INFORMATION HANDOUT

For Contract No. 07-3X0214
At 07-LA-150-27.4, 29.4

Identified by
Project ID 0713000398

PERMITS

California Department of Fish and Wildlife

U.S. Fish and Wildlife Service

United States Army Corps of Engineers

AGREEMENTS

National Marine Fisheries Services

MATERIALS INFORMATION

Summary of Foundation Recommendation Reports

Geotechnical Design Report

Site Investigation Report

State of California -The Natural Resources Agency
DEPARTMENT OF FISH AND GAME
SOUTH COAST REGION
3883 Ruffin Road
San Diego, CA 92123

STREAMBED ALTERATION AGREEMENT
NOTIFICATION NO. 1600-2012-0083-R5
SANTA PAULA AND SISAR CREEKS

California Department of Transportation
SLOPE STABILIZATION STATE ROUTE 150 (SR-150) PROJECT

This Streambed Alteration Agreement (Agreement) is entered into between the California Department of Fish and Game (DFG) and California Department of Transportation (Permittee), as represented by Mr. Joel Bonilla acting on behalf of Permittee.

RECITALS

WHEREAS, pursuant to Fish and Game Code (FGC) section 1602, Permittee notified DFG on May 02, 2012, that Permittee intends to complete the Project described herein.

WHEREAS, pursuant to FGC section 1603, DFG 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(s) sites are located on the creek side of SR-150 at Post Mile Markers (PM) 29.4 and 27.37 on SR-150 near the city of Santa Paula, in Ventura County. Santa Paula and Sisar Creeks, tributaries to Santa Clara River, are adjacent to SR-150. The Project(s) can be located using the following information: Latitude N 34 .4161 - Longitude W 199.0844.

PROJECT DESCRIPTION

The Permittee proposes to stabilize the slope at two locations on SR-150. Project Site 1 (PS1) is located along Santa Paula Creek and Project Site 2 (PS2) is located along Sisar Creek. The proposed construction activities are independent from one another. Neither Project will require any water diversion or encroachment into the low flow

portions of either creek. The construction portion of this Agreement shall start with vegetation removal, outside of nesting bird season, to avoid any direct or indirect impacts to the Federally listed least Bell's vireo (*Vireo bellii pusillus*).

PS1-A retaining wall supported by six 24-inch diameter piles will be installed to support a 21-foot high, nearly vertical cliff. At its closest, Santa Paula Creek is approximately 6-feet away from where it meanders towards the embankment. The PS1 area is 45 feet from the embankment. There is approximately a 15 foot wide buffer of undisturbed vegetation between the PS1 and the embankment. The retaining wall is designed to support the existing slope and protect against the creek's thalweg which appears to be meandering toward the embankment. All work will be done from the temporary access road, 1000 feet x 12 feet. Construction of the retaining wall at bottom of the slope will include: drilling for the piles; placement of Rock Slope Protection (RSP); and placement of the retaining wall. The staging area for PS1 is a vacant lot maintained by the County of Ventura within Steckel Park. This staging area will be utilized for both PS1 and PS2.

PS2-A top barrier will be installed on three piles approximately 60 linear feet in length. The slope embankment will be excavated from the roadway and backfilled. Construction of a drainage inlet will intercept and discharge water through an existing drain. PS2 area is largely bare ground with an absence of vegetation, however, immediately adjacent to PS2 is a large open space area and Sisar Creek.

PROJECT IMPACTS

Existing fish or wildlife resources the Project could substantially adversely affect, based on information received from the Permittee, include: **Amphibians:** California red-legged frog (*Rana aurora draytonii*), foothill yellow-legged frog (*Rana boylii*); **Reptiles:** Western pond turtle (*Emys marmorata*), two-striped garter snake (*Thamnophis hammondii*); **Fish:** Steelhead (*Oncorhynchus mykiss irideus*), arroyo chub (*Gila orcuttii*), Santa Ana sucker (*Catostomus santaanae*); **Birds:** California condor (*Gymnogyps californianus*), least Bell's vireo (*Vireo bellii pusillus*), western scrub jay (*Aphelocoma californica*), mockingbird (*Mimus* spp.), gray-blue gnatcatcher (*Polioptila caerulea*), bushtit (*Psaltriparus minimus*), Anna's hummingbird (*Calypte anna*), swallow (*Hirundinidae*), raven (*Corvus corax*), Cooper's hawk (Accipiter cooperii); **Mammals:** big brown bat (*Eptesicus fuscus*), Brazilian free-tailed bat (*Tadarida brasiliensis*), western pocket gopher (*Thomomys mazama*), black-tailed jackrabbit (*Lepus californicus*), gray fox (*Urocyon cinereoargenteus*), mule deer (*Odocoileus hemionus*), coyote (*Canis latrans*), striped skunk (*Mephitis mephitis*), brush rabbit (*Sylvilagus bachmani*), bobcat (*Lynx rufus*); **Native Plants:** Late-flowered Mariposa-lily (*Calochortus fimbriatus*), Ojai fritillary (*Fritillaria ojaiensis*), coast live oak, (*Quercus agrifolia*), California sycamore (*Platanus racemosa*), arroyo willow (*Salix lasiolepis*), narrowleaf willow (*Salix exigua*), toyon (*Heteromeles arbutifolia*), white alder (*Alnus rhombifolia*), laurel sumac (*Malosma laurina*), coyote bush (*Baccharis pilularis*), white sage (*Salvia apiana*), poison oak (*Toxicodendron diversilobum*), buckwheat (*Eriogonum fasciculatum*), mulefat (*Baccharis salicifolia*), and southern willow scrub and mulefat habitat and communities; and all other aquatic and wildlife resources in the area, including the riparian vegetation which provides habitat for such species in the area.

IMPACTS

The Permittee shall implement the Project(s) as proposed resulting in the below stated impacts at PS1, adjacent to Santa Paula Creek (PM 29.4) and PS2, adjacent to Sisar Creek (PM 27.37). Impacts resulting from implementation, based on the provided Project description as stated herein, at PS1 shall not exceed 0.386-acre (0.275-acre Temporary + 0.111-acre Permanent) as the result of the removal of six coast live oaks (*Quercus agrifolia*), three California sycamores (*Platanus Racemosa*), and at PS2 one toyon (*Heteromeles arbutifolia*) for installation of the piles and retaining wall footing. The Permittee shall impact no more than 0.275-acre at PS1 of densely populated willow riparian area (please see species compilation under "Impacts" section of this Agreement) that must be temporarily cleared for the access road. This includes all impacts as described in the Project description in the notification for this Agreement, including staging, storage and access roads necessary to complete the Project(s) as described. If additional impacts beyond those expressly stated herein occur DFG must be notified and additional mitigation and/or measures to protect resources may be required.

MEASURES TO PROTECT FISH AND WILDLIFE RESOURCES

1. Administrative Measures

Permittee 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 DFG 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 DFG 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, DFG shall contact Permittee to resolve any conflict.

1.4 Project Site Entry. Permittee agrees that DFG personnel may enter the Project site at any time to verify compliance with the Agreement.

1.5 Regional Water Quality Control Board. DFG believes that permit/certification(s) may be required from the Regional Water Quality Control Board for this Project. Should such permits/certification(s) be required, a copy shall be submitted to DFG.

1.6 Personnel Compliance On Site. If the Permittee or any employees, agents, contractors and/or subcontractors violate any of the terms or conditions of this agreement, all work shall terminate immediately and shall not proceed until DFG has taken all of its legal actions.

1.7 Pre-Project briefing. A pre-maintenance meeting/briefing shall be held involving all the contractors and subcontractors, concerning the conditions in this Agreement.

1.8 Notification Prior to Work. The Permittee shall notify DFG, in writing, at least five (5) days prior to initiation of mitigation (Project) activities and at least five (5) days prior to completion of mitigation (Project) activities. Notification shall be sent to electronically to DFG at R5LSACompliance@dfg.ca.gov Reference # 1600-2012-0083-R5.

1.9 Notification Requirements. DFG requires that the Permittee:

1.9.1 Immediately notify DFG in writing if monitoring reveals that any of the protective measures were not implemented during the period indicated in this program, or if it anticipates that measures will not be implemented within the time period specified.

1.9.2 Immediately notify DFG if any of the protective measures are not providing the level of protection that is appropriate for the impact that is occurring, and recommendations, if any, for alternative protective measures.

1.9.3 DFG shall verify compliance with protective measures to ensure the accuracy of the Permittee's mitigation, monitoring and reporting efforts. DFG may, at its sole discretion, review relevant documents maintained by the Permittee, interview the Permittee's employees and agents, inspect the work site, and take other actions to assess compliance with or effectiveness of protective measures in this Agreement.

1.10 Implementation Requirements. The agreed work includes activities associated with the Project Location and Project Description that is provided above. Specific work areas and mitigation measures are described on/in the plans and documents submitted by the Permittee with the Notification Package, and shall be implemented as proposed unless directed differently by this Agreement.

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. Avoidance and minimization

measures for this Project include the establishment and use of Environmentally Sensitive Area (ESA) fencing. The ESA limits shall be shown on the final plan sheets and prior to construction the Resident Engineer shall contact the Permittee District 7 Construction Liaison in order to set up the ESA limits in the field.

In addition to Permittee-proposed BMP's, the following additional measures shall be implemented to fully protect aquatic and terrestrial species during Project-related activities.

Aquatic and Terrestrial Species Specific Protection

2.1 Red-legged frog. It is anticipated that red-legged frog may be present in streams impacted through Permittee Project-related activities. For this reason, all Permittee activities shall take place outside the low-flow area of the creek when flow is present in the identified stream course impacted by Permittee activities; for all aspects of this Project. If it becomes necessary to work in a wetted portion of any stream Permittee shall notify the DFG via phone or email PRIOR to any such impacts and must receive written approval from the DFG PRIOR to any work in a wetted portion of the stream.

2.2 Steelhead. Different steelhead populations migrate upriver at different times of the year. "Summer-run steelhead" migrate between May and October, before their reproductive organs are fully mature. They mature in freshwater before spawning in the spring. "Winter-run steelhead" mature fully in the ocean before migrating, between November and April, and spawn shortly after returning. It is anticipated that "winter-run steelhead" may potentially be impacted through the Permittee's Project-related activities. For this reason all Permittee activities shall take place when there is no flow present in the identified stream course impacted by Permittee activities for all aspects of this Project. If it becomes necessary to work in a wetted portion of any stream between October 31st and June 15th in anadromous waters the Permittee shall notify the DFG via phone or email at a minimum of 7 days PRIOR to any such impacts and must receive written approval from the DFG PRIOR to any work in a wetted portion of the stream. No use of visqueen, or any other plastic tarps or draping materials shall be authorized in a wetted stream. If it becomes necessary to work in a wetted portion of a stream Permittee shall submit a diversion plan PRIOR to any diversion implementation that MUST be approved by the DFG in writing PRIOR to a diversions placement. Please see further restrictions regarding steelhead continued in Section 2 and proposed mitigation measures in Section 3-Fish Passage.

2.2.1 Permittee shall submit in writing to DFG for approval PRIOR to any site preparation or Project-related activities a detailed outline of current fish passage barriers and proposed modifications to fish passage barriers as part of HMMP for this Project.

2.2.2 Permittee shall submit a written plan detailing avoidance and

BMP's to ensure no impacts to steelhead as part of HMMP for this Project.

2.3 Southwestern Willow Flycatcher. This species has been recognized for using marginal habitat throughout multiple watersheds in Ventura and Los Angeles Counties. PRIOR to any impacts protocol level surveys shall be conducted in areas where marginal willow and mulefat scrub habitat is proposed for permanent or temporary impacts. There shall be no take of southwestern willow flycatcher within the Project impact areas, as defined by Section 86 of the State of California Fish and Game Code of Regulations. If construction activities are proposed to commence during the nesting season, protocol level nesting bird surveys within the DFG's jurisdiction must be conducted, during appropriate migration and nesting periods, and be concluded within three-days of the onset of any site preparation, construction, or other Project-related activities. The results of these nesting bird surveys, including negative findings, shall be presented in written form to the DFG within three days of being concluded. If DFG bird species of special concern or state-threatened or endangered bird species, other than those already identified by the Permittee, are found, the DFG shall be notified and determine if any additional mitigation measures may be required for the subject Project.

2.4 Least Bell's Vireo. This species has been recognized for using marginal habitat throughout multiple watersheds in Ventura and Los Angeles Counties. PRIOR to any impacts protocol level surveys shall be conducted in areas where marginal willow and mulefat scrub habitat is proposed for permanent or temporary impacts. There shall be no take of least Bell's Vireo within the Project impact areas, as defined by Section 86 of the State of California Fish and Game Code of Regulations. If construction activities are proposed to commence during the nesting season, protocol level nesting bird surveys within the DFG's jurisdiction must be conducted, during appropriate migration and nesting periods, and be concluded within three-days of the onset of any site preparation, construction, or other Project-related activities. The results of these nesting bird surveys, including negative findings, shall be presented in written form to the DFG within three days of being concluded. If DFG bird species of special concern or state-threatened or endangered bird species, other than those already identified by the Permittee, are found, the DFG shall be notified and determine if any additional mitigation measures may be required for the subject Project.

2.5 Southwestern Pond Turtle. There shall be no take of southwestern pond turtle as defined in Section 86 of the Fish and Game Code of Regulations. Pre-construction trapping surveys shall be conducted for the southwestern pond turtle (in areas of ponded water only) within the proposed impact areas within the boundaries of the DFGs jurisdiction. The surveys shall be conducted by a qualified biologist with extensive experience in pond turtle survey work. DFG approval of the surveying biologist shall be acquired PRIOR to any surveys being conducted. Surveys for the southwestern pond turtle shall be submitted to the DFG for review, including negative findings, prior to any impacts associated with Permittee's activities governed under this Agreement. The DFG shall have thirty days to review the result of trapping surveys to determine if any protective measures are necessary prior to the Permittee initiating any of the proposed

Project activities. The Permittee shall arrange for a biologist to place an approved exclusionary device at sites where excavation activities within the boundaries of the DFG's jurisdiction shall occur. The biologist shall inspect the exclusionary device on each day activities are expected to occur. If any animals are found trapped in the fencing, or approved exclusionary device, the biologist shall remove the animal to an area, located within the natural habitat, and in the same vicinity, but out of harms way. The biologist shall report all relocations to the DFG the same day via electronic mail to the following address: jjackson@dfg.ca.gov

2.6 Two-Striped Garter Snake. There shall be no take of two-stripped garter snake as defined in Section 86 of the Fish and Game Code of Regulations. Pre-construction trapping surveys shall be conducted for the two-stripped garter snake (in areas of ponded water only) within the proposed impact areas within the boundaries of the DFGs jurisdiction. Surveys for the two-stripped garter snake shall be submitted to the DFG for review, including negative findings, prior to any impacts associated with Permittee's activities governed under this Agreement. The DFG shall have thirty days to review the result of trapping surveys to determine if any protective measures are necessary prior to the Permittee initiating any of the proposed Project activities. The Permittee shall arrange for a biologist to place an approved exclusionary device at sites where excavation activities within the boundaries of the DFG's jurisdiction shall occur. The biologist shall inspect the exclusionary device on each day activities are expected to occur. If any animals are found trapped in the fencing, or approved exclusionary device, the biologist shall remove the animal to an area, located within the natural habitat, and in the same vicinity, but out of harms way. The biologist shall report all relocations to the DFG the same day via electronic mail to the following address: R5LSACompliance@dfg.ca.gov

2.7 Swallows. It is anticipated that swallows may nest on bridges and other structures between February 15th and September 1st .The Permittee shall take such measures as necessary to prevent nesting on portions of structures that will cause a conflict between performing necessary work and nesting swallows. Swallows shall be allowed to nest on portions of the bridges where conflicts are not anticipated.

2.8 Bats. It is anticipated that roosting big brown bats and Brazilian free-tailed bats may be present on structures identified in the Project footprint. To prevent harm or death to any adult bat or its young the Permittee shall avoid work on or near bridges or other structures when it would disturb roosting bats (February 15th – September 30th). A qualified biologist familiar with the life history of bats shall conduct, at minimum, a presence/absence survey of the bridge hinges and joints within the proposed work area and submit surveys, including negative results, to DFG for concurrence PRIOR to any work being initiated. Only after the DFG has reviewed the surveys and Caltrans implemented a plan to exclude daytime roosting may Project activities begin.

2.8.1 Permittee shall monitor the hinges/joints of the bridge for evidence of bat roosting sites to ensure no bats are in the hinges/joints. Exclusionary

devices/expandable foam shall be placed in the hinges/joints by a qualified biologist to prevent bats from entering the hinge/joint space and becoming trapped and harmed.

2.8.2 Permittee District Biologist shall supervise the placement of exclusionary devices and shall monitor devices at least once every 30 days to ensure their continued function and make any necessary repairs at that time to repair faulty exclusionary devices.

2.8.3 Permittee shall hire a bat specialist to survey the Project site and locate areas used at roosts by displaced bats as a result of Permittee's Project-related activities. The area shall be surveyed for a minimum of one (I) week to determine the evening exit and return(s) to the roost site. Once baseline has been established for the hours of exit and return of the bat population, construction activities shall be minimized during those periods. The bat specialist shall monitor the exit and return for one week during construction-related activities to see how work activity affects the bats movement and general behavior. If the bats exhibit stress or reluctance to exit or return to the roost site, work activities shall cease, and Permittee shall create a plan designed to limit all Project activity during hours of bat movement to avoid impacts to bats. Permittee shall submit this plan in writing to DFG and shall cease all work activities until DFG authorizes and approves the plan, in writing.

2.9 Presence/Absence Surveys. Due to the potential occurrence, or locally known presence of: steelhead, red-legged frog, southwestern pond turtle (trapping surveys only in areas with annual ponded water), two-striped garter snake, southwestern willow flycatcher, least Bell's vireo, big brown bat, and Brazilian free-tailed bat pre-construction presence/absence surveys by a qualified biologist shall be conducted for these species in work areas no more than 30 days prior to any site preparation, clearing, or Project-related activities. If any of the above stated species are identified in Project work areas activities shall cease until the species has moved to a different location on its own accord or until the biological monitor has successfully relocated the species to an area out of harm's way.

2.10 Threatened and/or Endangered Species. If DFG determines that any threatened or endangered species, or species of special concern, such as red-legged frog or southwestern willow flycatcher, shall be impacted by the work proposed, work at that location shall stop, and the habitat or nest site in question avoided until the species are no longer reliant on the area for survival as determined by a qualified biologist. If work needs to continue, the Permittee shall obtain the appropriate federal and state permits for take of threatened or endangered species. The Permittee shall contact DFG's Environmental Services for the South Coast Region to obtain information on applying for the State Take Permit for State listed species if any potential for take exists as a result of Permittee's Project-related activities.

2.11 Non-listed Special Status Species. A qualified environmental monitor shall be present during work in all DFG jurisdictional areas during initial Project-related activities. To the extent feasible, non-listed special-status and/or common ground dwelling vertebrates encountered in the path of Project-related activities. The monitor shall make every effort to relocate the species out of harm's way to the extent feasible. Exclusionary devices shall be erected to prevent the migration into or the return of species into the work areas if determined appropriate and feasible by the environmental monitor. Such exclusionary devices shall be checked by the biologist, or designee of the biologist, on a daily basis to check/ensure continued exclusionary device effectiveness. Should DFG personnel visit the site during construction activities and no biological monitor is available, construction activities shall be halted.

2.12 Special Status Species. If special-status species are observed within harm's way, the following protection measures shall be implemented at the discretion of the monitoring biologist: 1) utilize shovel, rake, or similar hand tool to gently re-direct the animal out of work area; 2) Install silt fence or other exclusionary fencing to prevent species from re-entering disturbance area; and 3) Capture/relocate species to appropriate habitat outside the disturbance area, and must possess all required authorizations and permits. The biological monitor shall have authority to temporarily stop construction activities until the species is determined to be out of harm's way.

2.13 Contractor Education. Permittee shall have a qualified biologist prepare for distribution to all Permittee contractors, subcontractors, Project supervisors, and consignees a "Contractor Education Brochure" with pictures and descriptions of all sensitive plant and animal species, and specifically bats potentially occurring within the work areas. Permittee contractors and consignees shall be instructed to bring to the attention of the Project biological monitor any sightings of species described in the brochure.

Biological Surveys and Time Restrictions

2.14 Nesting and/or Breeding Bird Surveys. The Permittee shall not remove or otherwise disturb vegetation or conduct any other Project activities on the Project sites from March 1st to September 15th to avoid impacts to breeding/nesting birds; OR, PRIOR to Project-related activities or site preparation activities, and those activities fall within the above breeding date restrictions, the Permittee shall have a qualified biologist survey breeding/nesting habitat within the Project site and adjacent to the Project site for breeding/nesting birds. Surveys shall be permitted between March 15th and June 1st only if work is anticipated during the nesting season. No surveys shall be permitted to begin after June 1st. Activities must be initiated within 72 hours of the conclusion of surveys. The Biologist shall provide DFG field notes or other documentation within 24 hours of completing the surveys. An email report with a letter report to follow may be used. The email/letter report should state how impacts of any nesting birds will be avoided by citing the appropriate information from these conditions.

2.15 Breeding and/or Nesting Birds. If breeding activities and/or birds are observed bringing nesting material to habitat with the Project footprint, and or nest are located during surveys, and concurrence has been received from DFG in writing, the breeding habitat/nest site shall be fenced and/or flagged a minimum of 150 feet for passerines (300 feet for raptors) in all directions, and this area shall not be disturbed until the nest becomes inactive, the young have fledged, the young are no longer being fed by the parents, the young have left the area, and the young will no longer be impacted by the Project.[1] If active nests are observed and the recommended nest avoidance zones are not feasible, non-disturbance buffer zones shall be established by the qualified biologist based on, but not limited to site lines from the nest to the work site and observations of the nesting bird's reaction to Project activities. Continuous monitoring of the nest site by a qualified biologist shall occur during disturbance activities, and a nest observation log shall be updated once per hour during construction activities. If the monitoring biologist determines nesting activities may fail as a result of work activities, all work shall cease within the recommended avoidance area until the biologist determines the adults and young are no longer reliant on the nest site. A site-specific nest protection plan shall be submitted to DFG for review and approval if additional nest protection measures are determined necessary by the monitoring biologist or buffers deviate from the stated 150 and 300 foot requirements. If the monitoring biologist determines that the established buffer is sufficient and nesting activities will not fail due to adjacent activities, the Permittee may request in writing, electronically or in written format, to DFG that the hourly monitoring requirement be adjusted to daily monitoring until the young have fledged and are no longer dependent on the area in question. Hourly monitoring shall continue until the Permittee has received a written response, electronically or in letter format, from DFG that the protocol may be adjusted to daily monitoring, at DFG discretion.

2.16 Migratory Birds. Be advised, migratory nongame native bird species are protected by international treaty under the Federal Migratory Bird Treaty Act (MBTA) of 1918 (50 C.F.R. Section 10.13). Sections 3503, 3503.5 and 3513 of the California Fish and Game Code that prohibit take of all birds and their active nests including raptors and other migratory nongame birds (as listed under the Federal MBTA).

2.17 Project Site Surveys. The Permittee certifies by signing this Agreement that the Project site has been surveyed and that surveys indicated no rare, threatened or endangered species shall be impacted; if however threatened or endangered species are encountered within the proposed work area once Project activities are implemented, or could be impacted by the work proposed, the Permittee shall consult with DFG, and state take permits may be required.

2.18 Observations of Threatened and/or Endangered Species. If threatened or endangered species are observed in the area, no work shall occur from March 1st

[1] NOTE: Buffer area shall increase to 300 feet for passerines and 500 feet for raptors if any endangered, threatened, or DFG species of special concern are identified during protocol or pre-construction presence/absence surveys.

through September 15th to avoid direct or indirect (noise) take of listed species and State and/or Federal threatened/endangered species. Please note that additional state permits may be required prior to commencing Project activities. This Agreement does not authorize take of species listed as Threatened and/or Endangered.

2.19 Reporting Observations to CNDDB. The Permittee shall be responsible for reporting all observations of threatened/endangered species or of species of special concern to DFG's Natural Diversity Data Base within ten (10) days of sighting.

2.20 Work Suspension. The Permittee shall not continue work once listed (threatened/endangered, candidate, or rare) species are discovered until DFG has been notified and concurrence has been received by DFG that work may continue. DFG will have forty-eight hours to review the circumstances and notify the Permittee if work may continue.

Habitat Protection

2.21 Vehicle Access Where Vegetation May be Impacted. The location identified for Project area access PS1 shall not exceed 1000 linear feet by 12 feet wide in the area indicated in the Project description. Impacts shall not exceed those as described in the Project description included with the notification for this Agreement. If it is determined that additional impacts may occur as a result of these activities additional Compensatory Mitigation may be required (See Section 3).

2.22 Tree and Shrub Removal. No tree removal is allowed for the list of following species above that specifically detailed in the notification Project description: six (6) coast live oak; three (3) California sycamore; one (1) toyon; zero (0) black walnut (*Juglans nigra*); and zero (0) Fremont cottonwood (*Populus fremontii*). Tree limbs less than three (3) inches at DBH may be trimmed as necessary to provide equipment access. Any trimming of branches of trees with a DBH greater than three (3) inches, other than *Salix* spp., shall require PRIOR approval from DFG. The proposed removal method for all trimmings and grubbed materials must be determined PRIOR to these activities and if it is determined that additional impacts may occur as a result of these activities additional Compensatory Mitigation may be required (See Section 3).

2.23 Herbicide Application. The Permittee shall apply any herbicides in accordance with state and federal law. No herbicides shall be used where Threatened or Endangered species occur. No herbicides shall be used when wind velocities are above 5 miles per hour or when nesting birds could be exposed.

2.24 Authorized Uses of Herbicides. No herbicides shall be used on native vegetation unless specifically authorized PRIOR to application, in writing, by DFG. A small amount of selective trimming of native species (e.g. willow, oak and sycamore) may occur to prevent overspray of herbicide from reaching these branches, but only as provided within the conditions of this Agreement. Native vegetation may only be trimmed;

individual plants shall not be removed. Material in excess of three (3) inches DBH shall require specific notice to and consultation with DFG. All trimming shall be conducted using hand saws and hand tools.

2.25 Alteration of Streambed. This Agreement does not authorize modification to any stream channel during the Permittee's Project-related activities. If alterations to the bank are required as part of the restoration Project; those impacts must be approved by DFG prior to occurrence.

2.26 Demolition of Structures. When any bridge is demolished, tarps shall be suspended above the bottom of the creek, with a gap between any water if present, or any diversion so not to smother any aquatics, and to trap all dust and debris from entering the channel. The dust shall be vacuumed at the end of each day to prevent the dust from blowing downstream and into any water.

2.27 Substrate. Rock, gravel, and/or other materials shall not be imported to, taken from or moved within the bed and or banks of the stream, except as otherwise addressed in the Project description.

2.28 Domestic Animals. The Permittee shall not permit pets on or adjacent to the construction site.

2.29 Weapons. The Permittee shall ensure that no guns/or other weapons are on-site during construction, with the exception of the security personnel and only for security type functions. No hunting shall be authorized/permitted during Project-related activities.

Fill and Spoils

2.30 Fill. This Agreement authorizes fill only as specified in the Project description as described in the Permittee's Streambed Notification and does NOT authorize any fill placement within Santa Paula or Sisar creeks.

Placement of In-stream Structures

2.31 Diversions. This Agreement does not authorize any diversion or other artificial obstruction. Any work in a wetted portion of a streambed requires PRIOR approval, in writing, from DFG prior to implementation.

2.32 Temporary Installation of Bridges, Culverts, or Other Structures. This Agreement does not authorize any temporary bridge, culvert, or other structure or obstruction. Any work in a wetted portion of a streambed requires PRIOR approval, in writing, from DFG prior to implementation.

2.33 Temporary Dams. This Agreement does not authorize any temporary dam or other

artificial obstruction. Any work in a wetted portion of a streambed requires PRIOR approval, in writing, from DFG prior to implementation.

2.34 Wet concrete. No concrete or any cement product may be poured if measurable rain is forecasted within 15 days. If any concrete is poured after November 1st, a quick-cure ingredient shall be added to the concrete mix to ensure a faster set or drying time. Cement shall not be poured in or near a flowing stream, to reduce the potential for significant adverse impacts to the stream, water, or biota without prior approval.

2.35 Unauthorized Materials. Any materials placed in seasonally dry portions of a stream that could be washed downstream or could be deleterious to aquatic life shall be removed prior to inundation by high flows.

Turbidity and Siltation

2.36 Predicted Rain. If measurable rain with 25% or greater probability is predicted within 72 hours during Project-related activities, all activities shall cease and protective measures to prevent siltation/erosion shall be implemented/maintained.

2.37 Sediment Control. Sediment from Project-related activities shall not be placed in upland areas where it might likely be washed back into the stream, or where it is likely to have a negative impact on emergent native vegetation, or where it is likely to have a negative impact on native trees.

2.38 Sediment Control Devices. The Permittee shall install an appropriate sediment control device downstream of the work area to filter sediment created from water re-entering the creek. Acceptable materials include silt fence, straw bales, or other appropriate devices to prevent sediment runoff during rewatering activities. Silt control shall remain in place only until the water running through the work area is clear of sediment.

2.39 Dewatering Restrictions. No dewatering activities are proposed or authorized by this Agreement. If necessary, and after written approval has been granted by DFG, silty/turbid water from dewatering or other activities shall not be discharged into the stream. Such water shall be settled, filtered, or otherwise treated prior to discharge. The Permittee's ability to minimize turbidity/siltation shall be the subject of pre-construction planning and feature implementation only if and when it becomes necessary.

2.40 Dust control. No stream water may be used in construction, such as in dust control. All construction water shall be from developed sources. Any dust produced from demolition of existing structures shall be vacuumed on a daily basis from the creek channel, and from any location where it may pass into waters of the state from rain or wind.

2.41 Sediment and Turbidity Levels. Upon DFG determination that turbidity/siltation

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

2.42 Runoff Control. Preparation shall be made so that runoff from steep, erodible surfaces will be diverted into stable areas with little erosion potential. Frequent water checks shall be placed on dirt roads, cat tracks, or other work trails to control erosion.

2.43 Contaminated Site Water. Water containing mud, silt, or other pollutants from equipment washing or other activities, shall not be allowed to enter a flowing stream, or dry ephemeral stream, or placed in locations that may be subjected to high storm flows.

Equipment and Access

2.44 Staging and Vehicle Storage. Staging/storage areas for equipment and materials shall be located outside of the stream, and only in those areas as described in the Project Description provided for this Agreement. Area(s) selected were selected due to either a non-vegetated status or in an effort to reduce Project-related impacts. Staging in all other areas is prohibited by this Agreement unless otherwise approved PRIOR to staging activities by DFG.

2.45 Authorized Vehicles. This Agreement does NOT authorize any vehicle(s) to be driven, or equipment operated in, any water-covered portions of a stream, or where wetland vegetation, riparian vegetation, or aquatic organisms may be harmed or destroyed. DFG shall be notified within 24 hours by email or fax PRIOR to work in a wetted streambed additional mitigation and/or measures may be required to protect resources.

2.46 Vehicle Maintenance. Any equipment or vehicles driven and/or operated adjacent to the stream/lake shall be checked and maintained daily, to prevent leaks of materials that if introduced to water could be deleterious to aquatic life.

Pollution, Litter and Cleanup

2.47 Pollutants and Debris. No debris, soil, silt, sand, bark, slash, sawdust, rubbish, construction waste, cement or concrete or washings thereof, asphalt, paint, oil or other petroleum products or any other substances which could be hazardous to aquatic life, or other organic or earthen material from any logging, construction, or other associated Project-related activity shall be allowed to contaminate the soil and/or enter into or placed where it may be washed by rainfall or runoff into, waters of the State. Any of these materials, placed within or where they may enter a stream, by the Permittee or any party working under contract, or with the permission of the Permittee, shall be removed immediately. When Project-related activities are completed, any excess materials or debris shall be removed from the work area. No rubbish shall be deposited within 150 feet of the high water mark of any stream or lake.

2.48 Pollution Compliance. The Permittee shall comply with all litter and pollution laws. All contractors, subcontractors and employees shall also obey these laws and it shall be the responsibility of the Permittee to insure compliance.

2.49 Debris. Except as otherwise permitted in this Agreement, the removal of soil, vegetation, and vegetative debris from the stream bed or stream banks is prohibited. The Permittee shall remove all human generated debris, such as yard and farm cuttings, broken concrete, construction waste, garbage and trash. The Permittee shall remove washed out culverts, and other construction materials, that the Permittee places within, or where they may enter, the stream.

2.50 Pollution Prevention. Stationary equipment such as motors, pumps, generators, and welders, located within or adjacent to the stream/lake shall be positioned over drip pans. Stationary heavy equipment shall have suitable containment to handle a catastrophic spill/leak. Clean up equipment such as extra boom, absorbent pads, skimmers, shall be on site prior to the start of Project-related activities. No equipment maintenance shall be done within or near any stream channel or lake margin where petroleum products or other pollutants from the equipment may enter these areas under any flow.

2.51 Pollution Clean-up. The clean-up of all spills shall begin immediately. DFG shall be notified immediately by the Permittee of any spills that release hazardous material (oil, cement, fuel, etc.) into Santa Paula or Sisar Creeks and shall be consulted regarding clean-up procedures.

2.52 Trash Receptacles. The Permittee shall install and use fully covered trash receptacles with secure lids (wildlife proof) that contain all food, food scrapes, food wrappers, beverage and other miscellaneous trash generated by work force personnel.

3. Compensatory Measures

3.1 Mitigation for Permanent Impacts of Old Growth Coast Live Oaks PS1: Santa Paula Creek at PM 29.4. Compensatory Mitigation for the removal of six (6) old growth coast live oaks shall be as follows. For every inch of Diameter-at-Breast-Height (DBH) of coast live oak removed one (1) 15-gallon coast live oak from nursery stock locally grown shall be installed. Supplemental watering shall be provided if deemed necessary by the arborist or consultant overseeing the installation of the oaks. Coast live oak trees shall be monitored for a period of five-years from date of installation biannually for signs of stress and monitored for an 80% success rate of survival and growth. Additionally, all plantings of sycamore container stock shall occur on the second terrace of vegetation plantings.

3.2 Mitigation for Permanent Impacts of Old Growth California Sycamore PS1: Santa Paula Creek at PM 29.4. Compensatory Mitigation for the removal of three (3) old

growth California sycamores shall be as follows. For every California sycamore removed five (5) five-gallon California sycamores from nursery stock locally grown shall be installed. Supplemental watering shall be provided if deemed necessary by the arborist or consultant overseeing the installation of the sycamores. California sycamore trees shall be monitored for a period of five-years from date of installation biannually for signs of stress and monitored for an 80% success rate of survival and growth. Additionally, all plantings of sycamore container stock shall occur on the second terrace of vegetation plantings.

3.3 Mitigation for 0.275 acre of Temporary Impacts of Riparian Plants PS1: Santa Paula Creek at PM 29.4 Compensatory Mitigation for the removal of a dense, richly populated riparian plant community, consisting of: mulefat, arroyo willow, cottonwood, white alder, coyote bush, and narrowleaf willow shall include restoration of all temporarily impacted areas. In addition to restoration of areas temporarily impacted, mitigation shall include the purchase of an additional 0.55 acre of preservation credits from the Santa Paula Creek Mitigation Bank. Where appropriate, and dependent on species availability, nursery stock locally grown shall be installed. Supplemental watering shall be provided if deemed necessary by the arborist or consultant overseeing the installation of the sycamores. Restoration areas shall be monitored for a period of five-years from date of installation biannually for signs of stress and monitored for an 80% success rate of survival and growth.

3.4 Plantings of Willow and Mulefat PS1. Santa Paula Creek at PM 29.4. Container, cuttings, or poles stock of willow and mulefat shall occur immediately adjacent Santa Paula Creek in areas where removal or large canopy trees has day-lighted the creek. The plantings shall be assembled in such a way as to provide instant shade until the second terrace hard wood trees can gain enough size and canopy to adequately shade the creek. In areas where the creek if narrow enough installed willows can be arched over the creek and tied together to provide shade and refugia for sensitive aquatic species until enough of the installed plantings have growth adequate to shade the creek.

3.5 Mitigation for Permanent Impacts of Toyon PS2: Sisar Creek at PM 27.37. Compensatory Mitigation for the removal of one (1) mature toyon shall be as follows. For every toyon removed five (5) five-gallon toyon trees from nursery stock locally grown shall be installed. Supplemental watering shall be provided if deemed necessary by the arborist or consultant overseeing the installation of the toyon trees. Toyon trees shall be monitored for a period of five-years from date of installation biannually for signs of stress and monitored for an 80% success rate of survival and growth. Additionally, all plantings of toyon container stock shall occur on the second terrace of vegetation plantings. **NOTE:** One-third of container stock and cuttings required as mitigation as a result to impacts at PS1 may be utilized at PS2 to increase species diversity and provide shade for the creek as deemed appropriate.

Exotic Species Removal and Control

3.6 Wildland Pest Species. The Permittee, whenever possible, shall remove any non-native vegetation Arundo (*Arundo donax*), tamarisk (*Tamarix* spp.), eucalyptus-immature 3"< (*Eucalyptus* spp.), pepper tree (*Schinus molle*), castor bean (*Ricinus communis)*, African umbrella sedge (*Cyperus eragrostis, Nutsedge*), mustards (*Brassica* spp.), tree tobacco (*Nicotiana glauca*), periwinkle (*Vinca* spp.), and pampas grass (*Cortaderia selloana*) from the work area and shall dispose of it in a manner and a location which prevents its reestablishment.

3.7 *Arundo donax*. Giant cane (*Arundo*), if present, shall be cut to a height of six inches or less, and the stumps painted with an herbicide approved for aquatic use within five minutes of cutting. Herbicides shall be applied at least three times during the period from May 1st to October 1st to eradicate these plants. Where proposed methods for removing giant cane deviate from this procedure, the Permittee shall present the alternate methods, in writing, to DFG for review and approval, prior to implementation.

3.8 Exotics Removal and Control Mechanisms. Whenever possible, invasive species shall be removed by hand or by hand-operated power tools rather than by chemical means. Where control of non-native vegetation is required within the bed, bank, or channel of the stream, the use of herbicides is necessary, and there is a possibility that the herbicides could come into contact with water, the Permittee shall employ only those herbicides, such as Rodeo/Aquamaster (Glyphosate), which are approved for aquatic use. If surfactants are required, they shall be restricted to non-ionic chemicals, such as Agri-Dex, which are approved for aquatic use. Permittee may request use of additional herbicides if newer more environmentally sensitive products become available.

4. Reporting Measures

Permittee shall meet each reporting requirement described below.

4.1 Final Construction Report. Permittee shall provide a final construction report to DFG no later than two weeks after the Project is fully completed including color photographs of before and after Project-related activities, including the surrounding staging areas. The construction report at a minimum shall contain pre-Project photographs, total amount of area impacted post-Project, and post-Project photographs.

4.2 Habitat Mitigation and Monitoring Plan. Permittee shall submit, no later than **December 31, 2012**, the complete mitigation package for these Project(s). The complete Mitigation package MUST include: a full plant palette, installation of container stock indicated by aerial map that clearly shows all container installations, detailed annual monitoring reports and supplemental watering reports, success criteria achieved or additional plantings required, and a color photo journal constructed from annual monitoring program.

CONTACT INFORMATION

Any communication that Permittee or DFG 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 DFG specifies by written notice to the other.

To Permittee:

California Department of Transportation
Mr. Joel Bonilla
100 S. Main Street MS 16A
Los Angeles, California, 90012
Tel. (213) 897-8492 Fax. (213) 897-0685

To DFG:

DFG of Fish and Game
South Coast Region
3883 Ruffin Road
San Diego, California 92123
Attn: Lake and Streambed Alteration Program
Notification #1600-2012-0083-R5

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 DFG'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

DFG 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 DFG 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 reason(s) for the proposed suspension or revocation, provide Permittee an opportunity to correct any deficiency before DFG 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 DFG to issue the notice.

ENFORCEMENT

Nothing in the Agreement precludes DFG 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 DFG'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 5948 (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

DFG may amend the Agreement at any time during its term if DFG 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 DFG and Permittee. To request an amendment, Permittee shall submit to DFG a completed DFG "Request to Amend Lake or Streambed Alteration" form and include with the completed form payment of the corresponding amendment fee identified in DFG'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 DFG 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 DFG a completed DFG "Request to Amend Lake or Streambed Alteration" form and include with the completed form payment of the minor amendment fee identified in DFG'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 for the original term 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 DFG a completed DFG "Request to Extend Lake or Streambed Alteration" form and include with the completed form payment of the extension fee identified in DFG's current fee schedule (see Cal. Code Regs., tit. 14, § 699.5). DFG 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 DFG's signature, which shall be: 1) after Permittee's signature; 2) after DFG 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.dfg.ca.gov/habcon/ceqa/ceqa_changes.html.

ADDITIONAL FEE REQUIRED: This Agreement shall not be valid until a total fee of $8,965.50 ($8,965.50 - $4,482.75 fee received = $4,482.75 fee due) is received by DFG. Project 1: SR-150 on Santa Paula Creek at PM 29.4, Project 2: SR-150 on Sisar Creek at PM 27.37. Project fees are associated with DFG pre-Project notification, notification, construction monitoring, and maintenance and monitoring of mitigation activities and ALL fees MUST be received before any SAA can be executed.

TERM

This Agreement shall expire on **June 01, 2017** 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.

EXHIBITS

The documents listed below are included as exhibits to the Agreement and incorporated herein by reference.

Exhibit A: "State Route -150, Slope Stabilization Project Natural Environmental Study EA: 3X20 Slope Stabilization SR-150 PM 29.4 & 27.37 Santa Paula Creek and Sisar Creek, Ventura County 7-VEN-150-PM 27.34 and 29.4 EA: 3X020 (EFIS: 0700020912) FWS: 08EVEN00-2012-TA-0130" dated April 2012.

Exhibit B: "State of California Department of Transportation Project Plans for Construction on State Highway in Ventura County at 1.1 Miles West of Sisar Creek Bridge and at 0.6 Mile South of Santa Paula Creek Bridge" dated April 26, 2012.

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 DFG in accordance with FGC section 1602.

CONCURRENCE

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

FOR California Department of Transportation

David O'Mirarney — Feb. 7, 2013

Aziz Elattar David H Mirarney
Senior Environmental Planner Project Manager — Date

FOR DEPARTMENT OF FISH AND GAME

Leslie S. MacNair
Environmental Program Manager

Date

Prepared by: Jamie Jackson
Staff Environmental Scientist

State of California – Natural Resources Agency
DEPARTMENT OF FISH AND WILDLIFE
South Coast Region
3883 Ruffin Road
San Diego, CA 92123
www.wildlife.ca.gov

EDMUND G. BROWN JR., Governor
CHARLTON H. BONHAM, Director

February 21, 2013

Mr. Eduardo Aguilar
California Department of Transportation
100 South Main Street
Los Angeles, California 90012

Subject: Final Lake or Streambed Alteration Agreement
Notification No. 1600-2012-0083-R5
Santa Paula and Sisar Creeks Tributaries to Santa Clara River
VEN-150 SLOPE STABILIZATION AND EROSION CONTROL PROJECT

Dear Eduardo Aguilar:

Enclosed is the final Streambed Alteration Agreement (Agreement) for the VEN-150 Slope Stabilization and Erosion Control 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 Ms. Jamie Jackson at 805-382-6906 or jamie.jackson@wildlife.ca.gov.

Sincerely,

Marilyn Fluharty for

Betty J. Courtney
Environmental Program Manager

ec: Jamie Jackson, Staff Environmental Scientist

FOR DEPARTMENT OF FISH AND GAME

Marilyn Fluharty for:

~~Leslie S. MacNair~~ Betty Courtney
Environmental Program Manager

2/21/13
Date

Prepared by: Jamie Jackson
Staff Environmental Scientist

The U.S. Fish and Wildlife Service's mission is, working with others, to conserve, protect and enhance fish, wildlife, and plants and their habitats for the continuing benefit of the American people.

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Ventura Fish and Wildlife Office
2493 Portola Road, Suite B
Ventura, California 93003

IN REPLY REFER TO:
08EVEN00-2012-F-0237

June 29, 2012

Eduardo Aguilar
Senior Environmental Planner
California Department of Transportation
100 South Main Street, MS-16A
Los Angeles, California 90012

Subject: Biological Opinion for the State Route 150 Slope Stabilization Project, Ventura County, California (8-8-12-F-23) (EA 3X020)

Dear Mr. Aguilar:

This document transmits the U.S. Fish and Wildlife Service's (Service) biological opinion based on our review of the proposed State Route 150 (SR 150) Slope Stabilization Project (project) and the associated effects on the federally threatened California red-legged frog (*Rana draytonii*). The California Department of Transportation (Caltrans) is acting as the lead Federal agency, authorized under a Memorandum of Understanding with the Federal Highway Administration (FHWA), pursuant to section 6004 of the 2005 Safe Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users. The proposed project meets the suitability criteria contained in the programmatic biological opinion for the California red-legged frog (1-8-02-F-68), dated April 24, 2003 (Service 2003). This biological opinion is issued in accordance with section 7 of the Endangered Species Act (Act) of 1973 as amended (16 U.S.C. 1531 et seq.).

You made the determination that the proposed project may effect, but is not likely to adversely affect the federally endangered least Bell's vireo (*Vireo bellii pusillus*). We concur with your determination because:

1. The proposed project would be conducted between September 1 and February 14, outside the typical breeding season for the species. The least bell's vireo is a migratory songbird that only occurs within the region during the breeding season, and therefore is unlikely to be in the region during the implementation of the proposed project.

2. The species is not known to occur at the proposed project site, or in proximity to Santa Paula or Sisar creeks. Surveys according to Service protocol were conducted in 2009 for the least Bell's vireo at the confluence of Santa Paula and Sisar Creeks, approximately 1-mile from the proposed project sites. The least Bell's vireo was not observed during the surveys (Sapphos Environmental, Inc. 2009).

3. The closest known breeding location for the least Bell's vireo is approximately 5.5 miles downstream of the proposed project at the confluence of Santa Paula Creek and the Santa Clara River.

4. Caltrans will implement the protective measures described in Appendix A of this biological opinion (8-8-12-F-23).

This biological opinion was prepared using information contained in your request for consultation, dated March 7, 2012, and received on March 12, 2012, the programmatic biological opinion (Service 2003), the biological assessment (Caltrans 2012), communication and site visits conducted with our staff, and information in our files. A complete record of this biological opinion can be made available at the Ventura Fish and Wildlife Office.

BIOLOGICAL OPINION

DESCRIPTION OF THE PROPOSED ACTION

The following description of the proposed action has been summarized from the biological assessment (Caltrans 2012), unless otherwise noted.

Caltrans proposes slope stabilization and erosion control along the highway embankment of SR 150, at Post Mile (PM) 27.37 along Sisar Creek and PM 29.4 along Santa Paula Creek, near the city of Santa Paula in Ventura County, California. The highway embankments were damaged as a result of storm events in 2010.

The roadbed support slopes are damaged and have heavily saturated soil. The proposed project is intended to protect public safety by addressing the structural deficiencies. Specifically, the project would install type 736 erosion control barriers along the road at both sites, with the addition of a retaining wall at the bottom of the embankment at PM 29.4.

The sites are located on the creek side of SR 150 at PM 29.4 and at PM 27.37; however, neither site would require water diversion or encroach into the low-flow portion of the channel. Upon completion of the work, both slope stabilization sites would provide the necessary support to prevent further erosion of the highway embankments. Construction would occur outside of the general bird nesting season, between September 1 and February 14 (Caltrans 2012).

Project Description for SR 150, PM 29.4

Overview

- A 6-foot tall concrete barrier would be constructed on the shoulder of the roadway (top of the embankment slope). The barrier would be supported by three 24-inch diameter cast in drilled hole piles (CIDH) buried 16 feet deep and spaced 6 feet on center.
- The embankment slope would be left as is.
- A retaining wall would be constructed at the bottom of the slope. The wall would be approximately 372.5 feet long with an average height of 21 feet. The wall would be

supported by a 13-foot wide footing that runs the length of the wall. The wall depth would vary to match the depth of the channel thalweg (deepest part of the channel) elevations. The footing would be reinforced by a total of six 24-inch diameter CIDH piles buried at a depth of 16 feet.

Concrete Barrier

The concrete barrier at the top of the embankment slope would prevent surface runoff from flowing over the slope. Surface runoff would instead be directed towards existing down-drains to prevent further erosion of the slope. All work would be done from the roadway on SR 150 and within Caltrans' right of way. The area of permanent impact from the concrete barrier would be approximately 0.009 acre (122 feet long by 3.33 feet wide). Construction of the retaining wall at the top of the slope would consist of the following:

- Excavation of three CIDH piles;
- Construction of the barrier with a 6-foot height, 3.33-foot width and 122-foot length; and
- Construction of a drainage inlet to intercept and discharge water through an existing down-drain.

Retaining Wall

The retaining wall would support the adjacent embankment, which is a near-vertical cliff due to previous scouring. At its closest to the project area, the creek is approximately 60 feet away from the embankment. The project area would extend 45 feet from the embankment. Therefore, approximately 15 feet of undisturbed vegetation would remain as a buffer between the creek and the project area.

The retaining wall would support the existing slope and protect against the channel's thalweg, which appears to be moving towards the roadway alignment based on historic aerial images. The height of the wall would protect against a 100-year flood water surface elevation. All work would be done from a temporary access road in the floodplain. Permanent impacts to the project area from the retaining wall would be approximately 0.111 acre (372.5 feet long by 13 feet wide). Approximately 25,280 cubic feet of backfill would be permanently placed between the retaining wall and the existing vertical slope. Construction of the retaining wall at the bottom of the slope would consist of the following:

- Drilling in the project area and installing six CIDH piles;
- Burying the retaining wall footing at a depth that matches the channel's thalweg. Rock slope protection would be placed on top of the retaining wall footing to protect it against scour;
- Placing the retaining wall in front of the slope. The height of the wall would vary as the elevation drops a total of 18 feet from the north end of the project site to the south end. The space between the retaining wall and the vertical slope would be backfilled; and
- Rock slope protection would be used to protect the retaining wall footing.

Staging Area

The County of Ventura has granted Caltrans a temporary construction easement to use as the staging area for construction equipment. This location adjacent to PM 29.4 would serve as the

staging area for both project sites at PM 29.4 and PM 27.37. The easement is located in a vacant lot within Steckel Park. The staging site would minimize the impact to the existing native vegetation because the lot is clear of vegetation and relatively close to the project site. Construction equipment that would be utilized includes: an excavator, loaders, dump trucks, rollers, a backhoe, a bulldozer, a grader, bobcats, concrete trucks, and pickup trucks. The dimensions of the vacant lot are 308 feet in length by 75 feet in width.

Access Road

The top barrier would not require an access road as construction would occur within the roadway. Construction of the bottom retaining wall would require a temporary access road for the project location at PM 29.4. The temporary impact area for the access road is calculated to be 0.275 acre, or 11,990 square feet. Caltrans' survey and environmental teams delineated the temporary access road to find the path of least environmental impact. The access road would generally follow a high-flow channel of Santa Paula Creek that consists of gravel and cobble stones with various riparian species dominated by willow (*Salix* spp.) (C. Mehlberg, Service biologist, personal observation 2012). The access road would have a length of 1,000 feet and width of 12 feet. At its closest, the access road would be approximately 10 to 15 feet away from the bank of Santa Paula Creek. In order to construct the temporary access road, approximately 4,185 cubic feet of material would be excavated and 1,420.2 cubic feet of fill would be placed temporarily.

Riparian vegetation would be impacted for the length of the access road. Excavation, vegetation clearing and grubbing, and temporary fill would be required to construct the temporary access road. Temporary fill would be placed in the cleared areas for construction of the access road. During construction, the access road would be blocked to deter public access. Upon completion of the retaining wall, the temporary impact areas would be restored to match the existing geomorphology to the maximum extent feasible. The access road would be revegetated after project completion.

Project Description for SR 150, PM 27.37

Overview

- On the top of the embankment slope, a 6-foot tall concrete barrier would sit on three CIDH piles. The CIDH piles would have a 16-foot depth and a 16-inch diameter. The barrier would be 60 feet long.
- The slope embankment would be excavated from the roadway and backfilled.

Concrete Barrier

The proposed top barrier would prevent surface runoff from flowing over the embankment slope in an effort to prevent further erosion of the slope. The surface runoff would instead be directed towards existing down-drains. The affected embankment currently has a very steep slope due to erosion. At the bottom of the embankment is a shallow basin approximately 90 feet long by 40 feet wide which borders the flowing stream. This shallow basin may indicate signs of previous landslide events. The concrete barrier would result in permanent impacts to 0.005 acre of the project area (60 feet long by 3.33 feet wide). Work would consist of the following:

- Excavate three CIDH piles;
- Construct concrete barrier; and
- Construct a drainage inlet to intercept and discharge water through an existing drain.

Access Road and Staging Area
Construction at PM 27.37 would utilize the staging area at Steckel Park as described for PM 29.4. An access road would not be needed at this location because construction would occur solely from within the roadway and Caltrans' right of way.

Protective Measures for both PM 29.4 and PM 27.37
Caltrans would adhere to all measures that minimize adverse effects to California red-legged frogs as described in the programmatic biological opinion (Service 2003). All protective measures proposed by Caltrans for the proposed project are listed in Appendix A of this biological opinion.

ANALYTICAL FRAMEWORK FOR JEOPARDY DETERMINATIONS

Jeopardy Determination

The jeopardy analysis in this biological opinion relies on four components: (1) the *Status of the Species*, which describes the range-wide condition of the California red-legged frog, the factors responsible for that condition, and its survival and recovery needs; (2) the *Environmental Baseline*, which analyzes the condition of the California red-legged frog in the action area, the factors responsible for that condition, and the relationship of the action area to the survival and recovery of the California red-legged frog; (3) the *Effects of the Action*, which determines the direct and indirect impacts of the proposed Federal action and the effects of any interrelated or interdependent activities on the California red-legged frog; and (4) the *Cumulative Effects*, which evaluates the effects of future, non-Federal activities in the action area on the California red-legged frog.

In accordance with policy and regulation, the jeopardy determination is made by evaluating the effects of the proposed federal action in the context of the current status of the California red-legged frog, taking into account any cumulative effects, to determine if implementation of the proposed action is likely to cause an appreciable reduction in the likelihood of both the survival and recovery of the California red-legged frog in the wild.

STATUS OF THE SPECIES

The programmatic biological opinion for the California red-legged frog (Service 2003) describes the basic ecology of the subspecies and the reasons for its listing. For this reason, we will not repeat the information conveyed in the programmatic biological opinion. In this section we will present an updated status of the California red-legged frog.

The California red-legged frog was federally listed as threatened on May 23, 1996 (61 Federal Register (FR) 25813). The Service completed a recovery plan for the subspecies in 2002 (Service 2002). On March 17, 2010, the Service published a revised critical habitat designation for California red-legged frog (75 FR 12816). More than three times larger than the designated critical habitat area in the 2006 rule it replaces, the 2010 rule designates 50 critical habitat units in 27 California counties. The subject project site is not within designated critical habitat for the California red-legged frog; the nearest designated critical habitat unit, Unit Ven-1, is located along San Antonio Creek near the city of Ojai approximately 8 miles to the west of the project area. Therefore, critical habitat will not be discussed further in this biological opinion.

The historical range of the California red-legged frog extended coastally from southern Mendocino County and inland from the vicinity of Redding, California, southward to northwestern Baja California, Mexico (Jennings and Hayes 1985, Storer 1925). The California red-legged frog has been extirpated or nearly extirpated from 70 percent of its former range. Historically, this species was found throughout the Central Valley and Sierra Nevada foothills. California red-legged frogs have been documented in 46 counties in California. Currently they are known from 3 disjunct regions and remain in only 238 streams or drainages in 31 counties in California and one region in Baja California, Mexico (Grismer 2002, Fidenci 2004, Smith and Krofta 2005, Service 2010).

Current threats to the California red-legged frog include direct habitat loss due to stream alteration and disturbance to wetland areas, indirect effects of expanding urbanization, competition or predation from non-native species, and chytrid fungus (*Batrachochytrium dendrobatidis*). Chytrid fungus is a waterborne fungus that can decimate amphibian populations.

Recovery Plan for the California Red-legged Frog

The recovery plan for the California red-legged frog identifies eight recovery units (Service 2002). These recovery units are based on the Recovery Team's determination that various regional areas of the species' range are essential to its survival and recovery. The status of the species is considered within the smaller scale of recovery units as opposed to the overall range. These recovery units are delineated by major watershed boundaries as defined by U.S. Geological Survey hydrologic units and the limits of the range of the California red-legged frog. The goal of the recovery plan is to protect the long-term viability of all extant populations within each recovery unit. Within each recovery unit, core areas have been delineated and represent contiguous areas of moderate to high California red-legged frog densities that are relatively free of exotic species such as bullfrogs. The goal of designating core areas is to protect metapopulations that, combined with suitable dispersal habitat, will allow for the long term viability within existing populations. This management strategy will allow for the recolonization of habitat within and adjacent to core areas that are naturally subjected to periodic localized extinctions, thus assuring the long-term survival and recovery of California red-legged frogs. A 5-year status review of the California red-legged frog was initiated by the Service in May 2011 (76 FR 30377), but has not yet been completed.

ENVIRONMENTAL BASELINE

The implementing regulations for section 7(a)(2) of the Act define the "action area" as all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action (50 Code of Federal Regulations (CFR) 402.02). For the purposes of this biological opinion, we consider the action area to include the project areas at PM 29.4 and PM 27.37 where construction activities would occur, the access road along Santa Paula Creek for project site PM 29.4, staging and storing areas at Steckel Park, and an area extending 100 feet in all directions of each of these areas to account for the indirect effects of construction, such as sedimentation and vibration, on the California red-legged frog.

The project sites are located along Sisar Creek and Santa Paula Creek, in Ventura County. The locations are mountainous and on the east slope of Sulphur Mountain. The surrounding land is rural with agricultural use and very scattered homes. Most of the action area is covered with native vegetation, consisting of coastal scrub, riparian areas, and oak woodlands. Sisar Creek is a tributary to Santa Paula Creek. Santa Paula Creek is perennial with high gradient that brings moderate to high flows. Santa Paula Creek is a tributary of the Santa Clara River.

Habitat Characteristics of PM 29.4

The proposed work site at PM 29.4 is located on the east bank of Santa Paula Creek, in a braided section of the creek less than a mile downstream from the confluence of Sisar and Santa Paula Creeks. Santa Paula Creek is a natural winding stream with dense vegetation and a fairly steep channel slope. The flow rate of Santa Paula Creek is much faster than Sisar Creek. Streambed material is 5 to 10 feet of clay/silt sand with gravel overlying and 5 to 8 feet of poorly graded gravel or clayey gravel. Below these layers, there is approximately 100 feet of varying weathered and fractured siltstone and sandstone.

The proposed work site at PM 29.4 is within a deep gully with old growth vegetation. The uplands are primarily coastal sage scrub and coastal live oak woodlands. The dominant species in the uplands is the coast live oak (*Quercus agrifolia*). The riparian plant community in the action area consists of a mulefat (*Baccharis salicifolia*) understory with a tree canopy composed of arroyo willow (*Salix lasiolepis*) and cottonwood (*Populus fremontii*). The riparian zone directly adjacent to the retaining wall construction area includes the following native plant species: white alder (*Alnus rhombifolia*), coyote bush (*Baccharis pilularis*), narrowleaf willow (*Salix exigua*), and California sycamore (*Platanus racemosa*). The plant community is relatively young in the action area, likely due to high flow rates in the riparian zone during storm activity.

Habitat Characteristics of PM 27.37

The proposed work site at PM 27.37 is adjacent to Sulphur Mountain and receives natural oil seepage from the mountainside. It is located on a river bend on the south bank of Sisar Creek approximately 1 mile upstream from the confluence of Sisar and Santa Paula Creeks. Sisar Creek is a narrow winding stream with dense vegetation and cobbles on a fairly steep channel slope. The overbank shallow basin is characterized as floodplain butting against a steep slope.

The proposed work site at PM 27.37 is mostly bare ground with no vegetation cover. One mature toyon (*Heteromeles arbutifolia*) would be removed at this location for the concrete barrier construction. Vegetation near the construction area consists of native upland and riparian plant communities. These include coastal sage scrub, walnut woodlands and coastal live oak woodlands. The riparian plant community adjacent to the construction area is primarily composed of willow scrub, with arroyo willow being the dominant species. Other native riparian species present include mulefat, coyote bush, narrowleaf willow, and California sycamore. These adjacent habitat areas will not be directly impacted by the proposed project.

Status of the California Red-legged Frog in the Action Area

Surveys for the California red-legged frog have not been conducted within the action area for the proposed project. Caltrans has assumed presence for California red-legged frog in the action area due to the proximity of known populations of the species and the presence of suitable habitat within the action area. The closest known populations of California red-legged frog are in San Antonio Creek and the Ventura River approximately 8 miles west of the action area. Surveys for the California red-legged frog according to Service guidance were conducted in Santa Paula Creek along SR 150 near Thomas Aquinas College in 2009. The survey location was approximately 0.75 mile upstream of the PM 29.4 project site and 1 mile downstream of the PM 27.37 project site. California red-legged frogs were not observed during the surveys (Swift and Mulder 2009). The elevation of the action area, approximately 1,200 feet above mean sea level, is within the expected range of the California red-legged frog. The riparian plant community is willow scrub dominated by arroyo willow. The riparian zone consists of many native plant species, which provide suitable habitat for the species. Suitable California red-legged frog habitat was observed by Caltrans in the action area at both PM 29.4 and PM 27.37 (Caltrans 2012).

Recovery of the California Red-legged Frog in the Action Area

The proposed project area is within the Northern Transverse Ranges and Tehachapi Mountains Recovery Unit for the California red-legged frog according to the recovery plan (Service 2002). The recovery unit is threatened by agriculture, mining, non-native species, recreation, and water management. The recovery status of the unit is high, meaning there are many existing populations, many areas of high habitat suitability, and various levels of threats (Service 2002).

The action area also falls within a core area of the recovery unit, identified as the Santa Clara and Ventura River Watersheds. The Ventura-Santa Clara River Core Area was selected because it provides connectivity for the species. Connectivity is important in maintaining viable metapopulations throughout the range of the species. Conservation needs in the core area include restoration of habitat, control of non-native predators and non-native plants, and removal of the Matilija Dam (Service 2002).

EFFECTS OF THE ACTION

The programmatic biological opinion (Service 2003) generally describes how California red-legged frogs could be affected by actions such as a repair of bank protection or small-scale stabilization of stream slopes. For this reason, use of the programmatic biological opinion is appropriate and we will not repeat that analysis herein. The following paragraphs describe effects to the California red-legged frog as a result of the proposed project that are in addition to those described in the programmatic biological opinion (Service 2003).

Chytrid fungus is a water-borne fungus that can be spread through direct contact between aquatic animals and by a spore that can move short distances through the water. The fungus only attacks the parts of a frog's skin that have keratin (thickened skin), such as the mouthparts of tadpoles and the tougher parts of adults' skin, such as the toes. The fungus can decimate amphibian populations, causing fungal dermatitis, which usually results in death in 1 to 2 weeks, but not before infected animals may have spread the fungal spores to other ponds and streams. Once a pond or waterway has become infected with chytrid fungus, the fungus stays in the water for an undetermined amount of time. It is possible that during the relocation of California red-legged frogs as described in the programmatic biological opinion for the California red-legged frog (Service 2003), infected individuals or equipment could introduce chytrid fungus into areas where it did not previously occur. We would expect aquatic habitats within close proximity to have similar exposure to the pathogen because amphibians could move easily between these areas. Because Caltrans would relocate California red-legged frogs the shortest distance possible as described in the programmatic biological opinion (Service 2003), the risk of spreading chytrid fungus is low. Caltrans also proposes to follow the fieldwork code of practice developed by the Declining Amphibian Populations Task Force, to minimize the potential for chytrid fungus to be conveyed between work sites.

Service-approved biologists would capture and relocate California red-legged frogs that are at risk of harm from project activities. It is possible that California re-legged frogs would attempt to return to the project site after being relocated. Individual California red-legged frogs attempting to return to the project site following relocation efforts may be exposed to increased predation, exhaustion, starvation, desiccation, or barriers to dispersal. However, the project is not likely to permanently affect dispersal, or block or degrade links between aquatic sites. Also, Caltrans would relocate California red-legged frogs the shortest distance possible which reduces the risks of predation, exhaustion, starvation and desiccation of California red-legged frogs if they attempt to return to the project site after relocation.

Construction of the proposed project within suitable habitat for the California red-legged frog is expected to occur between September 1 and February 14. Therefore, construction would occur during the typical rain season in Southern California and the typical breeding season for the California red-legged frog. Some California red-legged frogs may make overland excursions through upland habitats during periods of wet weather, starting with the first rains of autumn. If sufficient precipitation falls during project construction, California red-legged frogs may be injured or killed as they attempt to disperse through the project site to nearby breeding pools.

After reviewing our records and information from the California Natural Diversity Database (CNDDB 2012), we believe the number of individual California red-legged frog encountered during the proposed project is likely to be low due to the less than optimal quality of habitat onsite (Caltrans 2012) and distance to the closest known population of California red-legged frogs. Additionally, Caltrans has proposed to implement the protective measures contained in the programmatic biological opinion (Service 2003).

Project activities at SR 150 PM 29.4 would directly affect 0.386 acre of habitat (impacts from the concrete barrier, retaining wall and temporary access road). In addition to impacts to riparian vegetation that will naturally regrow within a period of approximately 2 to 3 years, approximately six old growth coast live oaks would be removed and three old growth California sycamore trees would be impacted during the installation of the lower retaining wall. Project activities at SR 150 PM 27.37 would directly affect 0.005 acre of the roadside bank. One mature toyon plant would be removed during project activities at SR 150 PM 27.37.

The riparian vegetation along the access road would be re-planted by Caltrans following project completion. Vegetation along the access road is expected to become established and functioning as riparian habitat, suitable for California red-legged frogs, within 1 to 2 years based on field observations and monitoring of similar revegetation activities by Caltrans.

California Red-legged Frog Summary

We do not expect the proposed project to substantially affect the survival of the California red-legged frog with respect to the status of species throughout its range for the following reasons:

1. The effects of the proposed project are not likely to appreciably reduce the distribution of the California red-legged frog because:
   a. The proposed project would not result in isolation, fragmentation, or decreased connectivity between populations of the California red-legged frog. The proposed project would not create barriers to the movement of individuals or populations, nor would it fragment the landscape of the action area.
   b. The effects to the species and its habitat are expected to be temporary. Restoration of vegetation along the access road is expected to become established and functioning as suitable habitat for the species within 1 to 2 years based on field observations and monitoring of similar revegetation activities by Caltrans.
   c. The proposed project is small in size; construction is expected to directly affect an area within the uplands estimated to be 0.386 acre at PM 29.4 and 0.005 acre at PM 27.37. The species occurs throughout 26 California counties and 1 region in Baja California, Mexico. Temporary effects to 0.386 acre and 0.005 acre of upland habitat would not appreciably reduce the distribution of the California red-legged frog.

2. The effects of the proposed project are not likely to appreciably reduce the reproduction of the California red-legged frog because breeding habitat would not be directly affected. The proposed project would occur within upland habitat and no work would occur in flowing water.

3. The effects of the proposed project are not likely to appreciably reduce the numbers of the California red-legged frog because:
   a. Protective measures, as described in the programmatic biological opinion (Service 2003) and in the Description of the Proposed Action and Appendix A of this biological opinion, would reduce the impact of the taking of California red-legged frogs as a result of the project.
   b. Effects associated with the proposed project would occur largely within upland areas where California red-legged frogs are less likely to occur during construction than in the low flow channels of Santa Paula and Sisar Creeks.
   c. Few, if any, individual frogs are likely to be injured or killed during project-related activities. The number of California red-legged frogs that may be injured or killed would not be biologically significant in relation to the total number of individuals that are present throughout the species' range.

Recovery of the California Red-legged Frog

The goal of the recovery plan for the California red-legged frog is to protect the long-term viability of all extant populations within each recovery unit. Overall, the strategy for the recovery of the California red-legged frog involves: (1) protecting existing populations by reducing threats; (2) restoring and creating habitat that would be protected and managed in perpetuity; (3) surveying and monitoring populations and conducting research on the biology and threats to the species; and (4) reestablishing populations of the species within its historical range (Service 2002).

We do not expect the proposed project to substantially affect the recovery of the California red-legged frog, as described in the recovery plan, because:

1. The proposed project would not reduce the protections currently afforded to the California red-legged frog within the action area and would not increase the threats currently impacting the California red-legged frog within the action area. In the long term, the proposed project will likely reduce the sedimentation that impacts the action area as a result of ongoing bank erosion at the project sites.

2. The proposed project would not preclude our ability our ability to restore or create habitat for the California red-legged frog within the action area.

3. The proposed project would not preclude our ability to survey and monitor populations California red-legged frog or conduct research on the biology and threats to the species within the action area.

4. The proposed project would not preclude our ability to reestablish populations of the California red-legged frog within its historical range.

CUMULATIVE EFFECTS

Cumulative effects include the effects of future State, tribal, local or private actions that are reasonably certain to occur in the action area considered in this biological opinion. Future Federal actions that are unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to section 7 of the Act. We are not aware of any non-Federal actions that are reasonably certain to occur in the action area.

CONCLUSION

After reviewing the current status of the California red-legged frog, the environmental baseline for the action area, the effects of the proposed action, and the cumulative effects; it is the Service's biological opinion that Caltrans' SR 150 Slope Stabilization Project, as proposed, is not likely to jeopardize the continued existence of the California red-legged frog.

The proposed project is not likely to appreciably reduce the likelihood of survival and recovery of the California red-legged frog by reducing the distribution, numbers, or reproduction of the species because:

1. Survival: The proposed project would not result in isolation, fragmentation, or decreased connectivity between populations of the California red-legged frog; the effects to the species and its habitat are expected to be temporary; the proposed project is small in size; breeding habitat would not be directly affected; project activities would occur within upland areas outside of flowing water; and few, if any, individual frogs are likely to be injured or killed during project-related activities.

2. Recovery: The proposed project would not increase the threats currently impacting the species; sedimentation resulting from ongoing bank erosion would decrease over the long-term in the action area, potentially improving habitat conditions; the proposed project would not preclude our ability to restore or create suitable habitat in the action area, survey and monitor populations, conduct research or reestablish populations.

INCIDENTAL TAKE STATEMENT

Section 9 of the Act and Federal regulation pursuant to section 4(d) of the Act prohibit the take of endangered and threatened wildlife species, respectively, without special exemption. Take is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. Harm is further defined by the Service to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering. Harass is

defined by the Service as an intentional or negligent act or omission which creates the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavioral patterns which include, but are not limited to, breeding, feeding, or sheltering. Incidental take is defined as take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity. Under the terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to and not intended as part of the agency action is not considered to be prohibited taking under the Act provided that such taking is in compliance with the terms and conditions of this incidental take statement.

The measures described below are non-discretionary and FHWA and Caltrans must implement them or include them as binding conditions of any contracts associated with the proposed action, for the exemption in section 7(o)(2) to apply. FHWA and Caltrans have a continuing duty to regulate the activity covered by this incidental take statement. If the FHWA or Caltrans fail to adhere to the terms and conditions, or fail to require its contractors to adhere to the terms and conditions of the incidental take statement through enforceable terms that are added to its authorization, the protective coverage of section 7(o)(2) may lapse. To monitor the impact of incidental take, FHWA or Caltrans must report the progress of the action and its impact on the species to the Service as specified in the incidental take statement [50 CFR §402.14(i)(3)].

Incidental take of California red-legged frogs will be difficult to detect because of their small body size and finding a dead or injured specimen is unlikely. Finding carcasses and assigning a cause of death are problematic, especially in the presence of numerous scavengers that are likely to find dead animals soon after they die. California red-legged frogs may be taken only within the defined boundaries of the action area. Given the avoidance and minimization measures proposed by Caltrans, we anticipate that take of the California red-legged frog will be limited to:

1. Harm or harassment due to: work activities, including noise, vibration, traffic, and temporary disturbance of habitat; disturbance of habitat due to sedimentation or the spill of hazardous materials.

2. Handling during capture and relocation efforts: all California red-legged frogs relocated from the project area are considered taken as a result of their capture. A subset of captured individuals may be killed as a result of capture and relocation efforts.

3. Injury or death of individuals by: construction equipment, ground disturbing activities, or personnel and vehicle movement through the action area if they are undetected by the onsite biologist and are subsequently struck, crushed or trampled; spread of pathogens (e.g., chytrid fungus); and predation, exhaustion, starvation or desiccation resulting from relocation efforts.

This biological opinion provides an exemption from the prohibition against the taking of listed species, contained in section 9 of the Act, only for the activities described in the Description of the Proposed Action section of this biological opinion.

REASONABLE AND PRUDENT MEASURES

The Service believes the following reasonable and prudent measures are necessary and appropriate to minimize take of California red-legged frogs:

1. FHWA and Caltrans must ensure that the level of incidental take during project implementation is commensurate with the analysis contained in this biological opinion, and is further reduced with the cooperation of a Service-approved biologist.

2. FHWA and Caltrans must avoid transferring disease or pathogens between aquatic habitats during surveys and relocation activities.

3. Specific activity restrictions must be implemented to avoid or minimize adverse effects on the California red-legged frog.

The Service's evaluation of the effects of the proposed action includes consideration of the measures to minimize the adverse effects of the proposed action on the California red-legged frog that were developed by FHWA and the Service and are included in the programmatic biological opinion for the California red-legged frog (Service 2003) in addition to the protective measures specifically included for this project (Caltrans 2012) as described in Appendix A of this biological opinion. Any subsequent changes in these measures may constitute a modification of the proposed action and may warrant re-initiation of formal consultation, as specified at 50 CFR 402.16. The above reasonable and prudent measures are intended to supplement the protective measures that were proposed by FHWA and Caltrans as part of the proposed action.

TERMS AND CONDITIONS

To be exempted from the prohibitions of section 9 of the Act, FHWA must ensure that the following terms and conditions, which implement the reasonable and prudent measures described above. These terms and conditions are non-discretionary.

1. The following terms and conditions implement reasonable and prudent measure 1:

    a. FHWA or Caltrans must request our approval of any biologists they wish to conduct activities pursuant to this biological opinion. Such requests must be in writing, and be received by the Ventura Fish and Wildlife Office at least 30 days prior to any such activities being conducted.

    b. If one California red-legged frog (adult, sub-adult, juvenile, tadpole or egg mass) is found dead or injured, FHWA or Caltrans must contact our office immediately so we can review the project activities to determine if additional protective measures are needed. Project activities may continue during this review period, provided that all protective measures proposed by the FHWA and Caltrans and

the terms and conditions of this biological opinion have been and continue to be implemented.

c. If a California red-legged frog is observed within a designated work area and cannot be avoided, all work must stop until the animal leaves the work area or until it is captured and relocated by a Service-approved biologist to outside of the work area to avoid injury or mortality.

2. The following terms and conditions implement reasonable and prudent measure 2:

a. To avoid transferring disease or pathogens between aquatic habitats during the course of California red-legged frog surveys, the Service-approved biologist(s) must follow the Declining Amphibian Population Task Force's Code of Practice. You may substitute a bleach solution (0.5 to 1.0 cup of bleach to 1.0 gallon of water) for the ethanol solution. Care must be taken so that all traces of the disinfectant are removed before entering the next aquatic habitat.

b. When capturing and removing California red-legged frogs from work sites, the Service-approved biologist(s) must minimize the amount of time that animals are held in captivity. During this time, they must be maintained in a manner that does not expose them to temperatures or any other environmental conditions that could cause injury or undue stress. California red-legged frogs must be captured only by hand or dipnet and transported in buckets separate from other species.

3. The following term and condition implements reasonable and prudent measure 3:

Construction activities must be halted when a rain event of 0.25 inch or more is forecast within 48 hours as predicted by the National Weather Service. After a rain event, the authorized biologist must conduct a pre-construction survey for California red-legged frogs dispersing through the project site. Construction must resume only after the site has sufficiently dried and the authorized biologist determines that California red-legged frogs are unlikely to be dispersing through the project site.

REPORTING REQUIREMENTS

FHWA or Caltrans must provide the Service with a project completion report within 90 days following completion of the proposed project as described in the programmatic biological opinion (Service 2003). A copy of the project completion report is enclosed.

DISPOSITION OF DEAD OR INJURED SPECIMENS

Upon locating a dead or injured California red-legged frog, initial notification must be made by telephone and writing to the Ventura Fish and Wildlife Office in Ventura, California, (2493 Portola Road, Suite B, Ventura, California 93003, (805) 644-1766) within 2 working days of the

finding. The report must include the date, time, location of the carcass, a photograph, cause of death if known, and any other pertinent information.

Care must be taken in handling dead specimens to preserve biological material in the best possible state for later analysis. Should any injured California red-legged frogs survive, the Service must be contacted regarding their final disposition. Injured animals must be transported to a qualified veterinarian. The remains of listed species must be placed with educational or research institutions holding the appropriate State and Federal permits, such as the Santa Barbara Natural History Museum (Contact: Paul Collins, Santa Barbara Natural History Museum, Vertebrate Zoology Department, 2559 Puesta Del Sol, Santa Barbara, California 93460, 805-682-4711, extension 321.)

CONSERVATION RECOMMENDATIONS

Section 7(a)(1) of the Act directs Federal agencies to use their authorities to further the purposes of the Act by carrying out conservation programs for the benefit of endangered and threatened species. Conservation recommendations are discretionary agency activities to minimize or avoid adverse effects of a proposed action on listed species or critical habitat, to help implement recovery plans, or to develop information.

1. We recommend that Caltrans conduct tests for chytrid fungus from any captured California red-legged frog. Caltrans should coordinate this effort with Dr. Robert Fisher's lab at the U.S. Geological Survey in San Diego, California. This will help the Service understand the extent of chytrid fungus in the area. Dr. Fisher can be reached at (619) 225-6422.

2. We recommend that Caltrans participate in any regional planning efforts for the California red-legged frog to attempt to recognize, at an early stage of planning, where conflicts between conservation of the species and future projects may arise.

3. Caltrans should work with local agencies and governments towards the implementation of recovery actions identified in the California red-legged frog recovery plan.

The Service requests notification of the implementation of any conservation recommendations so we may be kept informed of actions that minimize or avoid adverse effects or that benefit listed species and their habitats.

REINITIATION NOTICE

This concludes formal consultation on the State Route 150 Slope Stabilization Project in Ventura County, California. As provided in 50 CFR §402.16, reinitiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been retained (or is authorized by law) and if: (1) the amount or extent of incidental take is exceeded;

(2) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this biological opinion; (3) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat not considered in this biological opinion; or (4) a new species is listed or critical habitat is designated that may be affected by the action. In instances where the amount or extent of incidental take is exceeded, any operations causing such take must cease pending reinitiation. If you have any questions regarding this consultation, please contact Colleen Mehlberg or Steve Kirkland of my staff at (805) 644-1766, extension 221 or 267, respectively.

Sincerely,

Roger P. Root

Roger P. Root
Assistant Field Supervisor

Enclosures

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In Litteris Cited

Mehlberg, Colleen. 2012. Fish and Wildlife Biologist. U.S. Fish and Wildlife Service, Ventura Field Office, Ventura, California. Personal observation of project sites and environmental conditions, April 5, 2012.

Project Completion Report for Federal Highway Administration projects that may affect California red-legged frogs

The Federal Highway Administration must ensure that this form is completed or that the requested information is provided in a written report upon completion of the project and restoration activities.

Mail completed form or report to:

U.S. Fish and Wildlife Service
Ventura Fish and Wildlife Office
2493 Portola Road, Suite B
Ventura, California 93003
(805) 644-1766

1. Project title and location:
2. Project Completion Dates A. Construction: B: Restoration:
3. Type of actions that occurred:
4. Habitat type and number of acres affected (e.g., upland, riparian)
5. Linear feet of work in a stream:
6. How the site was restored and a description of the area after completion of the action:
7. If no restoration occurred, the justification for not conducting this work:
8. Which measures were employed to protect California red-legged frogs:
9. The number of California red-legged frogs taken and the form of take:
10. The number of California red-legged frogs removed from work areas to nearby undisturbed habitat and the location of that habitat:

Appendix A

Protective Measures

The following protective measures were developed by Caltrans and described in the Biological Assessment (Caltrans 2012). These measures are incorporated into the Description of the Proposed Action of this biological opinion.

BIO-01 Pre-Construction Surveys

Biological surveys of the project area shall be performed in locations having increased biological sensitivity as determined by the District Biologist. Surveys shall be conducted at most two weeks prior to the clearing and grubbing of vegetation.

BIO-02 Nesting Bird Surveys

Surveys for nesting birds shall be conducted when clearing and grubbing of vegetation, having the potential to support least Bell's vireo.

BIO-03 Water Quality BMPs

All applicable Construction Best Management Practices for water quality shall be implemented to minimize project affects to jurisdictional drainages. All Federal and State litter laws shall be followed by the contractors.

BIO-04 Native Tree Replacement

Naturally existing native trees shall be replaced at a ratio of 1:1 onsite. Additional biological provisions shall be replaced at a negotiated rate with jurisdictional agencies.

BIO-05 Access Path

Access will be limited to one pathway only. The designed pathway will have the least impact to the native plants and riparian habitat. Access limit will be flagged or marked out. Access path will be blocked so as not to allow public access upon project completion.

BIO-06 Construction Window

Work will be conducted during September1st to February 14th. This is a biological provision for least Bell's vireo. Work will occur during daylight hours only, to minimize impacts on nocturnal wildlife activity.

BIO-07 Staging Area

Vehicle maintenance will not be conducted in the streambed, herein defined as the channel through which a natural stream of water runs or used to run.

BIO-08 Environmental Sensitive Area

An environmental sensitive area (ESA) shall consist of an area within and near the limits of construction where access is prohibited or limited for the preservation of archeological site or existing vegetation, or protection of biological habitat as shown on the plans.

BIO-09 Riparian Habitat/ Waters of the U.S. Impacts

Regulatory permits from the U.S. Army Corps of Engineers, Los Angeles Regional Water Quality Control Board and the California Department of Fish and Game shall be obtained for project impacts to jurisdictional drainages. Impacts to riparian habitat will be mitigated in consultation with the regulatory agencies once drainages design details are finalized.

BIO-10 Ground Water

Ground water seepage within the project area will be containerized and taken offsite to prevent sediments from entering the lagoon downstream.

BIO-11 LBV – Work Outside Bird Nesting Season

Caltrans will schedule construction outside of the bird nesting season (September 2 through February 14) in order to avoid impacts to least Bell's vireo. Any sighting of an least Bell's vireo in the construction limits or directly adjacent will trigger a notification to Service, for purposes of additional guidance.

BIO-12 LBV-Pre-construction Protocol level surveys

Pre-construction surveys following the appropriate protocols for locating and identifying least Bell's vireo will be done by a qualified ornithologist, approved by Service prior to initiation of work. If least Bell's vireo is found within 500 feet of the construction site, work will stop until the nesting has been completed and the birds have left the area.

BIO-13 ESA fencing

Construction limits will be marked in the field and indicated by flagging, stakes and construction ESA fencing. Construction personnel would be instructed on the ecological sensitivity of the area.

BIO-14 CRLF - Pre-construction Protocol level surveys

Pre-construction surveys will be done by a qualified herpetologist with experience in locating and identifying California red-legged frog (CRLF) and approved by Service, prior to initiation of work. If any CRLF are located work will not commence until coordination with Service has occurred.

BIO-15 CRLF – Biological Monitor

A biological monitor with experience in locating and identifying CRLF will be on-site at all times throughout the duration of construction activities within the riparian zone. If any CRLF are observed during construction work, all work will halt until such time as a permitted herpetologist can be present to help relocate any individuals found and Service has been notified.

BIO-16 Programmatic Biological Opinion

Caltrans will adhere to all biological provisions listed in the FHWA programmatic BO for CRLF. "Programmatic Biological Opinion for Projects Funded or Approved under Federal Aid Program (HAD-CA, File#: Section 7 with Ventura USFWS, Document #: S38192) (1-8-02-F-68)"

BIO-17 Do not work in flowing water

BIO-18 Sedimentation Control Measures

Typical sediment control devices include siltation curtains, sandbags, hay bales, filter fabrics, and fiber rolls. Caltrans and CDFG manuals provide instruction and appropriate methodologies for deployment of sediment control devices.

BIO-19 Prevent spills and leakage from heavy equipment

Any heavy equipment used in the project area will be removed at the end of each workday. All heavy equipment will be checked for oil leaks, gas, hydraulic fluid and any other pollutant which could impact water quality and instream habitat each workday prior to being deployed into the project area. Drip pans should be installed on all equipment working in the project area to control leaks and for the purpose of avoiding water-quality impacts to surface waters.

DEPARTMENT OF THE ARMY
Los Angeles District Corps of Engineers
Ventura Field Office
2151 Alessandro Drive, Suite 110
Ventura, California 93001

REPLY TO
ATTENTION OF

February 4, 2013

Regulatory Division

Eduardo Aguilar, Branch Chief
California Department of Transportation
District 7
100 S. Main Street, MS-16A
Los Angeles, California 90012

DEPARTMENT OF THE ARMY NATIONWIDE PERMIT VERIFICATION

Dear Mr. Aguilar:

I am responding to your application dated May 14, 2012 (and revised June 14, 2012) for a Department of the Army permit reauthorization under the 2012 Nationwide Permit Program (Corps File No. SPL-2012-00384-TS).

Your project, the VEN 150 Slope Stabilization project at Post Mile 29.4, would result in a discharge of dredged and/or fill material into waters of the United States. Therefore, pursuant to section 404 of the Clean Water Act (33 U.S.C. 1344; 33 C.F.R. parts 323 and 330), your proposed project requires a Department of the Army permit. The project is located in Santa Paula Creek on State Route 150 near the city of Santa Paula in Ventura County, California.

I have determined the project complies with Nationwide Permit (NWP) No. 13 (*Bank Stabilization*).

Specifically, you are authorized to conduct the following regulated activities:

1. Permanently impact approximately 375 linear feet (0.111 acre) of waters of the U.S. in association with the SR 150 retaining wall as described in your revised permit application dated June 14, 2012).
2. Temporarily impact approximately 1,000 linear feet (0.275 acre) of waters of the U.S. to allow temporary construction access to Santa Paula Creek for the purpose of constructing the SR 150 retaining wall as described in your revised permit application dated June 14, 2012.
3. The WR 150 retaining wall and temporary construction activities would result in approximately 155 cubic yards (cy) of excavation, 988 cy of backfill, 537 cy of rock slope protection, and 951 cy of structural fill/retaining wall within Santa Paula Creek..
4. Mitigate for 0.111 acres of permanent impact to waters of the U.S. via purchase of 0.55 acres/credits from the Corps-approved Santa Paula Creek Mitigation Bank prior to initation of construction activites in waters of the U.S.

For this NWP 13 verification letter to be valid, you must comply with all of the terms and conditions in Enclosure 1. Furthermore, you must comply with the following non-discretionary Special Conditions listed below:

1. Prior to initiating construction in waters of the U.S., and to mitigate for impacts to 0.111 acre(s) of non-wetland waters of the U.S., the Permittee shall provide documentation verifying purchase of 0.55 acres/credits for the enhancement of non-wetland waters of the U.S. and riparian vegetation from the Corps-approved Santa Paula Creek mitigation bank. The Permittee shall not initiate work in waters of the U.S. prior to receiving written confirmation (by letter or electronic mail) from the Corps Regulatory Division as to compliance with this special condition. The Permittee retains responsibility for providing the compensatory mitigation until the number and resources type of credits described above have been secured from a sponsor and the District Engineer has received documentation that confirms that the sponsor has accepted the responsibility for providing the required compensatory mitigation. This documentation may consist of a letter or form signed by the sponsor, with the permit number and a statement indicating the number and resource type of credits that have been secured from the sponsor.

2. The Permittee shall notify the Corps of the construction start date at least five (5) days in advance initiation of construction. Notification may be made by electronic mail, regular mail, facsimile, or telephone.

3. The Permittee shall clearly mark the limits of the workspace with flagging or similar means to ensure mechanized equipment does not enter preserved waters of the U.S. Adverse impacts to waters of the U.S. beyond the Corps-approved construction footprint are not authorized. Such impacts could result in permit suspension and revocation, administrative, civil or criminal penalties, and/or substantial, additional, compensatory mitigation requirements.

4. Equipment staging and storage areas, including materials storage, shall be located at least 100 feet from waters of the U.S.

5. Within 45 calendar days of completion of authorized work in waters of the U.S., the Permittee shall submit to the Corps Regulatory Division a post-project implementation memo indicating the date authorized impacts to waters of the U.S. ceased.

6. Pursuant to 36 C.F.R. section 800.13, in the event of any discoveries during construction of either human remains, archeological deposits, or any other type of historic property, the Permittee shall notify the Corps' Regulatory and Archeology Staff within 24 hours (Regulatory: Theresa Stevens at 805-585-2146; Archaeology: Steve Dibble at 213-452-3849 or John Killeen at 213-452-3861). The Permittee shall immediately suspend all work in any area(s) where potential cultural resources are discovered. The Permittee shall not resume construction in the area surrounding the potential cultural resources until the Corps Regulatory Division re-authorizes project construction, per 36 C.F.R. Section 800.13.

Your verification is valid through March 18, 2017. All NWPs will expire on March 18, 2017. It is incumbent upon you to remain informed of changes to the NWPs. A public notice of the change(s) will be issued when any of the NWPs are modified, reissued, or revoked. Furthermore, if you commence or are under contract to commence this activity before the date on which the relevant NWP is reissued, modified, or revoked, you will have 12 months from the date of the reissuance, modification, or revocation of the NWP to complete the activity under the present terms and conditions of the relevant NWP.

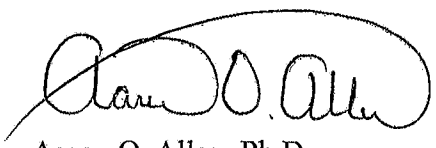
A NWP does not grant any property rights or exclusive privileges. Additionally, it does not authorize any injury to the property, rights of others, nor does it authorize interference with any existing or proposed Federal project. Furthermore, it does not obviate the need to obtain other Federal, state, or local authorizations required by law.

Thank you for participating in our regulatory program. If you have any questions, please contact Theresa Stevens, Ph.D. at 805-585-2146 or via e-mail at theresa.stevens@usace.army.mil.

Please be advised that you can now comment on your experience with Regulatory Division by accessing the Corps web-based customer survey form at: http://per2.nwp.usace.army.mil/survey.html.

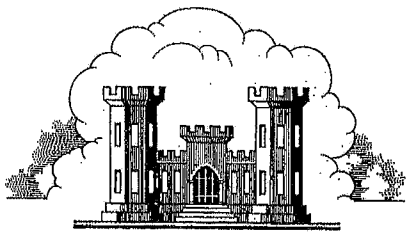
"Building Strong and Taking Care of People!"

Sincerely,



Aaron O. Allen, Ph.D.
Chief, North coast Branch
Regulatory Division

Enclosure(s) Nationwide Permit General Conditions



LOS ANGELES DISTRICT
U.S. ARMY CORPS OF ENGINEERS

CERTIFICATE OF COMPLIANCE WITH DEPARTMENT OF THE ARMY NATIONWIDE PERMIT

Permit Number: *SPL-2012-00384-TS*

Name of Permittee: *Department of Transportation, District 5*

Date of Issuance: *February 4, 2013*

Upon completion of the activity authorized by this permit and the mitigation required by this permit, sign this certificate, and return it to the following address:

U.S. Army Corps of Engineers, Los Angeles District
Regulatory Division
ATTN: *SPL-2012-00384-TS*
2151 Alessandro Drive, Suite 110
Ventura, CA 93001

Please note that your permitted activity is subject to a compliance inspection by an Army Corps of Engineers representative. If you fail to comply with this Nationwide Permit, you may be subject to permit suspension, modification, or revocation procedures as contained in 33 C.F.R. § 330.5 or enforcement procedures such as those contained in 33 C.F.R. §§ 326.4 and 326.5.

I hereby certify that the work authorized by the above referenced permit has been completed in accordance with the terms and conditions of the said permit, and required mitigation was completed in accordance with the permit condition(s).

Daniel D'Agnenay — Feb. 7, 2013

Signature of Permittee — Date

Enclosure 1: NATIONWIDE PERMIT NUMBER 13 Bank *Stabilization.* TERMS AND CONDITIONS

1. Nationwide Permit 13 *Bank Stabilization.* Terms:

Your activity is authorized under Nationwide Permit Number 13 *Bank Stabilization*, subject to the following terms:

13. Bank Stabilization. Bank stabilization activities necessary for erosion prevention, provided the activity meets all of the following criteria: (a) No material is placed in excess of the minimum needed for erosion protection; (b) The activity is no more than 500 feet in length along the bank, unless this criterion is waived in writing by the district engineer; (c) The activity will not exceed an average of one cubic yard per running foot placed along the bank below the plane of the ordinary high water mark or the high tide line, unless this criterion is waived in writing by the district engineer; (d) The activity does not involve discharges of dredged or fill material into special aquatic sites, unless this criterion is waived in writing by the district engineer; (e) No material is of the type, or is placed in any location, or in any manner, to impair surface water flow into or out of any water of the United States; (f) No material is placed in a manner that will be eroded by normal or expected high flows (properly anchored trees and treetops may be used in low energy areas); and, (g) The activity is not a stream channelization activity. Notification: The permittee must submit a pre-construction notification to the district engineer prior to commencing the activity if the bank stabilization activity: (1) involves discharges into special aquatic sites; (2) is in excess of 500 feet in length; or (3) will involve the discharge of greater than an average of one cubic yard per running foot along the bank below the plane of the ordinary high water mark or the high tide line. (See general condition 27.) (Sections 10 and 404)

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

2. Nationwide Permit General Conditions: The following general conditions must be followed in order for any authorization by an NWP to be valid:

1. 1. Navigation. (a) No activity may cause more than a minimal adverse effect on navigation.
   (b) Any safety lights and signals prescribed by the U.S. Coast Guard, through regulations or otherwise, must be installed and maintained at the permittee's expense on authorized facilities in navigable waters of the United States.
   (c) The permittee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration, of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.

2. Aquatic Life Movements. No activity may substantially disrupt the necessary life cycle movements of those species of aquatic life indigenous to the waterbody, including those species that normally migrate through the area, unless the activity's primary purpose is to impound water. 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 NWPs 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 NWPs 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 NWPs 3, 8, 10, 13, 15, 18, 19, 22, 23, 25, 27, 28, 30, 33, 34, 36, 37, and 38, notification is required in accordance with general condition 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 NWPs 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: The standard individual permit application form (Form ENG 4345) may be used, but the completed application form must clearly indicate that it is a PCN and must include all of the information required in paragraphs (b)(1) through (7) of this general condition. A letter containing the required information may also be used.

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

(2) For all NWP 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 e-mail, 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.

3. Regional Conditions for the Los Angeles District:

In accordance with General Condition Number 27, "Regional and Case-by-Case Conditions," the following Regional Conditions, as added by the Division Engineer, must be met in order for an authorization by any Nationwide to be valid:

1. For all activities in waters of the U.S. that are suitable habitat for federally listed fish species, the permittee shall design all road crossings to ensure that the passage and/or spawning of fish is not hindered. In these areas, the permittee shall employ bridge designs that span the stream or river, including pier- or pile-supported spans, or designs that use a bottomless arch culvert with a natural stream bed, unless determined to be impracticable by the Corps.

2. Nationwide Permits (NWP) 3, 7, 12-15, 17-19, 21, 23, 25, 29, 35, 36, or 39-46, 48-52 cannot be used to authorize structures, work, and/or the discharge of dredged or fill material that would result in the "loss" of wetlands, mudflats, vegetated shallows or riffle and pool complexes as defined at 40 CFR Part 230.40-45. The definition of "loss" for this regional condition is the same as the definition of "loss of waters of the United States" used for the Nationwide Permit Program. Furthermore, this regional condition applies only within the State of Arizona and within the Mojave and Sonoran (Colorado) desert regions of California. The desert regions in California are limited to four USGS Hydrologic Unit Code (HUC) accounting units (Lower Colorado -150301, Northern Mojave-180902, Southern Mojave-181001, and Salton Sea-181002).

3. When a pre-construction notification (PCN) is required, the appropriate U.S. Army Corps of Engineers (Corps) District shall be notified in accordance with General Condition 31 using either the South Pacific

Division PCN Checklist or a signed application form (ENG Form 4345) with an attachment providing information on compliance with all of the General and Regional Conditions. The PCN Checklist and application form are available at: http://www.spl.usace.army.mil/regulatory. In addition, the PCN shall include:

a. A written statement describing how the activity has been designed to avoid and minimize adverse effects, both temporary and permanent, to waters of the United States;
b. Drawings, including plan and cross-section views, clearly depicting the location, size and dimensions of the proposed activity as well as the location of delineated waters of the U.S. on the site. The drawings shall contain a title block, legend and scale, amount (in cubic yards) and area (in acres) of fill in Corps jurisdiction, including both permanent and temporary fills/structures. The ordinary high water mark or, if tidal waters, the mean high water mark and high tide line, should be shown (in feet), based on National Geodetic Vertical Datum (NGVD) or other appropriate referenced elevation. All drawings for projects located within the boundaries of the Los Angeles District shall comply with the most current version of the *Map and Drawing Standards for the Los Angeles District Regulatory Division* (available on the Los Angeles District Regulatory Division website at: www.spl.usace.army.mil/regulatory/); and

c. Numbered and dated pre-project color photographs showing a representative sample of waters proposed to be impacted on the project site, and all waters proposed to be avoided on and immediately adjacent to the project site. The compass angle and position of each photograph shall be documented on the plan-view drawing required in subpart b of this regional condition.

4. Submission of a PCN pursuant to General Condition 31 and Regional Condition 3 shall be required for all regulated activities in the following locations:
   a. All perennial waterbodies and special aquatic sites within the State of Arizona and within the Mojave and Sonoran (Colorado) desert regions of California, excluding the Colorado River in Arizona from Davis Dam to River Mile 261 (northern boundary of the Fort Mojave Indian Tribe Reservation). The desert region in California is limited to four USGS HUC accounting units (Lower Colorado -150301, Northern Mojave-180902, Southern Mojave-181001, and Salton Sea-181002).
   b. All areas designated as Essential Fish Habitat (EFH) by the Pacific Fishery Management Council (i.e., all tidally influenced areas - Federal Register dated March 12, 2007 (72 FR 11092)), in which case the PCN shall include an EFH assessment and extent of proposed impacts to EFH. Examples of EFH habitat assessments can be found at: http://www.swr.noaa.gov/efh.htm.
   c. All watersheds in the Santa Monica Mountains in Los Angeles and Ventura counties bounded by Calleguas Creek on the west, by Highway 101 on the north and east, and by Sunset Boulevard and Pacific Ocean on the south.
   d. The Santa Clara River watershed in Los Angeles and Ventura counties, including but not limited to Aliso Canyon, Agua Dulce Canyon, Sand Canyon, Bouquet Canyon, Mint Canyon, South Fork of the Santa Clara River, San Francisquito Canyon, Castaic Creek, Piru Creek, Sespe Creek and the main-stem of the Santa Clara River.

5. Individual Permits shall be required for all discharges of fill material in jurisdictional vernal pools, with the exception that discharges for the purpose of restoration, enhancement, management or scientific study of vernal pools may be authorized under NWPs 5, 6, and 27 with the submission of a PCN in accordance with General Condition 31 and Regional Condition 3.

6. Individual Permits shall be required in Murrieta Creek and Temecula Creek watersheds in Riverside County for new permanent fills in perennial and intermittent watercourses otherwise authorized under NWPs 29, 39, 42 and 43, and in ephemeral watercourses for these NWPs for projects that impact greater than 0.1 acre of waters of the United States. In addition, when NWP 14 is used in conjunction with residential, commercial, or industrial developments the 0.1 acre limit would also apply.

7. Individual Permits (Standard Individual Permit or 404 Letter of Permission) shall be required in San Luis Obispo Creek and Santa Rosa Creek in San Luis Obispo County for bank stabilization projects, and in Gaviota Creek, Mission Creek and Carpinteria Creek in Santa Barbara County for bank stabilization projects and grade control structures.

8. In conjunction with the Los Angeles District's Special Area Management Plans (SAMPs) for the San Diego Creek Watershed and San Juan Creek/Western San Mateo Creek Watersheds in Orange County, California, the Corps' Division Engineer, through his discretionary authority has revoked the use of the following 26 selected NWPs within these SAMP watersheds: 03, 07, 12, 13, 14, 16, 17, 18, 19, 21, 25, 27, 29, 31, 33, 39, 40, 41, 42, 43, 44, 46, 49, and 50. Consequently, these NWPs are no longer available in those watersheds to authorize impacts to waters of the United States from discharges of dredged or fill material under the Corps' Clean Water Act section 404 authority.

9. Any requests to waive the 300 linear foot limitation for intermittent and ephemeral streams for NWPs 29, 39, 40 and 42, 43, 44, 51 and 52 or to waive the 500 linear foot limitation along the bank for NWP 13, must include the following:
   a. A narrative description of the stream. This should include known information on: volume and duration of flow; the approximate length, width, and depth of the waterbody and characters observed associated with an Ordinary High Water Mark (e.g. bed and bank, wrack line, or scour marks); a description of the adjacent vegetation community and a statement regarding the wetland status of the associated vegetation community (i.e. wetland, non-wetland); surrounding land use; water quality; issues related to cumulative impacts in the watershed, and; any other relevant information.
   b. An analysis of the proposed impacts to the waterbody in accordance with General Condition 31 and Regional Condition 3;
   c. Measures taken to avoid and minimize losses, including other methods of constructing the proposed project; and
   d. A compensatory mitigation plan describing how the unavoidable losses are proposed to be compensated, in accordance with 33 CFR Part 332.

10. The permittee shall complete the construction of any compensatory mitigation required by special condition(s) of the NWP verification before or concurrent with commencement of construction of the authorized activity, except when specifically determined to be impracticable by the Corps. When mitigation involves use of a mitigation bank or in-lieu fee program, the permittee shall submit proof of payment to the Corps prior to commencement of construction of the authorized activity.

4. Further information:

1. Congressional Authorities: You have been authorized to undertake the activity described above pursuant to:
   ( ) Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403).
   (x) Section 404 of the Clean Water Act (33 U.S.C. 1344).

( ) Section 103 of the Marine Protection, Research and Sanctuaries Act of 1972 (33 U.S.C. 1413).

2. Limits of this authorization.

(a) This permit does not obviate the need to obtain other Federal, state, or local authorizations required by law.

(b) This permit does not grant any property rights or exclusive privileges.

(c) This permit does not authorize any injury to the property or rights of others.

(d) This permit does not authorize interference with any existing or proposed Federal project.

3. Limits of Federal Liability. In issuing this permit, the Federal Government does not assume any liability for the following:

(a) Damages to the permitted project or uses thereof as a result of other permitted or unpermitted activities or from natural causes.

(b) Damages to the permitted project or uses thereof as a result of current or future activities undertaken by or on behalf of the United States in the public interest.

(c) Damages to persons, property, or to other permitted or unpermitted activities or structures caused by the activity authorized by this permit.

(d) Design or construction deficiencies associated with the permitted work.

(e) Damage claims associated with any future modification, suspension, or revocation of this permit.

4. Reliance on Applicant's Data: The determination of this office that issuance of this permit is not contrary to the public interest was made in reliance on the information you provided.

5. Reevaluation of Permit Decision. This office may reevaluate its decision on this permit at any time the circumstances warrant. Circumstances that could require a reevaluation include, but are not limited to, the following:

(a) You fail to comply with the terms and conditions of this permit.

(b) The information provided by you in support of your permit application proves to have been false, incomplete, or inaccurate (See 4 above).

(c) Significant new information surfaces which this office did not consider in reaching the original public interest decision.

Such a reevaluation may result in a determination that it is appropriate to use the suspension, modification, and revocation procedures contained in 33 CFR 330.5 or enforcement procedures such as those contained in 33 CFR 326.4 and 326.5. The referenced enforcement procedures provide for the issuance of an administrative order requiring you to comply with the terms and conditions of your permit and for the initiation of legal action where appropriate. You will be required to pay for any corrective measure ordered by this office, and if you fail to comply with such directive, this office may in certain situations (such as those specified in 33 CFR 209.170) accomplish the corrective measures by contract or otherwise and bill you for the cost.

6. This letter of verification is valid for a period not to exceed two years unless the nationwide permit is modified, reissued, revoked, or expires before that time.

7. You must maintain the activity authorized by this permit in good condition and in conformance with the terms and conditions of this permit. You are not relieved of this requirement if you abandon the permitted activity, although you may make a good faith transfer to a third party in compliance with

General Condition H below. Should you wish to cease to maintain the authorized activity or should you desire to abandon it without a good faith transfer, you must obtain a modification of this permit from this office, which may require restoration of the area.

8. You must allow representatives from this office to inspect the authorized activity at any time deemed necessary to ensure that it is being or has been accomplished with the terms and conditions of your permit.

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Southwest Region
501 West Ocean Boulevard, Suite 4200
Long Beach, California 90802-4213

SEP 25 2012

In response refer to:
2012/03835

Eduardo Aguilar
Division of Environmental Planning, District 7
California Department of Transportation
100 S. Main Street, MS-16A
Los Angeles, California 90012

Dear Mr. Aguilar:

NOAA's National Marine Fisheries Service (NMFS) received a letter dated September 19, 2012, from the California Department of Transportation (Caltrans) requesting reinitiation of informal consultation for the State Route 150 (SR-150) slope-stabilization project (proposed action) in Ventura County, California. Caltrans is proposing a revised work window that would extend construction within the floodplain from September 1, 2013, until December 31, 2013. Under the proposed action, Caltrans will stabilize the slope along the SR-150 highway embankment at post mile (PM) 27.37 near Sisar Creek and PM 29.4 near Santa Paula Creek. This proposed action is of concern to NMFS because both Santa Paula Creek and Sisar Creek are within the endangered Southern California Distinct Population Segment (DPS) of steelhead (*Oncorhynchus mykiss*) and are designated critical habitat for this species.

When consultation was initiated in June 2012, Caltrans determined that the proposed action was not likely to adversely affect endangered steelhead in Santa Paula Creek or Sisar Creek or adversely modify critical habitat. NMFS concurred with Caltrans' determination and documented this in a letter dated June 19, 2012. Construction was scheduled to begin in June 2013 and work within the floodplain was specified between June 1 and October 30. However, Caltrans subsequently determined that the proposed action could not be constructed in this time frame because the U.S. Fish and Wildlife Service specified a construction window of September 1 to February 14 to minimize impacts to nesting birds in the action area.

As a result, construction is scheduled to begin September 1, 2013, and Caltrans now anticipates that this proposed action will be completed within four months, by December 31, 2013. In addition, Caltrans has modified their proposed best management practices (BMPs) pertaining to work stoppage in the event of rain and containment of runoff from the construction sites. Caltrans will implement a Storm Water Pollution Prevention Plan (SWPPP), which will include a Rain Event Action Plan (REAP) as well as a sampling plan to monitor water quality. There have been no other changes to the proposed action since NMFS' review and assessment in June 2012.

Caltrans determined that the proposed two-month extension of the work window is not likely to adversely affect steelhead, and requested NMFS' concurrence with this determination.

After carefully reviewing the modified project work schedule and BMPs, NMFS concurs with Caltrans' determination for the following reasons:

1. No water diversion is required, and construction within the floodplain of each stream will be restricted to June 1 through December 31, 2013. In addition, project construction will not encroach into the low-flow channel of either stream at any time. Therefore, direct effects to steelhead resulting from the extension of the construction work window are not expected.

2. Caltrans will cease all construction activities if a measurable rain event with 20% or greater probability is predicted within 24 hours. This probability is expected to be the threshold for creating runoff at the project sites, and it will be determined by monitoring the National Weather Service's forecast for Santa Paula, California. Caltrans defines "measurable rain" as any rainfall that can be detected. Protective measures to prevent water-quality alterations owing to soil erosion and sedimentation will be implemented and maintained. In addition, sediment stockpiles from construction-related activities will not be placed in the floodplain. As a result, runoff from the construction sites to surface water in the event of rain is expected to be minimal, if present, and indirect effects to steelhead are not expected.

3. Best management practices will be implemented during construction to minimize the likelihood of impacts to steelhead and aquatic habitat in Santa Paula and Sisar creeks. These practices include sediment-control measures to minimize erosion, concrete-containment measures, and fueling, maintaining, and parking heavy machinery away from the creek channel and sensitive habitats. New BMPs that Caltrans will implement under the revised action include resizing sand-bag berms and installing straw-bale barriers and silt fences as necessary to prevent runoff from entering the creeks. These sediment-control measures will be inspected at least daily during extended storm events and will remain in place until runoff, if present, from the work area is clear of sediment. In addition, Caltrans will implement a SWPPP that includes monitoring the weather forecast, conducting site inspections before, during, and after storm events, implementation of a Storm Event Sampling and Analysis Plan, and a REAP. Caltrans will provide the SWPPP to NMFS prior to construction. Short-term increases in turbidity owing to the proposed action are anticipated to last a few hours after the first rain event of the winter, but the magnitude of the increase is not expected to be greater than background concentrations. Thus, indirect effects to steelhead and aquatic habitat from temporary elevated turbidity levels, runoff, or noise are not expected.

4. All other project components remain unchanged from the original consultation.

Please contact Jay Ogawa at (562) 980-4061 or via email at Jay.Ogawa@noaa.gov if you have any questions concerning this letter, or if you require additional information.

Sincerely,

for Rodney R. McInnis
Regional Administrator

cc: Mary Larson, CDFG
Chris Dellith, USFWS Ventura Office
Copy to File #151422SWR2012PR00272

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Southwest Region
501 West Ocean Boulevard, Suite 4200
Long Beach, California 90802-4213

JUN 19 2012

In response refer to:
I/SWR/2012/02365: KEM

Joel Bonilla
Division of Environmental Planning
California Department of Transportation District 7
100 Main Street, MS 16A
Los Angeles, California 90012

Dear Mr. Bonilla:

Thank you for your June 13, 2012, letter requesting initiation of informal consultation with NOAA's National Marine Fisheries Service (NMFS) pursuant to Section 7 of the U.S. Endangered Species Act (ESA). NMFS has reviewed the letter and additional information provided by the California Department of Transportation (Caltrans) regarding the State Route 150 (SR-150) slope-stabilization project (project), Ventura County, California. Caltrans originally requested initiation of formal consultation in a March 7, 2012, letter to NMFS; however, based on new information and proposed project revisions, informal consultation is now sought. Caltrans is serving as lead federal agency for ESA project compliance in accordance with the provisions of the Memorandum of Understanding between the Federal Highway Administration and Caltrans Concerning the State of California's Participation in the Surface Transportation Project Delivery Pilot Program, which became effective July 1, 2007. This project is of concern to NMFS because both Santa Paula Creek and Sisar Creek are within the endangered Southern California Distinct Population Segment (DPS) of steelhead (*Oncorhynchus mykiss*) and are designated critical habitat for this species. NMFS' response provided herein also serves as consultation under the authority of and in accordance with the provisions of the Fish and Wildlife Coordination Act of 1934 (FWCA), as amended.

Under the proposed action, Caltrans will stabilize the slope along the SR-150 highway embankment at post mile (PM) 27.37 near Sisar Creek and PM 29.4 near Santa Paula Creek. The work consists of installing sediment and concrete containment measures, followed by drilling cast-in-drilled-hole (CIDH) piles to support footings of the retaining walls and concrete barriers. CIDH drilling is an alternative to pile-driving that produces lower decibels. At PM 29.4, a cantilever retaining wall installed along the base of the slope will be 372.5-feet long and 21-feet tall, supported by a 13-foot wide footing buried 4 feet. A concrete barrier about 6-feet tall will be installed at PM 29.4 on the shoulder of SR-150. There will be 6 CIDH piles at

this location. At PM 27.37, a 6-foot concrete barrier will be installed, half of which will be below grade. The use of CIDH piles and the cantilever retaining wall allows Caltrans to avoid excavating the slope and disturbing vegetation while also reinforcing and stabilizing the edge of the SR-150 roadway. The slope-stabilization project is proposed to occur between October 2012 and November 2013. Work within the floodplain of each stream would be undertaken in the summer or early fall (June through October) when water levels are typically low.

Caltrans determined that the proposed action is not likely to adversely affect steelhead or critical habitat for this species within Santa Paula Creek or Sisar Creek, and requested NMFS' concurrence with this determination. After carefully reviewing the additional information provided, NMFS concurs with Caltrans' determination for the following reasons:

1. No water diversion is required for this project, and construction within the floodplain of each stream will be restricted to June 1 through October 30 of each year. Construction outside of this window will be restricted to installing the erosion-control barriers along the side of SR-150 (at least 60 horizontal feet from each stream channel). In addition, project construction will not encroach into the low-flow channel of either stream at any time. Thus, direct effects to steelhead are not expected.

2. Best management practices will be implemented during construction to minimize impacts to steelhead and aquatic habitat in Santa Paula and Sisar creeks. These practices include sediment-control measures to minimize erosion, concrete-containment measures, and fueling, maintaining, and parking heavy machinery away from the creek channel and sensitive habitats. Short-term increases in turbidity owing to the proposed action are anticipated to last a few hours after the first rain event of the winter, but the magnitude of the increase is not expected to be greater than background concentrations. Noise and vibration resulting from drilling and installation of the CIDH piles are not expected to affect steelhead because drilling will occur on land, about 45-feet distant from the wetted channel. Thus, indirect effects to steelhead and aquatic habitat from temporary elevated turbidity levels, runoff, or noise are not expected.

3. Construction equipment will be positioned on the shoulder of SR-150 or on access paths that closely follow the embankment terraces, avoiding mature trees and staying at least 25-feet from stream channels. Project construction will not require construction equipment to access the floodplain or stream channels. In addition, access paths will be restored to their original condition following construction. Thus, adverse impacts to the stream channels, floodplains, and floodplain connectivity from the proposed action are not expected.

4. The current failed slopes are nearly vertical and are mostly devoid of shade-providing vegetation. While some vegetation is proposed for removal from the top and side of some parts of the banks, this vegetation is at least 15-feet distant from the stream channels and does not provide shade to aquatic habitat. Vegetation will not be removed from the toe of the low-flow channel in either stream. Following construction, project areas will be replanted with native vegetation, including 50 California sycamores, 150 black cottonwoods, 200 arroyo willows, and 200 sandbar willows. This vegetation is expected to quickly recolonize

the slopes following the stabilization project. Thus, impacts to riparian vegetation within the action area are expected to be discountable.

This concludes section 7 consultation in accordance with 50 CFR 402.13(a) for the proposed action. Consultation must be reinitiated where discretionary federal agency involvement or control over the action has been retained (or is authorized by law) and: (1) if new information becomes available revealing effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered; (2) if the agency action is subsequently modified in a manner that causes an effect to listed species or critical habitat that was not considered; or (3) if a new species or critical habitat is designated that may be affected by this action. Pursuant to FWCA, NMFS has no comment to provide.

Please contact Kristin Mull at (562) 980-3265 or via email at Kristin.Mull@noaa.gov if you have any questions concerning this letter, or if you require additional information.

Sincerely,

Kevin Chu

for Rodney R. McInnis
Regional Administrator

cc: Mary Larson, CDFG
Chris Dellith, USFWS Ventura Office
Copy to Administrative File: 151422SWR2012PR00272

State of California Department of Transportation
Division of Engineering Services
Office of Design & Technical Services

Structure Hydraulics

FINAL HYDRAULIC REPORT

Route 150 Barrier Replacement
At PM 27.37 Next to Sisar Creek

Located on State Route 150 in Ventura County

JOB:
Emergency Roadway Repair EFIS: 07-1300398

LOCATION:
07-LA-150-PM 27.3

PREPARED BY (Signature)

Ginger Lu, PE# 71324
Structure Hydraulics & Scour Mitigation
May 10, 2012

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

Hydrology/Hydraulics Report

General:

As part of the emergency roadway repair to the location near Post Mile (PM) 27.37 of State Route 150 near town of Sulphur Springs in Ventura County (Figure 1), Structure Design is proposing 90-ft long Type 736 S/SV concrete barrier on CIDH piles (16-in diameter, 16-ft length), from Station 12+35 to 13+25, as an erosion countermeasure. The entire embankment slope next to the affected roadway is designed to be left alone to minimize construction footprint.

Storm damage on Rte 150 was first observed at PM 27.37 and PM 29.4 plus 18 other locations in the 2005 winter, and the roadway was repaired and resealed in the same year. After the heavy winter storms of 2010, the new pavement at PM 27.37 and PM 29.4 was reported to show cracks and the shoulder/support slope had settled. Once again, crack-sealing was placed and berms were built within the same year. Then, it was found that settlement cracking was extensive and needed a permanent solution.

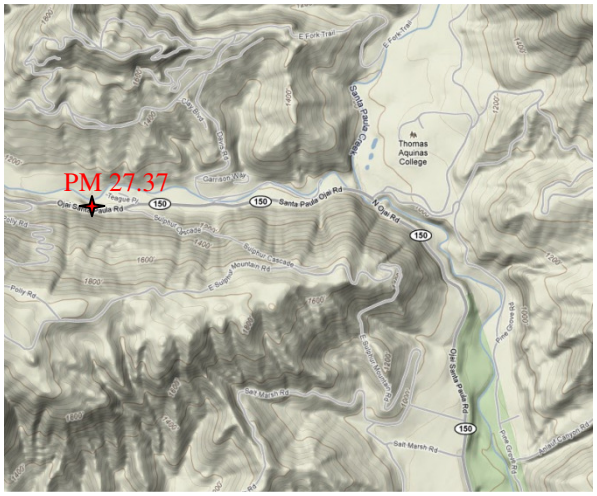


Figure1: Terrain Map of Rte150 PM 27.37

This evaluation makes reference to:

- The latest GP pdf file dated 3/16/2012 from Structure Design, which was received 5/8/12.
- The latest communicated in 5/8/2012 email from District 7 with the latest MicroStation files dated 5/7/2012 (Project Engineer: Rahel Adera).
- Draft Foundation Report (1/27/2012) by Geotech Design South, numerous Project Development Meetings, field notes for 11/1/2011 field trip, and Highway Damage Assessment Reports.
- District surveys received on 12/1/2011 and 11/17/2011. 1/3 Arc Sec data (equivalent of 10-meter DEM, old but free raster) downloaded from Nation Elevation Dataset (NED, USGS).
- Hydrology/Hydraulics studies, Foundation Recommendation Memo dated 2/13/07, Caltrans Bridge Maintenance Records, and Log of Test Borings for Br #52-0103.

- The results of this report are in vertical datum NAVD 88 and in English unit.

Basin:

Sisar Creek originated from Topatopa Bluffs, east of Ojai and the Ojai Valley, drains into Santa Paula Creek at the west end of the Santa Paula Ridges foothill. From the headwater at an elevation of approximately 4600-ft, Sisar Creek traverses easterly through steep terrains till it reaches narrow valley floor at an elevation 1400 ft northerly of Sulphur Mountains.

Using the Watershed Modeling System (WMS 8.4), this drainage area of Sisar Creek was mapped to be 11.2 square miles (mi^2) with average precipitation of 25.7 inches, and the channel bed slope near the site was estimated to be an average of 0.035 ft/ft. The relatively steep drainage basin is made of mostly national forestry land with scattering farming communities along the narrow valley floor.

Roadway Damage History:

The 2005 damage described by Maintenance was 6' long erosion parallel to SR 150 on highway embankment slope. In 2007, the site was inspected again and a retaining wall system was recommended as a possible long-term solution.

The affected embankment area along the roadway appears to be about 80' long, 50' to 60' tall, and has a slope ranging from 0.9:1 to 1.4:1 (H:V). At the bottom of the slope, a shallow depression (90'L x 40'W) along the low-flow channel was observed (shown in red dotted circle in Figure 2 and Figure 3) and is plausibly created by landslide/wash-off events occurred in the past.

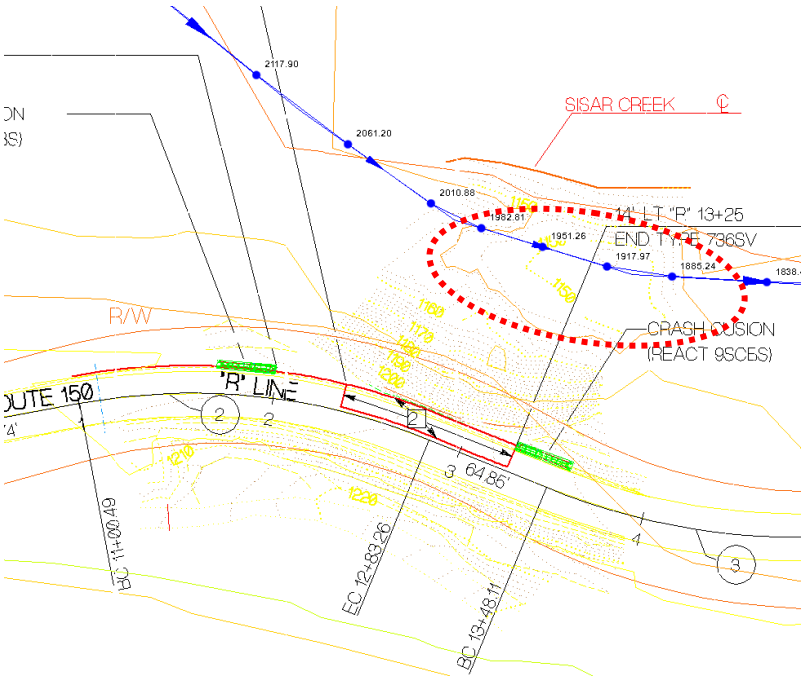


Figure 2: A plan view of the affected area (output of the WMS model)

The affected area (Figure 2) is located on south bank of Sisar Creek of a river bend at a little over one mile upstream from the confluence of Sisar Creek and Santa Paula Creek. Sisar creek is a perennial narrow winding stream with dense vegetation and cobbles on a fairly steep channel slope. The shallow depression is characterized as a overflow area of large storm events against a steep hill.

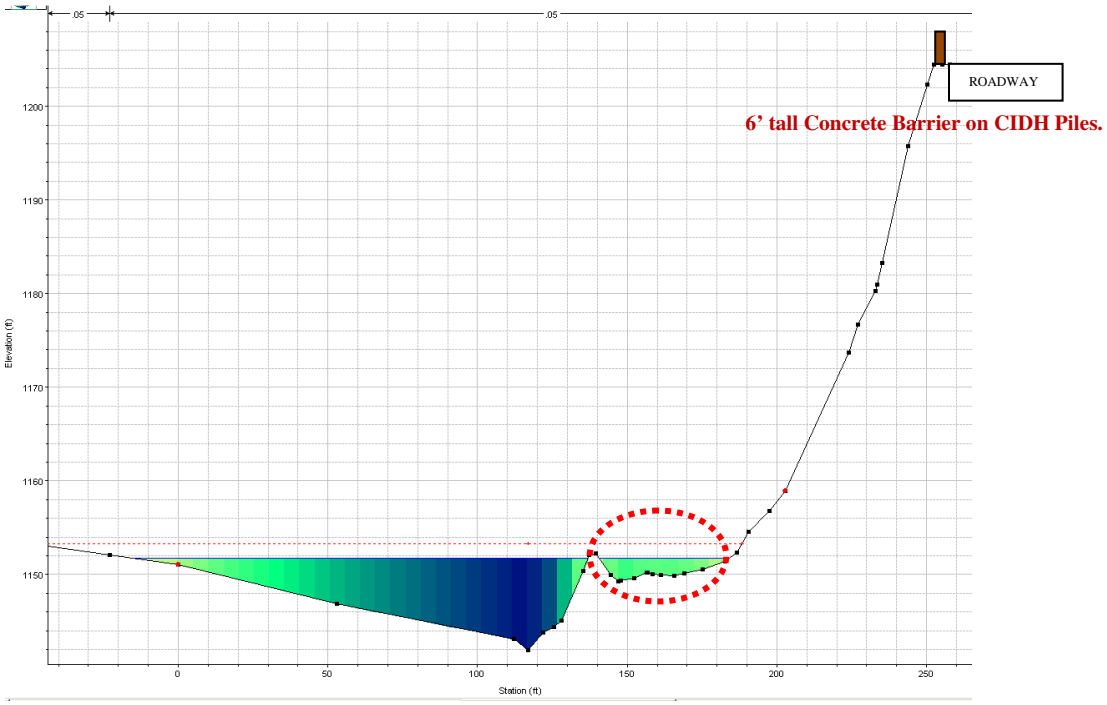


Figure 3: A cross sectional plot of the area, looking downstream

Discharge:

With more than 25 years data collected by USGS stream gauge (Gage #11113500 –Santa Paula Creek Near Santa Paula, CA), the 50-year and 100-year flood events are estimated by using Annual Peak Flow Frequency Analysis and are tabulated below (Table 1). Oil wells are seen in the area but no in-stream mining or logging activity is found.

Table 1: Project Site next to Sisar Creek, Drainage Area = 11.24 mi^2, Channel slope = 0.035 ft/ft		
Flood Frequency	***50-year***	***100-year***
Flow Rate, cfs	9,610	13,880

Stage/Velocity/Scour Potential:

Using a composite of the detailed survey by District with NED (in 1988 NAVD), cross-sections of each channel are cut in WMS 8.4 and exported into hydraulic analysis software - HEC-RAS (4.1.0). Roughness coefficient of 0.04 and boundary condition of critical depth are applied to produce the following hydraulic results. There is only one condition being modeled, the existing condition, since no proposed work will be in the waterway. The hydraulic results for the existing condition are presented here in Table 2.

The roadway alignment and stationing from the in-house survey is then paired to the river stationing produced by the models in the second column of Table 2. 'No Survey' means outside of the detailed survey with hydraulic values based on NED

Proposed Type 736 S/SV Barrier Length = 90 ft		***Table 2, Project Site next to Sisar Creek*** Based on 1988 NAVD				
River Station, ft	***Survey/ Design Station, ft***	**100-year (Q_{100} = 13,880 cfs)**			**50-year (Q_{50} = 9,610 cfs)**	
		Water Surface Elevation, ft	***Average Velocity, ft/s***	***Scour Depth, ft***	***Water Surface Elevation, ft***	***Average Velocity, ft/s***
2061.048	No survey	1156.9	17.8	n/a	1155.9	16.6
2010.882	12+17	1154.7	18.5	n/a	1153.3	17.7
1982.810	12+63	1153.2	19.4	1.9	1151.8	18.3
1951.258	13+33	1151.3	20.1	1.4	1150.2	18.6
1917.975	13+48	1153.2	12.6	3.1	1152.0	11.4
1885.893	Partial survey	1153.3	12.2	n/a	1152.0	11.4
1838.181	No survey	1152.6	12.8	n/a	1151.2	11.8

Streambed/Drift:

Streambed materials based on Log of Test Borings for the abutments of Sisar Creek Bridge (No. 52-0103) were 13'-15' clayey sand with gravel overlying with 5'-8'silty sand with gravel. Below the layers, there was 100' of varying in degree of weathered and fractured siltstone and shale. Minor channel degradation and lateral thalweg migration were observed at this bridge site. Since the bridge next to a river bend is located 1.3 miles downstream from the area, this soil profile of the bridge can only provide a general idea of soil composition.

Recent field visit denoted that alluvial silty/clayey sand with gravel and exposure of shale and siltstone are present in the steambed. The toe of the embankment and the overbank depression area next to the low-flow main channel appear to be stable with fairly dense canopy of tall trees (~40' tall) and shrub coverage and partially exposed bedrocks and scattering boulders. No evidence or records of degradation or lateral thalweg migration was found. Due to the vegetation condition, debris potential is expected to be medium.

Summary & Recommendation:

- Due to sensitive environmental concerns, minimal Rock Slop Protection (RSP) recommendation for the toe of the road embankment is removed. Judging by vegetation coverage and rock outcrop and boulders, the risk potential for erosion on the channel bank is relatively low.

State of California Department of Transportation
Division of Engineering Services
Office of Design & Technical Services

Structure Hydraulics

FINAL HYDRAULIC REPORT

Route 150 Barrier Replacement
At PM 29.4 Next to Santa Paula Creek

Located on State Route 150 in Ventura County

JOB:
Emergency Roadway Repair EFIS: 07-13000398

LOCATION:
07-LA-150-PM 29.4

PREPARED BY (Signature)

Ginger Lu, PE# 71324
Structure Hydraulics & Scour Mitigation
May 18, 2012

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

Hydrology/Hydraulics Report

General:

As part of the emergency roadway repair to the location near Post Mile (PM) 29.4 of State Route 150 next to Steckal County Park in Ventura County (Figure 1), Structure Design proposes a three-part solution (Figure 2 & Figure 3):

1. A 122-ft long Type 736 S/SV concrete barrier on 16-in diameter CIDH piles from roadway alignment Station 103+12 to Station 104+34 is to be constructed 1.33-ft from the edge of the pavement to protect the roadway.
2. Following the toe of the slope described as a narrow terrace located at the bottom one-fourth of the embankment, a 378.93-ft long continuous Type 7 SWP concrete retaining wall (cantilever wall) on 24-in diameter CIDH piles on a separate alignment-Retaining Wall Alignment is to be installed as erosion countermeasure for the stream bank. Due to the terracing orientation and various wall heights, the wall has a total of thirteen segments in order to follow the terrace (Design Details, Table 4).
3. The rest of the embankment slope is designed to be left alone to minimize construction footprint.

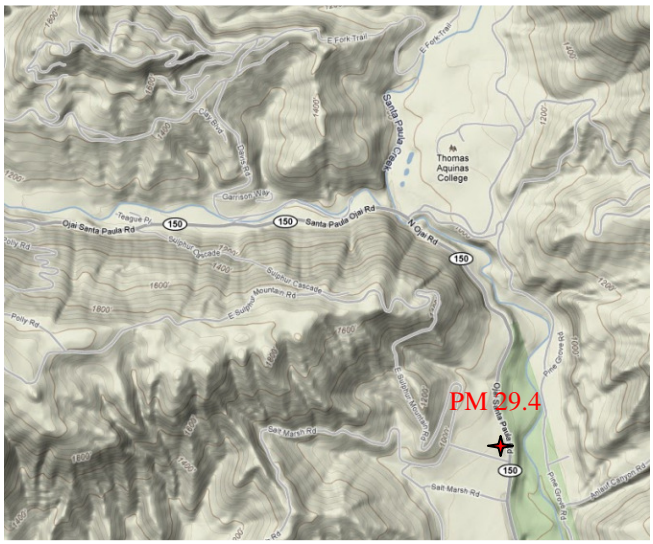


Figure1: Terrain Map of Rte150 PM 29.4

Storm damage on State Route 150 was first observed at PM 27.37 and PM 29.4 plus 18 other locations in the 2005 winter, and the roadway was repaired and resealed in the same year. The 2005 storm damages at PM 29.4 were described as nearly 100' vertical washout of the north bound highway shoulder embankment along Santa Paula Creek, and the collapsed materials were largely alluvium. Maintenance removed (200'Lx4'W) pavement section and repaved it in 2005.

After the heavy winter storms of 2010, the new pavement at PM 27.37 and PM 29.4 was reported to show cracks and the shoulder/support slope had settled. Crack-sealing and berms were placed in the same year. It was found later that settlement cracking was extensive and needed a permanent solution.

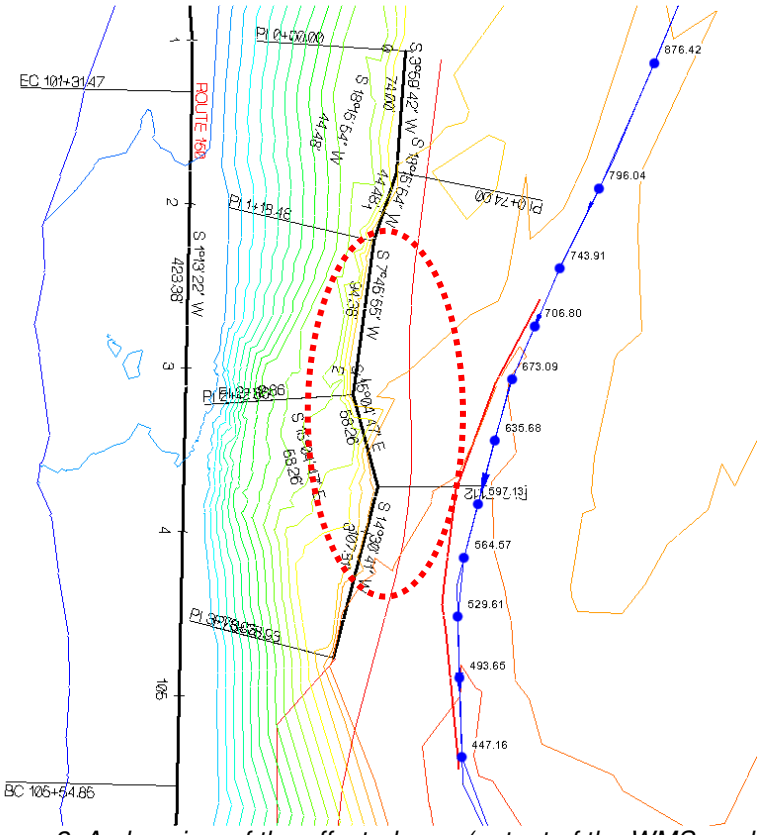


Figure 2: A plan view of the affected area (output of the WMS model)

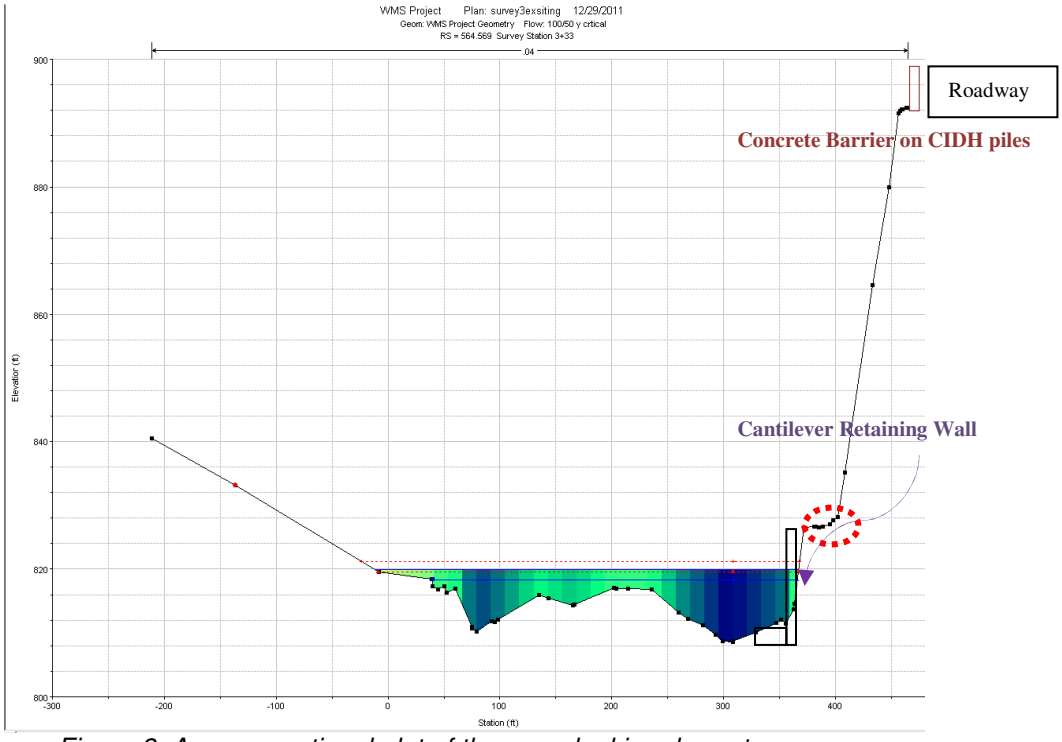


Figure 3: A cross sectional plot of the area, looking downstream

Currently the affected area is about 400' long and 80' to 100' high embankment area along the highway. The prominent feature of the area is a narrow terrace located at the one fourth of its height (red dotted circle in Figure 2). The upper embankment is 50' to 75' in height with 1:1 to 1.5:1 (H:V) slope, and the lower part consists of a 20' to 35' drop of sheer cliff against river overbank. In addition, two broken segments of unidentified drainage pipe were found on the slope and they do not belong to Caltrans.

This evaluation makes reference to:

- The results of this report are in vertical datum NAVD 88 and in English units.
- The latest Design GP pdf file dated 3/16/2012 from Structure Design (received 5/8/12).
- The latest communicated in 5/15/2012 email from District 7 with the latest MicroStation files dated 5/15/2012 (Project Engineer: Rahel Adera).
- Conference calls/informal discussions, Draft Foundation Report (1/27/2012) by Geotech Design South 1, Project Development Meetings, field notes for 11/1/2011 field trip, and Highway Damage Assessment Reports.
- District surveys received on 12/1/2011 and 11/17/2011. 1/3 Arc Sec data (equivalent of 10-meter DEM, old but free raster) downloaded from Nation Elevation Dataset (NED, USGS).
- Hydrology/Hydraulics studies, Foundation Recommendation Memo dated 2/13/07, Caltrans Bridge Maintenance Records, and Foundation Recommendation Memo and Log of Test Borings for Br #52-0105.

Basin:

The Santa Paula Creek watershed, located on the south of the Topatopa Mountains within the Los Padres National Forest of Ventura County, includes two major hydrologic subbasins, Sulphur Springs and Sisar. From the headwater near Hines Peak at an elevation of 6704 ft, Santa Paula Creek flows south-easterly and after joined by Mud Creek continues south to meet Santa Clara River.

Using the Watershed Modeling System software (WMS 8.3), this drainage area of the Santa Paula Creek near the project site was mapped to be 37.11 square miles (mi^2) with average precipitation of 18 inches, and the channel bed slope was estimated to be an average of 0.029 ft/ft. This mountainous range is made of mostly national forest land and scattering farming/residential communities.

Discharge:

Using WMS with 1/3 Arc Sec data from NED, the drainage basin next to Santa Paula Creek is delineated. With more than 25 years data collected by USGS stream gauge (Gage #11113500 - Santa Paula Creek Near Santa Paula, CA), the 50-year and 100-year flood events are estimated by using Annual Peak Flow Frequency Analysis and are tabulated below (Table 1). Oil wells are seen in the area but no in-stream mining or logging activity.

Table 1, Santa Paula Creek,
Drainage Area = 37.11 mi^2, Channel slope = 0.029 ft/ft

Flood Frequency	***50-year***	***100-year***
Flow Rate, cfs	25,614	37,404

Stage/Velocity:

The affected site is located on east bank of Santa Paula Creek, a braided section of the creek, less than a mile downstream from the confluence of Sisar Creek and Santa Paula creek. Santa Paula is a natural winding stream with dense vegetation with a fairly steep channel slope.

Using a composite of the detailed survey by District with NED (1988 NAVD), cross-sections of each channel are cut in WMS 8.4 and exported into hydraulic analysis software - HEC-RAS (4.1.0). Roughness coefficient of 0.04 and boundary condition of critical depth are applied to produce the following hydraulic results (Table 2) for the existing and proposed condition.

Table 2: Water Surface Elevation (WSE) & Averaged Velocity (AV)
Drainage Area = 37.11 mi^2, Channel slope = 2.9%

River Station (RS), ft	**100-year (Q_{100} = 37,400 cfs)**				**50-year (Q_{50} = 25,600 cfs)**			
	Water Surface Elevation, ft		*Average Velocity, ft/s*		*Water Surface Elevation, ft*		*Average Velocity, ft/s*	
	Existing	*Proposed*	*Existing*	*Proposed*	*Existing*	*Proposed*	*Existing*	*Proposed*
876.421	**827.0**	**827.0**	**18.5**	**18.5**	**825.9**	**825.9**	**15.4**	**15.5**
796.036	**827.5**	**827.5**	**14.2**	**14.3**	**825.9**	**825.9**	**12.9**	**12.9**
743.91	825.3	825.3	16.5	16.6	824.2	824.1	14.5	14.7
706.798	824.6	824.5	16.1	16.5	823.0	823.0	15.2	15.3
673.087	**822.7**	**822.6**	**18.2**	**18.2**	**821.5**	**821.5**	**16.3**	**16.4**
635.683	**822.9**	**823.9**	**15.1**	**13.7**	**821.8**	**822.5**	**13.0**	**12.2**
597.129	821.2	821.0	16.9	17.8	819.4	819.1	16.2	17.0
564.569	820.0	819.9	17.7	18.2	818.4	818.4	16.3	16.7
529.61	818.2	818.2	19.0	19.2	816.9	816.8	17.1	17.3
493.653	816.5	816.5	19.7	19.9	815.4	815.4	17.5	17.4
447.16	816.1	816.0	17.5	17.8	814.7	814.7	15.8	15.7

Two minor changes input into the models for the proposed condition are the position of the retaining wall at the toe of the terrace and the roughness coefficient of concrete retaining wall. These changes translate to 5% reduction in channel conveyance and small increase of the roughness coefficient on short stretch, and their effects are insignificantly until the flowline starts to converge toward the wall retaining alignment. Noticed the orientation of the stretches RS 876-796 and RS 673-635 in Figure 2, roughly 20% acceleration and deceleration in AV are observed in Table 2 resulting from the effect.

The retaining wall stationing (RWS) shown in Figure 2 is completely different from the river stationing (RS), where RS is mapped along the river by WMS 8.4. Because the hydraulic results are reported in RS, RS is paired with RWS in Table 3. The angle of the attack from the convergence and the distance between the centerline of the roadway to the centerline of the channel were measured and taken into consideration for scour calculations.

Table 3: Station Conversion & Transverse Distance from the Streamline

RWS** (Retaining Wall Station) **ft	0+00.00	0+74.00	1+18.48	2+12.86	2+71.12	3+06.00	3+78.93
RS** (River Station) **ft	849.63	769.97	716.08	654.4	597.13	564.57	493.65
Horiz. Distance, ft (from roadway edge to channel thalweg)	252	223	199	176	157	149	149
Angle Attack ° (b/w roadway alignment & flow direction)	20	20	15	8	5	0	0

Streambed/Drift:

Streambed materials based on Log of Test Borings for the abutments of Santa Paula Creek Bridge (No. 52-0104) were 5'-10' clayey/silty sand with gravel overlying with 5'-8' poorly graded gravel or clayey gravel. Below the layers, there was 100' of varying in degree of weathered and fractured siltstone and sandstone. Because the bridge is located less than 1 mile upstream from the area, its soil profile can only suggest the types of soil composition at the PM 29.4 site.

According to the Log of Test Boring on the latest Design GP (3/16/12), the soil strata along the roadway Station 103+60 to 104+20 is made of sedimentary rock, clay stone and siltstone from moderately hard to soft and from moderately to intensely fracture at Elevation 820' to 800'. The Nov. 2011 field visit confirms the presence of alluvial silty/clayey sand, gravel, siltstone and rocks with fairly dense shrub coverage in the overbank area between the low-flow channel and the terrace wall. Though the slope and the overbank appear to be reasonably stable, there is insufficient evident to support its scour resistance ability.

Due to dense shrub coverage, debris potential is expected to be medium. The straight vertical side of the terrace facing the river strongly implies that there is no counter force acting against the power of the river migrating laterally towards the road.

Design Details of the Retaining Wall:

There is no specification for the pile length in the latest Design GP dated 3/16/12. On the 5/17/2012 informal discussion, Structure Design (D. Dunrud) specified the pile length dimension to be roughly 10'. The listed design elevation for the pile tip in Table 4 is derived from this pile dimension.

Table 4: Design Details of Type 7 SWP Retaining Wall

	Retaining Wall Station, ft	***Design Elevation at the Top of Wall, ft***	***Design Elevation at Footing Bottom, ft***	***Design Elevation at the Pile Tip, ft***
1	0+00	834	814.91	804.91
2	0+32	831	812.87	802.87
3	0+64	831.25	811.13	801.13
4	1+12	832.85	810.32	800.32
5	1+76	834.1	808.43	798.43
6	2+08	835	805.74	795.74
7	2+28	833.25	805.74	795.74
8	2+40	831.25	805.74	795.74
9	2+48	828.8	805.46	795.46
10	2+68	821.75	803.51	793.51
11	3+20	821.5	801.59	791.59
12	3+44	820	798.46	788.46
13	3+78.93	819	798.46	788.46

Summary & Recommendation:

1. The top of the retaining wall should be at least 2' higher than the 100-year WSE to keep the water waves overtopping of the wall and eroding downward from the top. The calculated elevations for the top of the wall and the 100-year WSE are shown in Table 5.

   - Comparing the design elevations for the top of the wall in Table 4 to the recommended values in Table 5, the design wall is tall enough to prevent erosion from the top.

Table 5: Recommended Elevations for the Proposed Retaining Wall

Retaining Wall Station (ft)	*WSE (ft)*	*Top of Wall Elev. (ft)*	*Thalweg Elev. (ft)*	*Footing Bottom Elev. (ft)*	*Scour # (ft)*	*Scour Elev. (ft)*
0+00	827.5	**829.5**	814.4	**809.4**	9.4	**805.0**
0+32	827.4	**829.4**	813.1	**808.1**	15.2	**797.9**
0+64	825.9	**827.9**	812.9	**807.9**	15.2	**797.7**
1+12	824.1	**826.1**	811.8	**806.8**	14.8	**797.0**
1+76	821.5	**823.5**	810.7	**805.7**	12.3	**798.4**
2+08	823.6	**825.6**	810.6	**805.6**	14	**796.6**
2+28	823.4	**825.4**	810.4	**805.4**	14	**796.4**
2+40	822.5	**824.5**	810.2	**805.2**	13.6	**796.6**
2+48	822.5	**824.5**	809.7	**804.7**	12.4	**797.3**
2+68	820.2	**822.21**	809.6	**804.6**	15	**794.6**
3+20	818.9	**820.9**	808.5	**803.5**	10.9	**797.6**
3+44	817.5	**819.5**	807.5	**802.5**	11.2	**796.3**
3+78.93	816.7	**818.7**	805.9	**800.9**	12.9	**793.0**

2. Because the thalweg (deepest part of the channel) appears to move toward the roadway, it is assumed that the thalweg will be butting against the retaining wall in the future. The footing of the wall should be installed minimally 2' below the thalweg to minimize the exposure of the footing from creating bigger and deeper scour holes. Because the footing of 18'-26' retaining wall will have thickness of 2.75' minimal, the bottom of the footing will need to be 4.75' below the thalweg, which means that the actual bottom of the footing should be deeper than the listed elevations for the bottom of the footing in Table 5.

   - When encountering scour resistant materials during construction, the decision on where the footing of Type-7SWP Wall should be will be rest upon District Construction.
   - The design elevations for the bottom of the footing in Table 4 from RWS 0+00 to 1+76 are more than 2' higher than the recommended elevations in Table 5 and fail the hydraulic needs of producing small scour holes. Because the footing is on piles, the retaining wall in this case will need to have deeper piles, which will resist the turning moment of the wall when the scour holes are created.

3. Accounting for water vertical vortex against an obstacle, scour elevation is an elevation of a scour hole located below river thalweg. When scour potential reaches pile tip, a wall section can be overturned without lateral soil support causing wall failure. The condition of exposing the wall footing from RWS 0+00 to 1+76 prescribes several more conservative scour

equations, in lieu of the equation for impinging flow at an angle (HEC-23, 2009). The shown scour values are considered as medium conservative, and the actual pile tip should be deeper than the computed scour elevation presented in Table 5.

- When encountering scour resistant materials during construction, the decision on how deep the piles of Type 7SWP Wall should be will be rest upon District Construction.
- The design pile tip elevations from RWS 0+32 to 1+12 in Table 4 are not as deep as the recommended values in Table 5. Unless encountering scour resisting material, the listed scour elevations should be met so that sectional wall failure can be avoided.

4. Informal discussion on 5/17/2012 with Doug Dunrud was about expansion joints between the wall segments and wall drainage. These important features of retaining wall are specified in Caltrans 2010 Standard Plan B3-5 and B0-3.

5. It is unclear where the unidentified broken pipe segments came from and how they might relate to the roadway damage events. It may be fruitful for District to contact potential farmers and gain insights how they drain their fields and install drainage pipes across the roadway if they do. These can be the missing puzzles for understanding the erosion events.

State of California **Business, Transportation and Housing Agency**

M e m o r a n d u m

To : MR. DOUGLAS DUNRUD – BRANCH CHIEF
Structures Design – Branch 14

Date: October 23, 2014

File: 07-VEN-150
PM 27.37/29.4
Project ID 0713000398
EA 07-3X021
Roadway Protection

Attn. : Mr. John J Lane – Project Engineer

From : **DEPARTMENT OF TRANSPORATION**
DIVISION OF ENGINEERING SERVICES
METS-Geotechnical Services
Office of Geotechnical Design South-1

Subject : Geotechnical Design Report for Ven. 150 Barrier Replacement and Retaining Wall

Scope of Work

In response to the request from the Office of Structure Design – Branch 14, dated October 13, 2011, the Office of Geotechnical Design South-1 has prepared the following geotechnical recommendations for the proposed retaining wall:

This report is based on the review of following information:

1. Three boreholes – R-11-001, R-11-002, and R-11-003 drilled between April 11 and May 4, 2011.
2. 1951 Topographic map (7.5 minute series) – Santa Paula Peak Quadrangle, California – Ventura Co.
3. 1969 Topographic map (7.5 minute series) – Santa Paula Peak Quadrangle, California – Ventura Co.
4. Geologic map of the Santa Paula Peak Quadrangle, Ventura Co, California.
5. Survey data of job site including the plan and cross sections.
6. Field meeting on September 23, 2011, and typical cross sections based on the field visit, provided by Ms. Rahel Adera of District Design.

Project Description

PM 29.4
The slope below the highway has been eroded during heavy rainfall in the winter of 2005. Since then, as a temporary measure, asphalt berm was placed with steel plate barriers supported by embedded wood posts, to provide a roadside drainage. However, no permanent slope repair was made, and the further erosion occurred during the heavy winter storms starting on January 17, 2010. As a result, the upper 20 to 25 feet of the slope is currently near vertical and the slope below is steeper than 1 to 1 (H:V). The pavement near shoulder has

cracks parallel to the slope alignment. A 4-inch diameter pipeline outside and parallel to the shoulder is exposed. The nature of the pipeline is not known and need to be determined before construction.

PM 27.37
The slope below the highway has been eroded during heavy rainfall in the winter of 2005. Since then, temporary roadside drainage-control berm was placed. However the slope has been further eroded during the heavy winter storms starting on January 17, 2010. Currently the upper about 10 feet of the slope is near vertical and a 4-inch diameter pipeline outside and parallel to the shoulder is exposed. Pavement cracks were also observed near the pavement shoulder.

The slope consists of alluvial sediments, which is susceptible to the erosion and washout. The locations and extents of the erosion are presented in Table 1.

Table 1: Location and Extents of the Erosion

Location	PM	Approximate Length (ft)
1	29.4	120
2	27.37	90

The locations of the proposed retaining wall and concrete barrier are presented in the Table 2, which are based on the information provided by District and Structure Design.

Structure Type	PM	Stations
Retaining Wall	29.4	101+09.12 to 104+73.71
Concrete Barrier (736)	29.4	103+12 to 104+34
Concrete Barrier (736)	27.37	11+00 to 13+25

The job sites are shown on the Figure 1.

Figure 1. Site Map

Historical Information Review Summary

1. Both sites sustained damages during 2005 storms, and were inspected by a Caltrans damage-assessment team and FHWA Reviewer on February 3, 2005.
2. Caltrans Maintenance continually monitors and maintains both sites with crack-sealing, asphalt concrete patching, building the roadside drainage-control berm.
3. During 2010 storm season, additional cracks appeared on pavement, and the shoulder appeared to settle in late January and early February 2010. Further inspection found lost of slope below highway and created a near vertical slope right to the edge of the travel way.
4. Maintenance has once again placed crack-sealing and berm build up at both locations: At PM 29.4, 200 feet of 14-foot wide pavement section was removed, based material removed, replaced and re-compacted and repaved.

Subsurface Exploration and Testing Program

Three boreholes were drilled, using rotary wash method in April and May, 2011. The drillings were performed at middle of the northbound of travel lane. Continuous sampling was performed to collect samples and Standard Penetration Test (SPT) was performed at 5-foot interval until rock formation was encountered. Rock specimens were continuously cored using rotary wire-line.

Laboratory Testing Program

Soil samples collected during subsurface exploration were tested for engineering properties and soil classification. The tests included particle size distribution (California Test Method (CTM) 203), Plasticity Index (CTM 204)), and corrosivity. Since much of fine sandy materials were washed out during continuous sampling the test results do not represent the whole characteristics of the in-suit soil. The test results are presented in Appendix.

Site Geology and Subsurface Conditions

The subject sites are in the Transverse Ranges Geomorphic Province. The Transverse Ranges Provinces is characterized by east-west trending mountain ranges and faults, which formed due to compressional forces related to a bend in the San Andeas Fault.

The sites are adjacent to the Santa Paula Creek (PM 29.4) and Sisar Creek (PM 27.3). The floodplain of the riverbed consists of surfical sediments and older dissected surfical sediment. The sediments include alluvium and stream channel deposits including silt, sand, gravel, boulder-cobble gravel of unsorted sandstone detritus in sandy to silty matrix. Beneath the surfical sediments, Pico Formation was encountered at PM 29.4 site, consisting of soft (crumbly) vaguely bedded gray claystone and siltstone, and Monterey Formation at PM 27.3 site, consisting of white weathering thin bedded hard platy to brittle siliceous shale.

Corrosion Evaluation

Corrosivity of subsurface materials was tested in accordance with CTM 532, 643, 417, and 422. The test results indicated that the subsurface materials in the project area are non-corrosive (Table 2).

Table 2: Corrosion Test Result Summary

Borehole Number	Depth Interval (ft)	Lab Sample Number	pH	Minimum Resistivity (ohm-cm)	Sulfate Content (ppm)	Chloride Content (ppm)
R-11-001	20 – 21.5	NA	6.98	6227	N/A	N/A
R-11-003	0 – 6.5	NA	7.23	794	157	504

Note: Caltrans currently considers a site to be corrosive to foundation elements if one or more of the following conditions exist: Chloride concentration is greater than or equal to 500 ppm, sulfate concentration is greater than or equal to 2000 ppm, or the pH is 5.5 or less.

Seismic Recommendations

Based on subsurface condition encountered during subsurface exploration, the average shear wave velocity at the project site is assumed to be 400 m/sec. Following Geotechnical Services Design Manual, dated August 2009, both deterministic and probabilistic analyses were performed, using ARS online and 2008 USGS Interactive deaggregation tool (Beta).

Based on the analysis, the seismic design of the sites is governed by a probabilistic ARS curve. Fault parameters for active faults adjacent to the job site were summarized in Tables below (Table 3).

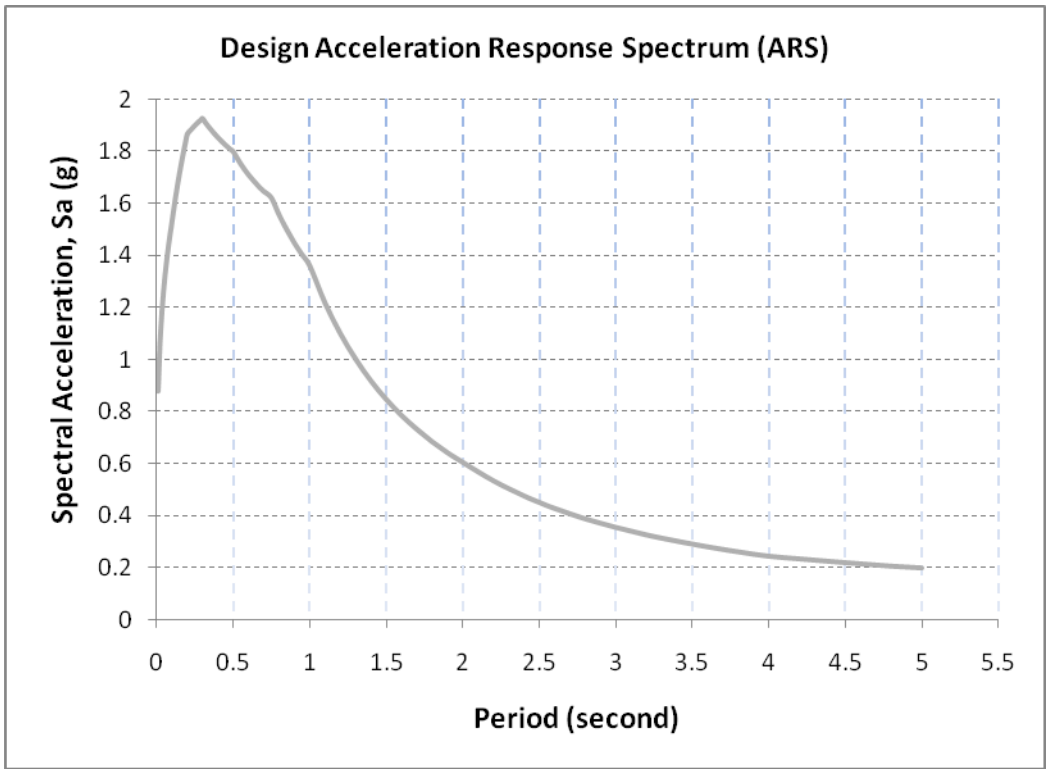
Table 3: Summary of Faults

Fault Name	Type	M_{max}	R_X	R_{JB}	R_{RUP}
Lion Canyon	R	6.4	2.14 km	0.84 km	1.73 km
Santa Ana	R	7.0	0.83 km	0.83 km	0.83 km

Notes:
R_X = Horizontal distance to the fault trace
R_{JB} = Shortest horizontal distance to the surface projection of the rupture area
R_{RUP} = Closest distance to the fault rupture plane

Table 4: Site Data

Shear Wave Velocity, Vs30 (m/s)	$Z_{1.0}$ (m)	$Z_{2.5}$ (km)
400	15	3.77



Period (second)	Spectral Acceleration, Sa (g)
0.01	0.88
0.05	1.295
0.1	1.529
0.25	1.901
0.5	1.801
0.75	1.623
1	1.363
2	0.607
3	0.357
4	0.246
5	0.201

Estimated design PGA value is 0.88 g based on the design ARS curve above.

Liquefaction
Although relatively high intensity of ground shaking is probable at the job site, liquefaction potential is very low due to low groundwater table elevation and subsurface materials, which consist of mostly gravel, cobbles and boulders.

As-Built Plan

As-built plan is not available for these locations.

Geotechnical Recommendations

Due to numerous constraints, including environmental, right of way, and project schedule constraints, Project Development Team (PDT) members agreed with the option during the PDT meeting dated January 12, 2012 that the slopes immediately beneath the roadway would not be treated with any stabilizing features other than the barriers supported by 16-inch diameter Cast In Drilled Hole (CIDH) piles at the top of the slope. The barrier is to prevent surfacial runoff water from flowing onto the slope. But the existing slopes without stabilizing structure elements will sustain further erosion and increased slope instability, which will require continual monitoring and maintenance.

Geotechnical recommendations, including geotechnical engineering properties for both locations are presented below.

Geotechnical Recommendations for PM 29.4
The 16-inch diameter CIDH pile to support the barriers should be designed based on following geotechnical engineering properties. The engineering properties are interpreted based on observed outcrop condition and findings from subsurface exploration. The

groundwater table is assumed to be at creek water elevation, and is expected to fluctuate accordingly.

Approximate Elevation (ft)	Description	Effective Unit Weight (lb/ft^3)	Friction Angle (degree)	Apparent Cohesion (lb/ft^2)	Undrained Strength (lb/ft^2)	Soil Strain Parameter (ε_{50})	Soil Modulus, k (lb/in^3)
893 to 833	Silty sand/clay/gravel/ cobbles/boulders	125	34	250	N/A	N/A	225
833 to	Claystone/siltsto ne/soil matrix	130	N/A	N/A	5000(1)	0.004	2000

(1) This strength should not be interpreted as the strength of intact rock or boulders, or used as an index for rock excavation.

A retaining wall supported by 24-inch diameter CIDH piles has been designed by Structure Design to support a 21 feet high, nearly vertical cliff created by scouring. The retaining wall should be designed to support the existing slope on the top, and the piles should extend at least 10 feet below the bottom of footing elevation. The pile length is estimated based on the nominal resistance of 180 kips. Should a greater nominal resistance of the piles be required, our office should be contacted to provide an updated pile length.

Geotechnical Recommendations for PM 27.37

The 16-inch diameter CIDH pile selected to support the barriers should be designed based on the following geotechnical engineering properties. The geotechnical engineering properties are interpreted based on observed outcrop condition and findings from subsurface exploration. The groundwater table is assumed to be at creek water elevation, and is expected to fluctuate accordingly.

Approximate Elevation (ft)	Description	Effective Unit Weight (lb/ft^3)	Friction Angle (degree)	Apparent Cohesion (lb/ft^2)	Undrained Strength (lb/ft^2)	Soil Strain Parameter (ε_{50})	Soil Modulus, k (lb/in^3)
1205 to 1155	Silty sand/clay/gravel /cobbles/boulde rs	125	34	250	N/A	N/A	225
1155 to	Siliceous shale/soil matrix	130	N/A	N/A	5000(1)	0.004	2000

(1) This strength should not be interpreted as the strength of intact rock or boulders, or used as an index for rock excavation.

Scour

Please contact Structure Hydraulics for scour evaluation and scour protection recommendations.

Construction Consideration

Due to the presence of granular materials, cobble and boulders, cave-in potential and difficult drilling and excavation during construction of the piles should be anticipated. Rock core bit is required to drill through cobbles and boulders, and rock formation. Groundwater elevation can be assumed to be at creek water elevation.

Seungwoon Han, Ph.D, P.E.
Transportation Engineer–Civil
Office of Geotechnical Design South-1
Branch A

CC: OGDS1- LA
David Miraaney, D07 Project Manager
Shira Rajendra, GS Corporate
D07 Material Engineer
Structure Construction R.E. Pending file

SITE INVESTIGATION REPORT

VENTURA ROUTE 150, POST MILE 27.37 AND 29.40
VENTURA COUNTY, CALIFORNIA

PREPARED FOR:
CALIFORNIA DEPARTMENT OF TRANSPORTATION
DISTRICT 7
100 SOUTH MAIN STREET, 12.273
LOS ANGELES, CALIFORNIA

Caltrans

PREPARED BY:
GEOCON CONSULTANTS, INC.
3303 N. SAN FERNANDO BLVD., SUITE 100
BURBANK, CALIFORNIA

GEOCON
CONSULTANTS, INC.

CALTRANS CONTRACT 07A2729
TASK ORDER NO. 17
EA NO. 07-3X0201

GEOCON PROJECT NO. S9475-06-17

May 18, 2012

GEOCON
CONSULTANTS, INC.
GEOTECHNICAL ■ ENVIRONMENTAL ■ MATERIALS

Project No. S9475-06-17
May 18, 2012

VIA OVERNIGHT COURIER

Ms. Saba Tesfayohannes
California Department of Transportation, District 7
Office of Environmental Engineering & Corridor Studies
100 South Main Street, Suite 12.273
Los Angeles, California 90012

Subject: SITE INVESTIGATION REPORT
VENTURA ROUTE 150 POST MILE 27.37/29.40
VENTURA COUNTY, CALIFORNIA
CONTRACT NO. 07A2729, TASK ORDER NO. 17
EA NO. 3X0201

Dear Ms. Tesfayohannes:

In accordance with Caltrans Contract No. 07A2729 and Task Order No. 17 dated March 23, 2012, Geocon Consultants, Inc. has conducted an aerially deposited lead, petroleum hydrocarbons, and heavy metals soil investigation at two locations along the northbound shoulder of Route 150 in Ventura County. The accompanying report summarizes the services performed, including soil sampling, global positioning system data acquisition, laboratory analyses, and data evaluation.

The contents of this report reflect the views of the author, who is responsible for the facts and accuracy of the data presented herein. The contents do not necessarily reflect the official views or policies of the State of California or the Federal Highway Administration. This report does not constitute a standard, specification, or regulation.

Please call us if you have questions.

Sincerely,

GEOCON CONSULTANTS, INC.

Mike Akoto
Staff Geologist

Michael P. Conkle, PG
Contract Manager

PROFESSIONAL GEOLOGIST
MICHAEL P. CONKLE
No. 7624
Exp. 9/30/12
STATE OF CALIFORNIA

(5) Addressee

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SITE INVESTIGATION REPORT

EXECUTIVE SUMMARY

Geocon Consultants, Inc. performed an aerially deposited lead (ADL) petroleum hydrocarbon, and heavy metals soil investigation along the right shoulder of northbound Route 150 at at two locations in Ventura County, California. Location 1 is located at Post Mile (PM) 27.37, and Location 2 is located at PM 29.4 (collectively the Site). The objective of the investigation was to evaluate soil at the site for the potential presence of ADL, petroleum hydrocarbons, and other metals. The California Department of Transportation (Caltrans) will use information from the investigation to determine soil disposal options and identify health and safety concerns during construction activities.

Lead Results

None of the soil samples collected during the investigation exhibited total lead concentrations above the Total Threshold Limit Concentration of 1,000 milligrams per kilogram (mg/kg) or soluble lead concentrations above the Soluble Threshold Limit Concentration of 5.0 milligrams per liter. Based on the reported concentrations of total and soluble lead the upper 3.0 feet of soil may be reused or disposed of as non-hazardous with respect to lead content (Caltrans Type-X).

Title 22 Metals

Title 22 metals were not reported at or above their respective TTLC or ten times their respective STLCs. The concentrations of metals reported in the soil samples were below their respective residential and industrial California Human Health Screening Levels except for arsenic. The reported arsenic concentrations are consistent with published background levels in Los Angeles County.

Petroleum Hydrocarbons

Suspected naturally occurring petroleum hydrocarbons, at concentrations up to 910 mg/kg, were reported in the samples collected from depths between 5 and 15 feet. These results indicate that soil containing petroleum hydrocarbons will be excavated for the proposed improvements. Soil generated during construction should be stockpiled and characterized for the potential presence of petroleum hydrocarbon constituents prior to being transported offsite for disposal, or if the soil is to be reused onsite the Los Angeles Regional Water Quality Control Board should be consulted to confirm that reuse of petroleum-containing soil as fill is acceptable.

Worker Protection

Per Caltrans' requirements, contractor(s) should prepare a project-specific Health and Safety Plan (HSP) to prevent or minimize worker exposure to lead-impacted and petroleum hydrocarbon containing soil. The HSP should include a Lead Compliance Plan outlining protocols for environmental and personnel monitoring, requirements for personal protective equipment, and other appropriate health and safety protocols and procedures for the handling of lead-impacted soil.

Based on the results of this investigation and the reported presence of naturally occurring petroleum hydrocarbons in soil, the contactor(s) should take precautions to minimize contact with suspected petroleum hydrocarbon containing soil excavated during construction. Additionally, although measureable concentrations of methane and hydrogen sulfide were not recorded during this investigation, there is a potential for them to be encountered during excavations at the Site. The contractor should conduct monitoring to test for methane and other combustible gasses, hydrogen sulfide, VOCs, and oxygen levels during earthwork in suspected petroleum containing soils.

SITE INVESTIGATION REPORT

1. INTRODUCTION

Geocon Consultants, Inc. performed an aerially deposited lead (ADL), petroleum hydrocarbons, and heavy metals soil investigation along the right shoulder of northbound Route 150 at two locations in Ventura County, California. Location 1 is located at Post Mile (PM) 27.37, and Location 2 is located at PM 29.4 (collectively the Site). The project locations are shown on the Vicinity Map, Figure 1. The investigation was conducted under California Department of Transportation (Caltrans) Contract No. 07A2729 Task Order (TO) No. 17, and Expense Authorization 3X0201, dated March 23, 2012.

1.1 Project Description

Caltrans proposes widening, removal and replacement of cracked roadway pavement, removal of yellow traffic stripe, removal and placement of metal beam guard rail, construction of Type 736 barrier with 24-inch CIDH piles, and construction of a retaining wall and rock slope protection (RSP) to join the existing ground RSP. The proposed improvements will involve soil excavation and other earthwork activities.

1.2 Investigation Objective

The objective of the investigation was to evaluate concentrations of metals, including ADL, and petroleum hydrocarbons in soils that will potentially be disturbed during excavation for the proposed project improvements. Caltrans will use information obtained from the investigation to determine soil management options (e.g., disposal or onsite reuse) and identify health and safety concerns during proposed construction activities.

2. BACKGROUND

2.1 Aerially Deposited Lead in Soil

Testing by Caltrans throughout the State has shown that ADL exists in soil along major highway routes due to vehicle exhaust containing lead from the combustion of leaded gasoline. The concentration and distribution of ADL in soil is a function of many variables, but in general, highway age and traffic volume appear to be primary factors.

2.2 Petroleum Hydrocarbons

Naturally occurring petroleum hydrocarbon is known to be present in the bedrock underlying the vicinity of proposed improvements. According to the TO, hydrogen sulfide odors are present at the Site, and naturally occurring oil has been observed on the water in the adjacent creek.

2.3 Hazardous Waste Classification Criteria

Regulatory criteria to classify a waste as "California hazardous" for handling and disposal purposes are contained in the California Code of regulations (CCR), Title 22, Division 4.5, Chapter 11, Article 3, §66261.24. Criteria to classify a waste as "Resource, Conservation and Recovery Act (RCRA) hazardous" are contained in Chapter 40 of the Code of Federal Regulations (40 CFR), §261.

For waste containing metals, the waste is classified as "California hazardous" when: (1) the representative total metal content exceeds or equals the respective Total Threshold Limit Concentration (TTLC); or (2) the representative soluble metal content exceeds or equals the respective Soluble Threshold Limit Concentration (STLC) based on the standard Waste Extraction Test (WET). A waste may have the potential of exceeding the STLC when the waste's total metal content is greater than or equal to ten times the respective STLC value, since the WET uses a 1:10 dilution ratio. Hence, when a total metal is detected at a concentration greater than or equal to ten times the respective STLC, and assuming that 100 percent of the total metals are soluble, soluble metal analysis is typically performed. A material is classified as "RCRA hazardous" when the soluble metal content exceeds or equals the Federal Regulatory Level based on the Toxicity Characteristic Leaching Procedure (TCLP). The TTLC value for lead is 1,000 milligrams per kilogram (mg/kg). The STLC and TCLP values for lead are both 5.0 milligrams per liter (mg/l).

The above regulatory criteria are based on toxicity. Wastes may also be classified as hazardous based on other criteria such as ignitability, corrosivity, and reactivity. For the purposes of ADL investigations, toxicity and corrosivity (e.g., chemical concentrations and soil pH values, respectively) are the primary factors considered for waste classification. Waste that is classified as either "California hazardous" or "RCRA hazardous" requires management as a hazardous waste and disposal at an appropriately permitted disposal facility.

The Department of Toxic Substances Control (DTSC) regulates and interprets hazardous waste laws in California. DTSC generally considers excavated or transported materials that exhibit "hazardous waste" characteristics to be a "waste" requiring proper management, treatment and disposal. Soil that contains lead above hazardous waste thresholds and is left in-place would not be necessarily classified by DTSC as a "waste." The DTSC has provided site-specific determinations that "movement of wastes within an area of contamination does not constitute "land disposal" and, thus, does not trigger hazardous waste disposal requirements." Therefore, lead-impacted soil that is scarified in-place, moisture-conditioned, and re-compacted during roadway improvement activities might not be considered a "waste." DTSC should be consulted to confirm waste classification. It is noted that in addition to DTSC regulations, health and safety requirements and other local agency requirements may also apply to the handling and disposal of lead-impacted soil.

2.4 California Human Health Screening Levels

The California Environmental Protection Agency (Cal/EPA) has prepared technical reports entitled *Use of California Human Health Screening Levels (CHHSLs) in Evaluation of Contaminated Properties* (Cal/EPA, January 2005) and *Revised California Human Health Screening Levels for Lead* (Cal/EPA, September 2009), which present CHHSLs for soil, shallow soil gas, and indoor air to assist in evaluating sites impacted by releases of hazardous chemicals.

The CHHSLs are concentrations of 44 hazardous chemicals that Cal/EPA considers to be below thresholds of concern for risks to human health. The CHHSLs were developed by the Office of Environmental Health Hazard Assessment (OEHHA) on behalf of Cal/EPA. The thresholds of concern used to develop the CHHSLs are an excess lifetime cancer risk of one in a million and a hazard quotient or 1.0 for non-cancer effects. Under most circumstances, the presence of a chemical at concentrations below its respective CHHSL can be assumed to not pose a significant risk. The presence of a chemical at concentrations above a CHHSL does not indicate that adverse impacts to human health are occurring or will occur, but suggests that further evaluation is warranted (Cal/EPA, January 2005).

The following CHHSLs were used for comparison: Table 1 of the *California Human Health Screening Levels for Soil and Comparison to Other Potential Environmental Concerns* (Cal/EPA, January 2005) and Table 3 of the *Comparison of 2005 CHHSLs to Revised CHHSLs* (Cal/EPA, September 2009). The respective CHHSLs are listed at the end of Table 2 for comparative purposes.

3. SCOPE OF SERVICES

We performed the scope of services summarized below as requested by Caltrans.

3.1 Pre-field Activities

- Prepared a *Health and Safety Plan* (HSP) dated April 2012, to provide guidelines on the use of personal protective equipment and the health and safety procedures to be implemented by Geocon personnel during field activities. The HSP specified the safety procedures for field work, summarized chemical hazard information, and identified site safety officers, emergency contacts, and the locations of emergency medical care facilities.

- Retained the services of Advanced Technology Laboratories (ATL), a Caltrans-approved and California-certified analytical laboratory, to perform the chemical analyses of soil samples.

- Provided a minimum of 48-hours notice to the subscribing utilities via Underground Service Alert prior to job site mobilization.

3.2 Field Activities

The soil investigation was performed on April 10, 2012. The investigation consisted of collecting 12 soil samples from four hand-auger borings, and 7 soil samples from three borings advanced with a direct-push rig. Soil samples were collected from each of the hand-auger borings at the following depth intervals: surface to 0.5 foot, 1 to 1.5 feet, and 2.5 to 3.0 feet. Soil samples collected with the direct-push rig were collected from depths of 5, 10, and 15 feet at Location 1 and from a depth of 5 feet at Location 2. The borings were advanced at the approximate locations specified on the figures furnished to Geocon in the TO. The approximate boring locations for Location 1 and Location 2 are shown on Figures 2 and 3, respectively.

Additionally, the potential presence of methane, hydrogen sulfide, and volatile organic compounds (VOCs) was monitored in each of the three direct-push borings with a hand held direct reading instrument. The measurements were collected by lowering tubing to the total depth of the borings, connecting the tubing directly to the instrument, and allowing the instruments built-in pump to evacuate the tubing and collect a sample of the soil vapor within the boring. The readings were collected for approximately 5 minutes at each boring.

3.3 GPS Coordinates

The borings were located utilizing a global positioning system (GPS) receiver. Data was recorded in the field and downloaded in the office using surveying TerraSync™ or similar software, in State Plane 83 coordinates. Boring latitude and longitudes coordinates in decimal degrees are provided in Table 1.

3.4 Laboratory Analyses

Laboratory analyses were performed by ATL. Copies of the laboratory reports and chain-of-custody (COC) documentation are in Appendix A. Based on the Caltrans TO, the samples were analyzed for the following:

- Twelve samples collected from the hand-auger borings were analyzed for Total lead by EPA Test Method 6010B.
- Three samples with total lead concentrations greater than 50 mg/kg were analyzed for WET lead using EPA Test Method 7420 with citrate acid as the extractant.
- Seven samples collected with the direct-push rig were analyzed for total petroleum hydrocarbons by modified EPA Test Method 8015B.
- The one sample with the highest reported total lead concentration was analyzed for California Code of Regulations (CCR) Title 22 metals following EPA Test Methods 6010B (metals) and 7471 (mercury).

- One equipment blank (EB) water sample was analyzed for total lead using EPA Test Method 6010B.

3.5 Report Preparation

This report was prepared to summarize the objectives, procedures, and results of the investigation activities requested by Caltrans.

4. INVESTIGATIVE METHODS

4.1 Soil Sampling

Soil samples were collected from four borings using hand-auger sampling equipment. Surface vegetation (e.g., native grasses/shrubs and landscaping plants) at the boring locations was removed prior to boring/sampling activities. Soil collected from designated sample intervals within the borings was placed into new re-sealable plastic bags and homogenized in the field within the sample bag. Homogenized soil within the bag was then transferred into new 4-ounce laboratory-provided glass soil jars, capped, labeled with the sample date/time and a unique soil sample number, and placed in a chilled ice chest pending shipment to the analytical laboratory.

Soil samples from the three direct-push borings were collected into acetate liners. The acetate liners were capped with Teflon sheeting and plastic end caps, labeled, and placed in a chilled ice chest pending shipment to the analytical laboratory.

Caltrans assigned a unique ID number to this project (1168). This ID number was included in the database, figures, and in the boring soil sample names. Soil sample identification numbers were assigned (1168-101) based on the TO boring and sample naming convention. Soil sample numbers were designated by the boring number and the top of the 6-inch depth interval from which the sample was collected. For example, the soil sample designated 1168-101-1 was obtained from approximately 1.0 to 1.5 foot.

Quality Assurance/Quality Control (QA/QC) procedures conducted during field activities included sampling equipment decontamination prior to each boring, and use of new re-sealable plastic sample bags, laboratory supplied sample containers, and sample chain-of-custody documentation. Soil sampling equipment was cleaned between each boring by washing the equipment with an Alconox™ solution followed by a double rinse with de-ionized water. Sampling activities were conducted under supervision of Geocon's field manager.

The hand-auger borings were backfilled with surface soil from the immediate vicinity of the boring location. Direct-push borings were backfilled with hydrated bentonite chips and the surface patched with cold-patch asphalt. Decontamination water was discharged to the ground surface away from areas potentially associated with surface water bodies or storm drain inlets.

4.2 Equipment Blank Sampling

One equipment blank sample was collected to verify proper cleaning of the sampling equipment. The equipment blank sample was obtained by passing distilled water over the decontaminated sampling equipment and into unpreserved laboratory-provided container.

4.3 Deviations from Task Order

The Caltrans TO dated March 23, 2012, served as the workplan for this investigation. Geocon performed the scope of work as described in the TO with the following exceptions:

- The four borings proposed at the toe of the slope, adjacent to Santa Paula Creek, at Location 2 were not performed because of limited access to these locations.
- Only one of the two direct-push borings proposed for the top of the slope at Location 2 was conducted because subsurface conditions (large cobbles or boulders) prevented the advancement of the direct-push drilling methods. The one boring advanced at this location (1168-105) was only advanced to a depth of 5 feet, not the proposed 15 feet specified in the TO.
- Based on the reported total lead and WET lead results, and with direction from Caltrans, 50% of the samples analyzed for lead were not tested for WET lead, and no TCLP or pH testing was performed on the samples.

5. FIELD OBSERVATIONS AND INVESTIGATIVE RESULTS

5.1 Soil Conditions

The soil conditions encountered in the hand-auger borings at the Site generally consisted of gray to dark brown, dry, medium dense silty sand with gravel.

Soil encountered in the direct-push borings at Location 1 consisted of gray to dark brown silty sand with gravel intermixed with weathered siltstone and sandstone cobbles.

Soil encountered in the direct-push boring at Location 2 consisted of 4 to 5-feet of gray to dark brown silty sand with gravel overlying hard sandstone or granitic cobbles or boulders.

Stained and/or odorous soil was not observed in the samples collected during this investigation. Surface and groundwater were not encountered at the boring locations.

Concentrations of methane, hydrogen sulfide, and VOCs above the direct-reading instrument detection level were not recorded in the direct-push borings.

5.2 Analytical Results

Soil analytical results are summarized in Tables 1 and 2. Results were J-Flagged "J" between the Practical Quantitation Limit (PQL) and the calculated Method Detection Limit (MDL). Results that are "J" Flagged are estimated values since it becomes difficult to accurately quantitate the analyte near the MDL. Copies of the laboratory reports and chain-of-custody documentation are in Appendix A. Analytical results are summarized below:

- **Total lead** was reported for the twelve soil samples at concentrations ranging from 5.8 to 73 mg/kg.
- **WET lead** at was reported for the three of the samples analyzed at concentrations ranging 0.48 to 2.1 mg/l.
- **Title 22 metals** antimony, selenium and thallium were not detected in the one sample analyzed at concentrations above their respective MDL's; beryllium, mercury, and silver had J flagged concentrations. Concentrations of the Title 22 metals, with the exception of lead, were less than ten times their respective STLCs and therefore additional testing using the WET were not required.
- The equipment blank was reported to contain a lead concentration of 0.0009 mg/l which is slightly above the MDL of 0.0008 mg/l. The equipment blank result is not tabulated.
- Total petroleum hydrocarbons were reported in all seven soil samples at total (C8 to C-40) concentrations ranging from 16 to 910 mg/kg.

5.3 Data Validation

Geocon and ATL use QA/QC measures to minimize and control errors associated with field and laboratory methods. Field QA/QC measures consist of cleaning sampling equipment between each use with a detergent solution followed by tap and distilled/purified water rinses. Based on the equipment blank sample analytical result, which was several orders of magnitude less than the MDL of the total lead soil samples, it appears that the field investigation was free from potential cross-contamination resulting from inadequate equipment decontamination.

Laboratory QA/QC measures include the use of matrix spikes, duplicates, and method blanks, in addition to calculation of percent recovery and relative percentage difference (RPD). A review of the laboratory QA/QC results indicates satisfactory data reporting, and the data are of sufficient quality for the purposes of this report.

6. FINDINGS AND CONCLUSIONS

6.1 Lead Results

None of the soil samples collected during the investigation exhibited total lead concentrations above the TTLC of 1,000 mg/kg or soluble lead concentrations above the STLC of 5.0 mg/l. Based on the reported concentrations of total and soluble lead, the upper 3.0 feet of soil may be reused or disposed of as non-hazardous with respect to lead content (Caltrans Type-X).

6.2 Title 22 Metals

Title 22 metals with the exception of lead were not reported at or above their respective TTLCs or ten times their respective STLCs. The reported concentrations of metals, with the exception of arsenic, were below their respective CHHSLs for residential and industrial land use.

Arsenic was detected in the soil sample analyzed for Title 22 metals (sample 1168-101-0.0) at a concentration of 5.5 mg/kg. This result is greater than the residential and industrial CHHSLs for arsenic of 0.07 mg/kg and 0.24 mg/kg, respectively. Arsenic is a naturally occurring element; therefore, the concentration was compared to regional background concentrations. The March 2008 DTSC publication *Determination of a Southern California Regional Background Arsenic Concentration in Soil* establishes a regional background for arsenic within Southern California including Los Angeles County using naturally occurring and anthropogenic concentrations of arsenic. The report finds that the upper-bound background concentration for arsenic within Los Angeles County is 12 mg/kg. None of the detected arsenic concentrations exceeded 12 mg/kg, and therefore, the arsenic concentration is considered to be consistent with background concentrations of arsenic.

6.3 Petroleum Hydrocarbons

Concentrations of what are suspected to be naturally occurring petroleum hydrocarbons were reported in the soil samples collected from the direct-push borings. These results indicate that soil containing petroleum hydrocarbons will likely be encountered during excavations for the proposed improvements. Soil generated during construction should be stockpiled and characterized for the potential presence of petroleum hydrocarbon constituents prior to being transported offsite for disposal, or if the soil is to be reused onsite the Los Angeles Regional Water Quality Control Board should be consulted to confirm that reuse of petroleum-containing soil as fill is acceptable.

6.4 Worker Protection

Per Caltrans' requirements, contractor(s) should prepare a project-specific Health and Safety Plan (HSP) to prevent or minimize worker exposure to lead-impacted and petroleum hydrocarbon containing soil. The HSP should include a Lead Compliance Plan outlining protocols for

environmental and personnel monitoring, requirements for personal protective equipment, and other appropriate health and safety protocols and procedures for the handling of lead-impacted soil.

Based on the results of this investigation and the reported presence of naturally occurring petroleum hydrocarbons in soil, the contactor(s) should take precautions to minimize contact with suspected petroleum hydrocarbon containing soil excavated during construction. Additionally, although measureable concentrations of methane and hydrogen sulfide were not recorded during this investigation, there is a potential for them to be encountered during excavations at the Site. The contractor should conduct monitoring to test for methane and other combustible gasses, hydrogen sulfide, VOCs, and oxygen levels during earthwork in suspected petroleum containing soils.

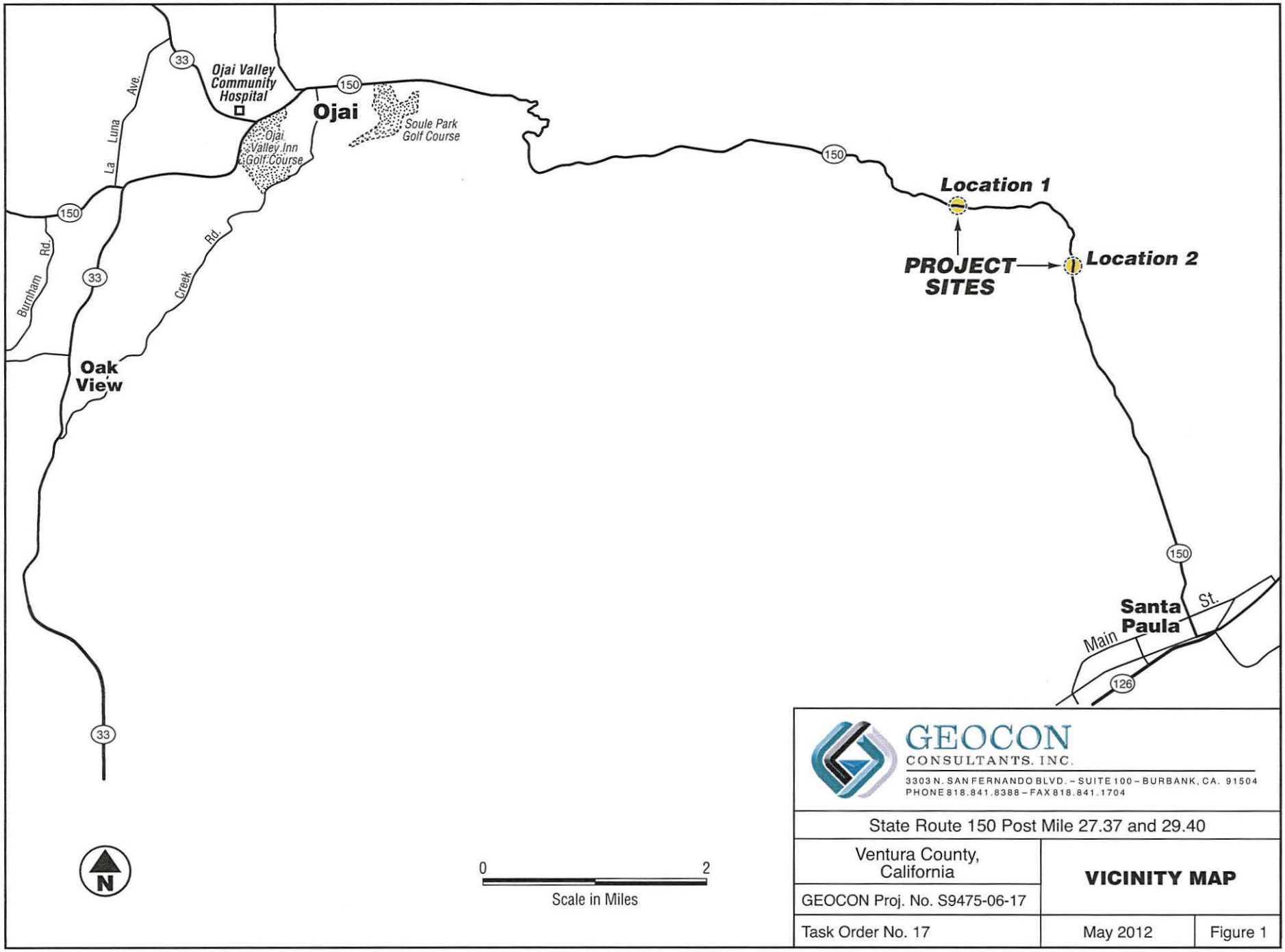
7. REPORT LIMITATIONS

This report has been prepared exclusively for Caltrans. The information obtained is only relevant as of the date of the latest site visit and will require an update to reflect additional information obtained.

The conclusions and recommendations presented herein are based on a limited number of samples collected from in-place soil location according to Caltrans-prescribed protocol. The purpose of these sampling and characterization activities was to reasonably predict the character of soil to be disturbed for planned construction activities within the described limits of the Caltrans right-of-way.

The Client should recognize that this report is not a comprehensive site characterization and should not be construed as such. The appropriate regulatory agency may require additional investigations. The findings and conclusions as presented in this report are predicated on the results of the limited soil sampling and laboratory analyses performed. In addition, the information obtained is not intended to address potential impacts related to sources other than those specified herein.

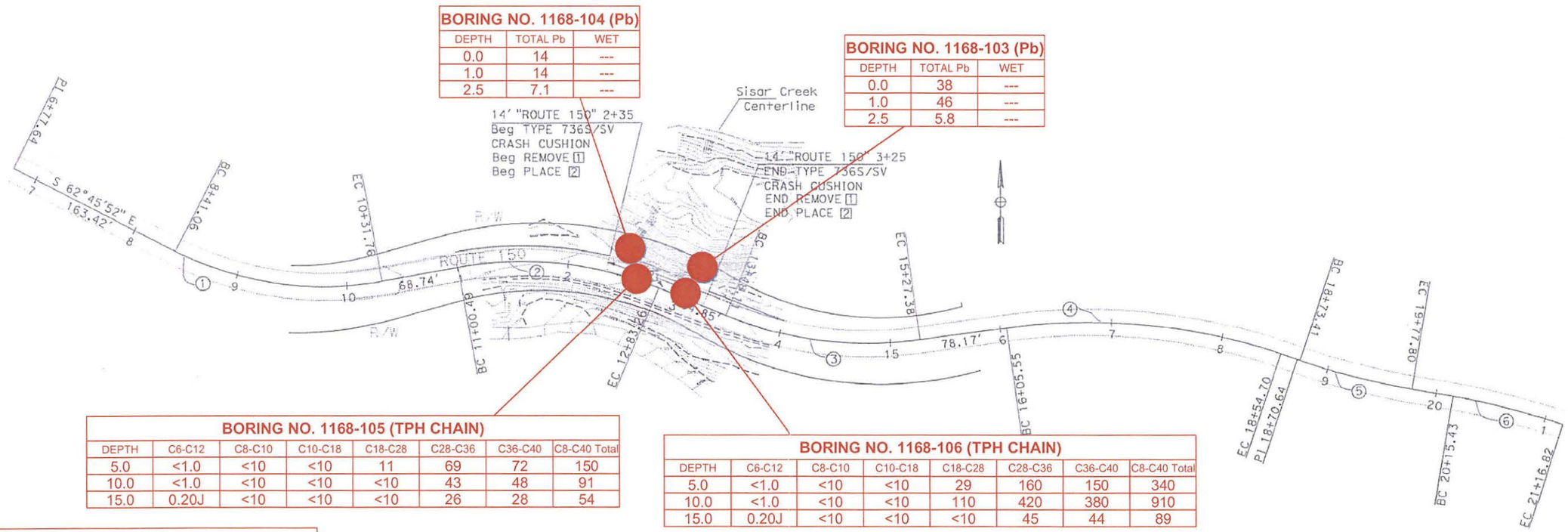
Therefore, the report should only be deemed conclusive with respect to the information obtained. No guarantee or warranty of the results of the report is implied within the intent of this report or any subsequent reports, correspondence, or consultation, either express or implied. Geocon strived to perform the services summarized herein in accordance with the local standard of care in the geographic region at the time the services were rendered.



GEOCON
CONSULTANTS, INC.
3303 N. SAN FERNANDO BLVD. – SUITE 100 – BURBANK, CA. 91504
PHONE 818.841.8388 – FAX 818.841.1704

State Route 150 Post Mile 27.37 and 29.40

Ventura County, California	**VICINITY MAP**	
GEOCON Proj. No. S9475-06-17		
Task Order No. 17	May 2012	Figure 1



BORING NO. 1168-104 (Pb)		
DEPTH	TOTAL Pb	WET
0.0	14	---
1.0	14	---
2.5	7.1	---

BORING NO. 1168-103 (Pb)		
DEPTH	TOTAL Pb	WET
0.0	38	---
1.0	46	---
2.5	5.8	---

BORING NO. 1168-105 (TPH CHAIN)							
DEPTH	C6-C12	C8-C10	C10-C18	C18-C28	C28-C36	C36-C40	C8-C40 Total
5.0	<1.0	<10	<10	11	69	72	150
10.0	<1.0	<10	<10	<10	43	48	91
15.0	0.20J	<10	<10	<10	26	28	54

BORING NO. 1168-106 (TPH CHAIN)							
DEPTH	C6-C12	C8-C10	C10-C18	C18-C28	C28-C36	C36-C40	C8-C40 Total
5.0	<1.0	<10	<10	29	160	150	340
10.0	<1.0	<10	<10	110	420	380	910
15.0	0.20J	<10	<10	<10	45	44	89

LEGEND

- ● -Approximate Boring Location
- TOTAL Pb -Total Lead (Pb) Results in mg/kg
- WET -Wet Results in mg/l
- C8-C40 Total -Total Petroleum Hydrocarbons (TPH) Chain Results in mg/kg
- DEPTH -Depth in Feet
- C6-C12 -Range of Total TPH Chain Analyzed
- <1.0 or <10 -Not Detected At or Above Laboratory Detection Limit
- J -Estimated Value: Concentration is between the method detection limit and the labratory practical quantitative limit

0 100' 200'

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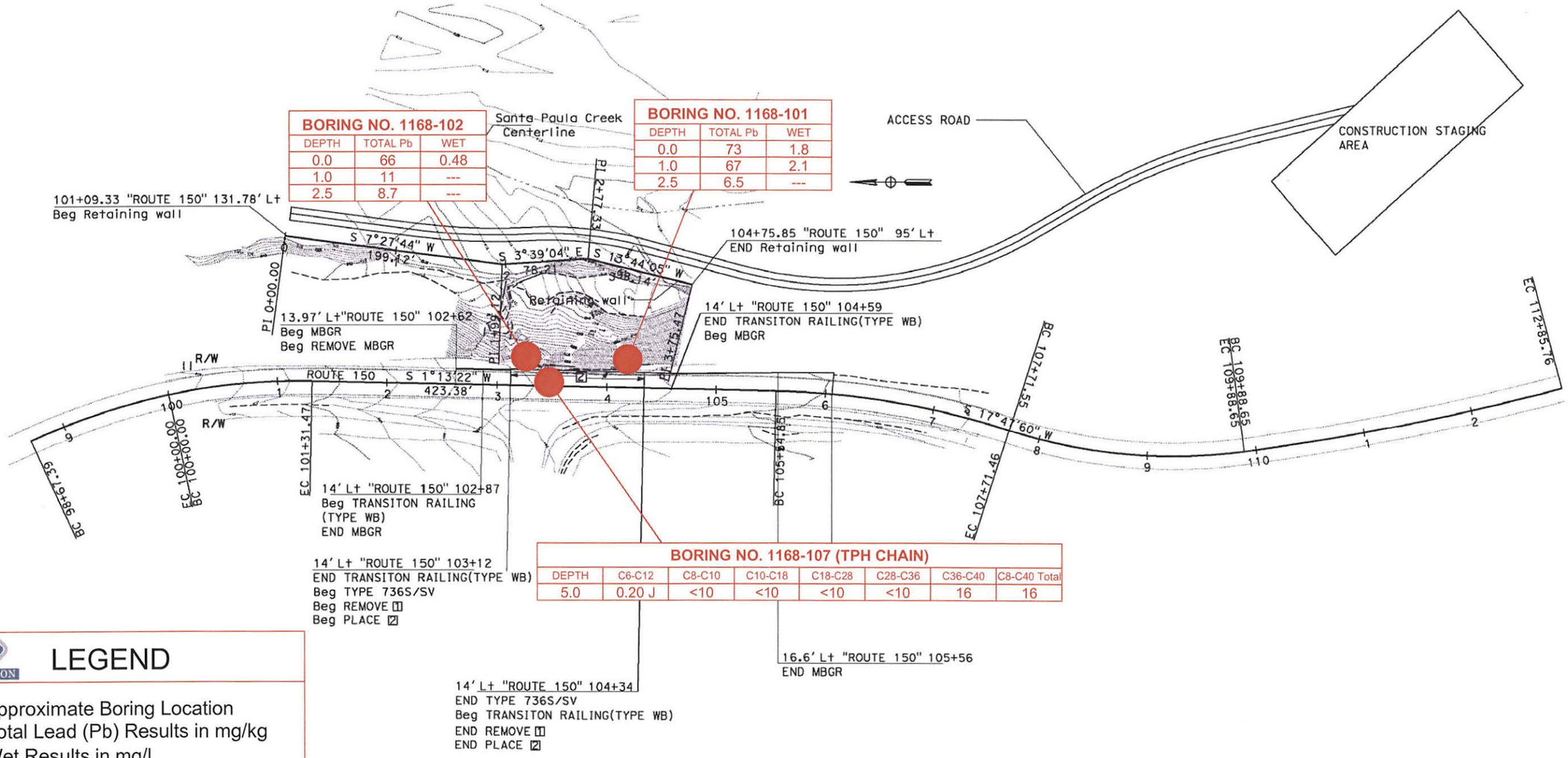
CHL | | 8000

SITE PLAN (LOCATION 1)

CALTRANS
STATE ROUTE 150
POST MILE 27.37/29.40
VENTURA COUNTY, CALIFORNIA

MAY 2012 | PROJECT NO. S9475-06-17 | FIG. 2



LEGEND

- ● -Approximate Boring Location
- TOTAL Pb -Total Lead (Pb) Results in mg/kg
- WET -Wet Results in mg/l
- C8-C40 Total -Total Petroleum Hydrocarbons (TPH) Chain Results in mg/kg
- DEPTH -Depth in Feet
- C6-C12 -Range of Total TPH Chain Analyzed
- <1.0 or <10 -Not Detected At or Above Laboratory Detection Limit
- J -Estimated Value: Concentration is between the method detection limit and the labratory practical quantitative limit

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CHL		8000

SITE PLAN (LOCATION 2)

CALTRANS
STATE ROUTE 150
POST MILE 27.37/29.40
VENTURA COUNTY, CALIFORNIA

MAY 2012	PROJECT NO. S9475-06-17	FIG. 3

TABLE 1

BORING COORDINATES AND SUMMARY OF TPH AND LEAD ANALYTICAL RESULTS

STATE ROUTE 150, POST MILE 27.37 AND 29.40

VENTURA COUNTY, CALIFORNIA

SAMPLE ID	SAMPLE DATE	LATITUDE	LONGITUDE	TPH C6-C12	TPH C8-C10	TPH C10-C18	TPH C18-C28	TPH C28-C36	TPH C36-C40	TPH C8-C40 TOTAL	LEAD	WET LEAD
				(mg/kg)								(mg/l)
LOCATION 1												
1168-103-0	4/10/2012	34.42688322	119.1097047	---	---	---	---	---	---	---	38	---
1168-103-1	4/10/2012			---	---	---	---	---	---	---	46	---
1168-103-2.5	4/10/2012			---	---	---	---	---	---	---	5.8	---
1168-104-0	4/10/2012	34.42692636	119.1098125	---	---	---	---	---	---	---	14	---
1168-104-1	4/10/2012			---	---	---	---	---	---	---	14	---
1168-104-2.5	4/10/2012			---	---	---	---	---	---	---	7.1	---
1168-105-5	4/10/2012	34.42691084	119.1097859	<1.0	<10	<10	11	69	72	150	---	---
1168-105-10	4/10/2012			<1.0	<10	<10	<10	43	48	91	---	---
1168-105-15	4/10/2012			0.20 J	<10	<10	<10	26	28	54	---	---
1168-106-5	4/10/2012	34.42690249	119.109745	<1.0	<10	<10	29	160	150	340	---	---
1168-106-10	4/10/2012			<1.0	<10	<10	110	420	380	910	---	---
1168-106-15	4/10/2012			0.21 J	<10	<10	<10	45	44	89	---	---
LOCATION 2												
1168-101-0	4/10/2012	34.41621914	119.0847327	---	---	---	---	---	---	---	73	1.8
1168-101-1	4/10/2012			---	---	---	---	---	---	---	67	2.1
1168-101-2.5	4/10/2012			---	---	---	---	---	---	---	6.5	---
1168-102-0	4/10/2012	34.41661235	119.0847182	---	---	---	---	---	---	---	66	0.48
1168-102-1	4/10/2012			---	---	---	---	---	---	---	11	---
1168-102-2.5	4/10/2012			---	---	---	---	---	---	---	8.7	---
1168-107-5	4/10/2012	34.41650892	119.0847621	0.20 J	<10	<10	<10	<10	16	16	---	---

Notes:

TPH = total petroluem hydrocarbons at carbon chain range specified

mg/kg = milligrams per kilogram

mg/l = milligrams per liter

< = Not detected above the laboratory detection limit specified

--- = Not analyzed

J = Analyte detected below the Practical Quantitation Limit but above or equal to the Method Detection Limit. Result is an estimated concentration.

TABLE 2

SUMMARY OF TITLE 22 METALS ANALYTICAL RESULTS

STATE ROUTE 150, POST MILE 27.37 AND 29.40

VENTURA COUNTY, CALIFORNIA

Sample ID	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
LOCATION 2																	
1168-101-0.0	<2.0	5.5	220	0.41 J	1.3	23	5.2	23	73	0.03 J	4.0	29	<1.0	0.11 J	<1.0	32	74
TTLC	500	500	10,000	75	100	2,500	8,000	2,500	1,000	20	3,500	2,000	100	500	700	2,400	5,000
10 X STLC	150	50	1,000	7.50	10	50	800	250	50	2.0	3,500	2,000	100	50	70	240	2,500
CHHSLs Ind	380	0.24	6,300	190	7.5	10,000	3,200/	38,000	320	180	4,800	16,000	4,800	4,800	63	6,700	100,000
Res	30	0.07	5,200	16	1.7	10,000	600	3,000	80	18	380	1,600	380	380	5.0	530	23,000
Background Concentrations [1]																	
Minimum	0.15	0.6	133	0.25	0.05	23	2.7	9.1	12.4	0.05	0.10	9.0	0.015	0.1	5.3	39	88
Maximum	1.95	12	1,400	2.70	1.7	1,579	46.9	96.4	97.1	0.90	9.6	509	0.43	8.3	36.2	288	236
Mean	0.60	3.5	509	1.28	0.36	122	14.9	28.7	23.9	0.26	1.3	57	0.058	0.8	15.7	112	149

Notes:

Units shown in milligrams per kilogram (mg/kg)

< = Not detected above the laboratory detection limit specified

J = Estimated value - concentration is between the method detection limit and the laboratory practical quantitation limit

TTLC = Total Threshold Limit Concentration

STLC = Soluble Threshold Limit Concentration

CHHSLs = California Environmental Protection Agency, California Human Health Screening Levels for industrial (Ind) and residential (Res) use

TTLC, STLC, and CHHSLs shown for chromium are for chromium III.

[1] *Background Concentrations of Trace and Major Elements in California Soils*

(Kearney Foundation of Soil Science, Division of Agriculture and Natural Resources, University of California, March 1996)

Maximum arsenic background concentration source - *Determination of a Southern California Regional Background Arsenic Concentration in Soil,* DTSC March 2008

APPENDIX A

ADVANCED TECHNOLOGY LABORATORIES

April 25, 2012

ELAP No.: 1838
NELAP No.: 02107CA
CSDLAC No.: 10196
ORELAP No.: CA300003

Mike Conkle
Geocon Consultants, Inc.
3303 N. San Fernando Blvd., Suite 100
Burbank, CA 91504
Tel: (818) 841-8388
Fax:(818) 841-1704

Re: ATL Work Order Number : 1201321
Client Reference : VEN-150, S9475-06-17

Enclosed are the results for sample(s) received on April 10, 2012 by Advanced Technology Laboratories. The sample(s) are tested for the parameters as indicated on the enclosed chain of custody in accordance with applicable laboratory certifications. The laboratory results contained in this report specifically pertains to the sample(s) submitted.

Thank you for the opportunity to serve the needs of your company. If you have any questions, please feel free to contact me or your Project Manager.

Sincerely,

Eddie Rodriguez
Laboratory Director

Geocon Consultants, Inc.	Project Number : VEN-150, S9475-06-17
3303 N. San Fernando Blvd., Suite 100	Report To : Mike Conkle
Burbank , CA 91504	Reported : 04/25/2012

SUMMARY OF SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
1168-101-0	1201321-01	Soil	4/10/12 8:50	4/10/12 18:35
1168-101-1	1201321-02	Soil	4/10/12 8:55	4/10/12 18:35
1168-101-2.5	1201321-03	Soil	4/10/12 8:58	4/10/12 18:35
1168-102-0	1201321-04	Soil	4/10/12 9:23	4/10/12 18:35
1168-102-1	1201321-05	Soil	4/10/12 9:25	4/10/12 18:35
1168-102-2.5	1201321-06	Soil	4/10/12 9:30	4/10/12 18:35
1168-103-0	1201321-07	Soil	4/10/12 12:52	4/10/12 18:35
1168-103-1	1201321-08	Soil	4/10/12 12:55	4/10/12 18:35
1168-103-2.5	1201321-09	Soil	4/10/12 13:00	4/10/12 18:35
1168-104-0	1201321-10	Soil	4/10/12 13:20	4/10/12 18:35
1168-104-1	1201321-11	Soil	4/10/12 13:22	4/10/12 18:35
1168-104-2.5	1201321-12	Soil	4/10/12 13:26	4/10/12 18:35
1168-107-5	1201321-13	Soil	4/10/12 10:27	4/10/12 18:35
1168-105-5	1201321-14	Soil	4/10/12 13:05	4/10/12 18:35
1168-105-10	1201321-15	Soil	4/10/12 13:11	4/10/12 18:35
1168-105-15	1201321-16	Soil	4/10/12 13:22	4/10/12 18:35
1168-106-5	1201321-17	Soil	4/10/12 13:45	4/10/12 18:35
1168-106-10	1201321-18	Soil	4/10/12 13:50	4/10/12 18:35
1168-106-15	1201321-19	Soil	4/10/12 13:59	4/10/12 18:35
1168-EB	1201321-20	Water	4/10/12 14:05	4/10/12 18:35

CASE NARRATIVE

Results were J-flagged. "J" is used to flag those results that are between the PQL (Practical Quantitation Limit) and the calculated MDL (Method Detection Limit). Results that are "J" flagged are estimated values since it becomes difficult to accurately quantitate the analyte near the MDL.

Geocon Consultants, Inc.	Project Number : VEN-150, S9475-06-17
3303 N. San Fernando Blvd., Suite 100	Report To : Mike Conkle
Burbank , CA 91504	Reported : 04/25/2012

Lead by ICP-AES EPA 6010B

Analyte: Lead **Analyst: SB**

Laboratory ID	Client Sample ID	Result	Units	PQL	MDL	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1201321-01	1168-101-0	**73**	mg/kg	1.0	0.13	1	B2D0560	04/16/2012	04/17/12 12:47	
1201321-02	1168-101-1	**67**	mg/kg	1.0	0.13	1	B2D0560	04/16/2012	04/17/12 12:47	
1201321-03	1168-101-2.5	**6.5**	mg/kg	1.0	0.13	1	B2D0560	04/16/2012	04/17/12 12:48	
1201321-04	1168-102-0	**66**	mg/kg	1.0	0.13	1	B2D0560	04/16/2012	04/17/12 12:49	
1201321-05	1168-102-1	**11**	mg/kg	1.0	0.13	1	B2D0560	04/16/2012	04/17/12 12:51	
1201321-06	1168-102-2.5	**8.7**	mg/kg	1.0	0.13	1	B2D0560	04/16/2012	04/17/12 12:52	
1201321-07	1168-103-0	**38**	mg/kg	1.0	0.13	1	B2D0560	04/16/2012	04/17/12 12:53	
1201321-08	1168-103-1	**46**	mg/kg	1.0	0.13	1	B2D0560	04/16/2012	04/17/12 12:53	
1201321-09	1168-103-2.5	**5.8**	mg/kg	1.0	0.13	1	B2D0560	04/16/2012	04/17/12 12:54	
1201321-10	1168-104-0	**14**	mg/kg	1.0	0.13	1	B2D0565	04/16/2012	04/17/12 13:00	
1201321-11	1168-104-1	**14**	mg/kg	1.0	0.13	1	B2D0565	04/16/2012	04/17/12 13:01	
1201321-12	1168-104-2.5	**7.1**	mg/kg	1.0	0.13	1	B2D0565	04/16/2012	04/17/12 13:02	

Lead by ICP-AES EPA 6010B

Analyte: Lead **Analyst: SB**

Laboratory ID	Client Sample ID	Result	Units	PQL	MDL	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1201321-20	1168-EB	**0.0009**	mg/L	0.005	0.0008	1	B2D0516	04/13/2012	04/13/12 15:45	J

STLC Lead by AA (Direct Aspiration) by EPA 7420

Analyte: Lead **Analyst: CB**

Laboratory ID	Client Sample ID	Result	Units	PQL	MDL	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
1201321-01	1168-101-0	**1.8**	mg/L	0.50	0.06	1	B2D0812	04/23/2012	04/23/12 19:55	
1201321-02	1168-101-1	**2.1**	mg/L	0.50	0.06	1	B2D0812	04/23/2012	04/23/12 19:56	
1201321-04	1168-102-0	**0.48**	mg/L	0.50	0.06	1	B2D0812	04/23/2012	04/23/12 19:57	J

Geocon Consultants, Inc.	Project Number : VEN-150, S9475-06-17
3303 N. San Fernando Blvd., Suite 100	Report To : Mike Conkle
Burbank , CA 91504	Reported : 04/25/2012

Client Sample ID 1168-107-5
Lab ID: 1201321-13

Gasoline Range Organics by EPA 8015B

Analyst: TP

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
T/R Hydrocarbons: C6-C12	**0.20**	1.0	0.20	1	B2D0455	04/12/2012	04/12/12 11:52	J
Surrogate: 4-Bromofluorobenzene	*76.9 %*		*69 - 158*		B2D0455	04/12/2012	*04/12/12 11:52*	

Hydrocarbon Chain Distribution by GC/FID

Analyst: CR

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
T/R Hydrocarbons: C8-C10	ND	10	10	1	B2D0514	04/13/2012	04/19/12 00:11	
T/R Hydrocarbons: C10-C18	ND	10	10	1	B2D0514	04/13/2012	04/19/12 00:11	
T/R Hydrocarbons: C18-C28	ND	10	10	1	B2D0514	04/13/2012	04/19/12 00:11	
T/R Hydrocarbons: C28-C36	ND	10	10	1	B2D0514	04/13/2012	04/19/12 00:11	
T/R Hydrocarbons: C36-C40	**16**	10	10	1	B2D0514	04/13/2012	04/19/12 00:11	
T/R Hydrocarbons: C8-C40 Total (HS	**16**	10	10	1	B2D0514	04/13/2012	04/19/12 00:11	
Surrogate: p-Terphenyl	*70.6 %*		*62 - 136*		B2D0514	04/13/2012	*04/19/12 00:11*	

Client Sample ID 1168-105-5
Lab ID: 1201321-14

Gasoline Range Organics by EPA 8015B

Analyst: TP

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
T/R Hydrocarbons: C6-C12	ND	1.0	0.20	1	B2D0455	04/12/2012	04/12/12 12:07	
Surrogate: 4-Bromofluorobenzene	*85.3 %*		*69 - 158*		B2D0455	04/12/2012	*04/12/12 12:07*	

Hydrocarbon Chain Distribution by GC/FID

Analyst: CR

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
T/R Hydrocarbons: C8-C10	ND	10	10	1	B2D0514	04/13/2012	04/19/12 01:18	
T/R Hydrocarbons: C10-C18	ND	10	10	1	B2D0514	04/13/2012	04/19/12 01:18	
T/R Hydrocarbons: C18-C28	**11**	10	10	1	B2D0514	04/13/2012	04/19/12 01:18	
T/R Hydrocarbons: C28-C36	**69**	10	10	1	B2D0514	04/13/2012	04/19/12 01:18	
T/R Hydrocarbons: C36-C40	**72**	10	10	1	B2D0514	04/13/2012	04/19/12 01:18	
T/R Hydrocarbons: C8-C40 Total (HS	**150**	10	10	1	B2D0514	04/13/2012	04/19/12 01:18	
Surrogate: p-Terphenyl	*79.6 %*		*62 - 136*		B2D0514	04/13/2012	*04/19/12 01:18*	

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Client Sample ID 1168-105-10
Lab ID: 1201321-15

Gasoline Range Organics by EPA 8015B — **Analyst: TP**

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
T/R Hydrocarbons: C6-C12	ND	1.0	0.20	1	B2D0455	04/12/2012	04/12/12 12:23	
Surrogate: 4-Bromofluorobenzene	*118 %*	*69 - 158*			B2D0455	04/12/2012	*04/12/12 12:23*	

Hydrocarbon Chain Distribution by GC/FID — **Analyst: CR**

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
T/R Hydrocarbons: C8-C10	ND	10	10	1	B2D0514	04/13/2012	04/19/12 01:01	
T/R Hydrocarbons: C10-C18	ND	10	10	1	B2D0514	04/13/2012	04/19/12 01:01	
T/R Hydrocarbons: C18-C28	ND	10	10	1	B2D0514	04/13/2012	04/19/12 01:01	
T/R Hydrocarbons: C28-C36	**43**	10	10	1	B2D0514	04/13/2012	04/19/12 01:01	
T/R Hydrocarbons: C36-C40	**48**	10	10	1	B2D0514	04/13/2012	04/19/12 01:01	
T/R Hydrocarbons: C8-C40 Total (HS	**91**	10	10	1	B2D0514	04/13/2012	04/19/12 01:01	
Surrogate: p-Terphenyl	*74.0 %*	*62 - 136*			B2D0514	04/13/2012	*04/19/12 01:01*	

Client Sample ID 1168-105-15
Lab ID: 1201321-16

Gasoline Range Organics by EPA 8015B — **Analyst: TP**

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
T/R Hydrocarbons: C6-C12	**0.20**	1.0	0.20	1	B2D0455	04/12/2012	04/12/12 12:38	J
Surrogate: 4-Bromofluorobenzene	*91.8 %*	*69 - 158*			B2D0455	04/12/2012	*04/12/12 12:38*	

Hydrocarbon Chain Distribution by GC/FID — **Analyst: CR**

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
T/R Hydrocarbons: C8-C10	ND	10	10	1	B2D0514	04/13/2012	04/19/12 00:28	
T/R Hydrocarbons: C10-C18	ND	10	10	1	B2D0514	04/13/2012	04/19/12 00:28	
T/R Hydrocarbons: C18-C28	ND	10	10	1	B2D0514	04/13/2012	04/19/12 00:28	
T/R Hydrocarbons: C28-C36	**26**	10	10	1	B2D0514	04/13/2012	04/19/12 00:28	
T/R Hydrocarbons: C36-C40	**28**	10	10	1	B2D0514	04/13/2012	04/19/12 00:28	
T/R Hydrocarbons: C8-C40 Total (HS	**54**	10	10	1	B2D0514	04/13/2012	04/19/12 00:28	
Surrogate: p-Terphenyl	*84.7 %*	*62 - 136*			B2D0514	04/13/2012	*04/19/12 00:28*	

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Client Sample ID 1168-106-5
Lab ID: 1201321-17

Gasoline Range Organics by EPA 8015B — **Analyst: TP**

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
T/R Hydrocarbons: C6-C12	ND	1.0	0.20	1	B2D0455	04/12/2012	04/12/12 12:54	
Surrogate: 4-Bromofluorobenzene	*116 %*	*69 - 158*			B2D0455	04/12/2012	*04/12/12 12:54*	

Hydrocarbon Chain Distribution by GC/FID — **Analyst: CR**

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
T/R Hydrocarbons: C8-C10	ND	10	10	1	B2D0514	04/13/2012	04/19/12 01:35	
T/R Hydrocarbons: C10-C18	ND	10	10	1	B2D0514	04/13/2012	04/19/12 01:35	
T/R Hydrocarbons: C18-C28	**29**	10	10	1	B2D0514	04/13/2012	04/19/12 01:35	
T/R Hydrocarbons: C28-C36	**160**	10	10	1	B2D0514	04/13/2012	04/19/12 01:35	
T/R Hydrocarbons: C36-C40	**150**	10	10	1	B2D0514	04/13/2012	04/19/12 01:35	
T/R Hydrocarbons: C8-C40 Total (HS	**340**	10	10	1	B2D0514	04/13/2012	04/19/12 01:35	
Surrogate: p-Terphenyl	*75.4 %*	*62 - 136*			B2D0514	04/13/2012	*04/19/12 01:35*	

Client Sample ID 1168-106-10
Lab ID: 1201321-18

Gasoline Range Organics by EPA 8015B — **Analyst: TP**

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
T/R Hydrocarbons: C6-C12	ND	1.0	0.20	1	B2D0455	04/12/2012	04/12/12 13:10	
Surrogate: 4-Bromofluorobenzene	*74.8 %*	*69 - 158*			B2D0455	04/12/2012	*04/12/12 13:10*	

Hydrocarbon Chain Distribution by GC/FID — **Analyst: CR**

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
T/R Hydrocarbons: C8-C10	ND	10	10	1	B2D0514	04/13/2012	04/19/12 01:51	
T/R Hydrocarbons: C10-C18	ND	10	10	1	B2D0514	04/13/2012	04/19/12 01:51	
T/R Hydrocarbons: C18-C28	**110**	10	10	1	B2D0514	04/13/2012	04/19/12 01:51	
T/R Hydrocarbons: C28-C36	**420**	10	10	1	B2D0514	04/13/2012	04/19/12 01:51	
T/R Hydrocarbons: C36-C40	**380**	10	10	1	B2D0514	04/13/2012	04/19/12 01:51	
T/R Hydrocarbons: C8-C40 Total (HS	**910**	10	10	1	B2D0514	04/13/2012	04/19/12 01:51	
Surrogate: p-Terphenyl	*72.1 %*	*62 - 136*			B2D0514	04/13/2012	*04/19/12 01:51*	

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Client Sample ID 1168-106-15
Lab ID: 1201321-19

Gasoline Range Organics by EPA 8015B

Analyst: TP

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
T/R Hydrocarbons: C6-C12	**0.21**	1.0	0.20	1	B2D0455	04/12/2012	04/12/12 13:25	J
Surrogate: 4-Bromofluorobenzene	*84.8 %*	*69 - 158*			B2D0455	04/12/2012	*04/12/12 13:25*	

Hydrocarbon Chain Distribution by GC/FID

Analyst: CR

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
T/R Hydrocarbons: C8-C10	ND	10	10	1	B2D0514	04/13/2012	04/19/12 00:44	
T/R Hydrocarbons: C10-C18	ND	10	10	1	B2D0514	04/13/2012	04/19/12 00:44	
T/R Hydrocarbons: C18-C28	ND	10	10	1	B2D0514	04/13/2012	04/19/12 00:44	
T/R Hydrocarbons: C28-C36	**45**	10	10	1	B2D0514	04/13/2012	04/19/12 00:44	
T/R Hydrocarbons: C36-C40	**44**	10	10	1	B2D0514	04/13/2012	04/19/12 00:44	
T/R Hydrocarbons: C8-C40 Total (HS	**89**	10	10	1	B2D0514	04/13/2012	04/19/12 00:44	
Surrogate: p-Terphenyl	*70.6 %*	*62 - 136*			B2D0514	04/13/2012	*04/19/12 00:44*	

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QUALITY CONTROL SECTION

Lead by ICP-AES EPA 6010B - Quality Control

Analyte	Result (mg/L)	PQL (mg/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B2D0516 - EPA 3010A									
Blank (B2D0516-BLK1)					Prepared: 4/13/2012 Analyzed: 4/13/2012				
Lead	0.001	0.005			NR				J
LCS (B2D0516-BS1)					Prepared: 4/13/2012 Analyzed: 4/13/2012				
Lead	0.97	0.005	1.00		97.1	80 - 120			
Duplicate (B2D0516-DUP1)		**Source: 1201321-20**			Prepared: 4/13/2012 Analyzed: 4/13/2012				
Lead	0.008	0.005		0.0009	NR		160	20	R
Matrix Spike (B2D0516-MS1)		**Source: 1201321-20**			Prepared: 4/13/2012 Analyzed: 4/13/2012				
Lead	2.3	0.005	2.50	0.0009	90.3	78 - 117			
Matrix Spike Dup (B2D0516-MSD1)		**Source: 1201321-20**			Prepared: 4/13/2012 Analyzed: 4/13/2012				
Lead	2.3	0.005	2.50	0.0009	90.2	78 - 117	0.0943	20	
Batch B2D0560 - EPA 3050 Modified									
Blank (B2D0560-BLK1)					Prepared: 4/16/2012 Analyzed: 4/17/2012				
Lead	ND	1.0			NR				
Blank (B2D0560-BLK2)					Prepared: 4/16/2012 Analyzed: 4/17/2012				
Lead	ND	1.0			NR				
LCS (B2D0560-BS1)					Prepared: 4/16/2012 Analyzed: 4/17/2012				
Lead	53	1.0	50.0		105	80 - 120			
Duplicate (B2D0560-DUP1)		**Source: 1201321-09**			Prepared: 4/16/2012 Analyzed: 4/17/2012				
Lead	5.9	1.0		5.8	NR		1.45	20	
Duplicate (B2D0560-DUP2)		**Source: 1201318-45**			Prepared: 4/16/2012 Analyzed: 4/17/2012				
Lead	6.9	1.0		8.7	NR		23.3	20	R
Matrix Spike (B2D0560-MS1)		**Source: 1201321-09**			Prepared: 4/16/2012 Analyzed: 4/17/2012				
Lead	220	1.0	250	5.8	84.1	46 - 116			
Matrix Spike (B2D0560-MS2)		**Source: 1201318-45**			Prepared: 4/16/2012 Analyzed: 4/17/2012				
Lead	220	1.0	250	8.7	85.5	46 - 116			
Matrix Spike Dup (B2D0560-MSD1)		**Source: 1201321-09**			Prepared: 4/16/2012 Analyzed: 4/17/2012				
Lead	220	1.0	250	5.8	85.2	46 - 116	1.22	20	
Batch B2D0565 - EPA 3050 Modified									
Blank (B2D0565-BLK1)					Prepared: 4/16/2012 Analyzed: 4/17/2012				
Lead	ND	1.0			NR				
LCS (B2D0565-BS1)					Prepared: 4/16/2012 Analyzed: 4/17/2012				

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Lead by ICP-AES EPA 6010B - Quality Control (cont'd)

Analyte	Result (mg/kg)	PQL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B2D0565 - EPA 3050 Modified (continued)									
LCS (B2D0565-BS1) - Continued					Prepared: 4/16/2012 Analyzed: 4/17/2012				
Lead	51	1.0	50.0		101	80 - 120			
Duplicate (B2D0565-DUP1)		**Source: 1201321-12**			Prepared: 4/16/2012 Analyzed: 4/17/2012				
Lead	6.8	1.0		7.1	NR		3.93	20	
Matrix Spike (B2D0565-MS1)		**Source: 1201321-12**			Prepared: 4/16/2012 Analyzed: 4/17/2012				
Lead	220	1.0	250	7.1	87.0	46 - 116			
Matrix Spike Dup (B2D0565-MSD1)		**Source: 1201321-12**			Prepared: 4/16/2012 Analyzed: 4/17/2012				
Lead	230	1.0	250	7.1	90.2	46 - 116	3.56	20	
Batch S2D0228 - B2C0315									
Instrument Blank (S2D0228-IBL1)					Prepared: 4/17/2012 Analyzed: 4/17/2012				
Lead	ND	0.005			NR				

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STLC Lead by AA (Direct Aspiration) by EPA 7420 - Quality Control

Analyte	Result (mg/L)	PQL (mg/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B2D0812 - STLC Extraction									
Blank (B2D0812-BLK1)					Prepared: 4/23/2012 Analyzed: 4/23/2012				
Lead	ND	0.50			NR				
Blank (B2D0812-BLK2)					Prepared: 4/23/2012 Analyzed: 4/23/2012				
Lead	ND	0.50			NR				
LCS (B2D0812-BS1)					Prepared: 4/23/2012 Analyzed: 4/23/2012				
Lead	5.1	0.05	5.00		101	80 - 120			
Duplicate (B2D0812-DUP1)		**Source: 1201410-36**			Prepared: 4/23/2012 Analyzed: 4/23/2012				
Lead	2.4	0.50		1.5	NR		44.2	20	R
Duplicate (B2D0812-DUP2)		**Source: 1201410-06**			Prepared: 4/23/2012 Analyzed: 4/23/2012				
Lead	1.1	0.50		1.4	NR		21.8	20	R
Matrix Spike (B2D0812-MS1)		**Source: 1201410-36**			Prepared: 4/23/2012 Analyzed: 4/23/2012				
Lead	6.6	0.05	5.00	1.5	101	80 - 120			
Matrix Spike (B2D0812-MS2)		**Source: 1201410-06**			Prepared: 4/23/2012 Analyzed: 4/23/2012				
Lead	6.4	0.05	5.00	1.4	99.6	80 - 120			
Matrix Spike Dup (B2D0812-MSD1)		**Source: 1201410-36**			Prepared: 4/23/2012 Analyzed: 4/23/2012				
Lead	6.6	0.05	5.00	1.5	101	80 - 120	0.328	20	

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Gasoline Range Organics by EPA 8015B - Quality Control

Analyte	Result (mg/kg)	PQL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B2D0455 - GCVOAS									
Blank (B2D0455-BLK1)					Prepared: 4/12/2012 Analyzed: 4/12/2012				
T/R Hydrocarbons: C6-C12	0.20	1.0			NR				J
Surrogate: 4-Bromofluorobenzene	*0.12*		*0.100*		*117*	*69 - 158*			
LCS (B2D0455-BS1)					Prepared: 4/12/2012 Analyzed: 4/12/2012				
T/R Hydrocarbons: C6-C12	4.9	1.0	5.00		97.4	70 - 130			
Surrogate: 4-Bromofluorobenzene	*0.11*		*0.100*		*111*	*69 - 158*			
LCS Dup (B2D0455-BSD1)					Prepared: 4/12/2012 Analyzed: 4/12/2012				
T/R Hydrocarbons: C6-C12	4.8	1.0	5.00		95.4	70 - 130	2.05	20	
Surrogate: 4-Bromofluorobenzene	*0.11*		*0.100*		*113*	*69 - 158*			
Duplicate (B2D0455-DUP1)		**Source: 1201321-19**			Prepared: 4/12/2012 Analyzed: 4/12/2012				
T/R Hydrocarbons: C6-C12	ND	1.0		0.21	NR			20	
Surrogate: 4-Bromofluorobenzene	*0.12*		*0.100*		*117*	*69 - 158*			
Matrix Spike (B2D0455-MS1)		**Source: 1201321-19**			Prepared: 4/12/2012 Analyzed: 4/12/2012				
T/R Hydrocarbons: C6-C12	3.9	1.0	5.00	0.21	73.4	46 - 135			
Surrogate: 4-Bromofluorobenzene	*0.12*		*0.100*		*116*	*69 - 158*			
Matrix Spike Dup (B2D0455-MSD1)		**Source: 1201321-19**			Prepared: 4/12/2012 Analyzed: 4/12/2012				
T/R Hydrocarbons: C6-C12	4.3	1.0	5.00	0.21	82.1	46 - 135	10.6	20	
Surrogate: 4-Bromofluorobenzene	*0.12*		*0.100*		*122*	*69 - 158*			

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Hydrocarbon Chain Distribution by GC/FID - Quality Control

Analyte	Result (mg/kg)	PQL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B2D0514 - GCSEMI_DRO									
Blank (B2D0514-BLK1)					Prepared: 4/13/2012 Analyzed: 4/18/2012				
T/R Hydrocarbons: C8-C10	ND	10			NR				
T/R Hydrocarbons: C10-C18	ND	10			NR				
T/R Hydrocarbons: C18-C28	ND	10			NR				
T/R Hydrocarbons: C28-C36	ND	10			NR				
T/R Hydrocarbons: C36-C40	ND	10			NR				
T/R Hydrocarbons: C8-C40 Total (HS)	ND	10			NR				
Surrogate: p-Terphenyl	*110*		*160*		*71.6*	*62 - 136*			
LCS (B2D0514-BS1)					Prepared: 4/13/2012 Analyzed: 4/18/2012				
DRO	1300	10	1000		130	72 - 131			
Surrogate: p-Terphenyl	*120*		*160*		*76.8*	*62 - 136*			
Duplicate (B2D0514-DUP1)		**Source: 1201321-13**			Prepared: 4/13/2012 Analyzed: 4/18/2012				
DRO	ND	10		ND	NR			20	
Surrogate: p-Terphenyl	*120*		*160*		*75.5*	*62 - 136*			
Matrix Spike (B2D0514-MS1)		**Source: 1201295-01**			Prepared: 4/13/2012 Analyzed: 4/18/2012				
DRO	1300	10	1000	79	122	64 - 131			
Surrogate: p-Terphenyl	*110*		*160*		*68.2*	*62 - 136*			
Matrix Spike Dup (B2D0514-MSD1)		**Source: 1201295-01**			Prepared: 4/13/2012 Analyzed: 4/18/2012				
DRO	1400	10	1000	79	136	64 - 131	10.0	20	R
Surrogate: p-Terphenyl	*110*		*160*		*68.8*	*62 - 136*			

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Notes and Definitions

S4	Surrogate was diluted out.
R	RPD value outside acceptance criteria. Calculation is based on raw values.
J	Analyte detected below the Practical Quantitation Limit but above or equal to the Method Detection Limit. Result is an estimated concentration.
H2	Holding time for preparation or analysis exceeded.
ND	Analyte not detected at or above reporting limit
PQL	Practical Quantitation Limit
MDL	Method Detection Limit
NR	Not Reported
RPD	Relative Percent Difference

CHAIN OF CUSTODY RECORD

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P.O. #: _____
Logged By: _____ Date: _____

Method of Transport: Client ☐ ATL ☒ CA OverN ☐ FedEx ☐ Other: _____

Sample Condition Upon Receipt
1. CHILLED 5.4 Y ☑ N ☐ 4. SEALED Y ☐ N ☐
2. HEADSPACE (VOA) Y ☐ N ☐ 5. # OF SPLS MATCH COC Y ☐ N ☐
3. CONTAINER INTACT Y ☐ N ☐ 6. PRESERVED Y ☐ N ☐

Client: Geocon
Address: 3303 North San Fernando Blvd Suite 100
Tel: 818-841-8388
Attention: Mike Conkle
City: Burbank State: CA Zip Code: 91504
Fax: 818-841-1704
Project Name: VEN-150 Project #: S9475-06-17 Sampler: M. CONKLE (Signature)

Relinquished by: (Signature and Printed Name)	Date: 4/10/12	Time: 1617	Received by: (Signature and Printed Name)	Date: 4/10/12	Time: 1630
Relinquished by: (Signature and Printed Name)	Date: 4/10/12	Time: 0935	Received by: (Signature and Printed Name)	Date: 4/10/12	Time: 1835
Relinquished by: (Signature and Printed Name)	Date:	Time:	Received by: (Signature and Printed Name)	Date:	Time:

I hereby authorize ATL to perform the work indicated below:
Project Mgr /Submitter:
Mike Conkle
Print Name Date
Signature

Send Report To:
Attn: Mike Conkle
Co: Geocon Consultants Inc.
Addr: 3303 North San Fernando Blvd Suite 100
City: Burbank State: CA Zip: 91504

Bill To:
Attn: Mike Conkle
Co: Geocon Consultants Inc.
Addr: 3303 North San Fernando Blvd Suite 100
City: Burbank State: CA Zip: 91504

Special Instructions/Comments:
CT Contract 07A2729
Run samples with total lead greater than or equal to 50 mg/kg by WET. Run samples with WET results greater than or equal to 5.0 mg/l by DI-WET. Report MDLs and PQLs. Filter and preserve water sample at lab.

Sample/Records - Archival & Disposal
Unless otherwise requested by client, all samples will be disposed 45 days after receipt and records will be disposed 1 year after submittal of final report.

Storage Fees (applies when storage is requested):
- Sample :$2.00 / sample /mo (after 45 days)
- Records: $1 /ATL workorder /mo (after 1 year)

Circle or Add Analysis(es) Requested

SPECIFY APPROPRIATE MATRIX

PRESERVATION

QA/QC
RTNE ☐ CT ☐
SWRCB ☐ Logcode_____
OTHER _____

ITEM	LAB USE ONLY: Lab No.	Sample Description: Sample ID / Location	Date	Time	Total Lead by EPA Method 6010	TPH (C6-C40)	SOIL	WATER	GROUND WATER	WASTEWATER	TAT	Container(s) #	Container(s) Type	REMARKS
	1201321-01	1168-101-0	3/10/2012	850	x		x				E	1	G J	
	02	1168-101-1	3/10/2012	855	x		x				E	1	G J	
	03	1168-101-2.5	3/10/2012	858	x		x				E	1	G J	
	04	1168-102-0	3/10/2012	923	x		x				E	1	G J	
	05	1168-102-1	3/10/2012	925	x		x				E	1	G J	
	06	1168-102-2.5	3/10/2012	930	x		x				E	1	G J	
	07	1168-103-0	3/10/2012	1252	x		x				E	1	G J	
	08	1168-103-1	3/10/2012	1255	x		x				E	1	G J	
	09	1168-103-2.5	3/10/2012	1300	x		x				E	1	G J	
	10	1168-104-0	3/10/2012	1320	x		x				E	1	G J	
	11	1168-104-1	3/10/2012	1322	x		x				E	1	G J	
	12	1168-104-2.5	3/10/2012	1326	x		x				E	1	G J	
	13	1168-107-5	3/10/2012	1027		x	x				E	1	T	
	14	1168-105-5	3/10/2012	1305		x	x				E	1	T	
	15	1168-105-10	3/10/2012	1311		x	x				E	1	T	
	16	1168-105-15	3/10/2012	1322		x	x				E	1	T	
	17	1168-106-5	3/10/2012	1345		x	x				E	1	T	
	18	1168-106-10	3/10/2012	1350		x	x				E	1	T	
	19	1168-106-15	3/10/2012	1359		x	x				E	1	T	
	20	1168-EB	3/10/2012	1405	x			x			E	1	P	

- TAT starts 8AM the following day if samples received after 3 PM

TAT: ☐ A = Overnight ≤ 24 hrs ☐ B = Emergency Next Workday ☐ C = Critical 2 Workdays ☐ D = Urgent 3 Workdays ☑ E = Routine 7 Workdays

Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Tedlar G=Glass P=Plastic M=Metal

Preservatives:
H=HCl N=HNO_3 S=H_2SO_4 C=4°C
Z=$Zn(AC)_2$ O=NaOH T=$Na_2S_2O_3$

ADVANCED TECHNOLOGY LABORATORIES

May 03, 2012

ELAP No.: 1838
NELAP No.: 02107CA
CSDLAC No.: 10196
ORELAP No.: CA300003

Mike Conkle
Geocon Consultants, Inc.
3303 N. San Fernando Blvd., Suite 100
Burbank, CA 91504
Tel: (818) 841-8388
Fax:(818) 841-1704

Re: ATL Work Order Number : 1201321
Client Reference : VEN-150, S9475-06-17

Enclosed are the results for sample(s) received on April 10, 2012 by Advanced Technology Laboratories. The sample(s) are tested for the parameters as indicated on the enclosed chain of custody in accordance with applicable laboratory certifications. The laboratory results contained in this report specifically pertains to the sample(s) submitted.

Thank you for the opportunity to serve the needs of your company. If you have any questions, please feel free to contact me or your Project Manager.

Sincerely,

Eddie Rodriguez
Laboratory Director

Geocon Consultants, Inc.	Project Number : VEN-150, S9475-06-17
3303 N. San Fernando Blvd., Suite 100	Report To : Mike Conkle
Burbank , CA 91504	Reported : 05/03/2012

SUMMARY OF SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
1168-101-0	1201321-01	Soil	4/10/12 8:50	4/10/12 18:35

CASE NARRATIVE

Results were J-flagged. "J" is used to flag those results that are between the PQL (Practical Quantitation Limit) and the calculated MDL (Method Detection Limit). Results that are "J" flagged are estimated values since it becomes difficult to accurately quantitate the analyte near the MDL.

Geocon Consultants, Inc.	Project Number : VEN-150, S9475-06-17
3303 N. San Fernando Blvd., Suite 100	Report To : Mike Conkle
Burbank , CA 91504	Reported : 05/03/2012

Client Sample ID 1168-101-0

Lab ID: 1201321-01

Title 22 Metals by ICP-AES EPA 6010B **Analyst: SB**

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	2.0	0.08	1	B2E0079	05/02/2012	05/02/12 17:48	
Arsenic	**5.5**	1.0	0.05	1	B2E0079	05/02/2012	05/02/12 17:48	
Barium	**220**	1.0	0.02	1	B2E0079	05/02/2012	05/02/12 17:48	
Beryllium	**0.41**	1.0	0.04	1	B2E0079	05/02/2012	05/02/12 17:48	J
Cadmium	**1.3**	1.0	0.04	1	B2E0079	05/02/2012	05/02/12 17:48	
Chromium	**23**	1.0	0.02	1	B2E0079	05/02/2012	05/02/12 17:48	
Cobalt	**5.2**	1.0	0.02	1	B2E0079	05/02/2012	05/02/12 17:48	
Copper	**23**	2.0	0.16	1	B2E0079	05/02/2012	05/02/12 17:48	
Molybdenum	**4.0**	1.0	0.04	1	B2E0079	05/02/2012	05/02/12 17:48	
Nickel	**29**	1.0	0.03	1	B2E0079	05/02/2012	05/02/12 17:48	
Selenium	ND	1.0	0.13	1	B2E0079	05/02/2012	05/02/12 17:48	
Silver	**0.11**	1.0	0.02	1	B2E0079	05/02/2012	05/02/12 17:48	J
Thallium	ND	1.0	0.08	1	B2E0079	05/02/2012	05/02/12 17:48	
Vanadium	**32**	1.0	0.04	1	B2E0079	05/02/2012	05/02/12 17:48	
Zinc	**74**	1.0	0.87	1	B2E0079	05/02/2012	05/02/12 17:48	

Mercury by AA (Cold Vapor) EPA 7471 **Analyst: CB**

Analyte	Result (mg/kg)	PQL (mg/kg)	MDL (mg/kg)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	**0.03**	0.10	0.003	1	B2E0074	05/02/2012	05/02/12 17:56	J

Geocon Consultants, Inc.	Project Number : VEN-150, S9475-06-17
3303 N. San Fernando Blvd., Suite 100	Report To : Mike Conkle
Burbank , CA 91504	Reported : 05/03/2012

QUALITY CONTROL SECTION

Title 22 Metals by ICP-AES EPA 6010B - Quality Control

Analyte	Result (mg/kg)	PQL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B2E0079 - EPA 3050B									
Blank (B2E0079-BLK1)				Prepared: 5/2/2012 Analyzed: 5/2/2012					
Antimony	0.12	2.0			NR				J
Arsenic	ND	1.0			NR				
Barium	0.04	1.0			NR				J
Beryllium	ND	1.0			NR				
Cadmium	ND	1.0			NR				
Chromium	0.05	1.0			NR				J
Cobalt	ND	1.0			NR				
Copper	ND	2.0			NR				
Molybdenum	ND	1.0			NR				
Nickel	0.06	1.0			NR				J
Selenium	ND	1.0			NR				
Silver	ND	1.0			NR				
Thallium	ND	1.0			NR				
Vanadium	ND	1.0			NR				
Zinc	ND	1.0			NR				
LCS (B2E0079-BS1)				Prepared: 5/2/2012 Analyzed: 5/2/2012					
Antimony	45	2.0	50.0		89.1	80 - 120			
Arsenic	44	1.0	50.0		87.1	80 - 120			
Barium	46	1.0	50.0		92.6	80 - 120			
Beryllium	46	1.0	50.0		91.4	80 - 120			
Cadmium	45	1.0	50.0		89.8	80 - 120			
Chromium	47	1.0	50.0		93.5	80 - 120			
Cobalt	46	1.0	50.0		91.1	80 - 120			
Copper	47	2.0	50.0		93.7	80 - 120			
Molybdenum	48	1.0	50.0		95.8	80 - 120			
Nickel	46	1.0	50.0		91.6	80 - 120			
Selenium	42	1.0	50.0		84.1	80 - 120			
Silver	45	1.0	50.0		90.6	80 - 120			
Thallium	45	1.0	50.0		90.2	80 - 120			
Vanadium	47	1.0	50.0		94.8	80 - 120			
Zinc	45	1.0	50.0		89.0	80 - 120			
Duplicate (B2E0079-DUP1)		**Source: 1201568-20**		Prepared: 5/2/2012 Analyzed: 5/2/2012					
Antimony	ND	2.0		ND	NR			20	
Arsenic	2.1	1.0		2.8	NR		30.1	20	R
Barium	97	1.0		100	NR		3.88	20	
Beryllium	0.65	1.0		0.66	NR		1.13	20	J
Cadmium	0.05	1.0		ND	NR			20	J
Chromium	11	1.0		12	NR		5.55	20	

Geocon Consultants, Inc.	Project Number : VEN-150, S9475-06-17
3303 N. San Fernando Blvd., Suite 100	Report To : Mike Conkle
Burbank , CA 91504	Reported : 05/03/2012

Title 22 Metals by ICP-AES EPA 6010B - Quality Control (cont'd)

Analyte	Result (mg/kg)	PQL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B2E0079 - EPA 3050B (continued)									
Duplicate (B2E0079-DUP1) - Continued		**Source: 1201568-20**		Prepared: 5/2/2012 Analyzed: 5/2/2012					
Cobalt	6.2	1.0		6.5	NR		5.00	20	
Copper	12	2.0		12	NR		5.09	20	
Molybdenum	0.91	1.0		1.0	NR		9.49	20	J
Nickel	8.7	1.0		9.2	NR		5.32	20	
Selenium	ND	1.0		ND	NR			20	
Silver	0.08	1.0		0.08	NR		3.10	20	J
Thallium	0.76	1.0		0.49	NR		42.8	20	R, J
Vanadium	31	1.0		33	NR		6.60	20	
Zinc	37	1.0		39	NR		3.39	20	
Matrix Spike (B2E0079-MS1)		**Source: 1201568-20**		Prepared: 5/2/2012 Analyzed: 5/2/2012					
Antimony	89	2.0	125	ND	70.9	44 - 105			
Arsenic	100	1.0	125	2.8	79.6	57 - 103			
Barium	200	1.0	125	100	79.7	36 - 134			
Beryllium	100	1.0	125	0.66	82.0	64 - 106			
Cadmium	94	1.0	125	ND	75.4	58 - 102			
Chromium	110	1.0	125	12	80.5	55 - 105			
Cobalt	99	1.0	125	6.5	73.7	59 - 105			
Copper	120	2.0	125	12	86.9	64 - 117			
Molybdenum	100	1.0	125	1.0	81.3	59 - 108			
Nickel	100	1.0	125	9.2	75.7	52 - 109			
Selenium	98	1.0	125	ND	78.3	56 - 100			
Silver	130	1.0	125	0.08	101	65 - 107			
Thallium	93	1.0	125	0.49	74.4	47 - 100			
Vanadium	140	1.0	125	33	81.5	64 - 110			
Zinc	130	1.0	125	39	72.5	37 - 123			
Matrix Spike Dup (B2E0079-MSD1)		**Source: 1201568-20**		Prepared: 5/2/2012 Analyzed: 5/2/2012					
Antimony	79	2.0	125	ND	62.9	44 - 105	12.0	20	
Arsenic	94	1.0	125	2.8	73.3	57 - 103	7.98	20	
Barium	190	1.0	125	100	75.1	36 - 134	2.95	20	
Beryllium	97	1.0	125	0.66	77.2	64 - 106	6.04	20	
Cadmium	87	1.0	125	ND	69.9	58 - 102	7.49	20	
Chromium	110	1.0	125	12	74.7	55 - 105	6.61	20	
Cobalt	92	1.0	125	6.5	68.6	59 - 105	6.79	20	
Copper	120	2.0	125	12	82.0	64 - 117	5.19	20	
Molybdenum	95	1.0	125	1.0	75.4	59 - 108	7.48	20	
Nickel	97	1.0	125	9.2	70.2	52 - 109	6.90	20	
Selenium	92	1.0	125	ND	73.8	56 - 100	5.92	20	
Silver	120	1.0	125	0.08	94.7	65 - 107	6.19	20	
Thallium	87	1.0	125	0.49	69.1	47 - 100	7.36	20	
Vanadium	130	1.0	125	33	75.6	64 - 110	5.54	20	

Geocon Consultants, Inc.	Project Number : VEN-150, S9475-06-17
3303 N. San Fernando Blvd., Suite 100	Report To : Mike Conkle
Burbank , CA 91504	Reported : 05/03/2012

Title 22 Metals by ICP-AES EPA 6010B - Quality Control (cont'd)

Analyte	Result (mg/kg)	PQL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B2E0079 - EPA 3050B (continued)									
Matrix Spike Dup (B2E0079-MSD1) - Continued		**Source: 1201568-20**		Prepared: 5/2/2012 Analyzed: 5/2/2012					
Zinc	120	1.0	125	39	66.6	37 - 123	5.91	20	

Geocon Consultants, Inc.	Project Number : VEN-150, S9475-06-17
3303 N. San Fernando Blvd., Suite 100	Report To : Mike Conkle
Burbank , CA 91504	Reported : 05/03/2012

Mercury by AA (Cold Vapor) EPA 7471 - Quality Control

Analyte	Result (mg/kg)	PQL (mg/kg)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B2E0074 - EPA 7471									
Blank (B2E0074-BLK1)				Prepared: 5/2/2012 Analyzed: 5/2/2012					
Mercury	ND	0.10			NR				
LCS (B2E0074-BS1)				Prepared: 5/2/2012 Analyzed: 5/2/2012					
Mercury	0.89	0.10	0.833		107	80 - 120			
Duplicate (B2E0074-DUP1)		**Source: 1201607-03**		Prepared: 5/2/2012 Analyzed: 5/2/2012					
Mercury	0.009	0.10		0.009	NR		0.138	20	J
Matrix Spike (B2E0074-MS1)		**Source: 1201607-03**		Prepared: 5/2/2012 Analyzed: 5/2/2012					
Mercury	0.96	0.10	0.833	0.009	114	70 - 130			
Matrix Spike (B2E0074-MS2)		**Source: 1201607-03**		Prepared: 5/2/2012 Analyzed: 5/2/2012					
Mercury	0.27	0.10	0.417	0.009	62.6	70 - 130			M1
Matrix Spike Dup (B2E0074-MSD1)		**Source: 1201607-03**		Prepared: 5/2/2012 Analyzed: 5/2/2012					
Mercury	0.98	0.10	0.833	0.009	116	70 - 130	1.62	20	

Geocon Consultants, Inc.	Project Number : VEN-150, S9475-06-17
3303 N. San Fernando Blvd., Suite 100	Report To : Mike Conkle
Burbank , CA 91504	Reported : 05/03/2012

Notes and Definitions

R	RPD value outside acceptance criteria. Calculation is based on raw values.
M1	Matrix spike recovery outside of acceptance limit. The analytical batch was validated by the laboratory control sample.
J	Analyte detected below the Practical Quantitation Limit but above or equal to the Method Detection Limit. Result is an estimated concentration.
ND	Analyte not detected at or above reporting limit
PQL	Practical Quantitation Limit
MDL	Method Detection Limit
NR	Not Reported
RPD	Relative Percent Difference
CA1	CA-NELAP (CDPH)
CA2	CA-ELAP (CDPH)
OR1	OR-NELAP (OSPHL)
TX1	TX-NELAP (TCEQ)

Diane Galvan

From: Mike Conkle [conkle@geoconinc.com]
Sent: Thursday, April 26, 2012 3:52 PM
To: Diane Galvan
Subject: RE: Results/EDD/Invoice - VEN-150 (1201321)

Hi Diane,
Please run sample 1168-101-0 for Title 22 metals scan. Do not report lead. Standard TAT.

Michael P. Conkle | *Senior Geologist*
Geocon
3303 N. San Fernando Blvd. Suite 100, Burbank, CA 91504
Tel 818.841.8388 Fax 818.841.1704 Cell 213.503.7841
http://www.geoconinc.com