 capture, or kill) of State-listed threatened or endangered species. If the Operator, in the  
31 performance of the agreed work, discovers the presence of a listed species in the  
32 Project work area, work shall stop immediately. Caltrans shall not resume activities  
33 authorized by this Agreement until such time as valid "take" permits are obtained from  
34 the Department, pursuant to Fish and Game Code Sections 2081(a) and 2081(b), as  
35 appropriate.

36  
37 7. To the extent that the Provisions of this Agreement provide for the diversion of  
38 water, they are agreed to with the understanding that Caltrans possesses the legal right  
39 to so divert such water.

40  
41 8. To the extent that the Provisions of this Agreement provide for activities that  
42 require Caltrans to trespass on another owner's property, they are agreed to with the  
43 understanding that Caltrans possesses the legal right to so trespass.

- 1 9. To the extent that the Provisions of this Agreement provide for activities that are  
2 subject to the authority of other public agencies, said activities are agreed to with the  
3 understanding that all appropriate permits and authorizations shall be obtained prior to  
4 commencing agreed activities.  
5
- 6 10. All Provisions of this Agreement remain in force throughout the term of the  
7 Agreement. Any Provision of the Agreement may be amended at any time, provided  
8 such amendment is agreed to in writing by both parties. Mutually approved  
9 amendments become part of the original Agreement and are subject to all previously  
10 negotiated Provisions. The Agreement may be terminated by either party, subject to  
11 30 days written notification.  
12
- 13 11. Caltrans shall provide a copy of the Agreement to the Project supervisors and all  
14 contractors and subcontractors. Copies of the Agreement shall be available at work  
15 sites during all periods of active work and shall be presented to Department personnel  
16 upon demand.  
17
- 18 12. Caltrans agrees to provide the Department access to the Project site at any time to  
19 ensure compliance with the terms, conditions, and Provisions of this Agreement.  
20
- 21 13. Caltrans and any contractor or subcontractor, working on activities covered by this  
22 Agreement, are jointly and separately liable for compliance with the Provisions of this  
23 Agreement. Any violation of the Provisions of this Agreement is cause to stop all work  
24 immediately until the problem is reconciled. Failure to comply with the Provisions and  
25 requirements of this Agreement may result in prosecution.  
26
- 27 14. Caltrans assumes responsibility for the restoration of any fish and wildlife habitat  
28 which may be impaired or damaged either directly or, incidental to the Project, as a  
29 result of failure to properly implement or complete the mitigation features of this  
30 Agreement, or from activities which were not included in the Caltrans' Notification.  
31
- 32 15. It is understood that the Department enters into this Agreement for purposes of  
33 establishing protective features for fish and wildlife, in the event that a Project is  
34 implemented. The decision to proceed with the Project is the sole responsibility of  
35 Caltrans, and is not required by this Agreement. It is agreed that all liability and/or  
36 incurred costs, related to or arising out of Caltrans' Project and the fish and wildlife  
37 protective conditions of this Agreement, remain the sole responsibility of Caltrans.  
38 Caltrans agrees to hold harmless and defend the Department against any related claim  
39 made by any party or parties for personal injury or other damage.  
40
- 41 16. The terms, conditions, and Provisions contained herein constitute the limit of  
42 activities agreed to and resolved by this Agreement. The signing of this Agreement  
43 does not imply that Caltrans is precluded from doing other activities at the site.  
44 However, activities not specifically agreed to and resolved by this Agreement are  
45 subject to separate notification, pursuant to Fish and Game Code Sections 1600 et seq.

1  
2 **California Environmental Quality Act (CEQA) Compliance:** In approving this  
3 Agreement, the Department is independently required to assess the applicability of  
4 CEQA. The features of this Agreement shall be considered as part of the overall  
5 Project description. Caltrans' concurrence signature on this Agreement serves as  
6 confirmation to the Department that the activities that shall be conducted under the  
7 terms of this Agreement are consistent with the Project described in Notification  
8 No. 2009-0214-R4. Caltrans filed a Categorical Exemption with the State  
9 Clearinghouse on December 1, 2009.

10  
11 The Department, as a CEQA Responsible Agency, shall make findings and submit a  
12 Notice of Determination to the State Clearinghouse upon signing this Agreement.

13  
14 This Agreement contains a Monitoring and Reporting Program (MRP), to incorporate  
15 monitoring and reporting requirements for the activities authorized in this Agreement.

16  
17 **Project Location:** The work authorized by this Agreement will occur on State Route  
18 (SR) 33 where it crosses Ingram Creek at Post Mile (PM) 23.4 in Section 18 of  
19 Township 4 South, Range 7 East in Stanislaus County (**Figure 1**).

20  
21 **Project Description:** Caltrans' Notification includes Fish and Game Notification Form  
22 FG2023 and construction plans. The Notification comprises Caltrans' Project  
23 description, and it is used as the basis for establishing the protective Provisions that are  
24 included in this Agreement. Any changes or additions to the Project as described in the  
25 Notification shall require additional consultation and protective Provisions. The  
26 Department's concurrence with Caltrans' CEQA Determination is based upon Caltrans'  
27 commitment to full implementation of the Provisions of this Agreement. Caltrans has  
28 proposed the following scope of work. The bulleted items comprise the activities  
29 authorized by this Agreement.

- 30  
31 • The replacement of the existing Ingram Creek Bridge (35.5 feet long by 40 feet  
32 wide) with a clear span bridge (44 feet long by 42 feet 10 inches wide). This will  
33 require removal of the existing bridge abutments and the existing center bent.  
34 Minimal clearing and grubbing will be required to realign the existing levee access  
35 roads. During construction traffic will be metered through the jobsite one direction  
36 at a time. One existing utility pole will be replaced with two new utility poles to be  
37 installed within Caltrans right-of-way on the west side of the Project.
- 38  
39 • An existing culvert, which flows into the southwest side of the creek, will be  
40 replaced. The current 24 inch by 43.6-foot culvert would be replaced with a  
41 24 inch by 114-foot reinforced concrete pipe slightly to the north of its current  
42 position. This new culvert will channel flow from an existing roadside ditch, under  
43 the new access road and into the creek. Rock slope protection (RSP) (12 feet by  
44 6 feet) will be placed at the outlet.

**Figure 1**  
 Department of Fish and Game  
 Conservation Planning GIS  
 Central Region  
 USGS Quad



- 1 • In order to meet current storm water standards, two new 18-inch concrete pipes  
2 will be installed along either side of the road to channel storm water from the "V"  
3 ditches which collect runoff from the roadway before the water is allowed to enter  
4 the creek. RSP (9 feet x 4.5 feet) will be placed at the outlet of each culvert.  
5

6 **Plant and Animal Species of Concern:** This Agreement is intended to avoid,  
7 minimize, and mitigate adverse impacts to the fish and wildlife resources that occupy  
8 the area of Ingram Creek and the immediate adjacent riparian habitat. The protective  
9 measures described in this Agreement must be implemented in order to avoid impacts,  
10 within the area covered by this Agreement, to the following species: Species of Special  
11 Concern burrowing owl (*Athene cunicularia*) and tricolored blackbird (*Agelaius tricolor*)  
12 as well as the other birds, mammals, fish, reptiles, amphibians, invertebrates, and  
13 plants that comprise the local riparian ecosystem. Departmental files contain lists of  
14 species that could be subject to potential generated impacts from this Project.  
15

## 16 PROVISIONS:

### 17 General

18  
19  
20 1. The Notification, together with all supporting documents, is hereby incorporated  
21 into this Agreement to describe the location and features of the proposed Project.  
22 Caltrans agrees that all work shall be done as described in the Notification and  
23 supporting documents, incorporating all wildlife resource protection features, mitigation  
24 measures, and Provisions as described in this Agreement. Caltrans further agrees to  
25 notify the Department of any modifications that need to be made to the Project plans  
26 submitted to the Department. At the discretion of the Department, modifications may  
27 be deemed minor, requiring an amendment to this Agreement, or substantial, requiring  
28 the submission of a new notification application. If the latter is the case, this Agreement  
29 becomes null and void. Failure to notify the Department of changes to the original  
30 plans or subsequent amendments to this Agreement may result in the Department  
31 suspending or canceling this Agreement.  
32

33 2. Before the start of construction/work activities covered under this Agreement, all  
34 workers shall have received training from Caltrans' staff, or approved alternate trainer,  
35 on the content of this Agreement, the resources at stake, and the legal consequences  
36 of non-compliance.  
37

38 3. When known, prior to beginning work, Caltrans shall provide a construction/work  
39 schedule to the Department (fax to Laura Peterson-Diaz, Environmental Scientist, at  
40 (559) 243-4020). Please reference the Agreement number. Caltrans shall also notify  
41 the Department upon the completion of the activities covered by this Agreement.  
42

43 4. Agreed activities within the bed, bank, or channel may commence any time after  
44 the Department has signed this Agreement. This Agreement shall remain in effect for  
45 five (5) years beginning on the date signed by the Department. If the Project is not

1 completed prior to the expiration date defined above, Caltrans shall contact the  
2 Department to negotiate a new expiration date and any new requirements.

3  
4 Flagging/Fencing

5  
6 5. Within the riparian corridor, Caltrans shall identify the upstream and downstream  
7 limits of the minimum work area required, access routes, the Project footprint, plus all  
8 Environmentally Sensitive Areas (ESA). These boundaries shall be defined by the  
9 Caltrans' Project engineer and biologist and flagged/fenced prior to the beginning of  
10 construction. These limits shall not extend beyond Caltrans' right-of-way and/or the  
11 construction easement, and shall be confined to the minimal area needed to  
12 accomplish the proposed work. Flagging/fencing shall be maintained in good repair for  
13 the duration of the Project.

14  
15 Wildlife

16  
17 6. An approved biologist shall perform general wildlife surveys of the Project area  
18 (including access routes and storage areas) prior to Project construction start with  
19 particular attention to evidence of the presence of the species listed above and shall  
20 report any possible adverse affect to fish and wildlife resources not originally reported.  
21 If the survey shows presence of any wildlife species which could be impacted, Caltrans  
22 shall contact the Department and mitigation, specific to each incident, shall be  
23 developed. If any State- or Federal-listed threatened or endangered species are found  
24 within the proposed work area or could be impacted by the work proposed, a new  
25 Agreement and/or a 2081(b) State Incidental Take Permit may be necessary and a new  
26 CEQA analysis may need to be conducted, before work can begin.

27  
28 7. If work is done between March 1 and September 1, then in order to protect nesting  
29 birds, Caltrans' biologist shall make a survey for nesting activity in and adjacent to the  
30 defined "work area", before construction begins. If any nesting activity is observed,  
31 (including cavity nesting), the nests and trees shall not be damaged or removed until  
32 the young have fledged and left the nest. Caltrans shall obtain Department approval  
33 prior to damaging or removing nesting trees.

34  
35 8. Burrowing owls: If any ground-disturbing activities will occur during the burrowing  
36 owl nesting season (approximately February 1 through August 31), the Department  
37 recommends that a pre-construction site survey be conducted by a qualified biologist  
38 no more than 30 days before the onset of any ground-disturbing activities. If signs  
39 (i.e., pellets, feathers, tracks, or scat) of burrowing owls are observed at burrow  
40 entrances within 300 feet of the defined work area, a qualified biologist shall perform a  
41 Phase III Burrowing Owl Survey, as described in the 1997 California Burrowing Owl  
42 Consortium's Survey Protocol and Mitigation Guidelines.

43  
44 Occupied burrows shall be avoided by implementation of a no-construction buffer zone  
45 of a minimum distance of 250 feet, unless a qualified biologist approved by the

1 Department verifies through non-invasive methods that either: 1) the birds have not  
2 begun egg laying and incubation; or 2) that juveniles from the occupied burrows are  
3 foraging independently and are capable of independent survival. Failure to implement  
4 this buffer zone could cause adult burrowing owls to abandon the nest, cause eggs or  
5 young to be directly impacted (crushed), and/or result in reproductive failure.

6  
7 If burrowing owls occupy the site, during the non-breeding season, a passive relocation  
8 effort may be instituted.

9  
10 9. Swallows: If Caltrans cannot avoid work on the bridges where there is the  
11 potential it would disturb nesting swallows (February 15 through August 15), then prior  
12 to February 1, of each year, Caltrans shall remove all existing inactive nests which  
13 would be destroyed by the Project. Caltrans shall continue to discourage new nest  
14 building in places where they would be disturbed, using methods developed in  
15 consultation with the Caltrans District Biologist and the Department. Prior to nesting  
16 season, a swallow exclusion device, with visual warnings for the birds to prevent  
17 entanglement, must be installed. Where disturbance shall occur, nesting must be  
18 discouraged throughout the nesting season.

19  
20 10. Bats: No bats shall be disturbed without specific notice to and consultation with  
21 the Department. Pre-construction surveys by a qualified biologist shall be performed to  
22 determine if bat species are utilizing the bridge for roosting. If bats are using the  
23 existing bridge as a roosting site, exclusion of these bats shall take place a minimum of  
24 four (4) weeks prior to construction. If after four (4) weeks exclusion measures are  
25 unsuccessful and bat species still utilize the bridge for roosting, Caltrans shall contact  
26 the Department and mitigation shall be developed in consultation with the Department.

27  
28 11. If any wildlife is encountered during the course of construction, said wildlife shall  
29 be allowed to leave the construction area unharmed.

30  
31 Vegetation

32  
33 12. For this Project, no riparian trees or shrubs with trunks greater than or equal to  
34 four (4) inches in diameter at breast height (DBH) will be removed. One willow with a  
35 1.5-inch DBH and some ruderal vegetation will be removed. The amount cut shall not  
36 exceed the minimum necessary to complete the Project. Precautions shall be taken to  
37 avoid any other damage to vegetation by people or equipment for the duration of the  
38 Project.

39  
40 Vehicles

41  
42 13. Construction vehicles and equipment will need access to the stream banks and  
43 bed for this Project. All other areas adjacent to the work site shall be considered an  
44 ESA and shall remain off-limits to construction equipment.

45

1 Pollution

2  
3 14. Caltrans and all contractors and subcontractors shall be subject to the pollution  
4 protective and other features of Department of Transportation Standard Specifications  
5 Section 7-1.01G and Fish and Game Code Sections 5650 and 12015.

6  
7 15. Staging and storage areas for equipment, materials, fuels, lubricants, and solvents  
8 shall be located outside of the stream channel and banks. Any equipment or vehicles  
9 driven and/or operated within or adjacent to the channel shall be checked and  
10 maintained daily to prevent leaks of materials that, if introduced to water, could be  
11 deleterious to aquatic life. If a spill should occur, cleanup shall begin immediately. The  
12 Department shall be notified as soon as possible by Caltrans and shall be consulted  
13 regarding further cleanup procedures.

14  
15 16. Raw cement, concrete or washings thereof, asphalt, paint or other coating  
16 material, oil or other petroleum products, or any other substances which could be  
17 hazardous to fish or wildlife resulting from or disturbed by Project-related activities, shall  
18 be prevented from contaminating the soil and/or entering the stream channel.

19  
20 Erosion

21  
22 17. All disturbed soils shall be stabilized to reduce erosion potential, both during and  
23 following construction. Erosion control Best Management Practices (BMPs) shall be  
24 applied to all disturbed areas.

25  
26 Fill/Spoil

27  
28 18. Rock, gravel, and/or other materials shall not be imported into or moved within the  
29 stream, except as otherwise addressed in this Agreement. Only on-site materials and  
30 clean imported fill shall be used to complete the Project. Fill shall be limited to the  
31 minimal amount necessary to accomplish the agreed activities. Excess and temporary  
32 fill material shall be moved off-site at Project completion.

33  
34 19. Spoil storage sites shall not be located within the stream, or where spoil could be  
35 washed into the stream, or where it shall cover vegetation.

36  
37 Restoration

38  
39 20. Excess material must be removed from the Project site, pursuant to Department of  
40 Transportation Standard Specifications Section 7-1.13.

41  
42 21. Caltrans shall make the final contour of the site match the adjacent slope of the  
43 land and provide the appropriate surface water drainage. All areas subject to  
44 temporary ground disturbance, including storage and staging areas, temporary roads,  
45 pipeline corridors, etc., shall be recontoured, if necessary, and revegetated to promote  
46 restoration of the area.

1 22. At the discretion of the Department, all exposed areas where seeding is  
2 considered unsuccessful after 90 days shall receive appropriate soil preparation and a  
3 second application of seeding, straw, or mulch as soon as is practical on a date  
4 mutually agreed upon.

5  
6 **MONITORING AND REPORTING PROGRAM (MRP):**

7  
8 PURPOSE

9  
10 The purpose of the MRP is to ensure that the protective measures required by the  
11 Department are properly implemented, and to monitor the effectiveness of those  
12 measures.

13  
14 OBLIGATIONS OF THE OPERATOR

15  
16 Caltrans shall have primary responsibility for monitoring compliance with all protective  
17 measures included as "Provisions" in this Agreement. Protective measures must be  
18 implemented within the time periods indicated in the Agreement and the program  
19 described below.

20  
21 Caltrans shall submit the following Reports to the Department:

- 22
- 23 • Verification of employee training (Provision 2).
  - 24
  - 25 • Construction/work schedule (Provision 3).
  - 26
  - 27 • Wildlife survey results (Provisions 6 through 10).
  - 28
  - 29 • A Final Project Report submitted within 30 days after the Project is completed.  
30 The final report shall summarize the Project construction, including any problems  
31 relating to the protective measures of this Agreement. "Before and After" photo  
32 documentation of the Project site shall be required and included in the final report.
  - 33

34 In addition to the above monitoring and reporting requirements, the Department  
35 requires as part of this MRP that Caltrans:

- 36
- 37 • Immediately notify the Department in writing if monitoring reveals that any of the  
38 protective measures were not implemented during the period indicated in this  
39 program, or if it anticipates that measures will not be implemented within the time  
40 period specified.
  - 41
  - 42 • Immediately notify the Department if any of the protective measures are not  
43 providing the level of protection that is appropriate for the impact that is occurring,  
44 and recommendations, if any, for alternative protective measures.

1 **VERIFICATION OF COMPLIANCE:**

2

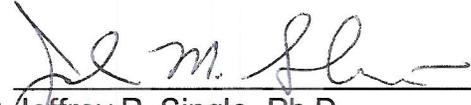
3 The Department shall verify compliance with protective measures to ensure the  
4 accuracy of Caltrans' monitoring and reporting efforts. The Department may, at its sole  
5 discretion, review relevant Project documents maintained by Caltrans, interview  
6 Caltrans' employees and agents, inspect the Project area, and take other actions to  
7 assess compliance with or effectiveness of protective measures for the Project.

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28  
29  
30  
31  
32

**CONCURRENCE:**

**APPROVED BY THE CALIFORNIA DEPARTMENT OF FISH AND GAME**

on Feb 3, 2010.

  
for Jeffrey R. Single, Ph.D.  
Regional Manager  
Central Region

**ACKNOWLEDGMENT**

The undersigned acknowledges receipt of this Agreement and, by signing, accepts and agrees to comply with all terms and conditions contained herein. The undersigned also acknowledges that adequate funding shall be made available to implement the measures required by this Agreement.

By: Virginia Strohl  
Virginia Strohl  
California Department of Transportation

Date: 1/27/10



**DEPARTMENT OF THE ARMY**  
U.S. ARMY ENGINEER DISTRICT, SACRAMENTO  
CORPS OF ENGINEERS  
1325 J STREET  
SACRAMENTO CA 95814-2922

REPLY TO  
ATTENTION OF

April 28, 2010

Regulatory Division (SPK-2010-00025)

Virginia Strohl  
California Department of Transportation, District 6  
2015 East Shields Avenue, Suite 100  
Fresno, California 93726

Dear Ms. Strohl:

We are responding to your December 30, 2009 request for a Department of the Army permit for the Ingram Creek Bridge Replacement Project. This approximately 1.71-acre project involves activities, including the discharge of dredged or fill material, into waters of the United States to replace the existing bridge on State Route 33 with a new clear span bridge, and install reinforced slope protection (RSP) where storm water will flow from an existing culvert (12' X 6') and two other areas near the bridge (9' X 4.5'). The project is located on Ingram Creek, Section 18, Township 4 South, Range 7 East, MDB&M Survey, Latitude 37.588769°, Longitude - 121.242397°, Stanislaus County, California.

Based on the information you provided, the proposed activity in approximately 0.035 acres of Waters of the United States (0.0067 acre of permanent impact and 0.028 acre of temporary impact) is authorized by Nationwide Permit Number 14. However, until Section 401 Water Quality Certification for the activity has been issued or waived, our authorization is denied without prejudice. Once you have provided us evidence of water quality certification, the activity is authorized and the work may proceed subject to the conditions of certification and the Nationwide Permit. Your work must comply with the general terms and conditions listed on the enclosed Nationwide Permit information sheets and the following special conditions:

#### Special Conditions

1. This permit is contingent upon the permittee applying for and being issued a Section 401 Water Quality Certification. Evidence of a water quality certification must be submitted to this office, prior to commencing work in waters/wetlands. All terms and conditions of the Section 401 Water Quality Certification are expressly incorporated as conditions of this permit.
2. We understand the State of California, Department of Transportation (Caltrans) is the National Environmental Policy Act (NEPA) lead federal agency for this project, and as such, will ensure the authorized work complies with the National Environmental Policy Act, the Endangered Species Act, the National Historical Preservation Act and any other applicable federal laws. This authorization is contingent upon the permittee implementing all actions necessary to comply with these requirements.

3. To insure your project complies with the Federal Endangered Species Act, you must implement all of the mitigating measures identified in the enclosed National Marine Fisheries Service letter of concurrence (2010/00792, dated April 23, 2010), including those ascribed to Caltrans therein. If you are unable to implement any of these measures, you must immediately notify the appropriate Caltrans office, the U.S. Army Corps of Engineers Regulatory office, and the appropriate National Marine Fisheries Service office so that Caltrans acting as the lead Federal agency for this project may consult as appropriate, prior to initiating the work, in accordance with Federal law.
4. All equipment staging, including Temporary Construction Areas (TCA's), shall take place within Caltrans approved areas within the project boundary. Prior to construction implementation, you shall ensure all equipment staging, TCA's, demolition and excavation, off pavement detours, borrow and fill areas, and upland disposal areas have been evaluated under National Environmental Policy Act, Section 401 and 404 of the Clean Water Act, Section 7 of the Endangered Species Act and Section 106 of the National Historical Preservation Act and all required permits have been obtained.
5. To prevent unauthorized fills and unforeseen impacts, you shall, prior to proceeding with any activity otherwise authorized by this permit, install Environmentally Sensitive Area (ESA) fencing and appropriate signage around the entire perimeter of avoided waters of the U.S. within the project area. All fencing surrounding avoidance areas shall allow unrestricted visibility of these areas to discourage vandalism, destruction or disturbance. An example of fencing includes high-visibility orange plastic or similar type.
6. You shall employ Best Management Practices (BMP's) to avoid and minimize environmental impacts. Temporary fills, dams, and water diversion structures must use only clean material and shall be removed in their entirety and the affected areas returned to pre-construction elevations, contours and conditions within 30 days of activity completion. The affected areas must be revegetated with appropriate native trees, shrubs and/or seed mix.
7. You shall plant and maintain regionally appropriate native riparian trees/shrubs at a 3:1 replacement ratio along the affected reach of Ingram Creek, to mitigate project impacts to the aquatic resource and associated habitat. To insure the long-term success of the mitigation, rip-rapped areas shall be planted with native trees/shrubs, using the enclosed vegetated rip-rap techniques, or other appropriate methods approved by Caltrans.
8. To ensure avoidance and minimization measures are successful and temporary fills have been removed, you shall take pre-construction, numbered and dated, photographs of the affected **water features** seven (7) days **prior** to construction impact. You shall take post-construction, numbered and dated, photographs of the affected **water features** within seven (7) days **after** construction impact. You shall submit the photographs within 30 days after construction completion. The camera positions and view angles of pre- and post-photographs shall be identical.

9. You shall follow the specifications and standards described in the Storm Water Pollution Prevention Plan (SWPPP) and/or Water Pollution Control Plan (WPCP), to prevent erosion and sedimentation during and after construction. Construction work within waters of the United States shall be performed when the flows are at their seasonal low or when they have ceased and the areas are dry, typically late summer through early fall. All in-stream devices will be removed between construction seasons and disturbed areas will be stabilized to prevent erosion.
10. The Permittee is responsible for all work authorized herein. To ensure that involved contractors are aware of the terms, conditions and limitations of this authorization, the permittee shall post a copy of the permit authorization and associated drawings at the project site during all phases of construction to ensure that contractors are aware of the terms and conditions of the authorization.
11. You shall notify the Sacramento District, Regulatory Division Office of the start of the authorized work within seven (7) calendar days of initiating construction activities.
12. You must allow representatives from the Corps of Engineers to inspect the authorized activity and any mitigation, preservation, or avoidance areas at any time deemed necessary to ensure that it is being or has been accomplished in accordance with the terms and conditions of your permit.
13. You must sign the enclosed *Compliance Certification* form and return it to this office within 30 days after completion of the authorized work.

This verification is valid until the nationwide permit referenced above is modified, reissued, or revoked. All of the nationwide permits are scheduled to be modified, reissued, or revoked prior to March 18, 2012. It is incumbent upon you to remain informed of changes to the nationwide permits. We will issue a public notice when the nationwide permits are reissued. Furthermore, if you commence or are under contract to commence the authorized activity before the date that the relevant nationwide permit is modified, reissued or revoked you will have twelve (12) months from the date of the modification, reissuance, or revocation of the nationwide permits to complete the activity under the present terms and conditions of the nationwide permits.

We appreciate your feedback. At your earliest convenience, please tell us how we are doing by completing the customer survey on our website under *Customer Service Survey*.

Please refer to identification number SPK-2010-00025 in any correspondence concerning this project. If you have any questions, please contact Ms. Leah Fisher at our California South Branch, 1325 J Street, Room 1480, Sacramento, CA 95814-2922, email [leah.m.fisher@usace.army.mil](mailto:leah.m.fisher@usace.army.mil), or telephone 916-557-6639.

For more information regarding our program, please visit our website at [www.spk.usace.army.mil/regulatory.html](http://www.spk.usace.army.mil/regulatory.html).

Sincerely,

A handwritten signature in black ink that reads "Paul M. Maniccia". The signature is written in a cursive, flowing style.

Paul M. Maniccia  
Chief, California South Branch

Enclosure:

1) *Nationwide Permit Number 14, Linear Transportation Projects*, Summary Sheet

Copy furnished without enclosure:

Dena Gonzalez, California Department of Transportation, 2015 East Shields Avenue, Suite 100  
Fresno, California 93726

Sandy Morey, California Department of Fish and Game, 1701 Nimbus Road, Rancho Cordova,  
California 95670-4504

Bill Orme, Water Quality Certification Unit, State Water Resources Control Board, 1001 I  
Street, Sacramento, California 95814-2828

# COMPLIANCE CERTIFICATION

**Permit File Number:** SPK-2010-00025

**Nationwide Permit Number:** 14, Linear Transportation Projects

**Permittee:** Virginia Strohl  
California Department of Transportation, District 6  
2015 East Shields Avenue, Suite 100  
Fresno, California 93726

**County:** Stanislaus

**Date of Verification:** April 28, 2010

Within 30 days after completion of the activity authorized by this permit, sign this certification and return it to the following address:

U.S. Army Corps of Engineers  
Regulatory Division  
1325 J Street, Room 1480  
Sacramento, California 95814-2922  
*Leah.M.Fisher@usace.army.mil*

Please note that your permitted activity is subject to a compliance inspection by a U.S. Army Corps of Engineers representative. If you fail to comply with the terms and conditions of the permit your authorization may be suspended, modified, or revoked. If you have any questions about this certification, please contact the Corps of Engineers.

\* \* \* \* \*

***I hereby certify that the work authorized by the above-referenced permit, including all the required mitigation, was completed in accordance with the terms and conditions of the permit verification.***

\_\_\_\_\_  
Signature of Permittee

\_\_\_\_\_  
Date

Applicant: Virginia Strohl, Acting Chief, Central Region  
Biology Branch, California Department of Transportation

File No.: SPK-2010-00025

Date: April 15, 2010

Attached is:

See Section below

	INITIAL PROFFERED PERMIT (Standard Permit or Letter of permission)	A
	PROFFERED PERMIT (Standard Permit or Letter of permission)	B
	PERMIT DENIAL	C
	APPROVED JURISDICTIONAL DETERMINATION	D
X	PRELIMINARY JURISDICTIONAL DETERMINATION	E

**SECTION I - The following identifies your rights and options regarding an administrative appeal of the above decision. Additional information may be found at <http://www.usace.army.mil/inet/functions/cw/ccwo/reg> or Corps regulations at 33 CFR Part 331.**

**A: INITIAL PROFFERED PERMIT: You may accept or object to the permit.**

- **ACCEPT:** If you received a Standard Permit, you may sign the permit document and return it to the DISTRICT engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- **OBJECT:** If you object to the permit (Standard or LOP) because of certain terms and conditions therein, you may request that the permit be modified accordingly. You must complete Section II of this form and return the form to the DISTRICT engineer. Your objections must be received by the DISTRICT engineer within 60 days of the date of this notice, or you will forfeit your right to appeal the permit in the future. Upon receipt of your letter, the DISTRICT engineer will evaluate your objections and may: (a) modify the permit to address all of your concerns, (b) modify the permit to address some of your objections, or (c) not modify the permit having determined that the permit should be issued as previously written. After evaluating your objections, the DISTRICT engineer will send you a proffered permit for your reconsideration, as indicated in Section B below.

**B: PROFFERED PERMIT: You may accept or appeal the permit**

- **ACCEPT:** If you received a Standard Permit, you may sign the permit document and return it to the DISTRICT engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- **APPEAL:** If you choose to decline the proffered permit (Standard or LOP) because of certain terms and conditions therein, you may appeal the declined permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the DIVISION (not district) engineer (address on reverse). This form must be received by the DIVISION engineer within 60 days of the date of this notice.

**C: PERMIT DENIAL: You may appeal the denial of a permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the DIVISION (not district) engineer (address on reverse). This form must be received by the DIVISION (not district) engineer within 60 days of the date of this notice.**

**D: APPROVED JURISDICTIONAL DETERMINATION: You may accept or appeal the approved JD or provide new information.**

- **ACCEPT:** You do not need to notify the Corps to accept an approved JD. Failure to notify the Corps within 60 days of the date of this notice, means that you accept the approved JD in its entirety, and waive all rights to appeal the approved JD.
- **APPEAL:** If you disagree with the approved JD, you may appeal the approved JD under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the DIVISION (not district) engineer (address on reverse). This form must be received by the DIVISION engineer within 60 days of the date of this notice. Exception: JD appeals based on new information must be submitted to the DISTRICT engineer within 60 days of the date of this notice.

**E: PRELIMINARY JURISDICTIONAL DETERMINATION: You do not need to respond to the Corps regarding the preliminary JD. The Preliminary JD is not appealable. If you wish, you may request an approved JD (which may be appealed), by contacting the Corps district for further instruction. Also you may provide new information for further consideration by the Corps to reevaluate the JD.**

**SECTION II - REQUEST FOR APPEAL or OBJECTIONS TO AN INITIAL PROFFERED PERMIT**

**REASONS FOR APPEAL OR OBJECTIONS:** (Describe your reasons for appealing the decision or your objections to an initial proffered permit in clear concise statements. You may attach additional information to this form to clarify where your reasons or objections are addressed in the administrative record.)

**ADDITIONAL INFORMATION:** The appeal is limited to a review of the administrative record, the Corps memorandum for the record of the appeal conference or meeting, and any supplemental information that the review officer has determined is needed to clarify the administrative record. Neither the appellant nor the Corps may add new information or analyses to the record. However, you may provide additional information to clarify the location of information that is already in the administrative record.

**POINT OF CONTACT FOR QUESTIONS OR INFORMATION:**

<p>If you have questions regarding this decision and/or the appeal process you may contact:</p> <p><b>DISTRICT ENGINEER</b> Sacramento District, Corps of Engineers Attn: Leah Fisher, Project Manager, Regulatory Division 1325 J Street, Room 1480, Sacramento, CA 95814-2922 916-557-6639, FAX 916-557-6877 (Use this address for submittals to the <b>DISTRICT ENGINEER</b>)</p>	<p>If you only have questions regarding the appeal process you may also contact:</p> <p><b>DIVISION ENGINEER</b> Army Engineer Division, South Pacific, CESP-D-CM-O Attn: Tom Cavanaugh, Administrative Appeal Review Officer, Army Corps of Engineers , CESP-D-PDS-O, 1455 Market Street, San Francisco, CA 94103-1399 (415-503-6574, FAX 415-503-6646) (Use this address for submittals to the <b>DIVISION ENGINEER</b>)</p>
--	--

**RIGHT OF ENTRY:** Your signature below grants the right of entry to Corps of Engineers personnel, and any government consultants, to conduct investigations of the project site during the course of the appeal process. You will be provided a 15 day notice of any site investigation, and will have the opportunity to participate in all site investigations.

<p>_____ Signature of appellant or agent.</p>	<p>Date:</p>	<p>Telephone number:</p>
---	--------------	--------------------------



**UNITED STATES DEPARTMENT OF COMMERCE**  
**National Oceanic and Atmospheric Administration**  
NATIONAL MARINE FISHERIES SERVICE

Southwest Region  
501 West Ocean Boulevard, Suite 4200  
Long Beach, California 90802-4213

In response refer to:  
2010/00792

**APR 23 2010**

Virginia Strohl  
Acting Biology Branch Chief  
California Department of Transportation  
2015 East Shields Avenue, Suite A-100  
Fresno, California 93726-5428

Dear Ms. Strohl:

This letter is in response to your February 26, 2010, request for initiation of section 7 consultation with NOAA's National Marine Fisheries Service (NMFS) pursuant to the Endangered Species Act (ESA) concerning the Ingram Creek Bridge on State Route (SR) 33 project in Stanislaus County, California. The California Department of Transportation (Caltrans) has determined that the proposed project may affect, but is not likely to adversely affect, Central Valley (CV) steelhead (*Oncorhynchus mykiss*). In addition, Caltrans has determined that the proposed project may adversely affect the Essential Fish Habitat (EFH) of Pacific salmon, and has requested initiation of consultation pursuant to the Magnuson-Stevens Fishery Conservation and Management Act (MSA). This letter also serves as consultation under the authority of, and in accordance with, the provisions of the Fish and Wildlife Coordination Act of 1934 (FWCA), as amended. NMFS recognizes that Caltrans is acting in conjunction with the Federal Highway Administration (FHWA) for this project and has assumed FHWA's responsibilities under Federal environmental laws as allowed by the Memorandum of Understanding between FHWA and Caltrans, which became effective on July 1, 2007.

The proposed project is located west of the City of Modesto, approximately 3.5 miles north of the town of Westley. Caltrans proposes to replace the existing bridge with a new clear span bridge and remove the existing bridge abutments and center bent. A new approach metal beam guard railing will be installed at the ends of the structure railing and two of the existing levee access roads will be realigned on the west side of SR 33. In addition, an existing culvert will be replaced with a new longer 24-inch reinforced concrete pipe. Vegetation will be cleared and grubbed out in the work area and rock slope protection will be placed at all three culvert outlets.

The proposed project area at Ingram Creek Bridge has little vegetation other than weedy non-native plants. Ingram Creek does not provide suitable habitat for anadromous fish, however, Ingram Creek connects to the San Joaquin River where CV steelhead may be present.



Construction activities will be conducted during the non-rainy season although some water diversion would likely occur due to agricultural tail water. Best management practices (BMPs) will be implemented into the proposed project to minimize downstream erosion and sedimentation.

#### ESA Section 7 Consultation

Based on our review of the material provided with your request and the best scientific and commercial information currently available, NMFS concurs that the Ingram Creek Bridge on SR 33 project is not likely to adversely affect CV steelhead. NMFS reached this determination based on the following:

1. Ingram Creek is not suitable habitat for anadromous fish due its severely degraded habitat and lack of riparian vegetation. Therefore, the presence of anadromous fish is highly unlikely. However, due to its connection to the San Joaquin River, where CV steelhead are likely present, Caltrans will implement BMPs into the proposed project to minimize downstream erosion and sedimentation issues and any indirect effects to CV steelhead.

This concludes ESA consultation for the Ingram Creek Bridge project. This concurrence does not provide incidental take authorization pursuant to section 7(b)(4) and section 7(o)(2) of the ESA. Re-initiation of the consultation is required where discretionary Federal agency involvement or control over the proposed project has been retained (or is authorized by law), and if: (1) new information reveals effects of the proposed project that may affect listed species or critical habitat in a manner or to an extent not considered; (2) the proposed project is subsequently modified in a manner that causes adverse effects to listed species or critical habitat; or (3) a new species is listed or critical habitat designated that may be affected by the proposed project.

#### EFH Consultation

With regards to EFH consultation, the action area has been identified as EFH for Chinook salmon in Amendment 14 of the Pacific Salmon Fishery Management Plan pursuant to the MSA. Federal action agencies are mandated by the MSA (section 305(b)(2)) to consult with NMFS on all actions that may adversely affect EFH and NMFS must provide EFH conservation recommendations to those agencies (section 305(b)(4)(A)). Because the proposed project has incorporated specific measures (described above) to minimize impacts to the habitat of salmonids, NMFS has determined that the proposed project will not adversely affect EFH, and additional EFH conservation recommendations are not being provided at this time; however, if there is substantial revision to the proposed project, the lead Federal agency will need to re-initiate EFH consultation.

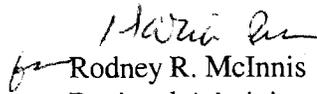
#### FWCA

The purpose of the FWCA is to ensure that wildlife conservation receives equal consideration, and is coordinated with other aspects of water resources development (16 U.S.C. 661). The FWCA establishes a consultation requirement for Federal departments and agencies that

undertake any action that proposes to modify any stream or other body of water for any purpose, including navigation and drainage (16 U.S.C 662(a)). Consistent with this consultation requirement, NMFS provides recommendations and comments to Federal action agencies for the purpose of conserving fish and wildlife resources. The FWCA provides the opportunity to offer recommendations for the conservation of species and habitats beyond those currently managed under the ESA and MSA. Because the proposed project is designed to avoid environmental impacts to aquatic habitat within the action area, NMFS has no additional FWCA comments to provide.

Please contact Monica Gutierrez at (916) 930-3657, or via e-mail at [Monica.Gutierrez@noaa.gov](mailto:Monica.Gutierrez@noaa.gov) if you have any questions or require additional information concerning this project.

Sincerely,

  
Rodney R. McInnis  
Regional Administrator

cc: Copy to File ARN # 151422SWR2001SA6125  
NMFS-PRD, Long Beach, CA



U S Army Corps of  
Engineers  
Sacramento District

## Nationwide Permit Summary

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)

**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.

#### 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.

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.

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.

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).

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.

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.

**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).

**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.

(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.

**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 NHPs 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 NHPs 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 NHPs 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 NWP. 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.

**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.

**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.

**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.

**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)

**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.
- 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 be 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 NWP 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)**

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 designated locations documented on the plan drawing.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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**

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.

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.

**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.

**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.

**V. Colorado Only**

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.

## 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 is not authorized by the following nationwide permits in these waters: NWP 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: NWP 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.

## 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 NWP, 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.

## 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 mats 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 non-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](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

**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 NWP, 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 coarse 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 NWP, 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.

### 8.3 VEGETATED RIPRAP (JOINT PLANTING)

## For Example:

#### 8.3.1 Description

Joint planting refers to the insertion of live cuttings (stakes) in the openings or joints between the rock in a riprap revetment, as shown in Figures 8-1 and 8-2. Alternatively, the cuttings can be tamped into the ground at the same time the rock is being placed on the slope face. The latter approach facilitates installation of the cuttings but also complicates rock placement and increases the likelihood of damage to the cuttings if the rock is tailgated or dumped in place.

#### 8.3.2 Objective

Live cuttings placed in this manner should extend into the soil beneath the stone armor, as illustrated in Figure 8-1. The objective is to have these live cuttings root in the soil beneath the riprap, thus reinforcing the bank, anchoring the riprap, and improving drainage by extracting soil moisture.

#### 8.3.3 Effectiveness

A vegetated riprap revetment (joint planting) provides the following advantages:

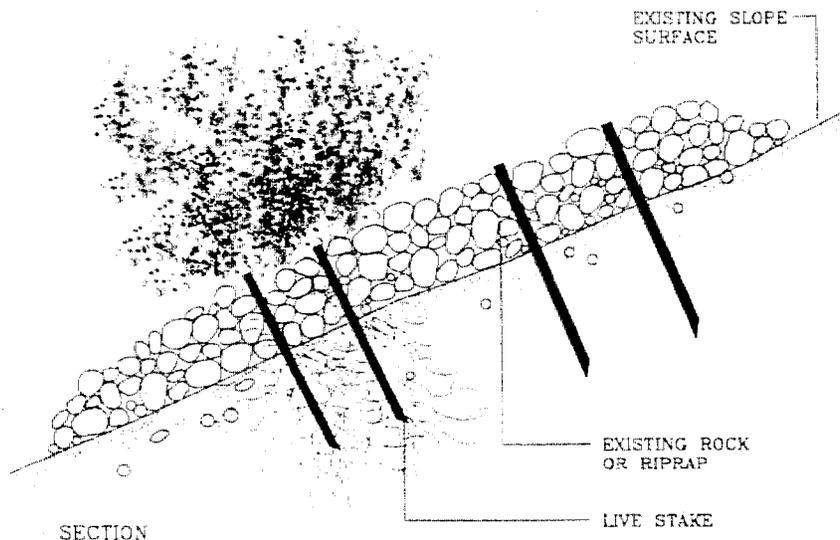


Figure 8-1. Schematic illustration of an established, growing vegetated riprap revetment.

- It improves the performance of the armor layer by preventing the washout of fines and by reinforcing the underlying native soil.
- It has a more natural appearance and is less visually intrusive than a structural treatment alone.
- It provides some riparian cover and wildlife habitat.
- It helps to slow water velocities near the bank and trap sediment.

#### 8.3.4 Materials

*Live* materials consist of cut stakes that are 1 to 1½ inches in diameter and long enough to reach beyond the base of the riprap, as shown in Figure 8-1. Willow cuttings work best for this purpose. The cuttings must be fresh and must be kept moist after they have been prepared into appropriate lengths. They should be installed the same day that they are prepared. The *inert* construction materials consist of rocks, which should be sized to resist dislodgment by waves or currents and a filter course, which should be designed to prevent washout of fines in the native soil beneath the revetment.

#### 8.3.5 Installation

The following general guidelines and procedures can be followed for constructing a vegetated rock revetment on a slope:

- Grade the bank back to a slope no greater than 1½ : 1 (H : V) and secure the filter fabric on the slope. Place the rock armor layer on top of the filter course, being careful not to damage or puncture the filter layer.
- Tamp the live cuttings into the openings (joints) between the rock. It may be necessary to use an iron bar or rod to create a pilot hole. The latter may also be necessary for penetration through the filter fabric.
- The live stakes should be oriented as perpendicular to the slope as possible with the growing tips protruding slightly above the finished face of the rock, as shown in Figure 8-1. The basal end of the stake must fit snugly in the hole beneath the revetment.
- Tamping the cuttings into the ground is best accomplished with a dead blow hammer (i.e., a hammer with the head filled with lead shot). Avoid stripping the bark during tamping as this will stress and kill the stake.
- Place the stakes in a random configuration in the revetment at a density ranging from two to four cuttings per square yard. The exact placement locations will depend on the positions of openings between the rocks.

# For Example:

## Vegetated Riprap (Joint Planting)

Joint planting is the insertion of live cuttings into the openings or joints between the riprap stones.

This vegetated riprap plan will use a method of joint planting which calls for placement of fill material and rock overlay on the slope first, then planting of the live cuttings by tamping them through the rock layer and into the soil layer underneath. Live cuttings placed in this manner will have to be long enough to extend through the rock layer and well into the soil below. The objective is to have these live cuttings root in the soil beneath the riprap. This will reinforce the bank, anchor the riprap rock, and improve drainage by extracting soil moisture. This plan intends to leave existing trees growing at the waterline, and will attempt to leave as many existing plants as possible on the slope by pruning them to ground level before placement of the fill and stone layer, and allowing them to resprout through the riprap layer from their roots. Many species will resprout readily.

*The vegetated riprap provides the following advantages:*

- It improves the performance of the rock overlay by preventing the washout of fines and by reinforcing the underlying native soil.
- It has a more natural appearance and is less visually intrusive than the rock layer alone.
- It provides some riparian cover and wildlife habitat.
- It helps to slow water velocities near the bank, which helps to trap sediment and build a soil layer.

## Live Cutting Materials

Live materials consist of cut stakes that are 1 to 1-1/2 inches in diameter. The cuttings must be fresh and must be kept moist after they have been prepared into appropriate length. They should be installed the same day they are cut. Live cuttings will be tamped into the openings between the rock. It may be necessary to use an iron bar to create a pilot hole. The live stakes should be oriented as perpendicular to the slope as possible with the growing tips protruding slightly above the finished face of rock. Tamping the cuttings into the ground is best accomplished with a dead blow hammer. Exact placement of the cuttings will depend on the positions of openings between the rocks.

## Plant Species Available For Cuttings

### Trees

Black willow (*Salix gooddingii*)  
Sandbar willow (*Salix hindsiana*)  
Willow (*Salix lasiandra*)  
Fremont Cottonwood (*Populus fremontii*)  
White alder (*Alnus rhombifolia*)  
Box elder (*Acer negundo*)  
Western sycamore (*Platanus racemosa*)  
Blue elderberry (*Sambucus mexicana*)

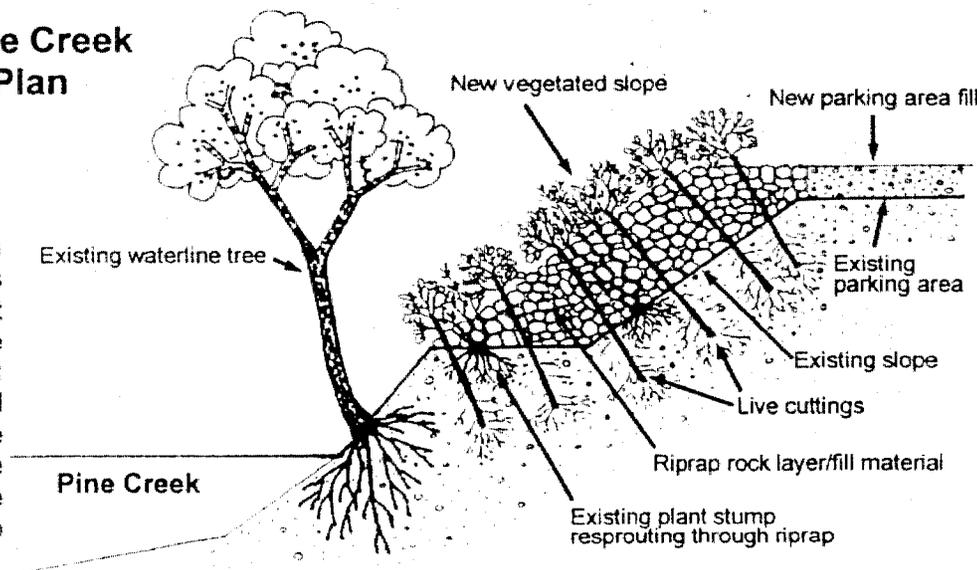
### Understory Shrubs

Coyote bush (*Baccharis pilularis*)  
California Wild grape (*Vitis californica*)  
Wild rose (*Rosa californica*)  
California blackberry (*Rubus vitifolia*)

## Slope Protection - Pine Creek Vegetated Riprap Plan

### Cross section of Vegetated riprap

Twelve inch riprap stone with indigenous species cuttings placed in joints at six-foot centers. All cuttings shall be taken by a certified nurseryman. All cuttings shall be taken from (at least) five indigenous species. Mature trees growing at waterline to be left intact. Trees in fill area to be pruned to ground level.



## For Example:

Biotechnical and soil bioengineering stabilization provide attractive, cost-effective, and environmentally compatible ways to protect slopes against surficial erosion and shallow mass movement. This guidebook discusses the general principles and attributes of biotechnical/soil bioengineering stabilization and describes specific soil bioengineering measures that can be employed on slopes, such as live staking, live fascines, brushlayering, branchpacking, live crib walls, and slope gratings. The conjunctive use of plants and earth-retaining structures or revetments is also described. This biotechnical approach includes plantings on slopes above low toe-walls, on benches of tiered retaining walls, and in the frontal interstices, or openings of porous retaining structures, such as crib walls, gabions, and rock breast walls. It also entails the use of vegetation in porous hard armor revetments, such as rock riprap, gabion mattresses, and articulated blocks. The book describes recent developments with biotechnical ground covers or "reinforced grass" systems, which include the use of nets, mats, and other types of structural/mechanical reinforcement to improve the establishment and performance of grass cover on steep slopes or temporary waterways.

*Biotechnical and Soil Bioengineering Slope Stabilization* distills more than a decade of experience in this subject on the part of both authors into a useful reference handbook. Numerous illustrations from actual field applications and stabilization projects supplement the text. In addition carefully selected and well-documented case studies have been included to show how various soil bioengineering methods have been chosen for particular site conditions. We also include helpful background information on the nature of soil erosion and mass movement, the role and function of slope vegetation in the stability of slopes, and techniques for the selection, establishment, and maintenance of appropriate vegetation.

*Biotechnical and Soil Bioengineering Slope Stabilization* is intended primarily as a reference handbook for practicing professionals. Information in the book should prove of value to practitioners in such diverse fields as geotechnical engineering, geology, soil science, forestry, environmental horticulture, and landscape architecture. Although oriented toward professional practice, it is written in such a way that it can be understood by students, laypersons, and other interested parties as well. Analytical or somewhat technical material in some of the chapters can be skimmed over without loss of continuity or utility. Lastly, the book can be used as a reference text in college-level courses, extension courses, and workshops whose course content includes such topics as erosion control, slope stability, watershed rehabilitation, and land restoration.



Figure 8-2. Photo of vegetated riprap revetment showing cuttings that have rooted and sprouted between the armor rocks.

This text is printed on acid-free paper.

Copyright © 1996 by John Wiley & Sons, Inc.

All rights reserved. Published simultaneously in Canada.

Reproduction or translation of any part of this work beyond that permitted by Section 107 or 108 of the 1976 United States Copyright Act without the permission of the copyright owner is unlawful. Requests for permission or further information should be addressed to the Permissions Department, John Wiley & Sons, Inc., 605 Third Avenue, New York, NY 10158-0012.

This publication is designed to provide accurate and authoritative information in regard to the subject matter covered. It is sold with the understanding that the publisher is not engaged in rendering legal, accounting, or other professional services. If legal advice or other expert assistance is required, the services of a competent professional person should be sought.

#### Library of Congress Cataloging in Publication Data:

Gray, Donald H.  
Biotechnical and soil bioengineering slope stabilization: a practical guide for erosion control / Donald H. Gray and Robbin B. Sotir.  
p. cm.

Includes bibliographical references and index.  
ISBN 0-471-04978-6 (cloth : alk. paper)

1. Slopes (Soil mechanics) 2. Soil stabilization. 3. Soil erosion. 4. Soil-binding plants. I. Sotir, Robbin B. II. Title. TA710.G6286 1995  
624.1'51363—dc20 96-10211  
CIP

Printed in the United States of America

10 9 8 7 6 5 4 3 2

## INFLUENCE ON STREAMBANK EROSION 57

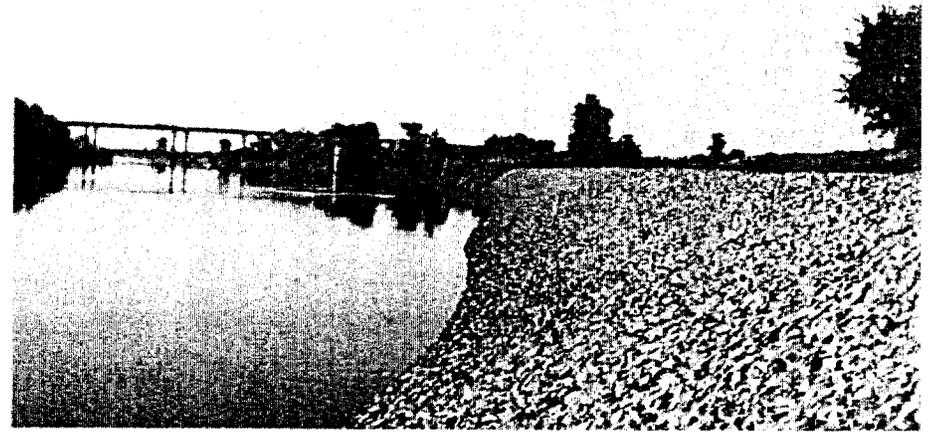
mum seed mix depends on soil, site, and climatic conditions. A horticulturist familiar with local conditions should be consulted for recommendations. Site preparation, mulching, and fertilization may also be required to insure germination and establishment (see Chapter 6 for guidelines).

### 3.2 INFLUENCE ON STREAMBANK EROSION

Streambanks and levees are subjected to erosion and scour by flowing water. The erosive power of flowing water increases with velocity. Slope vegetation can help to reduce this type of erosion in the following manner: above ground shoots bend over and cover the surface and/or reduce flow velocity adjacent to the soil/water interface, while below ground roots physically restrain or hold soil particles in place. The extent to which vegetation provides these benefits depends upon the surface area of vegetation presented to the flow and the flexibility of the stems. Dense grass swards and low shrubby species that extend numerous nonrigid branches and leaves into the flow (e.g., willows) are the most effective in this regard.

Some controversy exists about the wisdom of allowing woody vegetation to grow on levees, particularly on revetted sections. Objections that have been raised include loss of conveyance from increased roughness, difficulty of inspection, hindrance to flood-fighting operations, and alleged threats to structural integrity as a result of root penetration and subsequent piping. In response to these objections it should be noted that in large rivers, additional channel roughness will have a negligible effect on the stage of the design flood. The effects of vegetation on the structural integrity of sandy levees was investigated by Shields and Gray (1993). They conducted an extensive field study along a 6-mile reach of sandy channel levee adjacent to the Sacramento River near Elkhorn, California. Their study concluded that woody vegetation did not adversely affect the structural integrity of a levee. No open voids or conduits clearly attributable to plant roots were observed in the levee. On the contrary, the presence of plant roots reinforced the soil and increased the shear strength of the surface layers in a measurable manner.

In European practice, vegetation is often promoted as a means of stabilizing both streambanks and levee slopes. In Bavaria, West Germany, a common design practice is to construct widely spaced, vegetated levees. A mixture of plants, including reeds, grasses, and trees, is used with riprap and other standard engineering control measures to retard erosion (Keller and Brookes, 1984). Shields (1991) investigated the influence of woody vegetation growing in a structural, riprap revetment. His investigation showed that the frequency of revetment failure was actually lower in vegetated revetments as opposed to unvegetated sections. Vegetation helps to anchor the armor stones to the bank and increases their lift-off resistance. In addition, vegetated revetments provide riparian benefits and are less visually intrusive, as shown in Figure 3.1.



(a)

## For Example:



(b)

Figure 3-1. Contrasting views of streambank levees. (a) Rock riprap alone. (b) Vegetated riprap.

**M e m o r a n d u m***Flex your power!  
Be energy efficient!*

**To:** DAN T. ADAMS  
Design Branch Chief, Branch 10  
Structure Design  
Division of Engineering Services

**Date:** December 10, 2009

**File:** 10-STA-33-PM 23.43  
EA: 10-2A2901  
Ingram Creek Bridge  
Br. #38-0159  
Bridge Replacement

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

**Subject:** Revised Final Foundation and Seismic Report No 3 (Revises Report dated November 3, 2009 and supercedes all previous reports)

**Introduction**

At your request the Office of Geotechnical Design – North has revised the Final Foundation and Seismic Report for the Ingram Creek Bridge (No. 38-0159). No recommendations changes have been made other than to clarify that this report supercedes all previous foundation and Seismic reports. The bridge replacement project is located on Route 33 located at post mile (PM) 23.43 in unincorporated Stanislaus County, California. This bridge has been deemed scour critical and has been scheduled for replacement. The project proposes to replace the existing bridge with a longer single span structure (span length 44 feet) that will be supported on pile foundations.

This report preparation is based on data obtained from the subsurface exploration; subsequent laboratory analysis and information derived from the General Plan (February 26, 2008), Final Hydraulic Report (March 18, 2008) and pertinent local and regional geologic literature.

**Field Exploration**

Our subsurface investigation was performed on June 3rd and 4th, 2008. Two, 114-mm diameter mud rotary borings (08-01 and 08-02) were drilled to depths of approximately of 76.5 feet below existing ground surface near the proposed abutment locations. Soil was collected in each boring using a punch core and split spoon Standard Penetration Testing (SPT) samplers. The punch core operates continuously and the SPT samples were taken at approximately 5-foot (1.5 meter) intervals.

DAN ADAMS  
December 10, 2009  
Page 2

Foundation Report  
Br. # 38-0159  
EA: 10-2A2901

In addition, full-sized Logs of Test Borings (LOTB), to be incorporated in the project plans, are prepared by the Geotechnical Services, Office of Geotechnical Support, Branch D - Contracts, Graphics & Records. Irma Gamarra-Remmen of the Contracts, Graphics & Records branch may be contacted directly for information on the LOTB(s).

### **Site Geology and Subsurface Conditions**

The site of Bridge 38-0159 is situated within the west central Great Valley Geomorphic Province. The province occupies an area approximately 400 miles long extending from the Cascade Range to the north to the Tehachapi Mountains to the south. The province is approximately 45 to 60 miles wide and is bound on the east by the Sierra Nevada Mountain Range and on the west by the Coast Ranges. Surficial Holocene and Upper Pleistocene Alluvial stream deposits (Patterson and San Luis Ranch, Undivided) emerging from the adjacent Diablo Range located to the west underlie the project site (Geologic Map of the east flank of the Diablo Range from Hospital Creek to Poverty Flat, San Joaquin, Stanislaus, and Merced Counties, California, 1985).

The subsurface materials encountered in the present investigation are based on field observation performed at the time of the subsurface exploration and subsequent laboratory tests. Generally, the soils underlying the proposed abutments consisted of predominately soft to very stiff and low to medium plasticity Sandy lean CLAY and Sandy SILT interbedded with lesser amounts of loose to medium dense Silty SAND, Sandy SILT and Sandy SILT w/ GRAVEL to a depth of approximately 30 feet. Below, to the maximum depth explored (76.5 ft) the soils were similar to the above, except for the silt, sands and gravels became denser and the clays were generally stiffer than observed above. See the attachment LOTB(s) for details of subsurface conditions.

### **Groundwater**

The groundwater depth at the site was estimated by drilling the first boring (08-1) dry to a depth of 20 feet. The first sign of groundwater was encountered at a depth of approximately 15 feet (Approximate elevation 69 ft). The bottom of the creek channel elevation was about 75 feet. Also, at the time of the drilling there was water flowing in the creek.

### **Laboratory Testing**

Laboratory testing was performed on samples from both borings. Selected soil samples were analyzed to determine gradation, moisture, unit weight, Atterberg Limits and corrosion.

### **Corrosion**

According to the Corrosion Test Summary Report (June 27, 2008) provided by the Materials Engineering and Testing Services Corrosion Technology Branch the Ingram creek bridge site is not corrosive to foundation elements.

### **Scour Potential**

The anticipated scour elevation at the bridge site is 74.85 ft and the abutment diaphragms should be placed at or below that elevation according to the Final Hydraulic Report, dated March 18, 2008.

### **Seismic Study**

Based on the 1996 Caltrans Seismic Hazard Map, the controlling fault for the site is Midway San Joaquin/N with a maximum credible earthquake of  $M_w=6.75$ , and is located about 4.3 miles south west of the site. The peak horizontal bedrock acceleration at his site, based on Caltrans California Seismic Hazard Map is estimated to be 0.5g.

The recommended design should be base on the log of test borings and a final Caltrans Seismic Design Criteria (CSDC) Acceleration Response Spectrum (ARS) curve corresponding to the soil profile Type D with an estimated peak bedrock acceleration noted above. Please note that due to the close proximity of this structure to the fault, we have performed a second modification to the CSDC ARS curve (see Figure 1 in Appendix A). The modification is such that there is no increase in spectral accelerations (SA) for periods less than 0.5 second, and a 20% increase in SA for period grater than 1 second. Between the periods 0.5 and 1 second, a linear interpolation was used to estimate the SA.

The potential for liquefaction due to strong ground shaking is considered to be low, and 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.

### **Foundation Recommendations**

The foundation recommendations are based on present field investigation and analysis in conjunction with the General Plan last revision dated January 23, 2008 provided by Dan Adams on February 15, 2008.

For the proposed bridge replacement either Class 140 Alternative "W" pipe piles or Alternative "X" concrete piles are most feasible from a construction and geotechnical point of view. CIDH piles although constructible are not recommend because of expected shallow groundwater and the potential for soil caving. The later would make pile construction more problematic. Pile specifications are presented in Tables 1 and 2 below.

Table 1. Abutment Alternative "W"-Pile Data

Support Location	Pile Type	Service Load (kips)	Nominal Resistance (1)(2)		Cut-Off Elevation (ft)	Design Tip Elevations (3)(4) (ft)	(5) Specified Tip Elevation (ft)
			Compression (kips)	Tension (kips)			
Abut 1	Class 140 Alternative "W"	120	240	0	74.8	15.4	15.4
Abut 2	Class 140 Alternative "W"	120	240	0	74.8	20.0	20.0

Design tip elevations are controlled by the following demands:

1. Recommendations are based Working Stress Design (WSD) and load data provide by the Structure Designer on the Foundation Design Data Sheet.
2. The "nominal resistance" is the resistance per pile in compression. The "nominal resistance" is obtained by multiplying the total "Design Loading" by a minimum safety factor  $FS = 2$ , and is taken as equal to the ultimate axial load capacity defined in BDS (200).
3. "Design tip elevations" include the effects of group interaction, down drag and liquefaction, as applicable. Liquefaction induced down drag and other effects of liquefaction, when present, are considered in combination with the service load and a factor of safety,  $FS=1.0$ , to evaluate the foundation capacity.
4. "Design tip elevations" are controlled by compression.
5. The "specified tip elevation" shall not be raised if controlled by tension, lateral load or settlement.

Table 2. Abutment Alternative "X"-Pile Data

Support Location	Pile Type	Service Load (kips)	Nominal Resistance (1)(2)		Cut-Off Elevation (ft)	Design Tip Elevations (3)(4) (ft)	(5) Specified Tip Elevation (ft)
			Compression (kips)	Tension (kips)			
Abut 1	Class 140 Alternative "X"	120	240	0	74.8	29.5	29.5
Abut 2	Class 140 Alternative "X"	120	240	0	74.8	29.0	29.0

Design tip elevations are controlled by the following demands:

1. Recommendations are based on Load Factor Resistance Design (LFRD) and load data provided by the Structure Designer on the Foundation Design Data Sheet.
2. The "service limit state I load" is either the total or permanent load per pile or drilled shaft in axial compression, whichever is used for settlement computations.
3. "Design tip elevations" include the effects of group interaction, down drag and liquefaction, as applicable. Liquefaction induced down drag and other effects of liquefaction, when present, are considered only with Extreme Event 1 Loads. "Design tip elevations" are controlled by compression.
4. The "specified tip elevation" shall not be raised if controlled by tension, lateral load or settlement.

**General Notes to Designer**

1. The structure engineer shall show on the plans, in the pile data table, the minimum pile tip elevation required to meet the lateral load demands.
2. Should the specified pile tip elevation required to meet lateral load demands exceed the specified pile tip elevation given within this report, the Office of Geotechnical Design North should be contacted for further recommendations.
3. Support locations are to be plotted on the Log of Test Borings, in plan view, as stated in "Memos to Designers" 4-2. The plotting of the support locations should be made prior to the foundation review.

### **Pile Settlement**

Vertical movement of piles will be less than the 0.25-inches under service limit state.

### **Construction Considerations**

1. Groundwater levels may exceed the bottom of footing elevations during creek high water levels. Therefore, wet soils and caving should be expected and dewatering in conjunction shoring may be required.
2. Pile acceptance criteria for all driven piles shall be based on the Gates formula (Caltrans Standard Specifications Section 49-1.08).

### **Disclaimer and Contract Information**

The recommendations contained in this report are based on specific project information regarding design loads and structure location provided by the OBDN. If any conceptual changes are made during final project design, the Office of Geotechnical Design – North should review those changes to determine if these foundation recommendations are still applicable.

### **Project Information**

Standard Special Provision (SSP) 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.

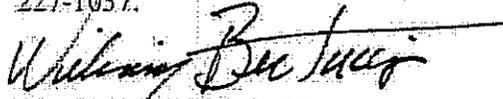
*Data and information attached with the project plan are:*

- A. *Log of Test Borings for Ingram Creek Bridge Replace, Bridge No. 30-0159 (present investigation).*
- B. *Acceleration Response Spectrum Curve (present investigation).*
- C. *Foundation report for Ingram Creek Bridge dated December 10, 2009.*

DAN ADAMS  
December 10, 2009  
Page 7

Foundation Report  
Br. # 38-0159  
EA: 10-2A2901

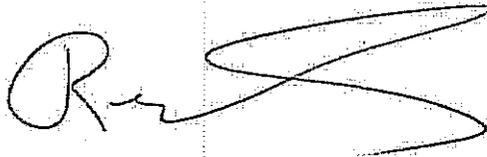
If you have any questions, please call William Bertucci at (916) 227-1045 or John Huang at (916) 227-1037.



WILLIAM BERTUCCI  
Associate Engineering Geologist  
Office of Geotechnical Design - North  
Geotechnical Services  
Division of Engineering Services



JOHN HUANG, PE  
Senior materials and Research Engineer  
Office of Geotechnical Design- North  
Geotechnical Services  
Division of Engineering Services



REZA MAHALLATI, PE  
Senior materials and Research Engineer  
Office of Geotechnical Design - North  
Geotechnical Services  
Division of Engineering Services



C: RBibbens, JStayton, R.E. Pending, GDN file, GS File Room

Ingram Creek Bridge (Replace)

Bl: No. 38-0159

10-2A2901

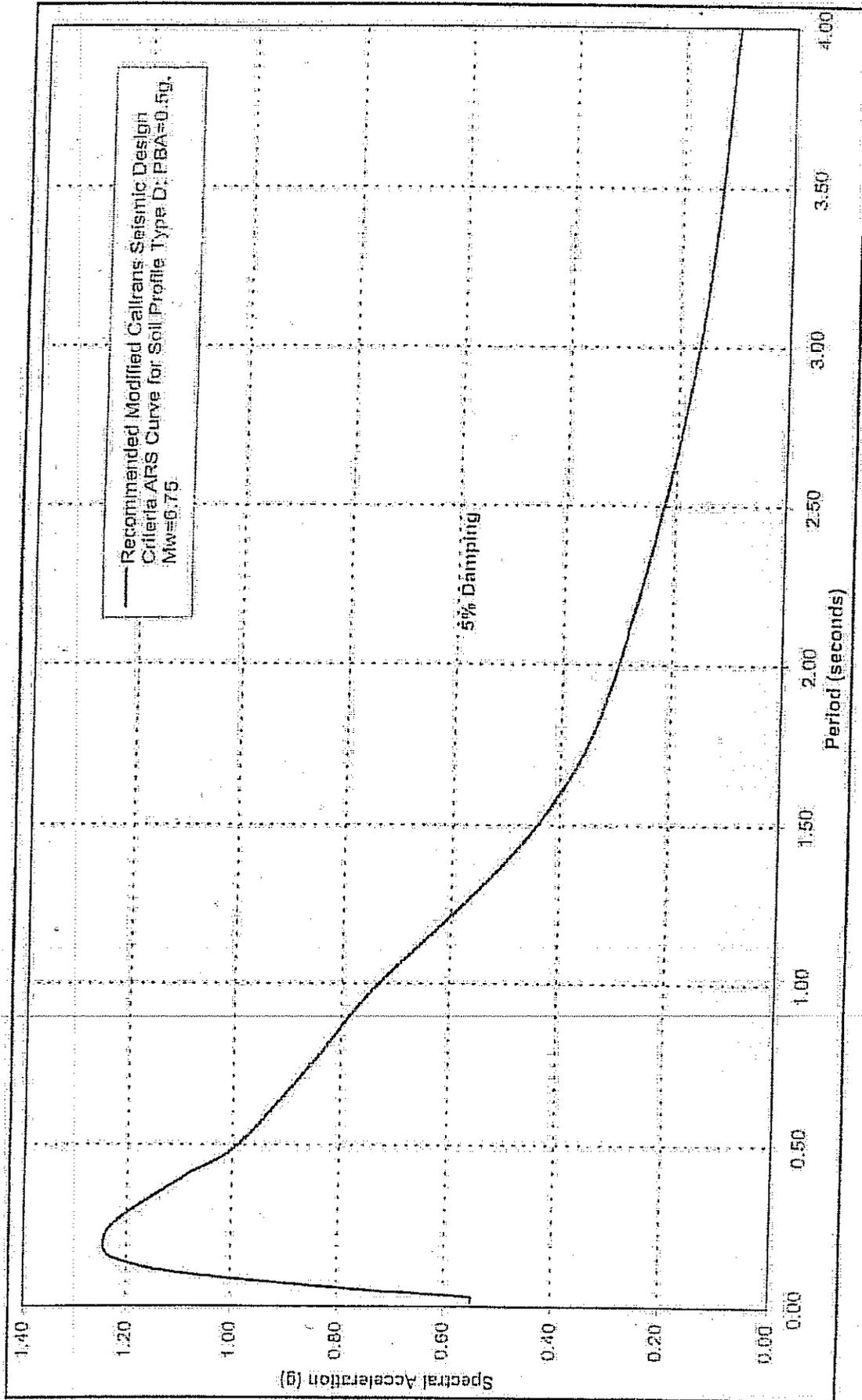


Figure 1. Acceleration Response Spectrum Recommended for Design