

INFORMATION HANDOUT

For Contract No. 03-1A8424
At 03-ED-89-8.6/13.8

Identified by
Project ID 0300000223

PERMITS

United States Army Corps of Engineers

Non-Reporting Nationwide 404

[Tahoe Regional Planning Agency](#)

[Tree Removal Plan](#)

WATER QUALITY

California Regional Water Quality Control Board

Lahontan Region
Board Order No. [R6T-2013-0086](#)

AGREEMENTS

California Department of Fish and Wildlife

Notification No. [1600-2013-0219-R2](#)

MATERIALS INFORMATION

[District Preliminary Geotechnical Report](#)



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

REPLY TO
ATTENTION OF

November 14, 2013

Regulatory Division (SPK-2013-00067)

Ms. Kendall Schinke
California Department of Transportation
2379 Gateway Oaks Drive (MS-19)
Sacramento, California 95833

Dear Ms. Schinke:

We are responding to your August 26, 2013, request for a Department of the Army permit for the US50/SR89 "Y" to Cascade Environmental Improvement Program (EIP) project (EA 03-1A8420) (PM 8.6/13.8) project. This approximately 108.251-acre project involves activities, including discharges of dredged or fill material, in waters of the United States to construct a storm water quality improvement project. The project is located in Section 5, Township 12 North, Range 18 East, Mount Diablo Meridian, Latitude 38.92726°, Longitude -120.04177°, South Lake Tahoe, El Dorado County, California.

Based on the information you provided, the proposed activity, resulting in the permanent loss of approximately 0.04 acre of wetlands and temporary impacts to approximately 0.001 acre of Tallac Creek, is authorized by Nationwide Permit Number 23. Your work must comply with the general terms and conditions listed on the enclosed 2012 NWP 23 information sheets (enclosure 1), the Final Sacramento District NWP Regional Conditions for California (enclosure 2), and the following Special Conditions:

Special Conditions

1. To mitigate for the loss of 0.04 acre of wetlands, you shall purchase 0.08 credits of seasonal wetlands (0.04*2 ratio) at Beach Lake Mitigation Bank. The selected mitigation bank shall include the area of the permitted project within its service area. Evidence of this purchase shall be provided to the Corps prior to initiation of construction activities within waters of the U.S.

2. The enclosed plan drawing entitled *Jurisdiction Impacts Caltrans "Y-Cascade" EIP Project State Route 89 in El Dorado County, PM 8.-13.8, Sheet 19, and 27*, dated June 11, 2013, created by Caltrans, is incorporated as a condition of this authorization (enclosure 3). All deviations from the work as authorized, which result in additional impacts to waters of the U.S., including wetlands, must be coordinated with this office prior to impacts.

3. You shall restore all temporary impacts to waters of the U.S. and adjacent upland areas within 8 feet of waters of the U.S. to their original contour and condition within 30 days following completion of construction activities. In order to ensure compliance with this condition, you shall:

a. Prior to initiation of any construction activities within waters of the U.S., submit to the Corps, for review and approval, a plan for the restoration of temporary impact areas prior to initiation of any construction activities. You shall include the following information within this plan:

(1) A description of and drawings showing the existing contours (elevation) and existing vegetation of the temporary impact areas. This information shall include site photographs taken of the temporary impact area. For linear projects, these photographs shall be taken from the alignment, in both directions and taken every 10-foot for the length of the temporary impact area;

(2) The methods used to restore the site to the original contour and conditions, as well as a plan for the revegetation of the site following construction activities;

(3) The proposed schedule for the restoration activities, and;

(4) A mitigation and monitoring plan, to be approved by the Corps, for the temporary impact area to ensure success of the restoration. Monitoring shall be conducted for a minimum of three growing seasons after completion of restoration activities. The plan shall be presented in the format of the Sacramento District Habitat Mitigation and Monitoring Proposal Guidelines, dated December 30, 2004.

b. Within 30 days following completion of restoration activities, submit to the Corps a report describing the restoration activities including color photographs of the restored area. The compass angle and position of all photographs shall be similar to pre-construction photographs.

c. Submit to the Corps a Monitoring Report by October 1 of each year of required monitoring period. This report shall be submitted in the format shown on the enclosed Regulatory Guidance Letter 08-03, dated 10 October 2008, or subsequent guidance as appropriate. Reports may be submitted in hard copy or electronically.

4. If any of the above conditions are violated or unauthorized activities occur, you shall stop work immediately and notify this office. You shall provide us with a detailed description of the unauthorized activity(s), photo documentation, and any measures taken to remedy the violation.

You must sign the enclosed Compliance Certification and return it to this office within 30 days after completion of the authorized work.

This verification is valid until March 18, 2017, when the existing NWP's are scheduled to be modified, reissued, or revoked. Furthermore, if you commence or are under contract to commence this activity before the date that the relevant NWP is modified, reissued or revoked, you will have twelve (12) months from the date of the modification, reissuance or revocation of the NWP to complete the activity under the present terms and conditions. Failure to comply with the General and Regional Conditions of this NWP, or the project-specific Special Conditions of this authorization, may result in the suspension or revocation of your authorization.

We would 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-2013-00067 in any correspondence concerning this project. If you have any questions, please contact Mr. Peck Ha at our California North Branch Office, Regulatory Division, Sacramento District, U.S. Army Corps of Engineers, 1325 J Street, Room 1350, Sacramento, California 95814-2922, by email at Peck.Ha@usace.army.mil, or telephone at 916-557-6617. For more information regarding our program, please visit our website at www.spk.usace.army.mil/Missions/Regulatory.aspx.

Sincerely,



Nancy Arcady Haley
Chief, California North Branch

Enclosures

cc: (w/o encls)

Mr. Alan Miller, Lahontan Regional Water Quality Control Board, 2501 Lake Tahoe Blvd,
South Lake Tahoe, California 96150

Mr. Tina Bartlett, California Department of Fish and Game, Region 2, 1701 Nimbus
Drive, Rancho Cordova, California 95670-4599

Mr. Jason Brush, Environmental Protection Agency, WRT-8, 75 Hawthorne Street, San
Francisco, California 94105-3922



U S Army Corps of
Engineers
Sacramento District

Nationwide Permit Summary

33 CFR Part 330; Issuance of Nationwide
Permits – March 19, 2012

23. Approved Categorical Exclusions. Activities undertaken, assisted, authorized, regulated, funded, or financed, in whole or in part, by another Federal agency or department where:

(a) That agency or department has determined, pursuant to the Council on Environmental Quality's implementing regulations for the National Environmental Policy Act (40 CFR part 1500 et seq.), that the activity is categorically excluded from environmental documentation, because it is included within a category of actions which neither individually nor cumulatively have a significant effect on the human environment; and

(b) The Office of the Chief of Engineers (Attn: CECW-CO) has concurred with that agency's or department's determination that the activity is categorically excluded and approved the activity for authorization under NWP 23.

The Office of the Chief of Engineers may require additional conditions, including pre-construction notification, for authorization of an agency's categorical exclusions under this NWP.

Notification: Certain categorical exclusions approved for authorization under this NWP require the permittee to submit a pre-construction notification to the district engineer prior to commencing the activity (see general condition 31). The activities that require pre-construction notification are listed in the appropriate Regulatory Guidance Letters. (Sections 10 and 404)

Note: The agency or department may submit an application for an activity believed to be categorically excluded to the Office of the Chief of Engineers (Attn: CECW-CO). Prior to approval for authorization under this NWP of any agency's activity, the Office of the Chief of Engineers will solicit public comment. As of the date of issuance of this NWP, agencies with approved categorical exclusions are the: Bureau of Reclamation, Federal Highway Administration, and U.S. Coast Guard. Activities approved for authorization under this NWP as of the date of this notice are found in Corps Regulatory Guidance Letter 05-07, which is available at:

<http://www.usace.army.mil/Missions/CivilWorks/RegulatoryProgramandPermits/GuidanceLetters.aspx>. Any future approved categorical exclusions will be announced in Regulatory Guidance Letters and posted on this same web site

A. Regional Conditions

1. Regional Conditions for California, excluding the Tahoe Basin

http://www.spk.usace.army.mil/Portals/12/documents/regulatory/nwp/2012_nwps/2012-NWP-RC-CA.pdf

2. Regional Conditions for Nevada, including the Tahoe Basin

http://www.spk.usace.army.mil/Portals/12/documents/regulatory/nwp/2012_nwps/2012-NWP-RC-NV.pdf

3. Regional Conditions for Utah

http://www.spk.usace.army.mil/Portals/12/documents/regulatory/nwp/2012_nwps/2012-NWP-RC-UT.pdf

4. Regional Conditions for Colorado.

http://www.spk.usace.army.mil/Portals/12/documents/regulatory/nwp/2012_nwps/2012-NWP-RC-CO.pdf

B. Nationwide Permit General Conditions

Note: To qualify for NWP authorization, the prospective permittee must comply with the following general conditions, as applicable, 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. Every person who may wish to obtain permit authorization under one or more NWPs, or who is currently relying on an existing or prior permit authorization under one or more NWPs, has been and is on notice that all of the provisions of 33 CFR §§ 330.1 through 330.6 apply to every NWP authorization. Note especially 33 CFR § 330.5 relating to the modification, suspension, or revocation of any NWP authorization.

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,

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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. All permanent and temporary crossings of waterbodies shall be suitably culverted, bridged, or otherwise designed and constructed to maintain low flows to sustain the movement of those aquatic species.
- 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 NWP 4 and 48, or is a shellfish seeding or habitat restoration activity authorized by NWP 27.
- 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 and compliance with applicable NWP general conditions, as well as any activity-specific conditions added by the district engineer to an NWP authorization.
- 15. **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.
- 16. **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 responsible for the designated Wild and Scenic River or study river (e.g., National Park Service, U.S. Forest Service, Bureau of Land Management, U.S. Fish and Wildlife Service).
- 17. **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.
- 18. **Endangered Species.**
 - (a) No activity is authorized under any NWP which is likely to directly or indirectly 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 directly or indirectly 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. The district engineer will review the documentation and determine whether it is sufficient to address ESA compliance for the NWP activity, or whether additional ESA consultation is necessary.

(c) Non-federal permittees must submit a pre-construction notification to 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 might be affected by the proposed work or that utilize the designated critical habitat that might 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. If the non-Federal applicant has not heard back from the Corps within 45 days, the applicant must still wait for notification from the Corps.

(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, The Endangered Species Act prohibits any person subject to the jurisdiction of the United States to take a listed species, where “take” means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. The word “harm” in the definition of “take” means an act which actually kills or injures wildlife. Such an act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering.

(f) 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/> or <http://www.fws.gov/ipac> and <http://www.noaa.gov/fisheries.html> respectively.

19. **Migratory Birds and Bald and Golden Eagles.** The permittee is responsible for obtaining any “take” permits required under the U.S. Fish and Wildlife Service’s regulations governing compliance with the Migratory Bird Treaty Act or the Bald and Golden Eagle Protection Act. The permittee should contact the appropriate local office of the U.S. Fish and Wildlife Service to determine if such “take” permits are required for a particular activity.

20. **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. The district engineer will review the documentation and determine whether it is sufficient to address section 106 compliance for the NWP activity, or whether additional section 106 consultation is necessary.

(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 on, 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)). When reviewing pre-construction notifications, district engineers will comply with the current procedures for addressing the requirements of Section 106 of the National Historic Preservation Act. 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 on 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. If the non-Federal applicant has not heard back from the Corps within 45 days, the applicant must still wait for notification from the Corps.

(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, 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.

21. Discovery of Previously Unknown Remains and Artifacts. If you discover any previously unknown historic, cultural or archeological remains and artifacts while accomplishing the activity authorized by this permit, you must immediately notify the district engineer of what you have found, and to the maximum extent practicable, avoid construction activities that may affect the remains and artifacts until the required coordination has been completed. The district engineer will initiate the Federal, Tribal and state coordination required to determine if the items or remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.

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

(a) Discharges of dredged or fill material into waters of the United States are not authorized by NHPAs 7, 12, 14, 16, 17, 21, 29, 31, 35, 39, 40, 42, 43, 44, 49, 50, 51, and 52 for any activity within, or directly affecting, critical resource waters, including wetlands adjacent to such waters.

(b) For NHPAs 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 31, for any activity proposed in the designated critical resource waters including wetlands adjacent to those waters. The district engineer may authorize activities under these NHPAs only after it is determined that the impacts to the critical resource waters will be no more than minimal.

23. 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 for resource losses) 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 either some other form of mitigation would be more environmentally appropriate or the adverse effects of the proposed activity are minimal, 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.

Compensatory mitigation projects provided to offset losses of aquatic resources must comply with the applicable provisions of 33 CFR part 332.

(1) The prospective permittee is responsible for proposing an appropriate compensatory mitigation option if compensatory mitigation is necessary to ensure that the activity results in minimal adverse effects on the aquatic environment.

(2) 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.

(3) If permittee-responsible mitigation is the proposed option, the prospective permittee is responsible for submitting a mitigation plan. A conceptual or detailed mitigation plan may be used by the district engineer to make the decision on the NWP verification request, but a final mitigation plan

that addresses the applicable requirements of 33 CFR 332.4(c)(2) – (14) must be approved by the district engineer before the permittee begins work in waters of the United States, unless the district engineer determines that prior approval of the final mitigation plan is not practicable or not necessary to ensure timely completion of the required compensatory mitigation (see 33 CFR 332.3(k)(3)).

- (4) If mitigation bank or in-lieu fee program credits are the proposed option, the mitigation plan only needs to address the baseline conditions at the impact site and the number of credits to be provided.
- (5) Compensatory mitigation requirements (e.g., resource type and amount to be provided as compensatory mitigation, site protection, ecological performance standards, monitoring requirements) may be addressed through conditions added to the NWP authorization, instead of components of a compensatory mitigation plan.
- (d) For losses of streams or other open waters that require pre-construction notification, the district engineer may require compensatory mitigation, such as stream rehabilitation, enhancement, or preservation, to ensure that the activity results in minimal adverse effects on the aquatic environment.
- (e) Compensatory mitigation will not be used to increase the acreage losses allowed by the acreage limits of the NWPs. For example, if an NWP has an acreage limit of 1/2-acre, it cannot be used to authorize any project resulting in the loss of greater than 1/2-acre of waters of the United States, even if compensatory mitigation is provided that replaces or restores some of the lost waters. However, compensatory mitigation can and should be used, as necessary, to ensure that a project already meeting the established acreage limits also satisfies the minimal impact requirement associated with the NWPs.
- (f) Compensatory mitigation plans for projects in or near streams or other open waters will normally include a requirement for the restoration or 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. If it is not possible to establish a riparian area on both sides of a stream, or if the waterbody is a lake or coastal waters, then restoring or establishing a riparian area along a single bank or shoreline may be sufficient. 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 programs, or separate permittee-responsible mitigation. For activities resulting in the loss of marine or estuarine resources, permittee-responsible compensatory mitigation may be environmentally preferable if there are no mitigation banks or in-lieu fee programs in the area that have marine or estuarine credits available for sale or transfer to the permittee. For permittee-responsible mitigation, the special conditions of the NWP verification must clearly indicate the party or parties responsible for the implementation and performance of the compensatory mitigation project, and, if required, its long-term management.

(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.

24. Safety of Impoundment Structures. To ensure that all impoundment structures are safely designed, the district engineer may require non-Federal applicants to demonstrate that the structures comply with established state dam safety criteria or have been designed by qualified persons. The district engineer may also require documentation that the design has been independently reviewed by similarly qualified persons, and appropriate modifications made to ensure safety.

25. 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.

26. 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.

27. 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.

28. 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.

29. 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)

30. Compliance Certification. Each permittee who receives an NWP verification letter from the Corps must provide a signed certification documenting completion of the authorized activity and any required compensatory mitigation. The success of any required permittee responsible mitigation, including the achievement of ecological performance standards, will be addressed separately by the district engineer. The Corps will provide the permittee the certification document with the NWP verification letter. The certification document will include:

- (a) A statement that the authorized work was done in accordance with the NWP authorization, including any general, regional, or activity-specific conditions;
- (b) A statement that the implementation of any required compensatory mitigation was completed in accordance with the permit conditions. If credits from a mitigation bank or in-lieu fee program are used to satisfy the compensatory mitigation requirements, the certification must include the documentation required by 33 CFR 332.3(l)(3) to confirm that the permittee secured the appropriate number and resource type of credits; and
- (c) The signature of the permittee certifying the completion of the work and mitigation.

31. 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, if the PCN is determined to be incomplete, notify the prospective permittee within that 30 day period to request the additional information

necessary to make the PCN complete. The request must specify the information needed to make the PCN complete. As a general rule, district engineers 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) 45 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 18 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 20 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 there 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)) has been 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 may not 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, including the anticipated amount of loss of water of the United States expected to result from the NWP

activity, in acres, linear feet, or other appropriate unit of measure; 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 results in a quicker decision. Sketches should contain sufficient detail to provide an illustrative description of the proposed activity (e.g., a conceptual plan), but do not need to be detailed engineering plans);

(4) The PCN must include a delineation of wetlands, other special aquatic sites, and other waters, such as lakes and ponds, and perennial, intermittent, and ephemeral streams, 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 on the project site, 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, as 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, or explaining why the adverse effects are minimal and why compensatory mitigation should not be required. 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: he standard individual permit application form (Form ENG 4345) may be used, but the completed application form must clearly indicate that it is a PCN and must include all of the information required in paragraphs (b)(1) through (7) of this general condition. A letter containing the required information may also be used.

(d) Agency Coordination:

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

(2) For all NWP activities that require pre-construction notification and result in the loss of greater than 1/2-acre of waters of the United States, for NWP 21, 29, 39, 40, 42, 43, 44, 50, 51, and 52 activities that require pre-construction notification and will result in the loss of greater than 300 linear feet of intermittent and ephemeral stream bed, and for all NWP 48 activities that require pre-construction notification, the district engineer will immediately provide (e.g., via email, facsimile transmission, overnight mail, or other expeditious manner) a copy of the complete 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 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. The comments must explain why the agency believes the adverse effects will be more than minimal. 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 concerning the proposed activity's compliance with the terms and conditions of the NWPs, including the need for mitigation to ensure the net adverse environmental effects to the aquatic environment of the proposed activity are minimal. The district engineer 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 with either electronic files or multiple copies of pre-construction notifications to expedite agency coordination.

C. District Engineer's Decision

1. 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. For a linear project, this determination will include an evaluation of the individual crossings to determine whether they individually satisfy the terms and conditions of the NWP(s), as well as the cumulative effects caused by all of the crossings authorized by NWP. If an applicant requests a waiver of the 300 linear foot limit on impacts to intermittent or ephemeral streams or of an otherwise applicable limit, as provided for in NWPs 13, 21, 29, 36, 39, 40, 42, 43, 44, 50, 51 or 52, the district engineer will only grant the waiver upon a written determination that the NWP activity will result in minimal adverse effects. When making minimal effects determinations the district engineer will consider the direct and indirect effects caused by the NWP activity. The district engineer will also consider site specific factors, such as the environmental setting in the vicinity of the NWP activity, the type of resource that will be affected by the NWP activity, the functions provided by the aquatic resources that will be affected by the NWP activity, the degree or magnitude to which the aquatic resources perform those functions, the extent that aquatic resource functions will be lost as a result of the NWP activity (e.g., partial or complete loss), the duration of the adverse effects (temporary or permanent), the importance of the aquatic resource functions to the region (e.g., watershed or ecoregion), and mitigation required by the district engineer. If an appropriate functional assessment method is available and practicable to use, that assessment method may be used by the district engineer to assist in the minimal adverse effects determination. The district engineer may add case-specific special conditions to the NWP authorization to address site-specific environmental concerns.

2. 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 activity 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 activity-specific conditions in the NWP verification the district engineer deems necessary. Conditions for compensatory mitigation requirements must comply with the appropriate provisions at 33 CFR 332.3(k). The district engineer must approve the final mitigation plan before the permittee commences work in waters of the United States, unless the district engineer determines that prior approval of the final mitigation plan is not practicable or not necessary to ensure timely completion of the required compensatory mitigation. 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 proposed compensatory mitigation 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, including any activity-specific conditions added to the NWP authorization by the district engineer.

3. 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: (a) 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; (b) 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 (c) 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, with activity-specific conditions that state the mitigation requirements. The authorization will include the necessary conceptual or detailed 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 or has determined that prior approval of a final mitigation plan is not practicable or not necessary to ensure timely completion of the required compensatory mitigation.

D. 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. NWP's do not grant any property rights or exclusive privileges.
4. NWP's do not authorize any injury to the property or rights of others.
5. NWP's do not authorize interference with any existing or proposed Federal project.

E. 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 (re-establishment or rehabilitation), establishment (creation), enhancement, and/or in certain circumstances preservation of aquatic resources for the purposes of offsetting 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.

Direct effects: Effects that are caused by the activity and occur at the same time and place.

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.

High Tide Line: The line of intersection of the land with the water's surface at the maximum height reached by a rising tide. The high tide line may be determined, in the absence of actual data, by a line of oil or scum along shore objects, a more or less continuous deposit of fine shell or debris on the foreshore or berm, other physical markings or characteristics, vegetation lines, tidal gages, or other suitable means that delineate the general height reached by a rising tide. The line encompasses spring high tides and other high tides that occur with periodic frequency but does not include storm surges in which there is a departure from the normal or predicted reach of the tide due to the piling up of water against a coast by strong winds such as those accompanying a hurricane or other intense storm.

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 non-linear 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.

Indirect effects: Effects that are caused by the activity and are later in time or farther removed in distance, but are still reasonably foreseeable.

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's, 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 and functions.

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 riverine, lacustrine, estuarine, and marine waters with their adjacent wetlands, non-wetland waters, or uplands. Riparian areas provide a variety of ecological functions and services and help improve or maintain local water quality. (See general condition 23.)

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 linear project: A linear project is a project constructed for the purpose of getting people, goods, or services from a point of origin to a terminal point, which often involves multiple crossings of one or more waterbodies at separate and distant locations. The term “single and complete project” is defined as that portion of the total linear project proposed or accomplished by one owner/developer or partnership or other association of owners/developers that includes 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 or multiple waterbodies several times at separate and distant locations, each crossing is considered a single and complete project for purposes of NWP authorization. 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.

Single and complete non-linear project: For non-linear projects, 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 non-linear project must have independent utility (see definition of “independent utility”). Single and complete non-linear projects may not be “piecemealed” to avoid the limits in an NWP authorization.

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. If a jurisdictional wetland is adjacent – meaning bordering, contiguous, or neighboring – to a waterbody determined to be a water of the United States under 33 CFR 328.3(a)(1)-(6), 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.



PERMIT

PROJECT DESCRIPTION: Caltrans – California State Route 89 right-of-way and adjacent easements from The South Lake Tahoe Y to Cascade Road, Water Quality Improvement Project, Caltrans Project 03-1A8424

TRPA PROJECT NUMBER: 520-201-00

FILE: EIPC2007-0033

PERMITTEE(S): State of California, Department of Transportation (Caltrans)

COUNTY/LOCATION: El Dorado / State Route 89 from the Y to Cascade Road

Having made the findings required by Agency ordinances and rules, TRPA approved the project on November 14, 2013, subject to the standard conditions of approval attached hereto (Attachment Q) and the special conditions found in this permit.

This permit shall expire on November 14, 2016 without further notice unless the construction has commenced prior to this date and diligently pursued thereafter. Commencement of construction consists of pouring concrete for a foundation and does not include grading, installation of utilities, or landscaping. Diligent pursuit is defined as completion of the project within the approved construction schedule. The expiration date shall not be extended unless the project is determined by TRPA to be the subject of legal action which delayed or rendered impossible the diligent pursuit of the permit.

NO DEMOLITION, TREE REMOVAL, CONSTRUCTION OR GRADING SHALL COMMENCE UNTIL:

- (1) TRPA RECEIVES A COPY OF THIS PERMIT UPON WHICH THE PERMITTEE(S) HAS ACKNOWLEDGED RECEIPT OF THE PERMIT AND ACCEPTANCE OF THE CONTENTS OF THE PERMIT;
- (2) ALL PRE-CONSTRUCTION CONDITIONS OF APPROVAL ARE SATISFIED AS EVIDENCED BY TRPA'S ACKNOWLEDGEMENT OF THIS PERMIT;
- (3) THE PERMITTEE OBTAINS ALL NECESSARY PERMITS. THE TRPA PERMIT AND OTHER PERMITS ARE INDEPENDENT OF EACH OTHER AND MAY HAVE DIFFERENT EXPIRATION DATES AND RULES REGARDING EXTENSIONS; AND
- (4) A TRPA PRE-GRADING INSPECTION HAS BEEN CONDUCTED WITH THE PROPERTY OWNER AND/OR THE CONTRACTOR.

TRPA Executive Director/Designee

11-14-13

Date

PERMITTEE'S ACCEPTANCE: I have read the permit and the conditions of approval and understand and accept them. I also understand that I am responsible for compliance with all the conditions of the permit and am responsible for my agents' and employees' compliance with the permit conditions. I also understand that if the property is sold, I remain liable for the permit conditions until or unless the new owner acknowledges the transfer of the permit and notifies TRPA in writing of such acceptance. I also understand that certain mitigation fees associated with this permit are non-refundable once paid to TRPA. I understand that it is my sole responsibility to obtain any and all required approvals from any other state, local or federal agencies that may have jurisdiction over this project whether or not they are listed in this permit.

Signature of Permittee(s)



Date

11/18/2013

Security Posted: N/A

Required plans determined to be in conformance with approval: Date: _____

TRPA ACKNOWLEDGEMENT: The permittee has complied with all pre-construction conditions of approval as of this date:

TRPA Executive Director/Designee

Date

SPECIAL CONDITIONS

This permit specifically authorizes stormwater treatment and associated facilities, bike lane improvements, pedestrian improvements, and 4 foot shoulders as shown on the final plans for State Route 89 from the Y to Cascade Road.

1. The Standard Conditions of Approval listed in Attachment Q shall apply to this permit.
2. Prior to permit acknowledgement the permittee shall:
 - A. Submit 3 sets of final plans and specifications to TRPA with a separate note describing any significant changes from the 90% plans. Sidewalks shall extend from 15th Street westward to approximately station 516.
 - B. Submit a final tree removal plan including locations and numbers of trees greater than 10 inches diameter at breast height.
3. Prior to commencement of construction submit a letter signed by the Lahontan Regional Water Quality Control Board stating they concur with final plans as submitted to TRPA.
4. Prior to commencement of construction submit a letter signed by the U.S. Forest Service stating they concur with final plans as submitted to TRPA.
5. An onsite inspection by TRPA staff is required prior to any construction or grading activity. TRPA staff shall determine if the onsite improvements required by Attachment Q (Standard Conditions of Approval) have been properly installed. No grading or construction shall commence until TRPA pre-grade conditions of approval are met.

6. Prior to commencement of construction, the permittee shall submit a copy of the completed Storm Water Pollution Prevention Plan (SWPPP) and/or Water Pollution Control Program (WPCP).
7. Prior to commencement of construction the permittee shall identify for TRPA approval all proposed Contractor Staging Areas. All staging areas shall be fitted with temporary BMPs, including construction limit fencing. Temporary staging and storage areas not located on paved surfaces shall be identified on site through use of vegetation protection fencing and erosion control fencing where appropriate. Staging areas shall be restored prior to project completion.
8. Prior to commencement of construction the permittee shall submit a construction schedule. This schedule shall identify dates for the following:
 - When installation of temporary erosion control structures will occur;
 - When construction will start;
 - When construction spoils and debris will be removed;
 - When installation of all permanent erosion control structures will occur;
 - When construction will be completed and the project area winterized; and,
 - The estimated date for when the final inspection by TRPA Environmental Compliance staff will take place to ensure that all conditions of project approval have been satisfied
9. Drop inlets, storm water conveyance, and treatment facilities located downslope of excavated material shall be protected by temporary erosion control fences or fiber rolls logs (minimum 12" diameter), or approved equivalent.
10. Project construction shall be phased to minimize the amount of disturbed soils existing at one time. Additionally, all new and existing conveyance and treatment facilities shall be fitted with temporary Best Management Practices (BMPs) to prevent the transport of sediment during storm events occurring during construction. Temporary BMPs are to be installed and maintained prior to excavation and during all phases of the proposed project. The permittee shall modify installed BMPs at the request of TRPA if the TRPA inspection(s) find the BMPs to be inadequate or improperly placed or constructed.
11. The color and texture of rock or concrete visible from bike trails, or Highway 89 shall be approved by TRPA prior to placement.
12. All new galvanized or reflective metal surfaces owned by Caltrans including but not limited to guardrails, guardrail posts, traffic signal posts, light posts, utility boxes, sign posts, backs of signs, and exposed culverts shall be colored through use of Natina, City of South Lake Tahoe green (RAL 6012) , Brown (Federal Standard 595 FS 30059) or an approved equivalent. Backs of signs and mounting hardware on wood posts shall be

brown. Backs of signs, mounting hardware, and metal posts within the City limits shall be green. Backs of signs, mounting hardware, and metal posts outside the City limits shall be brown. Backs of signs and mounting hardware shall match the color of the posts. Samples of colored structures shall be submitted to TRPA and approved prior to installation.

13. Four lane sections with a middle turn lane shall have 11 foot lane widths and striping shall include a bike lane.
14. If there is conflicting information between the Caltrans Special Provisions and the special conditions in this Permit, the special conditions in the TRPA Permit shall take precedence.
15. Any modifications to the TRPA approved plans shall be submitted to TRPA for review and approval.
16. This site shall be winterized in accordance with the provisions of Attachment Q by October 15th of each construction season.
17. Vegetation shall not be disturbed, injured or removed except in accordance with the TRPA Code or the conditions of project approval. All trees, major roots, and other vegetation, not specifically designated or approved for removal shall be protected according to methods approved by TRPA. All vegetation outside the construction site/project area boundary shall not be disturbed.
18. All waste resulting from the saw-cutting of pavement shall be removed using a vacuum (or other TRPA approved method) during the cutting process or immediately thereafter. Discharge of waste material to surface drainage features is prohibited and constitutes a violation of this permit.
19. Dust control measures shall include sprinkling with water as needed to keep the surface moistened but not saturated and sweeping of paved surfaces.
20. All rock material (gravel, cobble, and boulders) shall be clean and thoroughly washed prior to arrival at the site to ensure that the rock is free of any silt or clay particles.
21. All spoil piles shall be protected during construction by properly installing either filter fabric fencing or fiber rolls around the perimeter of the piles with a plastic or other impervious covering.
22. All excavated materials that are not to be reused on site shall be hauled to a TRPA approved disposal site or out of the Tahoe Region.

23. All vegetated areas disturbed by construction shall be re-vegetated in accordance with the TRPA Handbook of Best Management Practices.
24. This approval is based on the permittee's representation that all plans and information contained in the subject application are true and correct. Should any information or representation submitted in connection with the project application be incorrect or untrue, TRPA may rescind this approval, or take other appropriate action.
25. All permanent BMPs shall be maintained and functional. This includes visually inspecting BMPs at least bi-annually and after major storm events.
26. Caltrans shall request a final inspection from TRPA once the project is complete.
27. To the maximum extent allowable by law, each party ("Indemnitor") agrees to indemnify, defend, and hold harmless the other party, its governing board, officers, employees and its agents (collectively "Indemnitee") from and against any and all suits, losses, damages, injuries, liabilities, and claims proximately caused by the Indemnitor. To the extent permitted by law, where the foregoing indemnity applies, it includes any and all suits, losses, damages, injuries, liabilities, and claims by any person from any cause whatsoever arising out of or in connection with either directly or indirectly, and in whole or in part (1) the processing, conditioning, issuance, or implementation of this permit; (2) any failure to comply with all applicable laws and regulations; and (3) the design, installation, or operation of any improvements.



Mail
PO Box 5310
Stateline, NV 89449-5310

Location
128 Market Street
Stateline, NV 89449

Contact
Phone: 775-588-4547
Fax: 775-588-4527
www.trpa.org



MITIGATED FINDING OF NO SIGNIFICANT EFFECT

PROJECT DESCRIPTION: Caltrans – California State Route 89 right-of-way and adjacent easements from The South Lake Tahoe Y to Cascade Road, Water Quality Improvement Project, Caltrans Project 03-1A8424

TRPA PROJECT NUMBER: 520-201-00

FILE: EIPC2007-0033

PERMITTEE(S): State of California, Department of Transportation (Caltrans)

COUNTY/LOCATION: El Dorado / State Route 89 from the Y to Cascade Road

Staff Analysis: In accordance with Article IV of the Tahoe Regional Planning Compact, as amended, and Section 6.3 of the TRPA Rules and Regulations of Practice and Procedure, the TRPA staff has reviewed the information submitted with the subject project. On the basis of this initial environmental evaluation, Agency staff has found that the subject project will not have a significant effect on the environment.

Determination: Based on the above-stated finding, the subject project is conditionally exempt from the requirement to prepare an Environmental Impact Statement. The conditions of this exemption are the conditions of permit approval.

A handwritten signature in blue ink, appearing to be "D. J. [unclear]", written over a horizontal line.

TRPA Chairman or Executive Director

11-14-13

Date

ATTACHMENT Q STANDARD CONDITIONS OF APPROVAL FOR GRADING PROJECTS

This handout on the standard conditions that must be met in all projects involving grading is divided into the following three sections:

- I. Pre-Grading Conditions (Pre-activity, where applicable)
- II. Construction/Grading Conditions
- III. General Conditions/Design Standards

Please read all of the conditions carefully to avoid any delays in construction of your project.

NOTE: Your plans have been reviewed and approved as required under Tahoe Regional Planning Agency (TRPA) Rules, Regulations and Ordinances only. TRPA has not reviewed and shall not be responsible for any elements contained in your plans, i.e., structural, electrical, mechanical, etc., which are not required for review under said Rules, Regulations and Ordinances.

I. PRE-GRADING/PRE-ACTIVITY CONDITIONS:

The following conditions must be completely complied with prior to any site disturbance or commencement of activity.

A. Final Construction Plans:

Final construction plans must be submitted to and reviewed by TRPA to determine conformance with the approval. Said plans shall clearly depict the following:

1. Slope stabilization methods to stabilize all existing and proposed cut and fill slopes.
2. Areas to be revegetated, including complete specifications for such revegetation.
3. Fencing for vegetation protection.
4. Temporary and permanent erosion control devices.
5. Utility trenches.
6. Dust control measures.
6. All water quality improvements (BMPs) required in the conditional approval. Drainage facilities shall be designed to be capable of retaining runoff water for a two (2) year, six (6) hour storm.
8. The final plans shall contain equipment specifications necessary to establish compliance with Standard Conditions III. A-F.

B. Securities:

A security shall be posted with the TRPA to insure compliance with all permit conditions. The security shall include an amount equal to 110 percent of the cost of the BMPs and other erosion control and water quality improvements required. For further information on the acceptable types of securities, see Attachment J.

C. Mitigation Fees:

All required air quality, water quality, and excess coverage and offsite coverage mitigation fees shall be paid to TRPA.

D. Temporary BMPs:

The following temporary BMPs are required to be installed onsite prior to any grading activity occurring:

1. Installation of temporary erosion controls.
2. Installation of vegetation protection measures.
3. Installation of construction site boundary fencing.

E. Required Inspection:

An onsite inspection by TRPA staff is required prior to any construction or grading activity occurring. TRPA staff shall determine if the onsite improvements required by Condition II (1), above, have been properly installed. No grading or construction shall be undertaken by the permittee until receipt of TRPA notification that the pre-grading/pre-activity conditions of approval have been satisfied.

F. Required Notices:

The following notices to the TRPA are required prior to any grading or construction occurring on the project site:

1. Notice for Pre-Grading Inspection: The permittee shall notify the TRPA when all onsite improvements required under Condition II(1), above, have been installed so that the required pre-grading inspection may be scheduled.
2. Notice of Commencement of Construction: The permittee shall notify the TRPA at least 48 hours prior to commencement of construction or grading on the project site. Said notice shall include the date when construction will commence.

II. CONSTRUCTION/GRADING CONDITIONS:

The following conditions shall be complied with during the grading and construction phase of the project.

- A. All construction shall be accomplished in strict compliance with the plans approved by TRPA.
- B. The TRPA permit and the final construction drawings bearing the TRPA stamp of approval shall be present on the construction site from the time construction commences to final TRPA site inspection. The permit and plans shall be available for inspection upon request by any TRPA employee. Failure to present the TRPA permit and approved plans may result in the issuance of a Cease and Desist Order by the TRPA.
- C. Whenever possible, utilities shall occupy common trenches to minimize site disturbance.
- D. There shall be no grading or land disturbance performed with respect to the project between October 15 and May 1, except as follows:
 1. The grading or land disturbance is for excavation and backfilling for a volume not in excess of three cubic yards.
 2. The activity is completed within a 48-hour period.
 3. The excavation site is stabilized to prevent erosion.
 4. The pregrade inspection is performed by TRPA staff, and the activity passes the inspection.

5. The grading/project does not represent or involve a series of excavations, which, when viewed as a whole, would exceed the provisions of this Standard Condition of Approval, and Subsection 2.3 of the TRPA Code of Ordinances.

Grading is prohibited any time of the year during periods of precipitation and for the resulting period of time when the site is covered with snow, or is in a saturated, muddy, or instable condition (pursuant to Subsection 33.3.1.A of the TRPA Code of Ordinances.)

- E. All material obtained from any excavation work that is not contained within foundations, retaining walls, or by other methods approved by TRPA shall be removed from the subject parcel and disposed of at a site approved by TRPA.
- F. Replanting of all exposed surfaces, in accordance with the revegetation and slope stabilization plan, shall be accomplished within the first growing season following disturbance, unless an approved construction/inspection schedule establishes otherwise.
- G. All trees and natural vegetation to remain on the site shall be fenced for protection. Scarring of trees shall be avoided and, if scarred, damaged areas shall be repaired with tree seal.
 1. Fencing specified shall be at least 48 inches high and shall be constructed of metal posts and either orange construction fencing or metal mesh fencing also at least 48 inches high (Section 33.6.1). Job sites with violations of the fencing standards will be required to re-fence the job site with a high gauge metal fencing.
 2. No material or equipment shall enter or be placed in the areas protected by fencing or outside the construction areas without prior approval from TRPA. Fences shall not be moved without prior approval (Section 33.6).
 3. To reduce soil disturbance and damage to vegetation, the area of disturbance during the construction of a structure shall be limited to the area between the footprint of the building and the public road. For the remainder of the site the disturbance areas shall not exceed 12 feet from the footprint of the structure, parking area or cut/fill slope. The approved plans should show the fencing and approved exceptions (Section 36.2).
- H. Soil and construction material shall not be tracked off the construction site. Grading operations shall cease in the event that a danger of violating this condition exists. The site shall be cleaned up and road right-of-way swept clean when necessary.
- I. During grading and construction, environmental protection devices such as erosion control devices, dust control, and vegetation protection barriers shall be maintained.
- J. Loose soil mounds or surfaces shall be protected from wind or water erosion by being appropriately covered when construction is not in active progress or when required by TRPA.
- K. Excavated material shall be stored up grade from the excavated areas to the extent possible. No material shall be stored in any stream zone or wet areas.
- L. Only equipment of a size and type that, under prevailing site conditions, and considering the nature of the work to be performed, will do the least amount of damage to the environment shall be used.
- M. No washing of vehicles or construction equipment, including cement mixers, shall be permitted anywhere on the subject property unless authorized by TRPA in writing.
- N. No vehicles or heavy equipment shall be allowed in any stream environment zone or wet areas, except as authorized by TRPA.
- O. All construction sites shall be winterized by October 15 to reduce the water quality impacts associated with winter weather as follows:
 1. For the sites that will be inactive between October 15 and May 1:

- (a) Temporary erosion controls shall be installed;
 - (b) Temporary vegetation protection fencing shall be installed;
 - (c) Disturbed areas shall be stabilized;
 - (d) Onsite construction slash and debris shall be cleaned up and removed;
 - (e) Where feasible, mechanical stabilization and drainage improvements shall be installed; and
 - (f) Spoil piles shall be removed from the site.
2. For sites that will be active between October 15 and May 1, in addition to the above requirements:
- (a) Permanent mechanical erosion control devices shall be installed, including paving of driveway and parking areas; and
 - (b) Parking of vehicles and storage of building materials shall be restricted to paved areas.

III. GENERAL CONDITIONS/DESIGN STANDARDS:

- A. Projects approved by TRPA shall be subject to inspections by TRPA at any reasonable time. The permittee shall be responsible for making the project area accessible for inspection purposes. TRPA shall not be liable for any expense incurred by the permittee as a result of TRPA inspections.
- B. Construction shall be completed in accordance with an approved construction schedule. An extension of a completion schedule for a project may be granted provided the request is made in writing prior to the expiration of the completion schedule, a security is posted to ensure completion or abatement of the project, and TRPA makes either of the following findings:
 - 1. The project was diligently pursued, as defined in Subparagraph 2.2.4.C of the Code of Ordinances, during each building season (May 1 - October 15) since commencement of construction.
 - 2. That events beyond the control of the permittee, which may include engineering problems, labor disputes, natural disasters, or weather problems, have prevented diligent pursuit of the project.
- C. Water conservation appliances and fixtures shall be installed in all new facilities or, when replaced, in existing facilities: low flow flush toilets; low flow showerheads (3 gpm rated maximum flow); faucet aerators; and water-efficient appliances (e.g., washing machines and dishwashers).
- D. Water heaters shall not emit nitrogen oxides greater than 40 nanograms of nitrogen oxide (NO₂) per joule of heat output.
- E. Space heaters shall not emit greater than 40 nanograms of nitrogen oxides (as NO₂) per joule of useful heat delivered to the heated space.
- F. Wood heaters to be installed in the Region shall meet the safety regulations established by applicable city, county, and state codes. Coal shall not be used as a fuel source.
 - 1. Emission Standards: Wood heaters installed in the Region shall not cause emissions of more than 7.5 grams of particulates per hour for noncatalytic wood heaters or 4.1 grams per hour for catalytically equipped wood heaters.

2. Limitations: Wood heaters shall be sized appropriately for the space they are designed to serve. Multi-residential projects of five or more units, tourist accommodations, commercial, recreation and public service projects shall be limited to one wood heater per project area.
 3. List of Approved Heaters: TRPA shall maintain a list of wood heaters which may be installed in the Region. The list shall include the brand names, model number, description of the model and the name and address of the manufacturer. Wood heaters certified for use in either Colorado or Oregon shall be considered in compliance with 6(a), above.
- G. Construction materials shall be secured to prevent them from rolling, washing, or blowing off the project site. Rehabilitation and clean-up of the site following construction must include removal of all construction waste and debris.
- H. Plant species on the TRPA Recommended Native and Adapted Plant List shall be used for lawns and landscaping.
- I. The following sizes and spacing shall be required for woody plant materials at time of planting:
1. Trees shall be a minimum six feet tall or 1-1/2 inch caliper size or diameter at breast height;
 2. Shrubs shall be a minimum three gallon pot size where upright shrubs have a minimum height of 18 inches and a minimum spread of 18 inches; and spreading shrubs have a minimum spread of 18-24 inches.
 3. Groundcovers shall be a minimum four inch pot size or one gallon container and shall be maximum 24 inches on center spacing.
- J. Plant species not found on the TRPA Recommended Native and Adapted Plant List may be used for landscaping as accent plantings but shall be limited to borders, entryways, flower-beds, and other similar locations to provide accent to the overall native or adapted landscape design.
- K. The following exterior lighting standards shall apply:
1. Exterior lights shall not blink, flash or change intensity. String lights, building or roofline tube lighting, reflective or luminescent wall surfaces are prohibited.
 2. Exterior lighting shall not be attached to trees except for Christmas season.
 3. Parking lot, walkway, and building lights shall be directed downward.
 4. Fixture mounting height shall be appropriate to the purpose. The height shall not exceed the limitations set forth in Chapter 37 of the Code.
 5. Outdoor lighting shall be used for purposes of illumination only, and shall not be designed for, or used as, an advertising display. Illumination for aesthetic or dramatic purposes of any building or surrounding landscape utilizing exterior light fixtures projected above the horizontal is prohibited.
 6. The commercial operation of searchlights for advertising or any other purpose is prohibited. Seasonal lighting displays and lighting for special events which conflict with other provisions of this section may be permitted on a temporary basis.
- L. Any normal construction activities creating noise in excess of the TRPA noise standards shall be considered exempt from said standards provided all such work is conducted between the hours of 8:00 a.m. and 6:30 p.m.
- M. Fertilizer use on this property shall be managed to include the appropriate type of fertilizer, rate, and frequency of application to avoid release of excess nutrients and minimize use of fertilizer.
- N. No trees shall be removed or trimmed without prior TRPA written approval unless otherwise specifically exempted under Chapter 2 of the Code of Ordinances.

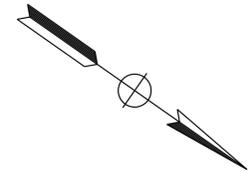
- O. The architectural design of this project shall include elements that screen from public view all external mechanical equipment, including refuse enclosures, satellite receiving disks, communication equipment, and utility hardware on roofs, buildings or the ground. Roofs, including mechanical equipment and skylights, shall be constructed of nonglare finishes that minimize reflectivity.
- P. The permittee is responsible for insuring that the project, as built, does not exceed the approved land coverage figures shown on the site plan. The approved land coverage figures shall supersede scaled drawings when discrepancies occur.
- Q. The adequacy of all required BMPs as shown on the final construction plans shall be confirmed at the time of the TRPA pre-grading inspection. Any required modifications, as determined by TPRA, shall be incorporated into the project permit at that time.
- R. It is the permittee's obligation to locate all subsurface facilities and/or utilities prior to any grading, dredging or other subsurface activity. The permittee is responsible for contacting the Northern Underground Service Alert (USA, usually known as USA DIGS 1-800-227-2600) prior to commencement of any activity on the site.
- S. This approval is based on the permittee's representation that all plans and information contained in the subject application are true and correct. Should any information or representation submitted in connection with the project application be incorrect or untrue, TRPA may rescind this approval or take other appropriate action.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	ED	89	8.6/13.8	2	4

Jack R. Cowell Jr.
 REGISTERED CIVIL ENGINEER DATE
 7-2-14
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
 JACK COWELL
 No. 65521
 Exp. 9-30-15
 CIVIL
 STATE OF CALIFORNIA

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



NOTES:

- FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
- EXACT LOCATIONS AND NUMBER OF TREES TO BE REMOVED TO BE DETERMINED BY ENGINEER IN THE FIELD.
- *TREE NO. 76333 COULD POTENTIALLY BE REMOVED. REMOVAL OF THIS TREE TO BE DETERMINED BY ENGINEER IN THE FIELD.

TREES TO BE REMOVED

LOCATION		OFFSET	DIA	SPECIES	TREE #
STATION	SIDE	FT	IN		
"A1" 559+24.74	R+	19.7	20	PINE	76519
"A1" 577+73.13	L+	16.2	16	PINE	77387
"A1" 578+29.12	L+	19.3	16	PINE	77388
"A1" 578+43.73	L+	19.1	20	PINE	77389
"A1" 578+78.09	L+	17.1	20	PINE	77390
"A1" 578+97.95	L+	19.6	20	PINE	77391
"A1" 579+92.20	L+	19.0	20	PINE	77392
"A1" 580+06.51	R+	17.7	28	PINE	77409
"A1" 554+26.4	L+	16.8	40	CEDAR	76333*



TREE REMOVAL

SCALE: 1" = 50'

TR-2

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
DESIGN

FUNCTIONAL SUPERVISOR
 MASTRI ALVANDI

CALCULATED/DESIGNED BY
 CHECKED BY
 JACK COWELL
 MASTRI ALVANDI

REVISED BY
 DATE REVISED

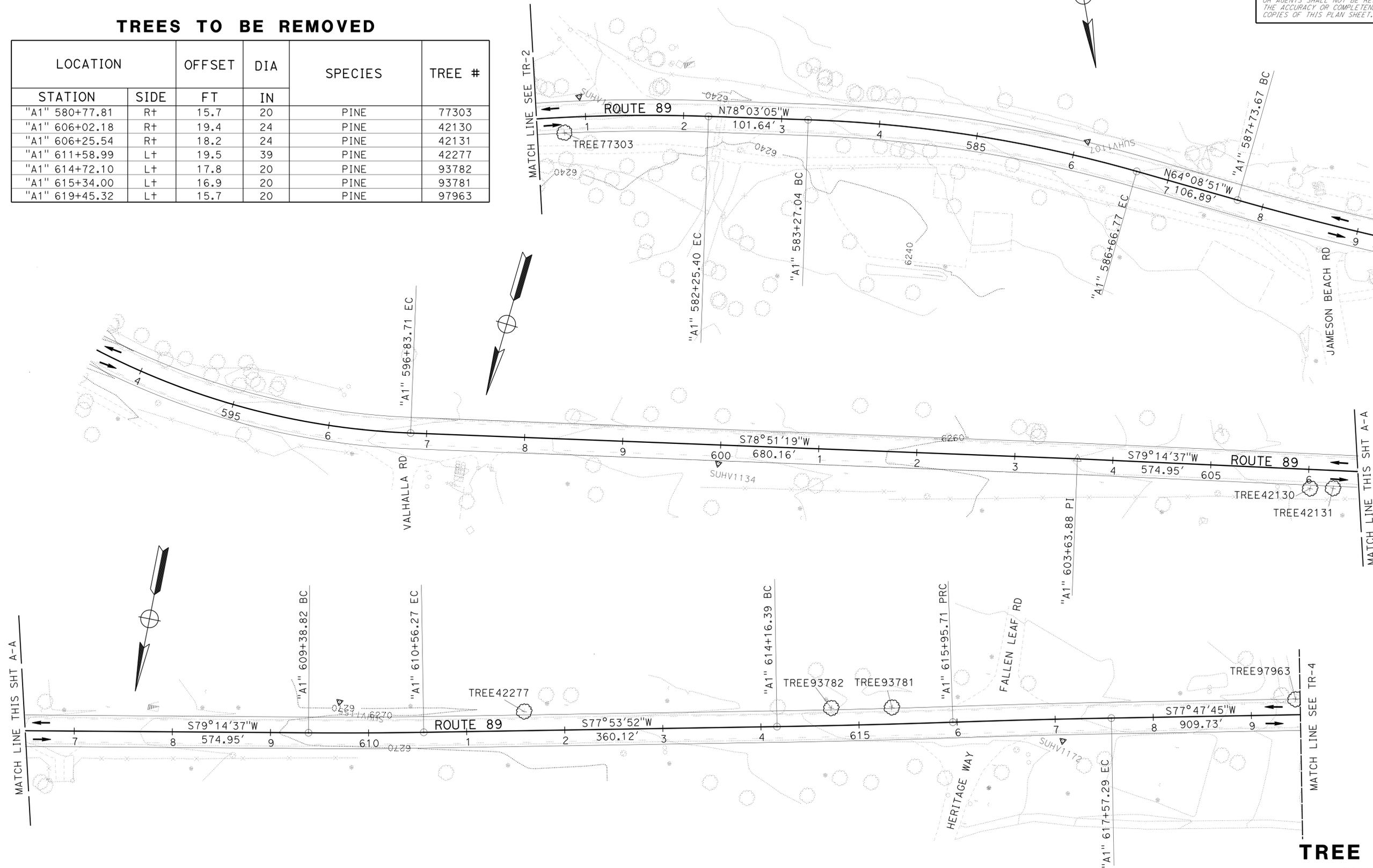
DISTRICT OFFICE

NOTES:

- FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
- EXACT LOCATIONS AND NUMBER OF TREES TO BE REMOVED TO BE DETERMINED BY ENGINEER IN THE FIELD.

TREES TO BE REMOVED

LOCATION		OFFSET	DIA	SPECIES	TREE #
STATION	SIDE	FT	IN		
"A1" 580+77.81	R+	15.7	20	PINE	77303
"A1" 606+02.18	R+	19.4	24	PINE	42130
"A1" 606+25.54	R+	18.2	24	PINE	42131
"A1" 611+58.99	L+	19.5	39	PINE	42277
"A1" 614+72.10	L+	17.8	20	PINE	93782
"A1" 615+34.00	L+	16.9	20	PINE	93781
"A1" 619+45.32	L+	15.7	20	PINE	97963



TREE REMOVAL
SCALE: 1" = 50'

TR-3

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 DESIGN
 FUNCTIONAL SUPERVISOR: MASTRI ALVANDI
 JACK COWELL
 MASTRI ALVANDI
 REVISIONS: (None listed)
 REVISIONS: (None listed)
 REVISIONS: (None listed)

LAST REVISION: DATE PLOTTED => 23-JUL-2014
 04-04-11 TIME PLOTTED => 14:16

Lahontan Regional Water Quality Control Board

MEMORANDUM

TO: Jason Meigs, Biologist
Caltrans District 3 Office of Environmental Management
2379 Gateway Oaks Drive, Suite 150
Sacramento, CA 95833

FROM: 
PATTY Z. KOUYOUMDJIAN
Executive Officer
LAHONTAN REGIONAL WATER QUALITY CONTROL BOARD

DATE: October 14, 2013

**SUBJECT: ORDER NO. R6T-2013-0086, CLEAN WATER ACT SECTION 401
WATER QUALITY CERTIFICATION AND PROHIBITION EXEMPTION
FOR HIGHWAY 89 Y TO CASCADE ROAD ENVIRONMENTAL
IMPROVEMENT PROGRAM PROJECT, EL DORADO COUNTY,
WDID 6A091308005**

The California Regional Water Quality Control Board, Lahontan Region (Water Board) has received a complete Clean Water Act (CWA) Section 401 Water Quality Certification (WQC) application and application filing fee from the California Department of Transportation (Applicant) for the Highway 89 Y to Cascade Road Environmental Improvement Program Project (Project) in El Dorado County. The Water Board also received information to support granting an exemption to a waste discharge prohibition in the Water Board's *Water Quality Control Plan for the Lahontan Region* (Basin Plan). This Order for WQC and waste discharge prohibition exemption hereby assigns this Project the following reference number: Waste Discharger Identification (WDID) No. 6A091308005. Please use this reference number in all future correspondence regarding this Project.

Any person aggrieved by this action of the Water Board may petition the State Water Resources Control Board (State Water Board) to review the action in accordance with Water Code section 13320 and California Code of Regulations (CCR), title 23, sections 2050 and following. The State Water Board must receive the petition by 5:00 p.m., 30 days after the date of this Order, except that if the thirtieth day following the date of this Order falls on a Saturday, Sunday, or state holiday, the petition must be received by the State Water Board by 5:00 p.m. on the next business day. Copies of the law and regulations applicable to filing petitions may be found on the Internet at: http://www.waterboards.ca.gov/public_notices/petitions/water_quality or will be provided upon request.

PROJECT DESCRIPTION

Table of Project Information:

WDID Number	6A091308005						
Applicant	Caltrans District 3 Office of Environmental Management 2379 Gateway Oaks Drive, Suite 150 Sacramento, CA 95833						
Agent	Jason Meigs, Biologist Caltrans District 3 Office of Environmental Management 2379 Gateway Oaks Drive, Suite 150 Sacramento, CA 95833						
Project Name	Highway 89 Y to Cascade Road EIP Project						
Project Purpose and Description	<p>The purpose of the proposed Project is to improve the quality of runoff water discharging to Lake Tahoe and its tributaries. The Project includes the following:</p> <ul style="list-style-type: none"> • Install curb and gutter and pave certain existing unsurfaced pullouts • Rehabilitate or replace existing drainage systems • Install additional highway runoff collection and treatment systems; sand traps, infiltration galleries, vegetated swales, and sand vaults • Revegetate bare soils or eroding areas 						
Location (closest City & County)	South Lake Tahoe, El Dorado County						
Location Latitude/Longitude	Latitude: 38.934043; Longitude: -120.039968						
Hydrologic Unit(s)	South Tahoe Hydrologic Area, 634.10 in the Lake Tahoe Hydrologic Unit, 634.00						
Project Area	55.72 acres (Environmental Study limits)						
Receiving Water(s) Name	Lake Tahoe, Taylor Creek, Tallac Creek						
Water Body Type(s)	Lake, Stream						
Designated Beneficial Uses	MUN, AGR, GWR, FRSH, NAV, REC-1, REC-2, COMM, COLD, WILD, BIOL, MIGR, SPWN, WQE, FLD						
Area of Water(s) of the U.S. (WOUS) within the Project area	1.93 acres						
Project Impacts (Fill) to Waters of the state, including WOUS	Waterbody Type	Permanent			Temporary		
		Acres	Linear Feet	Cubic Yards	Acres	Linear Feet	Cubic Yards
	<i>Lake</i>						
	<i>Riparian</i>						
	<i>Stream</i>	0.01	48.54	8.27	0.001	2.4	2.20
	<i>Wetland</i>	0.01			0.034		
	Total	0.02	48.54	8.27	0.035	2.4	2.20

Table of Project Information continued:

Project Impacts (Dredge/ Excavation) to Waters of the state, including WOUS	Waterbody Type	Permanent			Temporary		
		Acres	Linear Feet	Cubic Yards	Acres	Linear Feet	Cubic Yard
	<i>Lake</i>						
	<i>Riparian</i>						
	<i>Stream</i>						
	<i>Wetland</i>						
	Total						
Federal Permit(s)	The Applicant has applied to the U.S. Army Corps of Engineers (USACOE) to proceed under a Nationwide Permit No. 23, pursuant to CWA section 404 (SPK-2013000).						
Non-Compensatory Mitigation	Impacts to Environmentally Sensitive Areas (ESAs) beyond those identified will be avoided and protected by ESA fencing. Potential direct impacts to streams and fisheries will be avoided by conducting work during seasonal low water levels or when flows have ceased. A clear water diversion will be used at Tallac Creek as part of replacing the existing culvert with a box culvert. All disturbed areas will be re-contoured to match pre-Project conditions as much as possible to minimize erosion. All bare areas will be re-vegetated using soil amendments, seed and mulch. Sediment and erosion control Best Management Practices (BMPs) will be used throughout the construction period and for winterization to control erosion.						
Compensatory Mitigation	None required for erosion control project; however, a culvert that constricts flows of Tallac Creek will be replaced with a box culvert to improve stream flows and fish habitat.						
Applicable Fees	\$1,495 (\$944 base fee, plus 0.044 acres total wetland impacts x \$4,059/acres, plus 50.94 linear feet channel discharges X \$9.44 = \$1495)(owed: \$23)						
Fees Received	\$1,472						

CEQA COMPLIANCE

The Applicant circulated a Mitigated Negative Declaration (MND - SCH No. 2007122070) for the Project in order to comply with the California Environmental Quality Act (CEQA - Public Resources Code 21000et seq.) and filed a Notice of Determination as Lead Agency on July 28, 2011.

The Water Board, acting as a CEQA Responsible Agency in compliance with CCR, title 14, section 15096, has considered the Applicant's MND for the Project and mitigation measures incorporated into the MND to reduce potentially significant water quality impacts to less than significant. As a result of the analysis the Water Board finds, with the conditions required herein, the mitigation measures in the MND are adequate to reduce potentially significant water quality impacts to less than significant.

WATER QUALITY CONTROL PLAN WASTE DISCHARGE PROHIBITION

The Water Board has adopted a Basin Plan, in which Chapter 5 specifies the following discharge prohibition:

“13. The discharge or threatened discharge, attributable to new development in Stream Environment Zones (SEZs) of solid or liquid waste, including soil, silt, sand, clay, rock, metal, plastic, or other organic, mineral or earthen materials to Stream Environment Zones in the Lake Tahoe Basin is prohibited.”

The Project involves disturbance attributable to new development for placement of extended culverts, flared-end sections, rock energy dissipation, and scour protection within SEZs that would threaten violations of the above-cited prohibition.

STREAM ENVIRONMENT ZONES WASTE DISCHARGE PROHIBITION EXEMPTION

Chapter 5 of the Basin Plan allows exemptions to the above-cited SEZ discharge prohibition for erosion control, habitat restoration, wetland rehabilitation, SEZ restoration, and similar projects, programs, and facilities if all the following findings can be made:

1. *The project, program, or facility is necessary for environmental protection.*

The Project is necessary to control and treat pollutants in roadway stormwater runoff as required under the Applicant's Municipal Separate Storm Sewer System NPDES Permit (No. 2012-0011-DWQ). The Project is necessary for environmental protection.

2. *There is no reasonable alternative, which avoids or reduces the extent of encroachment in the SEZ.*

The purpose of the Project is to stabilize eroding areas and reduce potential erosion from discharged flows using energy dissipation structures. There are no reasonable alternatives that would reduce the extent of encroachment in the SEZ because the erosion and drainage control structures must, by their very nature, be placed in the SEZ.

3. *Impacts are fully mitigated.*

The Applicant has proposed BMPs that will be in place during Project implementation, including scheduling the work when stream levels are low, installing temporary sediment control and stabilization BMPs during construction, and implementing permanent post-construction stabilization measures. The Project incorporates BMPs to ensure that erosion and surface runoff problems caused by the Project will be mitigated to levels of insignificance. The culvert at Tallac Creek will be replaced with a box culvert to improve stream flows and fish habitat/passage. Impacts are fully mitigated.

EXEMPTION GRANTED

In accordance with Resolution No. R6T-2008-0031, the Water Board delegated authority to the Executive Officer to grant exemptions to the Basin Plan prohibition cited above where the following is met.

The Executive Officer has the authority to authorize the project under an individual water quality certification, the project meets the exemption criteria set forth in the Basin Plan, and the project's primary purpose is reduce, control, or mitigate existing sources of erosion or water pollution.

The Project will be regulated under a CWA section 401 WQC, meets the exemption criteria set forth in the Basin Plan, and is needed to reduce, control, or mitigate existing sources of erosion. The Applicant meets the criteria for an exemption and the Project is hereby granted an exemption to the above-cited waste discharge prohibition.

Except in emergency situations, the Executive Officer shall notify the Water Board and interested members of the public of the intent to issue an exemption at least ten (10) days before the exemption is issued. A notice of exemption will also be posted on the Water Board website and distributed through an interested persons mailing list allowing at least ten (10) days to submit comments.

SECTION 401 WATER QUALITY CERTIFICATION

Authority

Section 401 of the CWA (33 U.S.C., paragraph 1341) requires that any applicant for a CWA section 404 permit, who plans to conduct any activity that may result in discharge of dredged or fill materials to WOUS, must provide to the permitting agency a certification that the discharge will be in compliance with applicable water quality standards of the state in which the discharge will originate. No section 404 permit may be granted (or valid) until such certification is obtained. The Applicant submitted a complete application and fee required for WQC under section 401 for the Project. The Applicant has applied for USACOE authorization to proceed under Nationwide Permit No. 23 pursuant to CWA section 404.

CCR, title 23, section 3831(e) grants the Water Board Executive Officer the authority to grant or deny WQC for projects in accordance with CWA section 401. The Project qualifies for such WQC.

Standard Conditions

Pursuant to CCR title 23, section 3860, the following standard conditions are requirements of this certification:

1. This certification action is subject to modification or revocation upon administrative or judicial review, including review and amendment pursuant to Water Code section 13330 and CCR title 23, section 3867.
2. This certification action is not intended and must not be construed to apply to any discharge from any activity involving a hydroelectric facility requiring a Federal Energy Regulatory Commission (FERC) license unless the pertinent certification application was filed pursuant to CCR title 23, section 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 must be conditioned upon total payment of the full fee required under CCR title 23, section 3833, unless otherwise stated in writing by the certifying agency.
4. Neither Project construction activities nor operation of the Project may cause a violation of the Basin Plan, may cause a condition or threatened condition of pollution or nuisance, or cause any other violation of the Water Code.
5. The Project must be constructed and operated in accordance with the Project described in the application for WQC that was submitted to the Water Board. Deviation from the Project description constitutes a violation of the conditions upon which the certification was granted. Any significant changes to this Project that would have a significant or material effect on the findings, conclusions, or conditions of this certification, including Project operation, must be submitted to the Executive Officer for prior review and written approval.
6. This WQC is subject to the acquisition of all local, regional, state, and federal permits and approvals as required by law. Failure to meet any conditions contained herein or any conditions contained in any other permit or approval issued by the state of California or any subdivision thereof may result in the revocation of this certification and civil or criminal liability.
7. The Water Board may add to or modify the conditions of this certification as appropriate to implement any new or revised water quality standards and implementation plans adopted or approved pursuant to the Porter-Cologne Water Quality Control Act or section 303 of the CWA, or as appropriate to coordinate the operations of this Project with other projects where coordination of operations is reasonably necessary to achieve water quality standards or protect the beneficial uses of water. Notwithstanding any more specific conditions in this certification, the Project must be constructed and operated in a manner consistent with all water quality standards and implementation plans adopted or approved pursuant to the Porter-Cologne Water Quality Control Act or section 303 of the CWA.

8. This certification does not authorize any act that results in the taking of a threatened or endangered species or any act which is now prohibited, or becomes prohibited in the future, under the California Endangered Species Act (Fish and Game Code section 2050 et seq.) or the federal Endangered Species Act (16 U.S.C. sections 1531 et seq.). If a "take" will result from any act authorized under this certification, the Applicant must obtain authorization for the take prior to construction or operation of the Project. The Applicant is responsible for meeting all applicable requirements of the Endangered Species Act for the Project authorized under this certification.

Additional Conditions

Pursuant to CCR title 23, section 3859(a), the following additional conditions are requirements of this certification:

1. No debris, cement, concrete (or wash water therefrom), oil or petroleum product must enter into, or be placed where it may be washed from the Project site by rainfall or runoff, into waters of the state. When operations are completed, any excess material must be removed from the Project work area, and from any areas adjacent to the work area where such material may be transported into waters of the state.
2. The Applicant must immediately (within two hours) notify Water Board staff by telephone whenever an adverse condition occurs as a result of this discharge. Such a condition includes, but is not limited to, a violation of the conditions of this Order, a significant spill of petroleum products or toxic chemicals, or damage to control facilities that would cause noncompliance. A written notification of the adverse condition must be provided to the Water Board within two weeks of occurrence. The written notification must identify the adverse condition, describe the actions necessary to remedy the condition, and specify a timetable, subject to any modifications by Water Board staff, for the remedial actions.
3. The Applicant must prevent the introduction or spread of noxious/invasive weeds within the Project and staging area. Measures must include the cleaning of all equipment and gear that has been in an infested site with water heated to 120 degrees Fahrenheit or more, the use of weed-free erosion control materials (including straw), and the use of weed-free seeds and plant material for revegetation of disturbed areas.
4. Rock materials must be washed and free of adhered soil materials prior to placement into SEZs. The discharge of wastewater to surface waters from rock washing is not authorized by this Order.

5. Construction equipment must be monitored for leaks, and removed from service if necessary to protect water quality.
6. An emergency spill kit must be at the Project site at all times.
7. A copy of this Order must be maintained at the Project site so as to be available at all reasonable times to site operating personnel and Water Board staff.
8. A dewatering plan must be developed and available for Water Board review prior to beginning any dewatering or clear water diversion operations.
9. Revegetation success must be monitored and ensured in accordance with the August 2013 Erosion Control and Revegetation Plan submitted for this WQC.

Enforcement

1. In the event of any violation or threatened violation of the conditions of this certification, the violation or threatened violation must be subject to any remedies, penalties, process or sanctions as provided for under state law. For purposes of CWA section 401(d), the applicability of any state law authorizing remedies, penalties, process or sanctions for the violation or threatened violation constitutes a limitation necessary to assure compliance with the water quality standards and other pertinent requirements incorporated into this certification.
2. In response to a suspected violation of any condition of this certification, the State Water Board or the Water Board may require the holder of any permit or license subject to this certification to furnish, under penalty of perjury, any technical or monitoring report the State Water Board or Water Board deems appropriate, provided that the burden, including costs, of the reports must be a reasonable relationship to the need for the reports and the benefits to be obtained from the reports.
3. In response to any violation of the conditions of this certification, the Water Board may add to or modify the conditions of this certification as appropriate to ensure compliance.

Section 401 Water Quality Certification Requirements Granted

I hereby issue an Order certifying that any discharge from the referenced Project will comply with the applicable provisions of CWA sections 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), and with other applicable requirements of state law. This discharge is also regulated under State Water Board Order No. 2003-0017-DWQ, "General Waste Discharge Requirements for Dredge and Fill Discharges That Have Received State WQC," which requires compliance with all conditions of this WQC.

Except insofar as may be modified by any preceding conditions, all WQC certification actions are contingent on (a) the discharge being limited and all proposed mitigation being completed in strict compliance with the Applicant's Project description and the terms specified in this WQC order, and (b) compliance with all applicable requirements of the Basin Plan.

We look forward to working with you in your efforts to protect water quality. If you have questions, please contact Bud Amorfini, Engineering Geologist, at (530) 542-5463 or Alan Miller, Chief, North Basin Regulatory Unit, at (530) 542-5430.

cc: Gary Kelley/California Department of Fish and Game, Rancho Cordova Office
(via email at GOKELLEY@dfg.ca.gov)
Jason Brush / Wetlands Regulatory Office (WTR-8), US EPA, Region 9
(via email at R9-WTR8-Mailbox@epa.gov)
Peck Ha/ U.S. Army Corps of Engineers, California North Branch Office
(via email at Peck.Ha@usace.army.mil)
Bill Orme / State Water Resources Control Board, Division of Water Quality
(via email at Stateboard401@waterboards.ca.gov)



DEPARTMENT OF FISH AND WILDLIFE

North Central Region
1701 Nimbus Road, Suite A
Rancho Cordova, CA 95670-4599
916-358-2900
www.wildlife.ca.gov



NOV 27 2013

Date

Mike C. Cook
California Department of Transportation
703 B Street
Marysville, CA 95901

Subject: Final Streambed Alteration Agreement
Notification No. 1600-2013-0219 -R2
Y-Cascade SR 89 Roadway Rehabilitation and Water Quality Improvement
Project

Dear Mr. Cook:

Enclosed is the final Streambed Alteration Agreement (Agreement) for the Y-Cascade SR 89 Roadway Rehabilitation and Water Quality Improvement Project (Project). Before the Department of Fish and Wildlife (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, filed a notice of determination (NOD) on the same date it signed the Agreement. The NOD was based on information contained in the Negative Declaration the lead agency prepared for the Project.

Under CEQA, filing a NOD starts a 30-day period within which a party may challenge the filing agency's approval of the project. You may begin your project before the 30-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 Tim Nosal at (916) 358-2853 or tim.nosal@wildlife.ca.gov.

Sincerely,

for Stacy Stanol
Tina Bartlett
Regional Manager

cc: Tim Nosal, Environmental Scientist
Tim.Nosal@wildlife.ca.gov

**CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE
NORTH CENTRAL REGION
1701 NIMBUS ROAD, SUITE A
RANCHO CORDOVA, CA 95670**



**STREAMBED ALTERATION AGREEMENT
NOTIFICATION No. 1600-2013-0219-R2
Tallac Creek and 4 Tributaries to Lake Tahoe**

**CALIFORNIA DEPARTMENT OF TRANSPORTATION
Y-CASCADE SR-89 ROADWAY REHABILITATION AND WATER QUALITY
IMPROVEMENT PROJECT**

This Streambed Alteration Agreement (Agreement) is entered into between the California Department of Fish and Wildlife (Department) and California Department of Transportation (Caltrans) (Permittee) as represented by Mike C. Cook.

RECITALS

WHEREAS, pursuant to Fish and Game Code (FGC) section 1602, Permittee notified the Department on September 16, 2013 that Permittee intends to complete the project described herein.

WHEREAS, pursuant to FGC section 1603, the Department has determined that the project could substantially adversely affect existing fish or wildlife resources and has included measures in the Agreement necessary to protect those resources.

WHEREAS, Permittee has reviewed the Agreement and accepts its terms and conditions, including the measures to protect fish and wildlife resources.

NOW THEREFORE, Permittee agrees to complete the project in accordance with the Agreement.

PROJECT LOCATION

The project is located along State Route (SR) 89 in South Lake Tahoe at Tallac Creek and 4 unnamed watercourses (Table 1) that are tributary to Lake Tahoe in El Dorado County, State of California; U.S. Geological Survey (USGS) map Emerald Bay (Attachment A: Project Maps).

Table 1: CDFW 1602 jurisdictional project locations for the Y-Cascade Roadway Rehabilitation and Water Quality Project.

Project #	Resource ID	Lat	Long	Activity
1	PW-53	38.9152	-120.0064	Install flared end section at culvert inlet. Place slip liner in existing culvert
2	SWD-05/ SWD-06	38.9331	-120.0357	Inlet and outlet: Install headwall and extend culvert by 2-feet
	SWD-07			Remove and replace triple culvert. Extend culvert inlet by 2-feet.
3	W-50	38.9344	-120.0784	Roadway cut resulting in riparian impacts. (0.03 acre)
4	PW-58a/ PW-58b	38.9350	-120.0784	Talac Creek: Remove headwall and endwall and replace with wingwalls. Remove culvert and replace with natural bottom box culvert which will be 10-feet longer at both ends.
5	W-49B	38.9355	-120.0783	Roadway fill resulting in riparian impacts. (0.078 acre)

PROJECT DESCRIPTION

This project proposes to make drainage improvements to the existing roadway that will improve the storm water quality on State Route -89, in El Dorado County from 50/89 split to Cascade Road, in South Lake Tahoe Area. The project will improve storm water quality by complying with National Pollutant Discharge Elimination System (NPDES) requirements and implement elements of the Lake Tahoe Environmental Improvement Program (EIP).

Improvements include:

- Where concentrated flows exist in or along shoulders, convert concentrated flow to sheet flow by contour grading. Where possible, this will be accomplished within the right-of-way. The tributary areas supplying these concentrated flows will be partitioned where possible to reduced pollutant concentration. This method is considered viable treatment of roadway runoff.
- Where concentrated flows exit the right-of-way and may enter surface waters, treat roadway runoff using treatment devices such as traction sand traps and infiltration galleries (UIG).
- Improve drainage by lining or replacing failing culverts and line ditches.
- Improve the collection and conveyance of roadway runoff by replacing or installing new curb and gutter or dike.
- Repair failing roadway elements and providing a 5.0' overlay.

All figures and minimization measures included in the Notification of Streambed Alteration No. 1800-2013-0219-R2 (including "Erosion Control and Revegetation Plan; Y-Cascade Roadway Rehabilitation and Water Quality Improvement Project" August 2013) shall be implemented.

PROJECT IMPACTS

Existing fish or wildlife resources the project could substantially adversely affect include: riparian vegetation, nesting raptors and migratory birds, amphibians, reptiles, other aquatic and terrestrial plant and wildlife species, and cold water fish species.

The adverse effects the project could have on the fish or wildlife resources identified above include: temporary diversion of flow water from, or around, activity site; short-term increased turbidity; increased sedimentation from adjacent construction; short-term release of sediment (e.g. incidental from construction); loss or decline of riparian and wetland habitat; disturbance from project activity; direct take of terrestrial species and of non-fish aquatic species; disruption to nesting birds and other wildlife; dewatering; flow deflection; and direct (seasonal) loss of resources for aquatic organisms.

MEASURES TO PROTECT FISH AND WILDLIFE RESOURCES

1. Administrative Measures

Permittees shall meet each administrative requirement described below.

- 1.1 Documentation at Project Site. Permittee shall make the Agreement, any extensions and amendments to the Agreement, and all related notification materials and California Environmental Quality Act (CEQA) documents, readily available at the project site at all times and shall be presented to the Department personnel, or personnel from another state, federal, or local agency upon request.
- 1.2 Providing Agreement to Persons at Project Site. Permittee shall provide copies of the Agreement and any extensions and amendments to the Agreement to all persons who will be working on the project at the project site on behalf of Permittee, including but not limited to contractors, subcontractors, inspectors, and monitors.
- 1.3 Notification of Conflicting Provisions. Permittee shall notify the Department if Permittee determines or learns that a provision in the Agreement might conflict with a provision imposed on the project by another local, state, or federal agency. In that event, the Department shall contact Permittee to resolve any conflict.

- 1.4 **Project Site Entry.** Permittee agrees that Department personnel may enter the project site at any time to verify compliance with the Agreement.
- 1.5 **Does Not Authorize "Take."** This Agreement does not authorize "take" of any listed species. Take is defined as hunt, pursue, catch, capture or kill or attempt to hunt, pursue, catch, capture, or kill. If there is potential for take of any listed species to occur, the Permittee shall consult with the Department as outlined in FGC Section 2081 and shall obtain the required state and federal threatened and endangered species permits.
- 1.6 **Notification of Project Modification.** Permittee agrees to notify the Department of any modifications made to the project plans submitted to the Department.

2. Avoidance and Minimization Measures

To avoid or minimize adverse impacts to fish and wildlife resources identified above, Permittee shall implement each measure listed below.

- 2.1 **CEQA Compliance.** Permittee shall implement and adhere to the mitigation measures in the Biological Resources section of the Negative Declaration (SCH Number: 2007122070) adopted by the lead agency, Caltrans, for the Project pursuant to the California Environmental Quality Act (CEQA) on December 18, 2007 unless those avoidance and minimization measures are less protective of fish and wildlife or conflict with the conditions of this Agreement.
- 2.2 **Work Period.** The time period for completing the work within the active channel shall be restricted to periods of low stream flow and dry weather and shall be confined to the period of June 15 to October 15. Construction activities shall be timed with awareness of precipitation forecasts and likely increases in stream flow. Construction activities within the project area shall cease until all reasonable erosion control measures, inside and outside of the project area, have been implemented prior to all storm events. Revegetation, restoration and erosion control work is not confined to this time period.
- 2.3 **Work Period Modification.** If Permittee needs more time to complete the project activity, the work may be permitted outside of the work period and extended on a day-to-day basis (or for some other set period of time) by the Department representative who reviewed the project, or if unavailable, through contact with the Regional office. Permittee shall submit a written request for a work period variance to the Department. The work period variance request shall: 1) describe the extent of work already completed; 2) detail the activities that remain to be completed; 3) detail the time required

to complete each of the remaining activities; and 4) provide photographs of both the current work completed and the proposed site for continued work. The work period variance request should consider the effects of increased stream flows and rain delays. Work period variances are issued at the discretion of the Department. The Department will review the written request to work outside of the established work period. The Department reserves the right to require additional measures to protect fish and wildlife resources as a condition for granting the variance. The Department will have ten (10) calendar days to review the proposed work period variance.

2.4 Work Period in Dry Weather Only. Work within Tallac Creek shall be restricted to periods of low stream flow and dry weather. Work within the 4 unnamed tributaries to Lake Tahoe shall be restricted to periods of no stream flow and dry weather. Precipitation forecasts and potential increases in stream flow shall be considered when planning construction activities. Construction activities shall cease and all necessary erosion control measures shall be implemented prior to the onset of precipitation. Construction activities halted due to precipitation may resume when precipitation ceases and the National Weather Service 72 hour weather forecast indicates a 20% or less chance of precipitation, provided no work occurs in the stream bed if water is flowing. If a construction phase may cause the introduction of sediments into the stream: 1) no phase of the project shall be started in May or November of any year, unless all work for that phase and all associated erosion control measures are completed prior to the onset of precipitation; and 2) no phase of the project shall commence unless all equipment and materials are removed from the channel at least 12 hours prior to the onset of precipitation and all associated erosion control measures are in place prior to the onset of precipitation. No work shall occur during a dry-out period of 24 hours after the above referenced wet weather. Weather forecasts shall be documented upon request by the Department.

2.5 Stream Diversions / Dewatering. If work in the flowing portion of Tallac Creek 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/pipes 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. The Department will review the proposed water diversion method, to approve the plan or provide the requirements for that approval. The Permittee may not commence the diversion of water without the explicit approval from the Department.

- 2.6 Bird Nests. It is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird except as otherwise provided by the Fish and Game Code. No trees that contain active nests of birds shall be disturbed until all eggs have hatched and young birds have fledged without prior consultation and approval of a Department representative.
- 2.7 Removal of Trees/Shrubs During Fall/Winter Months. To avoid potential impact to tree nesting birds, trees and shrubs designated for removal may be cut down during the time period of November 1 to February 15. Tree and shrub removal may commence provided that no birds are nesting, or using the site as a rookery at the time of removal.
- 2.8 Special Status Plants Should a special status plant species [as per CEQA sections 15380 and 15125 (c)] be discovered before or during the life of the project, a 25-foot no-operations buffer shall be flagged around the area and the Department shall be immediately notified. Consultation with the Department and/or USFWS shall ensure that potential impacts are avoided or minimized, and that project activities do not inhibit long-term conservation efforts for the survival of special status plant species.
- 2.9 Vegetation Removal. Disturbance or removal of vegetation shall not exceed the minimum necessary to complete operations. Except for the trees specifically identified for removal in the notification, no native trees with a trunk diameter at breast height (DBH) in excess of four (4) inches shall be removed or damaged without prior consultation and approval of a Department representative. Using hand tools (clippers, chain saw, etc.), trees may be trimmed to the extent necessary to gain access to the work sites. All cleared material/vegetation shall be removed out of the riparian/stream zone.
- 2.10 Sediment Control. Precautions to minimize turbidity/siltation shall be taken into account during project planning and implementation. This may require the placement of silt fencing, coir logs, coir rolls, straw bale dikes, or other siltation barriers so that silt and/or other deleterious materials are not allowed to pass to downstream reaches. Materials composing the silt barrier shall not pose an entanglement risk to fish or wildlife such as monofilament mesh and non-biodegradable synthetic erosion blankets. Passage of sediment beyond the sediment barrier(s) is prohibited. If any sediment barrier fails to retain sediment, corrective measures shall be taken. The sediment barrier(s) shall be maintained in good operating condition throughout the construction period and the following rainy season. Maintenance includes, but is not limited to, removal of accumulated silt and/or replacement of damaged siltation barriers. The Permittee is responsible for the removal of non-biodegradable silt barriers (such as plastic silt fencing) after the disturbed areas have been stabilized with

erosion control vegetation (usually after the first growing season). Upon Department determination that turbidity/siltation levels resulting from project related activities constitute a threat to aquatic life, activities associated with the turbidity/siltation shall be halted until effective Department approved control devices are installed or abatement procedures are initiated.

- 2.11 Rock Slope Protection. Un-grouted rock slope protection (RSP) and energy dissipater materials shall consist of clean rock, competent for the application, sized and properly installed to resist washout. RSP slopes shall be supported with competent boulders keyed into a footing trench with a depth sufficient to properly seat the footing course boulders and prevent instability (typically at least 1/3 diameter of footing course boulders). Voids between rocks shall be planted with riparian species native to the area.
- 2.12 Pollution Control. Utilize Best Management Practices (BMPs) to prevent spills and leaks into water bodies. If maintenance or refueling of vehicles or equipment must occur on-site, use a designated area and/or a secondary containment, located away from drainage courses to prevent the runoff of storm water and the runoff of spills. Ensure that all vehicles and equipment are in good working order (no leaks). Place drip pans or absorbent materials under vehicles and equipment when not in use. Ensure that all construction areas have proper spill clean-up materials (absorbent pads, sealed containers, booms, etc.) to contain the movement of any spilled substances. Any other substances which could be hazardous to aquatic life, resulting from project related activities, shall be prevented from contaminating the soil and/or entering the waters of the state. Any of these materials, placed within or where they may enter a stream or lake by the Applicant or any party working under contract or with the permission of the Permittee, shall be removed immediately. The Department shall be notified immediately by the Permittee of any spills and shall be consulted regarding clean-up procedures.
- 2.13 Designated Representative. Before initiating ground- or vegetation-disturbing project activities, Permittee shall designate a representative (Designated Representative) responsible for communications with the CDFW and overseeing compliance with this Agreement. The Permittee shall notify the CDFW in writing thirty (30) days prior to commencement of ground- or vegetation-disturbing activities of the Designated Representative's name, business address, and contact information. Permittee shall notify the CDFW in writing if a substitute Designated Representative is selected or identified at any time during the term of this Agreement.
- 2.14 Designated Biologist. At least thirty (30) days before initiating ground- or vegetation-disturbing activities, Permittee shall submit to the CDFW in writing the name, qualifications, business address, and contact information

for a biological monitor (Designated Biologist). Permittee shall obtain the CDFW's written approval of the Designated Biologist prior to the commencement of project activities in the stream. The Designated Biologist shall be knowledgeable and experienced in the biology and natural history of local fish and wildlife resources present at the project site. The Designated Biologist shall be responsible for monitoring all project activities, including construction and any ground- or vegetation-disturbing activities in areas subject to this Agreement.

- 2.15 **Designated Biologist Authority.** The Designated Biologist shall have authority to immediately stop any activity that is not in compliance with this Agreement, and/or to order any reasonable measure to avoid or minimize impacts to fish and wildlife resources. Neither the Designated Biologist nor the CDFW shall be liable for any costs incurred as a result of compliance with this measure. This includes ~~work~~ work orders issued by the CDFW

3. Compensatory Measures

To compensate for adverse impacts to fish and wildlife resources identified above that cannot be avoided or minimized, Permittee shall implement each measure listed below.

- 3.1 **Habitat Restoration Plan.** Riparian areas and wetland habitats temporarily disturbed by construction shall be in accordance with the "Erosion Control and Revegetation Plan, August 2013", submitted for this project.

4. Reporting Measures

Permittee shall meet each reporting requirement described below.

- 4.1 The Permittee shall notify the Department within two working days of beginning work within the stream zone. Notification shall be submitted as instructed in Contact Information section below. Email notification is preferred.
- 4.2 Upon completion of the project activities described in this agreement, the project area shall be digitally photographed. Photographs shall be submitted to the Department within fifteen (15) days of project completion. Photographs and notification of project completion shall be submitted as instructed in Contact Information section below. Email submittal is preferred.

CONTACT INFORMATION

Any communication that Permittee or the Department submits to the other shall be in writing and any communication or documentation shall be delivered to the address below by U.S. mail, fax, or email, or to such other address as Permittee or the Department specifies by written notice to the other.

To Permittee:

Mike C. Cook
California Department of Transportation
703 B Street
Marysville, CA 95901
Email: mike_cook@dot.ca.gov

To The Department:

Department of Fish and Wildlife
North Central Region
1701 Nimbus Road, Suite A
Rancho Cordova, CA 95670
Attn: Lake and Streambed Alteration Program -- Tim Nosal
Notification #1600-2013-0219 H2

Fax: 916-358-2912
Email: r2isa@wildlife.ca.gov

LIABILITY

Permittee shall be solely liable for any violations of the Agreement, whether committed by Permittee or any person acting on behalf of Permittee, including its officers, employees, representatives, agents or contractors and subcontractors, to complete the project or any activity related to it that the Agreement authorizes.

This Agreement does not constitute the Department's endorsement of, or require Permittee to proceed with the project. The decision to proceed with the project is Permittee's alone.

SUSPENSION AND REVOCATION

The Department may suspend or revoke in its entirety the Agreement if it determines that permittee or any person acting on behalf of Permittee, including its officers, employees, representatives, agents, or contractors and subcontractors, is not in compliance with the Agreement.

Before the Department suspends or revokes the Agreement, it shall provide Permittee written notice by certified or registered mail that it intends to suspend or revoke. The notice shall state the reasons for the intended suspension or

revocation, provide Permittee an opportunity to correct any deficiency before the Department suspends or revokes the Agreement, and include instructions to Permittee, if necessary, including but not limited to a directive to immediately cease the specific activity or activities that caused the Department to issue the notice.

ENFORCEMENT

Nothing in the Agreement precludes the Department from pursuing an enforcement action against Permittee instead of, or in addition to, suspending or revoking the Agreement.

Nothing in the Agreement limits or otherwise affects the Department's enforcement authority or that of its enforcement personnel.

OTHER LEGAL OBLIGATIONS

This Agreement does not relieve Permittee or any person acting on behalf of Permittee, including its officers, employees, representatives, agents, or contractors and subcontractors, from obtaining any other permits or authorizations that might be required under other federal, state, or local laws or regulations before beginning the project or an activity related to it.

This Agreement does not relieve Permittee or any person acting on behalf of Permittee, including its officers, employees, representatives, agents, or contractors and subcontractors, from complying with other applicable statutes in the FGC including, but not limited to, FGC sections 2050 *et seq.* (threatened and endangered species), 3503 (bird nests and eggs), 3503.5 (birds of prey), 5650 (water pollution), 5652 (refuse disposal into water), 5901 (fish passage), 5937 (sufficient water for fish), and 594b (obstruction of stream).

Nothing in the Agreement authorizes Permittee or any person acting on behalf of Permittee, including its officers, employees, representatives, agents, or contractors and subcontractors, to trespass.

AMENDMENT

The Department may amend the Agreement at any time during its term if the Department determines the amendment is necessary to protect an existing fish or wildlife resource.

Permittee may amend the Agreement at any time during its term, provided the amendment is mutually agreed to in writing by the Department and Permittee. To request an amendment, Permittee shall submit to the Department a completed Department "Request to Amend Lake or Streambed Alteration" form and include with the completed form payment of the non-refundable amendment

fee identified in the Department's current fee schedule (see Cal. Code Regs., tit. 14, § 699.5).

TRANSFER AND ASSIGNMENT

This Agreement may not be transferred or assigned to another entity, and any purported transfer or assignment of the Agreement to another entity shall not be valid or effective, unless the transfer or assignment is requested by Permittee in writing, as specified below, and thereafter the Department approves the transfer or assignment in writing.

The transfer or assignment of the Agreement to another entity shall constitute a minor amendment, and therefore to request a transfer or assignment, Permittee shall submit to the Department a completed Department "Request to Amend Lake or Streambed Alteration" form and include with the completed form payment of the minor amendment fee identified in the Department's current fee schedule (see Cal. Code Regs., tit. 14, § 699.5).

EXTENSIONS

In accordance with FGC section 1605(b), Permittee may request one extension of the Agreement, provided the request is made prior to the expiration of the Agreement's term. To request an extension, Permittee shall submit to the Department a completed Department "Request to Extend Lake or Streambed Alteration" form and include with the completed form payment of the extension fee identified in the Department's current fee schedule (see Cal. Code Regs., tit. 14, § 699.5). The Department shall process the extension request in accordance with FGC 1605(b) through (e).

If Permittee fails to submit a request to extend the Agreement prior to its expiration, Permittee must submit a new notification and notification fee before beginning or continuing the project the Agreement covers (Fish & G. Code, § 1605, subd. (f)).

EFFECTIVE DATE

The Agreement becomes effective on the date of the Department's signature, which shall be: 1) after Permittee's signature; 2) after the Department complies with all applicable requirements under the California Environmental Quality Act (CEQA); and 3) after payment of the applicable FGC section 711.4 filing fee listed at http://www.wildlife.ca.gov/habcon/ceqa/ceqa_charges.html.

TERM

This Agreement shall expire within five (5) years of the Department's signature, unless it is terminated or extended before then. All provisions in the Agreement shall remain in force throughout its term. Permittee shall remain responsible for implementing any provisions specified herein to protect fish and wildlife resources after the Agreement expires or is terminated, as FGC section 1605(a)(2) requires.

EXHIBIT

The document listed below is included as an exhibit to the Agreement.

Attachment A: Project Maps

AUTHORITY

If the person signing the Agreement (signatory) is doing so as a representative of Permittee, the signatory hereby acknowledges that he or she is doing so on Permittee's behalf and represents and warrants that he or she has the authority to legally bind Permittee to the provisions herein.

AUTHORIZATION

This Agreement authorizes only the project described herein. If Permittee begins or completes a project different from the project the Agreement authorizes, Permittee may be subject to civil or criminal prosecution for failing to notify the Department in accordance with FGC section 1602.

CONCURRENCE

The undersigned accepts and agrees to comply with all provisions contained herein.

FOR CALTRANS



Mike C. Cook
Project Manager

11/13/2013

Date

FOR DEPARTMENT OF FISH AND WILDLIFE

for 

Tina Bartlett
Regional Manager

11/27/2013

Date

Prepared by: Tim Mosal
Environmental Scientist

**Attachment A:
Project Maps**

**Caltrans: Y-Cascade SR 89 Roadway Rehabilitation and Water
Quality Improvement Project**

El Dorado County

LSA#1800-2013-0219-R2

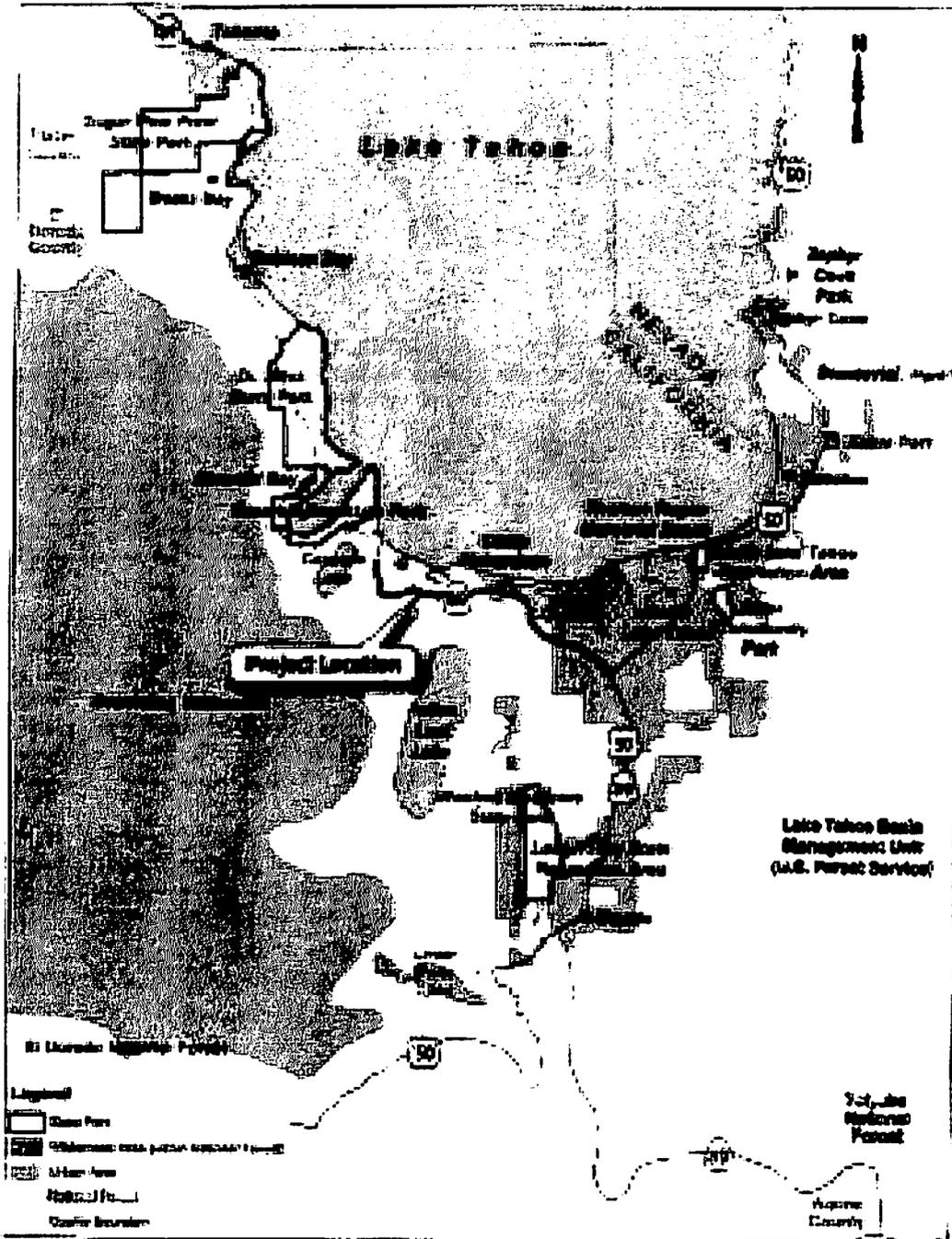


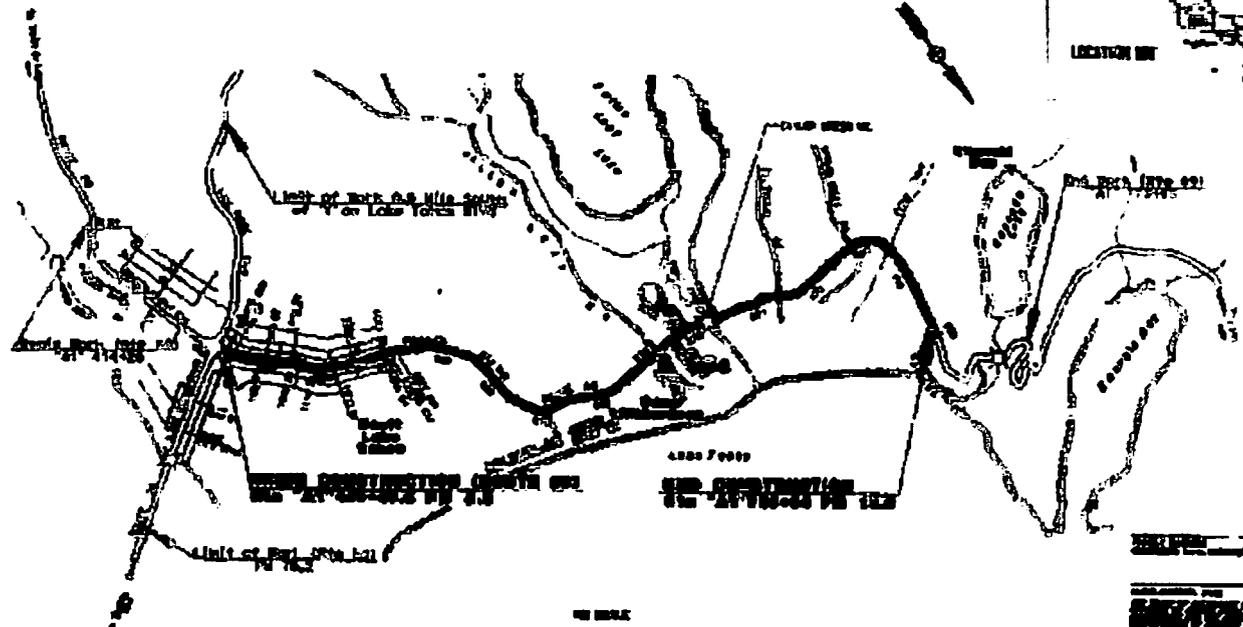
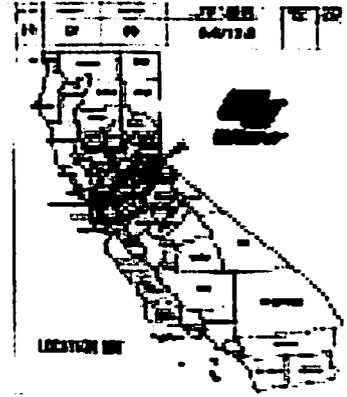
Figure 1-1
Project Location

INDEX OF PLANS

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
PROJECT PLANS FOR CONSTRUCTION ON
STATE HIGHWAY

IN EL DORADO COUNTY
IN AND NEAR SOUTH LAKE TAHOE
FROM ROUTE 50 TO CARBIDE ROAD

AS BEING IMPLEMENTED BY STIPPLED PLANS SHEET 202



VERTICAL CURVE
DATA SHEET

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL UTILITIES AND STRUCTURES ENCOUNTERED DURING CONSTRUCTION.

STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION PROJECT NO. 10-100-0000 SHEET 202 OF 202



Memorandum

*Flex your power!
Be energy efficient!*

To: MASTRI ALVANDI
Senior, North Region Design
Branch M-8, District 3

Attention: Jack Cowell

Date: September 2, 2013

File: 03-ED-89-PM 8.6/13.8
03-1A842, 0300000223
Tahoe EIP/Water Quality
Improvement.
ED 89 “Y” To Cascade Rd.

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

Subject: District Preliminary Geotechnical Report

INTRODUCTION

As requested, the Office of Geotechnical Design North (OGDN) is providing this District Preliminary Geotechnical Report (DPGR) for the proposed Tahoe EIP/Water Quality project. This project is located along State Highway 89 between PM 8.6 and 13.8 in El Dorado County, California. (See Plate 1).

Project Description

The project consists of upgrading drainage system, curb and gutter, and sidewalks. In the Camp Richardson area (PM 11.5) two Pedestrian Hybrid Signals structures will be installed and they will each require an 8 feet long 24-inch diameter Cast-In-Drilled-Hole (CIDH) piles. At PM 8.98 a 5 to 6.5 feet high retaining wall will be constructed. And, at PM 13.3 a new precast 12 by 8 feet box culvert will be constructed and it will involve trenching of existing fill slopes, placing culvert, backfilling the trenches to existing fill slopes ratios, and replacing pavement to match the existing one.

The purpose of this report is to assist designers, planners, project studies personnel and environmental personnel. The conclusions and opinions in this DPGR are intended to assist in the design process and are based on field reconnaissance, review of published data by California Geological Survey (CGS) publications and National Resource Conservation Service (NRCS) soil surveys, and a review of previous site explorations.

No subsurface exploration, laboratory testing, or other analyses were performed for this report. At the time of this report typical cross section, layout, and construction details plans were available from District 3.

Existing Facilities and Proposed Improvements

The project site is located in a gently sloping topography that gradually grades into a moderately steeply sloping mountainous topography. The project site begins at the populated area of the western section of South Lake Tahoe, and then it parallels the shoreline of Lake Tahoe where it begins to climb into moderately steeply sloping hillside topography. In general, the highway is located in a tree-studded terrain within the Tahoe National Forest except the section that crosses the City of South Lake Tahoe.

According to the web-based Caltrans, Post-Mile Query Tool (Reference No. 6), the locations at beginning of the project at PM 8.6 and the end at PM 13.6 are located at latitude and longitude coordinates of 38.913543° North and -120.004508° West, and 38.941854° North and -120.078752° West, respectively; these coordinates are the basis for obtaining data in this report available through GIS related information sources. Within the project limits, State Route 89 is a two-lane highway paved with asphalt concrete (AC) except between PM 8.6 to 9.9 where the highway varies between three and four lanes with a continued left turn lane within the City of South Lake Tahoe.

While performing our site visit, we observed overhead and underground utilities in numerous locations throughout the project limits. Residential homes and commercial structures were observed to front the highways sparsely throughout the project limits and moderately within the City of Lake Tahoe and Camp Richardson. Additionally, a 6-foot wide bicycle lane paved with asphalt concrete (AC) parallels the highway from the City of South Lake Tahoe to Spring Creek Road (PM 13.3) where it crosses the highway.

Man-Made and Natural Features of Engineering and Construction Significance

Based on the preliminary cross sections provided by the District and our observations during the site visit, the current highway was constructed with both cuts and fills. Existing fills in the general vicinity of the project are approximately 1.5:1 (H:V) or flatter. Existing cuts appear to be in glacial till and are for the most part of the generally less than 5 feet high.

The existing highway crosses several drainages of varying size with associated culverts and structures. Among those structures are four 30-inch diameter corrugated metal pipes (CMP) culverts that cross under the highway at PM 9.0 and discharge in a detention basin

and then into a infiltration basin, Taylor Creek Bridge that crosses over the creek of the same name at PM 12.03, and a 48-in diameter CMP culvert at Tallac Creek (PM 13.3). This existing culvert will be replaced by a precast 12 by 8 feet culvert.

The slopes below roadway at the subject sites appear to be performing well, and are vegetated with mature and young pines.

Physical Setting

The physical setting of the project site and the surrounding area was reviewed to provide climate, topography and drainage, geology and seismicity characteristics to aid in the project design and construction. The following is a discussion of our review:

Climate

The project area and its surrounding have an abundant sunshine in summer and frequent cloudiness in winter; moderate to heavy precipitation, generally in the form of snowfall; and a wide range of temperature. Temperature readings can reach down to subzero level and highs in the upper 80's during the summer.

According to the National Weather Service (Reference No. 8), the average annual precipitation at Tahoe, California Station (048758) is 220.95 inches from which 189.1 inches are snowfall, based on record from 1/1/1914 to 12/31/2005. Over 90 percent of the precipitation falls between November and March. The highest average daily temperature is 77.9°F during the month of July and the lowest average daily temperature of 19.0°F during the month of January. A moderately hot and dry season extends from June through September. Most of the snowfall occurs during the months of December and January. The climate historical data indicates that significant periods of daily temperature above 50°F, required for paving operations, are not likely from December through March. Work efforts can be hampered by the low temperatures and snow precipitation during the months of December and January.

**Table 2: Average Monthly Climate Summary, Boca Station, California
 Period of Record: 7/1/1948 to 12/31/2005**

Description	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Ave. Max. Temp °F	38.6	40.3	44.0	50.5	59.7	68.7	77.9	77.3	69.9	59.0	46.7	40.4	56.1
Ave. Min. Temp °F	19	20.1	22.9	27.0	32.9	38.7	44.3	43.9	39.1	32.4	25.7	21.0	30.6
Ave. Total Precipitation (in.)	6.01	5.41	4.06	2.13	1.20	0.68	0.25	0.32	0.61	1.81	3.69	5.69	31.85
Average Total Snow Fall (in.)	43.1	37.6	34.6	15.7	3.7	0.2	0.0	0.0	0.3	2.6	16.0	35.4	189.1
Average Snow Depth (in.)	22	31	27	13	1	0	0	0	0	0	2	11	9

Source: Western Regional Climate Center, “<http://www.wrcc.dri.edu>”

Topography and Drainage

The project is located in the northeastern section of El Dorado County bordering with the State of Nevada. In general, within the project limits the area is made up of gently sloping topography of the Lake Tahoe Basin. Towards the end of the project the terrain gradually becomes moderately to steeply sloping. For the most part of the project elevation vary from 6240 to 6260 feet above the mean sea level and gradually starts climbing from Spring Creek Rd (PM 13.3) toward the end of the project to elevation 6400 feet above mean sea level. The two major creeks within the project limits, Tallac Creek and Taylor Creek, drain into Lake Tahoe (See Plate No. 2).

Soil Survey Mapping

According to the National Resource Conservation Soil Survey, U. S. Department of Agriculture, Website, <http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx> (Reference No. 7), the project site is underlain by a variety of soil types. The United States Department of Agriculture (USDA) maps the following soils within the project limits (See Plates Nos. 3 and 4):

Tahoe complex, 0 to 2 percent slopes (7041). The *Tahoe complex* soils consist of sandy silty loam and fine sand, very poorly drained and found in flood plains, and valley flats.

Tahoe complex, 0 to 5 percent slopes, gravelly (7042). The *Tahoe complex* soils consist of gravelly loam and gravelly fine sand, poorly drained and found in flood plains, and valley flats.

Watah peat, 0 to 2 percent slopes (7071). The *Watah peat* soils consist of mucky peat, mucky gravelly loamy coarse sand, and mucky gravelly coarse sandy loam, and are very poorly drained. This soil is generally located in fens, flood plains and valley flats.

Christopher-Gefo- complex, 0 to 5 percent slopes (7444). These soils are somewhat excessively drained and consist of loamy coarse sand. The location of this soil is on the hillslopes on outwash terraces.

Gefo gravelly loamy coarse sand, 0 to 2 percent slopes (7451). These soils consist of gravelly loamy coarse sand and gravelly coarse sand, are excessively drained, and located on hillslopes on outwash terraces.

Gefo gravelly loamy coarse sand, 9 to 30 percent slopes (7452). These soils consist of gravelly loamy coarse sand and gravelly coarse sand, are somewhat excessively drained, and located on hillslopes on outwash terraces.

Jabu coarse sandy loam, 0 to 9 percent slopes (7461). These soils consist of coarse sandy loam, gravelly coarse sandy loam and coarse sandy loam, are well drained, and are located on hillslopes on outwash terraces.

Jabu coarse sandy loam, 9 to 30 percent slopes (7462). These soils consist of coarse sandy loam, gravelly coarse sandy loam and coarse sandy loam, are well drained, and are located on hillslopes on outwash terraces.

Maria loamy coarse sand, 0 to 5 percent slopes (7471). These soils consist of loamy coarse sand, and clayey loam, are poorly drained, and are located on outwash terraces, valley flats.

Meeks gravelly loamy coarse sand, 5 to 15 percent slopes, extremely bouldery (7484). These soils consist of gravelly loamy coarse sand, and extremely stony loamy coarse sand. Somewhat excessively drained, and are located on moraines.

Meeks gravelly loamy coarse sand, 15 to 30 percent slopes, extremely bouldery (7485). These soils consist of gravelly loamy coarse sand, and extremely stony loamy coarse sand. Somewhat excessively drained, and are located on moraines.

Meeks gravelly loamy coarse sand, 30 to 70 percent slopes, extremely bouldery (7486). These soils consist of gravelly loamy coarse sand, and extremely stony loamy coarse sand, are somewhat excessively drained, and are located on moraines.

Meeks gravelly loamy coarse sand, 5 to 15 percent slopes, rubbly (7487). These soils consist of gravelly loamy coarse sand, and extremely stony loamy coarse sand, are somewhat excessively drained, and are located on moraines.

Meeks gravelly loamy coarse sand, 30 to 70 percent slopes, rubbly (7489). These soils consist of gravelly loamy coarse sand, and extremely stony loamy coarse sand, are somewhat excessively drained, and are located on moraines.

Tallac gravelly coarse sandy loam, 5 to 15 percent slopes, very stony (7521). These soils consist of gravelly coarse sandy loam, extremely cobbly coarse sandy loam, and very gravelly coarse sandy loam, are well drained, and are located on moraines.

Tallac gravelly coarse sandy loam, 15 to 30 percent slopes, very stony (7522). These soils consist of gravelly coarse sandy loam, extremely cobbly coarse sandy loam, and very gravelly coarse sandy loam, are well drained, and are located on moraines.

Tallac gravelly coarse sandy loam, 0 to 5 percent slopes (7524). These soils consist of gravelly coarse sandy loam, extremely cobbly coarse sandy loam, and very gravelly coarse sandy loam, are well drained, and are located on moraines.

Tallac gravelly coarse sandy loam, 5 to 9 percent slopes (7525). These soils consist of gravelly coarse sandy loam, extremely cobbly coarse sandy loam, and very gravelly coarse sandy loam, are well drained, and are located on moraines.

Ubaj sandy loam, 0 to 9 percent slopes (7541). These soils consist of sandy loam, sandy clay loam, clay loam, and clay, are moderately well drained, and are located on outwash terraces and lake terraces.

Based on the soils map from Cascade Rd to Camp Richardson included consists of *Tallac* soils (7424 and 7425) described as extremely and very cobbly and gravelly coarse sandy loam. The CIDH pile for the pedestrian hybrid signals located at Camp Richardson and the precast box culvert at Tallac Creek will be constructed in these types of soils.

From Camp Richardson to the intersection to SR 50 (PM 0.0) the *Christopher-Gefo* complex and *Maria* soils predominate and both consist of loamy coarse sand. The retaining wall at 10th street will be constructed in these types of soils.

Regional Geology

The project site is located within the Sierra Nevada geomorphic province of California. The Sierra Nevada stretches for about 375 miles along much of the California’s eastern border and its width ranges from 40 to 80 miles. It trends from south-southeast to north-northwest. The mountain range was formed by the uplift and tilting that has taken place in the past 5 million years. However, the majority of rocks that formed the Sierra Nevada are much older, roughly 120 to 130 million years. These rocks are best described as plutonic rocks or igneous rocks and constitute the Sierra Batholith. Most of the rocks in the batholith are granitic in their composition. The most common granitic rocks of the Sierra Nevada are classified as granite, granodiorite, or tonalite; granodiorite is the most abundant. Other plutonic rocks such as diorite are much less abundant than granitic rocks.

Site Geologic Conditions

According to the Geologic Map of the Lake Tahoe Basin, California and Nevada (2005) (Reference No. 1), the materials that underlay the project site are mainly Holocene and Pleistocene alluvium and lacustrine terrace deposits. The outcrops exposed along the SR 89 within the project limits compare favorably with those described above and in the soils section. (See figure 5 and 6 Geologic Map, and Geologic Map Legend).

Faults and Seismicity

According to the report accompanying the Caltrans Deterministic PGA Map (Reference No. 4), Caltrans defines a fault as “active” if the fault known to have ruptured within the past 700,000 years (late-Quaternary to present). The Caltrans ARS Online (v.2.2.06) spectrum tool at http://dap3.dot.ca.gov/ARS_Online/index.php indicates that the closest “active” faults to the site is the West Tahoe fault (Fault ID: 77). This web-based tool indicates this fault crosses SR 89 within the project limits at PM 12.83. The distance from the West Tahoe fault trace (or surface projection of the top of rupture plane) to Camp Richardson and 10th street is 1.2 and 2.0 miles respectively (see Plate No. 7). Additionally, this fault is identified to be a “normal” dipping to the east and is capable of generating a Maximum Moment Magnitude (MMax) of 7.0.

In accordance with the Caltrans Geotechnical Services Design Manual (Reference No. 5), the average small strain shear velocity for the top 100 feet at the site (V_{S30}) is estimated to be about 1640 feet per second. Utilizing the estimated V_{S30} , and the ARS Online

(v.2.2.06) response spectrum web-based tools, a Peak Ground Acceleration (PGA) of 0.65g was generated based on the nearest active fault from the sites mentioned above.

Surface Fault Rupture

Recent investigation about the West Tahoe fault (Reference No. 9) and Evaluation for Fault Rupture Potential by the Office of Geotechnical Support (Reference No. 10) indicates that the Leaf Lake segment of this fault does not cross SR 89 as stated on the seismic section. This segment has been relocated to the base of Mount Tallac continuing through the southern portions of Cascade and Fallen Leaf lakes. Therefore, fault rupture within the project limits does not need to be addressed.

Naturally Occurring Asbestos (NOA)

The Caltrans Map "Areas Likely to Contain Naturally Occurring Asbestos – District 3" (Reference No. 2) states:

Natural occurrences of asbestos are more likely to be encountered in, and immediately adjacent to, areas of ultramafic rocks including landslide deposits or soils originating from ultramafic rock sources.

The referenced Caltrans map does not depict an area likely to contain Naturally Occurring Asbestos (NOA) within or immediately adjacent to, the project limits. Based on the geologic conditions observed during site visits and on the Caltrans maps mentioned above, the potential for the presence of ultramafic rocks within the project limits is considered very low.

Preliminary Geotechnical Conditions

Surface Water

Two major creeks cross under the project limits. Taylor Creek crosses under the Taylor Creek OC Bridge (Br. No. 25-0016 R/L) and Tallac Creek crosses through the culvert previously mentioned in section Man-Made and Natural Features of Engineering and Construction Significance. The general direction of both creeks is west to east.

Erosion

During our site reconnaissance on August 1, 2013, the slopes appear to be performing well and no erosion problems were observed.

Ground Water

According to the *Field Work Report Tahoe Environmental Improvement Project* (Reference No. 3), the depth to ground water surface in the area of Camp Richardson where the pedestrian hybrid signals will be constructed ranges from 8.5 feet to 13.1 feet. Ground water maybe encountered during the construction of the 8 feet deep CIDH piles for the pedestrian hybrid signals.

Monitoring wells located within the vicinity of the proposed site for the retaining wall did not register any static ground water.

Naturally Occurring Asbestos (NOA)

As discussed in the "Physical Setting" section of this report, OGDN concludes that the project site has a very low potential for the presence of ultramafic rocks and NOA. In consideration for the potential presence of NOA materials, the North Region Hazardous Material Officer should be contacted to determine if the project has the need for Airborne Toxic Control Measures (ATCMs) during project construction.

Preliminary Geotechnical Recommendations

Based on our visual inspection the soil conditions within the project limits are estimated to consist of medium dense silt sand gravel mixture. Boulders of different sizes were observed at various locations within the project limits. The proposed cut and fill slope ratios of 2:1 or flatter are adequate.

The site for the proposed Caltrans Standard Design Retaining Wall Type 1A is estimated to consist mainly of medium dense silt and sand with gravel. The soil condition should be adequate for the Standard Type 1A wall.

The site for the proposed pedestrian hybrid signals is adequate for the Standard Design foundation of two feet diameter eight feet deep Cast-In-Drilled-Hole (CIDH). According to National Resource Conservation Soil Survey (Reference No. 8), the geologic map of the Tahoe Basin (Reference No. 1) and *Field Work Report Tahoe Environmental Improvement Project* (Reference No. 3), this site is underlain by gravelly and cobbly soils and therefore, difficult pile installation is anticipated. Furthermore, if groundwater is encountered during the installation of the CIDH piles and if soil conditions do not allow dewatering of the shaft excavation, the wet method will be required for the installation of the CIDH piles.

Caving conditions in the native material may be encountered during the CIDH pile construction. Temporary casing may be required to control caving during construction.

Based on our visual inspection of the proposed precast box culvert site, the soil contains of silty sand gravel mixed with some boulders. The soil is estimated to consist of the following geotechnical engineering properties: unit weight (γ) of 125 lbs/ft³, cohesion (c) of 250 lbs/ft², and internal friction angle (ϕ°) of 33°. The boulders on the surface of the existing slope are flat and elongated with an average length and width of 4 feet and average thickness of 1 foot. These boulders and cobbles are generally of volcanic origin and are considered to be very hard.

Rippability and Grading Factor

Based on our field observations our Office anticipates that rippable soils and large boulders may be encountered. Oversize boulders may be encountered during excavation. These oversize boulders may require boulder size reduction methods using conventional equipment. The soil can be excavated with conventional excavation equipment and may have an estimated grading factor of 0.90 approximately.

Due to the variability of the natural soil, existing fill(s) and the numerous variable factors that determine the actual earthwork balance, the factors given here should be considered as estimates. Grading factors for averaged and oversize boulders assume that the boulders will be broken by mechanical means into pieces small enough for scrapers to move. Under typical conditions, a smaller maximum boulder piece when broken into small pieces for removal will result in a larger empirical grading factor. It is estimated that boulders may have a grading factor of 1.2 approximately.

Future Investigations

The above-mentioned recommendations are intended for preliminary design and estimating purposes only. In order to more accurately characterize the soils and determine groundwater levels within the limits of the project we recommend a subsurface investigation to be performed. A subsurface investigation may consist of a geotechnical field investigation, sampling and laboratory testing to support our final recommendations. Our Office recommends drilling three to six exploratory borings to depths of 30 feet to provide information for the final foundation recommendations.

Estimated Geotechnical Services Time and Duration Required

A request for a Foundation Report should include a General Plan (GP), Foundation Plan (FP), and any additional plans available for the proposed structures. Sufficient time is required for scheduling for utility clearances, road, or lane closures, site access and site hazardous assessments reports. If a site hazardous assessment report for soil and groundwater contamination is available, it should be communicated to our Office prior to starting the subsurface investigation.

The table below presents the resource estimate for the time to complete the work for the proposed structures.

Table 4: Resource Estimate for the Proposed Structures.

Office Name	Unit #	Hours						
		100	160	230	270	285	290	Totals
Drafting Services	296	-	-	60	-	-	-	60
Geotech Support	316	-	-	-	-	-	-	-
Drilling Services	322	-	-	300	-	-	-	300
GDN	323	30	120	300	40	-	-	490
Totals		30	120	660	40			850

Our Office estimates that a total of 850 hours, including construction support, will be needed in order to complete the Final Foundation Recommendations.

If you have any questions or comments, please call Luis Paredes-Mejia at (916) 227-1047, or Luke Leong at (916) 227-1081 or Reza Mahallati at (916) 227-1033.

MASTRI ALVANDI
September 2, 2013
Project ID: 0300000223 (03-1A842)



LUIS M. PAREDES-MEJIA, CEG
Engineering Geologist
Office of Geotechnical Design North
Branch C

C: Reza Mahallati
GS Corporate
GDN File
RE Pending File
GS File

Dist. Prelim. Geotechnical Report
Tahoe EIP ("Y" to Cascade Rd.)
02-ED-89-PM 8.6 to 13.8
Page 12



LUKE LEONG, PE
Transportation Engineer
Office of Geotechnical Design North
Branch C

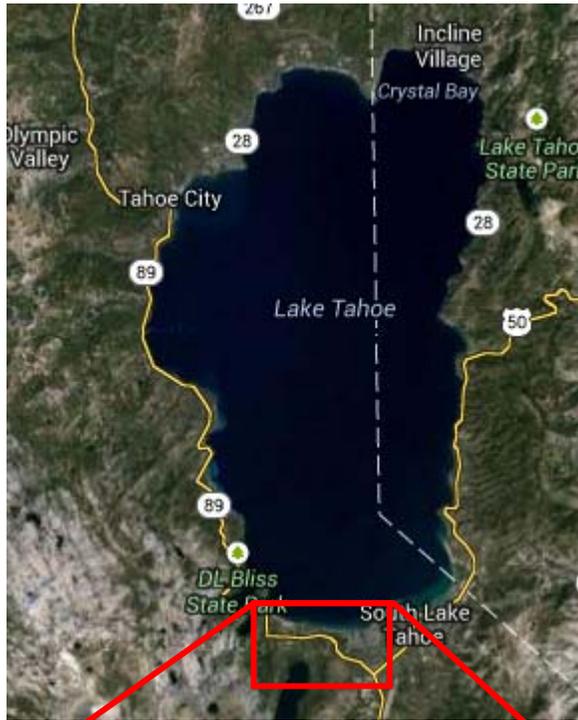
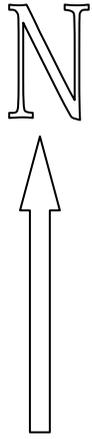
ATTACHMENTS

REFERENCES

- Plate No. 1. Vicinity Map
- Plate No. 2. Topography of Project Area
- Plate No. 3. Soils Map
- Plate No. 4. Soils Map Legend
- Plate No. 5. Geologic Map
- Plate No. 6. Geologic Map Legend
- Plate No. 7. Fault Map

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2. Caltrans (2005) “Areas Likely to contain Naturally Occurring Asbestos – Caltrans District 3”, mapping prepared by the Division of Maintenance GIS in coordination with the Division of Environmental Analysis, 2005 at:
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4. Caltrans (2009) “Development of the Caltrans Deterministic PGA Map and Caltrans ARS Online”, prepared by Tom Shantz, Caltrans Division of Research and Innovation, and Martha Merriam, Caltrans Geotechnical Services, July 2009.
5. Caltrans (2009) “Geotechnical Services Design Manual”, prepared by the Caltrans Division of Engineering Services, Geotechnical Services, Version 1.0, August 2009.
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10. Caltrans (2013) , “Evaluation of Fault Rupture Potential”, prepared by Martha Merriam, Office of Geotechnical Support – Geotechnical Instrumentation, August 26, 2013.



CALTRANS
 Division of Engineering
 Services
 Geotechnical Services
 Geotechnical Design – North

EA: 03-1A842
 Date: September 2013

VICINITY MAP

03-ED-89-PM 8.6 TO 13.8
 TAHOE EIP

Plate No.
 1



CALTRANS
 Division of Engineering
 Services
 Geotechnical Services
 Geotechnical Design – North

EA: 03-1A842

Date: September 2013

**Topography of
 Project Area**

03-ED-89-PM 8.6TO 13.8
 TAHOE EIP

Plate No.
 2

Map Unit Symbol	Map Unit Name
7041	Tahoe complex, 0 to 2 percent slopes
7042	Tahoe complex, 0 to 5 percent slopes, gravelly
7051	Oxyaquic Xerorthents-Water association, 0 to 5 percent slopes
7071	Watah peat, 0 to 2 percent slopes
7444	Christopher-Gefo complex, 0 to 5 percent slopes
7451	Gefo gravelly loamy coarse sand, 2 to 9 percent slopes
7452	Gefo gravelly loamy coarse sand, 9 to 30 percent slopes
7461	Jabu coarse sandy loam, 0 to 9 percent slopes
7462	Jabu coarse sandy loam, 9 to 30 percent slopes
7471	Marla loamy coarse sand, 0 to 5 percent slopes

Map Unit Symbol	Map Unit Name
7485	Meeks gravelly loamy coarse sand, 15 to 30 percent slopes, extremely bouldery
7486	Meeks gravelly loamy coarse sand, 30 to 70 percent slopes, extremely bouldery
7487	Meeks gravelly loamy coarse sand, 5 to 15 percent slopes, rubbly
7521	Tallac gravelly coarse sandy loam, 5 to 15 percent slopes, very stony
7524	Tallac gravelly coarse sandy loam, moderately well drained, 0 to 5 percent slopes
7525	Tallac gravelly coarse sandy loam, moderately well drained, 5 to 9 percent slopes
7541	Ubaj sandy loam, 0 to 9 percent slopes



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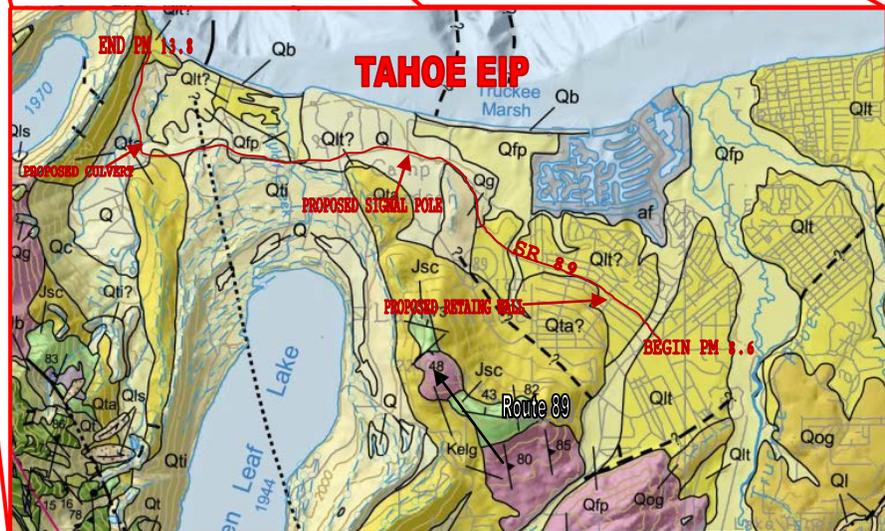
Soils Map Legend

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NO SCALE



NO SCALE

From Saucedo, G.J. 2005, Geologic Map of the Lake Tahoe Basin, California and Nevada: California Geological Survey, A, scale 1:00,000.

See Plate 6 for Explanations



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- af Artificial fill (late Holocene)
- Qb Beach deposits (Holocene)
- Qfp Flood-plain deposits (Holocene)
- Qt Talus deposits (Holocene)
- Ql Lake deposits (Holocene)
- Qyg Younger glacial deposits (Holocene)
- Qc Colluvium (Holocene)
- Qls Landslide deposits (Holocene and Pleistocene)
- Q Alluvium (Holocene and Pleistocene)
- Qf Alluvial fan deposits (Holocene and Pleistocene)
- Qm Mudflow deposits (Holocene and (or) Pleistocene)
- Qob Older beach deposits (Pleistocene)
- Qol Older lake deposits (Pleistocene)
- Qh Lacustrine terrace deposits (Pleistocene)
- Tioga glacial deposits (Pleistocene)**
- Qti Till
- Qnio Outwash deposits
- Tahoe glacial deposits (Pleistocene)**
- Qta Till
- Qtao Outwash deposits
- Tahoe and Tioga glacial deposits - undivided (Pleistocene)**
- Qgt Till
- Older glacial deposits - pre-Tahoe deposits (Pleistocene)**
- Qog Till
- Qogno Outwash deposits
- Glacial deposits undivided (Pleistocene and Holocene?)**
- Qg Till
- Qgo Outwash deposits
- Qsbm Bald Mountain olivine latite of Birkeland (1961) (Pleistocene)
- Qvbmc cinder cone deposits
- Qjf Juniper Flat alluvium of Birkeland (1961) (Pleistocene)
- Qpc Prosser Creek alluvium of Birkeland (1961) (Pleistocene)
- Qvhl Hirschdale olivine latite of Birkeland (1961) (Pleistocene)
- Qvhcc cinder cone deposits; Qvht - basaltic tuff
- QPot Older talus deposits (Pliocene and (or) Pleistocene)
- QPvd Dry Lake volcanic flows of Birkeland (1961); Wise and Sylvester (2004) (Pliocene and (or) Pleistocene) - QPvd1 - QPvd4 (oldest to youngest)
- QPvbc Big Chief basalt of Birkeland (1961) (Pliocene and (or) Pleistocene)
- QPvpm Page Meadow basalt of Wise and Sylvester (2004) (Pliocene and (or) Pleistocene)
- QPs Unnamed gravels, sand and alluvium (Pliocene and (or) Pleistocene)
- QPvbu Burton Creek basalt of Wise and Sylvester (2004) (Pliocene and (or) Pleistocene)
- QPvbf Lake Forest basalt of Wise and Sylvester (2004) (Pliocene and (or) Pleistocene)
- Unnamed volcanic and intrusive rocks (Pliocene and (or) Pleistocene)**
- QPvb Basalt flows, flow breccia and basaltic ash
- QPI QPia - intrusive andesite and latite; QPib - intrusive basalt
- Pva Tahoe City trachyandesite of Wise and Sylvester (2004) (Pliocene)
- Pvbc cinder cone deposits
- Pvbt Tahoe City basalt of Wise and Sylvester (2004) (Pliocene)
- Pvp Polar is olivine latite of Birkeland (1961) (Pliocene)
- Pvpt latite tuff and tuff breccia
- Pvah Alder Hill basalt of Birkeland (1961) (Pliocene)
- Pvahcc cinder cone deposits
- Ps Fluvial and lacustrine deposits (Pliocene)
- Unnamed volcanic and intrusive rocks (Pliocene)**
- Pva Andesite and basaltic andesite flows
- Pval Andesite lahars
- Pvb Basalt flows - includes Boca Ridge flows of Latham (1985)
- Pi Dikes and intrusives - Pia - andesite; Pib - basalt
- Unnamed volcanic and intrusive rocks (Miocene)**
- Mva Undivided andesitic and dacitic lahars, flows, breccia and volcanoclastic sediments
- Mvaf Andesite and dacite flows
- Mvbf Basalt flows
- Mvs Fluvial deposits
- Mi Intrusive rocks - Mia - andesite, basaltic andesite and latite; Mib - basalt; Mir - rhyolite
- Mvg Glenbrook volcanic center (Miocene) Mvgi - latite intrusions; Mvgt - vitric-crystal tuff; Mvgf - trachyte flows and vent fill
- Upper lahar sequence of Harwood and Fisher (2002) (Miocene)**
- Mvul Andesitic lahars
- Mvula Andesite flows
- Mvulp Pumiceous tuff
- Mvulr Rockslide-avalanche deposits
- Lower lahar sequence of Harwood and Fisher (2002) (Miocene)**
- Mvll Andesitic lahars
- Mvlla Andesite flows
- Unnamed volcanic and sedimentary rocks**
- QMvr Rhyolite tuff (Oligocene and Miocene?)
- Qc Conglomerate and breccia (Oligocene and (or) older Tertiary)

- Granitic rocks**
- ap Aplite and pegmatite dikes (Cretaceous)
- Kelg Echo Lake granodiorite (Cretaceous)
- Kppg Phipps Pass granodiorite (Cretaceous)
- Kbmg Bryan Meadow granodiorite (Cretaceous)
- Kllg Lovers Leap granodiorite (Cretaceous)
- Kgag Glen Alpine granodiorite (Cretaceous)
- Ktlg Tyler Lake granodiorite (Cretaceous)
- Kwlg Wrights Lake granodiorite (Cretaceous)
- Kdlg Dicks Lake granodiorite (Cretaceous)
- Krpa Alaskite at Rubicon Point (Cretaceous)
- Krvg Rockbound Valley granodiorite (Cretaceous)
- Kwpg Granodiorite of Waterhouse Peak (Cretaceous)
- Kggd Quartz diorite of Grass Lake (Cretaceous)
- Kkge Granodiorite of Kingsbury Grade (Cretaceous)
- Kwpt Tonalite West of Waterhouse Peak (Cretaceous)
- Keg Granodiorite of East Peak (Cretaceous)
- Ksgr Monzogranite of Spooner Summit of Grose (1985)
- Kicg Granodiorite of Thornburg Canyon (Cretaceous)
- Kevg Granodiorite of Charity Valley (Cretaceous)
- Keld Diorite of Caples Lake (Cretaceous)
- Kelg Granodiorite of Caples Lake (Cretaceous)
- Klpg Freel Peak granodiorite (Cretaceous)
- Kbla Burnside Lake adamellite of Parker (1961) (Cretaceous)
- Kdpg Granodiorite of Daggett Pass (Cretaceous)
- Kept Carson Pass tonalite of Parker (1961) (Cretaceous)
- Kfvg Granodiorite of Faith Valley (Cretaceous)
- Kepp Ebbetts Pass granodiorite of Wilshire (1957) (Cretaceous)
- Kklg Granodiorite of Kinney Lakes (Cretaceous)
- bd Basalt dikes (Cretaceous)
- Kdgd Quartz monzodiorite north of Daggett Pass (Cretaceous?)
- Kbp Breccia pipe (Cretaceous?)
- Kcvg Camper Flat granodiorite (Cretaceous or Jurassic?)
- Kdvg Desolation Valley granodiorite (Cretaceous or Jurassic?)
- Kkmg Keiths Dome quartz monzonite (Cretaceous or Jurassic?)
- Unnamed granitic rocks of the Sierra Nevada batholith**
- Kgr Granite and granodiorite, undivided (Cretaceous)
- Kqd Quartz diorite and diorite (Cretaceous)
- Kdg Diorite and gabbro (Cretaceous)
- Kjgr Granite (Cretaceous and (or) Jurassic)
- Kjgd Granodiorite (Cretaceous and (or) Jurassic)
- Kjdg Diorite and gabbro (Cretaceous and (or) Jurassic)
- Jurassic intrusive rocks:**
- Jaqd Quartz diorite at Azure Lake (Late? and Middle Jurassic)
- Jpgr Pyramid Peak granite (Jurassic)
- Jdi Diorite (Jurassic?)
- Jdg Diorite and gabbro (Late? and Middle Jurassic)
- Jmd Microdiorite dikes (Jurassic)
- Jmb Mafic intrusive breccia (Late? and Middle Jurassic)
- Ja Anorthosite (Late? and Middle Jurassic)
- Metamorphic rocks**
- Tuttle Lake Formation of Harwood (1992) (Late? and Middle Jurassic)**
- Jlf Lava flows
- Jlb Volcanic breccia
- Jls Tuffaceous sandstone and conglomerate
- Jld Diamicrite
- Jsc Sailor Canyon Formation (Middle and Early Jurassic)
- JTm Metamorphic rocks undivided (Jurassic and (or) Triassic)
- JTms Metasedimentary rocks (Jurassic and (or) Triassic)
- JTmv Metavolcanic rocks (Jurassic and (or) Triassic)
- Jls Limestone (Late Triassic?)
- Lake Tahoe Sequence of Harwood (1992)**
- Jlp Pelite unit (Jurassic?)
- Jle Ellis Peak Formation (Jurassic)
- Jlb Blackwood Creek Formation (Jurassic)
- Jls Serena Creek Formation (Mississippian? or younger)



From Saucedo, G.J., 2005, Geologic Map of the Lake Tahoe Basin, California and Nevada: California Geological Survey, scale 1:250,000.



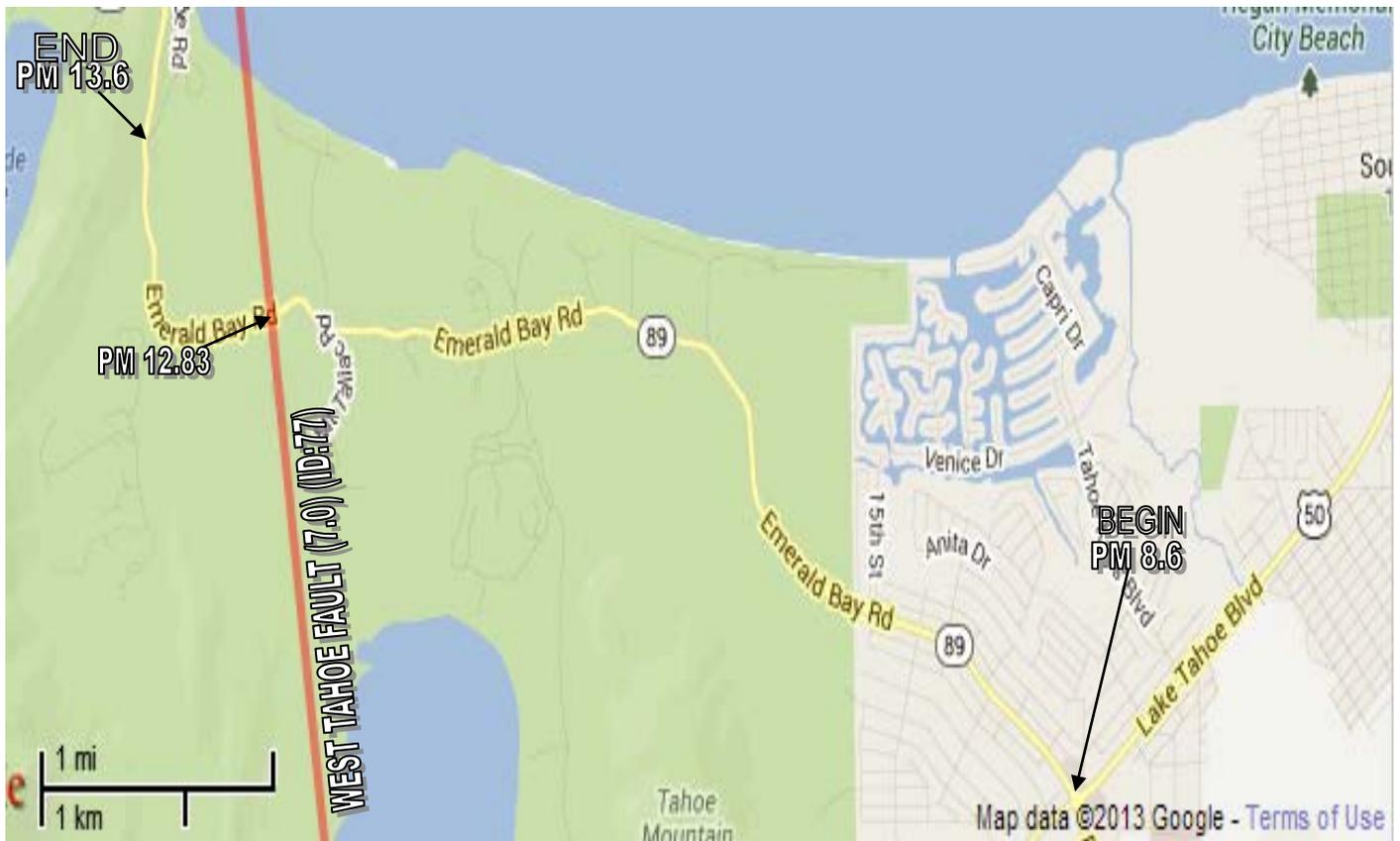
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FAULT MAP

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