FOR CONTRACT NO.: 07-260704

INFORMATION HANDOUT

PERMITS

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

AGREEMENTS

CALIFORNIA DEPARTMENT OF FISH AND GAME
NOTIFICATION NO.1600-2010-0264-R5

CONSTRUCTION & MAINTENANCE AGREEMENT- UNION PACIFIC RAILROAD COMPANY
STATE AGREEMENT No. 07R294

RIGHT OF ENTRY AGREEMENT- UNION PACIFIC RAILROAD
FOLDER No. 2629-13

RIGHT OF ENTRY AGREEMENT- UNION PACIFIC RAILROAD
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ENCROACHMENT PERMITS

CITY OF CARPINTERIA COASTAL DEVELOPMENT PERMIT 09-1500-CUP/CDP
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COUNTY OF VENTURA COASTAL DEVELOPMENT PERMIT

MATERIALS INFORMATION

AERIALLY DEPOSITED LEAD, HEAVY METALS, AND GROUNDWATER SITE INVESTIGATION REPORT
FOUNDATION REPORT-BATES ROAD UNDERCROSSING BRIDGE 52-279 APRIL 5, 2010
FOUNDATION REPORT PEDESTRIAN RAMP STRUCTURE NO.93 JAN 11, 2011
FOUNDATION REPORT-BIKE LANE RAMP STRUCTURE 9 APRIL 5, 2010
GEOTECHNICAL DESIGN REPORT APRIL 5, 2010

ROUTE: 07-Ven/SB-101-R39.8/R43.6 and 0.0/2.2

DEPARTMENT OF THE ARMY
LOS ANGELES DISTRICT CORPS OF ENGINEERS
VENTURA FIELD OFFICE
2151 ALESSANDRO DRIVE, SUITE 110
VENTURA, CALIFORNIA 93001

May 5, 2011

REPLY TO
ATTENTION OF:
Office of the Chief
Regulatory Division

DEPARTMENT OF THE ARMY NATIONWIDE PERMIT AUTHORIZATION

Sarah Baker
California Department of Transportation, District 7
100 South Main Street, MS-16A
Los Angeles, 90012

Dear Ms. Baker:

This is in reply to your application (File No. SPL-2010-00850-TS) dated August 30, 2010, for a Department of the Army Permit to discharge fill in waters of the U.S. in association with the Caltrans U.S. 101 High Occupancy Vehicle Lane and coastal access project. The proposed work would take place between Post Mile 39.8 in near the unincorporated community of La Conchita in Ventura County and Post Mile 2.2 in the City of Carpinteria in Santa Barbara County, California.

Based on the information you provided, the Corps of Engineers has determined that your proposed activity complies with the enclosed terms and conditions of Nationwide Permit No. 14 (*Linear Transportation Projects*) and Nationwide Permit No. 18 (*Minor Discharges*), as described in enclosure 1.

Specifically, you are authorized to:

1. Discharge fill material in waters of the U.S. associated with modification the inlets to existing drainage culverts beneath the highway, construction of a pedestrian undercrossing and replacement culvert in the community of La

Conchita. The culverts would continue to serve as drainages for water and sediment during the rain season, but one culvert (Drainage System 43) would be converted to a pedestrian undercrossing to improve coastal access, and Drainage System 41 will be constructed for water conveyance.

2. Discharge fill material in waters of the U.S. associated with construction of a bike path along the southbound side of the highway, and installation of stairs (constructed with railroad ties or equivalent) or concrete ramps across the existing revetment to improve coastal access opportunities. The proposed stairs/ramps would not extend beyond the footprint of the existing rock revetment.
3. Revegetate all temporarily impacted areas with native coastal sage scrub species.
4. Approximately 0.193 acres of ephemeral waters of the U.S. (drainage tributaries) would be permanently impacted by the project. Approximately 0.2 acres of waters of the U.S. would be temporarily impacted by the proposed project. Permanent impacts would occur as a result of culvert inlet modifications in drainage tributaries. Temporary impacts would occur in drainages and on the beach as a result of construction activities including installation of stairs or coastal access ramps which may involve use of small equipment (e.g., bobcat) on the beach.

Furthermore, you must comply with the following non-discretionary Special Conditions:

Special Conditions:

1. Caltrans must undertake the activities authorized by this permit in conformance with the terms and conditions of this permit. Caltrans is not relieved of this requirement if the existing structure/facility/fill in waters of the U.S. is abandoned. Should Caltrans wish to cease to maintain the existing structure/facility/fill or should Caltrans desire to abandon it, Caltrans must notify this office, which may require restoration of the area.

2. 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 Division Staff (Theresa Stevens, Ph.D. at 805- 585-2146) and Corps' Archeology Staff (Steve Dibble at 213-452-3849, or John Killeen at 213-452-3861) within 24 hours. The Permittee shall immediately suspend all work in any area(s) where potential cultural resources are discovered. The Permittee shall not resume work in the area surrounding the potential cultural resources until the Corps re-authorizes project construction, per 36 C.F.R. Section 800.13.

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

4. Where states and authorized tribes, or EPA where applicable, have not previously certified compliance with Clean Water Act Section 401, individual 401 Water Quality Certification must be obtained or waived (see 33 CFR 320.3(a)). 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.

5. Caltrans shall provide a copy of this permit to all field staff, contractors, subcontractors, and equipment operators. Copies of this permit shall be readily available at the work site at all times during periods of active work, and shall be presented to any Corps Regulatory Division personnel upon request.

6. Caltrans shall notify the Corps of Engineers Regulatory Division prior to initiation of construction activities. Notification shall be made at least five (5) business days prior to initiation of construction. Notification by telephone, electronic mail, facsimile, letter are acceptable.

7. Construction activities that include only the cutting and removal of vegetation above the ground (e.g., mowing, rotary cutting, chain sawing, etc.), where the activity does not substantially disturb the root system and does not involve mechanized pushing dragging or similar activity that would redeposit soil, are not regulated activities under Section 404 of the Clean Water Act; therefore notification to the Corps Regulatory Division for these activities is not required.

8. A post-construction report shall be prepared and submitted to the Corps Regulatory Division within 30 days of project completion. The report shall summarize all completed maintenance activities in waters of the U.S., or special aquatic sites, the start and end dates of construction, site restoration/revegetation activities and date installed, if required. The report shall include at least one before/after photo of the construction and revegetation area, project coordinates, and a brief discussion of any problems and corrective measures taken.

9. This permit does not authorize you to take any threatened or endangered species or adversely modify designated critical habitat. In order to legally take a listed species, separate authorization under the Endangered Species Act (e.g. Section 10

permit, or a Biological Opinion (BO) under Section 7, with "incidental take" provisions with which you must comply) is required.

10. This permit does not authorize you to take any migratory birds pursuant to the Migratory Bird Treaty Act. Vegetation shall not be removed from 15 February to 31 August to avoid impacts to nesting birds unless the results of a pre-project bird survey by a qualified biologists indicates no nesting birds are present in the project area. Pre-project surveys shall be conducted within two weeks of the proposed vegetation removal. Survey results shall be submitted to the Corps Regulatory Division prior to construction activities in waters of the U.S. (electronic mail, facsimile, standard mail, is acceptable). If nesting birds are present, no work shall occur until the young have fledged and would no longer be impacted by the project. Survey results shall be submitted to the Corps Regulatory Division prior to construction activities in waters of the U.S.

11. Prior to initiating construction in waters of the U.S., the Permittee shall clearly mark the work area limits with flagging or similar measures to ensure mechanized equipment and personnel do not enter preserved waters of the U.S., special aquatic sites and adjacent riparian areas for the duration of activities in or adjacent to waters of the U.S. Such impacts could result in permit suspension and revocation, administrative, civil or criminal penalties, and/or substantial compensatory mitigation requirements.

12. Appropriate measures must be taken to maintain near normal downstream flows and to minimize flooding during project activities in waters of the U.S. Fill materials must be of a type, and be placed in a manner, that will not result in erosion by high flows.

13. No debris, soil, sand, bark, slash, sawdust, rubbish, cement or washings thereof, asphalt, oil or petroleum products, or any other material that may be harmful to fish or wildlife, that results from construction and associated activities shall be allowed to enter or be placed where it may be washed by rainfall or runoff into waters of the U.S. When construction activities are completed, all excess materials, and/or debris shall be removed from the work area to an approved off-site disposal area, outside of waters of the U.S.

14. When work in flowing or standing water is unavoidable, measures to minimize downstream turbidity shall be implemented and maintained for the duration of the work in water. Equipment working in wetlands shall be placed on mats (or equivalent) to minimize soil disturbance and compaction.

15. Exotic and invasive plant species removed during construction activities shall be disposed at an approved off-site location, outside waters of the U.S. Target species include but are not limited to: giant reed (*Arundo donax*), castor bean (*Ricinus communis*), salt cedar (*Tamarisk* sp.), tree tobacco (*Nicotiana glauca*), yellow star thistle (*Centaurea solstitialis*), artichoke thistle (*Cynara cardunculus*), pampas grass (*Cortaderia selloana*), fountain grass (*Pennisetum setaceum*), and cocklebur (*Xanthium strumarium*).

16. Staging and storage areas for equipment and construction materials shall be located in uplands and where possible, a minimum of 100 feet from waters of the U.S. Storage areas located less than 100 feet from waters shall be approved by the Corps Regulatory Division, and these areas shall be shown on construction plans.

17. Following completion of the construction activity, temporary fills must be entirely removed to an upland location, outside waters of the U.S., and the affected area must be restored to the pre-project condition in accordance with the provision of the Corps Mitigation Rule (33 CFR 332).

18. Where temporary water diversion, grading, filling or excavation occurs as part of the repair or replacement, the Permittee shall ensure standard Best Management Practices are in place to minimize turbidity within the affected waterbody. Standard BMPs are provided in the *Construction Site Best Management Practices Manual* (March 2003; http://www.dot.ca.gov/hq/construc/stormwater/CSBMPM_303_Final.pdf) and at http://onramp.dot.ca.gov/hq/maint/roadside/storm_water/WATER.PDF.

19. Work in streams or rivers with ephemeral or intermittent flows shall be performed during periods when the channel is dry or flows are absent or minimal. Work within waterways with perennial flow shall be performed during the driest period of the year and during low flow conditions, generally May through October. Standard Best Management Practices shall be implemented to minimize turbidity within the affected waterbody, and appropriate measures must be taken to minimize flooding and erosion on adjacent properties.

20. Any work undertaken by this project shall not cause more than minimal degradation of water quality, more than minimal changes to the flow characteristics of the stream, or increase flooding on adjacent properties or downstream of the proposed maintenance activity.

21. The Corps Regulatory Division project manager shall be notified of any accidental spill of hazardous materials within 12 hours of detection. Notification may be in the form of an electronic mail message, telephone, or facsimile. Notification shall include the reason for the spill, the exact location of the spill, the type and approximate quantity of the materials spilled, and the measures taken to control and clean up the spilled materials.

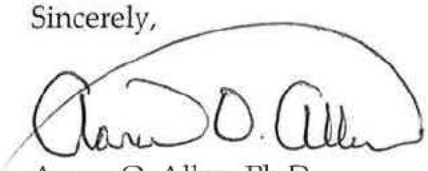
This verification is valid until the NWP is modified, reissued, or revoked. All of the existing NWPs are scheduled to be modified, reissued, or revoked prior to March 18, 2012. It is incumbent upon you to remain informed of changes to the NWPs. We will issue a public notice when the NWPs are reissued. Furthermore, if you commence or are under contract to commence this activity before March 18, 2012, you will have twelve (12) months from March 18, 2012 to complete the activity under the present terms and conditions of this permit.

A nationwide permit does not grant any property rights or exclusive privileges. Also, it does not authorize any injury to the property or rights of others or 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 of my staff 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.

Sincerely,



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

Enclosure Nationwide Permit General Conditions

LOS ANGELES DISTRICT
U.S. ARMY CORPS OF ENGINEERS

CERTIFICATION OF COMPLIANCE WITH
DEPARTMENT OF THE ARMY NATIONWIDE PERMIT

Permit Number: *SPL-2010-00850-TS*

Name of Permittee: *California Department of Transportation, District 7*

Date of Issuance: *May 5, 2011*

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

U.S Army Corps of Engineers
Regulatory Division
ATTN: CESPL-RG (SPL-2010-00850-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 CFR 330.5 or enforcement procedures such as those contained in 33 CFR 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).

_____ _____

Signature of Permittee Date

Enclosure 1: NATIONWIDE PERMIT TERMS AND CONDITIONS

1. Nationwide Permit 14 (Linear Transportation Projects) and Nationwide Permit 18 (Minor Discharges)

Your activity is authorized under Nationwide Permit Number(s) 14 (*Linear Transportation Projects*) and 18 (*Minor Discharges*) subject to the following terms:

14. *Linear Transportation Projects.* Activities required for the construction, expansion, modification, or improvement of linear transportation projects (e.g., roads, highways, railways, trails, airport runways, and taxiways) in waters of the United States. For linear transportation projects in non-tidal waters, the discharge cannot cause the loss of greater than 1/2-acre of waters of the United States. For linear transportation projects in tidal waters, the discharge cannot cause the loss of greater than 1/3-acre of waters of the United States. Any stream channel modification, including bank stabilization, is limited to the minimum necessary to construct or protect the linear transportation project; such modifications must be in the immediate vicinity of the project. This NWP also authorizes temporary structures, fills, and work necessary to construct the linear transportation project. Appropriate measures must be taken to maintain normal downstream flows and minimize flooding to the maximum extent practicable, when temporary structures, work, and discharges, including cofferdams, are necessary for construction activities, access fills, or dewatering of construction sites. Temporary fills must consist of materials, and be placed in a manner, that will not be eroded by expected high flows. Temporary fills must be removed in their entirety and the affected areas returned to pre-construction elevations. The areas affected by temporary fills must be revegetated, as appropriate. This NWP cannot be used to authorize non-linear features commonly associated with transportation projects, such as vehicle maintenance or storage buildings, parking lots, train stations, or aircraft hangars. Notification: The permittee must submit a pre-construction notification to the district engineer prior to commencing the activity if: (1) the loss of waters of the United States exceeds 1/10 acre; or (2) there is a discharge in a special aquatic site, including wetlands. (See general condition 27.) (Sections 10 and 404) *Note*: Some discharges for the construction of farm roads or forest roads, or temporary roads for moving mining equipment, may qualify for an exemption under Section 404(f) of the Clean Water Act (see 33 CFR 323.4).

18. *Minor Discharges.* Minor discharges of dredged or fill material into all waters of the United States, provided the activity meets all of the following criteria:

(a) The quantity of discharged material and the volume of area excavated do not exceed 25 cubic yards below the plane of the ordinary high water mark or the high tide line;

(b) The discharge will not cause the loss of more than 1/10 acre of waters of the United States; and

(c) The discharge is not placed for the purpose of a stream diversion.

Notification: The permittee must submit a pre-construction notification to the district engineer prior to commencing the activity if: (1) The discharge or the volume of area excavated exceeds 10 cubic yards below the plane of the ordinary high water mark or the high tide line, or (2) the discharge is in a special aquatic site, including wetlands. (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. *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.

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

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

17. *Endangered Species.*

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

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

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

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

18. *Historic Properties.*

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

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

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

(c) Compensatory mitigation at a minimum one-for-one ratio will be required for all wetland losses that exceed 1/10 acre and require preconstruction notification, unless the district engineer determines in writing that some other form of mitigation would be more environmentally appropriate and provides a project-specific waiver of this requirement. For wetland losses of 1/10 acre or less that require pre-construction notification, the district engineer may determine on a case-by-case basis that compensatory mitigation is required to ensure that the activity results in minimal adverse effects on the aquatic environment. Since the likelihood of success is greater and the impacts to potentially valuable uplands are reduced, wetland restoration should be the first compensatory mitigation option considered.

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

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

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

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

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

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

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

23. *Regional and Case-By-Case Conditions.* The activity must comply with any regional conditions that may have been added by the Division Engineer (see 33 CFR 330.4(e)) and with any case specific conditions added by the Corps or by the state, Indian Tribe,

Also, work cannot begin under NWPs 21, 49, or 50 until the permittee has received written approval from the Corps. If the proposed activity requires a written waiver to exceed specified limits of an NWP, the permittee cannot begin the activity until the district engineer issues the waiver. If the district or division engineer notifies the permittee in writing that an individual permit is required within 45 calendar days of receipt of a complete PCN, the permittee cannot begin the activity until an individual permit has been obtained. Subsequently, the permittee's right to proceed under the NWP may be modified, suspended, or revoked only in accordance with the procedure set forth in 33 CFR 330.5(d)(2).

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

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

(2) Location of the proposed project;

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

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

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

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

(7) For an activity that may affect a historic property listed on, determined to be eligible for listing on, or potentially eligible for listing on, the National Register of Historic Places, for non-Federal applicants the PCN must state which historic property may be affected by the proposed work or include a vicinity map indicating the location of the historic property. Federal applicants must provide documentation demonstrating compliance with Section 106 of the National Historic Preservation Act.

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

(d) *Agency Coordination:*

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

(2) For all NWP 48 activities requiring pre-construction notification and for other NWP activities requiring preconstruction notification to the district engineer that result in the loss of greater than 1/2-acre of waters of the United States, the district engineer will immediately provide (e.g., via facsimile transmission, overnight mail, or other expeditious manner) a copy of the PCN to the appropriate Federal or state offices (U.S. FWS, state natural resource or water quality agency, EPA, State Historic Preservation Officer (SHPO) or Tribal Historic Preservation Office (THPO), and, if appropriate, the NMFS). With the exception of NWP 37, these agencies will then have 10 calendar days from the date the material is transmitted to telephone or fax the district engineer notice that they

3. **Regional Conditions for the Los Angeles District:**

In accordance with General Condition Number 23, "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 coastal watersheds from the southern reach of the Santa Monica Mountains in Los Angeles County to the San Luis Obispo County/Monterey County boundary, all road crossings must employ a bridge crossing design that ensures passage and/or spawning of steelhead (*Oncorhynchus mykiss*) is not hindered in any way. In these areas, bridge designs that span the stream or river, including designs for pier- or pile-supported spans, or designs based on use of a bottomless arch culvert simulating the natural stream bed (i.e., substrate and streamflow conditions in the culvert are similar to undisturbed stream bed channel conditions) shall be employed unless it can be demonstrated the stream or river does not support resources conducive to the recovery of federally listed anadromous salmonids, including migration of adults and smolts, or rearing and spawning. This proposal also excludes approach embankments into the channel unless they are determined to have no detectable effect on steelhead.

2. For the State of Arizona and the Mojave and Sonoran (Colorado) desert regions of California in Los Angeles District (generally north and east of the San Gabriel, San Bernardino, San Jacinto, and Santa Rosa mountain ranges, and south of Little Lake, Inyo County), no nationwide permit, except Nationwide Permits 1 (Aids to Navigation), 2 (Structures in Artificial Canals), 3 (Maintenance), 4 (Fish and Wildlife Harvesting, Enhancement, and Attraction Devices and Activities), 5 (Scientific Measurement Devices), 6 (Survey Activities), 9 (Structures in Fleeting and Anchorage Areas), 10 (Mooring Buoys), 11 (Temporary Recreational Structures), 20 (Oil Spill Cleanup), 22 (Removal of Vessels), 27 (Stream and Wetland Restoration Activities), 30 (Moist Soil Management for Wildlife), 31 (Maintenance of Existing Flood Control Projects), 32 (Completed Enforcement Actions), 35 (Maintenance Dredging of Existing Basins), 37 (Emergency Watershed Protection and Rehabilitation), 38 (Cleanup of Hazardous and Toxic Waste) and 47 (Pipeline Safety Program Designated Time Sensitive Inspections and Repairs), or other nationwide or regional general permits that specifically authorize maintenance of previously authorized structures or fill, can be used to authorize the discharge of dredged or fill material into a jurisdictional special aquatic site as defined at 40 CFR Part 230.40-45 (sanctuaries and refuges, wetlands, mudflats, vegetated shallows, coral reefs, and riffle-and-pool complexes).

3. For all projects proposed for authorization by nationwide or regional general permits where prior notification to the district engineer is required, applicants must provide color photographs or color photocopies of the project area taken from representative points documented on a site map. Pre-project photographs and the site map would be provided with the permit application. Photographs should represent conditions typical or indicative of the resources before impacts.

4. Notification pursuant to general condition 27 shall be required for projects in all special aquatic sites as defined at 40 CFR Part 230.40-45 (sanctuaries and refuges, wetlands, mudflats, vegetated shallows, coral reefs, and riffle-and-pool complexes), and in all perennial waterbodies in the State of Arizona and the Mojave and Sonoran (Colorado) desert regions of California in Los Angeles District (generally north and east of the San Gabriel, San Bernardino, San Jacinto, and Santa Rosa mountain ranges, and south of Little Lake, Inyo County), excluding the Colorado River from Davis Dam downstream to the north end of Topock and downstream of Imperial Dam (Federal Register dated March 12, 2007 (72 FR 11092) - regional conditions requiring notification do not apply to Nationwide Permit 47).

5. Notification pursuant to general condition 27 shall be required for projects in all areas designated as Essential Fish Habitat by the Pacific Fishery Management Council (i.e., all tidally influenced areas - Federal Register dated March 12, 2007 (72 FR 11092), regional conditions requiring notification do not apply to Nationwide Permit 47).

6. Notification pursuant to general condition 27 shall be required for projects in 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 (Federal Register dated March 12, 2007 (72 FR 11092) - regional conditions requiring notification do not apply to Nationwide Permit 47).

7. Individual permits shall be required for all discharges of fill material in jurisdictional vernal pools.

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.

CESPL-RG-N

Application: SPL-2010-00850-TS

MEMORANDUM FOR RECORD

SUBJECT: Department of the Army Memorandum Documenting Nationwide Permit: **California Department of Transportation (Caltrans) District 7-US 101 HOV Lane**

Applicant: **California Department of Transportation (Caltrans) District 7**

Project Location ***(Waterway, Section, Township, Range, City, County, State):*** 39.8 in near the unincorporated community of La Conchita in Ventura County and Post Mile 2.2 in the City of Carpinteria in Santa Barbara County, California. See ORM file for Section/Township/Range and Lat/Long.

Pre-Construction Notification Receipt Date: August 30, 2010 **Complete?** ☐Yes ☒No

Additional Information Requested Date: 31 Aug 2010

Pre-Construction Notification Complete Date: 02 Sept 2011

Waters of the US: Permanent impacts authorized = Approximately 0.193 acres of ephemeral waters of the U.S. (drainage tributaries) would be permanently impacted by the project. Approximately 0.2 acres of waters of the U.S. would be temporarily impacted by the proposed project.

*see Jurisdictional Determination form(s) and/or Preliminary JD letter(s) dated: 12 Oct 2011.

Authority: ☒Section 10 ☒Section 404 ☐Section 103

Project Description ***(Describe activities in waters of the U.S. considered for verification):***

1. Discharge fill material in waters of the U.S. associated with modification the inlets to existing drainage culverts beneath the highway, construction of a pedestrian undercrossing and replacement culvert in the community of La Conchita. The culverts would continue to serve as drainages for water and sediment during the rain season, but one culvert (Drainage System 43) would be converted to a pedestrian undercrossing to improve coastal access, and Drainage System 41 will be constructed for water conveyance.
2. Discharge fill material in waters of the U.S. associated with construction of a bike path along the southbound side of the highway, and installation of stairs (constructed with railroad ties or equivalent) or concrete ramps across the existing revetment to improve coastal access opportunities. The proposed stairs/ramps would not extend beyond the footprint of the existing rock revetment.

3. Revegetate with native coastal sage scrub species all temporarily impacted areas.
4. Approximately 0.193 acres of ephemeral waters of the U.S. (drainage tributaries) would be permanently impacted by the project. Approximately 0.2 acres of waters of the U.S. would be temporarily impacted by the proposed project. Permanent impacts would occur as a result of culvert inlet modifications in drainage tributaries. Temporary impacts would occur in drainages and on the beach as a result of construction activities including installation of stairs or coastal access ramps which may involve use of small equipment (e.g., bobcat) on the beach.

Type of Permit Requested: NWP # 14 and 18 RGP #

Pre-construction Notification Required: ☒Yes ☐No

Waiver required to begin work ***(see GC 27 (a)(2) as applied to appropriate NWPs)***:
☐Yes ☒No
Rationale:

Coordination with Agencies/Tribes Needed: ☐Yes ☒No Date:
Resolution: Caltrans was the lead for Section 106 compliance. The outcome of Caltrans consultation with the SHPO was deemed adequate by the Regulatory Division for the Corps Section 106 responsibilities.

Commenting Agencies:
US Fish and Wildlife Service
US Environmental Protection Agency
National Marine Fisheries Service: NMFS responded to the PCN by indicated the Corps needed to initiate Sec 7 consultation for this project for steelhead (*Oncorhychus mykiss*) impacts at Rincon Creek.
State Agency (list commenting state agencies)
State Historic Preservation Office
Other: None.

Substantive Issues Raised and Corps Resolution ***(Consideration of Comments)***: The Corps informed NMFS that Caltrans is the lead for the project..

Compliance with Other Federal Laws ***(If specific law is not applicable write N/A):***

a) Endangered Species Act: No endangered species or critical habitat impacted and Caltrans is the lead federal agency for compliance with ESA. The outcome of Caltrans consultation with NMFS was deemed adequate by the Corps.

Name of species present:
Effects determination:
Date of Service(s) concurrence:

Basis for "no effect" determination:
Additional information (optional):

b) Magnuson-Stevens Act (Essential Fish Habitat): No endangered species or critical habitat impacted and Caltrans is the lead federal agency for compliance with ESA. The outcome of Caltrans consultation with NMFS was deemed adequate by the Corps

Name of species present:
Effects determination:
Date of Service(s) concurrence:
Additional information (optional):

c) Section 106 of the National Historic Preservation Act: No endangered species or critical habitat impacted and Caltrans is the lead federal agency for compliance with ESA. The outcome of Caltrans consultation with NMFS was deemed adequate by the Corps

Known site present: ☐ yes ☒ no
Survey required/conducted: ☐ yes ☒ no
Effects determination:
Rationale:
Date consultation complete (if necessary):
Additional information (optional): None

d) Section 401 Water Quality Certification: The RWQCB was unresponsive to Caltrans application for Section 401 water quality certification. The Corps requested evidence of Caltrans administrative record regarding communication with the RWQCB and their record shows a complete application and fees were submitted to the RWQCB in December 2010 and no response has been received by Caltrans as of May 2011. The Corps contacted the RWQCB on 02 May 2011 to notify the RWQCB a waiver was deemed, and no response was received.

Individual certification required: ☐ yes ☐ no

☐Issued ☒Waived ☐Denied

e) Coastal Zone Management Act:
Individual certification required: ☒ yes ☐ no
☒Issued ☐Waived ☐Denied
Additional information (optional): Caltrans coordination with the CCC Office of Federal Consistency resulted in CZMA concurrence on 04 Jan 2011.

f) Wild and Scenic Rivers Act:
Project located on designated or "study" river: ☐ yes ☒no
Managing Agency:
Date written determination provided that the project will not adversely affect the Wild and Scenic River designation or study status:
Additional information (optional):

g) Other

Special Conditions Required ***(include rationale for each required condition/explanation for requiring no special conditions)***: ☒ yes ☐ no

Special conditions address notification and reporting, construction best management practices, cultural resources protection for potentially undiscovered resources, and protection of natural resources. These special conditions insure project impacts are minimal.

Compensatory Mitigation Determination: The applicant has avoided and minimized impacts to the maximum extent practicable.

(1) Is compensatory mitigation required for unavoidable impacts to jurisdictional aquatic resources to reduce the individual and cumulative adverse environmental effects to a minimal level?

☒ yes ☐ no *[If "no," do not complete the rest of this section and include an explanation of why not here]*

(2) Is the impact in the service area of an approved mitigation bank? ☐ yes ☒ no

i. Does the mitigation bank have appropriate number and resource type of credits available? ☐ yes ☐ no

(3) Is the impact in the service area of an approved in-lieu fee program? ☐ yes ☒no

i. Does the in-lieu fee program have appropriate number and resource type of credits available? ☐ yes ☐ no

(4) Check the selected compensatory mitigation option(s):

☐ mitigation bank credits

☐ in-lieu fee program credits

☐ permittee-responsible mitigation under a watershed approach

☒ permittee-responsible mitigation, on-site and in-kind

☐ permittee-responsible mitigation, off-site and out-of-kind

(5) If a selected compensatory mitigation option deviates from the order of the options presented in §332.3(b)(2)-(6), explain why the selected compensatory mitigation option is environmentally preferable. Address the criteria provided in §332.3(a)(1) (i.e., the likelihood for ecological success and sustainability, the location of the compensation site relative to the impact site and their significance within the watershed, and the costs of the compensatory mitigation project): Project is required to restore native vegetation in the affected drainages.

Determination ***(Reference General Condition 27(e)):***

The proposed activity, with proposed mitigation (if applicable) would result in no more than minimal individual and cumulative adverse environmental effects and would not be contrary to

the public interest provided the special conditions and/or modifications identified in the above are incorporated. This project complies with all terms and conditions of NWP 14 and NWP 18 including any applicable regional conditions.

PREPARED BY: **Theresa Stevens, Ph.D.**

Theresa Stevens Date: 05 May 2011

Project Manager

REVIEWED and APPROVED BY: **Aaron O. Allen, Ph.D.**

Aaron O. Allen Date: 5 May 2011

Chief, North Coast Branch, Regulatory Division, Los Angeles District

"Stevens, Theresa SPL" <Theresa.Stevens@usace.army.mil>
05/02/2011 11:53 AM

To <vcarrillo@waterboards.ca.gov>
cc "Stevens, Theresa SPL" <theresa.stevens@usace.army.mil>, Sarah Baker <sarah_baker@dot.ca.gov>, Paul D Caron
bcc
Subject Caltrans District 7 US 101 HOV lane (UNCLASSIFIED)

History: This message has been forwarded.

Classification: UNCLASSIFIED
Caveats: NONE

HI Valerie,

Caltrans District 7 staff (Sarah Baker and Paul Caron) have informed the Corps, and provided evidence that more than 60 days have passed since a complete 401 application was submitted to your office.

Based on the provisions of 33 CFR 325(b)(1)(ii), the Corps will deem a waiver for this project and issue Nationwide Permits 12 & 18 for the proposed discharges.

If you have any questions about this action, please contact me.

Thanks- Theresa

Theresa Stevens, Ph.D.
Sr. Project Manager
U.S. Army Corps of Engineers
Regulatory Division
2151 Alessandro Drive, Ste. 110
Ventura, CA 93001
PHONE: (805) 585-2146
FAX: (805) 585-2154
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State of California –The Natural Resources Agency
DEPARTMENT OF FISH AND GAME
South Coast Region
3883 Ruffin Road
San Diego, CA 92123
(858) 467-4201
www.dfg.ca.gov

EDMUND G. BROWN, JR., Governor
JOHN McCAMMAN, Director

June 13, 2011

California Department of Transportation
Ms. Sarah E. Baker
100 South Main Street
Los Angeles, California 90012
Subject: Draft Lake or Streambed Alteration Agreement

Notification No. 1600-2010-0264-R5
TEN Unnamed Coastal Tributaries to the Pacific Ocean
SB/VEN US-101 HOV PROJECT

Dear Ms. Sarah E. Baker:

Enclosed is Streambed Alteration Agreement # 1600-2010-0264-R5 that authorizes work on the SB/VEN 101 HOV Project located near the City's of La Conchita and Mussel Shoals, and in the vicinity of Punta Gorda, Mobil Pier Road, and Rincon in the County's (Co) of Santa Barbara and Ventura. This action is authorized under Section 1602 of the Fish and Game Code and has been approved by the California Department of Fish and Game. Pursuant to the requirements of the California Environmental Quality Act (CEQA), the Department filed a Notice of Determination (NOD) on the project on 14 June 2011. Under CEQA regulations, the project has a 30-day statute of limitations on court challenges of the Department's approval.

The Department believes that the project fully meets the requirements of the Fish and Game Code and CEQA. However, if court challenges on the NOD are received during the 30-day period, then an additional review or even modification of the project may be required. If no comments are received during the 30-day period, then any subsequent comments need not be responded to. This information is provided to you so that if you choose to undertake the project prior to the close of the 30-day period, you do so with the knowledge that additional actions may be required based on the results of any court challenges that are filed during that period.

Please contact Ms. Jamie Jackson at (626) 513-6308 if you have any questions regarding the Streambed Alteration Agreement.

Sincerely,

for Helen Birss
Environmental Program Manager

Enclosure
cc: Jamie Jackson

CALIFORNIA DFG OF FISH AND GAME
SOUTH COAST REGION
4949 Viewridge Avenue
San Diego, CA 92123

STREAMBED ALTERATION AGREEMENT
NOTIFICATION No. 1600-2010-0264-R5
Ten Unnamed Coastal Tributaries to the Pacific Ocean

California DFG of Transportation
SB/VEN-101 HOV PROJECT

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

RECITALS

WHEREAS, pursuant to Fish and Game Code (FGC) section 1602, Permittee notified DFG on December 28, 2010 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) are located at 10 unnamed stream crossings along a 44 mile stretch of United States Highway-101 (US-101). The project(s) involve repair or replacement of culverts that convey water from multiple watersheds, all tributaries to the Pacific Ocean, near the City's of La Conchita and Mussel Shoals and in the vicinity of Punta Gorda, Mobil Pier Road, and Rincon in the County's (Co) of Santa Barbara and Ventura, State of California: See individual latitude and longitude coordinates for each project area listed below.

The project is limited to southern Santa Barbara Co and northern Ventura Co along US-101. Currently, the culvert inlets are located at the foot of the highway embankment,

immediately downstream from the adjacent railroad culverts; the outlets are located within the riprap embankment on the ocean-side of US-101, above the adjacent beach.

PROJECT DESCRIPTION

This project will construct High-Occupancy Vehicle (HOV) lanes on US-101 from the Mobil Pier Under Crossing (UC) in Ventura Co to 0.44 miles South of Casitas Pass Road in Santa Barbara Co. It consolidates three projects designed to reduce traffic congestion, improve safety for pedestrians, bicyclists, and motorists, and improve coastal access. These HOV lanes will connect Santa Barbara Co HOV lanes.

Two CEQA/NEPA documents were prepared for this project: Ventura/Santa Barbara 101 HOV Project – MND/FONSI and La Conchita/Mussel Shoals Access Improvement Project – MND/FONSI. The Minimum Build Alternative (with improved bikeway (CASA/Modified Option B) and La Conchita Pedestrian UC) was selected for this project (refer to Environmental Documents listed above). The HOV lanes will be created by closing the existing highway median and realigning traffic lanes. Existing median openings and turn lanes at Mussel Shoals, La Conchita, and Tank Farm (Industrial) will be closed; a new median opening and turn lane will be created between Mussel Shoals and La Conchita. Other traffic-related improvements include Intelligent Transportation System (ITS) elements and a new Changeable Message Sign (CMS) south of Bates Road. Soundwalls will be constructed for the community near Mussel Shoals. A new coastal bike and pedestrian path will be created, and coastal access will be improved through upgraded undercrossings and ramps. The project includes stormwater capture and treatment design features, including biofiltration swales and biostrips.

US-101 has many cross-culverts and median streambed systems. To accommodate new traffic lanes being constructed within the median inlets will be relocated and/or realigned. These streambed systems within US-101 footprint will not be extended at the inlet or outlet, nor will there be any dredging, discharge or fill, or change to/modification of bed, bank, or channel, or use of materials from /deposition to bed, bank or channel.

Several streambed systems listed below require work, with most improvements lying between UPRR (Union Pacific Rail Road) & US-101.

This project is limited to the Permittee activities and shall not exceed permanent impacts of more than 0.5-acre and temporary impacts to more than 1.50 acres of ephemeral streambed. The ten streams carried through the culverts to be upgraded or replaced are ephemeral carrying seepage and seasonal flows during storm-related events captured from the adjacent steep mountain slopes above the communities of La Conchita and Mussel Shoals and in the vicinity of Punta Gorda and Rincon. The culverts will be replaced with larger box culverts (and wingwalls and aprons will be reconstructed) to prevent storm-related overtopping should debris-flows occur; however no additional water flow will be directed to these culverts as part of the replacement project. The culvert inlets, and associated wingwalls and aprons, are on the mountain

side of US-101 within Union Pacific Railroad (UPRR) right-of-way, and just a short distance (bare ground) from the culverts for the UPRR. When reconstructed, the wingwalls and aprons will join the existing UPRR culverts (the bare ground between culverts will remain). Culvert outfalls are on the armored (rip-rap) embankment on the ocean-side of US-101 (close to the mean high water line). During replacement of the culvert outfalls, the rip-rap will be removed and replaced in-kind (approximately 240 cubic yards (c.y.) within the existing footprint, 15' along bank (from edge of highway to the outfall), and 16' high).

Culvert replacement is proposed for staged "cut-and-cover" construction from the roadway surface during the dry season (no water diversion). Some temporary disturbance of bare ground in the flow line, and adjacent areas will be required to remove and replace the inlets, aprons, and wingwalls. The culverts will be removed and replaced as follows: 1) excavation will occur to remove the existing wingwalls, aprons, and culverts (approximately 9610 cy total for the ten culverts; each approximately 200' long, 24' at base of channel, 40' across top of channel); 2) pre-cast reinforced concrete box culverts will be set in place and backfilled (approximately 10410 cy); 3) the highway roadbed and surface will be reconstructed above the culverts; and 4) wingwalls and aprons will be reconstructed (cast-in-place concrete), and will join the existing UPRR culverts.

PROJECT IMPACTS

Existing fish or wildlife resources the project could substantially adversely affect, based on a site visit conducted June 04, 2009 by Jamie Jackson, and based on information received from the Permittee, include: **Amphibians:** California red-legged frog (*Rana aurora*), pacific treefrog (*Hyla regilla*); **Fish:** Steelhead (Oncorhynchus mykiss), tidewater goby (*Eucyclogobius newberryi*); **Reptiles:** Southwestern pond turtle (*Emys marmorata pallida*), two-striped garter snake (*Thammophis hammondii*), western fence lizard (*Sceloporus occidentalis*), coast patched-nose snake (*Salvadora hexalepis virguleta*); **Birds:** Southwest willow flycatcher (*Empidonax traillii extimus*), least Bell's vireo (*Vireo bellii pusillus*), yellow-breasted chat (*Icteria virens*), black phoebe (*Sayornis nigricans*), western scrub jay (*Aphelocoma californica*), bushtit (*Psaltriparus minimus*), western bluebird (*Sialia mexicana*), California towhee (*Pipilo crissalis*), house finch (*Carpodacus mexicanus*); **Mammals:** pallid bat (*Antrozous pallidus*), Townsend's big-eared bat (*Corynorhinus townsendii*), ringtail (*Bassariscus astutus*), long-tailed weasel (*Mustela frenata*), gray fox (*Urocyon cinereoargenteus*), mule deer (*Odocoileus hemionus*), coyote (*Canis latrans*), striped skunk (*Mephitis mephitis*), brush rabbit (*Sylvilagus bachmani*), bobcat (*Lynx rufus*); **Native Plants:** Coast live oak (*Quercus agrifolia*), coyote bush (*Baccharis pilularis*), California sagebrush (*Artemisia californica*), poison oak (*Toxicodendron diversilobum*), mugwort (*Artemesia douglasiana*), mulefat (*Baccharis salicifolia*), lemonade berry (*Rhus integrifolia*), quailbush (Atriplex lentiformis), coast live oak and southern coast live oak riparian woodlands, 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.

The adverse effects the project could have on the fish or wildlife resources identified above include: permanent impacts of no more than 0.50 acres to ephemeral streambed and temporary impacts to no more than 1.50 acres of riparian vegetation associated with ephemeral streambed, which include disturbance of bare ground in the flow line and adjacent areas, required to remove and replace the inlets, aprons, and wingwalls; this will also result in an additional temporary loss, or reduction in cover, provided from streambed and bank vegetation removed as a result of construction-related activities.

Impacts by Streambed
Culvert inlets will be excavated and removed; new inlets will be re-constructed between existing US 101 inlet and existing UPRR outfalls; at la Conchita, additional culvert will be constructed to convey flow adjacent to existing culvert, which is to be converted to pedestrian undercrossing with new beach ramp and outfall. Minimal vegetation consisting primarily of ruderal and ornamental trees, shrubs, annual weeds/grasses, some Coastal Sage Scrub habitat and constituent elements (e,g., Lemonade Berry, Quailbush Scrub) occur within the project limits and may be temporarily impacted to construct the new culvert extensions and outfalls.

DS-20 Streambed and Culvert – existing culvert will be extended at inlet, excavation to place new reinforced concrete box (RCB) 2' x 2' x 3.3', channelized streambed under UPRR and US 101, near post mile 40.26. (Lat 34.356387, Long -119.437023)

DS-21A Streambed and Culvert – existing culvert will be extended at inlet, excavation to place new RCB 2' x 2' x 5.9', channelized streambed under UPRR and US 101, near post mile 40.26. (Lat 34.356378, Long -119.437443)

DS-22A Streambed and Culvert – existing culvert will be extended at inlet, excavation to place new RCB 2' x 2' x 4.0', channelized streambed under UPRR and US 101, near post mile 40.26. (Lat 34.356364, Long -119.437860)

DS-23 Streambed and Culvert – existing culvert will be extended at inlet, excavation to place new RCB 11' x11' x 7.8'. In vicinity of stream; may have perennial or intermittent flow, or possibly just from streambed of agricultural field at top of slope. Upstream: muddy streambed meanders, bent/missing vegetation in narrow, shallow active channel; channelized under UPRR and US 101, near post mile 40.26. (Lat 34.356332, Long -119.438853)

DS-26 Streambed and Culvert – existing culvert will be extended at inlet, excavation to place RCB, channelized streambed under UPRR and US 101, near post mile 41.0.

DS-41 & DS-43 Streambed and Culverts – La Conchita PUC – existing culvert (DS-43) is used as a pedestrian undercrossing (PUC) in addition to conveying streambed. It will be converted to a PUC, and a new streambed culvert (DS-41) will be installed adjacent to it, near post mile 41.61. (Lat 34.364381, Long -119.449617)

DS-48 Streambed and Culvert – For this project, only inlet adjustment will occur at this location. Streambed is an unnamed tributary to the Pacific Ocean; channelized streambed under UPRR and US 101, near post mile 42.13. (Lat 34.369659, Long -119.454147)

DS-53 Streambed and Culvert – existing culvert will be extended at inlet, excavation to place new RCB, channelized streambed under UPRR and US 101, near post mile 42.76. (Lat 34.375517, Long -119.464693)

DS-54 Streambed and Culvert – existing culvert will be extended at inlet, excavation to place RCB, channelized streambed under UPRR and US 101, near post mile 42.84. (Lat 34.376479, Long -119.469759)

Permanent Impacts

Only one culvert will be permanently altered by the proposed project impacting 0.50 acres. The existing culvert at La Conchita, which is currently used by pedestrians for beach access, will be re-constructed as a dedicated pedestrian undercrossing (PUC), and a new drainage culvert will be constructed adjacent to the PUC to convey runoff. The existing inlet is at Surfside Street between Sunland and Oxnard Avenues, and the existing outfall is on the ocean side of the freeway; there is no native, riparian, or wetland habitats present that would be affected by construction of the PUC or drainage culvert. Any adjacent vegetation which might be impacted is ruderal or ornamental. No significant impacts to wetlands, riparian habitat, or Waters of the U.S. are anticipated from re-construction of the existing culvert or from construction of the new adjacent box culvert, or beach-access ramp.

Temporary Impacts

Tree and vegetation removal may result in 1.5 acres of temporary impacts to habitat for migratory birds and raptors. Vegetation within the proposed public access parking areas (State Lands between Mobil Pier and Punta Gorda undercrossings), consists of grassland and Quailbush Scrub surrounding barren ground. There are 10 culverts which cross the existing railroad tracks at the inland boundary of the proposed parking area. These culverts, and higher quality habitat adjacent to them, are outside of the project limits and will not be removed or filled as part of the proposed project. The boundaries of the project footprint shall be CLEARLY demarcated using flagging or fencing. Vegetation adjacent to the project limits near the Bates Road undercrossing exists primarily as Ruderal and ornamental trees, shrubs, and annual weeds/grasses. Some Coastal Sage Scrub habitat and constituent elements (e.g., Lemonade Berry, Quailbush Scrub) occur within the project limits and may be temporarily impacted.

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 DFG at 4949 Viewridge Avenue, San Diego 92123, Attn: SAA. FAX Number (858) 467-4299, Reference # 1600-2010-0081-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, including 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 will be shown on the final plan sheets and prior to construction the Resident Engineer shall contact the Permittee District 7 Constriction Liaison in order to set up the ESA limits in the field. The six Jurisdictional culvert extensions will require work to be done during the dry season (April 1 through October 31).

Temporary BMPs during construction include but are not limited to: Street Sweeping, Stabilized Construction Entrance/Exit, Silt Fence, Temporary Fence (Type ESA), Temporary Streambed Inlet Protection, Temporary Concrete Washout (Portable), Fiber Roll. Permittee construction specifications will include: NS-1 Water Conservation Practices; NS-2 Dewatering Operations; NS-3 Paving and grinding operation; N3-6 Inlet Connection/ illegal Discharge Detection and reporting; NS-7 Potable Water/Irrigation; NS-8 Vehicle and equipment cleaning; NS-9 Vehicle and equipment fueling; NS-10 Vehicle and equipment maintenance; NS-11 Pile Driving Operations; NS-12 Concrete curing; NS-13 Material & Equipment use over water; NS-14 Concrete finish; NS-1 5 Structure Demolition. In addition to Permittee proposed BMP's these 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 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 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 (see Section 3 of this Agreement).

2.2.2 Permittee shall submit a written plan detailing avoidance measures to when project implementation occurs stating BMP's to ensure no impacts to steelhead as part of HMMP for this project (see Section 3 of this Agreement).

2.3 Tidewater Goby. The Applicant shall arrange for a fisheries biologist to sample in areas of ponded water there are stands of cattail or bulrush for removal PRIOR to impacts, specifically sampling for tidewater goby, a DFG species of special concern. Survey techniques shall be approved by the U.S. Fish and Wildlife Service and the DFG. Any variations from these techniques shall be approved by the DFG, in writing. The results and analysis of these surveys shall be provided to the U.S. Fish and Wildlife Service and the DFG, along with copies of all field notes, prior to the initiation of work. The fishery biologist shall have the required federal permits. The biologist shall install

exclusionary netting/devices in sections sampled to prevent movement of aquatic species back into areas where equipment shall be operated. Negative findings must be submitted to DFG PRIOR to any project related activities. If positive results are documented for this species then Permittee shall submit for review and written approval from DFG PRIOR to any impacts BMP's proposed to prevent impacts to this species during project related activities.

2.4 Southwestern Willow Flycatcher. This species has been recognized for using marginal habitat throughout multiple watersheds in Ventura and Santa Barbara Co. 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.

2.5 Least Bell's Vireo. This species has been recognized for using marginal habitat throughout multiple watersheds in Ventura and Santa Barbara Co. 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.

2.6 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. Prior to February 1st, existing nests (from previous years) shall be removed. Removal of partially completed nests

(when nests are LESS than half constructed) is permitted between February 01st and February 15th to discourage nesting when maintenance activities are being implemented. If new nests are built to completion, or existing nests become occupied, then any work that would interfere with or discourage swallows from returning to their nests is not permitted.

2.7 Bats. The Permittee shall avoid work on or near bridges or other structures when it would disturb roosting bats (February 15th – September 30th). If the Permittee determines that work must be conducted during this sensitive time period for roosting bats a qualified biologist familiar with the life history of bats shall conduct, at minimum, a presence/absence survey of the proposed work area and submit surveys, including negative results, to DFG for concurrence PRIOR to any work being initiated.

2.8 Southwestern Pond Turtle. There shall be no take of Southwestern pond 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. Surveys for the southwestern pond turtle shall be submitted to the DFG for review, including negative findings, prior to any impacts associated with Applicants 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 Applicant initiating any of the proposed project activities. The Applicant 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

2.9 Two-Stripped 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 Applicants 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 Applicant initiating any of the proposed project activities. The Applicant 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

2.10 Presence/Absence Surveys. Due to the potential occurrence, or locally known presence of: steelhead, tidewater goby, red-legged frog, coast patched-nose snake, southwestern pond turtle (trapping surveys only in areas with annual ponded water), two-striped garter snake, southwestern willow flycatcher, least Bell's vireo, yellow-breasted chat, ringtail, long-tailed weasel, gray fox, pallid bat, and Townsend's big-eared bat, pre-construction presence/absence surveys (in addition to previous protocol level surveys for species that required them) 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 harms way.

2.11 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.

2.12 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 harms 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.

2.13 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. The biological monitor shall have

authority to temporarily stop construction activities until the species is determined to be out of harms way.

2.14 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 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

2.15 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.

2.16 Active Breeding and/or Nest. If breeding activities and/or an active bird nest is located, 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 (except access along re-established roadway) within the recommended avoidance area until the biologist determines the adults and young are no longer reliant

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

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. 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.

2.17 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).

2.18 Fish Surveys. If flowing or ponded water is within the proposed work limits, the Permittee shall have a qualified fisheries biologist survey the proposed work area to verify presence/absence of the any sensitive fish species and any other species of special concern which may occur within the area. Survey methods shall conform to the current U. S. National Marines Fisheries Service and the California DFG of Fish and Game. If any T/E species are found, the Permittee shall cease all work within a mile radius of the sighting and in all water (flowing or impounded) and shall contact the DFG within 24 hours of the sighting and shall request an onsite inspection by the DFG representative (to be done at the discretion of the DFG) to determine if work shall proceed. The results of the surveys shall be provided to the DFG, along with copies of all field notes, prior to the completion of work or as otherwise specified. The survey techniques shall be approved by the DFG, in writing, and the researcher shall have the required State and federal permits.

2.19 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 obtain any required state take permits.

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

2.21 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.

2.22 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

2.23 Wildlife Corridors. The Permittee, where possible, and in jurisdictional features, shall install appropriately sized culverts or open span bridges, to facilitate the movement of wildlife, under rather than over roadways. If culverts or an open span bridge cannot be installed the Permittee shall notify the DFG and discuss other options. The Permittee shall maintain all existing culverts, in jurisdictional features, under Interstate US-101. Hydrology and acre feet of water delivered to the Pacific Ocean shall not be altered. The culverts potentially provide wildlife/aquatic organisms access under US-101 and shall remain adequate in size and uncompromised to accommodate the movement of both aquatic and terrestrial species. The DFG has noted that providing a mechanism for diffused light to pass into and under the under crossings are an important element for mammals using these dry creek beds as corridors. The project should be modified to include some mechanism for diffuse light to pass into the newly designed box culverts where the inlet and outlet are more than 25 linear feet apart.

2.24 Vehicle Access Where Vegetation May be Impacted. In locations identified for project area access, or within the bank and streambed, vegetation shall be driven over only; no grubbing shall occur.

2.25 Tree and Shrub Removal. No tree removal is allowed; coast live oak, black walnut (*Juglans nigra*), western sycamore (*Platanus occidentalis*), and Fremont cottonwood (*Populus fremontii*) tree limbs less than 3 inches at DBH may be trimmed as necessary to provide equipment access. Any trimming of branches of trees with a DBH greater than 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).

2.26 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.

2.27 Authorized Uses of Herbicides. No herbicides shall be used on native vegetation

unless specifically authorized, 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.

2.28 Alteration of Streambed. If a stream channel has been altered during the Permittee's project-related activities, the streambeds low flow channel shall be returned, as nearly as possible, to pre-project conditions without creating a possible future bank erosion problem, or a flat wide channel or sluice-like area. The gradient of the streambed shall be returned to pre-project grade unless such operation is part of a restoration project; in which case, the change in grade must be approved by DFG prior to impacts.

2.29 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.

2.30 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.

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

2.32 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

2.33 Fill. This Agreement authorizes the use of fill as specified in the project description as described in the Applicant's Streambed Notification.

Placement of In-stream Structures

2.34 Diversions. No diversion, dams, or restriction of flows is authorized within this Agreement without authorization in writing from the DFG PRIOR to implementation.

2.35 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 and concrete shall not be poured within 150 feet of a stream during the rainy season. 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.

2.36 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.

2.37 Temporary Installation of Bridges, Culverts, or Other Structures. Temporary culverts or other structures shall be such that water flow (velocity and low flow channel width) is not impaired. Bottoms of temporary culverts shall be placed at or below stream channel grade. If any structure is cast in place, the area poured shall be completely bermed and isolated to contain all wet cement, even if water is not present. The pH of hot concrete may be as high as 13 which is toxic to wildlife.

2.38 Temporary Dams. This Agreement does not authorize any temporary dam or other artificial obstruction. Any work in a wetted portion of a streambed shall be approved by DFG prior to construction.

Turbidity and Siltation

2.39 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.

2.40 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.

2.41 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.

2.42 Dewatering Restrictions. No dewatering activities are proposed or authorized by this Agreement. If necessary, and after written approval has been granted by the 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.

2.43 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 when it may pass into waters of the state from rain or wind.

2.44 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.

2.45 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.

2.46 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

2.47 Staging and Vehicle Storage. Staging/storage areas for equipment and materials shall be located outside of the stream.

2.48 Authorized Vehicles. Vehicles shall not be driven or equipment operated in water covered portions of a stream, or where wetland vegetation, riparian vegetation, or aquatic organisms may be harmed or destroyed. DFG must be notified within 24 hours by email or fax if it becomes necessary to work in a wetted stream, other than already described in the Permittee's notification.

2.49 Vehicle Access. The Permittee shall have a qualified biologist conduct surveys for emergent vegetation and aquatic animal species PRIOR to vehicles allowed into the stream. Results, including negative findings, shall be submitted to DFG PRIOR to impacts. DFG concurrence must be received PRIOR to the commencement of any work in a wetted stream.

2. 50 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. 51 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.

2.52 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.

2.53 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.

2.54 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.

2.55 Pollution Clean-up. The clean-up of all spills shall begin immediately. DFG shall be notified immediately by the Permittee of any spills and shall be consulted regarding clean-up procedures.

2.56 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

To compensate for adverse impacts to fish and wildlife resources identified above, that cannot be avoided or minimized, Permittee shall implement each habitat enhancement measure listed below to compensate for 0.5-acre of permanent and 1.50 acres of

temporary impacts to the riparian vegetation of the 10 streambeds impacted as part of Permittee project related activities.

Fish Passage

3.1 Barriers. Permittee shall identify any potential fish passage barriers downstream and upstream of the project areas and include the enhancement or removal of these barriers as compensatory mitigation within the HMMP. Where feasible, the removal of or improvement of these fish migration barriers shall achieved through collaboration with the DFG and the DFG shall make recommendations regarding any fish passage improvements PRIOR to Permittee selecting barriers for removal or improvement. The following three culverts on US-101 have been identified as significant barriers to steelhead migration and would be considered high priority under Permittee Fish Passage policy for barrier removal during current project activities; Rincon Creek falls directly within the project footprint. However, the DFG has identified three high priority barriers that should be considered for removal.

1. Rincon Creek- Highway 101 Culvert (CALTRANS)
2. Mission Creek – (CALTRANS lower trapezoidal channel)
3. Tajiguas – (CALTRANS culvert)
4. Dos Pueblos - (CALTRANS trapezoidal channel)
5. Carpenteria Creek

Native vegetation

3.2 Plantings. The HMMP shall identify areas along the banks of the streambeds where the suitable steelhead and red-legged frog habitat could be improved or restored. All planting efforts to mitigate impacts for both permanent and temporary impacts (2.0-acres) to vegetation as a result of the Permittee's project related activities shall be concentrated in areas where water temperatures are most likely elevated due to an absence of, or low availability of, shade and safe harbor refuge to aquatic species. Areas identified for plantings and plant types proposed shall be approved in writing by the DFG as part of the overall HMMP approval process.

Exotic Species Removal and Control

3.3 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 (*Littorina* 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.

3.4 *Arundo donax*. Giant cane (*Arundo*), if present, shall be cut to a height of 6 inches

or less, and the stumps painted with an herbicide approved for aquatic use within 5 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.

3.5 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.

4. Reporting Measures

Permittee shall meet each reporting requirement described below.

4.1 Habitat Mitigation Monitoring Report (HMMP). Permittee shall submit in written format the proposed HMMP to the DFG PRIOR to any impacts (site preparation included) and must receive from the DFG written concurrence that the HMMP has been approved before Permittee may proceed with any site preparation activities. Permittee shall submit the HMMP for DFG comments and written approval by either the proposed project implementation date or **December 31, 2012.** Permittee must allow the DFG 30-days to review and provide written approval of the proposed HMMP PRIOR to any projects related impacts. The HMMP shall include all proposed planting plans, improvements proposed for fish passage, and all proposed monitoring activities and durations proposed for each phase of mitigation to be installed and completed. All portions of the HMMP shall be completed by **December 31, 2016.**

4.2 Weekly Electronic Reports. Electronic (e-mail) weekly updates during periods of project implementation describing vegetation clearing, grubbing, and grading progress, species encountered during construction, and species relocation/disposition, as well as any reported losses of wildlife shall be submitted to the DFG no later than the first Monday following the initiation of site preparation, and shall continue until the site preparation portion of the project is completed (this includes all roads and related activities). Electronic updates should be submitted to the following email address: jjackson@dfg.ca.gov

4.3 Final Construction Mitigation and Monitoring Report. Permittee shall provide a final construction report to DFG no later than two weeks after the project is fully completed. The construction report at a minimum shall contain pre-project photographs, total amount of area impacted post project, post-project photographs, and detailed habitat restoration (as detailed in section 3 above).

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. Ron Kosinski
100 S. Main Street,
Los Angeles, California, 90012
Tel. (213) 897-0098 Fax. (213) 897-2593

To DFG:

DFG of Fish and Game
South Coast Region
4949 Viewridge Avenue
San Diego, California 92123]
Attn: Lake and Streambed Alteration Program
Notification #1600-2010-0081-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, 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.

TERM

This Agreement shall expire on December 16, 2016 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: "Natural Environmental Study Culvert Replacement on US 101 from west of Punta Gorda undercrossing to east of Rincon Point north of the La Conchita community in Ventura County 07-VEN-101-PM 41.9/42.1 EA 17480" dated March 2009.

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

Aziz Elattar
Office Chief

5-10-2011
Date

FOR DFG OF FISH AND GAME

For Helen Birss
Environmental Program Manager

14 June 2011
Date

Prepared by: Jamie Jackson
Staff Environmental Scientist

2673-03

UPRR Folder No. ~~2537-03~~

State Agreement No. ~~07R293~~ 07R294

CONSTRUCTION & MAINTENANCE AGREEMENT

BETWEEN THE

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

AND THE

UNION PACIFIC RAILROAD COMPANY

COVERING

THE CONSTRUCTION, MAINTENANCE AND USE OF THE NEW La CONCHITA PEDESTRIAN UNDERCROSSING AND DRAINAGE CULVERT DOT NO. 427-712J

AT

RAILROAD MILE POST 382.83
SANTA BARBARA SUBDIVISION

AT

La CONCHITA, NEAR CARPENTERIA,
VENTURA COUNTY,
CALIFORNIA

State Agreement No. 07R294
La Conchita Pedestrian Undercrossing
UPRR Folder No. 2673-03
Railroad Milepost 382.83
Santa Barbara Subdivision
07-VEN-101-PM 42.2 (EA 260701)
PUC No. 001E-1383.10
DOT No. 427712J

CONSTRUCTION AND MAINTENANCE AGREEMENT LA CONCHITA PEDESTRIAN UNDERCROSSING AND DRAINAGE CULVERT

This Agreement ("Agreement") is entered into effective this 28th day of July, 2011 ("Effective Date"), by and between the **UNION PACIFIC RAILROAD COMPANY**, a corporation of the State of Delaware, referred to herein as "Railroad," and the **STATE OF CALIFORNIA, acting by and through its DEPARTMENT OF TRANSPORTATION**, referred to herein as "State."

RECITALS:

A. State intends to construct, or cause to be constructed, a pedestrian undercrossing (a "PUC") that will traverse underneath Railroad's track and other corridor property at Railroad Mile Post 382.83, in the general location shown on the Railroad Location Print marked **Exhibit A**, attached hereto and hereby made a part hereof, and thence underneath United States Route 101 (US 101) at Post Mile 42.2, in the community of La Conchita, near Carpenteria, County of Ventura, California. The PUC is part of a larger project, State Project EA 260701 (the "Highway Project"), to widen six miles of US 101 with High Occupancy Vehicle ("HOV") lanes for the purpose of traffic congestion relief and operational safety enhancement.

B. The proposed PUC structure will consist of a precast reinforced concrete box ("RCB") culvert, eight feet wide by eight feet high, which will span approximately 205 feet total underneath Railroad and State Highway properties to provide direct beach access to and from the community of La Conchita. Approximately 55 feet, more or less, of the PUC will be on Railroad property (the "Railroad PUC"), and the remaining approximately 150 feet will be on State property. Electric lighting for the PUC will be installed for needed visibility and public safety.

C. State contends that, although the PUC is not a project component for traffic congestion relief, it was included in the Highway Project, among other special features, as a condition for Highway Project approval by permitting agencies with jurisdiction within the Highway Project limits and the assignment of various sources of government funds under the control of local agencies to State to complete a series of projects that lack sufficient funding. With local support, approval, and added funding, State is now able to construct the Highway Project for the purpose as stated.

D. State contends that the planning of a pedestrian crossing from the community of La Conchita to the beach on the other side of US 101 is documented in two Freeway Agreements executed on September 26, 1966, and March 25, 1969, between State and the County of Ventura.

State contends that the County of Ventura, under those Freeway Agreements, agreed to take control and maintenance of said pedestrian facilities.

E. In compliance with statewide policy and as provided for in the above two cited Freeway Agreements, it is State's intention to transfer the control, operation, and maintenance of the PUC to the County of Ventura. Due to funding, time constraints and Railroad operations, State is under an aggressive schedule to begin construction on the Highway Project in summer 2011 and will pursue transferring ownership, operation, and maintenance of PUC to the County of Ventura at a later date.

F. The Highway Project will also include the installation of a new precast RCB drainage culvert (the "Drainage Culvert"), eight feet wide by eight feet high, that will be installed immediately alongside the PUC on Railroad property and extend for the same distance on Railroad property as the Railroad PUC. The new Drainage Culvert will connect with an existing culvert within State property under US 101.

G. In connection with the PUC, the Highway Project also includes construction and installation of a ramp on Railroad property to provide access to the PUC (the "Ramp") from Surfside Avenue (aka "Vista Del Mar Avenue") in the community of La Conchita. The Ramp is designed to comply with the provisions and purposes of the Americans with Disabilities Act and will include limited bicycle parking in bicycle racks. The construction and installation of the Railroad PUC, the Drainage Culvert and the Ramp are referred to herein collectively as the "Crossing Project."

H. Installation of the Railroad PUC structure and the Drainage Culvert will require closure of Railroad's tracks for a period of time before, during and after installation. Ordinarily, to prevent interruption of Railroad's freight service, as well as passenger service provided by Amtrak and Metrolink, the installation of these structures would necessitate the construction, at State expense, of a shoofly track over which trains could pass during the closure of the main track.

I. Railroad has a pending maintenance project (the "Maintenance Project") in the general vicinity of the Crossing Project that will also require closure of its tracks for a short period. In order to avoid the need for a shoofly track and to minimize State's expenses, State desires Railroad to install the Railroad PUC structure and the Drainage Culvert, solely at State's expense, in conjunction with its Maintenance Project during the period of track closure required for the Maintenance Project. Railroad is agreeable to doing so provided that, among other things: 1) full compensation, as set forth in Section 1 below, for the property rights needed for the Crossing Project, as set forth in Paragraph K below, has been paid by State to Railroad prior to installation; and 2) State is able to coordinate installation of the Railroad PUC structure and the Drainage Culvert with Railroad's plans for its Maintenance Project.

J. Pending appropriate weather and soil conditions, Railroad has scheduled its Maintenance Project for August 15, 2011. In order to include installation of the Railroad PUC structure and the Drainage Culvert in conjunction with the Maintenance Project, State must deliver the prefabricated RCBs needed for the Crossing Project to one of the sites designated in Section 2(A) no later than August 1, 2011.

K. In order to construct the Crossing Project, State must acquire from Railroad several permanent easements and temporary construction easements (the "Project Parcels"). A print showing the location and dimensions of each such easement is attached as **Exhibit D** hereto. The respective Project Parcels are described as follows:

(i) Parcel number 79897-1 ("Parcel 1"): A 3606 square foot permanent easement for the Ramp and Railroad PUC. The legal description for Parcel 1 is attached as **Exhibit E-1** hereto.

(ii) Parcel number 79897-2 ("Parcel 2"): A 1026 square foot permanent easement for the Drainage Culvert. The legal description for Parcel 2 is attached as **Exhibit E-2** hereto.

(iii) Parcel number 79897-3 ("Parcel 3"): A 125 square foot permanent easement for installation and maintenance of facilities to provide lighting within the PUC structure. The legal description for Parcel 3 is attached as **Exhibit E-3** hereto.

(iv) Parcel number 79897-4 ("Parcel 4"): A 978 square foot, 36-month temporary construction easement alongside Parcel 79897-1. The legal description for Parcel 4 is attached as **Exhibit E-4** hereto.

(v) Parcel number 79897-5 ("Parcel 5"): A 3598 square foot, 36-month temporary construction easement alongside Parcel 79897-1. The legal description for Parcel 5 is attached as **Exhibit E-5** hereto.

(vi) Parcel number 79897-6 ("Parcel 6"): A 679 square foot, 36-month temporary construction easement along the southerly side of parcel 79897-2. The legal description for Parcel 6 is attached as **Exhibit E-6** hereto.

L. Prints showing the PUC, Drainage Culvert and Ramp structures' general type and size are shown on **Exhibit C**, attached hereto.

M. List of exhibits. The following attached exhibits are hereby made a part of this Agreement:

Exhibit A	Railroad Location Print
Exhibit B	Project Location Plan
Exhibit C	Structures' general type, size and profile
Exhibit D	State's Appraisal Map for showing locations of Parcel 79897-1 through Parcel 79897-6
Exhibits E-1-6	Legal Descriptions for Parcels 1 through 6 respectively
Exhibit F	Form of Permanent Easement Deed for Parcel 1
Exhibit G	Form of Permanent Easement Deed for Parcel 2
Exhibit H	Form of Permanent Easement Deed for Parcel 3
Exhibit I	Form of Temporary Construction Easement for Parcels 4, 5 and 6
Exhibit J	Railroad's Estimate for estimated design and engineering review, inspection, and flagging
Exhibit K	State's Railroad Relations and Insurance Requirements
Exhibit L	Railroad's Minimum Requirements
Exhibit M	Caltrans Right of Entry Agreement

N. The parties desire to set forth their understanding and agreement relating to the construction, use, maintenance and repair of the Crossing Project.

AGREEMENT:

Section 1. CONSIDERATION TO BE PAID BY STATE TO RAILROAD FOR PROPERTY RIGHTS; RAILROAD CONVEYANCE OF PROPERTY RIGHTS

A. Pursuant to the terms and conditions of that certain Agreement in Lieu of Condemnation between State and Railroad, dated July 28, 2011, and in consideration of the payment of the Settlement Amount set forth therein:

(i) The Railroad shall execute and State shall accept easement deeds in the forms marked **Exhibits F through H**, attached hereto and hereby made a part hereof, for Parcels 1, 2, and 3, respectively (the "Easement Deeds"). Railroad's obligations under this Paragraph 1(A)(i) are subject to State's fulfillment of its obligations under Section 2 herein, which shall be a condition precedent to Railroad's obligations under this Paragraph.

(ii) Railroad, in further consideration of the Settlement Amount received from the State as set forth in Section 1(A) above, shall grant to State, in the form marked **Exhibit I**,

attached hereto and hereby made a part hereof (a "Temporary Construction Easement"), the temporary right to use Parcels 4, 5 and 6 (the "Temporary Use Parcels") for temporary construction purposes. The State's use of the Temporary Use Parcels shall be subject to the terms and conditions of this Agreement and to the obligation of the State and its Contractor (as defined in Section 14 of this Agreement) to comply with such provisions. The temporary rights granted shall commence as of the Effective Date of this Agreement and continue for a period of 36 months thereafter, or until the State has completed the Crossing Project, whichever occurs earlier. Railroad's obligations under this Paragraph 1(A)(ii) are subject to State's fulfillment of its obligations under Section 2 herein, which shall be a condition precedent to Railroad's obligations under this Paragraph.

(iii) In the event State requires use of the Temporary Use Parcels for the purposes granted in the Temporary Construction Easement for a longer term than herein provided ("Holdover Use"), State shall have the right to such Holdover Use provided that State pays Railroad an amount according to the following formula: $29 x total square footage of the affected Temporary Use Parcel x 13%, divided by 12, for each month of Holdover Use. State shall pay such amount no less than 30 days in advance of any such Holdover Use based on its good faith estimate of the duration of Holdover Use required. Thus, for example, if State determines that it requires Holdover Use for a period of six months after the expiration of the Temporary Construction Easement for Parcel 4, State must pay Railroad a total of $1843.53 ($29 x 978 square feet x 13% divided by 12 x six months) no later than 30 days prior to the expiration of the Temporary Construction Easement. State shall not be entitled to any refund of any amount paid in advance for any Holdover Use period whether or not the full period is actually required. In no event shall State have the right to extend its Holdover Use beyond a date sixty-eight (68) months after the effective date of this Agreement without prior written consent of Railroad.

B. State and Railroad acknowledge that State has the power of eminent domain. State asserts, and Railroad acknowledges that the property rights being acquired by State for the Crossing Project are under imminent threat of condemnation pursuant to applicable state statutes, authorizing State to condemn property for highway and related uses. State and Railroad further acknowledge that Railroad intends to treat any gain or loss realized from the granting of the permanent easements to State for Parcels 1, 2, and 3 as sold or granted under imminent threat of condemnation.

Section 2. FAILURE OF CONDITION PRECEDENT

A. State hereby acknowledges that Railroad enters into this Agreement and agrees to convey the Project Parcels as herein described, and agrees to permit the construction of the Crossing Project only under the condition precedent that installation of the Railroad PUC structure and the Drainage Culvert on Railroad Property can be accomplished at the same time as

the Maintenance Project and during the same period of track closure required for the Maintenance Project. Railroad presently intends to perform its Maintenance Project and associated track closure on August 15, 2011. In order for Railroad to install the RCBs, as set forth in Section 3 herein, on or about August 15, 2011, in conjunction with the track closure required for the Maintenance Project, State must, and hereby promises and covenants to deliver the Railroad PUC and Drainage Culvert RCBs with the proper specifications for installation on Railroad property no later than August 1, 2011, and to deliver the bolted couplers required for the installation of the RCBs no later than August 10, 2011, to one of the following locations:

(i) Railroad's Yard located at 273 East 5th St., Oxnard, CA 93030.

(ii) Railroad's Sea Cliff siding located south of La Conchita at Milepost 384.

B. In the event State fails to deliver the RCBs as set forth in the preceding paragraph on or before August 1, 2011, or in the event the RCBs are defectively manufactured, or damaged such that they cannot be properly installed in Railroad property in accordance with the Project Plans without modification, and/or in the event State fails to deliver the bolted couplers as set forth in the preceding paragraph by August 10, 2011, the terms and provisions of the following subparagraphs, Section 2(B)(i), (ii), (iii) and (iv) shall apply:

(i) Subject to subparagraphs (iii) and (iv) of this Paragraph B, Railroad shall have no further obligation to install the RCB's or do any other work on the Crossing Project and State shall have no further right to do any work on the Crossing Project on Railroad property. Any and all costs incurred by Railroad pursuant to Section 3 below shall be reimbursed by State in accordance with Section 4 below.

(ii) In the event the RCB's have already been delivered to Railroad, State, as its sole responsibility, and at its sole cost and expense, shall remove or cause to be removed, the RCBs from Railroad's property. Nothing in this paragraph prevents the parties from agreeing to an alternative storage and/or removal procedure for the RCBs.

(iii) If, between August 15, 2011 and December 15, 2012, the Railroad has a project or other occurrence that requires closure of its track in the location of the Crossing Project, and during the period of such closure it is reasonably practicable for Railroad to install the RCBs in the manner contemplated by this Agreement, and subject to State's ability to coordinate the installation of the RCB's with Railroad's track closure, then Railroad shall install the RCBs in conjunction with such track closure, and State may subsequently construct and install the Crossing Project, in accordance with the terms of this Agreement.

(iv) State understands that no such track closure is currently contemplated by Railroad and that there may be no track closure at the site of the Crossing Project at any time

between August 15, 2011 and December 15, 2012. It shall be the sole responsibility of State to identify and coordinate an alternative date for installation of the RCBs. Railroad shall reasonably cooperate with State's efforts to do so but, in no event, shall Railroad be liable for any costs, damages or claims of any kind arising from the failure to identify and coordinate such alternative date and the installation of the RCBs prior to December 15, 2012 or otherwise, nor shall Railroad have any liability in the event the Crossing Project is not constructed.

Section 3. WORK TO BE PERFORMED BY RAILROAD

Railroad, as a Project cost and at no cost to Railroad, shall perform design and engineering review work, signal, track and surface work and flagging protection as deemed necessary by Railroad to install the State furnished RCBs for the Railroad PUC and for the Drainage Culvert. Railroad's estimated costs for performing such work are set forth in Railroad's Summary Estimate Sheet, and Railroad's Material and Force Account Estimate dated March 23, 2011, and each marked **Exhibit J**, (the "Railroad Estimate").

Section 4. BILLING SENT BY RAILROAD TO STATE; STATE'S PAYMENT OF RAILROAD BILLS

A. Railroad shall send progressive billing to State and final billing to State within one hundred eighty (180) days after receiving written notice from State that all Crossing Project work affecting Railroad's property has been completed. All invoices for this contract must show the description as: "La Conchita Pedestrian Underpass - 07R294 at Railroad Milepost 382.83, DOT No. 427712J" with attached details of the work performed. State acknowledges that the flagging estimate contained in the Railroad Estimate is based on an estimated fifty (50) days of flagging and that the actual number of flagging days needed for the Project may be more or less than 50 days and that Railroad's actual daily flagging rate of one thousand one hundred dollars ($1,100) may also be more or less than $1,100.

B. State agrees to pay Railroad for all actual costs incurred by Railroad in connection with the Crossing Project including, but not limited to, all actual costs of preliminary engineering review, construction, inspection, procurement of materials, equipment rental, manpower and deliveries to the job site, flagging and all direct and indirect overhead labor/construction costs. State recognizes that it can elect under 23 CFR 140.907 to reimburse Railroad for all direct and indirect overhead labor/construction costs (using Federal additive rates) and agrees to do so.

C. State agrees to pay Railroad for billings received from Railroad within forty-five (45) days of State's receipt of billing from Railroad pursuant to the California Prompt Payment Act, CALIFORNIA GOVERNMENT CODE, SECTIONS 927-927.13 inclusive.

Section 5. RAILROAD'S SHARE OF PROJECT COSTS

The construction of the Railroad PUC and the Drainage Culvert will not result in the closure and abandonment of existing crossings. The proposed PUC structure and Drainage Culvert are of no benefit to Railroad within the meaning of 23 CFR 646.210. Railroad will not be required to contribute to the cost of the Crossing Project or the Highway Project in any way or for any purpose or reason.

Section 6. WORK PERFORMED BY STATE

A. Except as provided in Section 3 herein, State, as a Project expense and at no cost to Railroad, shall perform all Crossing Project and Highway Project work including, without limitation, drainage and other applicable work, all of which shall be performed in compliance with the Plans and Minimum Requirements described and defined in Sections 7 and 13, respectively, and in a good and workmanlike manner and prosecuted diligently to conclusion.

B. State will furnish RCBs as previously provided herein by August 1, 2011. The RCB's shall be: (1) approximately 55 feet of reinforced concrete box culvert (8' x 8') for installation of the Railroad PUC; and (2) approximately 55 feet of reinforced concrete box culvert (8' x 8') for installation of the Drainage Culvert.

C. State shall construct and install the Ramp, including the bicycle racks, and associated lighting for visibility and safety.

Section 7. PLANS

A. State, at State's expense, shall prepare, or cause to be prepared by others, the detailed plans and specifications for the Crossing Project and submit such plans and specifications to Railroad's Assistant Vice President Engineering - Design, or his authorized representative, for review and approval. The plans and specifications shall include all appurtenances, associated drainage, shoring, sheeting and excavations for bents and/or abutments next to or adjacent to Railroad's tracks.

B. The project plans that are finally approved by Railroad are hereinafter referred to as the "Plans". The Plans are hereby made a part of this Agreement by reference.

C. No changes in the Plans shall be made unless Railroad has consented to such changes in writing.

D. Railroad's review and approval of the Plans will in no way relieve State from its responsibilities, obligations and/or liabilities under this Agreement, and will be given with the

understanding that Railroad makes no representations or warranty as to the validity, accuracy, legal compliance or completeness of the Plans and that any reliance by State on the Plans is at the risk of State.

Section 8. MAINTENANCE AND REPAIR OF RAILROAD PUC, DRAINAGE CULVERT AND RAMP

State, at its sole expense, shall maintain, repair and renew, or cause to be maintained, repaired and renewed, the Railroad PUC structure, the Drainage Culvert and the Ramp (collectively, the "Structures") including, without limitation, all graffiti removal or overpainting involving the Structures, in a safe, clean, sturdy and sound condition. If any inspection, maintenance, repairs, reconstruction or replacement of the Structures require State or its Contractor (as defined in Section 14) to enter upon and use any portion of Railroad property, or if such work could jeopardize the safety of Railroad personnel and equipment in the vicinity of the Structures, the State shall execute Railroad's then-current form of Right of Entry Agreement prior to commencing any such work. If State's Contractor is to perform such work, such Contractor must provide to Railroad the Contractor's Endorsement, insurance policies, binders, certificates and endorsements that are required in the then-current Right of Entry Agreement prior to commencing any such work. Because State is self-insured, if State is to perform such work, State agrees to defend, indemnify and hold harmless Railroad for any damages pursuant to California Government Code section 14662.5. State does not agree to insure Railroad against Railroad's sole negligence or willful misconduct. State, or its successors and assigns, shall also pay Railroad for its use of any Railroad property for which it does not at such time already hold easement or other access rights, and for all flagging costs.

Notwithstanding any other provision of this Agreement, once the RCBs are installed on Railroad property State shall be solely responsible for controlling access to the PUC and the Drainage Culvert and shall be solely responsible for maintenance and security thereof before, during and after construction of the remainder of the Crossing Project. State assumes all risk of damage to the RCB's and of claims for injury or property damage or otherwise by persons using the PUC and/or the Drainage Culvert and State agrees to defend, indemnify and hold harmless Railroad for any such damages or claims pursuant to California Government Code section 14662.5, and/or any other applicable law.

Section 9. NON-RAILROAD IMPROVEMENTS

A. Submittal of plans and specifications for protecting, encasing, reinforcing, relocating, replacing, removing, and abandoning in place all non-railroad facilities ("NR Facilities") affected by the Crossing Project including, without limitation, utilities, fiber optics, pipelines, wire lines, communication lines and fences is required under Section 7. The NR Facilities plans and specifications shall comply with Railroad's standard specifications and

requirements, including, without limitation, American Railway Engineering and Maintenance-of-Way Association ("AREMA") standards and guidelines. Railroad has no obligation to supply additional land for NR Facilities and does not waive its right to assert preemption defenses, challenge the right-to-take, or pursue compensation in any condemnation action in connection with any NR Facilities affected by the Crossing Project, regardless of whether the submitted NR Facilities plans and specifications comply with Railroad's standard specifications and requirements. Railroad has no obligation to permit NR Facilities to be abandoned in place or relocated on Railroad's property.

B. Upon Railroad's approval of submitted NR Facilities plans and specifications, Railroad will attempt to incorporate them into separate new agreements or amendments of existing agreements with NR Facilities owners or operators. Railroad may use its standard terms and conditions, including, without limitation, its standard license fee and administrative charges when requiring supplements or new agreements for NR Facilities. NR Facilities work shall not commence before an amendment or new agreement has been fully executed by Railroad and the NR Facilities owner or operator or before Railroad and State mutually agree in writing to (i) deem the approved NR Facilities plans and specifications to be Plans pursuant to Section 7B, (ii) deem the NR Facilities part of Crossing Project, and (iii) amend this Agreement with terms and conditions covering the NR Facilities.

C. In the event State requests in writing that Railroad reduce the proposed license fee or administrative charge in a new or amended agreement with a NR Facilities owner or operator, Railroad agrees to execute such new or amended agreement for the NR Facilities containing a statement whereby Railroad acknowledges that State has paid the fee or charge for the NR Facilities owner or operator. State and Railroad shall then make a good faith effort to determine the fair market license fee or charge for such new or amended agreement through negotiation. In the event negotiations are unsuccessful, State and Railroad each reserve the right to establish the fair market license fee or charge for such new or supplemental agreement through litigation. If the fair market license fee or charge, as determined through negotiation or litigation, is different than the amount paid by the State on behalf of the NR Facilities owner or operator as a license fee or administrative charge, the difference between the amount so paid and the fair market license fee or charge as so determined shall be paid or refunded by the appropriate party to the other party within 45 days of the determination.

Section 10. NO CLAIMS BY STATE

Notwithstanding any other provisions of this Agreement, State shall not make any claim against Railroad for any damages or other costs related to any and all work delays which arise in whole or in part from accommodating or performing railroad train operations, including, without limitation, train schedule changes, and/or increased railroad train operations by Railroad.

Section 11. BOOKS AND RECORDS

The books, papers, records and accounts of Railroad, so far as they relate to the items of expense for the materials to be provided by Railroad for the Crossing Project, or are associated with the work to be performed by Railroad for the Crossing Project, shall be open to inspection and audit at Railroad's offices in Omaha, Nebraska, during normal business hours by the agents and authorized representatives of State, and the Federal Highway Administration for a period of three (3) years following the date of Railroad's last billing sent to State.

Section 12. DEFERRED SEASONING

A. State acknowledges that conditions inherent in the construction and installation of the Railroad PUC and the Drainage Culvert may delay the complete stabilization of these structures and of Railroad's trackage including, without limitation, new embankment, cuts or fills beyond the construction and installation period. Railroad's operation over such areas during this seasoning period may impose extraordinary maintenance costs in the event of caving, sliding, slipping, sinking or settling, including, without limitation, damage to rip-rapping or protective work in connection therewith, as well as settlement and consolidation of tracks and ballast, until such seasoning period is complete. Therefore, State agrees that it is responsible to Railroad for all that part of the cost and expense of extraordinary maintenance associated with the Crossing Project which can be attributed to the partial or complete failure of subgrade and/or embankment, settlement, and consolidation of subballast, or roadbed, or any combination thereof ("Deferred Seasoning"), which is incurred during the period commencing immediately following completion of the installation of the Railroad PUC and Drainage Culvert structures and ending five (5) years thereafter (the "Seasoning Period"). Such Deferred Seasoning costs include reimbursement of the extra cost, in excess of normal maintenance costs, of maintaining embankments and subgrade and that portion of Railroad's tracks above subgrade in accordance with acceptable maintenance standards, and will include cost of maintaining proper alignment, proper surface and use of ballast and other materials. The work of such Deferred Seasoning repair shall normally be performed by Railroad, either with its own forces or through a responsible contractor employed by Railroad.

B. The Parties agree that the allocation of costs for repair and maintenance between Deferred Seasoning and normal maintenance is difficult to make. In lieu of payment of Deferred Seasoning costs by State as they may be incurred, State shall pay Railroad the one-time sum of $10,000 (the "Seasoning Payment"), in addition to the Settlement Amount set forth in Section 1 herein, in full satisfaction of the Deferred Seasoning costs anticipated to be incurred over the Seasoning Period. Notwithstanding the actual Deferred Seasoning costs incurred by Railroad during the Seasoning Period, State shall have no obligation to pay any further Deferred Seasoning costs nor shall Railroad be obligated either to account for such costs or to refund State

the difference between the Seasoning Payment and actual costs incurred if such costs are less than the amount of the Seasoning Payment.

Section 13. RAILROAD'S SPECIAL PROVISIONS AND RAILROAD'S MINIMUM REQUIREMENTS

In the event any of the work upon property of Railroad, as herein contemplated, will be advertised for bids by State, the awarded contract shall include (i) State's "Railroad Relations and Insurance Requirements" marked **Exhibit K** and (ii) Railroad's "Minimum Requirements" marked **Exhibit L**. Railroad shall have the right to amend its Insurance Requirements and Minimum Requirements from time to time to conform to its standard provisions.

Section 14. DEFINITION OF CONTRACTOR

For purposes of this Agreement, all references in this Agreement to "Contractor" shall mean the contractor or contractors hired by, or on behalf of, State, and/or its successors and assigns, to perform any Crossing Project work on any portion of Railroad's property and shall also include the Contractor's subcontractors and the Contractor's and subcontractor's respective employees, officers and agents, and others acting under its or their authority. State shall ensure all Contractor's full compliance with all terms and conditions of this Agreement. Nothing in this section is intended to create rights in third parties or third party beneficiaries.

Section 15. FEDERAL AID POLICY GUIDE

The current rules, regulations and provisions of the Federal Aid Policy Guide, as contained in 23 CFR 140, subpart I and 23 CFR 646, subparts A and B are incorporated into this Agreement by reference.

Section 16. RESTRICTIONS ON COMMENCEMENT OF PROJECT WORK

A. Neither State nor any Contractor shall commence any Crossing Project work on any Railroad property until:

(i) State has obtained all necessary governmental permits, zoning clearances and approvals including, without limitation, those from the California Public Utilities Commission.

(ii) State has received written approval of the Plans from the Railroad as provided in Section 7.

(iii) Railroad and State have executed the Right of Entry Agreement in the form attached hereto as **Exhibit M**, the terms and conditions of which are hereby made a part hereof.

(iv) Each Contractor hired by State has executed the Contractor's Endorsement that is part of the Right of Entry Agreement.

(v) Railroad has received the insurance policies, binders, certificates and/or endorsements set forth in the Right of Entry Agreement.

B. The insurance coverage set forth in the Right of Entry Agreement shall remain in full force and effect by each Contractor during the performance of said work upon and adjacent to Railroad's property and thereafter until the Contractor removes all tools, equipment and materials from Railroad's property and cleans up the premises to a presentable condition satisfactory to Railroad.

C. State and each Contractor shall give the advance notice described in the Right of Entry Agreement to Railroad's authorized representative before commencing any Crossing Project work on Railroad's property, and shall observe Railroad's rules and regulations with respect thereto. All work on Railroad's property shall be done at such times and in such manner so as not to interfere with or endanger the operations of Railroad.

Section 17. EFFECTIVE DATE; TERM; TERMINATION

A. This Agreement is effective as of the Effective Date shown on the front page of this Agreement, which shall be the date on which the Agreement is fully dated and executed by all of the parties' authorized signatories.

B. Notwithstanding any other provision of this Agreement, Railroad, if it so elects, may terminate this Agreement effective upon delivery of a written notice to State in the event State does not commence construction on the Crossing Project on Railroad's property on or before December 15, 2012. For purposes of this paragraph, the meaning of the phrase "commence construction" shall include, but not be limited to, the installation of the RCBs on Railroad property.

C. If the Agreement is terminated as provided above, Railroad shall be entitled to keep the entire Settlement Amount in consideration of Railroad's efforts and cooperation in the negotiation and drafting of this Agreement, and its efforts and cooperation in the coordination and construction of the Crossing Project, notwithstanding the fact that the Crossing Project did not come to fruition, and for attorneys fees and internal costs incurred by Railroad in connection with this Agreement and coordination with the State on the Crossing Project. State hereby

promises and covenants that it shall make no claim for reimbursement of the Settlement Amount, or any portion thereof, in the event of termination of this Agreement as herein provided. State shall also be responsible for all costs associated with restoring Railroad property at the site of the Crossing Project to the condition it was in prior to the effective date of this Agreement and for all storage, removal and disposal costs of the RCBs. In addition, if Railroad has executed and delivered the Temporary Construction Easement prior to termination of this Agreement, the Temporary Construction Easement shall automatically expire upon such termination, notwithstanding any other provision of this Agreement. If Railroad has executed and delivered the Easement Deeds prior to termination of this Agreement, State shall, within thirty (30) days of the date of such termination, deliver to Railroad a Quitclaim Deed for each such Easement Deed quitclaiming all State's interest in the property that is the subject of each such Easement Deed.

Section 18. FUTURE PROJECTS

In future projects after initial completion of the Crossing Project, State may, at State's sole expense, alter or reconstruct the Structures if necessary or desirable ("Future Projects"), provided, however, that State shall have no right (i) to expand the dimensions of any of the Structures or (ii) to erect falsework or other structures, temporary or permanent, or make any other use of the surface or subsurface of Railroad's right-of-way other than for inspection or maintenance of the Structures as originally constructed, without obtaining Railroad's prior written consent and the execution of a supplement to this Agreement, or the completion of a separate construction and maintenance agreement, providing, without limitation, for the submission and approval of plans and specifications for such Future Project as contemplated by Section 7 of this Agreement and for a then-current standard Right of Entry Agreement, Contractor's Endorsement, insurance policies, binders, certificates and endorsements as contemplated by Section 16 of this Agreement. Future Projects may require additional compensation to Railroad.

Section 19. ASSIGNMENT; SUCCESSORS AND ASSIGNS

A. State shall not assign this Agreement, unless compelled by law, without the prior written consent of Railroad.

B. Subject to the provisions of Section 19(A), above, this Agreement shall inure to the benefit of and be binding upon the successors and assigns of Railroad and State.

Section 20. SPECIAL PROVISIONS PERTAINING TO AMERICAN RECOVERY AND REINVESTMENT ACT OF 2009

State represents and warrants that it is currently State's intention to not use any American Recovery and Reinvestment Act ("ARRA") funding for the Crossing Project. However, if for

any reason, State uses ARRA funding for this Project, State agrees that it is responsible for performing and completing all ARRA reporting documents for the Crossing Project. State confirms and acknowledges that Section 1512 of the ARRA provisions applies only to a "recipient" receiving ARRA funding directly from the federal government and, therefore, (i) the ARRA reporting requirements are the responsibility of State and not of Railroad and (ii) State shall not delegate any ARRA reporting responsibilities to Railroad. State also confirms and acknowledges that (i) Railroad shall provide to State Railroad's standard and customary billing for expenses incurred by Railroad for the Crossing Project including Railroad's standard and customary documentation to support such billing and (ii) such standard and customary billing and documentation from Railroad provides the information needed by State to perform and complete the ARRA reporting documents. Railroad confirms that State and the Federal Highway Administration shall have the right to audit Railroad's billing and documentation for the Project as provided in the Federal Aid Policy Guide.

Section 21. ENTIRE AGREEMENT; AMENDMENTS

This Agreement, together with the exhibits hereto and the Agreement in Lieu of Condemnation (the "Project Agreements"), collectively contain the final and complete agreement of Railroad and State and supersede any prior written or oral agreements between them, if any, concerning the subject matter of the Project Agreements. This Agreement may not be amended except by a writing signed by Railroad and State.

IN WITNESS WHEREOF, the parties have caused these presents to be executed in triplicate as of the Effective Date, by their officers thereunto duly authorized.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

By_____
Anita L. Mora, Acting Chief
Office of Right of Way Project Delivery

Date_____

By_____
Attorney
Department of Transportation

Date_____

APPROVAL RECOMMENDED:

By_____
Denny Fong, P.E.
Railroad Agreements Engineer

Date_____

[Signatures continued on next page]

IN WITNESS WHEREOF, the parties have caused these presents to be executed in triplicate as of the Effective Date, by their officers thereunto duly authorized.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

By _____
Anita L. Mora, Acting Chief
Office of Right of Way Project Delivery

Date 7-28-2011

By _____
Attorney
Department of Transportation

Date 28 Jul, 11

APPROVAL RECOMMENDED:

By _____
Denny Fong, P.E.
Railroad Agreements Engineer

Date 7/28/11

[Signatures continued on next page]

[Signatures continued from previous page]

UNION PACIFIC RAILROAD COMPANY

By _____

Title: JAMES P. GADE
GENERAL DIRECTOR
OF REAL ESTATE CONTRACTS

Approved as to form:

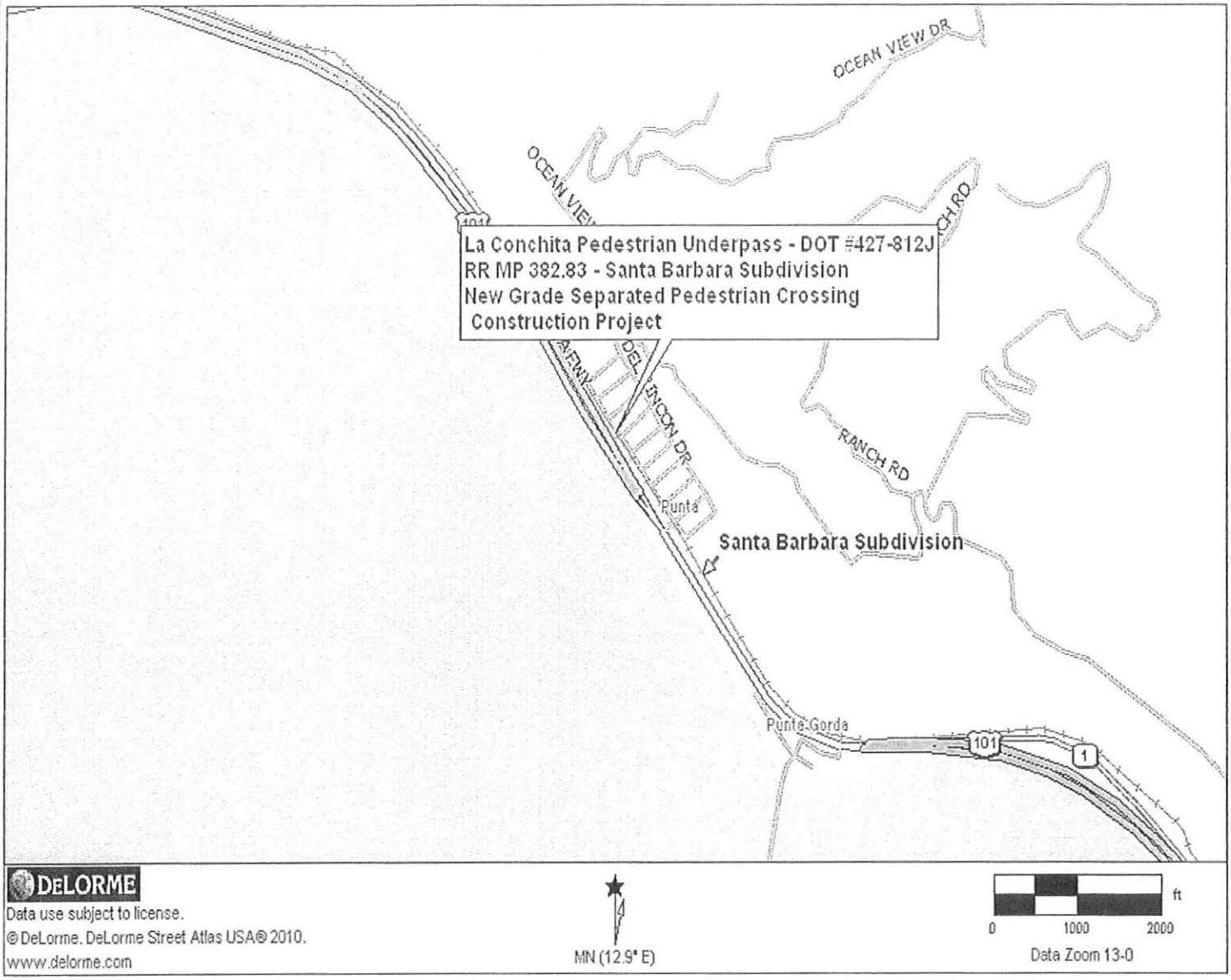
Assistant Vice President

EXHIBIT A

To Construction & Maintenance Agreement

Cover Sheet for Railroad Location Print

RAILROAD LOCATION PRINT
OF A NEW GRADE SEPARATED PEDESTRIAN CROSSING CONSTRUCTION PROJECT



RAILROAD WORK TO BE PERFORMED:

1. Installation of reinforced concrete boxes as per agreement
2. Engineering Design Review & Flagging.

EXHIBIT "A"

UNION PACIFIC RAILROAD COMPANY

SANTA BARBARA SUBDIVISION
MILE POST 382.83
GPS: N 34° 21.8777', W 119° 26.9626'
LA CONCHITA (CARPINTERIA), VENTURA CO., CA.

Railroad Location Print of a new grade separated pedestrian crossing construction project with the

CALIFORNIA DEPARTMENT OF TRANSPORTATION.

Folder No. 2673-03 Date: July 28, 2011

WARNING

IN ALL OCCASIONS, U.P. COMMUNICATIONS DEPARTMENT MUST BE CONTACTED IN ADVANCE OF ANY WORK TO DETERMINE EXISTENCE AND LOCATION OF FIBER OPTIC CABLE.
PHONE: 1-(800) 336-9193

EXHIBIT B

To Construction & Maintenance Agreement

Project Location Plan

INDEX OF PLANS

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

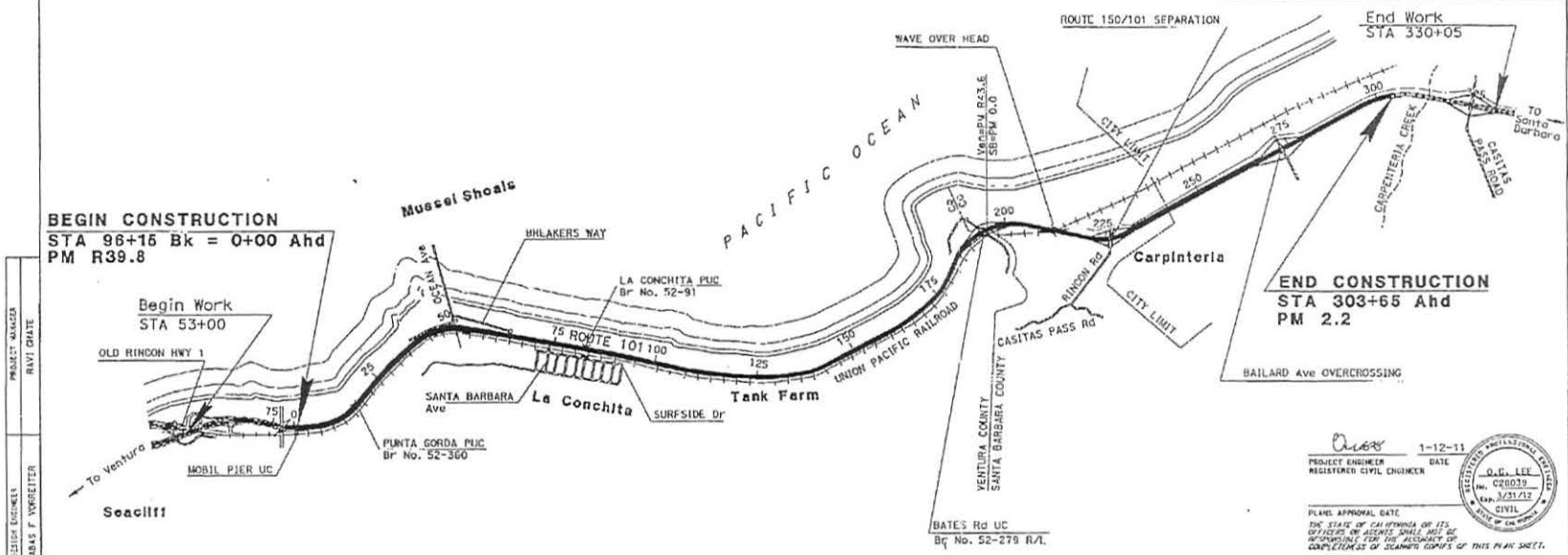
PROJECT PLANS FOR CONSTRUCTION ON STATE HIGHWAY

IN VENTURA AND SANTA BARBARA COUNTIES
FROM MOBILE PIER UNDERCROSSING
TO 0.4 MILE SOUTH OF CASITAS PASS ROAD

TO BE SUPPLEMENTED BY STANDARD PLANS DATED MAY 2006

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
07 05	Ven SB	101	R39.8/R43.6 0.0/2.2		

LOCATION MAP



NO SCALE

PROJECT ENGINEER — DATE 1-12-11
REGISTERED CIVIL ENGINEER
O.G. LEE
No. C20039
Exp. 3/31/12
CIVIL
STATE OF CALIFORNIA

PLANS APPROVAL DATE

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

CONTRACT No.	07-260704
PROJECT ID	0700000490

DESIGN BY: BARNABAS P VORREITER
PROJECT MANAGER: RAVI GHATE

DATE PLOTTED => 14-JAN-2011
TIME PLOTTED => 14:21

THE CONTRACTOR SHALL POSSESS THE CLASS (OR CLASSES) OF OF LICENSE AS SPECIFIED IN THE "NOTICE TO BIDDERS."

BORDER LAST REVISED 7/2/2010 | CALTRANS WEB SITE IS: HTTP://WWW.DOT.CA.GOV/ | RELATIVE BORDER SCALE 0 1 2 3 | USERNAME => c133857 | UNIT 1814 | PROJECT NUMBER & PHASE 0700004901

EXHIBIT B

EXHIBIT C

To Construction & Maintenance Agreement

General Type Size and Profile of Project Structures

EXHIBIT D

To Construction & Maintenance Agreement

State's Appraisal Map Showing Locations of Project Parcels 79897-1 through 79897-6

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
07	Ven/SB	101			

Mahmoud Fustok 10-18-10
REGISTERED CIVIL ENGINEER DATE

REGISTERED PROFESSIONAL ENGINEER — MAHMOUD FUSTOK No. C51502 Exp. 06-30-12 CIVIL — STATE OF CALIFORNIA

PLANS APPROVAL DATE

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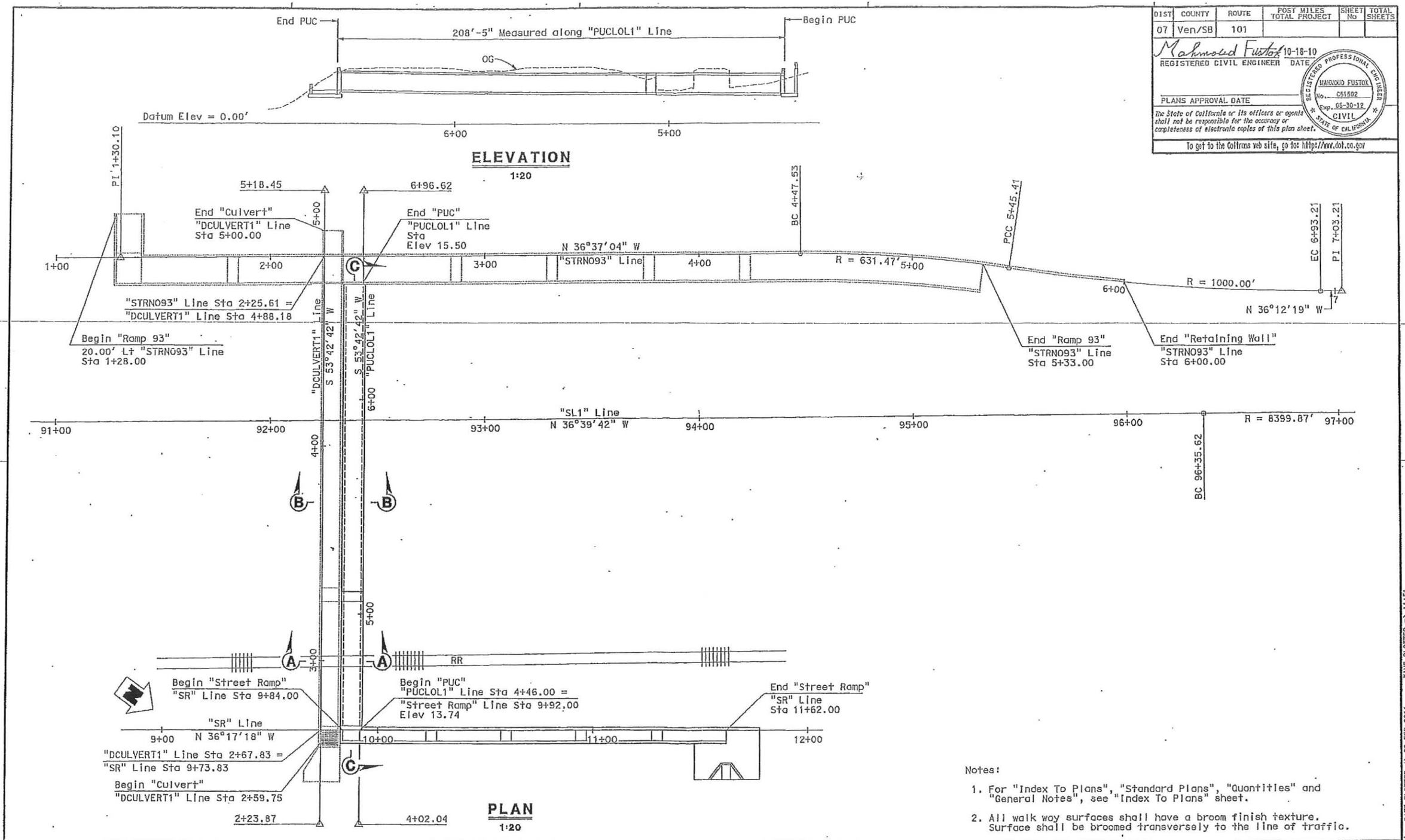
To get to the Caltrans web site, go to: http://www.dot.ca.gov



Notes:

1. For "Index To Plans", "Standard Plans", "Quantities" and "General Notes", see "Index To Plans" sheet.
2. All walk way surfaces shall have a broom finish texture. Surface shall be broomed transversely to the line of traffic.

DESIGN	BY M. Fustok	CHECKED W. Addlespurger	LOAD FACTOR DESIGN	LIVE LOADING: HS20-44 AND ALTERNATIVE AND PERMIT DESIGN LOAD			
DETAILS	BY Various	CHECKED M. Fustok	LAYOUT	BY F. Fustok	CHECKED X		
QUANTITIES	BY N. Fustok	CHECKED W. Addlespurger	SPECIFICATIONS	BY X	PLANS AND SPECS COMPARED X		

X
DESIGN ENGINEER

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 12

CU 07
EA 260701

BRIDGE NO.	PEDESTRIAN UC
52-0467	GENERAL PLAN NO. 1
POST MILE 41.58	

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES: 2-3-10 | 5-24-10 | 6-3-10 | 7-29-10 | 8-3-10 | 8-18-10 | 8-31-10 | 2-14-11

SHEET 1 OF 22

STRUCTURES DESIGN GENERAL PLAN SHEET (ENGLISH) (REV.07-24-06)

FILE => 52-0467-a-gp01.dgn

USERNAME => kechris DATE PLOTTED => 22-FEB-2011 TIME PLOTTED => 11:51

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
07	Ven/SB	101			

Mahmoud Fustok 10-18-10
REGISTERED CIVIL ENGINEER DATE

REGISTERED PROFESSIONAL ENGINEER — MAHMOUD FUSTOK No. C51502 Exp. 06-30-12 CIVIL — STATE OF CALIFORNIA

PLANS APPROVAL DATE

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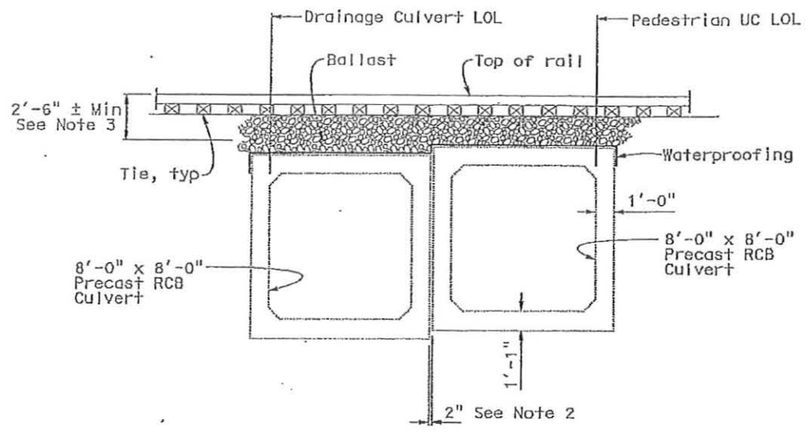
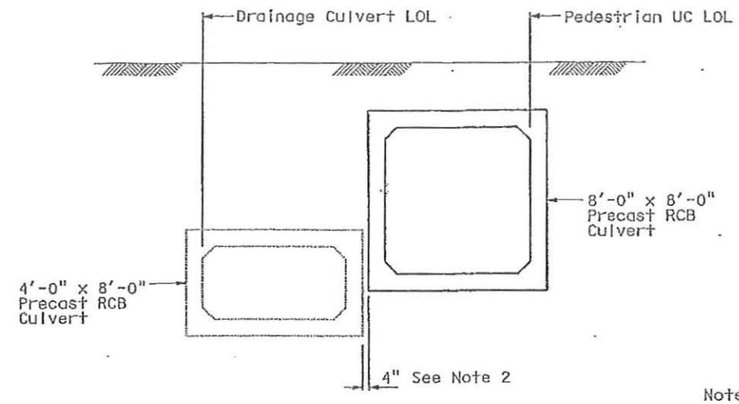


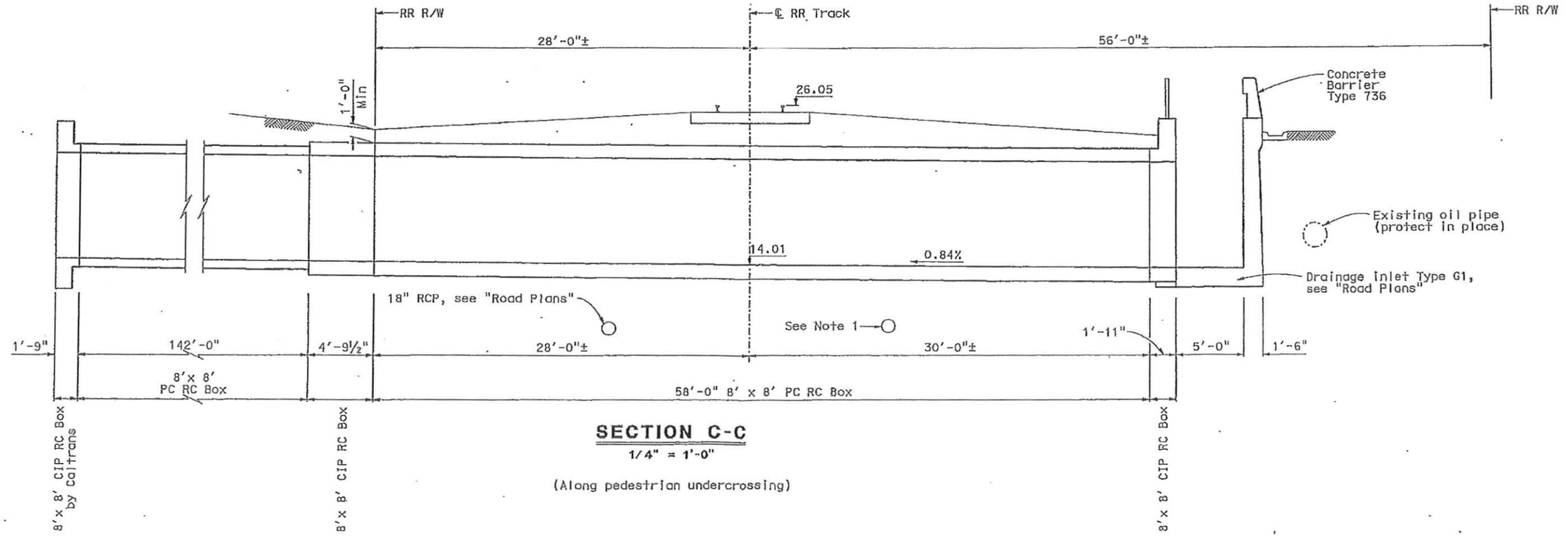
SECTION A-A
1/4" = 1'-0"



SECTION B-B
1/4" = 1'-0"

Notes:

1. Fiber optic conduits to be relocated below ground.
2. Gaps between culverts to be filled with slurry cement backfill.
3. Match existing top of rail grades.



SECTION C-C
1/4" = 1'-0"

(Along pedestrian undercrossing)

X DESIGN ENGINEER	DESIGN	BY M. Fustok	CHECKED W. Addlespurger	LOAD FACTOR DESIGN	LIVE LOADING: HS20-44 AND ALTERNATIVE DESIGN LOAD		STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 12	BRIDGE NO. 52-0467
	DETAILS	BY Various	CHECKED M. Fustok	LAYOUT	BY F. Fustok	CHECKED X			POST MILE 41.58
	QUANTITIES	BY M. Fustok	CHECKED W. Addlespurger	SPECIFICATIONS	BY X	PLANS AND SPECS COMPARED X			

PEDESTRIAN UC
GENERAL PLAN NO. 2 ---

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

CU 07
EA 260701

FILE => 52-0467-o-gp02.dgn

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES: 7-31-15 | 1-1-13 | 2-14-11 | 2-18-11

SHEET 2 OF 22

USERNAME => kcohris DATE PLOTTED => 22-FEB-2011 TIME PLOTTED => 11:51

STRUCTURES DESIGN GENERAL PLAN SHEET (ENGLISH) (REV.07-24-08)

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
07	Ven/SB	101			

Mahmoud Fustok 10-18-10
REGISTERED CIVIL ENGINEER DATE

REGISTERED PROFESSIONAL ENGINEER — MAHMOUD FUSTOK No. C51502 Exp. 06-30-12 CIVIL — STATE OF CALIFORNIA

PLANS APPROVAL DATE

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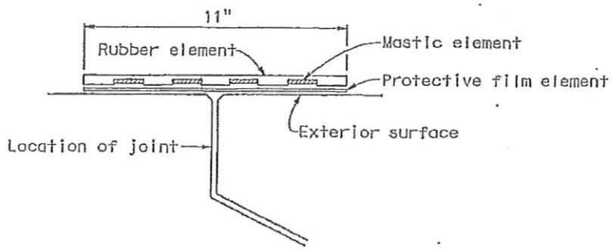
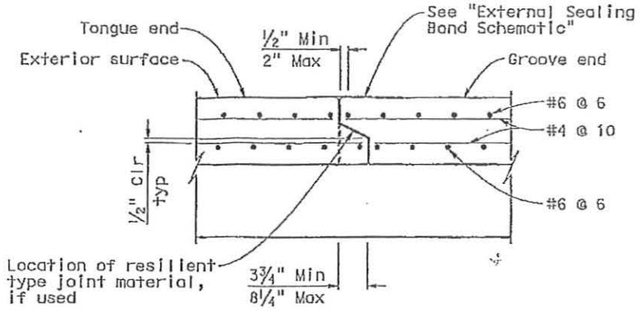


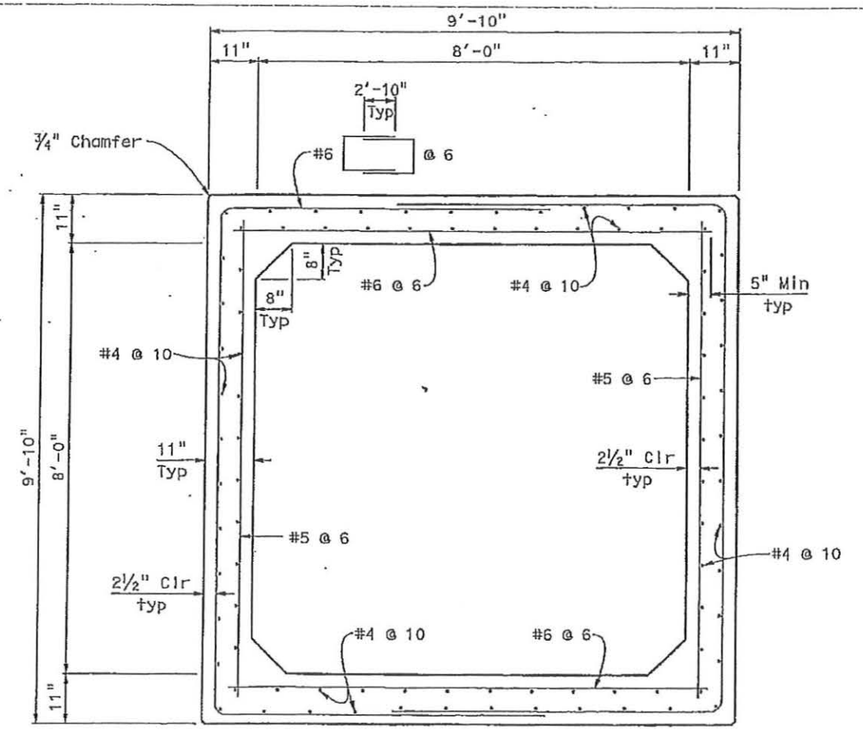
PC RCB CULVERT EXTERNAL SEALING BAND SCHEMATIC

No scale



PC RCB CULVERT END JOINT DETAIL

1" = 1'-0"

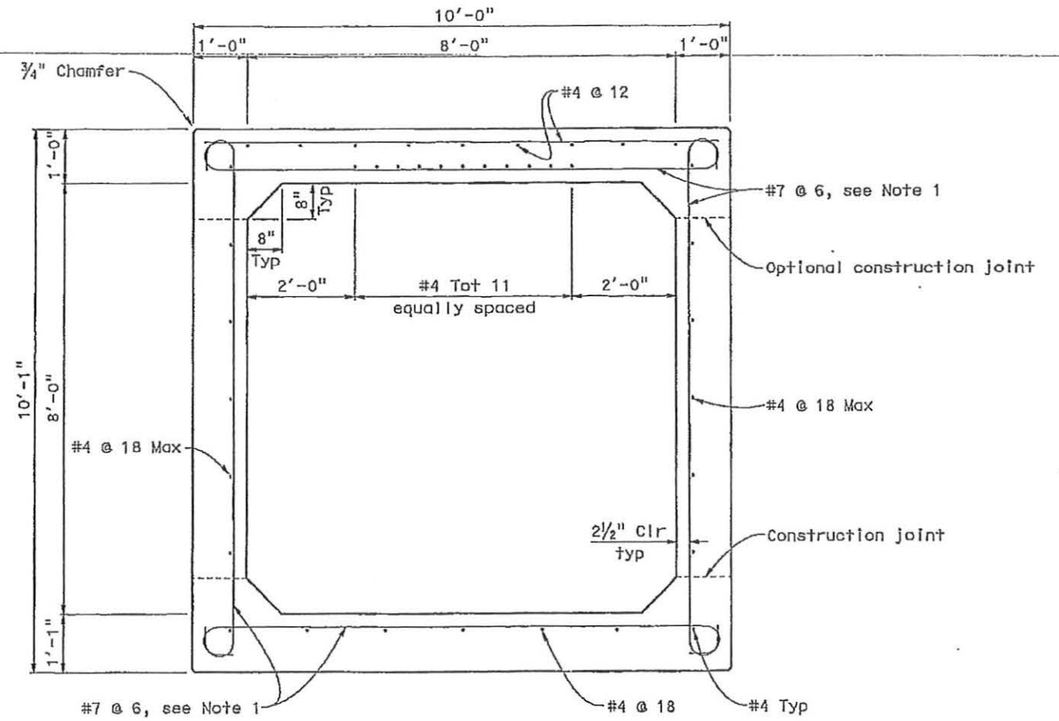


8'-0" x 8'-0" PC RCB

3/4" = 1'-0"

Note:

All reinforcement shall be prefabricated epoxy coated reinforcement.



PUC CAST-IN-PLACE RCB

3/4" = 1'-0"

Note:

1. It is permissible to eliminate the 180° hooks on every other bar.

DESIGN	BY M. Fustok	CHECKED W. Addlespurger	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 12	BRIDGE NO. 52-0467	PEDESTRIAN UC UNDERCROSSING CROSS SECTION NO. 1	
DETAILS	BY Voricus	CHECKED M. Fustok			POST MILE 41.58		
QUANTITIES	BY M. Fustok	CHECKED W. Addlespurger					

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 10/25/05)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

CU 07
EA 260701
FILE => 52-0467-e-ucs01.dgn

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES: 1-26-11 | 2-25-10 | 3-27-10 | 1-5-11

SHEET 5 OF 22

USERNAME => kechris DATE PLOTTED => 22-FEB-2011 TIME PLOTTED => 11:52

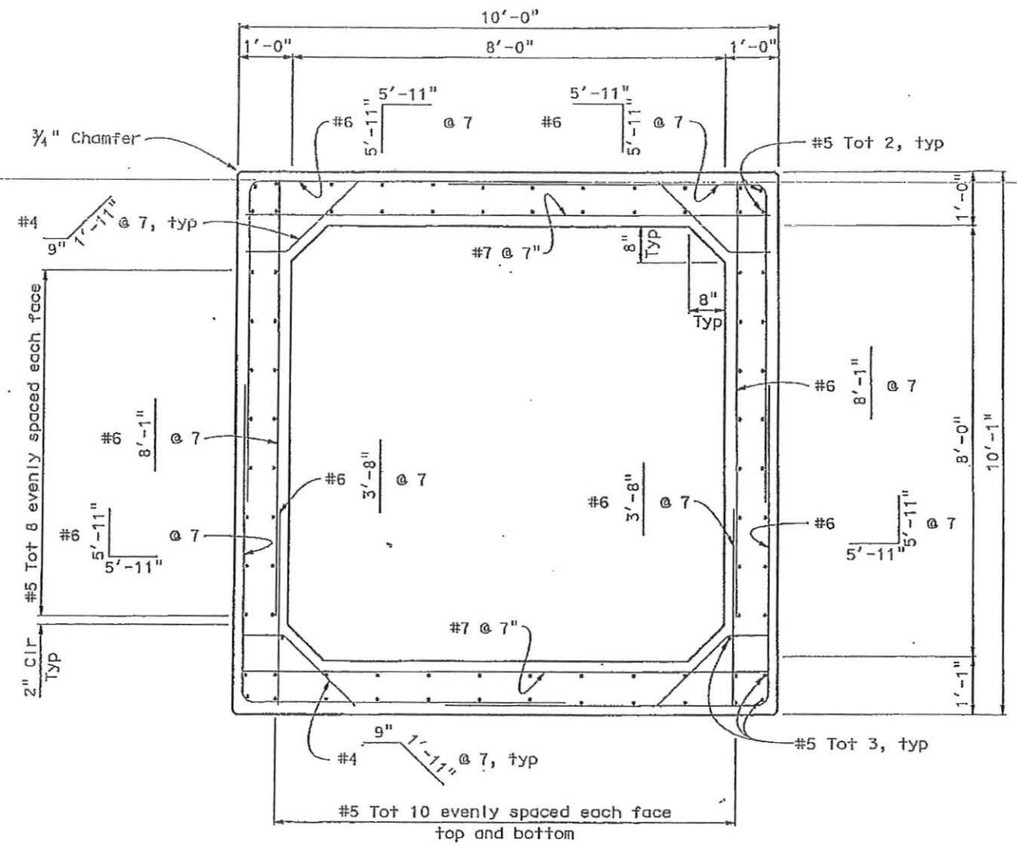
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
07	Ven/SB	101			

Mahmoud Fustok 10-18-10
REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
MAHMOUD FUSTOK
No. C51502
Exp. 06-30-12
CIVIL
STATE OF CALIFORNIA

To get to the Caltrans web site, go to: http://www.dot.ca.gov



TYPICAL PC RCB UNDER RAILROAD SECTION

3/4" = 1'-0"

Note:

All reinforcement shall be prefabricated epoxy coated reinforcement.

DESIGN	BY M. Fustok	CHECKED W. Addlespurger	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 12	BRIDGE NO. 52-0467
DETAILS	BY Various	CHECKED M. Fustok			POST MILE 41.58
QUANTITIES	BY M. Fustok	CHECKED W. Addlespurger		CU 07 EA 260701	

PEDESTRIAN UC
UNDERCROSSING CROSS SECTION NO. 2

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 10/25/05)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

FILE => 52-0467-e-ucs02.dgn

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES: 3-3-05 | 3-31-10 | 3-31-10 | 3-1-11 | 1-9-11

SHEET 6 OF 22

USERNAME => kochris DATE PLOTTED => 22-FEB-2011 TIME PLOTTED => 11:53

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
07	Ven/SB	101	-		

Mahmoud Fustok 10-18-10
REGISTERED CIVIL ENGINEER DATE

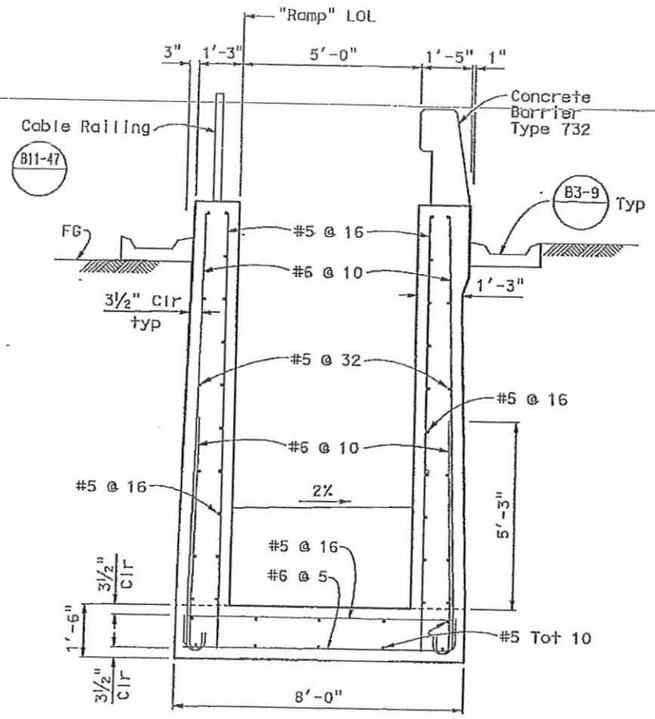
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
MAHMOUD FUSTOK
No. C51502
Exp. 06-30-12
CIVIL
STATE OF CALIFORNIA

To get to the Caltrans Web site, go to: http://www.dot.ca.gov

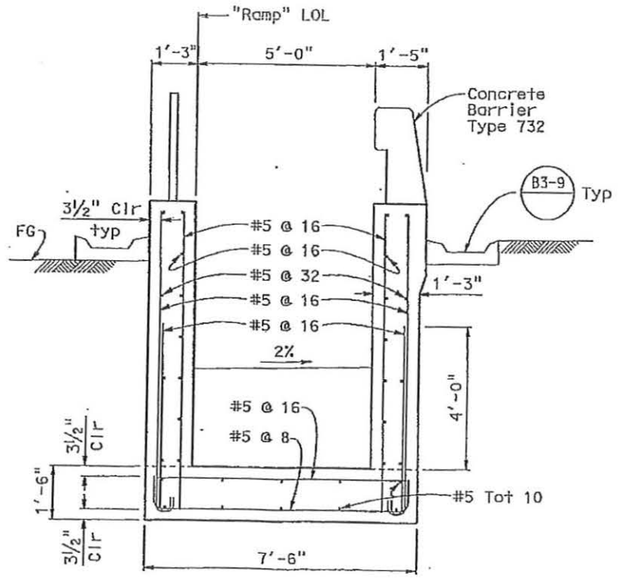
Note:

All reinforcement shall be prefabricated epoxy coated reinforcement.



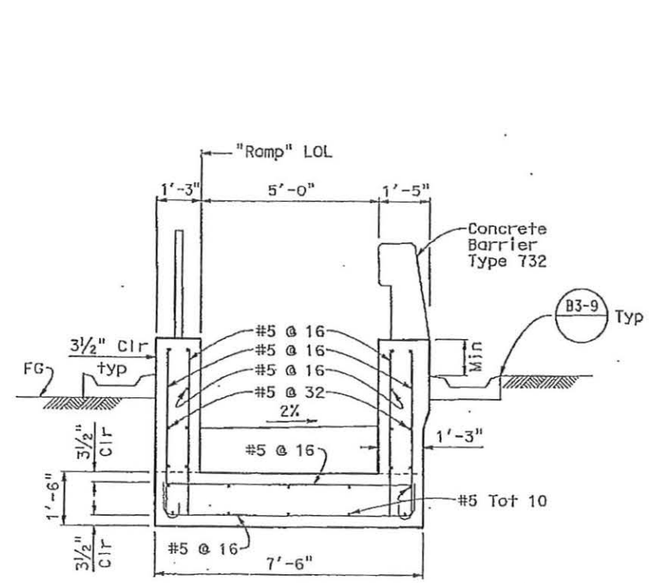
SECTION A-A
1/2" = 1'-0"

"SR" Ramp
Sta 9+93.5 to Sta 10+57



SECTION B-B
1/2" = 1'-0"

"SR" Ramp
Sta 10+57 to Sta 11+27



SECTION C-C
1/2" = 1'-0"

"SR" Ramp
Sta 11+27 to Sta 11+62

Note:

Section between Sta 9+83 to Sta 9+93.5 is simmilar to Section A-A but without the left wall.

DESIGN	BY M. Fustok	CHECKED W. Addlespurger	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 12	BRIDGE NO. 52-0467	PEDESTRIAN UC STREET RAMP DETAILS NO. 1	
DETAILS	BY Various	CHECKED M. Fustok			POST MILE 41.58		
QUANTITIES	BY M. Fustok	CHECKED W. Addlespurger		CU 07 EA 260701	DISREGARD PRINTS BEARING EARLIER REVISION DATES →	REVISION DATES 3-30-12 3-31-12 3-31-11 2-11-11	SHEET 8 OF 22

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 10/25/05)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

FILE => 52-0467-f-sr02.dgn

USERNAME => kechrle DATE PLOTTED => 22-FEB-2011 TIME PLOTTED => 11:53

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07 05	Ven SB	101	39.8/43.6 0.0/2.2		

12/16/10
REGISTERED ELECTRICAL ENGINEER DATE

PLANS APPROVAL DATE

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

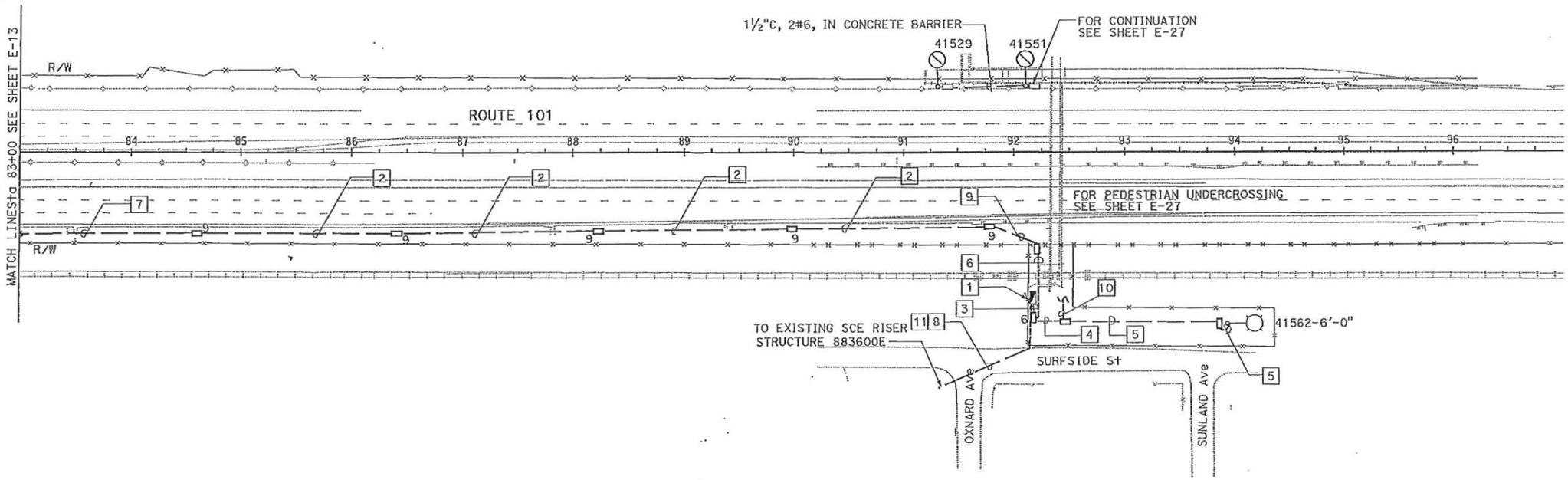
REGISTERED PROFESSIONAL ENGINEER
G.S.TOOR
No. E15613
Exp. 12/31/11
ELECT
STATE OF CALIFORNIA

NOTE:

FOR ACCURATE RIGHT OF WAY DATA, CONTACT
RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

PROJECT NOTES: (THIS SHEET)

1. INSTALL 120/240 V, TYPE III-BF SERVICE EQUIPMENT ENCLOSURE WITH:
   100A, 240V, 2P, MAIN BREAKER
   2-30A, 240V, 2P, CB FOR LIGHTING
   1-30A, 240V, 2P, CB FOR SPARE.
   1-20A, 120V, 1P, CB FOR SPARE
   7011½W. SURFSIDE ST
   LA CONCHITA
   I.D. 07521010041561
2. INSTALL 2"C, 2#4, IN CONCRETE BARRIER.
3. INSTALL (2) 3"C, 2#4, 5#6.
4. INSTALL 2"C, 5#6.
5. INSTALL 2"C, 2#6.
6. INSTALL 2"C, 2#4 ALONG OUTSIDE OF PEDESTRIAN UNCROSSING FOUNDATION. COORDINATE WITH PRIME CONTRACTOR PRIOR TO CONDUIT INSTALLATION.
7. INSTALL 2"C, 2#4, IN CONCRETE BARRIER. SEE E-13 FOR CONTINUATION.
8. INSTALL 3"C PER SCE REQUIRMENT, CONDUCTORS TO BE INSTALLED BY SCE.
9. INSTALL 2"C, 2#4. PROTECT EXISTING FIBEROPTIC CONDUIT.
10. INSTALL 2"C, 5#6, IN CONCRETE BARRIER. SEE SHEET E-27 FOR CONTINUATION.
11. INSTALL CONDUITS IN UNION PACIFIC RAILROAD EASEMENT AREA AS DIRECTED BY ENGINEER.



LIGHTING

SCALE: 1" = 50'

THIS PLAN IS ACCURATE FOR ELECTRICAL WORK ONLY.

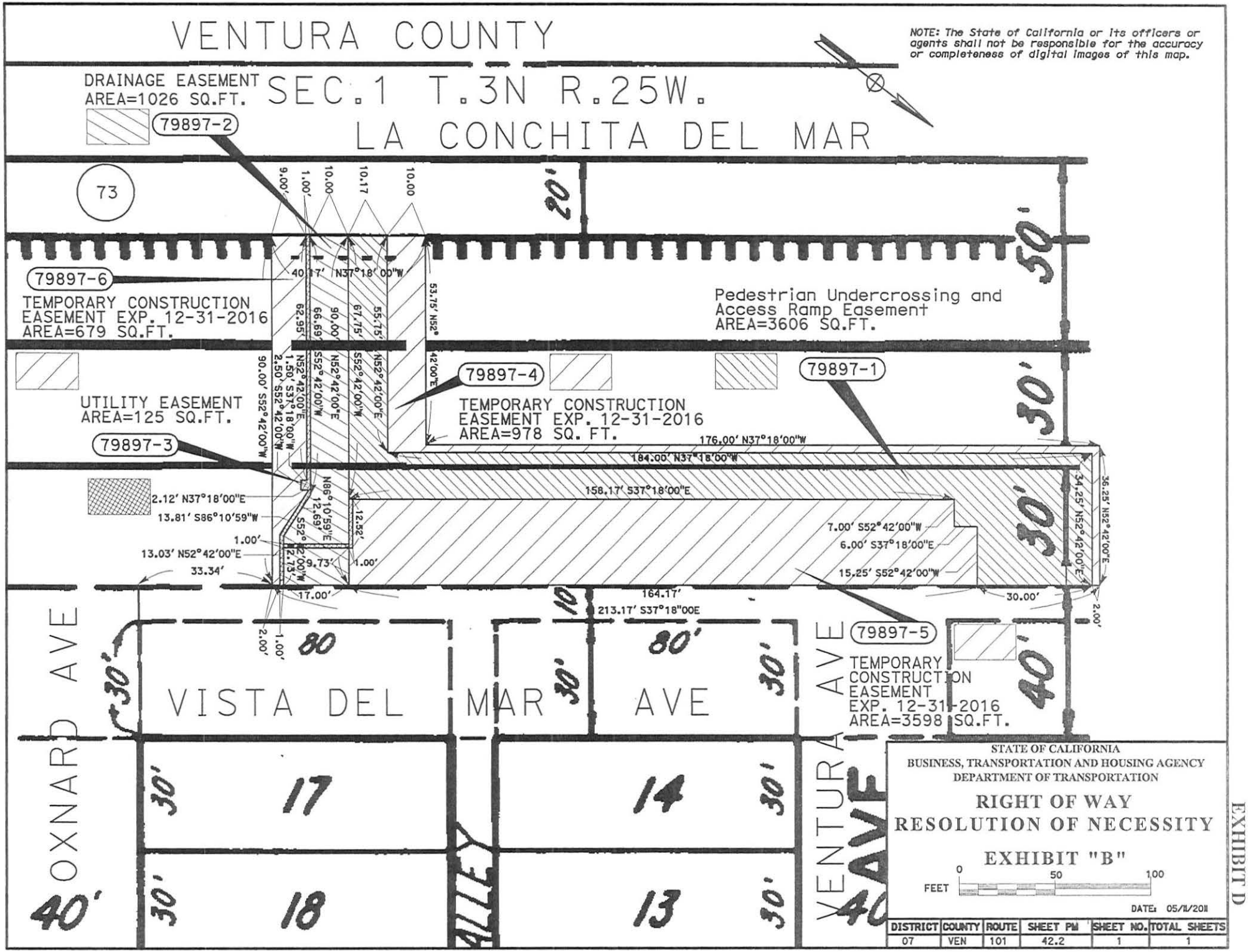
E-14

CALCULATED-DESIGNED BY	CHECKED BY	REVISED BY	DATE REVISED
JAMSHED A. HYDER	GARY TOOR		

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans TRAFFIC DESIGN
FUNCTIONAL SUPERVISOR: OSWALD ELIZONDO

LAST REVISION 04-14-11
DATE PLOTTED => 14-APR-2011
TIME PLOTTED => 11:05

BORDER LAST REVISED 7/2/2010 | USERNAME => s112731 | DGN FILE => 726070uo014.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 1878 | PROJECT NUMBER & PHASE 07000004901


VENTURA COUNTY
NOTE: The State of California or its officers or agents shall not be responsible for the accuracy or completeness of digital images of this map.
DRAINAGE EASEMENT
AREA=1026 SQ.FT.
SEC. 1 T.3N R.25W.
LA CONCHITA DEL MAR
79897-2
73
79897-6
TEMPORARY CONSTRUCTION
EASEMENT EXP. 12-31-2016
AREA=679 SQ.FT.
Pedestrian Undercrossing and
Access Ramp Easement
AREA=3606 SQ.FT.
79897-4
TEMPORARY CONSTRUCTION
EASEMENT EXP. 12-31-2016
AREA=978 SQ. FT.
79897-1
UTILITY EASEMENT
AREA=125 SQ.FT.
79897-3
79897-5
TEMPORARY
CONSTRUCTION
EASEMENT
EXP. 12-31-2016
AREA=3598 SQ.FT.
OXNARD AVE
VISTA DEL MAR
AVE
VENTURA AVE
ALLEY
17
18
14
13
STATE OF CALIFORNIA
BUSINESS, TRANSPORTATION AND HOUSING AGENCY
DEPARTMENT OF TRANSPORTATION
RIGHT OF WAY
RESOLUTION OF NECESSITY
EXHIBIT "B"
FEET
DATE: 05/11/2011
DISTRICT 07
COUNTY VEN
ROUTE 101
SHEET PM 42.2
SHEET NO. 1
TOTAL SHEETS 1
EXHIBIT D

EXHIBITS E-1 Through E-6

To Construction & Maintenance Agreement

Legal Descriptions for Project Parcels

Exhibit E-1

PARCEL 79897-1

That portion of Section 1, Township 3 North, Range 25 West, S.B.B. & M. in the County of Ventura, State of California, according to the official plat of said land as described in deed to Southern Pacific Railroad Company in deed recorded April 13, 1887 in Book 18 page 561 of Deeds; and that portion of La Conchita del Mar Tract No. 2, as per Map recorded in Book 12, pages 31 and 32 Miscellaneous Records, in the Office of the Registrar-Recorder/County Clerk of said county, as conveyed to Southern Pacific Railroad Company, in deed recorded October 20, 1934, in Book 434, page 151 of Official Records of said county, described as follows:

Commencing at the intersection of the Southwesterly prolongation of the Northwesterly line of Oxnard Avenue 40.00 feet wide with the Southwesterly line of Vista Del Mar Avenue 40.00 feet wide as it now exists; thence North 37° 18' 00" West 217.51 feet along said Southwesterly line to THE TRUE POINT OF BEGINNING; thence South 52° 42' 00" West 15.25 feet; thence South 37° 18' 00" East 6.00 feet; thence South 52° 42' 00" West 7.00 feet; thence South 37° 18' 00" East 158.17 feet; thence South 52° 42' 00" West 67.75 feet to the Northeasterly line of land conveyed to the State of California (State Parcel 73), recorded March 18, 1936 in Book 466, page 494 of Official Records of said county; thence along said Northeasterly line North 37° 18' 00" West 10.17 feet to a line parallel with and distant Northwesterly 10.17 feet from the course described hereinabove as having a length of 67.75 feet; thence along said parallel line North 52° 42' 00" East 55.75 feet to a line parallel with and distant Southwesterly 12.00 feet from the course described hereinabove as having a length of 158.17 feet; thence along last said parallel line North 37° 18' 00" West 184.00 feet; thence North 52° 42' 00" East 34.25 feet to said Southwesterly line of Vista Del Mar Avenue; thence along said Southwesterly line South 37° 18' 00" East 30.00 feet to THE TRUE POINT OF BEGINNING.

Exhibit E-2

PARCEL 79897-2

That portion of Section 1, Township 3 North, Range 25 West, S.B.B. & M. in the County of Ventura, State of California, according to the official plat of said land as described in deed to Southern Pacific Railroad Company in deed recorded April 13, 1887 in Book 18 page 561 of Deeds; and that portion of La Conchita del Mar Tract No. 2, as per Map recorded in Book 12, pages 31 and 32 Miscellaneous Records, in the Office of the Registrar-Recorder/County Clerk of said county, as conveyed to Southern Pacific Railroad Company, in deed recorded October 20, 1934, in Book 434, page 151 of Official Records of said county, described as follows:

Commencing at the intersection of the Southwesterly prolongation of the Northwesterly line of Oxnard Avenue 40.00 Feet wide with the Southwesterly line of Vista Del Mar Avenue 40.00 feet wide as it now exists; thence North 37° 18' 00" West 36.34 feet along said Southwesterly line to THE TRUE POINT OF BEGINNING; thence South 52° 42' 00" West 12.73 feet; thence South 86° 10' 59" West 12.69 feet; thence South 52° 42' 00" West 66.69 feet to the Northeasterly line of land conveyed to the State of California (State Parcel 73), recorded March 18, 1936 in Book 466, page 494 of Official Records of said county; thence along said Northeasterly line North 37° 18' 00" West 10.00 feet to a line parallel with and distant Northwesterly 10.00 feet from the course described hereinabove as having a length of 66.69 feet; thence along said last parallel line North 52° 42' 00" East 90.00 feet to said Southwesterly line of Vista Del Mar Avenue; thence along said Southwesterly line South 37° 18' 00" East 17.00 feet to THE TRUE POINT OF BEGINNING.

Exhibit E-3

PARCEL 79897-3

That portion of Section 1, Township 3 North, Range 25 West, S.B.B. & M. in the County of Ventura, State of California, according to the official plat of said land as described in deed to Southern Pacific Railroad Company in deed recorded April 13, 1887 in Book 18 page 561 of Deeds; and that portion of La Conchita del Mar Tract No. 2, as per Map recorded in Book 12, pages 31 and 32 Miscellaneous Records, in the Office of the Registrar-Recorder/County Clerk of said county, as conveyed to Southern Pacific Railroad Company, in deed recorded October 20, 1934, in Book 434, page 151 of Official Records of said county, described as follows:

Commencing at the intersection of the Southwesterly prolongation of the Northwesterly line of Oxnard Avenue 40.00 Feet wide with the Southwesterly line of Vista Del Mar Avenue 40.00 feet wide as it now exists; thence North 37° 18' 00" West 36.34 feet along said Southwesterly line to THE TRUE POINT OF BEGINNING; thence South 52° 42' 00" West 9.73 feet; thence North 37° 18' 00" West 18.00 feet; thence South 52° 42' 00" West 12.52 feet; thence South 37° 18' 00" East 1.00 feet; thence North 52° 42' 00" East 11.52 feet; thence South 37° 18' 00" East 17.00 feet; thence South 52° 42' 00" West 2.00 feet; thence South 86° 10' 59" West 12.69 feet; thence South 52° 42' 00" West 66.69 feet to the Northeasterly line of land conveyed to the State of California (State Parcel 73), recorded March 18, 1936 in Book 466, page 494 of Official Records of said county; thence along said Northeasterly line South 37° 18' 00" East 1.00 foot to a line parallel with and distant Southeasterly 1.00 foot from the course described hereinabove as having a length of 66.69 feet; thence along said last parallel line North 52° 42' 00" East 62.95 feet; to a line parallel with and distant Southwesterly 24.55 feet from said Southwesterly line of Vista Del Mar Avenue; thence along said parallel line South 37° 18' 00" East 1.50 feet; thence North 52° 42' 00" East 2.50 feet; thence North 37° 18' 00" West 2.12 feet; thence North 86° 10' 59" East 13.81 feet; thence North 52° 42' 00" East 13.03 feet to said Southwesterly line of Vista Del Mar Avenue; thence along said Southwesterly line North 37° 18' 00" West 1.00 foot to THE TRUE POINT OF BEGINNING.

Exhibit E-4

PARCEL 79897-4

A Temporary Construction EASEMENT over, upon and across that portion of Section 1, Township 3 North, Range 25 West, S.B.B. & M. in the County of Ventura, State of California, according to the official plat of said land as described in deed to Southern Pacific Railroad Company in deed recorded April 13, 1887 in Book 18 page 561 of Deeds; and that portion of La Conchita del Mar Tract No. 2, as per Map recorded in Book 12, pages 31 and 32 Miscellaneous Records, in the Office of the Registrar-Recorder/County Clerk of said county, as conveyed to Southern Pacific Railroad Company, in deed recorded October 20, 1934, in Book 434, page 151 of Official Records of said county, described as follows:

Commencing at the intersection of the Southwesterly prolongation of the Northwesterly line of Oxnard Avenue 40.00 Feet wide with the Southwesterly line of Vista Del Mar Avenue 40.00 feet wide as it now exists; thence North 37° 18' 00" West 247.51 feet along said Southwesterly line to THE TRUE POINT OF BEGINNING; thence South 52° 42' 00" West 34.25 feet thence South 37° 18' 00" East 184.00 feet; thence South 52° 42' 00" West 55.75 feet to the Northeasterly line of land conveyed to the State of California (State Parcel 73), recorded March 18, 1936 in Book 466, page 494 of Official Records of said county; thence along said Northeasterly line North 37° 18' 00" West 10.00 feet to a line parallel with and distant Northwesterly 10.00 feet from the course described hereinabove as having a length of 55.75 feet; thence along said parallel line North 52° 42' 00" East 53.75 feet to a line parallel with and distant Southwesterly 2.00 feet from the course described hereinabove as having a length of 184.00 feet; thence along last said parallel line North 37° 18' 00" West 176.00 feet; thence North 52° 42' 00" East 36.25 feet to the Southwesterly line of Vista Del Mar Avenue; thence along said Southwesterly line South 37° 18' 00" East 2.00 feet to THE TRUE POINT OF BEGINNING.

Exhibit E-5

PARCEL 79897-5

A Temporary Construction EASEMENT over, upon and across that portion of Section 1, Township 3 North, Range 25 West, S.B.B. & M. in the County of Ventura, State of California, according to the official plat of said land as described in deed to Southern Pacific Railroad Company in deed recorded April 13, 1887 in Book 18 page 561 of Deeds; and that portion of La Conchita del Mar Tract No. 2, as per Map recorded in Book 12, pages 31 and 32 Miscellaneous Records, in the Office of the Registrar-Recorder/County Clerk of said county, as conveyed to Southern Pacific Railroad Company, in deed recorded October 20, 1934, in Book 434, page 151 of Official Records of said county, described as follows:

Commencing at the intersection of the Southwesterly prolongation of the Northwesterly line of Oxnard Avenue 40.00 Feet wide with the Southwesterly line of Vista Del Mar Avenue 40.00 feet wide as it now exists; thence North 37° 18' 00" West 53.34 feet along said Southwesterly line to THE TRUE POINT OF BEGINNING; thence South 52° 42' 00" West 9.73 feet; thence North 37° 18' 00" West 1.00 feet; thence South 52° 42' 00" West 12.52 feet; thence North 37° 18' 00" West 157.17 feet; thence North 52° 42' 00" East 7.00 feet; thence North 37° 18' 00" West 6.00 feet; thence North 52° 42' 00" East 15.25 feet to said Southwesterly line of Vista Del Mar Avenue; thence along said Southwesterly line South 37° 18' 00" East 164.17 feet to THE TRUE POINT OF BEGINNING.

Exhibit E-6

PARCEL 79897-6

A Temporary Construction EASEMENT in, under, and to that portion of Section 1, Township 3 North, Range 25 West, S.B.B. & M. in the County of Ventura, State of California, according to the official plat of said land as described in deed to Southern Pacific Railroad Company in deed recorded April 13, 1887 in Book 18 page 561 of Deeds; and that portion of La Conchita del Mar Tract No. 2, as per Map recorded in Book 12, pages 31 and 32 Miscellaneous Records, in the Office of the Registrar-Recorder/County Clerk of said county, as conveyed to Southern Pacific Railroad Company, in deed recorded October 20, 1934, in Book 434, page 151 of Official Records of said county, described as follows:

Commencing at the intersection of the Southwesterly prolongation of the Northwesterly line of Oxnard Avenue 40.00 Feet wide with the Southwesterly line of Vista Del Mar Avenue 40.00 feet wide as it now exists; thence North 37° 18' 00" West 33.34 feet along said Southwesterly line to THE TRUE POINT OF BEGINNING; thence South 52° 42' 00" West 90.00 feet to the Northeasterly line of land conveyed to the State of California (State Parcel 73), recorded March 18, 1936 in Book 466, page 494 of Official Records of said county; thence along said Northeasterly line North 37° 18' 00" West 9.00 feet to a line parallel with and distant Northwesterly 9.00 feet from the course described hereinabove as having a length of 90.00 feet; thence along said last parallel line North 52° 42' 00" East 62.95 feet to a line parallel with and distant Southwesterly 24.55 feet from said Southwesterly line of Vista Del Mar Avenue; thence along said parallel line South 37° 18' 00" East 1.50 feet; thence North 52° 42' 00" East 2.50 feet; thence North 37° 18' 00" West 2.12 feet; thence North 86° 10' 59" East 13.81 feet; thence North 52° 42' 00" East 13.03 feet to said Southwesterly line of Vista Del Mar Avenue; thence along said Southwesterly line South 37° 18' 00" East 2.00 feet to THE TRUE POINT OF BEGINNING.

EXHIBIT F

To Construction & Maintenance Agreement

Form of Easement Deed for Parcel 79897-1

Exhibit F

EASEMENT DEED

District	County	Route	Postmile	Number
7	VEN	101	42.2	79897-1

UNION PACIFIC RAILROAD COMPANY, a Delaware corporation

(hereinafter, "GRANTOR"), for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, hereby grants to the STATE OF CALIFORNIA, Department of Transportation, a public agency, its successors and assigns (hereinafter, "STATE"), (subject to the reservations, covenants, terms and conditions hereof) a non-exclusive easement (hereinafter "Easement") for the purpose of constructing, reconstructing, upgrading, replacing, removing, inspecting, maintaining, repairing and operating a pedestrian undercrossing and access ramp only, for use as a public crossing, along with all necessary appurtenances thereto (hereinafter collectively, "Structure"), at or near the community of La Conchita, Ventura County, California under GRANTOR's railroad tracks and over that certain real property described in Exhibit A, attached hereto and hereby made a part hereof (hereinafter the "Property"), at GRANTOR's milepost 382.83 on GRANTOR's Santa Barbara Subdivision.

GRANTOR acknowledges that the Structure and its use as a public crossing in accordance with this Easement Deed and with the parties' separate Construction and Maintenance Agreement effective _____, 2011, and as thereafter amended, and known in Grantor's records as part of Real Estate Folder Number 2673-03 (the "C & M Agreement"), are compatible with railroad operations, within the meaning of California Code of Civil Procedure section 1240.510, so long as they do not impede railroad operations, create an undue safety risk, or interfere with GRANTOR's common carrier obligations as regulated by the Surface Transportation Board, the California Public Utilities Commission or by any successor agency thereof.

In future projects after initial completion of construction of the Structure, STATE may, at STATE's sole expense, alter or reconstruct the Structure if necessary or desirable ("Future Projects"), provided, however, that State shall have no right (i) to expand the dimensions of the Structure or (ii) to erect falsework or other structures, temporary or permanent, or make any other use of the surface of GRANTOR's right-of-way other than for inspection or maintenance of the Structure as originally constructed, without obtaining GRANTOR's prior written consent and the execution of a supplement to the C & M Agreement, or the completion of a separate construction and maintenance agreement, providing, without limitation, for the submission and approval of plans and specifications for such Future Project as contemplated by Section 7 of the C & M Agreement and for a then-current standard Right of Entry Agreement, Contractor's Endorsement, insurance policies, binders, certificates and endorsements as contemplated by Section 16 of the C & M Agreement, or as may be brought to bear by a separate eminent domain proceeding. Future Projects may require additional compensation to GRANTOR. GRANTOR reserves all its rights and defenses in any eminent domain proceeding brought by STATE.

RESERVING unto GRANTOR, its successors and assigns all rights in and to the Property and all uses of the Property that are not inconsistent with STATE's use and enjoyment of the Easement, including, but not limited to the following:

(1) All rights in and to airspace above the Property.

(2) The right to construct, reconstruct, upgrade, place, replace, remove, inspect, maintain, repair, alter, renew, improve and operate pipelines, utility lines, track, railroad facilities and communication lines above, below and on the surface of the Property. Railroad reserves and shall have the exclusive right to grant such rights to third parties. Communication lines shall include, without limitation, transmission by conduit, fiber optics, cable, wire or other means of electricity, voice data, video, digitized information, or other materials or information.

Number
79897-1

(3) All rights as may be required to investigate and remediate environmental contamination and hazards affecting the Property.

(4) All oil, oil rights, minerals, mineral rights, natural gas, natural gas rights, and other hydrocarbons by whatsoever name known that may be within the Property together with the perpetual right of drilling, mining, exploring and operating therefor and removing the same from the Property, including the right to whipstock or directionally drill and mine from lands other than the Property hereinbefore described, oil or gas wells, tunnels and shafts into, through or across the subsurface of the Property, and to bottom such whipstocked or directionally drilled wells, tunnels and shafts under and beneath or beyond the exterior limits thereof, and to redrill, retunnel, equip, maintain, repair, deepen and operate any such wells, or mines, without, however, the right to drill, mine, explore and operate through the surface or the upper one hundred (100) feet of the subsurface of the Property or otherwise in such manner as to endanger the safety of any Structure that may be constructed on the Property.

This Easement is SUBJECT and SUBORDINATE to the following:

(1) The terms and conditions of the C & M Agreement.

(2) All prior and outstanding licenses, leases, easements, restrictions, conditions, covenants, liens and claims of title which may affect the Property, whether recorded or both unrecorded and known or unknown by Grantor, including, but not limited to, all easements for petroleum and/or hydrocarbon pipelines, and easements and licenses for telephone, electric and fiber optic lines (collectively "Prior Rights"). The word "grant" as used in this Easement shall not be construed as a covenant against the existence of any Prior Rights affecting the Property.

(3) The continuing right and obligation of GRANTOR, its successors and assigns, to use the Property in the performance of its duties as a common carrier, including, but not limited to, the right to construct, reconstruct, maintain and operate existing or any additional railroad tracks, facilities and appurtenances thereto in, upon, over, along and across the Property in such manner as may be consistent with STATE's use and enjoyment of the easement herein granted.

If the Easement, or any portion thereof, shall cease to be needed for public crossing purposes, then the STATE shall vacate such portion(s) of the Easement in accordance with any and all applicable State and Federal laws. In addition, STATE, at STATE's sole expense, shall demolish and remove the Structure in accordance with the then current standards of GRANTOR, including, but not limited to engineering, land use and railroad operating standards, and with the terms and provisions of the C & M Agreement.

This Easement, the Structure, and the rights and obligations of State hereunder are not assignable without the prior written consent of Railroad in its sole and absolute discretion and shall remain the obligations of State, unless (i) the recipient of such assignment is the County of Ventura or its successor and (ii) the County of Ventura, or its successor, assumes in writing the obligations of State including, but not limited to those contained within the C & M Agreement.

Number
79897-1

IN WITNESS WHEREOF, GRANTOR has caused its corporate name to be hereunder subscribed and its corporate seal to be affixed hereto, this _____ day of _____, 20_____.

Attest:

UNION PACIFIC RAILROAD COMPANY,
a Delaware corporation

_____
Assistant Secretary

By_____
Printed Name: _____
Title: _____

ACKNOWLEDGMENT

STATE OF NEBRASKA)
) ss
COUNTY OF DOUGLAS)

On this _____ day of _____, 20____, before me, a Notary Public in and for said County and State, personally appeared _____ and _____ who are the _____ and the Assistant Secretary, respectively, of Union Pacific Railroad Company, a Delaware corporation, and who are personally known to me (or proved to me on the basis of satisfactory evidence) to be the persons whose names are subscribed to in the within instrument, and acknowledged to me that they executed the same in their authorized capacities, and that by their signatures on the instrument the persons, or the entity upon behalf of which the persons acted, executed the instrument.

WITNESS my hand and official seal.

_____
Notary Public

(Notary Seal)

THIS IS TO CERTIFY, That the State of California, acting by and through the Department of Transportation (pursuant to Government Code Section 27281), hereby accepts for public purposes the real property described in the within deed and consents to the recordation thereof.

IN WITNESS WHEREOF, I have hereunto set my hand this ____ day of _____, 20____.

_____
Director of Transportation

By: _____
Attorney in Fact

Exhibit A
Property Description

PARCEL 79897-1

That portion of Section 1, Township 3 North, Range 25 West, S.B.B. & M. in the County of Ventura, State of California, according to the official plat of said land as described in deed to Southern Pacific Railroad Company in deed recorded April 13, 1887 in Book 18 page 561 of Deeds; and that portion of La Conchita del Mar Tract No. 2, as per Map recorded in Book 12, pages 31 and 32 Miscellaneous Records, in the Office of the Registrar-Recorder/County Clerk of said county, as conveyed to Southern Pacific Railroad Company, in deed recorded October 20, 1934, in Book 434, page 151 of Official Records of said county, described as follows:

Commencing at the intersection of the Southwesterly prolongation of the Northwesterly line of Oxnard Avenue 40.00 feet wide with the Southwesterly line of Vista Del Mar Avenue 40.00 feet wide as it now exists; thence North 37° 18' 00" West 217.51 feet along said Southwesterly line to THE TRUE POINT OF BEGINNING; thence South 52° 42' 00" West 15.25 feet; thence South 37° 18' 00" East 6.00 feet; thence South 52° 42' 00" West 7.00 feet; thence South 37° 18' 00" East 158.17 feet; thence South 52° 42' 00" West 67.75 feet to the Northeasterly line of land conveyed to the State of California (State Parcel 73), recorded March 18, 1936 in Book 466, page 494 of Official Records of said county; thence along said Northeasterly line North 37° 18' 00" West 10.17 feet to a line parallel with and distant Northwesterly 10.17 feet from the course described hereinabove as having a length of 67.75 feet; thence along said parallel line North 52° 42' 00" East 55.75 feet to a line parallel with and distant Southwesterly 12.00 feet from the course described hereinabove as having a length of 158.17 feet; thence along last said parallel line North 37° 18' 00" West 184.00 feet; thence North 52° 42' 00" East 34.25 feet to said Southwesterly line of Vista Del Mar Avenue; thence along said Southwesterly line South 37° 18' 00" East 30.00 feet to THE TRUE POINT OF BEGINNING.

EXHIBIT G

To Construction & Maintenance Agreement

Form of Easement Deed for Parcel 79897-2

Recording Requested by
DEPARTMENT OF TRANSPORTATION

When recorded, Mail to:
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
District 7, Design Division
Office of R/W Engineering
100 South Main Street, MS 13
Los Angeles, CA 90012

Space above this line for Recorder's Use

EASEMENT DEED

District	County	Route	Postmile	Number
7	VEN	101	42.2	79897-2

EXHIBIT G

UNION PACIFIC RAILROAD COMPANY, a Delaware corporation

(hereinafter, "GRANTOR"), for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, hereby grants to the STATE OF CALIFORNIA, Department of Transportation, a public agency, its successors and assigns (hereinafter, "STATE"), (subject to the reservations, covenants, terms and conditions hereof) a non-exclusive easement (hereinafter "Easement") for the purpose of constructing, reconstructing, upgrading, replacing, removing, inspecting, maintaining, repairing and operating a drainage culvert only, for use for drainage purposes, along with all necessary appurtenances thereto (hereinafter collectively, "Structure"), at or near the community of La Conchita, Ventura County, California under GRANTOR's railroad tracks and over that certain real property described in Exhibit A, attached hereto and hereby made a part hereof (hereinafter the "Property"), at GRANTOR's milepost 382.83 on GRANTOR's Santa Barbara Subdivision.

GRANTOR acknowledges that the Structure and its use for drainage in accordance with this Easement Deed and with the parties' separate Construction and Maintenance Agreement effective _____, 2011, and as thereafter amended, and known in Grantor's records as part of Real Estate Folder Number 2673-03 (the "C & M Agreement"), are compatible with railroad operations, within the meaning of California Code of Civil Procedure section 1240.510, so long as they do not impede railroad operations, create an undue safety risk, or interfere with GRANTOR's common carrier obligations as regulated by the Surface Transportation Board, the California Public Utilities Commission or by any successor agency thereof.

In future projects after initial completion of construction of the Structure, STATE may, at STATE's sole expense, alter or reconstruct the Structure if necessary or desirable ("Future Projects"), provided, however, that State shall have no right (i) to expand the dimensions of the Structure or (ii) to erect falsework or other structures, temporary or permanent, or make any other use of the surface of GRANTOR's right-of-way other than for inspection or maintenance of the Structure as originally constructed, without obtaining GRANTOR's prior written consent and the execution of a supplement to the C & M Agreement, or the completion of a separate construction and maintenance agreement, providing, without limitation, for the submission and approval of plans and specifications for such Future Project as contemplated by Section 7 of the C & M Agreement and for a then-current standard Right of Entry Agreement, Contractor's Endorsement, insurance policies, binders, certificates and endorsements as contemplated by Section 16 of the C & M Agreement, or as may be brought to bear by a separate eminent domain proceeding. Future Projects may require additional compensation to GRANTOR. GRANTOR reserves all its rights and defenses in any eminent domain proceeding brought by STATE.

RESERVING unto GRANTOR, its successors and assigns all rights in and to the Property and all uses of the Property that are not inconsistent with STATE's use and enjoyment of the Easement, including, but not limited to the following:

(1) All rights in and to airspace above the Property.

(2) The right to construct, reconstruct, upgrade, place, replace, remove, inspect, maintain, repair, alter, renew, improve and operate pipelines, utility lines, track, railroad facilities and communication lines above, below and on the surface of the Property. Railroad reserves and shall have the exclusive right to grant such rights to third parties. Communication lines shall include, without limitation, transmission by conduit, fiber optics, cable, wire or other means of electricity, voice data, video, digitized information, or other materials or information.

(3) All rights as may be required to investigate and remediate environmental contamination and hazards affecting the Property.

(4) All oil, oil rights, minerals, mineral rights, natural gas, natural gas rights, and other hydrocarbons by whatsoever name known that may be within the Property together with the perpetual right of drilling, mining, exploring and operating therefor and removing the same from the Property, including the right to whipstock or directionally drill and mine from lands other than the Property hereinbefore described, oil or gas wells, tunnels and shafts into, through or across the subsurface of the Property, and to bottom such whipstocked or directionally drilled wells, tunnels and shafts under and beneath or beyond the exterior limits thereof, and to redrill, retunnel, equip, maintain, repair, deepen and operate any such wells, or mines, without, however, the right to drill, mine, explore and operate through the surface or the upper one hundred (100) feet of the subsurface of the Property or otherwise in such manner as to endanger the safety of any Structure that may be constructed on the Property.

This Easement is SUBJECT and SUBORDINATE to the following:

(1) The terms and conditions of the C & M Agreement.

(2) All prior and outstanding licenses, leases, easements, restrictions, conditions, covenants, liens and claims of title which may affect the Property, whether recorded or both unrecorded and known or unknown by Grantor, including, but not limited to, all easements for petroleum and/or hydrocarbon pipelines, and easements and licenses for telephone, electric and fiber optic lines (collectively "Prior Rights"). The word "grant" as used in this Easement shall not be construed as a covenant against the existence of any Prior Rights affecting the Property.

(3) The continuing right and obligation of GRANTOR, its successors and assigns, to use the Property in the performance of its duties as a common carrier, including, but not limited to, the right to construct, reconstruct, maintain and operate existing or any additional railroad tracks, facilities and appurtenances thereto in, upon, over, along and across the Property in such manner as may be consistent with STATE's use and enjoyment of the easement herein granted.

If the Easement, or any portion thereof, shall cease to be needed for drainage purposes, then the STATE shall vacate such portion(s) of the Easement in accordance with any and all applicable State and Federal laws. In addition, STATE, at STATE's sole expense, shall demolish and remove the Structure in accordance with the then current standards of GRANTOR, including, but not limited to engineering, land use and railroad operating standards, and with the terms and provisions of the C & M Agreement.

Number
79897-2

This Easement, the Structure, and the rights and obligations of State hereunder are not assignable without the prior written consent of Railroad in its sole and absolute discretion and shall remain the obligations of State, unless (i) the recipient of such assignment is the County of Ventura or its successor and (ii) the County of Ventura, or its successor, assumes in writing the obligations of State including, but not limited to those contained within the C & M Agreement.

In WITNESS WHEREOF, GRANTOR has caused its corporate name to be hereunder subscribed and its corporate seal to be affixed hereto, this _____ day of _____, 20_____.

Attest:

UNION PACIFIC RAILROAD COMPANY,
a Delaware corporation

_____
Assistant Secretary

By_____
Printed Name: _____
Title: _____

ACKNOWLEDGMENT

STATE OF NEBRASKA
) ss
COUNTY OF DOUGLAS)

On this _____ day of _____, 20____, before me, a Notary Public in and for said County and State, personally appeared _____ and _____ who are the _____ and the Assistant Secretary, respectively, of Union Pacific Railroad Company, a Delaware corporation, and who are personally known to me (or proved to me on the basis of satisfactory evidence) to be the persons whose names are subscribed to in the within instrument, and acknowledged to me that they executed the same in their authorized capacities, and that by their signatures on the instrument the persons, or the entity upon behalf of which the persons acted, executed the instrument.

WITNESS my hand and official seal.

_____
Notary Public

(Notary Seal)

THIS IS TO CERTIFY, That the State of California, acting by and through the Department of Transportation (pursuant to Government Code Section 27281), hereby accepts for public purposes the real property described in the within deed and consents to the recordation thereof.

IN WITNESS WHEREOF, I have hereunto set my hand this ____ day of _____, 20____.

_____
Director of Transportation

By: _____
Attorney in Fact

Exhibit A
Property Description

PARCEL 79897-2

That portion of Section 1, Township 3 North, Range 25 West, S.B.B. & M. in the County of Ventura, State of California, according to the official plat of said land as described in deed to Southern Pacific Railroad Company in deed recorded April 13, 1887 in Book 18 page 561 of Deeds; and that portion of La Conchita del Mar Tract No. 2, as per Map recorded in Book 12, pages 31 and 32 Miscellaneous Records, in the Office of the Registrar-Recorder/County Clerk of said county, as conveyed to Southern Pacific Railroad Company, in deed recorded October 20, 1934, in Book 434, page 151 of Official Records of said county, described as follows:

Commencing at the intersection of the Southwesterly prolongation of the Northwesterly line of Oxnard Avenue 40.00 Feet wide with the Southwesterly line of Vista Del Mar Avenue 40.00 feet wide as it now exists; thence North 37° 18' 00" West 36.34 feet along said Southwesterly line to THE TRUE POINT OF BEGINNING; thence South 52° 42' 00" West 12.73 feet; thence South 86° 10' 59" West 12.69 feet; thence South 52° 42' 00" West 66.69 feet to the Northeasterly line of land conveyed to the State of California (State Parcel 73), recorded March 18, 1936 in Book 466, page 494 of Official Records of said county; thence along said Northeasterly line North 37° 18' 00" West 10.00 feet to a line parallel with and distant Northwesterly 10.00 feet from the course described hereinabove as having a length of 66.69 feet; thence along said last parallel line North 52° 42' 00" East 90.00 feet to said Southwesterly line of Vista Del Mar Avenue; thence along said Southwesterly line South 37° 18' 00" East 17.00 feet to THE TRUE POINT OF BEGINNING.

EXHIBIT H

To Construction & Maintenance Agreement

Form of Easement Deed for Parcel 79897-3

Recording Requested by
DEPARTMENT OF TRANSPORTATION

When recorded, Mail to:
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
District 7, Design Division
Office of R/W Engineering
100 South Main Street, MS 13
Los Angeles, CA 90012

Space above this line for Recorder's Use

EASEMENT DEED

District	County	Route	Postmile	Number
7	VEN	101	42.2	79897-3

EXHIBIT H

UNION PACIFIC RAILROAD COMPANY, a Delaware corporation

(hereinafter, "GRANTOR"), for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, hereby grants to the STATE OF CALIFORNIA, Department of Transportation, a public agency, its successors and assigns (hereinafter, "STATE"), (subject to the reservations, covenants, terms and conditions hereof) a non-exclusive easement (hereinafter "Easement") for the purpose of constructing, reconstructing, upgrading, replacing, removing, inspecting, maintaining, repairing and operating electrical facilities only, to provide lighting to adjacent drainage culvert and pedestrian undercrossing structures, along with all necessary appurtenances thereto (hereinafter collectively, "Structure"), at or near the community of La Conchita, Ventura County, California under GRANTOR's railroad tracks and under and on that certain real property described in Exhibit A, attached hereto and hereby made a part hereof (hereinafter the "Property"), at GRANTOR's milepost 382.83 on GRANTOR's Santa Barbara Subdivision.

GRANTOR acknowledges that the Structure and its use for the provision of lighting in accordance with this Easement Deed and with the parties' separate Construction and Maintenance Agreement effective _____, 2011, and as thereafter amended, and known in Grantor's records as part of Real Estate Folder Number 2673-03 (the "C & M Agreement"), are compatible with railroad operations, within the meaning of California Code of Civil Procedure section 1240.510, so long as they do not impede railroad operations, create an undue safety risk, or interfere with GRANTOR's common carrier obligations as regulated by the Surface Transportation Board, the California Public Utilities Commission or by any successor agency thereof.

In future projects after initial completion of construction of the Structure, STATE may, at STATE's sole expense, alter or reconstruct the Structure if necessary or desirable ("Future Projects"), provided, however, that State shall have no right (i) to expand the dimensions of the Structure or (ii) to erect falsework or other structures, temporary or permanent, or make any other use of the surface of GRANTOR's right-of-way other than for inspection or maintenance of the Structure as originally constructed, without obtaining GRANTOR's prior written consent and the execution of a supplement to the C & M Agreement, or the completion of a separate construction and maintenance agreement, providing, without limitation, for the submission and approval of plans and specifications for such Future Project as contemplated by Section 7 of the C & M Agreement and for a then-current standard Right of Entry Agreement, Contractor's Endorsement, insurance policies, binders, certificates and endorsements as contemplated by Section 16 of the C & M Agreement, or as may be brought to bear by a separate

eminent domain proceeding. Future Projects may require additional compensation to GRANTOR. GRANTOR reserves all its rights and defenses in any eminent domain proceeding brought by STATE.

RESERVING unto GRANTOR, its successors and assigns all rights in and to the Property and all uses of the Property that are not inconsistent with STATE's use and enjoyment of the Easement, including, but not limited to the following:

(1) All rights in and to airspace above the Property.

(2) The right to construct, reconstruct, upgrade, place, replace, remove, inspect, maintain, repair, alter, renew, improve and operate pipelines, utility lines, track, railroad facilities and communication lines above, below and on the surface of the Property. Railroad reserves and shall have the exclusive right to grant such rights to third parties. Communication lines shall include, without limitation, transmission by conduit, fiber optics, cable, wire or other means of electricity, voice data, video, digitized information, or other materials or information.

(3) All rights as may be required to investigate and remediate environmental contamination and hazards affecting the Property.

(4) All oil, oil rights, minerals, mineral rights, natural gas, natural gas rights, and other hydrocarbons by whatsoever name known that may be within the Property together with the perpetual right of drilling, mining, exploring and operating therefor and removing the same from the Property, including the right to whipstock or directionally drill and mine from lands other than the Property hereinbefore described, oil or gas wells, tunnels and shafts into, through or across the subsurface of the Property, and to bottom such whipstocked or directionally drilled wells, tunnels and shafts under and beneath or beyond the exterior limits thereof, and to redrill, retunnel, equip, maintain, repair, deepen and operate any such wells, or mines, without, however, the right to drill, mine, explore and operate through the surface or the upper one hundred (100) feet of the subsurface of the Property or otherwise in such manner as to endanger the safety of any Structure that may be constructed on the Property.

This Easement is SUBJECT and SUBORDINATE to the following:

(1) The terms and conditions of the C & M Agreement.

(2) All prior and outstanding licenses, leases, easements, restrictions, conditions, covenants, liens and claims of title which may affect the Property, whether recorded or both unrecorded and known or unknown by Grantor, including, but not limited to, all easements for petroleum and/or hydrocarbon pipelines, and easements and licenses for telephone, electric and fiber optic lines (collectively "Prior Rights"). The word "grant" as used in this Easement shall not be construed as a covenant against the existence of any Prior Rights affecting the Property.

(3) The continuing right and obligation of GRANTOR, its successors and assigns, to use the Property in the performance of its duties as a common carrier, including, but not limited to, the right to construct, reconstruct, maintain and operate existing or any additional railroad tracks, facilities and appurtenances thereto in, upon, over, along and across the Property in such manner as may be consistent with STATE's use and enjoyment of the easement herein granted.

If the Easement, or any portion thereof, shall cease to be needed for electric facilities purposes, then the STATE shall vacate such portion(s) of the Easement in accordance with any and all applicable State and Federal laws. In addition, STATE, at STATE's sole expense, shall demolish and remove the Structure in accordance with the then current standards of GRANTOR, including, but not limited to

Number
79897-3

engineering, land use and railroad operating standards, and with the terms and provisions of the C & M Agreement.

This Easement, the Structure, and the rights and obligations of State hereunder are not assignable without the prior written consent of Railroad in its sole and absolute discretion and shall remain the obligations of State, unless (i) the recipient of such assignment is the County of Ventura or its successor and (ii) the County of Ventura, or its successor, assumes in writing the obligations of State including, but not limited to those contained within the C & M Agreement.

In WITNESS WHEREOF, GRANTOR has caused its corporate name to be hereunder subscribed and its corporate seal to be affixed hereto, this _____ day of _____, 20_____.

Attest:

UNION PACIFIC RAILROAD COMPANY,
a Delaware corporation

_____
Assistant Secretary

By_____
Printed Name: _____
Title: _____

ACKNOWLEDGMENT

STATE OF NEBRASKA)
) ss
COUNTY OF DOUGLAS)

On this _____ day of _____, 20____, before me, a Notary Public in and for said County and State, personally appeared _____ and _____ who are the _____ and the Assistant Secretary, respectively, of Union Pacific Railroad Company, a Delaware corporation, and who are personally known to me (or proved to me on the basis of satisfactory evidence) to be the persons whose names are subscribed to in the within instrument, and acknowledged to me that they executed the same in their authorized capacities, and that by their signatures on the instrument the persons, or the entity upon behalf of which the persons acted, executed the instrument.

WITNESS my hand and official seal.

_____
Notary Public

(Notary Seal)

THIS IS TO CERTIFY, That the State of California, acting by and through the Department of Transportation (pursuant to Government Code Section 27281), hereby accepts for public purposes the real property described in the within deed and consents to the recordation thereof.

IN WITNESS WHEREOF, I have hereunto set my hand this ____ day of _____, 20____.

_____
Director of Transportation

By: _____
Attorney in Fact

Exhibit A
Property Description

PARCEL 79897-3

That portion of Section 1, Township 3 North, Range 25 West, S.B.B. & M. in the County of Ventura, State of California, according to the official plat of said land as described in deed to Southern Pacific Railroad Company in deed recorded April 13, 1887 in Book 18 page 561 of Deeds; and that portion of La Conchita del Mar Tract No. 2, as per Map recorded in Book 12, pages 31 and 32 Miscellaneous Records, in the Office of the Registrar-Recorder/County Clerk of said county, as conveyed to Southern Pacific Railroad Company, in deed recorded October 20, 1934, in Book 434, page 151 of Official Records of said county, described as follows:

Commencing at the intersection of the Southwesterly prolongation of the Northwesterly line of Oxnard Avenue 40.00 Feet wide with the Southwesterly line of Vista Del Mar Avenue 40.00 feet wide as it now exists; thence North 37° 18' 00" West 36.34 feet along said Southwesterly line to THE TRUE POINT OF BEGINNING; thence South 52° 42' 00" West 9.73 feet; thence North 37° 18' 00" West 18.00 feet; thence South 52° 42' 00" West 12.52 feet; thence South 37° 18' 00" East 1.00 feet; thence North 52° 42' 00" East 11.52 feet; thence South 37° 18' 00" East 17.00 feet; thence South 52° 42' 00" West 2.00 feet; thence South 86° 10' 59" West 12.69 feet; thence South 52° 42' 00" West 66.69 feet to the Northeasterly line of land conveyed to the State of California (State Parcel 73), recorded March 18, 1936 in Book 466, page 494 of Official Records of said county; thence along said Northeasterly line South 37° 18' 00" East 1.00 foot to a line parallel with and distant Southeasterly 1.00 foot from the course described hereinabove as having a length of 66.69 feet; thence along said last parallel line North 52° 42' 00" East 62.95 feet; to a line parallel with and distant Southwesterly 24.55 feet from said Southwesterly line of Vista Del Mar Avenue; thence along said parallel line South 37° 18' 00" East 1.50 feet; thence North 52° 42' 00" East 2.50 feet; thence North 37° 18' 00" West 2.12 feet; thence North 86° 10' 59" East 13.81 feet; thence North 52° 42' 00" East 13.03 feet to said Southwesterly line of Vista Del Mar Avenue; thence along said Southwesterly line North 37° 18' 00" West 1.00 foot to THE TRUE POINT OF BEGINNING.

EXHIBIT I

To Construction & Maintenance Agreement

Form of Temporary Construction Easement for
Parcels 79897-4, -5, -6

Recording Requested by
DEPARTMENT OF TRANSPORTATION

When recorded, Mail to:
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
District 7, Design Division
Office of R/W Engineering
100 South Main Street, MS 13
Los Angeles, CA 90012

Space above this line for Recorder's Use

TEMPORARY CONSTRUCTION EASEMENT

District	County	Route	Postmile	Number
7	VEN	101	42.2	79897-4, -5, -6

EXHIBIT I

UNION PACIFIC RAILROAD COMPANY, a Delaware corporation

(hereinafter, "GRANTOR"), for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, hereby grants to the STATE OF CALIFORNIA, Department of Transportation, a public agency, its successors and assigns (hereinafter, "STATE"), a temporary non-exclusive easement (hereinafter "Temporary Easement") over and across that certain real property of GRANTOR described in Exhibit A, attached hereto and hereby made a part hereof, at GRANTOR's milepost 382.83 on GRANTOR's Santa Barbara Subdivision (hereinafter the "Property") for the sole purpose of staging the construction of a drainage culvert, pedestrian undercrossing and access ramp only (hereinafter collectively, "Structure"), on property adjacent to the Property at or near the community of La Conchita, Ventura County, California.

The grant of this Temporary Easement shall be effective _____, 2011, and shall terminate three (3) years after such date, or upon completion of the Structure, whichever is sooner.

GRANTOR acknowledges that the Temporary Easement and its use in accordance with the terms and provisions herein, and with the parties' separate Construction and Maintenance Agreement effective _____, 2011, and as thereafter amended, and known in Grantor's records as part of Real Estate Folder Number 2673-03 (the "C & M Agreement"), is compatible with railroad operations, within the meaning of California Code of Civil Procedure section 1240.510, so long as it does not impede railroad operations, create an undue safety risk, or interfere with GRANTOR's common carrier obligations as regulated by the Surface Transportation Board, California Public Utilities Commission, or by any successor agency thereof.

RESERVING unto GRANTOR, its successors and assigns, all rights in and to the Property and all uses of the Property that are not inconsistent with STATE's use and enjoyment of the Temporary Easement, including, but not limited to the following:

(1) All rights in and to airspace above the Property.

(2) The right to construct, reconstruct, upgrade, place, replace, remove, inspect, maintain, repair, alter, renew, improve and operate pipelines, utility lines, track, railroad facilities and communication lines above, below and on the surface of the Property. Railroad reserves and

shall have the exclusive right to grant such rights to third parties. Communication lines shall include, without limitation, transmission by conduit, fiber optics, cable, wire or other means of electricity, voice data, video, digitized information, or other materials or information.

(3) All rights as may be required to investigate and remediate environmental contamination and hazards affecting the Property.

(4) All oil, oil rights, minerals, mineral rights, natural gas, natural gas rights, and other hydrocarbons by whatsoever name known that may be within the Property together with the perpetual right of drilling, mining, exploring and operating therefor and removing the same from the Property, including the right to whipstock or directionally drill and mine from lands other than the Property hereinbefore described, oil or gas wells, tunnels and shafts into, through or across the subsurface of the Property, and to bottom such whipstocked or directionally drilled wells, tunnels and shafts under and beneath or beyond the exterior limits thereof, and to redrill, retunnel, equip, maintain, repair, deepen and operate any such wells, or mines, without, however, the right to drill, mine, explore and operate through the surface or the upper one hundred (100) feet of the subsurface of the Property or otherwise in such manner as to endanger the safety of any Structure that may be constructed on the Property.

This Temporary Easement is SUBJECT and SUBORDINATE to the following:

(1) The terms and conditions of the C & M Agreement.

(2) All prior and outstanding licenses, leases, easements, restrictions, conditions, covenants, liens and claims of title which may affect the Property, whether recorded or both unrecorded and known by Grantor, including, but not limited to, all easements for petroleum and/or hydrocarbon pipelines, and easements and licenses for telephone, electric and fiber optic lines (collectively "Prior Rights"). The word "grant" as used in this Temporary Easement shall not be construed as a covenant against the existence of any Prior Rights affecting the Property.

(3) The continuing right and obligation of GRANTOR, its successors and assigns, to use the Property in the performance of its duties as a common carrier, including, but not limited to, the right to construct, reconstruct, maintain and operate existing or any additional railroad tracks, facilities and appurtenances thereto in, upon, over, along and across the Property in such manner as may be consistent with STATE's use and enjoyment of the easement herein granted.

STATE, at its sole expense, and at all times during the term of this Temporary Easement, shall keep and maintain the Property in a safe, clean and good condition. Upon termination of this Temporary Easement, STATE, at STATE's sole expense, shall restore the Property to the condition and contours that existed immediately prior to granting this Temporary Easement. Any work by STATE to so restore the Property shall be in accordance with the then current standards of GRANTOR, including, but not limited to engineering, land use and railroad operating standards, and with the terms and provisions of the C & M Agreement.

Number
79897-4, -5, -6

IN WITNESS WHEREOF, GRANTOR has caused its corporate name to be hereunder subscribed and its corporate seal to be affixed hereto, this _____ day of _____, 20_____.

Attest:

UNION PACIFIC RAILROAD COMPANY,
a Delaware corporation

_____
Assistant Secretary

By_____
Printed Name: _____
Title: _____

ACKNOWLEDGMENT

STATE OF NEBRASKA)
) ss
COUNTY OF DOUGLAS)

On this _____ day of _____, 20____, before me, a Notary Public in and for said County and State, personally appeared _____ and _____ who are the _____ and the Assistant Secretary, respectively, of Union Pacific Railroad Company, a Delaware corporation, and who are personally known to me (or proved to me on the basis of satisfactory evidence) to be the persons whose names are subscribed to in the within instrument, and acknowledged to me that they executed the same in their authorized capacities, and that by their signatures on the instrument the persons, or the entity upon behalf of which the persons acted, executed the instrument.

WITNESS my hand and official seal.

_____
Notary Public

(Notary Seal)

THIS IS TO CERTIFY, That the State of California, acting by and through the Department of Transportation (pursuant to Government Code Section 27281), hereby accepts for public purposes the real property described in the within deed and consents to the recordation thereof.

IN WITNESS WHEREOF, I have hereunto set my hand this ____ day of _____, 20____.

_____
Director of Transportation

By: _____
Attorney in Fact

Exhibit A
Property Description

PARCEL 79897-4

A Temporary Construction EASEMENT over, upon and across that portion of Section 1, Township 3 North, Range 25 West, S.B.B. & M. in the County of Ventura, State of California, according to the official plat of said land as described in deed to Southern Pacific Railroad Company in deed recorded April 13, 1887 in Book 18 page 561 of Deeds; and that portion of La Conchita del Mar Tract No. 2, as per Map recorded in Book 12, pages 31 and 32 Miscellaneous Records, in the Office of the Registrar-Recorder/County Clerk of said county, as conveyed to Southern Pacific Railroad Company, in deed recorded October 20, 1934, in Book 434, page 151 of Official Records of said county, described as follows:

Commencing at the intersection of the Southwesterly prolongation of the Northwesterly line of Oxnard Avenue 40.00 Feet wide with the Southwesterly line of Vista Del Mar Avenue 40.00 feet wide as it now exists; thence North 37° 18' 00" West 247.51 feet along said Southwesterly line to THE TRUE POINT OF BEGINNING; thence South 52° 42' 00" West 34.25 feet thence South 37° 18' 00" East 184.00 feet; thence South 52° 42' 00" West 55.75 feet to the Northeasterly line of land conveyed to the State of California (State Parcel 73), recorded March 18, 1936 in Book 466, page 494 of Official Records of said county; thence along said Northeasterly line North 37° 18' 00" West 10.00 feet to a line parallel with and distant Northwesterly 10.00 feet from the course described hereinabove as having a length of 55.75 feet; thence along said parallel line North 52° 42' 00" East 53.75 feet to a line parallel with and distant Southwesterly 2.00 feet from the course described hereinabove as having a length of 184.00 feet; thence along last said parallel line North 37° 18' 00" West 176.00 feet; thence North 52° 42' 00" East 36.25 feet to the Southwesterly line of Vista Del Mar Avenue; thence along said Southwesterly line South 37° 18' 00" East 2.00 feet to THE TRUE POINT OF BEGINNING.

PARCEL 79897-5

A Temporary Construction EASEMENT over, upon and across that portion of Section 1, Township 3 North, Range 25 West, S.B.B. & M. in the County of Ventura, State of California, according to the official plat of said land as described in deed to Southern Pacific Railroad Company in deed recorded April 13, 1887 in Book 18 page 561 of Deeds; and that portion of La Conchita del Mar Tract No. 2, as per Map recorded in Book 12, pages 31 and 32 Miscellaneous Records, in the Office of the Registrar-Recorder/County Clerk of said county, as conveyed to Southern Pacific Railroad Company, in deed recorded October 20, 1934, in Book 434, page 151 of Official Records of said county, described as follows:

Commencing at the intersection of the Southwesterly prolongation of the Northwesterly line of Oxnard Avenue 40.00 Feet wide with the Southwesterly line of Vista Del Mar Avenue 40.00 feet wide as it now exists; thence North 37° 18' 00" West 53.34 feet along said Southwesterly line to THE TRUE POINT OF BEGINNING; thence South 52° 42' 00" West 9.73 feet; thence North 37° 18' 00" West 1.00 feet; thence South 52° 42' 00" West 12.52 feet; thence North 37° 18' 00" West 157.17 feet; thence North 52° 42' 00" East 7.00 feet; thence North 37° 18' 00" West 6.00 feet; thence North 52° 42' 00" East 15.25 feet to said Southwesterly line of Vista Del Mar Avenue; thence along said Southwesterly line South 37° 18' 00" East 164.17 feet to THE TRUE POINT OF BEGINNING.

PARCEL 79897-6

A Temporary Construction EASEMENT in, under, and to that portion of Section 1, Township 3 North, Range 25 West, S.B.B. & M. in the County of Ventura, State of California, according to the official plat of said land as described in deed to Southern Pacific Railroad Company in deed recorded April 13, 1887 in Book 18 page 561 of Deeds; and that portion of La Conchita del Mar Tract No. 2, as per Map recorded in Book 12, pages 31 and 32 Miscellaneous Records, in the Office of the Registrar-Recorder/County Clerk of said county, as conveyed to Southern Pacific Railroad Company, in deed recorded October 20, 1934, in Book 434, page 151 of Official Records of said county, described as follows:

Commencing at the intersection of the Southwesterly prolongation of the Northwesterly line of Oxnard Avenue 40.00 Feet wide with the Southwesterly line of Vista Del Mar Avenue 40.00 feet wide as it now exists; thence North 37° 18' 00" West 33.34 feet along said Southwesterly line to THE TRUE POINT OF BEGINNING; thence South 52° 42' 00" West 90.00 feet to the Northeasterly line of land conveyed to the State of California (State Parcel 73), recorded March 18, 1936 in Book 466, page 494 of Official Records of said county; thence along said Northeasterly line North 37° 18' 00" West 9.00 feet to a line parallel with and distant Northwesterly 9.00 feet from the course described hereinabove as having a length of 90.00 feet; thence along said last parallel line North 52° 42' 00" East 62.95 feet to a line parallel with and distant Southwesterly 24.55 feet from said Southwesterly line of Vista Del Mar Avenue; thence along said parallel line South 37° 18' 00" East 1.50 feet; thence North 52° 42' 00" East 2.50 feet; thence North 37° 18' 00" West 2.12 feet; thence North 86° 10' 59" East 13.81 feet; thence North 52° 42' 00" East 13.03 feet to said Southwesterly line of Vista Del Mar Avenue; thence along said Southwesterly line South 37° 18' 00" East 2.00 feet to THE TRUE POINT OF BEGINNING.

EXHIBIT J

To Construction & Maintenance Agreement

Railroad's Estimated Costs for Design, Inspection, Review, Flagging Etc.

EXHIBIT J

RAILROAD FLAGGING/ INSPECTION AND LABOR ESTIMATE

TO PUBLIC ROAD GRADE SEPARATION CROSSING IMPROVEMENT AGREEMENT

DESCRIPTION OF WORK: Perform flagging / inspection, removal of an existing bridge and the installation of a drainage culvert / pedestrian underpass for the California Department of Transportation. (USDOT# 427712J), at Railroad Mile Post 382.83 on the Santa Barbara Subdivision in Ventura County, California.

LOCATION: La Conchita, California DATE: July 25, 2011

DESCRIPTION	LABOR	MATERIAL	AUTHORITY TOTAL
Flagging ($1100 a day For 50 days)	$55,000		$55,000
Bridge Labor	$150,000		$150,000
Contractor	$150,000		$150,000
Inspection	$50,000		$ 50,000
Track Labor	$50,000		$ 50,000
Crane Rental	$25,000		$ 25,000
15% Contingency	$72,000		$ 72,000

TOTAL PROJECT
TOTAL ESTIMATED COST OF PROJECT LESS CREDITS $552,000

THE ABOVE FIGURES ARE ESTIMATES ONLY AND SUBJECT TO FLUCTUATION. IN THE EVENT OF AN INCREASE OR DECREASE IN THE COST OF AMOUNT OF MATERIAL OR LABOR REQUIRED, STATE WILL BE BILLED FOR ACTUAL COST AT THE CURRENT RATES EFFECTIVE THEREOF.

EXHIBIT K
TO CONSTRUCTION & MAINTENANCE AGREEMENT

SECTION 13: RAILROAD RELATIONS AND INSURANCE REQUIREMENTS.

13-1.01 GENERAL

The term "Railroad" shall mean the Union Pacific Railroad Company.

It is expected that the Railroad will cooperate with the Contractor to the end that the work may be handled in an efficient manner. However, except for the additional compensation provided for hereinafter for delays in completion of specific unit of work to be performed by the Railroad, and except as provided in Public Contracts Code Section 7102, the Contractor shall have no claim for damages, extension of time, or extra compensation in the event his work is held up by railroad train operations or other work performed by the Railroad.

The Contractor must understand the Contractor's right to enter the Railroad's property is subject to the absolute right of the Railroad to cause the Contractor's work on the Railroad's property to cease if, in the opinion of the Railroad, the Contractor's activities create a hazard to the Railroad's property, employees, and operations.

The Contractor acknowledges its receipt from the State of a copy of the Contractor's Right of Entry Agreement that has been executed by the Railroad and the State. The Contractor agrees to execute and deliver to the Railroad the Contractor's Endorsement that is attached hereto as **Appendix 1** and to provide to the State and/or the Railroad all insurance policies, binders, certificates or endorsements that are set forth in **Exhibits B and C** of the Caltrans Right of Entry Agreement.

13-1.02 RAILROAD REQUIREMENTS

The Contractor shall provide to Ken Tom, Railroad's Manager, Industry and Public Projects, 2015 South Willow Avenue, Bloomington, California 92316, and the Engineer, in writing, the advance notice requirements set forth in Section 1 of **Exhibit B** of the Caltrans Right of Entry Agreement before performing any work on, or adjacent to the property or tracks of the Railroad.

The Contractor shall cooperate with the Railroad where work is over or under the tracks, or within the limits of the Railroad property to expedite the work and avoid interference with the operation of railroad equipment.

The Contractor shall comply with the rules and regulations of the Railroad or the instructions of its representatives in relation to protecting the tracks and property of the Railroad and the traffic moving on such tracks, as well as the wires, signals and other property of the Railroad, its tenants or licensees, at and in the vicinity of the work during the period of construction. The responsibility of the Contractor for safe conduct and adequate policing and supervision of its work at the job site shall not be lessened or otherwise affected by the presence at the work site of the Railroad representatives, or by the Contractor's compliance with any requests or recommendations made by the Railroad representatives.

The Contractor shall perform work so as not to endanger or interfere with the safe operation of the tracks and property of the Railroad and traffic moving on such tracks, as well as wires, signals and other property of the Railroad, its tenants or licensees, at or in the vicinity of the work.

The Contractor shall take protective measures to keep the Railroad facilities, including track ballast, free of sand or debris resulting from his operations. Damage to the Railroad facilities resulting from the Contractor's operations will be repaired or replaced by the Railroad and the cost of such repairs or replacement shall be deducted from the Contractor's progress and final pay estimates.

The Contractor shall contact the Railroad's "Call Before You Dig" at least forty-eight (48) hours prior to commencing work, at 1-800-336-9193 during normal business hours (7:00 a.m. to 9:00 p.m. Central Time, Monday through Friday, except holidays – also a 24-hour, 7-day number for emergency calls) to determine location of fiber optics. If a telecommunications system is buried anywhere on or near the Railroad property, the Contractor will coordinate with the Railroad and the Telecommunication Company(ies) to arrange for relocation or other protection of the system prior to beginning any work on or near Railroad property.

The Contractor shall not pile or store any materials nor park any equipment closer than 25'-0" to the centerline of the nearest track, unless directed by the Railroad's representative.

The Contractor shall also abide by the following temporary clearances during the course of construction:

- 3.66 meter (12'-0") horizontally from centerline of track
- 6.40 meter (21'-0") vertically above top of rail

The temporary vertical construction clearance above provided will not be permitted until authorized by the Public Utilities Commission. It is anticipated that authorization will be received not later than fifteen (15) days after the approval of the contract. In the event authorization is not received by the time specified, and, if in the opinion of the Engineer, the Contractor's operations are delayed or interfered with by reason of authorization not being received by the said time, the Licensee will compensate the Contractor for such delay to the extent provided in Section 8-1.09, "Right of Way Delays," of the Standard Specifications and not otherwise.

Walkways with railing shall be constructed by the Contractor over open excavation areas when in close proximity of tracks, and railings shall not be closer than 2.60-meter (8'-6") horizontally from centerline of the nearest track, if tangent, or 2.90-meter (9'-6") if curved.

Infringement on the above temporary construction clearances by the Contractor's operations shall be submitted to the Railroad by the Engineer, and shall not be undertaken until approved by the Railroad, and until the Engineer has obtained any necessary authorization from any governmental body or bodies having jurisdiction thereover. No extension of time or extra compensation will be allowed in the event the Contractor's work is delayed pending Railroad approval and governmental authorization.

When the temporary vertical clearance is less than 6.86-meter (22'-6") above top of rail, the Railroad shall have the option of installing tell-tales or other protective devices the Railroad deems necessary for protection of the Railroad trainmen or rail traffic.

Four (4) sets of plans, in 279mm x 432mm (11" x 17") format, and two (2) sets of calculations showing details of construction affecting the Railroad's tracks and property not included in the contract plans, including but not limited to shoring and falsework, shall be submitted to the Engineer for review prior to submittal to the Railroad for final approval. Falsework shall comply with the Railroad guidelines. Demolition of existing structures shall comply with the Railroad guidelines. Shoring shall be designed in accordance with the Railroad's shoring requirement of Drawing No. 106613 and guidelines for shoring and falsework, latest edition, issued by the Railroad's Office of Chief Engineer. Shoring and falsework plans and calculations shall be prepared and signed by a professional engineer registered in California. This work shall not be undertaken until such time as the Railroad has given such approval, review by the Railroad may take up to six (6) weeks after receipt of necessary information.

The Contractor shall notify the Engineer in writing, at least twenty-five (25) calendar days but not more than forty (40) days in advance of the starting date of installing temporary work with less than permanent clearance at each structure site. The Contractor shall not be permitted to proceed with work across railroad tracks until this requirement has been met. No extension of time or extra compensation will be allowed if the Contractor's work is delayed due to failure to comply with the requirements in this paragraph.

Blasting will be permitted only when approved by the Railroad.

The Contractor shall, upon completion of the work covered by this Contract to be performed by the Contractor upon the premises or over or beneath the tracks of the Railroad, promptly remove from the premises of the Railroad, the Contractor's tools, implements and other materials, whether brought upon said premises and cause said premises to be left in a clean and presentable condition.

Under track pipeline installations shall be constructed in accordance with the Railroad's current standards which may be obtained from the Railroad. The general guidelines are as follows:

Edges of jacking or boring pit excavations shall be a minimum of 6.10-meter (20 feet) from the centerline of the nearest track.

If the pipe to be installed under the track is 100mm (4 inches) in diameter or less, the top of the pipe shall be at least 42 inches below base of rail.

If the pipe diameter is greater than 100-meter (4 inches) in diameter, it shall be encased and the top of the steel pipe casing shall be at least1.60-meter (66 inches) below base of rail.

Installation of pipe or conduit under the Railroad's tracks shall be done by dry bore and jack method.

Hydraulic jacking or boring will not be permitted.

Safety of personnel, property, rail operations and the public is of paramount importance. As reinforcement and in furtherance of overall safety measures to be observed by the Contractor (and not by way of limitation), the following special safety rules shall be followed:

(a) The Contractor shall keep the job site free from safety and health hazards and ensure that its employees are competent and adequately trained in all safety and health aspects of the job. The Contractor shall have proper first aid supplies available on the job site so that prompt first aid services can be provided to any person that may be injured on the job site. The Contractor shall promptly notify the Railroad of any U.S. Occupational Safety and Health Administration reportable injuries occurring to any person that may arise during the work performed on the job site. The Contractor shall have a non-delegable duty to control its employees while they are on the job site or any other property of the Railroad to be certain they do not use, be under the influence of, or have in their possession any alcoholic beverage, drug, narcotic or other substance that may inhibit the safe performance of work by the employee.

(b) The employees of the Contractor shall be suitably dressed to perform their duties safely and in a manner that will not interfere with their vision, hearing or free use of their hands or feet. Only waist length shirts with sleeves and trousers that cover the entire leg are to be worn. If flare-legged trousers are worn, the trouser bottoms must be tied to prevent catching. The employees should wear sturdy and protective work boots and at least the following protective equipment:

(1) Protective head gear that meets American National Standard-Z89.l-latest revision. It is suggested that all hardhats be affixed with the Contractor's or the subcontractor's company logo or name.

(2) Eye protection that meets American National Standard for occupational and educational eye and face protection, Z87.1-latest revision. Additional eye protection must be provided to meet specific job situations such as welding, grinding, burning, etc.; and

(3) Hearing protection which affords enough attenuation to give protection from noise levels that will be occurring on the job site.

(c) All heavy equipment provided or leased by the Contractor shall be equipped with audible back-up warning devices. If in the opinion of the Railroad Representative any of the Contractor's or the subcontractor's equipment is unsafe for use on the Railroad's right-of-way, the Contractor, at the request of the Railroad representative, shall remove such equipment from the Railroad's right-of-way.

13-1.03 PROTECTION OF RAILROAD FACILITIES

Upon the advance notification provided to the Railroad as set forth in Section 1 of **Exhibit B** of the Contractor's Right of Entry Agreement, the Railroad representatives, conductors, flagmen or watchmen will be provided by the Railroad to protect its facilities, property and movements of its trains or engines. Notice shall be made to the Railroad's Manager of Track Maintenance, Javier Sanchez, in Guadalupe, California at 402-233-1711. At the time of notification, the Contractor shall provide the Railroad with a schedule of dates that flagging services will be needed, as well as times, if outside normal working hours. Subsequent deviation from the schedule shall require ten (10) working days' advance notice from the first affected date. The Railroad will furnish such personnel or other protective devices:

(a) When equipment is standing or being operated within 25 feet, measured horizontally, from centerline of any track on which trains may operate, or when any erection or construction activities are in progress within such limits, regardless of elevation above or below track.

(b) For any excavation below elevation of track subgrade if, in the opinion of the Railroad's representative, track or other Railroad facilities may be subject to settlement or movement.

(c) During any clearing, grubbing, grading or blasting in proximity to the Railroad which, in the opinion of the Railroad's representative, may endanger the Railroad facilities or operations.

(d) During any of the Contractor's operations when, in the opinion of the Railroad's representatives, the Railroad facilities, including, but not limited to, tracks, buildings, signals, wire lines or pipe lines, may be endangered.

The cost of flagging and inspection provided by the Railroad during the period of constructing that portion of the project located on or near the Railroad property, as deemed necessary for the protection of the Railroad's facilities and trains, will be borne by the State. The Railroad has indicated that its estimated flagging rate will be around One Thousand One Hundred Dollars ($1,100.00) per day and that the State has estimated a total of fifty (50) days of flagging. The State shall pay the Railroad for all actual flagging costs incurred by the Railroad under this Project.

13-1.04 WORK BY RAILROAD

The following work by the Railroad will be performed by Railroad forces and is not a part of the work under this Contract.

(a) The Railroad will perform preliminary engineering and inspection (if any) and flagging as specified in Section 13-1.03 "Protection of Railroad Facilities," of these special provisions.

(b) Temporary crossings at grade over tracks of Railroad for the purpose of hauling earth, rock, paving or other materials will not be permitted. If the Contractor, for the purpose of

constructing highway-railway grade separation structures, including construction ramps thereto, desires to move equipment or materials across Railroad's tracks, the Contractor shall first obtain permission from Railroad via the State Engineer. Should Railroad approve the temporary crossing, State shall execute a Service Contract with Railroad for Railroad to construct the temporary crossing. Under the Service Contract, State shall bear the cost of the crossing surface, warning devices and other components that might be required. Notwithstanding State's Service Contract with Railroad, the Contractor is required to execute Railroad's form of Contractor's Haul Road Crossing Agreement. Railroad, at State's expense, shall provide flagmen to control movements of vehicles across the temporary crossing. State and its Contractor shall prevent the use of such temporary crossing by unauthorized persons and vehicles.

13-1.05 DELAYS DUE TO WORK BY RAILROAD.

If delays due to work by the Railroad occur, and the Contractor sustains loss which, in the opinion of the Engineer, could not have been avoided by the judicious handling of forces, equipment and plant, the amount of said loss shall be determined as provided in Section 8-1.09, "Right of Way Delays," of the Standard Specifications.

If a delay due to work by the Railroad occurs, an extension of time determined pursuant to the provisions in Section 8-1.07, "Liquidated Damages," of the Standard Specifications will be granted.

13-1.06 LEGAL RELATIONS

The provisions of Section 13-1, "Relations with Railroad Company," and the provisions of Section 13-2, "Railroad Protective Insurance," of these special provisions shall inure directly to the benefit of the Railroad.

13-2 RAILROAD PROTECTIVE INSURANCE

In addition to any other form of insurance or bonds required under the terms of the contract and specifications, the Contractor will be required to carry insurance of the kinds and in the amounts hereinafter specified.

Such insurance shall be approved by the Railroad before any work is performed on the Railroad's property and shall be carried until all work required to be performed on or adjacent to the Railroad's property under the terms of the contract is satisfactorily completed as determined by the Engineer, and thereafter until all tools, equipment and materials have been removed from the Railroad's property and such property is left in a clean and presentable condition.

Full compensation for all premiums which the Contractor is required to pay on all the insurance described hereinafter shall be considered as included in the prices paid for the various items of work to be performed under the contract, and no additional allowance will be made thereof or for additional premiums which may be required by extensions of the policies of insurance.

The following insurance coverage will be required:

A. **Commercial General Liability** insurance. Commercial general liability (CGL) with a limit of not less than $5,000,000 each occurrence and an aggregate limit of not less than $10,000,000. CGL insurance must be written on ISO occurrence form CG 00 01 12 04 (or a substitute form providing equivalent coverage).

The policy must also contain the following endorsement, which must be stated on the certificate of insurance:

- Contractual Liability Railroads ISO form CG 24 17 10 01 (or a substitute form providing equivalent coverage) showing "Union Pacific Railroad Company Property" as the Designated Job Site.

B. **Business Automobile Coverage** insurance. Business auto coverage written on ISO form CA 00 01 (or a substitute form providing equivalent liability coverage) with a combined single limit of not less $5,000,000 for each accident.

The policy must contain the following endorsements, which must be stated on the certificate of insurance:

- Coverage For Certain Operations In Connection With Railroads ISO form CA 20 70 10 01 (or a substitute form providing equivalent coverage) showing "Union Pacific Property" as the Designated Job Site.
- Motor Carrier Act Endorsement - Hazardous materials clean up (MCS-90) if required by law.

C. **Workers' Compensation and Employers' Liability** insurance. Coverage must include but not be limited to:

- Contractor's statutory liability under the workers' compensation laws of the State of California.
- Employers' Liability (Part B) with limits of at least $500,000 each accident, $500,000 disease policy limit $500,000 each employee.

If Contractor is self-insured, evidence of state approval and excess workers compensation coverage must be provided. Coverage must include liability arising out of the U. S. Longshoremen's and Harbor Workers' Act, the Jones Act, and the Outer Continental Shelf Land Act, if applicable.

The policy must contain the following endorsement, which must be stated on the certificate of insurance:

- Alternate Employer endorsement ISO form WC 00 03 01 A (or a substitute form providing equivalent coverage) showing Railroad in the schedule as the alternate employer (or a substitute form providing equivalent coverage).

D. **Railroad Protective Liability** insurance. Contractor must maintain Railroad Protective Liability insurance written on ISO occurrence form CG 00 35 12 04 (or a substitute form providing equivalent coverage) on behalf of Railroad as named insured, with a limit of not less than $2,000,000 per occurrence and an aggregate of $6,000,000. A binder stating the policy is in place must be submitted to Railroad before the work may be commenced and until the original policy is forwarded to Railroad.

E. **Umbrella or Excess** insurance. If Contractor utilizes umbrella or excess policies, these policies must "follow form" and afford no less coverage than the primary policy.

F. **Pollution Liability** insurance. Pollution liability coverage must be written on ISO form Pollution Liability Coverage Form Designated Sites CG 00 39 12 04 (or a substitute form providing equivalent liability coverage), with limits of at least $5,000,000 per occurrence and an aggregate limit of $10,000,000.

If the scope of work as defined in this Agreement includes the disposal of any hazardous or non-hazardous materials from the job site, Contractor must furnish to Railroad evidence of pollution legal liability insurance maintained by the disposal site operator for losses arising from the insured facility accepting the materials, with coverage in minimum amounts of $1,000,000 per loss, and an annual aggregate of $2,000,000.

Other Requirements

G. All policy(ies) required above (except worker's compensation and employers liability) must include Railroad as "Additional Insured" using ISO Additional Insured Endorsements CG 20 26, and CA 20 48 (or substitute forms providing equivalent coverage). The coverage provided to Railroad as additional insured shall, to the extent provided under ISO Additional Insured Endorsement CG 20 26, and CA 20 48 provide coverage for Railroad's negligence whether sole or partial, active or passive, and shall not be limited by Contractor's liability under the indemnity provisions of this Agreement.

H. Punitive damages exclusion, if any, must be deleted (and the deletion indicated on the certificate of insurance), unless the law governing this Agreement prohibits all punitive damages that might arise under this Agreement.

I. Contractor waives all rights of recovery, and its insurers also waive all rights of subrogation of damages against Railroad and its agents, officers, directors and employees. This waiver must be stated on the certificate of insurance.

J. Prior to commencing the work, Contractor shall furnish Railroad with a certificate(s) of insurance, executed by a duly authorized representative of each insurer, showing compliance with the insurance requirements in this Agreement.

K. All insurance policies must be written by a reputable insurance company acceptable to Railroad or with a current Best's Insurance Guide Rating of A- and Class VII or better, and authorized to do business in the State of California.

L. The fact that insurance is obtained by Contractor or by Railroad on behalf of Contractor will not be deemed to release or diminish the liability of Contractor, including, without limitation, liability under the indemnity provisions of this Agreement. Damages recoverable by Railroad from Contractor or any third party will not be limited by the amount of the required insurance coverage.

APPENDIX 1

CONTRACTOR'S ENDORSEMENT

A. As a condition to entering upon the Railroad's right-of-way to perform Work pursuant to this agreement, State's contractor, _____
(Name of Contractor)
whose address is _____,
(Contractor's Mailing Address)
(hereinafter "Contractor"), agrees to comply with and be bound by all the terms and provisions of the attached Caltrans Right of Entry Agreement that was signed by Union Pacific Railroad Company ("Railroad") and the State of California, Department of Transportation ("State") relating to the Work to be performed and the insurance requirements set forth in **Exhibits B and C** of the Right of Entry Agreement. The Contractor further acknowledges and agrees that the reference to Cal. Gov. Code §14662.5 in Sections 5.b) and 8.b) of **Exhibit B** to the Right of Entry Agreement does not apply to the Contractor and in no way limits the indemnities set forth in those provisions, to which the Contractor agrees to be bound.

B. Before the Contractor commences any Work, the Contractor will provide the Railroad with (i) a binder of insurance for the Railroad Protective Liability Insurance described in Section 13-2 of the Contract Special Provisions, hereto attached, and the original policy, or a certified duplicate original policy when available, and (ii) a certificate issued by its insurance carrier providing the other insurance coverage and endorsements required pursuant to Section 13-2 of the Contract Special Provisions.

C. All insurance correspondence, binders or originals shall be directed to:

Union Pacific Railroad Company
Attn: Real Estate Department
1400 Douglas Street, MS 1690
Omaha, Nebraska 68179-1690
Attn.: Senior Manager - Contracts
Folder No. 2673-09

D. Please note that fiber optic cable may be buried on the Railroad's property. **Prior to commencing any work, the Contractor agrees to contact the Railroad's Telecommunications Operation Center as provided in Section 5 of Exhibit B of the Right of Entry Agreement to determine if any fiber optic cable is located on the Railroad's property on or near the location where the work is to be performed.** If there is, the Contractor must comply with the terms and conditions of Section 5 of **Exhibit B** before commencing any work on the Railroad's property.

E. **The Contractor agrees to also provide to the Railroad's Manager-Track Maintenance, Javier Sanchez, at 340 Guadalupe Street, Guadalupe, CA 93434, (402) 233-1711** the advance notice required in Section 1 of **Exhibit B** of the Right of Entry Agreement

prior to working on the Railroad's property in order for the Railroad to coordinate the Contractor's work with the Railroad's operations and to make arrangements for flagging protection (if applicable).

This endorsement shall be completed and sent to the person named in Paragraph C above.

_____
(Name of Contractor)

By_____
Printed Name:_____
Title:_____

EXHIBIT L
TO CONSTRUCTION AND MAINTENANCE AGREEMENT

UNION PACIFIC RAILROAD
MINIMUM REQUIREMENTS

PART 1 – GENERAL

1.01 DESCRIPTION

This project includes construction work within the Right-of-Way and/or properties of the Union Pacific Railroad Company "UPRR" and adjacent to tracks, wire lines and other facilities. This section describes the special requirements for coordination with UPRR when work by the Contractor will be performed upon, over or under the UPRR Right-of-Way or may impact current or future UPRR operations. The Contractor will coordinate with UPRR while performing the work outlined in this Contract, and shall afford the same cooperation with UPRR as it does with the Agency. All submittals and work shall be completed in accordance with UPRR Guidelines and AREMA recommendations as modified by these minimum special requirements or as directed in writing by the UPRR Designated Representative.

For purposes of this project, the UPRR Designated Representative shall be the person or persons designated by the UPRR Manager of Industry and Public Projects to handle specific tasks related to the project.

1.02 DEFINITION OF AGENCY AND CONTRACTOR

As used in these UPRR requirements, the term "Agency" shall mean the State of California, by and through its Department of Transportation.

As used in these UPRR requirements, the term "Contractor" shall mean the contractor or contractors hired by the Agency to perform any project work on any portion of UPRR's property. The Contractor shall be responsible for the Contractor's subcontractors and the Contractor's and subcontractor's respective officers, agents and employees, and others acting under its or their authority. Nothing in this section is intended to create rights in third parties or third party beneficiaries.

1.03 UPRR CONTACTS

The primary UPRR point of contact for this project is:

Ken Tom
Manager, Industry and Public Projects
Union Pacific Railroad Company
2015 South Willow Avenue
Bloomington, California 92316
Phone: (909) 685-2288
e-mail: ktom@up.com

For UPRR flagging services and track work, contact:

Javier Sanchez
Manager of Track Maintenance
Union Pacific Railroad Company
340 Guadalupe St.
Guadalupe, CA 93434
Phone: (402) 233-1711
e-mail: jrsanchez@up.com

1.04 REQUEST FOR INFORMATION / CLARIFICATION

All Requests for Information ("RFI") involving work within any UPRR Right-Of-Way shall be in accordance with the procedures listed elsewhere in these bid documents. All RFI's shall be submitted to the Engineer of Record. The Engineer of Record will submit the RFI to the UPRR Designated Representative for review and approval for corresponding to work within the UPRR Right-Of-Way. The Contractor shall allow four (4) weeks for the review and approval process by UPRR.

1.05 PLANS / SPECIFICATIONS

The plans and specifications for this project, affecting the UPRR, are subject to the written approval by the UPRR and changes in the plans may be required after award of the Contract. Such changes are subject to the approval of the Agency and the UPRR.

2.01 UTILITIES AND FIBER OPTIC

All installations shall be constructed in accordance with current AREMA recommendations and UPRR specifications and requirements. UPRR general guidelines and the required application forms for utility installations can be found on the UPRR website at www.uprr.com.

3.01 GENERAL

A. Contractor shall perform all work in compliance with all applicable UPRR and FRA rules and regulations. Contractor shall arrange and conduct all work in such manner and at such times as shall not endanger or interfere with the safe operation of the tracks and property of UPRR and the traffic moving on such tracks, or the wires, signals and other property of UPRR, its tenants or licensees, at or in the vicinity of the work. UPRR shall be reimbursed by Contractor or Agency for train delay costs and lost revenue claims due to any delays or interruption of train operations resulting from Contractor's construction work or other activities.

B. Construction activities will be permitted within 12 feet of the centerline of operational tracks only if absolutely necessary and UPRR's Designated Representative grants approval. Construction activities within 12 feet of the operational track(s) must allow the tracks to stay operational.

C. Track protection is required for all work equipment (including rubber tired equipment) operating within 25 feet from nearest rail.

D. The Contractor is also advised that new railroad facilities within the project may be built by UPRR and that certain Contractor's activities cannot proceed until that work is completed. The Contractor shall be aware of the limits of responsibilities and allow sufficient time in the schedule for that work to be accomplished and shall coordinate its efforts with the UPRR.

3.02 RAILROAD OPERATIONS

A. The Contractor shall be advised that trains and/or equipment are expected on any track, at any time, in either direction. Contractor shall become familiar with the train schedules in this location and structure its bid assuming intermittent track windows in this period, as defined in Paragraph B below.

B. All railroad tracks within and adjacent to the Contract Site are active, and rail traffic over these facilities shall be maintained throughout the Project. Activities may include both through moves and switching moves to local customers. Railroad traffic and operations will occur continuously throughout the day and night on these tracks and shall be maintained at all times as defined herein. The Contractor shall coordinate and schedule the work so that construction activities do not interfere with railroad operations.

C. Work windows for this Contract shall be coordinated with the Agency's and the UPRR's Designated Representatives. Types of work windows include Conditional Work Windows and Absolute Work Windows, as defined below:

1. Conditional Work Window: A Conditional Work Window is a period of time that railroad operations have priority over construction activities. When

construction activities may occur on and adjacent to the railroad tracks within 25 feet of the nearest track, a UPRR flag person will be required. At the direction of the UPRR flag person, upon approach of a train, and when trains are present on the tracks, the tracks must be cleared (i.e., no construction equipment, materials or personnel within 25 feet, or as directed by the UPRR Designated Representative, from the tracks). Conditional Work Windows are available for the Project.

2. Absolute Work Window: An Absolute Work Window is a period of time that construction activities are given priority over railroad operations. During this time frame the designated railroad track(s) will be inactive for train movements and may be fouled by the Contractor. At the end of an Absolute Work Window the railroad tracks and/or signals must be completely operational for train operations and all UPRR, Public Utilities Commission (PUC) and Federal Railroad Administration (FRA) requirements, codes and regulations for operational tracks must be complied with. In the situation where the operating tracks and/or signals have been affected, the UPRR will perform inspections of the work prior to placing that track back into service. UPRR flag persons will be required for construction activities requiring an Absolute Work Window. **Absolute Work Windows will not generally be granted. Any request will require a detailed explanation for UPRR review.**

3.03 RIGHT OF ENTRY, ADVANCE NOTICE AND WORK STOPPAGES

A. Prior to beginning any work on or over the property of, or affecting the facilities of, the UPRR, the Contractor shall execute the Contractor's Endorsement that is a part of the Right of Entry Agreement to be signed by UPRR and Agency. There is a fee for processing of the agreement. This cost shall be borne by the Contractor. Contractor shall submit a copy of the executed agreement and the insurance policies, binders, certificates and endorsements set forth therein to the Agency prior to commencing work on UPRR property. The right of entry agreement shall specify working time frames, flagging and inspection requirements, and any other items specified by the UPRR.

B. The Contractor shall give the advance notice to the UPRR as required in the Right of Entry Agreement before commencing work in connection with construction upon or over UPRR's Right-of-Way and shall observe UPRR's rules and regulations with respect thereto.

C. All work upon UPRR's Right-of-Way shall be done at such times and in such manner so as not to interfere with or endanger the operations of UPRR. Whenever work may affect the operations or safety of trains, the method of doing such work shall first be submitted to UPRR's Designated Representative for approval, but such approval shall not relieve the Contractor from liability. Any work to be performed by the Contractor, which requires flagging and/or inspection service, shall be deferred until

the flagging protection required by UPRR is available at the job site. See Section 3.18 for railroad flagging requirements.

D. The Contractor shall make requests in writing for both Absolute and Conditional Work Windows, at least two weeks in advance of any work. The written request must include:

1. Exactly what the work entails.
2. The days and hours that work will be performed.
3. The exact location of work, and proximity to the tracks.
4. The type of window requested and the amount of time requested.
5. The designated contact person.

The Contractor shall provide a written confirmation notice to the UPRR at least 48 hours before commencing work in connection with approved work windows when work will be performed within **25 feet of any track center line.** All work shall be performed in accordance with previously approved work plans.

E. Should a condition arising from, or in connection with the work, require that immediate and unusual provisions be made to protect operations and property of UPRR, the Contractor shall make such provisions. If in the judgment of UPRR's Designated Representative such provisions are insufficient, the UPRR's Designated Representative may require or provide such provisions as deemed necessary. In any event, such provisions shall be at the Contractor's expense and without cost to the UPRR. UPRR or the Agency shall have the right to order Contractor to temporarily cease operations in the event of an emergency or, if in the opinion of the UPRR's Designated Representative, the Contractor's operations could endanger UPRR's operations. In the event such an order is given, Contractor shall immediately notify the Agency of the order.

3.04 INSURANCE

Contractor shall not begin work upon or over UPRR's Right-of-Way until UPRR has been furnished the insurance policies, binders, certificates and endorsements required by the Right-of-Entry Agreement and UPRR's Designated Representative has advised the Agency that such insurance is in accordance with the Agreement. The required insurance shall be kept in full force and effect during the performance of work and thereafter until Contractor removes all tools, equipment, and material from UPRR's property and cleans the premises in a manner reasonably satisfactory to UPRR.

3.05 RAILROAD SAFETY ORIENTATION

All personnel employed by the Contractor and all subcontractors must complete the UPRR course "Orientation for Contractor's Safety", and be registered prior to working on UPRR property. This orientation is available at www.contractororientation.com. This course is required to be completed annually.

3.06 COOPERATION

UPRR will cooperate with Contractor so that work may be conducted in an efficient manner, and will cooperate with Contractor in enabling use of UPRR's right-of-way in performing the work.

3.07 MINIMUM CONSTRUCTION CLEARANCES FOR FALSEWORK AND OTHER TEMPORARY STRUCTURES

The Contractor shall abide by the following minimum temporary clearances during the course of construction:

A. 12' – 0" horizontal from centerline of track
B. 21' – 0" vertically above top of rail.

For construction clearance less than listed above, local Operating Unit review and approval is required.

3.08 APPROVAL OF REDUCED CLEARANCES

A. The minimum track clearances to be maintained by the Contractor during construction are specified in Section 3.07 herein.

B. Any proposed infringement on the specified minimum clearances due to the Contractor's operations shall be submitted to UPRR's Designated Representative through the Agency at least 30 days in advance of the work and shall not be undertaken until approved in writing by the UPRR's Designated Representative.

C. No work shall commence until the Contractor receives in writing assurance from UPRR's Designated Representative that arrangements have been made for flagging service, as may be necessary and receives permission from UPRR's Designated Representative to proceed with the work.

3.09 CONSTRUCTION AND AS-BUILT SUBMITTALS

A. Submittals are required for construction materials and procedures as outlined below. The submittals shall include all review comments from the Agency and the Engineer of Record. All design submittals shall be stamped and signed by a Professional Engineer registered in the State of California.

B. The tables below provide UPRR's minimum submittal requirements for the construction items noted. Submittal requirements are in addition to those specified elsewhere in these bid documents. The minimum review times indicated below

represent UPRR's requirements only. The Contractor shall allow additional time for the Agency's review time as stated elsewhere in these bid documents.

C. Submittals shall be made by the Agency to the UPRR Manager of Industry and Public Projects unless otherwise directed by the Railroad. Items in Table 1 shall be submitted for both railroad overpass and underpass projects, as applicable. Items in Table 2 shall be submitted for railroad underpass projects only.

TABLE 1

ITEM	DESCRIPTION	SETS REQD.	UPRR's Minimum Review Time
1	Shoring design and details	4	4 weeks
2	**Falsework design and details**	4	4 weeks
3	Drainage design provisions	4	4 weeks
4	Erection diagrams and sequence	4	4 weeks
5	Demolition diagram and sequence	4	4 weeks

Prior to or during construction of railroad underpass structures, the UPRR requires the review of drawings, reports, test data and material data sheets to determine compliance with the specifications. Product information for items noted in Table 2 be submitted to UPRR's Designated Representative through the Agency for their own review and approval of the material. The signed submittal and the Agency's review comments will be reviewed by UPRR or their consultant. If a consultant performs the reviews, the consultant may reply directly to the Agency or its Designated Representative after consultation with UPRR. Review of the submittals will not be conducted until after review by the Agency or its Designated Representative. Review of the submittal items will require a minimum of four (4) weeks after receipt from the Agency.

TABLE 2

ITEM	DESCRIPTION	SETS REQD.	NOTES
1	Shop drawings	4	Steel and Concrete members
2	**Bearings**	4	For entire structures
3	Concrete Mix Designs	4	For entire structures
4	Rebar & Strand certifications	4	For superstructure only
5	28 day concrete strength	4	For superstructure only
6	Waterproofing material certifications and installation procedure	4	Waterproofing & protective boards

7	Structural steel certifications	4	All fracture critical members & other members requiring improved notch toughness
8	Fabrication and Test reports	4	All fracture critical members & other members requiring improved notch toughness
9	Welding Procedures and Welder Certification	4	AWS requirements
10	Foundation Construction Reports	4	Pile driving, drilled shaft construction, bearing pressure test reports for spread footings
11	Compaction testing reports for backfill at abutments	4	Must meet 95% maximum dry density, Modified Proctor ASTM D1557

D. As-Built Records shall be submitted to the UPRR within 60 days of completion of the structures. These records shall consist of the following items:

Overpass Projects

1. Electronic files of all structure design drawings with as-constructed modifications shown, in Microstation J or Acrobat .PDF format.
2. Hard copies of all structure design drawings with as-constructed modifications shown.

Underpass Projects

1. Electronic files of all structure design drawings with as-constructed modifications shown, in Microstation J or Acrobat .PDF format.
2. Hard copies of all structure design drawings with as-constructed modifications shown.
3. Final approved copies of shop drawings for concrete and steel members.
4. Foundation Construction Reports
5. Compaction testing reports for backfill at abutments

3.10 APPROVAL OF DETAILS

The details of the construction affecting the UPRR tracks and property not already included in the Contract Plans shall be submitted to UPRR's Designated Representative through the Agency for UPRR's review and written approval before such work is undertaken. Review and approval of these submittals will require a minimum of four (4) weeks in addition to the Agency's review time as stated elsewhere in these bid documents.

3.11 MAINTENANCE OF RAILROAD FACILITIES

A. The Contractor shall be required to maintain all ditches and drainage structures free of silt or other obstructions which may result from Contractor's operations; to

promptly repair eroded areas within UPRR's right of way and to repair any other damage to the property of UPRR, or its tenants.

B. All such maintenance and repair of damages due to the Contractor's operations shall be done at the Contractor's expense.

C. The Contractor must submit a proposed method of erosion control and have the method reviewed by the UPRR prior to beginning any grading on the Project Site. Erosion control methods must comply with all applicable local, state and federal regulations.

3.12 SITE INSPECTIONS BY UPRR's DESIGNATED REPRESENTATIVE

A. In addition to the office reviews of construction submittals, site inspections may be performed by UPRR's Designated Representative at significant points during construction, including but not limited to the following:

1. Preconstruction meetings.

2. Pile driving, drilling of caissons or drilled shafts.

3. Reinforcement and concrete placement for railroad bridge substructure and/or superstructure.

4. Erection of precast concrete or steel bridge superstructure.

5. Placement of waterproofing (prior to placing ballast on bridge deck).

6. Completion of the bridge structure.

B. Site inspection is not limited to the milestone events listed above. Site visits to check progress of the work may be performed at any time throughout the construction as deemed necessary by UPRR.

C. A detailed construction schedule, including the proposed temporary horizontal and vertical clearances and construction sequence for all work to be performed, shall be provided to the Agency for submittal to UPRR's Designated Representative for review prior to commencement of work. This schedule shall also include the anticipated dates when the above listed events will occur. This schedule shall be updated for the above listed events as necessary, but at least monthly so that site visits may be scheduled.

3.13 UPRR REPRESENTATIVES

A. UPRR representatives, conductors, flag person or watch person will be provided by UPRR at expense of the Agency or Contractor (as stated elsewhere in these bid

documents) to protect UPRR facilities, property and movements of its trains or engines. In general, UPRR will furnish such personnel or other protective services as follows:

1. When any part of any equipment is standing or being operated within 25 feet, measured horizontally, from centerline of any track on which trains may operate, or when any object is off the ground and any dimension thereof could extend inside the 25 foot limit, or when any erection or construction activities are in progress within such limits, regardless of elevation above or below track.

2. For any excavation below elevation of track subgrade if, in the opinion of UPRR's Designated Representative, track or other UPRR facilities may be subject to settlement or movement.

3. During any clearing, grubbing, excavation or grading in proximity to UPRR facilities, which, in the opinion of UPRR's Designated Representative, may endanger UPRR facilities or operations.

4. During any contractor's operations when, in the opinion of UPRR's Designated Representative, UPRR facilities, including, but not limited to, tracks, buildings, signals, wire lines, or pipe lines, may be endangered.

5. The Contractor shall arrange with the UPRR Designated Representative to provide the adequate number of flag persons to accomplish the work.

3.14 WALKWAYS REQUIRED

Along the outer side of each exterior track of multiple operated track, and on each side of single operated track, an unobstructed continuous space suitable for trainman's use in walking along trains, extending to a line not less than twelve feet (12') from centerline of track, shall be maintained. Any temporary impediments to walkways and track drainage encroachments or obstructions allowed during work hours while UPRR's flagman service is provided shall be removed before the close of each work day. Walkways with railings shall be constructed by Contractor over open excavation areas when in close proximity of track, and railings shall not be closer than 8' – 6" horizontally from center line of tangent track or 9' – 6" horizontally from centerline of curved track.

3.15 COMMUNICATIONS AND SIGNAL LINES

If required, UPRR will rearrange its communications and signal lines, its grade crossing warning devices, train signals and tracks, and facilities that are in use and maintained by UPRR's forces in connection with its operation at expense of the Agency. This work by UPRR will be done by its own forces and it is not a part of the Work under this Contract.

3.16 TRAFFIC CONTROL

Contractor's operations that control traffic across or around UPRR facilities shall be coordinated with and approved by the UPRR's Designated Representative.

3.17 CONSTRUCTION EXCAVATIONS

A. The Contractor shall be required to take special precaution and care in connection with excavating and shoring. Excavations for construction of footings, piers, columns, walls or other facilities that require shoring shall comply with requirements of OSHA, AREMA and UPRR "Guidelines for Temporary Shoring".

B. The Contractor shall contact UPRR's "Call Before Your Dig" at least 48 hours prior to commencing work at 1-800-336-9193 during normal business hours (6:30 a.m. to 8:00 p.m. central time, Monday through Friday, except holidays - also a 24 hour, 7 day a week number for emergency calls) to determine location of fiber optics. If a telecommunications system is buried anywhere on or near UPRR property, the Contractor will co-ordinate with UPRR and the Telecommunication Company(ies) to arrange for relocation or other protection of the system prior to beginning any work on or near UPRR property.

3.18 RAILROAD FLAGGING

Performance of any work by the Contractor in which person(s) or equipment will be within twenty-five (25) feet of any track, or will be near enough to any track that any equipment extension (such as, but not limited to, a crane boom) will reach within twenty-five (25) feet of any track, may require railroad flagging services or other protective measures. Contractor shall give the advance notice to the UPRR as required in the "Caltrans Right of Entry Agreement" before commencing any such work, so that the UPRR may determine the need for flagging or other protective measures to ensure the safety of the railroad's operations. Contractor shall comply with all other requirements regarding flagging services covered by the "Caltrans Right of Entry Agreement". Any costs associated with failure to abide by these requirements will be borne by the Contractor.

3.19 CLEANING OF RIGHT-OF-WAY

Contractor shall, upon completion of the work to be performed by Contractor upon the premises, over or beneath the tracks of UPRR, promptly remove from the Right-of-Way of UPRR all of Contractor's tools, implements, and other materials whether brought upon the Right-of-Way by Contractor or any subcontractors, employee or agent of Contractor or of any subcontractor, and leave the Right-of-Way in a clean and presentable condition to satisfaction of UPRR.

EXHIBIT M

To Construction & Maintenance Agreement

Cover Sheet for Form of Right of Entry Agreement

State Agreement No. 07R294
La Conchita Pedestrian Undercrossing
UPRR Folder No. 2673-03
Railroad Milepost 382.83
Santa Barbara Subdivision
07-VEN-101-PM 42.2 (EA 260701)
PUC No. 001E-1383.10
DOT No. 427712J

EXHIBIT M

CALTRANS
RIGHT OF ENTRY AGREEMENT

THIS AGREEMENT is made and entered into as of _____, 20__, by and between **UNION PACIFIC RAILROAD COMPANY**, a Delaware corporation (hereinafter "Railroad) and **STATE OF CALIFORNIA, DEPARTMENT OF TRANSPORTATION** (hereinafter "Licensee").

IT IS MUTUALLY AGREED BY AND BETWEEN THE PARTIES HERETO AS FOLLOWS:

ARTICLE 1 - DEFINITION OF LICENSEE

For purposes of this Agreement, all references in this Agreement to Licensee shall include Licensee's contractors, subcontractors, officers, agents and employees, and others acting under its or their authority.

ARTICLE 2 - RIGHT GRANTED; PURPOSE

Railroad hereby grants to Licensee the right, during the term hereinafter stated and upon and subject to each and all of the terms, provisions and conditions herein contained, to enter upon and have ingress to and egress from the portion of Railroad's property located at or near Milepost 382.83, on Railroad's Santa Barbara Subdivision located at the community of La Conchita near Carpenteria, Ventura County, California, for the purpose of performing work relating to installation of a drainage culvert, public undercross and access ramp (the "Work"), in the general location shown on the print dated _____, marked **Exhibit A**, attached hereto and hereby made a part hereof. The right herein granted to Licensee is limited to those portions of Railroad's property specifically described herein, or designated by the Railroad representative named in Article 4.

ARTICLE 3 - TERMS AND CONDITIONS CONTAINED IN EXHIBITS B, C, D AND E

The terms and conditions contained in **Exhibit B, Exhibit C, Exhibit D** and **Exhibit E**, attached hereto, are hereby made a part of this Agreement.

ARTICLE 4 - ALL EXPENSES TO BE BORNE BY LICENSEE; RAILROAD REPRESENTATIVE

A. Licensee shall bear any and all costs and expenses associated with any work performed by Licensee, or any costs or expenses incurred by Railroad relating to this Agreement.

B. Licensee shall coordinate all of its work with the following Railroad representative or his or her duly authorized representative (the "Railroad Representative"):

Javier Sanchez
Manager of Track Maintenance
Union Pacific Railroad Company
340 Guadalupe Street
Guadalupe, California 93434
Phone: (402) 233-1711
e-mail: jrsanchez@up.com

C. Licensee, at its own expense, shall adequately police and supervise all Work to be performed by Licensee and shall ensure that such Work is performed in a safe manner as set forth in Section 7 of **Exhibit B**. The responsibility of Licensee for safe conduct and adequate policing and supervision of Licensee's work shall not be lessened or otherwise affected by Railroad's approval of the plans and specifications involving the Work, or by Railroad's collaboration in performance of any of the Work, or by the presence at the work site of a Railroad Representative, or by compliance by Licensee with any requests or recommendations made by the Railroad Representative.

ARTICLE 5 - TERM; TERMINATION

A. The grant of right herein made to Licensee shall commence on the date of this Agreement, and continue until _____, unless sooner terminated as herein provided, or at such time as Licensee has completed its Work on Railroad's property, whichever is earlier. Licensee agrees to notify the Railroad Representative in writing when it has completed its Work on Railroad's property.

B. Railroad may terminate this Agreement if it reasonably determines in good faith that Licensee has failed to comply with any of the material terms and conditions of this Agreement and has not cured such failure within ten (10) days after receiving notice (oral or written) from Railroad describing such failure in reasonable detail.

ARTICLE 6 - INSURANCE - CONTRACTOR ENDORSEMENT

A. Licensee is self-insured. Licensee shall provide Railroad defense and indemnification at least equal to the defense, indemnification and insurance provisions (including the endorsements) contained in **Exhibit C**. Nothing herein shall be deemed to insure Railroad against its sole negligence or willful misconduct.

B. In the event any of the Work to be done upon the property of Railroad is to be done by a contractor or subcontractor of Licensee, said contractor or subcontractor may have the benefit of the license herein granted, while performing work for Licensee, provided such contractor or subcontractor agrees to be subject to and bound by the terms and conditions of this Agreement by: (1) executing an endorsement to this Agreement in the form set forth in Contractor's Endorsement marked **Exhibit E**, attached hereto, (2) providing to Railroad the insurance policies, certificates, binders, and/or endorsements described in **Exhibit C**, and (3) providing to Railroad the insurance endorsements required under Section 12 of **Exhibit B** of this Agreement.

C. All insurance correspondence, certificates, endorsements, binders or originals shall be sent to:

Union Pacific Railroad Company
Real Estate Department, Mail Stop 1690
1400 Douglas Street
Omaha, Nebraska 68179
Attn: Paul Farrell
Folder No.: 2673-03

ARTICLE 7 - CHOICE OF FORUM

Unless otherwise preempted by applicable federal laws, rules or regulations, this Agreement shall be governed, construed and enforced in accordance with the laws of the State of California. Litigation arising out of or connected with this Agreement may be instituted and maintained in the courts of the State of California only, and the parties consent to jurisdiction over their person and over the subject matter of any such litigation, in those courts, and consent to service of process issued by such courts.

ARTICLE 8 - REMOVAL OF CONTRACTOR/SUBCONTRACTOR EMPLOYEE

At the request of Railroad, Licensee shall remove from Railroad property any contractor, subcontractor, officer, agent and/or employee of Licensee who fails to conform to the instructions of the Railroad Representative in connection with the Work on Railroad's property, and any right of Licensee shall be suspended until such removal has occurred. Licensee shall indemnify Railroad against any claims arising from the removal of any such contractor, subcontractor, officer, agent and/or employee from Railroad property.

ARTICLE 9 - ADMINISTRATIVE FEE

Upon the execution and delivery of this Agreement, Licensee shall pay to Railroad 500 Dollars ($500) as reimbursement for clerical, administrative and handling expenses in connection with the processing of this Agreement.

ARTICLE 10 - SPECIAL PROVISIONS

A. No additional vehicular crossings (including temporary haul roads) or pedestrian crossings over Railroad's trackage shall be installed or used by Licensee without the prior written permission of Railroad.

B. Explosives or other highly flammable substances shall not be stored on Railroad property without the prior written approval of the Railroad Representative.

C. The parties agree that this agreement is not, and is not intended to be, a construction contract for purposes of Cal. Civ. Code § 2782(a). Accordingly, to the maximum extent permitted by law, the provisions of Cal. Civ. Code § 2782(a), as interpreted by the California courts in Southern Pacific Transportation Co. v. Sandyland Protective Association, 224 Cal.App.3d 1494, 274 Cal.Rptr. 626 (1990), and in other past and future cases, shall not apply to this Agreement.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement in duplicate as of the date first herein written.

UNION PACIFIC RAILROAD COMPANY

By: _____

Title: _____

STATE OF CALIFORNIA,
DEPARTMENT OF TRANSPORTATION

By: _____

Title: _____

EXHIBIT A
TO
CONTRACTOR'S RIGHT OF ENTRY AGREEMENT

Exhibit A will be a print showing the general location of the right of entry area.

EXHIBIT B
TO
CALTRANS RIGHT OF ENTRY AGREEMENT

Section 1. NOTICE OF COMMENCEMENT OF WORK - FLAGGING.

a. Licensee agrees to notify the Railroad Representative at least ten (10) working days in advance of Licensee commencing its Work and at least ten (10) working days in advance of proposed performance of any Work by Licensee in which any person or equipment will be within twenty-five (25) feet of any track, or will be near enough to any track that any equipment extension (such as, but not limited to, a crane boom) will reach to within twenty-five (25) feet of any track. No Work of any kind shall be performed, and no person, equipment, machinery, tool(s), material(s), vehicle(s), or thing(s) shall be located, operated, placed, or stored within twenty-five (25) feet of any of Railroad's track(s) at any time, for any reason, unless and until a Railroad flagman is provided to watch for trains. Upon receipt of such 10-day notice, the Railroad Representative will determine and inform Licensee whether a flagman need be present and whether Licensee need implement any special protective or safety measures. If flagging or other special protective or safety measures are performed by Railroad, such services will be provided at Licensee's expense with the understanding that if Railroad provides any flagging or other services, Licensee shall not be relieved of any of its responsibilities or liabilities set forth herein. Licensee shall promptly pay to Railroad all charges connected with such services within 30 days after presentation of a bill therefor.

b. The rate of pay per hour for each flagman will be the prevailing hourly rate in effect for an eight hour day for the class of persons used during regularly assigned hours and overtime in accordance with Labor Agreements and Schedules in effect at the time the Work is performed. In addition to the cost of such labor, a composite charge for vacation, holiday, health & welfare, supplemental sickness, Railroad Retirement & UC, supplemental pension, Employee's Liability & Property Damage and Administration will be included, computed on actual payroll. The composite charge will be the prevailing composite charge in effect at the time the work is performed. One and one-half times the current hourly rate is paid for overtime, Saturdays and Sundays and two and one-half times current hourly rate for holidays. Wage rates are subject to change, at any time, by law or by agreement between Railroad and its employees, and may be retroactive as a result of negotiations or a ruling of an authorized governmental agency. Additional charges on labor are also subject to change. If the wage rate or additional charges are changed, Licensee shall pay on the basis of the new rates and charges.

c. Reimbursement to Railroad will be required covering the full eight hour day during which any flagman is furnished, unless the flagman can be assigned to other Railroad work during a portion of such day, in which event reimbursement will not be required for the portion of the day during which the flagman is engaged in other Railroad

work. Reimbursement will also be required for any day not actually worked by the flagman following the flagman's assignment to work on the project for which Railroad is required to pay the flagman and which could not reasonably be avoided by Railroad by assignment of such flagman to other work, even though the Licensee may not be working during such time. When it becomes necessary for Railroad to bulletin and assign an employee to a flagging position in compliance with union collective bargaining agreements, Licensee must provide Railroad a minimum of five (5) days notice prior to the cessation of the need for a flagman. If five (5) days notice of cessation is not given, Licensee will still be required to pay flagging charges for the five (5) day notice period required by union agreement to be given to the employee, even though flagging is not required for that period. An additional ten (10) days-notice must then be given to Railroad if flagging services are needed again after such five (5) day cessation notice has been given to Railroad.

Section 2. LIMITATION AND SUBORDINATION OF RIGHTS GRANTED

a. The foregoing grant of right is subject and subordinate to the prior and continuing right and obligation of Railroad to use and maintain its entire property including the right and power of Railroad to construct, maintain, repair, renew, use, operate, change, modify or relocate railroad tracks, roadways, signal, communication, fiber optics, or other wirelines, pipelines and other facilities upon, along or across any or all parts of its property, all or any of which may be reasonably done at any time or times by Railroad without liability to Licensee or to any other party for compensation or damages.

b. The foregoing grant is also subject to all outstanding superior rights (including those in favor of licensees and lessees of Railroad's property, and others) and the right of Railroad to renew and extend the same, and is made without covenant of title or for quiet enjoyment.

Section 3. NO INTERFERENCE WITH OPERATION OF RAILROAD AND ITS TENANTS

a. Licensee shall conduct its operations so as not to interfere with the continuous and uninterrupted use and operation of the railroad tracks and property of Railroad, including, without limitation, the operations of Railroad's lessees, licensees or others, unless specifically authorized in advance by the Railroad Representative. Nothing shall be done or permitted to be done by Licensee at any time that would in any manner impair the safety of such operations. When not in use, Licensee's machinery and materials shall be kept at least fifty (50) feet from the centerline of Railroad's nearest track, and there shall be no vehicular crossings of Railroad's tracks except at existing open public crossings.

b. Operations of Railroad and work performed by Railroad personnel and delays in the work to be performed by Licensee caused by such railroad operations and

work are expected by Licensee, and Licensee agrees that Railroad shall have no liability to Licensee, or any other person or entity for any such delays. Licensee shall coordinate its activities with those of Railroad and third parties so as to avoid interference with railroad operations. The safe operation of Railroad train movements and other activities by Railroad takes precedence over any work to be performed by Licensee.

Section 4. LIENS.

Licensee shall pay in full all persons who perform labor or provide materials for the work to be performed by Licensee. Licensee shall not create, permit or suffer any mechanic's or materialmen's liens of any kind or nature to be created or enforced against any property of Railroad for any such work performed. Licensee shall indemnify and hold harmless Railroad from and against any and all liens, claims, demands, costs or expenses of whatsoever nature in any way connected with or growing out of such work done, labor performed, or materials furnished.

Section 5. PROTECTION OF FIBER OPTIC CABLE SYSTEMS.

a. Fiber optic cable systems may be buried on Railroad's property. Protection of the fiber optic cable systems is of extreme importance since any break could disrupt service to users resulting in business interruption and loss of revenue and profits. Licensee shall telephone Railroad during normal business hours (7:00 a.m. to 9:00 p.m. Central Time, Monday through Friday, except holidays) at 1-800-336-9193 (also a 24-hour, 7-day number for emergency calls) to determine if fiber optic cable is buried anywhere on Railroad's property to be used by Licensee. If it is, Licensee shall telephone the telecommunications company(ies) involved, arrange for a cable locator, make arrangements for relocation or other protection of the fiber optic cable, and shall commence no work on the right of way until all such protection or relocation has been accomplished.

b. In addition to other indemnity provisions in this Agreement, Licensee shall, pursuant to Cal. Gov. Code §14662.5, indemnify and hold Railroad harmless from and against all costs, liability and expense whatsoever (including, without limitation, attorneys' fees, court costs and expenses) arising out of any act or omission of Licensee, its contractor, agents and/or employees, that proximately causes or contributes to (1) any damage to or destruction of any telecommunications system on Railroad's property, and/or (2) any injury to or death of any person employed by or on behalf of any telecommunications company, and/or its contractors, agents and/or employees, on Railroad's property. Licensee shall not have or seek recourse against Railroad for any claim or cause of action for alleged loss of profits or revenue or loss of service or other consequential damage to a telecommunication company using Railroad's property or a customer or user of services of the fiber optic cable on Railroad's property.

Section 6. PERMITS - COMPLIANCE WITH LAWS.

In the prosecution of the work covered by this Agreement, Licensee shall secure any and all necessary permits and shall comply with all applicable federal, state and local laws, regulations and enactments affecting the work, including, without limitation, all applicable Federal Railroad Administration regulations.

Section 7. SAFETY.

a. Safety of personnel, property, rail operations and the public is of paramount importance in the prosecution of the work performed by Licensee. Licensee shall be responsible for initiating, maintaining and supervising all safety, operations and programs in connection with the work. Licensee shall at a minimum comply with Railroad's safety standards listed in **Exhibit D**, hereto attached, to ensure uniformity with the safety standards followed by Railroad's own forces. As a part of Licensee's safety responsibilities, Licensee shall notify Railroad if Licensee determines that any of Railroad's safety standards are contrary to good safety practices. Licensee shall furnish copies of **Exhibit D** to each of its employees before they enter the job site.

b. Without limitation of the provisions of paragraph A above, Licensee shall keep the job site free from safety and health hazards and ensure that its employees are competent and adequately trained in all safety and health aspects of the job.

c. Licensee shall have proper first aid supplies available on the job site so that prompt first aid services may be provided to any person injured on the job site. Licensee shall promptly notify Railroad of any U.S. Occupational Safety and Health Administration reportable injuries. Licensee shall have a nondelegable duty to control its employees while they are on the job site or any other property of Railroad, and to be certain they do not use, be under the influence of, or have in their possession any alcoholic beverage, drug or other substance that may inhibit the safe performance of any work.

d. If and when requested by Railroad, Licensee shall deliver to Railroad a copy of Railroad's safety plan for conducting the work (the "Safety Plan"). Railroad shall have the right, but not the obligation, to require Licensee to correct any deficiencies in the Safety Plan. The terms of this Agreement shall control if there are any inconsistencies between this Agreement and the Safety Plan.

Section 8. INDEMNITY.

a. To the extent not prohibited by Cal. Gov. Code §14662.5, Licensee shall indemnify, defend and hold harmless Railroad, its affiliates, and its and their officers, agents and employees ("Indemnified Parties") from and against any and all loss, damage, injury, liability, claim, demand, cost or expense (including, without limitation, attorney's, consultant's and expert's fees, and court costs), fine or penalty (collectively, "Loss") incurred by any person (including, without limitation, any Indemnified Party,

Licensee, or any employee of Licensee or of any Indemnified Party) arising out of or in any manner connected with (i) any Work performed by Licensee, or (ii) any act or omission of Licensee, its officers, agents or employees, or (iii) any breach of this agreement by Licensee.

b. To the extent not prohibited by Cal. Gov. Code §14662.5, the right to indemnity under this Section 8 shall accrue upon occurrence of the event giving rise to the Loss, and shall apply regardless of any negligence or strict liability of any Indemnified Party, except where the Loss is caused by the sole active negligence or willful misconduct of an Indemnified Party as established by the final judgment of a court of competent jurisdiction. The sole active negligence or willful misconduct of any Indemnified Party shall not bar the recovery of any other Indemnified Party.

c. To the extent not prohibited by Cal. Gov. Code §14662.5, Licensee expressly and specifically assumes potential liability under this Section 8 for claims or actions brought by Licensee's own employees. Licensee waives any immunity it may have under worker's compensation or industrial insurance acts to indemnify Railroad under this Section 8. Licensee acknowledges that this waiver was mutually negotiated by the parties hereto.

d. To the extent not prohibited by Cal. Gov. Code §14662.5, no court or jury findings in any employee's suit pursuant to any worker's compensation act or the Federal Employer's Liability Act against a party to this Agreement may be relied upon or used by Licensee in any attempt to assert liability against Railroad.

e. The provisions of this Section 8 shall survive the completion of any Work performed by Licensee or the termination or expiration of this Agreement. To the extent not prohibited by Cal. Gov. Code §14662.5, in no event shall this Section 8 or any other provision of this Agreement be deemed to limit any liability Licensee may have to any Indemnified Party by statute or under common law.

Section 9. RESTORATION OF PROPERTY.

In the event Railroad authorizes Licensee to take down any fence of Railroad or in any manner move or disturb any of the other property of Railroad in connection with the Work to be performed by Licensee, then in that event Licensee shall, as soon as possible and at Licensee's sole expense, restore such fence and other property to the same condition as the same were in before such fence was taken down or such other property was moved or disturbed. Licensee shall remove all of Licensee's tools, equipment and materials from Railroad's property promptly upon completion of the Work, restoring Railroad's property to the same state and condition as when Licensee entered thereon.

Section 10. WAIVER OF DEFAULT.

Waiver by Railroad of any breach or default of any condition, covenant or agreement herein contained to be kept, observed and performed by Licensee shall in no way impair the right of Railroad to avail itself of any remedy for any subsequent breach or default.

Section 11. MODIFICATION - ENTIRE AGREEMENT.

No modification of this Agreement shall be effective unless made in writing and signed by Licensee and Railroad. This Agreement and the exhibits attached hereto and made a part hereof constitute the entire understanding between Licensee and Railroad and cancel and supersede any prior negotiations, understandings or agreements, whether written or oral, with respect to the work to be performed by Licensee.

Section 12. ASSIGNMENT - SUBCONTRACTING.

Contractor shall not assign or subcontract this Agreement, or any interest therein, without the written consent of the Railroad. Contractor shall be responsible for the acts and omissions of all subcontractors. Before Contractor commences any work, the Contractor shall, except to the extent prohibited by law; (1) require each of its subcontractors to include the Contractor as "Additional Insured" in the subcontractor's Commercial General Liability policy and Business Automobile policies with respect to all liabilities arising out of the subcontractor's performance of work on behalf of the Contractor by endorsing these policies with ISO Additional Insured Endorsements CG 20 26, and CA 20 48 (or substitute forms providing equivalent coverage; (2) require each of its subcontractors to endorse their Commercial General Liability Policy with "Contractual Liability Railroads" ISO Form CG 24 17 10 01 (or a substitute form providing equivalent coverage) for the job site; and (3) require each of its subcontractors to endorse their Business Automobile Policy with "Coverage For Certain Operations In Connection With Railroads" ISO Form CA 20 70 10 01 (or a substitute form providing equivalent coverage) for the job site.

EXHIBIT C
TO
CALTRANS
RIGHT OF ENTRY AGREEMENT

INSURANCE PROVISIONS

Contractor shall, at its sole cost and expense, procure and maintain during the course of the Project and until all Project work on Railroad's property has been completed and Contractor has removed all equipment and materials from Railroad's property and has cleaned and restored Railroad's property to Railroad's satisfaction, the following insurance coverage:

A. **Commercial General Liability** insurance. Commercial general liability (CGL) with a limit of not less than $5,000,000 each occurrence and an aggregate limit of not less than $10,000,000. CGL insurance must be written on ISO occurrence form CG 00 01 12 04 (or a substitute form providing equivalent coverage).

The policy must also contain the following endorsement, which must be stated on the certificate of insurance:

- Contractual Liability Railroads ISO form CG 24 17 10 01 (or a substitute form providing equivalent coverage) showing "Union Pacific Railroad Company Property" as the Designated Job Site.
- Designated Construction Project(s) General Aggregate Limit ISO Form CG 25 03 03 97 (or a substitute form providing equivalent coverage) showing the project on the form schedule.

B. **Business Automobile Coverage** insurance. Business auto coverage written on ISO form CA 00 01 (or a substitute form providing equivalent liability coverage) with a combined single limit of not less $5,000,000 for each accident.

The policy must contain the following endorsements, which must be stated on the certificate of insurance:

- Coverage For Certain Operations In Connection With Railroads ISO form CA 20 70 10 01 (or a substitute form providing equivalent coverage) showing "Union Pacific Property" as the Designated Job Site.
- Motor Carrier Act Endorsement - Hazardous materials clean up (MCS-90) if required by law.

C. **Workers' Compensation and Employers' Liability** insurance. Coverage must include but not be limited to:

- Contractor's statutory liability under the workers' compensation laws of the State of California.
- Employers' Liability (Part B) with limits of at least $500,000 each accident, $500,000 disease policy limit $500,000 each employee.

If Contractor is self-insured, evidence of state approval and excess workers compensation coverage must be provided. Coverage must include liability arising out of the U. S. Longshoremen's and Harbor Workers' Act, the Jones Act, and the Outer Continental Shelf Land Act, if applicable.

The policy must contain the following endorsement, which must be stated on the certificate of insurance:

- Alternate Employer endorsement ISO form WC 00 03 01 A (or a substitute form providing equivalent coverage) showing Railroad in the schedule as the alternate employer (or a substitute form providing equivalent coverage).

D. **Railroad Protective Liability** insurance. Contractor must maintain Railroad Protective Liability insurance written on ISO occurrence form CG 00 35 12 04 (or a substitute form providing equivalent coverage) on behalf of Railroad as named insured, with a limit of not less than $2,000,000 per occurrence and an aggregate of $6,000,000. A binder stating the policy is in place must be submitted to Railroad before the work may be commenced and until the original policy is forwarded to Railroad.

E. **Umbrella or Excess** insurance. If Contractor utilizes umbrella or excess policies, these policies must "follow form" and afford no less coverage than the primary policy.

F. **Pollution Liability** insurance. Pollution liability coverage must be written on ISO form Pollution Liability Coverage Form Designated Sites CG 00 39 12 04 (or a substitute form providing equivalent liability coverage), with limits of at least $5,000,000 per occurrence and an aggregate limit of $10,000,000.

If the scope of work as defined in this Agreement includes the disposal of any hazardous or non-hazardous materials from the job site, Contractor must furnish

to Railroad evidence of pollution legal liability insurance maintained by the disposal site operator for losses arising from the insured facility accepting the materials, with coverage in minimum amounts of $1,000,000 per loss, and an annual aggregate of $2,000,000.

Other Requirements

G. All policy(ies) required above (except worker's compensation and employers liability) must include Railroad as "Additional Insured" using ISO Additional Insured Endorsements CG 20 26, and CA 20 48 (or substitute forms providing equivalent coverage). The coverage provided to Railroad as additional insured shall, to the extent provided under ISO Additional Insured Endorsement CG 20 26, and CA 20 48 provide coverage for Railroad's negligence whether sole or partial, active or passive, and shall not be limited by Contractor's liability under the indemnity provisions of this Agreement.

H. Punitive damages exclusion, if any, must be deleted (and the deletion indicated on the certificate of insurance), unless the law governing this Agreement prohibits all punitive damages that might arise under this Agreement.

I. Contractor waives all rights of recovery, and its insurers also waive all rights of subrogation of damages against Railroad and its agents, officers, directors and employees. This waiver must be stated on the certificate of insurance.

J. Prior to commencing the work, Contractor shall furnish Railroad with a certificate(s) of insurance, executed by a duly authorized representative of each insurer, showing compliance with the insurance requirements in this Agreement.

K. All insurance policies must be written by a reputable insurance company acceptable to Railroad or with a current Best's Insurance Guide Rating of A- and Class VII or better, and authorized to do business in the State of California.

L. The fact that insurance is obtained by Contractor or by Railroad on behalf of Contractor will not be deemed to release or diminish the liability of Contractor, including, without limitation, liability under the indemnity provisions of this Agreement. Damages recoverable by Railroad from Contractor or any third party will not be limited by the amount of the required insurance coverage.

EXHIBIT D
TO
CALTRAN'S RIGHT OF ENTRY AGREEMENT

MINIMUM SAFETY REQUIREMENTS

The term "employees" as used herein refer to all employees of Licensee as well as all employees of any subcontractor or agent of Licensee.

I. Clothing

A. All employees of Licensee will be suitably dressed to perform their duties safely and in a manner that will not interfere with their vision, hearing, or free use of their hands or feet.

Specifically, Licensee's employees must wear:

(i) Waist-length shirts with sleeves.
(ii) Trousers that cover the entire leg. If flare-legged trousers are worn, the trouser bottoms must be tied to prevent catching.
(iii) Footwear that covers their ankles and has a defined heel. Employees working on bridges are required to wear safety-toed footwear that conforms to the American National Standards Institute (ANSI) and FRA footwear requirements.

B. Employees shall not wear boots (other than work boots), sandals, canvas-type shoes, or other shoes that have thin soles or heels that are higher than normal.

C. Employees must not wear loose or ragged clothing, neckties, finger rings, or other loose jewelry while operating or working on machinery.

II. Personal Protective Equipment

Licensee shall require its employees to wear personal protective equipment as specified by Railroad rules, regulations, or recommended or requested by the Railroad Representative.

(i) Hard hat that meets the American National Standard (ANSI) Z89.1 – latest revision. Hard hats should be affixed with Licensee's company logo or name.
(ii) Eye protection that meets American National Standard (ANSI) for occupational and educational eye and face protection, Z87.1 – latest revision. Additional eye protection must be provided to meet specific job situations such as welding, grinding, etc.

(iii) Hearing protection, which affords enough attenuation to give protection from noise levels that will be occurring on the job site. Hearing protection, in the form of plugs or muffs, must be worn when employees are within:

- 100 feet of a locomotive or roadway/work equipment
- 15 feet of power operated tools
- 150 feet of jet blowers or pile drivers
- 150 feet of retarders in use (when within 10 feet, employees must wear dual ear protection – plugs and muffs)
-

(iv) Other types of personal protective equipment, such as respirators, fall protection equipment, and face shields, must be worn as recommended or requested by the Railroad Representative.

III. On Track Safety

Licensee is responsible for compliance with the Federal Railroad Administration's Roadway Worker Protection regulations – 49 CFR 214, Subpart C and Railroad's On-Track Safety Rules. Under 49 CFR 214, Subpart C, railroad contractors are responsible for the training of their employees on such regulations. In addition to the instructions contained in Roadway Worker Protection regulations, all employees must:

(i) Maintain a distance of twenty-five (25) feet to any track unless the Railroad Representative is present to authorize movements.
(ii) Wear an orange, reflectorized workwear approved by the Railroad Representative.
(iii) Participate in a job briefing that will specify the type of On-Track Safety for the type of work being performed. Licensee must take special note of limits of track authority, which tracks may or may not be fouled, and clearing the track. Licensee will also receive special instructions relating to the work zone around machines and minimum distances between machines while working or traveling.

IV. Equipment

A. It is the responsibility of Licensee to ensure that all equipment is in a safe condition to operate. If, in the opinion of the Railroad Representative, any of Licensee's equipment is unsafe for use, Licensee shall remove such equipment from the Railroad's property. In addition, Licensee must ensure that the operators of all equipment are properly trained and competent in the safe operation of the equipment. In addition, operators must be:

- Familiar and comply with Railroad's rules on lockout/tagout of equipment.
- Trained in and comply with the applicable operating rules if operating any hy-rail equipment on-track.

- Trained in and comply with the applicable air brake rules if operating any equipment that moves rail cars or any other railbound equipment.

B. All self-propelled equipment must be equipped with a first-aid kit, fire extinguisher, and audible back-up warning device.

C. Unless otherwise authorized by the Railroad Representative, all equipment must be parked a minimum of twenty-five (25) feet from any track. Before leaving any equipment unattended, the operator must stop the engine and properly secure the equipment against movement.

D. Cranes must be equipped with three orange cones that will be used to mark the working area of the crane and the minimum clearances to overhead powerlines.

V. General Safety Requirements

A. Licensee shall ensure that all waste is properly disposed of in accordance with applicable federal and state regulations.

B. Licensee shall ensure that all employees participate in and comply with a job briefing conducted by the Railroad Representative, if applicable. During this briefing, the Railroad Representative will specify safe work procedures, (including On-Track Safety) and the potential hazards of the job. If any employee has any questions or concerns about the work, the employee must voice them during the job briefing. Additional job briefings will be conducted during the work as conditions, work procedures, or personnel change.

C. All track work performed by Licensee meets the minimum safety requirements established by the Federal Railroad Administration's Track Safety Standards 49 CFR 213.

D. All employees comply with the following safety procedures when working around any railroad track:

(i) Always be on the alert for moving equipment. Employees must always expect movement on any track, at any time, in either direction.
(ii) Do not step or walk on the top of the rail, frog, switches, guard rails, or other track components.
(iii) In passing around the ends of standing cars, engines, roadway machines or work equipment, leave at least 20 feet between yourself and the end of the equipment. Do not go between pieces of equipment of the opening is less than one car length (50 feet).
(iv) Avoid walking or standing on a track unless so authorized by the employee in charge.

(v) Before stepping over or crossing tracks, look in both directions first.

(vi) Do not sit on, lie under, or cross between cars except as required in the performance of your duties and only when track and equipment have been protected against movement.

E. All employees must comply with all federal and state regulations concerning workplace safety.

EXHIBIT E
TO
CALTRANS RIGHT OF ENTRY AGREEMENT

CONTRACTOR'S ENDORSEMENT

A. As a condition to entering upon the Railroad's right-of-way to perform Work pursuant to this agreement, State's contractor, _____

_____

(Name of Contractor)

whose address is _____

(Contractor's Mailing Address)

(hereinafter "Contractor"), agrees to comply with and be bound by all the terms and provisions of the attached Caltrans Right of Entry Agreement that was signed by Union Pacific Railroad Company ("Railroad") and the State of California, Department of Transportation ("State") relating to the Work to be performed in connection with State's Project No. _____ covering work in _____ County, California, and the insurance requirements set forth in **Exhibit C** of the Right of Entry Agreement. The Contractor further acknowledges and agrees that the reference to Cal. Gov. Code §14662.5 in Sections 5.b) and 8.b) of **Exhibit B** to the Right of Entry Agreement does not apply to the Contractor and in no way limits the indemnities set forth in those provisions, to which the Contractor agrees to be bound.

B. Before the Contractor commences any Work, the Contractor will provide the Railroad with (i) a binder of insurance for the Railroad Protective Liability Insurance described in Section 13-2 of the Contract Special Provisions, hereto attached, and the original policy, or a certified duplicate original policy when available, and (ii) a certificate issued by its insurance carrier providing the other insurance coverage and endorsements required pursuant to Section 13-2 of the Contract Special Provisions.

C. All insurance correspondence, binders or originals shall be directed to:

Union Pacific Railroad Company
Real Estate Department, Mail Stop 1690
1400 Douglas Street
Omaha, Nebraska 68179
Attn: Paul Farrell
Folder No.: 2673-03

D. **Please note that fiber optic cable may be buried on the Railroad's property. Prior to commencing any work, the Contractor agrees to contact the Railroad's Telecommunications Operation Center as provided in Section 5 of Exhibit B of the Right of Entry Agreement to determine if any fiber optic cable is located on the Railroad's property on or near the location where the work is to be performed.**

If there is, the Contractor must comply with the terms and conditions of Section 5 of Exhibit B before commencing any work on the Railroad's property.

E. **The Contractor agrees to also provide to the Railroad's Manager-Track Maintenance at 402-233-1711** the advance notice required in Section 1 of **Exhibit B** of the Right of Entry Agreement prior to working on the Railroad's property in order for the Railroad to coordinate the Contractor's work with the Railroad's operations and to make arrangements for flagging protection (if applicable).

This endorsement shall be completed and sent to the person named in Paragraph C above.

_____
(Name of Contractor)

By_____

Title:_____

Date:_____

AUDIT 257787

Folder No. 2629-13

TEMPORARY

RIGHT OF ENTRY AGREEMENT

THIS AGREEMENT is made and entered into as of October 14, 2010, by and between **UNION PACIFIC RAILROAD COMPANY**, a Delaware corporation (hereinafter the "Railroad"), and **CALIFORNIA DEPARTMENT OF TRANSPORTATION**, to be addressed at 100 S Main Street, MS-6, Los Angeles, CA (hereinafter the "Licensee").

IT IS MUTUALLY AGREED BY AND BETWEEN THE PARTIES HERETO AS FOLLOWS:

Article 1. DEFINITION OF LICENSEE.

For purposes of this Agreement, all references in this Agreement to the Licensee shall include the Licensee's contractors, subcontractors, officers, agents and employees, and others acting under its or their authority.

Article 2. RIGHT GRANTED; PURPOSE.

The Railroad hereby grants to the Licensee the right, during the term hereinafter stated and upon and subject to each and all of the terms, provisions and conditions herein contained, to enter upon and have ingress to and egress from the portion of Railroad's property in the vicinity of Mile Post 382.3 to 383.6, Santa Barbara Subdivision, at or near Seacliff, Mussel Shoals, La Conchita and Carpenteria, Ventura County, California, for the purpose of temporary work area and temporary construction fence. The right herein granted to Licensee is limited to those portions of the Railroad's property specifically described herein in the location shown on the print marked Exhibit A, attached hereto and hereby made a part hereof, or designated by the Railroad Representative named in Article IV.

Article 3. TERMS AND CONDITIONS CONTAINED IN EXHIBITS B AND C.

The terms and conditions contained in Exhibits B and C, hereto attached, are hereby made a part of this Agreement.

Article 4. ALL EXPENSES TO BE BORNE BY LICENSEE; RAILROAD REPRESENTATIVE.

The Licensee shall bear any and all costs and expenses associated with any work performed by the Licensee, or any costs or expenses incurred by the Railroad relating to this Agreement. All work performed by Licensee on Railroad's property shall be performed in a manner satisfactory to the representative local Manager of Track Maintenance of the Railroad or his authorized representative (hereinafter the Railroad Representative):

JAVIER SANCHEZ, MTM
UNION PACIFIC RAILROAD
340 GUADALUPE ST
GUADALUPE CA 93434
(402) 233-1711
(805) 249-0959

Article 5. **TERM; TERMINATION.**

A. The grant of right herein made to Licensee shall commence on the date of this Agreement, and continue until October 13, 2015 unless sooner terminated as herein provided, or at such time as Licensee has completed its work on Railroad's property, whichever is earlier. Licensee agrees to notify the Railroad Representative in writing when it has completed its work on Railroad property.

B. This Agreement may be terminated by either party on ten (10) days written notice to the other party.

Article 6. **CERTIFICATE OF INSURANCE.**

A. Before commencing any work, the Licensee will provide the Railroad with a Certificate issued by its insurance carrier providing the insurance coverage required pursuant to Exhibit C of this Agreement in a policy which contains the following type of endorsement:

> "Union Pacific Railroad Company is named as additional insured with respect to all liabilities arising out of Insured's, as Licensee, performance of any work on the property of the Railroad."

B. Licensee warrants that this Agreement has been thoroughly reviewed by its insurance agent(s)/broker(s) and that said agent(s)/broker(s) has been instructed to procure insurance coverage and an endorsement as required herein.

C. All insurance correspondence shall be directed to: Union Pacific Railroad Company, Director (Attn.: Joan M. Preble - Folder No.2629-13), 1400 Douglas Street STOP 1690, Omaha, Nebraska 68179-1690.

Article 7. **PROTECTION OF FIBER OPTIC CABLE SYSTEMS.**

Fiber optic cable systems may be buried on Licensor's property. Protection of the fiber optic cable systems is of extreme importance since any break could disrupt service to users resulting in business interruption and loss of revenue and profits. Prior to beginning any work, the Licensee shall telephone the Railroad at **1-800-336-9193** (a 24-hour number) to determine if fiber optic cable is buried anywhere on the property set forth herein. If it is, the Licensee shall also comply with and be subject to the provisions contained in Section 6 of Exhibit B.

Article 8. **ENFORCEABILITY; CHOICE OF LAW; CHOICE OF FORUM.**

This Agreement shall be governed, construed, and enforced in accordance with the laws of the state of Nebraska. Litigation arising out of or connected with this Agreement may be instituted and maintained in the courts of the state of Nebraska and California only, and the parties consent to jurisdiction over their person and over the subject matter of any such litigation, in those courts, and consent to service of process issued by such courts.

Article 9. **LICENSE FEE.**

Licensee shall pay, and Railroad shall accept, upon the execution and return of this instrument, the nonrefundable sum of **Fifteen Thousand Dollars ($15,000.00)** to cover Railroad's cost to prepare and administer this Agreement.

Flagging charges are not included in the sum recited in the preceding paragraph, and will be billed separately, if incurred.

Article 10. **SPECIAL PROVISION – RAILROAD FLAGMAN; WHEN REQUIRED; FLAGGING CHARGES.**

A. No work of any kind shall be performed, and no person, equipment, machinery, tool(s), material(s), vehicle(s), or thing(s) shall be located, operated, placed, or stored within 25 feet of any of Railroad's track(s) at any time, for any reason, unless and until a Railroad flagman is provided to watch for trains, pursuant to the terms of the attached Exhibit 'B'. All expenses connected with the furnishing of said flagman shall be at the sole cost and expense of the Licensee, who shall promptly pay to Railroad all charges connected therewith, within 30 days after presentation of a bill therefore.

B. One and one-half times the current hourly rate is paid for overtime, Saturdays and Sundays; two and one-half times current hourly rate for holidays.

C. Wage rates are subject to change, at any time, by law or by agreement between the Railroad and its employees, and may be retroactive as a result of negotiations or a ruling of an authorized Governmental Agency. Additional charges on labor are also subject to change. If the wage rate or additional charges are changed, the Licensee shall pay on the basis of the new rates and charges.

D. Reimbursement to the Railroad will be required covering the full eight hour day during which any flagman is furnished, unless he can be assigned to other Railroad work during a portion of such day, in which event reimbursement will not be required for the portion of the day during which the flagman is engaged in other work. Reimbursement will also be required for any day not actually worked by said flagman following his assignment to work on the project for which the Railroad is required to pay the flagman and which could not reasonably be avoided by the Railroad Company by assignment of such flagman to other work, even though the Licensee may not be working during such time.

E. Arrangements for flagging are to be made at least Ten (10) days in advance of commencing work, with the Railroad Manager of Track Maintenance.

Article 11 **SPECIAL PROVISIONS.**

Workers and employees must stay with twenty five feet of the Railroad's right of way line. No equipment or products can be stored in the Railroad's right of way

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be executed as of the date first herein written.

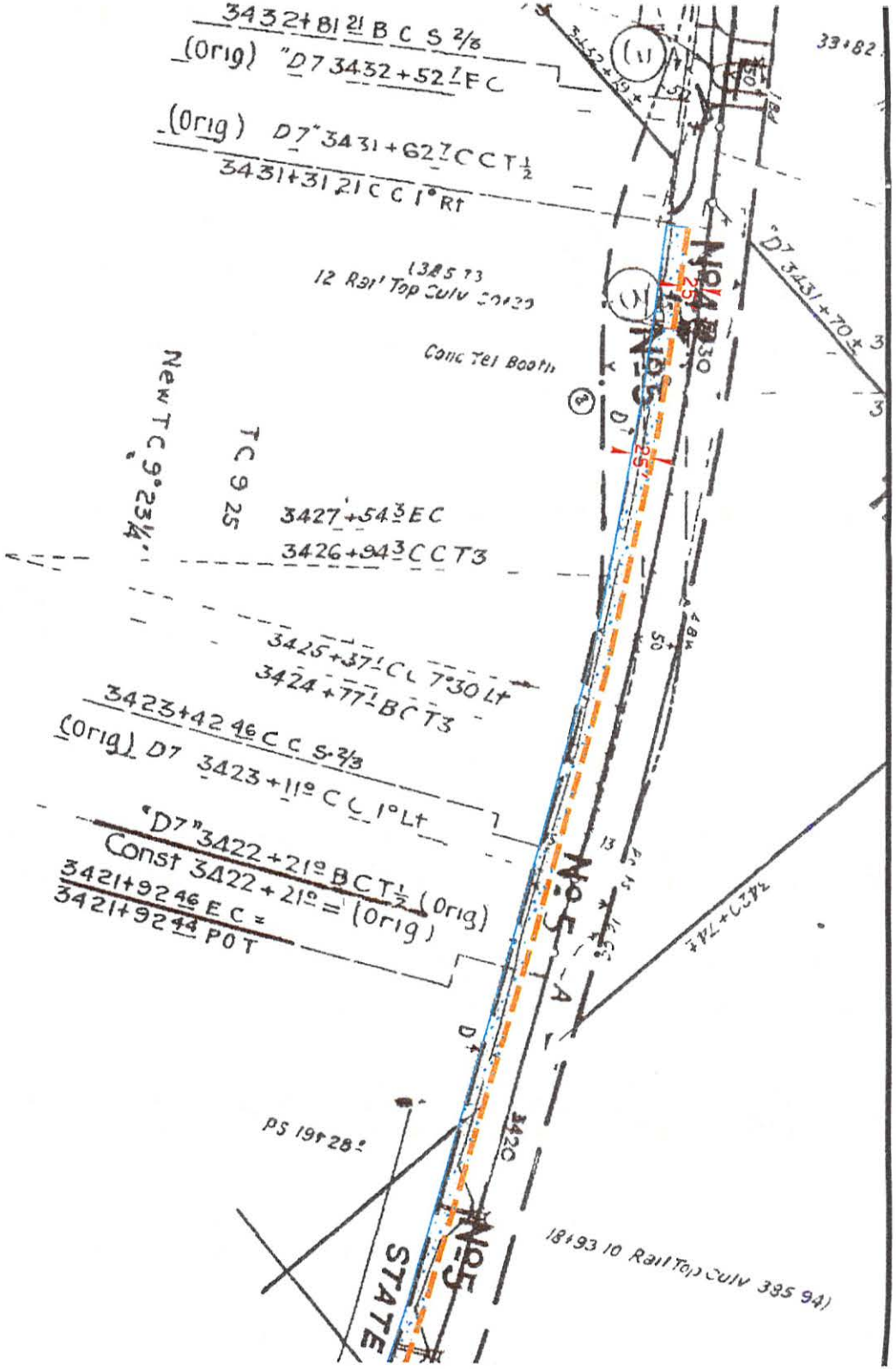
UNION PACIFIC RAILROAD COMPANY
Federal Taxpayer I.D. #94-6001323

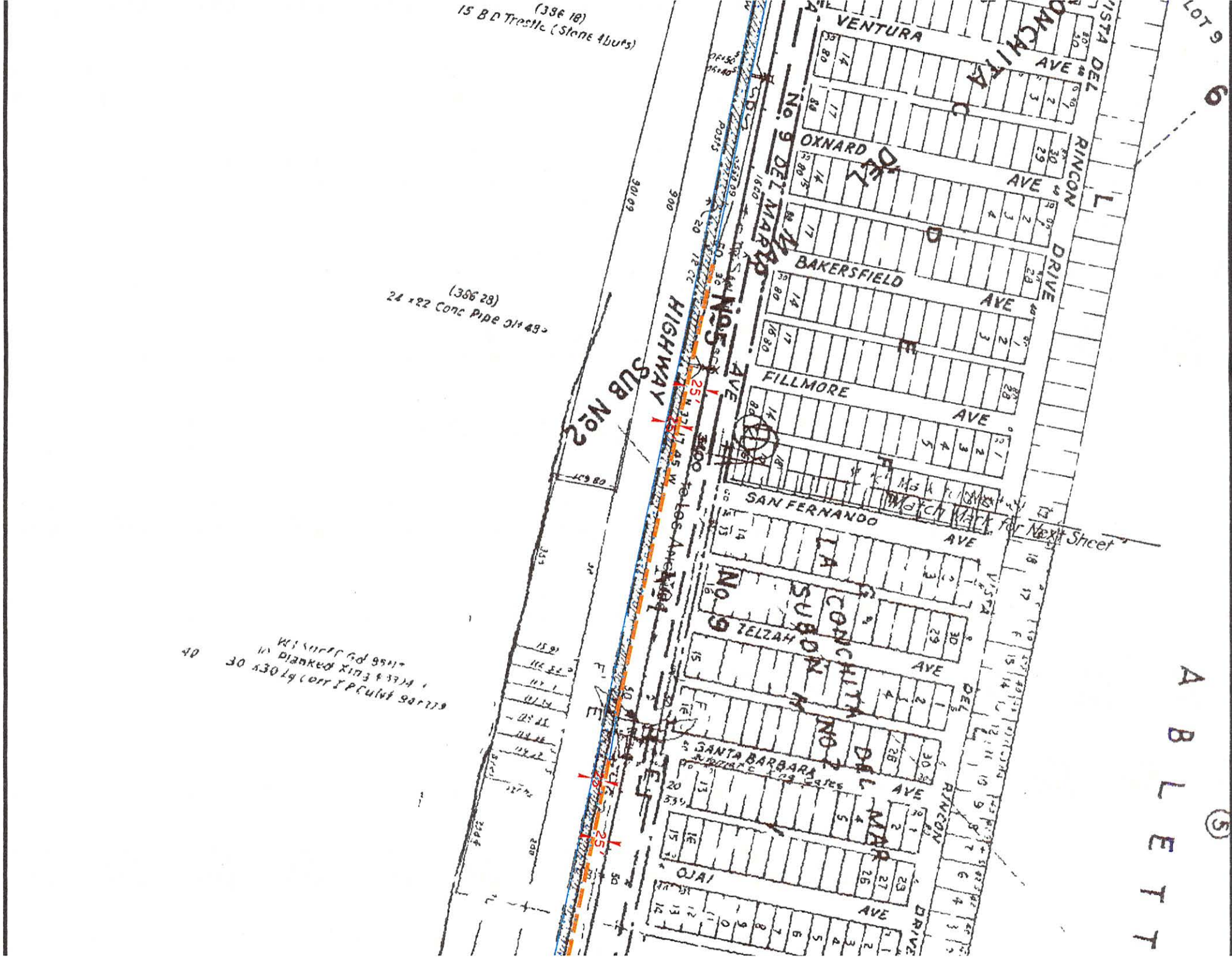
By: _____
Renay Robison-Scheer
Asst. Director - Contracts

CALIFORNIA DEPARTMENT OF TRANSPORTATION

By: Lowell W. Anderson
Printed Name: LOWELL W. ANDERSON
Title: RAILROAD COORDINATOR D-7

(Pursuant to ordinance, resolution, or other evidence of proper authority to execute this instrument, a copy of which shall be attached to the Railroad's original counterpart of this document.)

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BAKERSFIELD AVE
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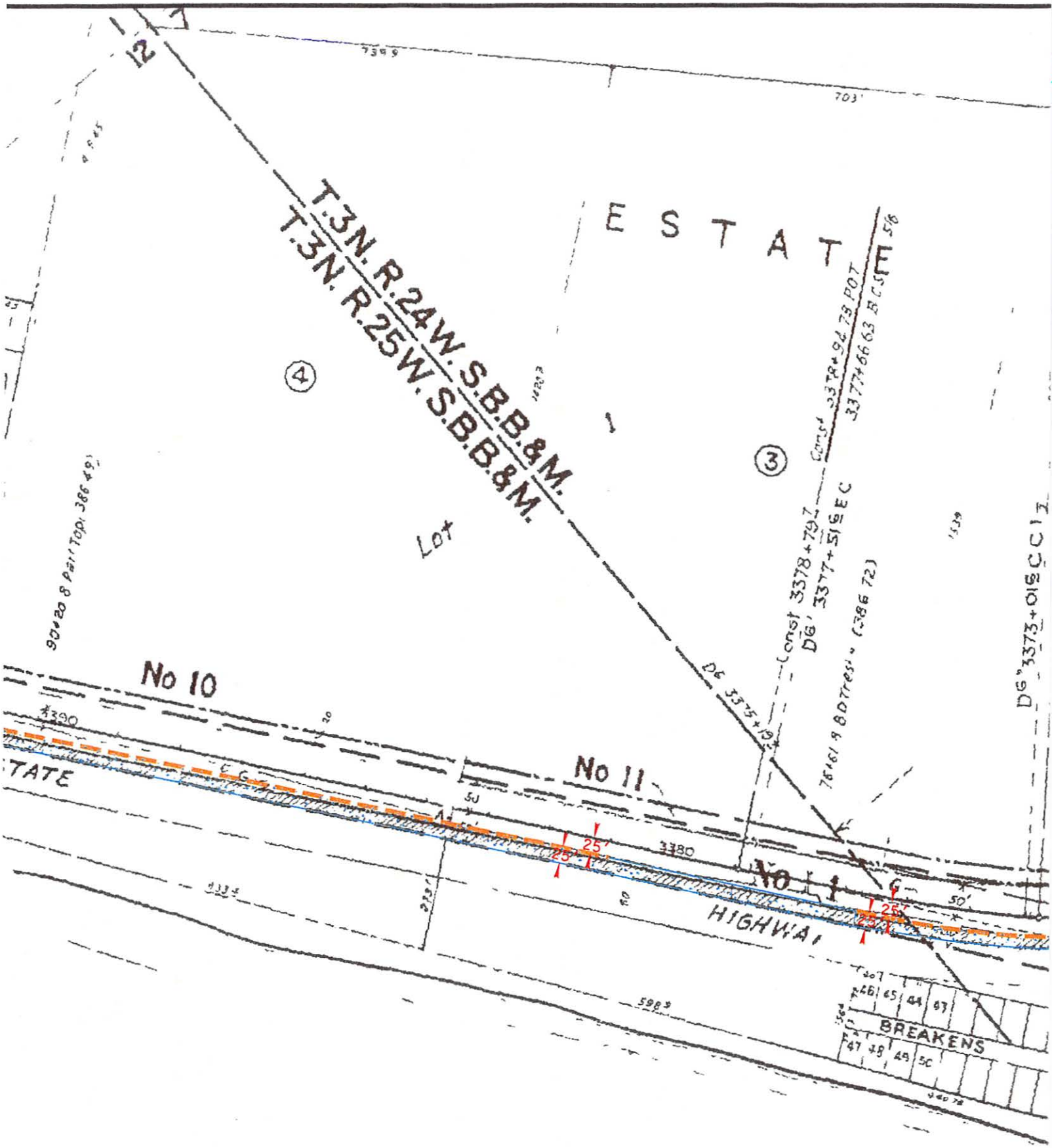

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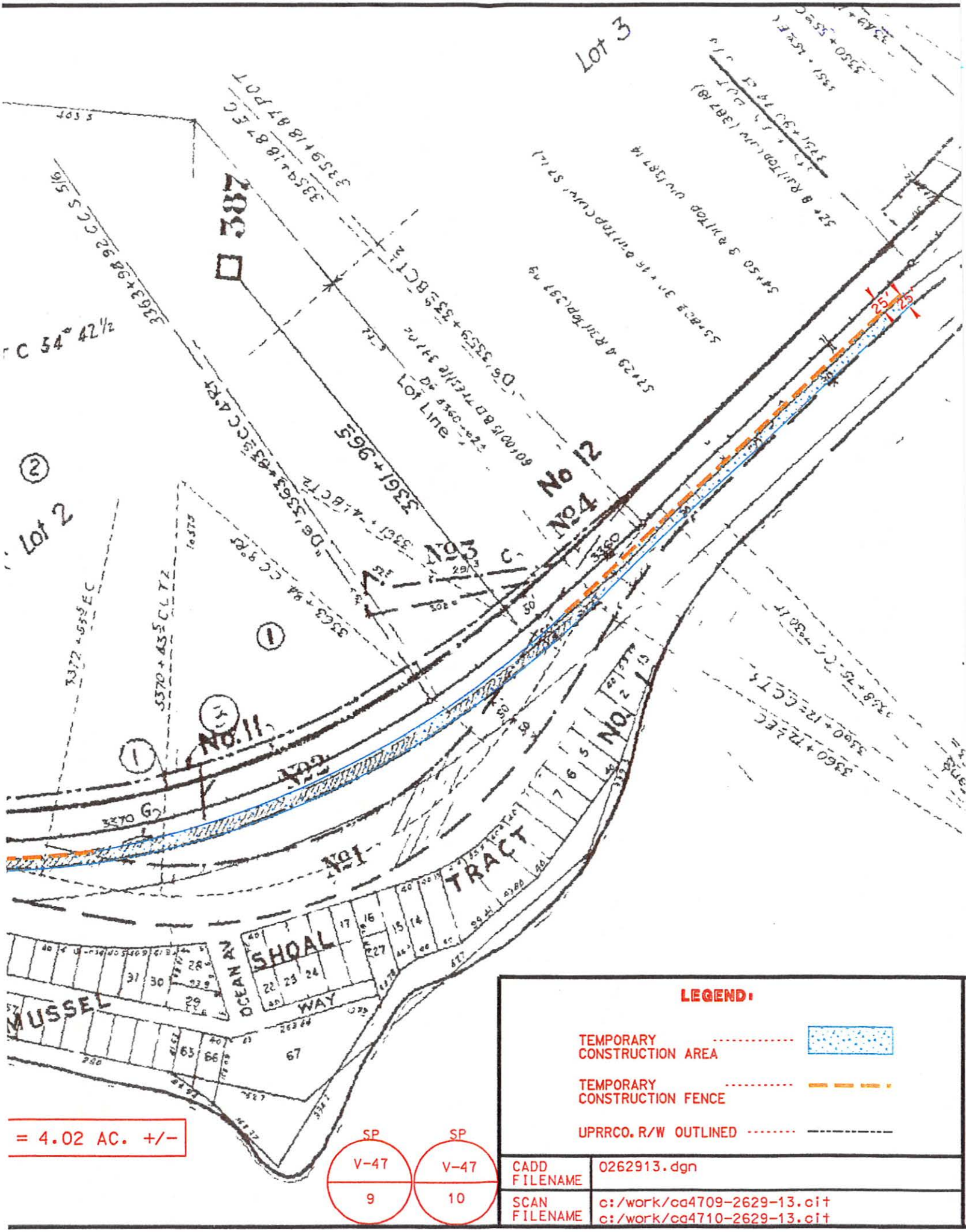
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TEMPORARY CONSTRUCTION FENCE
UPRRCO. R/W OUTLINED
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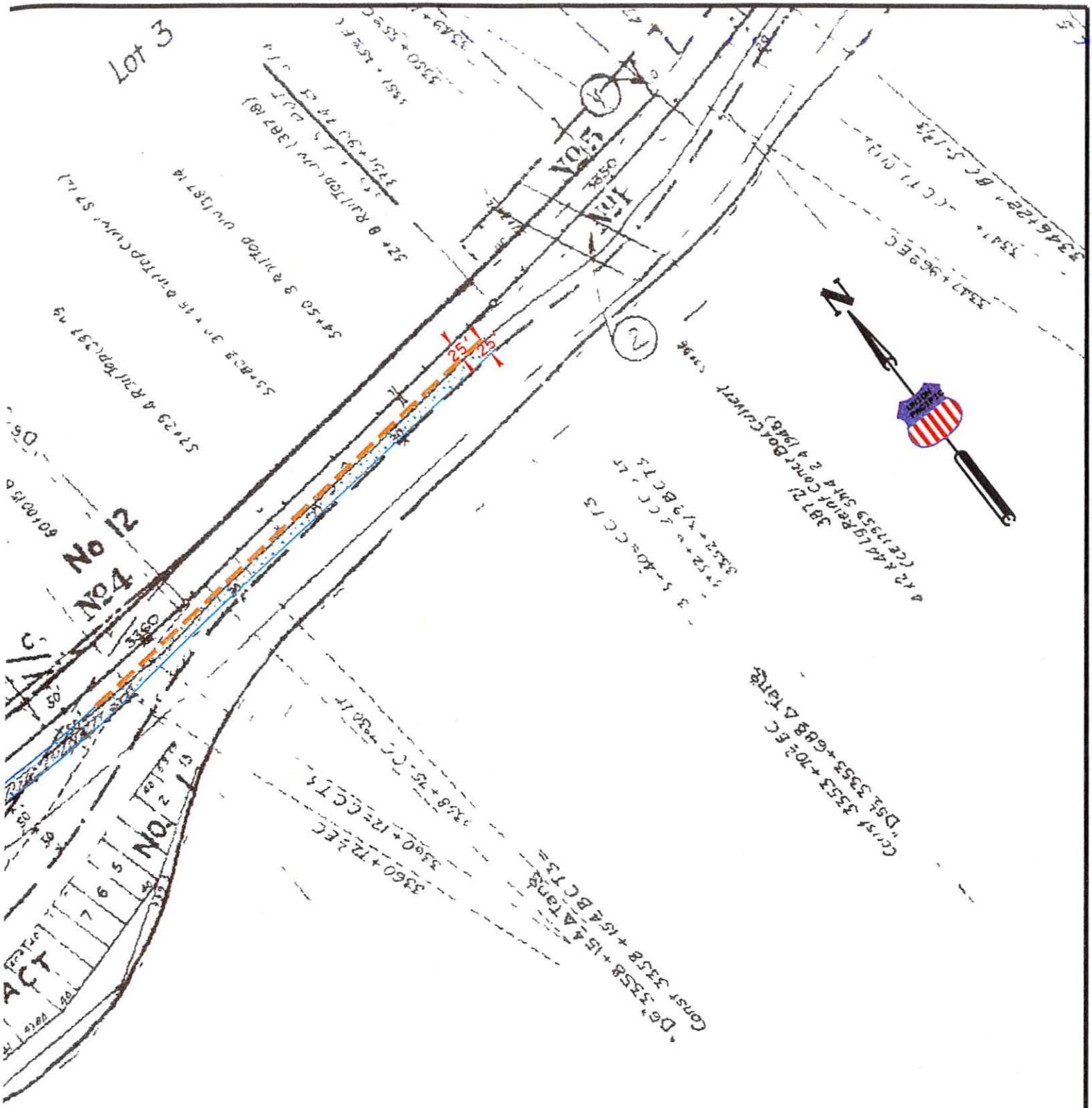

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TEMPORARY CONSTRUCTION FENCE .....

UPRRCO. R/W OUTLINED .....

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NOTE: BEFORE YOU BEGIN ANY WORK, SEE AGREEMENT FOR FIBER OPTIC PROVISIONS.

EXHIBIT "A"

UNION PACIFIC RAILROAD COMPANY

VENTURA COUNTY, CA

APROX. M.P. 382.3 TO 383.6 - SANTA BARBARA SUB.

TO ACCOMPANY AGREEMENT WITH
CALIFORNIA DEPARTMENT OF TRANSPORTATION

SCALE: 1" = 200'

OFFICE OF REAL ESTATE
OMAHA, NEBRASKA DATE: 8-24-2010

NLP FILE: 2629-13

EXHIBIT B

Section 1 - NOTICE OF COMMENCEMENT OF WORK – FLAGGING.

The Licensee agrees to notify the Railroad Representative at least Ten (10) days in advance of Licensee commencing its work and at least 24 hours in advance of proposed performance of any work by the Licensee in which any person or equipment will be within 25 feet of any track, or will be near enough to any track that any equipment extension (such as, but not limited to, a crane boom) will reach to within 25 feet of any track. Upon receipt of such notice, the Railroad Representative will determine and inform the Licensee whether a flagman need be present and whether the Licensee need implement any special protective or safety measures. If any flagmen or other special protective or safety measures are performed by the Railroad, such services will be provided at Licensee's expense with the understanding that if the Railroad provides any flagging or other services, the Licensee shall not be relieved of any of its responsibilities or liabilities set forth herein.

Section 2 - LIMITATION AND SUBORDINATION OF RIGHTS GRANTED.

a. The foregoing grant of right is subject and subordinate to the prior and continuing right and obligation of the Railroad to use and maintain its entire property including the right and power of the Railroad to construct, maintain, repair, renew, use, operate, change, modify or relocate railroad tracks, roadways, signal, communication, fiber optics, or other wirelines, pipelines and other facilities upon, along or across any or all parts of its property, all or any of which may be freely done at any time or times by the Railroad without liability to the Licensee or to any other party for compensation or damages.

b. The foregoing grant is also subject to all outstanding superior rights (including those in favor of licensees and lessees of the Railroad's property, and others) and the right of the Railroad to renew and extend the same, and is made without covenant of title or for quiet enjoyment.

Section 3 - NO INTERFERENCE WITH RAILROAD'S OPERATION.

No work performed by Licensee shall cause any interference with the constant, continuous and uninterrupted use of the tracks, property and facilities of the Railroad, its lessees, licensees or others, unless specifically permitted under this Agreement, or specifically authorized in advance by the Railroad Representative. Nothing shall be done or suffered to be done by the Licensee at any time that would in any manner impair the safety thereof. When not in use, Licensee's machinery and materials shall be kept at least 50 feet from the centerline of Railroad's nearest track, and there shall be no crossings of Railroad's tracks except at existing open public crossings.

Section 4 - PERMITS.

Prior to beginning any work, the Licensee, at its sole expense, shall obtain all necessary permits to perform any work contemplated by this Agreement.

Section 5 - MECHANIC'S LIENS.

The Licensee shall pay in full all persons who perform labor or provide materials for the work to be performed by Licensee. The Licensee shall not create, permit or suffer any mechanic's or materialmen's liens of any kind or nature to be enforced against any property of the Railroad for any such work performed. The Licensee shall indemnify and hold harmless the Railroad from and against any and all liens, claims, demands, costs or expenses of whatsoever nature in any way connected with or growing out of such work done, labor performed, or materials furnished.

Section 6 - FIBER OPTIC CABLE SYSTEMS.

In addition to other indemnity provisions in this Agreement, the Licensee shall indemnify and hold the Railroad harmless from and against all costs, liability and expense whatsoever (including, without limitation, attorneys' fees, court costs and expenses) arising out of any act or omission of the Licensee, its contractor, agents and/or employees, that causes or contributes to (1) any damage to or destruction of any telecommunications system on Railroad's property, and (2) any injury to or death of any person employed by or on behalf of any telecommunications company, and/or its contractor, agents and/or employees, on Railroad's property. Licensee shall not have or seek recourse against Railroad for any claim or cause of action for alleged loss of profits or revenue or loss of service or other consequential damage to a telecommunication company using Railroad's property or a customer or user of services of the fiber optic cable on Railroad's property.

Section 7 - COMPLIANCE WITH LAWS.

In the prosecution of the work covered by this Agreement, the Licensee shall comply with all applicable federal, state and local laws, regulations and enactments affecting the work. The Licensee shall use only such methods as are consistent with safety, both as concerns the Licensee, the Licensee's agents and employees, the officers, agents, employees and property of the Railroad and the public in general. The Licensee (without limiting the generality of the foregoing) shall comply with all applicable state and federal occupational safety and health acts and regulations. All Federal Railroad Administration regulations shall be followed when work is performed on the Railroad's property. If any failure by the Licensee to comply with any such laws, regulations, and enactments, shall result in any fine, penalty, cost or charge being assessed, imposed or charged against the Railroad, the Licensee shall reimburse and indemnify the Railroad for any such fine, penalty, cost or charge, including without limitation attorneys' fees, court costs and expenses. The Licensee further agrees in the event of any such action, upon notice thereof being provided by the Railroad, to defend such action free of cost, charge, or expense to the Railroad.

Section 8 - SAFETY INSTRUCTIONS.

Safety of personnel, property, rail operations and the public is of paramount importance in the prosecution of the work pursuant to this Agreement. As reinforcement and in furtherance of overall safety measures to be observed by the Licensee (and not by way of limitation), the following special safety rules shall be followed:

a. The Licensee shall keep the job site free from safety and health hazards and ensure that its employees are competent and adequately trained in all safety and health aspects of the job. The Licensee shall have proper first aid supplies available on the job site so that prompt first aid services can be provided to any person that may be injured on the job site. The Licensee shall promptly notify the Railroad of any U.S. Occupational Safety and Health Administration reportable injuries occurring to any person that may arise during the work performed on the job site. The Licensee shall have a non-delegable duty to control its employees, while they are on the job site or any other property of the Railroad to be certain they do not use, be under the influence of, or have in their possession any alcoholic beverage or illegally obtained drug, narcotic or other substance that may inhibit the safe performance of work by an employee.

b. The employees of the Licensee shall be suitably dressed to perform their duties safely and in a manner that will not interfere with their vision, hearing or free use of their hands or feet. Only waist length shirts with sleeves and trousers that cover the entire leg are to be worn. If flare-legged trousers are worn, the trouser bottoms must be tied to prevent catching. The employees should wear sturdy and protective footwear. Employees shall not wear boots (other than work boots), sandals, canvas-type shoes or other shoes that have thin soles or heels that are higher than normal. In addition, the Licensee shall require its employees to wear personal protective equipment as specified by Railroad rules, regulations or Railroad officials overlooking the work at the job site. In particular, the protective equipment to be warn shall be:

(1) Protective head gear that meets American National Standard-Z89.1-latest revision. It is suggested that all hardhats be affixed with Licensee's or subcontractor's company logo or name.

(2) Eye protection that meets American National Standard for occupational and educational eye and face protection, Z87.1-latest revision. Additional eye protection must be provided to meet specific job situations such as welding, grinding, burning, etc.; and

(3) Hearing protection which affords enough attenuation to give protection from noise levels that will be occurring on the job site.

c. All heavy equipment provided or leased by the Licensee shall be equipped with audible back-up warning devices. If in the opinion of the Railroad Representative any of Licensee's or any of its subcontractors' equipment is unsafe for use on the Railroad's right-of-way, the Licensee, at the request of the Railroad Representative, shall remove such equipment from the Railroad's right-of-way.

Section 9 - <u>INDEMNITY</u>.

a. As used in this Section, "Railroad" includes other railroad companies using the Railroad's property at or near the location of the Licensee's installation and their officers, agents, and employees; "Loss" includes loss, damage, claims, demands, actions, causes of action, penalties, costs, and expenses of whatsoever nature, including court costs and attorneys' fees, which may result from: (i) injury to or death of persons whomsoever (including the Railroad's officers, agents, and employees, the Licensee's officers, agents, and employees, as well as any other person); and (ii) damage to or loss or destruction of property whatsoever (including Licensee's property, damage to the roadbed, tracks, equipment, or other property of the Railroad, or property in its care or custody).

b. As a major inducement and in consideration of the license and permission herein granted, the Licensee agrees to indemnify and hold harmless the Railroad from any Loss which is due to or arises from any cause and is associated in whole or in part with the work performed under this Agreement, a breach of the Agreement or the failure to observe the health and safety provisions herein, or any activity or omission arising out of performance or nonperformance of this Agreement; regardless of whether caused solely or contributed to in part by the negligence or fault of the Railroad.

c. Any liability of either party hereunder to one of its employees under any Workers' Compensation Act or the Federal Employers' Liability Act shall not be questioned or in any way challenged by the other party, nor shall any jury or court findings, resulting from any employee's suit against either party pursuant to any such Act(s), be relied upon or used by either party in any attempt to assert common law liability against the other.

Section 10 - RESTORATION OF PROPERTY.

In the event the Railroad authorizes the Licensee to take down any fence of the Railroad or in any manner move or disturb any of the other property of the Railroad in connection with the work to be performed by Licensee, then in that event the Licensee shall, as soon as possible and at Licensee's sole expense, restore such fence and other property to the same condition as the same were in before such fence was taken down or such other property was moved or disturbed, and the Licensee shall indemnify and hold harmless the Railroad, its officers, agents and employees, against and from any and all liability, loss, damages, claims, demands, costs and expenses of whatsoever nature, arising from the taking down of any fence or the moving or disturbance of any other property of the Railroad.

Section 11 - WAIVER OF BREACH.

The waiver by the Railroad of the breach of any condition, covenant or agreement herein contained to be kept, observed and performed by the Licensee shall in no way impair the right of the Railroad to avail itself of any remedy for any subsequent breach thereof.

Section 12 - ASSIGNMENT – SUBCONTRACTING.

The Licensee shall not assign, sublet or subcontract this Agreement, or any interest therein, without the written consent of the Railroad and any attempt to so assign, sublet or subcontract without the written consent of the Railroad shall be void. If the Railroad gives the Licensee permission to subcontract all or any portion of the work herein described, the Licensee is and shall remain responsible for all work of subcontractors and all work of subcontractors shall be governed by the terms of this Agreement.

Rev 090506

EXHIBIT C

Union Pacific Railroad
Contract Insurance Requirements

Right of Entry Agreement

Licensee shall, at its sole cost and expense, procure and maintain during the life of this Agreement (except as otherwise provided in this Agreement) the following insurance coverage:

A. **Commercial General Liability** insurance. Commercial general liability (CGL) with a limit of not less than $5,000,000 each occurrence and an aggregate limit of not less than $10,000,000. CGL insurance must be written on ISO occurrence form CG 00 01 12 04 (or a substitute form providing equivalent coverage).

The policy must also contain the following endorsement, which must be stated on the certificate of insurance:

- Contractual Liability Railroads ISO form CG 24 17 10 01 (or a substitute form providing equivalent coverage) showing "Union Pacific Railroad Company Property" as the Designated Job Site.

B. **Business Automobile Coverage** insurance. Business auto coverage written on ISO form CA 00 01 (or a substitute form providing equivalent liability coverage) with a combined single limit of not less $2,000,000 for each accident.

The policy must contain the following endorsements, which must be stated on the certificate of insurance:

- Coverage For Certain Operations In Connection With Railroads ISO form CA 20 70 10 01 (or a substitute form providing equivalent coverage) showing "Union Pacific Property" as the Designated Job Site.
- Motor Carrier Act Endorsement - Hazardous materials clean up (MCS-90) if required by law.

C. **Workers Compensation and Employers Liability** insurance. Coverage must include but not be limited to:

- Licensee's statutory liability under the workers' compensation laws of the state(s) affected by this Agreement.
- Employers' Liability (Part B) with limits of at least $500,000 each accident, $500,000 disease policy limit $500,000 each employee.

If Licensee is self-insured, evidence of state approval and excess workers compensation coverage must be provided. Coverage must include liability arising out of the U. S. Longshoremen's and Harbor Workers' Act, the Jones Act, and the Outer Continental Shelf Land Act, if applicable.

D. **Railroad Protective Liability** insurance. Licensee must maintain Railroad Protective Liability insurance written on ISO occurrence form CG 00 35 12 04 (or a substitute form providing equivalent coverage) on behalf of Railroad as named insured, with a limit of not less than $2,000,000 per occurrence and an aggregate of $6,000,000. A binder stating the policy is in place must be submitted to Railroad before the work may be commenced and until the original policy is forwarded to Railroad.

E. **Umbrella or Excess** insurance. If Licensee utilizes umbrella or excess policies, these policies must "follow form" and afford no less coverage than the primary policy.

F. **Pollution Liability** insurance. Pollution Liability coverage must be included when the scope of the work as defined in the Agreement includes installation, temporary storage, or disposal of any "hazardous" material that is injurious in or upon land, the atmosphere, or any watercourses; or may cause bodily injury at any time.

Pollution liability coverage must be written on ISO form Pollution Liability Coverage Form Designated Sites CG 00 39 12 04 (or a substitute form providing equivalent liability coverage), with limits of at least $5,000,000 per occurrence and an aggregate limit of $10,000,000.

If the scope of work as defined in this Agreement includes the disposal of any hazardous or non-hazardous materials from the job site, Licensee must furnish to Railroad evidence of pollution legal liability insurance maintained by the disposal site operator for losses arising from the insured facility accepting the materials, with coverage in minimum amounts of $1,000,000 per loss, and an annual aggregate of $2,000,000.

Other Requirements

G. All policy(ies) required above (except worker's compensation and employers liability) must include Railroad as "Additional Insured" using ISO Additional Insured Endorsements CG 20 26, and CA 20 48 (or substitute forms providing equivalent coverage). The coverage provided to Railroad as additional insured shall, to the extent provided under ISO Additional Insured Endorsement CG 20 26, and CA 20 48 provide coverage for Railroad's negligence whether sole or partial, active or passive, and shall not be limited by Licensee's liability under the indemnity provisions of this Agreement.

H. Punitive damages exclusion, if any, must be deleted (and the deletion indicated on the certificate of insurance), unless (a) insurance coverage may not lawfully be obtained for any punitive damages that may arise under this agreement, or (b) all punitive damages are prohibited by all states in which this agreement will be performed..

I. Licensee waives all rights against Railroad and its agents, officers, directors and employees for recovery of damages to the extent these damages are covered by the workers compensation and employers liability or commercial umbrella or excess liability insurance obtained by Licensee required by this agreement.

J. Prior to commencing the work, Licensee shall furnish Railroad with a certificate(s) of insurance, executed by a duly authorized representative of each insurer, showing compliance with the insurance requirements in this Agreement.

K. All insurance policies must be written by a reputable insurance company acceptable to Railroad or with a current Best's Insurance Guide Rating of A- and Class VII or better, and authorized to do business in the state(s) in which the work is to be performed.

L. The fact that insurance is obtained by Licensee or by Railroad on behalf of Licensee will not be deemed to release or diminish the liability of Licensee, including, without limitation, liability under the indemnity provisions of this Agreement. Damages recoverable by Railroad from Licensee or any third party will not be limited by the amount of the required insurance coverage.

CONTRACTOR'S ENDORSEMENT

Folder No. 2629-13

A. As a condition to entering upon Licensor's right-of-way to perform work pursuant to this Agreement, Licensee's contractor *(Fill in)*:

_____

_____

_____

(hereinafter "Contractor") agrees to comply with all the terms and provisions of this Agreement relating to the work to be performed and the insurance requirements set forth in Exhibit C.

B. Before the Contractor commences any work, the Contractor will pay the Licensor a nonrefundable payment of $500 upon execution and return of this Contractor's Endorsement, and will provide the Licensor with a certificate issued by its insurance carrier providing the insurance coverage required pursuant to Exhibit C in a policy which contains the following type endorsement:

UNION PACIFIC RAILROAD COMPANY is named as an additional insured with respect to all liabilities arising out of Insured's performance of work on behalf of the Licensee.

All insurance correspondence shall be directed to: Joan M. Preble - Folder No. 2629-13, Union Pacific Railroad Company, 1400 Douglas Street STOP 1690, Omaha, Nebraska 68179-1690.

_____

(Please print Contractor's Name above)

X_____

Printed Name:_____

Title:_____

Phone:_____

Fax:_____

Date:_____

CONTRACTOR'S ENDORSEMENT

Folder No. 2629-13

A. As a condition to entering upon Licensor's right-of-way to perform work pursuant to this Agreement, Licensee's contractor *(Fill in)*:

_____

_____

_____

(hereinafter "Contractor") agrees to comply with all the terms and provisions of this Agreement relating to the work to be performed and the insurance requirements set forth in Exhibit C.

B. Before the Contractor commences any work, the Contractor will pay the Licensor a nonrefundable payment of $500 upon execution and return of this Contractor's Endorsement, and will provide the Licensor with a certificate issued by its insurance carrier providing the insurance coverage required pursuant to Exhibit C in a policy which contains the following type endorsement:

UNION PACIFIC RAILROAD COMPANY is named as an additional insured with respect to all liabilities arising out of Insured's performance of work on behalf of the Licensee.

All insurance correspondence shall be directed to: Joan M. Preble - Folder No. 2629-13, Union Pacific Railroad Company, 1400 Douglas Street STOP 1690, Omaha, Nebraska 68179-1690.

_____

(Please print Contractor's Name above)

X_____

Printed Name:_____

Title:_____

Phone:_____

Fax:_____

Date:_____

August 19, 2011
Folder: 2684-50

LOWELL W. ANDERSON
CALIFORNIA DEPARTMENT OF TRANSPORTATION
100 MAIN STREET, SUITE 100
LOS ANGELES CA 90012-3606

Dear Mr. Anderson:

Attached are duplicate originals of a Right of Entry Agreement covering your use of Union Pacific Railroad Company's right of way, as executed on behalf of the Railroad Company.

Please execute *(or arrange for execution)* in ink of the duplicate original counterparts of this document, and return one fully executed **original** of the document to us. Payment in the amount of **Five Hundred Dollars ($500.00)** is due and payable upon your execution of the agreement. Please include your check, **with Folder No. 2684-50 written on the front,** made payable to Union Pacific Railroad Company, with the return of the document. You are not authorized to enter the Railroad's property or begin any work until we are in receipt of the foregoing, as well as any applicable Contractor's Endorsement, and you have made all required contacts and notifications.

The Railroad Company has authorized the installation of fiber optic cable facilities on its property in certain areas. Prior to using the Railroad Company's property covered herein, you should thoroughly review the terms and conditions of this document and contact the Railroad Company at **1-800-336-9193** to determine if a fiber optic cable is buried on the subject property.

When you or your representative enter the Railroad Company's property, **a copy of this fully-executed document must be available at the site to be shown on request to any Railroad employee or official.**

In compliance with the Internal Revenue Service's new policy regarding their Form 1099, this is to advise you that 94-6001323 is Union Pacific Railroad Company's correct Federal Taxpayer Identification Number and we are doing business as a corporation. If you require formal billing, you may consider this letter as a formal bill.

All future insurance notices should be forwarded to:

Union Pacific Railroad Company
(Attention: John S. Hertzler - Folder No. 2684-50)
1400 Douglas St. STOP 1690
Omaha, NE 68179-1690

In advance of entering the right of way, you should arrange to notify:

JAVIER R. SANCHEZ, MTM
Union Pacific Railroad
340 Guadalupe St.
Guadalupe, CA 93434
402-233-1711
805-249-0959 (cell)

Sincerely,

John S. Hertzler
Manager – Contracts
Union Pacific Railroad - Real Estate
Email : JSHERTZLER@up.com
Phone : (402) 544-8801

CALTRANS
RIGHT OF ENTRY AGREEMENT

THIS AGREEMENT is made and entered into as of August 18, 2011, by and between **UNION PACIFIC RAILROAD COMPANY**, a Delaware corporation (hereinafter "Railroad) and **STATE OF CALIFORNIA, DEPARTMENT OF TRANSPORTATION** (hereinafter "Licensee").

IT IS MUTUALLY AGREED BY AND BETWEEN THE PARTIES HERETO AS FOLLOWS:

ARTICLE 1 - DEFINITION OF LICENSEE

For purposes of this Agreement, all references in this Agreement to Licensee shall include Licensee's contractors, subcontractors, officers, agents and employees, and others acting under its or their authority.

ARTICLE 2 - RIGHT GRANTED; PURPOSE

Railroad hereby grants to Licensee the right, during the term hereinafter stated and upon and subject to each and all of the terms, provisions and conditions herein contained, to enter upon and have ingress to and egress from the portion of Railroad's property located at or near Milepost 383.10, on Railroad's Santa Barbara Subdivision located at or near Punta (La Conchita), Ventura County, California, for the purpose of performing work relating to installation of Reinforced Concrete Boxes for Licensee's drainage culvert and pedestrian undercrossing project (the "Work"), as such location is also generally shown on the print dated 08/18/2011, marked **Exhibit E**, attached hereto and hereby made a part hereof and as more specifically shown in the Construction & Maintenance Agreement between the parties hereto relating to the foregoing project. The right herein granted to Licensee is limited to those portions of Railroad's property specifically described herein, or designated by the Railroad representative named in Article 4.

ARTICLE 3 - TERMS AND CONDITIONS CONTAINED IN EXHIBITS A, B, C AND D

The terms and conditions contained in **Exhibit A, Exhibit B, Exhibit C** and **Exhibit D**, attached hereto, are hereby made a part of this agreement.

ARTICLE 4 - ALL EXPENSES TO BE BORNE BY LICENSEE; RAILROAD REPRESENTATIVE

A. Licensee shall bear any and all costs and expenses associated with any work performed by Licensee, or any costs or expenses incurred by Railroad relating to this Agreement.

B. Licensee shall coordinate all of its work with the following Railroad representative or his or her duly authorized representative (the "Railroad Representative"):

JAVIER R. SANCHEZ, MTM
Union Pacific Railroad
340 Guadalupe St.
Guadalupe, CA 93434
402-233-1711
805-249-0959 (cell)

C. Licensee, at its own expense, shall adequately police and supervise all Work to be performed by Licensee and shall ensure that such Work is performed in a safe manner as set forth in Section 7 of **Exhibit A.** The responsibility of Licensee for safe conduct and adequate policing and supervision of Licensee's work shall not be lessened or otherwise affected by Railroad's approval of the plans and specifications involving the Work, or by Railroad's collaboration in performance of any of the Work, or by the presence at the work site of a Railroad Representative, or by compliance by Licensee with any requests or recommendations made by the Railroad Representative.

ARTICLE 5 - TERM; TERMINATION

A. The grant of right herein made to Licensee shall commence on the date of this Agreement, and continue until September 30, 2012, unless sooner terminated as herein provided, or at such time as Licensee has completed its Work on Railroad's property, whichever is earlier. Licensee agrees to notify the Railroad Representative in writing when it has completed its Work on Railroad's property.

B. Railroad may terminate this Agreement if it reasonably determines in good faith that Licensee has failed to comply with any of the material terms and conditions of this Agreement and has not cured such failure within ten (10) days after receiving notice (oral or written) from Railroad describing such failure in reasonable detail.

ARTICLE 6 - INSURANCE

A. Licensee is self-insured. Licensee shall provide Railroad defense and indemnification at least equal to the defense, indemnification and insurance provisions (including the endorsements) contained in **Exhibit B**. Nothing herein shall be deemed to insure Railroad against its sole negligence or willful misconduct.

B. In the event any of the Work to be done upon the property of Railroad is to be done by a contractor or subcontractor of Licensee, said contractor or subcontractor may have the benefit of the license herein granted, while performing work for Licensee, provided such contractor or subcontractor agrees to be subject to and bound by the terms and conditions of this Agreement by: (1) executing an endorsement to this Agreement in the form set forth in Contractor's Endorsement marked **Exhibit D**, attached hereto, and (2) providing to Railroad the insurance policies, certificates, binders, and/or endorsements described in **Exhibit B**.

C. All insurance correspondence, certificates, binders or originals shall be sent to:

Union Pacific Railroad Company
1400 Douglas Street, Stop 1690
Omaha, NE 68179-1690
Attn: John S. Hertzler
Folder No.: 2684-50

ARTICLE 7 - CHOICE OF FORUM

This Agreement shall be governed, construed and enforced in accordance with the laws of the State of California. Litigation arising out of or connected with this Agreement may be instituted and maintained in the courts of the State of California only, and the parties consent to jurisdiction over their person and over the subject matter of any such litigation, in those courts, and consent to service of process issued by such courts.

ARTICLE 8 - REMOVAL OF CONTRACTOR/SUBCONTRACTOR EMPLOYEE

At the request of Railroad, Licensee shall remove from Railroad property any contractor, subcontractor, officer, agent and/or employee of Licensee who fails to conform to the instructions of the Railroad Representative in connection with the Work on Railroad's property, and any right of Licensee shall be suspended until such removal has occurred. Licensee shall indemnify Railroad against any claims arising from the removal of any such contractor, subcontractor, officer, agent and/or employee from Railroad property.

ARTICLE 9 - ADMINISTRATIVE FEE

Upon the execution and delivery of this Agreement, Licensee shall pay to Railroad Five Hundred Dollars ($500.00) as reimbursement for clerical, administrative and handling expenses in connection with the processing of this Agreement.

ARTICLE 10 - SPECIAL PROVISIONS

A. No additional vehicular crossings (including temporary haul roads) or pedestrian crossings over Railroad's trackage shall be installed or used by Licensee without the prior written permission of Railroad.

B. Explosives or other highly flammable substances shall not be stored on Railroad property without the prior written approval of the Railroad Representative.

C. The parties agree that this agreement is not, and is not intended to be, a construction contract for purposes of Cal. Civ. Code § 2782(a). Accordingly, to the maximum extent permitted by law, the provisions of Cal. Civ. Code § 2782(a), as interpreted by the California courts in Southern Pacific Transportation Co. v. Sandyland Protective Association, 224 Cal.App.3d 1494, 274 Cal.Rptr. 626 (1990), and in other past and future cases, shall not apply to this Agreement.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement in duplicate as of the date first herein written.

UNION PACIFIC RAILROAD COMPANY

By: John S. Hertzler
Title: Manager-Contracts

STATE OF CALIFORNIA,
DEPARTMENT OF TRANSPORTATION

By:
Title:

EXHIBIT A
TO
CALTRANS RIGHT OF ENTRY AGREEMENT

Section 1. NOTICE OF COMMENCEMENT OF WORK - FLAGGING.

a. Licensee agrees to notify the Railroad Representative at least ten (10) working days in advance of Licensee commencing its Work and at least ten (10) working days in advance of proposed performance of any Work by Licensee in which any person or equipment will be within twenty-five (25) feet of any track, or will be near enough to any track that any equipment extension (such as, but not limited to, a crane boom) will reach to within twenty-five (25) feet of any track. No Work of any kind shall be performed, and no person, equipment, machinery, tool(s), material(s), vehicle(s), or thing(s) shall be located, operated, placed, or stored within twenty-five (25) feet of any of Railroad's track(s) at any time, for any reason, unless and until a Railroad flagman is provided to watch for trains. Upon receipt of such 10-day notice, the Railroad Representative will determine and inform Licensee whether a flagman need be present and whether Licensee need implement any special protective or safety measures. If flagging or other special protective or safety measures are performed by Railroad, such services will be provided at Licensee's expense with the understanding that if Railroad provides any flagging or other services, Licensee shall not be relieved of any of its responsibilities or liabilities set forth herein. Licensee shall promptly pay to Railroad all charges connected with such services within 30 days after presentation of a bill therefor.

b. The rate of pay per hour for each flagman will be the prevailing hourly rate in effect for an eight hour day for the class of persons used during regularly assigned hours and overtime in accordance with Labor Agreements and Schedules in effect at the time the Work is performed. In addition to the cost of such labor, a composite charge for vacation, holiday, health & welfare, supplemental sickness, Railroad Retirement & UC, supplemental pension, Employee's Liability & Property Damage and Administration will be included, computed on actual payroll. The composite charge will be the prevailing composite charge in effect at the time the work is performed. One and one-half times the current hourly rate is paid for overtime, Saturdays and Sundays and two and one-half times current hourly rate for holidays. Wage rates are subject to change, at any time, by law or by agreement between Railroad and its employees, and may be retroactive as a result of negotiations or a ruling of an authorized governmental agency. Additional charges on labor are also subject to change. If the wage rate or additional charges are changed, Licensee shall pay on the basis of the new rates and charges.

c. Reimbursement to Railroad will be required covering the full eight hour day during which any flagman is furnished, unless the flagman can be assigned to other Railroad work during a portion of such day, in which event reimbursement will not be required for the portion of the day during which the flagman is engaged in other Railroad work. Reimbursement will also be required for any day not actually worked by the flagman following the flagman's assignment to work on the project for which Railroad is required to pay the flagman and which could not reasonably be avoided by Railroad by assignment of such flagman to other work, even though the Licensee may not be working during such time. When it becomes necessary for Railroad to bulletin and assign an employee to a flagging position in compliance with union collective bargaining agreements, Licensee must provide Railroad a minimum of five (5) days notice prior to the cessation of the need for a flagman. If five (5) days notice of cessation is not given, Licensee will still be required to pay flagging charges for the five (5) day notice period required by union agreement to be given to the employee, even though flagging is not required for that period. An additional ten (10) days-notice must then be given to Railroad if flagging services are needed again after such five (5) day cessation notice has been given to Railroad.

Section 2. LIMITATION AND SUBORDINATION OF RIGHTS GRANTED

a. The foregoing grant of right is subject and subordinate to the prior and continuing right and obligation of Railroad to use and maintain its entire property including the right and power of Railroad to construct, maintain, repair, renew, use, operate, change, modify or relocate railroad tracks, roadways, signal, communication, fiber optics, or other wirelines, pipelines and other facilities upon, along or across any or all parts of its property, all or any of which may be reasonably done at any time or times by Railroad without liability to Licensee or to any other party for compensation or damages.

b. The foregoing grant is also subject to all outstanding superior rights (including those in favor of licensees and lessees of Railroad's property, and others) and the right of Railroad to renew and extend the same, and is made without covenant of title or for quiet enjoyment.

Section 3. NO INTERFERENCE WITH OPERATION OF RAILROAD AND ITS TENANTS.

a. Licensee shall conduct its operations so as not to interfere with the continuous and uninterrupted use and operation of the railroad tracks and property of Railroad, including, without limitation, the operations of Railroad's lessees, licensees or others, unless specifically authorized in advance by the Railroad Representative. Nothing shall be done or permitted to be done by Licensee at any time that would in any manner impair the safety of such operations. When not in use, Licensee's machinery and materials shall be kept at least fifty (50) feet from the centerline of Railroad's nearest track, and there shall be no vehicular crossings of Railroad's tracks except at existing open public crossings.

b. Operations of Railroad and work performed by Railroad personnel and delays in the work to be performed by Licensee caused by such railroad operations and work are expected by Licensee, and Licensee agrees that Railroad shall have no liability to Licensee, or any other person or entity for any such delays. Licensee shall coordinate its activities with those of Railroad and third parties so as to avoid interference with railroad operations. The safe operation of Railroad train movements and other activities by Railroad takes precedence over any work to be performed by Licensee.

Section 4. LIENS.

Licensee shall pay in full all persons who perform labor or provide materials for the work to be performed by Licensee. Licensee shall not create, permit or suffer any mechanic's or materialmen's liens of any kind or nature to be created or enforced against any property of Railroad for any such work performed. Licensee shall indemnify and hold harmless Railroad from and against any and all liens, claims, demands, costs or expenses of whatsoever nature in any way connected with or growing out of such work done, labor performed, or materials furnished.

Section 5. PROTECTION OF FIBER OPTIC CABLE SYSTEMS.

a. Fiber optic cable systems may be buried on Railroad's property. Protection of the fiber optic cable systems is of extreme importance since any break could disrupt service to users resulting in business interruption and loss of revenue and profits. Licensee shall telephone Railroad during normal business hours (7:00 a.m. to 9:00 p.m. Central Time, Monday through Friday, except holidays) at 1-800-336-9193 (also a 24-hour, 7-day number for emergency calls) to determine if fiber optic cable is buried anywhere on Railroad's property to be used by Licensee. If it is, Licensee shall telephone the telecommunications company(ies) involved, arrange for a cable locator, make arrangements for relocation or other protection of the fiber optic cable, and shall commence no work on the right of way until all such protection or relocation has been accomplished.

b. In addition to other indemnity provisions in this Agreement, Licensee shall, pursuant to Cal. Gov. Code §14662.5, indemnify and hold Railroad harmless from and against all costs, liability and expense whatsoever (including, without limitation, attorneys' fees, court costs and expenses) arising out of any act or omission of Licensee, its contractor, agents and/or employees, that proximately causes or contributes to (1)

any damage to or destruction of any telecommunications system on Railroad's property, and/or (2) any injury to or death of any person employed by or on behalf of any telecommunications company, and/or its contractors, agents and/or employees, on Railroad's property. Licensee shall not have or seek recourse against Railroad for any claim or cause of action for alleged loss of profits or revenue or loss of service or other consequential damage to a telecommunication company using Railroad's property or a customer or user of services of the fiber optic cable on Railroad's property.

Section 6. PERMITS - COMPLIANCE WITH LAWS.

In the prosecution of the work covered by this Agreement, Licensee shall secure any and all necessary permits and shall comply with all applicable federal, state and local laws, regulations and enactments affecting the work, including, without limitation, all applicable Federal Railroad Administration regulations.

Section 7. SAFETY.

a. Safety of personnel, property, rail operations and the public is of paramount importance in the prosecution of the work performed by Licensee. Licensee shall be responsible for initiating, maintaining and supervising all safety, operations and programs in connection with the work. Licensee shall at a minimum comply with Railroad's safety standards listed in **Exhibit C**, hereto attached, to ensure uniformity with the safety standards followed by Railroad's own forces. As a part of Licensee's safety responsibilities, Licensee shall notify Railroad if Licensee determines that any of Railroad's safety standards are contrary to good safety practices. Licensee shall furnish copies of **Exhibit C** to each of its employees before they enter the job site.

b. Without limitation of the provisions of paragraph A above, Licensee shall keep the job site free from safety and health hazards and ensure that its employees are competent and adequately trained in all safety and health aspects of the job.

c. Licensee shall have proper first aid supplies available on the job site so that prompt first aid services may be provided to any person injured on the job site. Licensee shall promptly notify Railroad of any U.S. Occupational Safety and Health Administration reportable injuries. Licensee shall have a nondelegable duty to control its employees while they are on the job site or any other property of Railroad, and to be certain they do not use, be under the influence of, or have in their possession any alcoholic beverage, drug or other substance that may inhibit the safe performance of any work.

d. If and when requested by Railroad, Licensee shall deliver to Railroad a copy of Railroad's safety plan for conducting the work (the "Safety Plan"). Railroad shall have the right, but not the obligation, to require Licensee to correct any deficiencies in the Safety Plan. The terms of this Agreement shall control if there are any inconsistencies between this Agreement and the Safety Plan.

Section 8. INDEMNITY.

a. To the extent not prohibited by Cal. Gov. Code §14662.5, Contractor shall indemnify, defend and hold harmless Railroad, its affiliates, and its and their officers, agents and employees ("Indemnified Parties") from and against any and all loss, damage, injury, liability, claim, demand, cost or expense (including, without limitation, attorney's, consultant's and expert's fees, and court costs), fine or penalty (collectively, "Loss") incurred by any person (including, without limitation, any Indemnified Party, Licensee, or any employee of Licensee or of any Indemnified Party) arising out of or in any manner connected with (i) any Work performed by Licensee, or (ii) any act or omission of Licensee, its officers, agents or employees, or (iii) any breach of this agreement by Licensee.

b. To the extent not prohibited by Cal. Gov. Code §14662.5, the right to indemnity under this Section 8 shall accrue upon occurrence of the event giving rise to the Loss, and shall apply regardless of any negligence or strict liability of any Indemnified Party, except where the Loss is caused by the sole active negligence or willful misconduct of an Indemnified Party as established by the final judgment of a court of

competent jurisdiction. The sole active negligence or willful misconduct of any Indemnified Party shall not bar the recovery of any other Indemnified Party.

c. To the extent not prohibited by Cal. Gov. Code §14662.5, Licensee expressly and specifically assumes potential liability under this Section 8 for claims or actions brought by Licensee's own employees. Licensee waives any immunity it may have under worker's compensation or industrial insurance acts to indemnify Railroad under this Section 8. Licensee acknowledges that this waiver was mutually negotiated by the parties hereto.

d. To the extent not prohibited by Cal. Gov. Code §14662.5, no court or jury findings in any employee's suit pursuant to any worker's compensation act or the Federal Employer's Liability Act against a party to this Agreement may be relied upon or used by Licensee in any attempt to assert liability against Railroad.

e. The provisions of this Section 8 shall survive the completion of any Work performed by Licensee or the termination or expiration of this Agreement. To the extent not prohibited by Cal. Gov. Code §14662.5, in no event shall this Section 8 or any other provision of this Agreement be deemed to limit any liability Licensee may have to any Indemnified Party by statute or under common law.

Section 9. RESTORATION OF PROPERTY.

In the event Railroad authorizes Licensee to take down any fence of Railroad or in any manner move or disturb any of the other property of Railroad in connection with the Work to be performed by Licensee, then in that event Licensee shall, as soon as possible and at Licensee's sole expense, restore such fence and other property to the same condition as the same were in before such fence was taken down or such other property was moved or disturbed. Licensee shall remove all of Licensee's tools, equipment and materials from Railroad's property promptly upon completion of the Work, restoring Railroad's property to the same state and condition as when Licensee entered thereon.

Section 10. WAIVER OF DEFAULT.

Waiver by Railroad of any breach or default of any condition, covenant or agreement herein contained to be kept, observed and performed by Licensee shall in no way impair the right of Railroad to avail itself of any remedy for any subsequent breach or default.

Section 11. MODIFICATION - ENTIRE AGREEMENT.

No modification of this Agreement shall be effective unless made in writing and signed by Licensee and Railroad. This Agreement and the exhibits attached hereto and made a part hereof constitute the entire understanding between Licensee and Railroad and cancel and supersede any prior negotiations, understandings or agreements, whether written or oral, with respect to the work to be performed by Licensee.

Section 12. ASSIGNMENT - SUBCONTRACTING.

Licensee shall not assign or subcontract this Agreement, or any interest therein, without the written consent of Railroad. Licensee shall be responsible for the acts and omissions of all subcontractors, and shall require all subcontractors to maintain the insurance coverage required to be maintained by Licensee as provided in this Agreement, and to indemnify Licensee and Railroad to the same extent as Railroad is indemnified by Licensee under this Agreement.

Exhibit B
TO
CALTRANS
RIGHT OF ENTRY AGREEMENT

INSURANCE PROVISIONS

Licensee shall, at its sole cost and expense, procure and maintain during the course of the Project and until all Project work on Railroad's property has been completed and the Licensee has removed all equipment and materials from Railroad's property and has cleaned and restored Railroad's property to Railroad's satisfaction, the following insurance coverage:

A. **Commercial General Liability** insurance. This insurance shall contain a single limit of at least $5,000,000 each occurrence or claim and an aggregate limit of at least $10,000,000 and include broad form contractual liability coverage. Coverage must be purchased on a post 1998 ISO or equivalent form, including but not limited to coverage for the following:

- Bodily injury including death and personal injury
- Property damage
- Fire legal liability
- Products and completed operations

The policy shall also contain the following endorsements **which shall be indicated on the certificate of insurance:**

- The worker's compensation and employee related exclusions in the above policy apply only to Licensee's employees.
- The exclusions for railroads [except where the Job site is more than fifty feet (50') from any railroad including, but not limited to, tracks, bridges, trestles, roadbeds, terminals, underpasses or crossings], and explosion, collapse and underground hazard shall be removed.
- Coverage for Licensee's employees shall not be excluded.
- Waiver of subrogation

If the Licensee will be using, storing and/or handling hazardous materials, the Licensee, in addition to the other endorsements to be obtained by the Licensee as provided in this exhibit, must also ensure that the Commercial General Liability Insurance policy contains a Designated Premises Pollution Coverage (CG00-39) endorsement. Evidence of the endorsement must also be indicated on the certificate of insurance that is provided to the Railroad.

B. **Business Automobile Coverage** insurance. This insurance shall contain a combined single limit of at least $5,000,000 per occurrence or claim, including but not limited to coverage for the following:

- Bodily injury and property damage
- Any and all motor vehicles including owned, hired and non-owned

The policy shall also contain the following endorsements **which shall be indicated on the certificate of insurance:**

- The worker's compensation and employee related exclusions in the above policy apply only to Licensee's employees.
- The exclusions for railroads [except where the Job Site is more than fifty feet (50') from any railroad including but not limited to tracks, bridges, trestles, roadbeds, terminals, underpasses or crossings], and explosion, collapse and underground hazard shall be removed.

C. **Workers Compensation and Employers Liability** insurance including but not limited to:

- Licensee's statutory liability under the workers' compensation laws of the State of California
- Employers' Liability (Part B) with limits of at least
  $500,000 each accident, $500,000 disease policy limit
  $500,000 each employee

If the State of California requires participants in a state workers' compensation fund and if Workers Compensation insurance will not cover the liability of Licensee in the State of California, Licensee shall comply with such laws. If Licensee is self-insured, evidence of state approval must be provided along with evidence of excess workers compensation coverage. Coverage shall include liability arising out of the U. S. Longshoremen's and Harbor Workers' Act, the Jones Act, and the Outer Continental Shelf Land Act, if applicable.

The policy shall also contain the following endorsement **which shall be indicated on the certificate of insurance:**

- Alternate Employer Endorsement

D. **Umbrella or Excess Policies** In the event Licensee utilizes Umbrella or excess policies, these policies shall "follow form" and afford no less coverage than the primary policy.

E. **Railroad Protective Liability** insurance naming only Railroad as the insured with a combined single limit of $2,000,000 per occurrence with a $6,000,000 aggregate. The policy shall be broad form coverage for "Physical Damage to Property" (ISO Form CG 00 35 07 98 or equivalent). A binder stating the policy is in place must be submitted to Railroad until the original policy is forwarded to Railroad.

Other Requirements

F. Punitive damage exclusion must be deleted, **which deletion shall be indicated on the certificate of insurance.**

G. Licensee agrees to waive its right of recovery, and its insurers, through policy endorsement, agree to waive their right of subrogation against Railroad. Licensee further waives its right of recovery, and its insurers also waive their right of subrogation against Railroad for loss of its owned or leased property or property under its care, custody and control. Licensee's insurance shall be primary with respect to any insurance carried by Railroad. All waivers of subrogation **shall be indicated on the certificate of insurance.**

H. All policy(ies) required above (excluding Workers Compensation) shall provide severability of interests and shall name Railroad as an additional insured. The coverage provided to Railroad as additional insured shall provide coverage for Railroad's negligence whether sole or partial, active or passive, and shall not be limited by Contractor's liability under the indemnity provisions of this Agreement. **Severability of interest and naming Railroad as additional insured shall be indicated on the certificate of insurance.**

I. Prior to commencing the Work, Licensee shall furnish to Railroad original certificate(s) of insurance evidencing the required coverage, endorsements, and amendments. The certificate(s) shall contain a provision that obligates the insurance company(ies) issuing such policy(ies) to notify Railroad in writing of any cancellation or material alteration. **Upon request from Railroad, a certified duplicate original of any required policy shall be furnished.**

J. Any insurance policy shall be written by a reputable insurance company acceptable to Railroad or with a current Best's Insurance Guide Rating of A- and Class VII or better, and authorized to do business in the State of California.

K. Licensee **WARRANTS** that this Agreement has been thoroughly reviewed by Licensee's insurance agent(s)/broker(s), who have been instructed by Licensee to procure the insurance coverage required by this Agreement and acknowledges that Licensee's insurance coverage will be primary.

L. If Licensee fails to procure and maintain insurance as required, Railroad may elect to do so at the cost of Licensee plus a 25% administration fee.

M. The fact that insurance is obtained by Licensee or Railroad on behalf of Licensee shall not be deemed to release or diminish the liability of Licensee, including, without limitation, liability under the indemnity provisions of this Agreement. Damages recoverable by Railroad shall not be limited by the amount of the required insurance coverage.

EXHIBIT C
TO
CALTRAN'S RIGHT OF ENTRY AGREEMENT

MINIMUM SAFETY REQUIREMENTS

The term "employees" as used herein refer to all employees of Licensee as well as all employees of any subcontractor or agent of Licensee.

I. Clothing

A. All employees of Licensee will be suitably dressed to perform their duties safely and in a manner that will not interfere with their vision, hearing, or free use of their hands or feet.

Specifically, Licensee's employees must wear:

(i) Waist-length shirts with sleeves.
(ii) Trousers that cover the entire leg. If flare-legged trousers are worn, the trouser bottoms must be tied to prevent catching.
(iii) Footwear that covers their ankles and has a defined heel. Employees working on bridges are required to wear safety-toed footwear that conforms to the American National Standards Institute (ANSI) and FRA footwear requirements.

B. Employees shall not wear boots (other than work boots), sandals, canvas-type shoes, or other shoes that have thin soles or heels that are higher than normal.

C. Employees must not wear loose or ragged clothing, neckties, finger rings, or other loose jewelry while operating or working on machinery.

II. Personal Protective Equipment

Licensee shall require its employees to wear personal protective equipment as specified by Railroad rules, regulations, or recommended or requested by the Railroad Representative.

(i) Hard hat that meets the American National Standard (ANSI) Z89.1 – latest revision. Hard hats should be affixed with Licensee's company logo or name.
(ii) Eye protection that meets American National Standard (ANSI) for occupational and educational eye and face protection, Z87.1 – latest revision. Additional eye protection must be provided to meet specific job situations such as welding, grinding, etc.
(iii) Hearing protection, which affords enough attenuation to give protection from noise levels that will be occurring on the job site. Hearing protection, in the form of plugs or muffs, must be worn when employees are within:

- 100 feet of a locomotive or roadway/work equipment
- 15 feet of power operated tools
- 150 feet of jet blowers or pile drivers
- 150 feet of retarders in use (when within 10 feet, employees must wear dual ear protection – plugs and muffs)

(iv) Other types of personal protective equipment, such as respirators, fall protection equipment, and face shields, must be worn as recommended or requested by the Railroad Representative.

III. On Track Safety

Licensee is responsible for compliance with the Federal Railroad Administration's Roadway Worker Protection regulations – 49CFR214, Subpart C and Railroad's On-Track Safety rules. Under 49CFR214, Subpart C, railroad contractors are responsible for the training of their employees on such regulations. In addition to the instructions contained in Roadway Worker Protection regulations, all employees must:

(i) Maintain a distance of twenty-five (25) feet to any track unless the Railroad Representative is present to authorize movements.
(ii) Wear an orange, reflectorized workwear approved by the Railroad Representative.
(iii) Participate in a job briefing that will specify the type of On-Track Safety for the type of work being performed. Licensee must take special note of limits of track authority, which tracks may or may not be fouled, and clearing the track. Licensee will also receive special instructions relating to the work zone around machines and minimum distances between machines while working or traveling.

IV. Equipment

A. It is the responsibility of Licensee to ensure that all equipment is in a safe condition to operate. If, in the opinion of the Railroad Representative, any of Licensee's equipment is unsafe for use, Licensee shall remove such equipment from the Railroad's property. In addition, Licensee must ensure that the operators of all equipment are properly trained and competent in the safe operation of the equipment. In addition, operators must be:

- Familiar and comply with Railroad's rules on lockout/tagout of equipment.
- Trained in and comply with the applicable operating rules if operating any hy-rail equipment on-track.
- Trained in and comply with the applicable air brake rules if operating any equipment that moves rail cars or any other railbound equipment.

B. All self-propelled equipment must be equipped with a first-aid kit, fire extinguisher, and audible back-up warning device.

C. Unless otherwise authorized by the Railroad Representative, all equipment must be parked a minimum of twenty-five (25) feet from any track. Before leaving any equipment unattended, the operator must stop the engine and properly secure the equipment against movement.

D. Cranes must be equipped with three orange cones that will be used to mark the working area of the crane and the minimum clearances to overhead powerlines.

V. General Safety Requirements

A. Licensee shall ensure that all waste is properly disposed of in accordance with applicable federal and state regulations.

B. Licensee shall ensure that all employees participate in and comply with a job briefing conducted by the Railroad Representative, if applicable. During this briefing, the Railroad Representative will specify safe work procedures, (including On-Track Safety) and the potential hazards of the job. If any employee has any questions or concerns about the work, the employee must voice them during the job briefing. Additional job briefings will be conducted during the work as conditions, work procedures, or personnel change.

C. All track work performed by Licensee meets the minimum safety requirements established by the Federal Railroad Administration's Track Safety Standards 49CFR213.

D. All employees comply with the following safety procedures when working around any railroad track:

(i) Always be on the alert for moving equipment. Employees must always expect movement on any track, at any time, in either direction.
(ii) Do not step or walk on the top of the rail, frog, switches, guard rails, or other track components.
(iii) In passing around the ends of standing cars, engines, roadway machines or work equipment, leave at least 20 feet between yourself and the end of the equipment. Do not go between pieces of equipment of the opening is less than one car length (50 feet).
(iv) Avoid walking or standing on a track unless so authorized by the employee in charge.
(v) Before stepping over or crossing tracks, look in both directions first.
(vi) Do not sit on, lie under, or cross between cars except as required in the performance of your duties and only when track and equipment have been protected against movement.

E. All employees must comply with all federal and state regulations concerning workplace safety.

EXHIBIT D

CONTRACTOR'S ENDORSEMENT

A. As a condition to entering upon Railroad's right-of-way to perform Work pursuant to this Agreement, Licensee's contractor, _____, whose address is _____ (hereinafter "Contractor"), agrees to comply with and be bound by all the terms and provisions of this Agreement relating to the Work to be performed and the insurance requirements set forth in **Exhibit B. Contractor further acknowledges and agrees that the references to Cal. Gov. Code §14662.5 in this Agreement do not apply to Contractor and in no way limits the indemnities set forth in those provisions, to which Contractor agrees to be bound.**

B. Before Contractor commences any Work, Contractor will provide to Railroad the insurance policies, certificates, binders and/or endorsements described in **Exhibit B** of this Agreement.

C. All insurance correspondence, certificates, endorsements sent, binders or originals shall be sent to:

Union Pacific Railroad Company
_____
_____
_____
Attn: _____

D. Please note that fiber optic cable may be buried on Railroad's property. **Prior to commencing any work, Contractor agrees to contact Railroad's Telecommunications Operation Center at 1-800-336-9193 to determine if any fiber optic cable is located on Railroad's property on or near the location where the Work is to be performed.** If there is, Contractor must comply with the terms and conditions contained in Section 5 of **Exhibit A** of this Agreement before commencing any Work on Railroad's property.

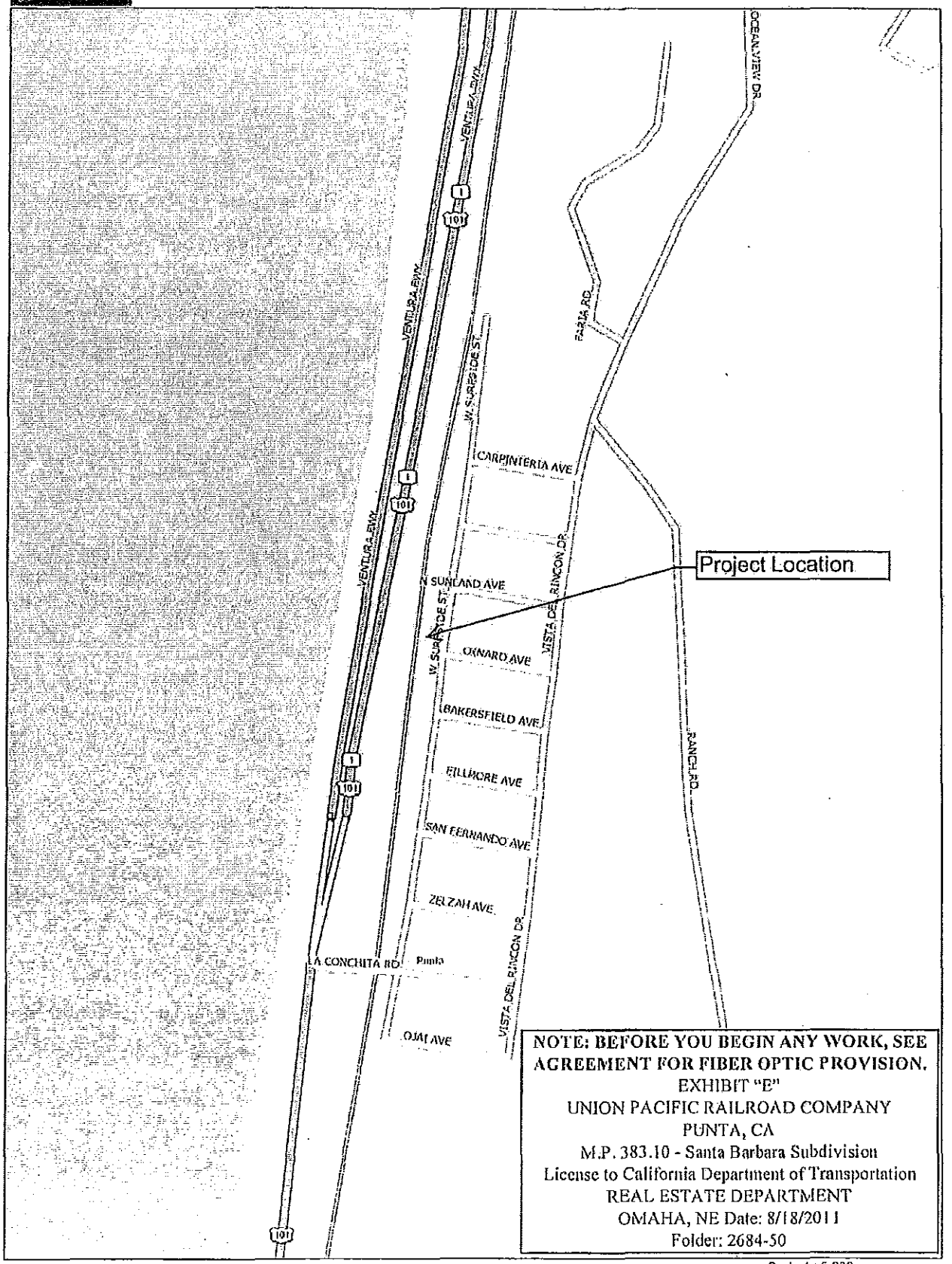
E. Contractor also agrees to provide the advance notice set forth in Exhibit A of this Agreement by contacting the Railroad Representative named in Article 4B of this Agreement prior to working on Railroad's property in order for Railroad to coordinate Contractor's work with Railroad's operations and to make arrangements for flagging protection (if applicable).

_____
CONTRACTOR (print full legal name on above line)

By:_____
(sign on above line)
Title:_____

DeLORME

Street Atlas USA® 2008



NOTE: BEFORE YOU BEGIN ANY WORK, SEE AGREEMENT FOR FIBER OPTIC PROVISION.

EXHIBIT "E"

UNION PACIFIC RAILROAD COMPANY

PUNTA, CA

M.P. 383.10 - Santa Barbara Subdivision

License to California Department of Transportation

REAL ESTATE DEPARTMENT

OMAHA, NE Date: 8/18/2011

Folder: 2684-50

TN

Scale 1 : 5,200

1" = 433.3 ft

Data Zoom 15-3

COUNTY OF SANTA BARBARA

Planning and Development

COASTAL DEVELOPMENT PERMIT

Case No.: 09CDP-00000-00023

Project Name: Caltrans High Occupancy Vehicle Lanes

Project Address: Highway 101 Right of Way, immediately south of the City of Carpinteria to the Santa Barbara/Ventura County line,

Assessor's Parcel No.: Caltrans Right of Way

Applicant Name: State Department of Transportation (Caltrans) District 7, C/o Carlos Montez

The Planning Commission hereby approves this Coastal Development Permit for the development described below, based upon the required findings and subject to the attached terms and conditions.

Date of Approval: January 20, 2010

Associated Case Number(s): 09DVP-00000-00014, 09-BAR-00000-00094

Project Description Summary: Construction of new 12 foot wide High Occupancy Vehicle (HOV) lanes in each direction of US 101 for an approximately .45 mile highway segment, including approximately 7,362 cubic yards of cut balanced on site, installation of concrete median barriers, and removal and replacement of median and roadside vegetation.

ISSUED
ZONING PERMIT
SANTA BARBARA COUNTY PLANNING & DEVELOPMENT

Project Specific Conditions:

Permit Compliance Case: _X_ Yes ___ No;

Permit Compliance Case No.: 11PMC-00000-00005

Appeals: The approval of this Coastal Development Permit may be appealed to the Board of Supervisors by the applicant or an aggrieved person. The written appeal and any accompanying fee must be filed with the by 5:00 p.m. on or before Monday, February 1, 2010.

The final action by the County on this Coastal Development Permit may be appealed to the California Coastal Commission after the appellant has exhausted all local appeals. Therefore a fee is not required to file an appeal of this Coastal Development Permit.

Terms of Permit Issuance:

1. **Work Prohibited Prior to Permit Issuance.** No work, development, or use intended to be authorized pursuant to this approval shall commence prior to issuance of this Coastal Development Permit and/or any other required permit (e.g., Building Permit). **Warning! This is not a Building/Grading Permit.**
2. **Date of Permit Issuance.** This Permit shall be deemed effective and issued on February 26, 2010, provided an appeal of this approval has not been filed, the associated Development Plan (09DVP-00000-00014) is deemed effective, and all conditions required to be met prior to issuance are completed.
3. **Time Limit.** The approval of this Coastal Development Permit shall be valid for one year from the date of approval. Failure to obtain a required construction, demolition, or grading permit and to lawfully commence development within two years of permit issuance shall render this Coastal Development Permit null and void.

NOTE: Approval and issuance of a Coastal Development Permit for this project does not allow construction or use outside of the project description, terms or conditions; nor shall it be construed to be an approval of a violation of any provision of any County Policy, Ordinance or other governmental regulation.

Owner/Applicant Acknowledgement: Undersigned permittee acknowledges receipt of this pending approval and agrees to abide by all terms and conditions thereof.

Carlos Montez _____ , 1/20/10

Print Name Signature Date

Planning and Development Department Approval by:

Alex Tuttle _____ , 1/20/10

Print Name Signature Date

Planning and Development Department Issuance by:

Alex Tuttle _____ , 1/24/11

Print Name Signature Date

ATTACHMENT A: PROJECT SPECIFIC CONDITIONS

1. This Coastal Development Permit is based upon and limited to compliance with the project description, the exhibits, and conditions of approval set forth below. Any deviations from the project description, exhibits or conditions must be reviewed and approved by the County for conformity with this approval. Deviations may require approved changes to the permit and/or further environmental review. Deviations without the above described approval will constitute a violation of permit approval.

   The project description is as follows: The State Department of Transportation (Caltrans) is requesting a Development Plan and Coastal Development Permit to construct "Phase I" of the High Occupancy Vehicle (HOV) improvements to U.S. Highway 101. The Santa Barbara County unincorporated portion of the six mile multi-jurisdictional project, includes one part-time High Occupancy Vehicle (HOV) lane in each direction along an approximate .45-mile segment of U.S. Highway 101 between the Santa Barbara County/Ventura County line and the City of Carpinteria, just south of the transition lane to the northbound SR 150 onramp. All construction would be within the existing Caltrans road right-of-way as shown on Exhibit Map 1, dated January 20, 2010. The project would be limited to the addition of a 12-foot HOV lane in both directions within the existing median, as well as reconfiguration of an approximately 2-10 foot median and shoulder area for the majority of the project limits. Existing metal beam guard rails would be removed and replaced with concrete barriers of similar heights and an earthtone integrated color. No retaining walls or other new structures are proposed. No trees would be removed. All existing median landscaping would be removed in order to accommodate the proposed highway widening and a northern (inland) shifting of the centerline. Landscaping would be replaced consistent with the conceptual landscape plan dated October 19, 2009. The HOV lanes would be striped to allow vehicles to enter and exit at any point. Grading associated with the project is estimated to be approximately 7,362 cubic yards of cut and 7,362 cubic yards of fill, balanced on site. The area of disturbance is estimated to be 2.12 acres.

   The grading, development, use, and maintenance of the property, the size, shape, arrangement, and location of structures, parking areas and landscape areas, and the protection and preservation of resources shall conform to the project description above, the referenced exhibits, and conditions of approval below. The property and any portions thereof shall be sold, leased or financed in compliance with this project description and the approved exhibits and conditions of approval hereto. All plans (such as Landscape and Tree Protection Plans) shall be implemented as approved by the County.

2. This CDP shall not be issued until the associated Development Plan (09DVP-00000-00014) is deemed effective, and all conditions of the Development Plan that are required to be met prior to permit issuance are completed. Conditions of 09DVP-00000-00014 that are required to be met prior to permit issuance, include but are not limited to: Condition numbers 2-4, 7-16, 19, 25-26, and 28-30.

The applicant's acceptance of this permit and/or commencement of construction and/or operations under this permit shall be deemed acceptance of all conditions of this permit by the permittee.

The Planning Commission's approval of this Appealable CDP shall expire one year from the date of approval or, if appealed, the date of action by the Board of Supervisors or the California Coastal Commission on the appeal, if the permit for use, building or structure permit has not been issued.

The use and/or construction of the building or structure, authorized by this approval cannot commence until the Coastal Development Permit has been issued. Prior to the issuance of the Coastal Development Permit, all of the project conditions that are required to be satisfied prior to issuance of the Coastal Development Permit must be satisfied. Plans accompanying this Coastal Development Permit shall contain all project conditions.

ATTACHMENT B: DEVELOPMENT PLAN CONDITIONS OF APPROVAL

1. **Desc-1:** This Development Plan is based upon and limited to compliance with the project description, the hearing exhibits marked EXHIBIT 1, dated January 20, 2010, and conditions of approval set forth below. Any deviations from the project description, exhibits or conditions must be reviewed and approved by the County for conformity with this approval. Deviations may require approved changes to the permit and/or further environmental review. Deviations without the above described approval will constitute a violation of permit approval.

   The project description is as follows:

   The State Department of Transportation (Caltrans) is requesting a Development Plan and Coastal Development Permit to construct "Phase I " of the High Occupancy Vehicle (HOV) improvements to U.S. Highway 101. The Santa Barbara County unincorporated portion of the six mile multi-jurisdictional project, includes one part-time High Occupancy Vehicle (HOV) lane in each direction along an approximate .45-mile segment of U.S. Highway 101 between the Santa Barbara County/Ventura County line and the City of Carpinteria, just south of the transition lane to the northbound SR 150 onramp. All construction would be within the existing Caltrans road right-of-way as shown on Exhibit Map 1, dated June 19, 2009. The project would be limited to the addition of a 12-foot HOV lane in both directions within the existing median, as well as reconfiguration of an approximately 2-10 foot wide median and shoulder area for the majority of the project limits. Existing metal beam guard rails would be removed and replaced with concrete barriers of similar heights with an earthtone integrated color. No retaining walls or other new structures are proposed. No trees would be removed. All existing median landscaping would be removed in order to accommodate the proposed highway widening and a northern (inland) shifting of the centerline. Landscaping would be replaced consistent with the conceptual landscape plan, dated October 19, 2009. The HOV lanes would be striped to allow vehicles to enter and exit at any point. Grading associated with the project is estimated to be approximately 7,362 cubic yards of cut and 7,362 cubic yards of fill, balanced on site. The area of disturbance is estimated to be 2.12 acres.

   The grading, development, use, and maintenance of the property, the size, shape, arrangement, and location of structures, parking areas and landscape areas, and the protection and preservation of resources shall conform to the project description above and the hearing exhibits and conditions of approval below. The property and any portions thereof shall be sold, leased or financed in compliance with this project description and the approved hearing exhibits and conditions of approval hereto. All plans (such as Landscape and Tree Protection Plans) must be submitted for review and approval and shall be implemented as approved by the County.

2. **Compliance with Departmental letters required as follows:**

   a. Flood Control Letter, dated 5/7/09.

   b. Public Works Department, Project Clean Water Letter, dated 5/7/09.

CONDITIONS DERIVED FROM MITIGATION MEASURES IN CALTRANS' DECEMBER 2008 NEGATIVE DECLARATION.

Aesthetics

3. Aesth-1: Retain as much existing vegetation as possible or plant vegetation in the median such as shrubs up to 4 to 5 feet tall as feasible, and include additional, new highway shoulder landscaping. The project landscaping shall consist of drought-tolerant native and/or Mediterranean type species compatible with the character of the surroundings. Landscaping shall be maintained for the life of the project.

   Plan Requirements/Timing: Prior to project completion, the applicant shall enter into an agreement with the County to install required landscaping and water-conserving irrigation systems and maintain required landscaping for the life of the project. Prior to issuance of the Coastal Development Permit, the applicant shall also submit three copies of a final landscape and water-conserving irrigation plan to P&D and SBAR for review and approval. Prior to project completion, landscape and irrigation shall be installed.

   MONITORING: Prior to project completion, Permit Compliance staff shall photo document installation. Permit Compliance staff shall check maintenance as needed.

4. Aesth-2: Natural building materials and earthtone colors compatible with surrounding terrain shall be used on exterior surfaces of the concrete median barriers. All elements of the project (e.g., design, scale, character, colors, materials and landscaping) shall be compatible with vicinity development and shall conform in all respects to BAR approval 09BAR-00000-00094.

   Plan Requirement/Timing: The applicant shall submit architectural drawings of the project for review and shall obtain final approval by the Board of Architectural Review prior to issuance of the Coastal Development Permit. Materials shall be denoted on, or attached to, building plans. Grading plans, if required, shall be submitted to P&D concurrent with or prior to Board of Architectural Review plan filing.

   MONITORING: P&D Permit Compliance shall inspect prior to project completion.

Air Quality

5. AQ-1: The following measures should be included with the Resident's Engineer's (RE's) instructions. The first measure on this list is mandatory. Appropriate measures from the rest of this list, in addition to standard dust control measures found in the Caltrans Standard Specifications, should be implemented at RE's discretion to further reduce particulate emissions during construction.
   - During construction, use water trucks or sprinkler systems to keep all areas of vehicle movement damp enough to prevent dust from leaving the site. At a minimum, this should include wetting down such areas in the late morning and after work is completed for this day. Increased watering frequency should be required whenever

the wind speed exceeds 15 mph. Reclaimed water should be used whenever possible.

- Minimize amount of disturbed area and reduce on-site vehicle speeds to 15 mph or less.
- Gravel pads must be installed at all access points to prevent tracking of mud onto public roads.
- If importation, exportation and stockpiling of fill material are involved, soil stockpiled for more than two days shall be covered, kept moist, or treated with soil binders to prevent dust generation. Trucks transporting fill material to and from the site shall be covered with a tarp from the point of origin.
- After clearing, grading, earth moving or excavation is completed, treat the disturbed area by watering, or re-vegetating, or spreading soil binders until the area is paved or otherwise developed so that dust generation does not occur.

Plan Requirement/Timing: All requirements shall be included in the Standard Specifications for the project and shall be provided to P&D prior to the start of construction. This condition shall be adhered to throughout all grading and construction periods.

MONITORING: P&D shall ensure measures are included in the Standard Specifications for the project and provided to P&D prior to the start of construction. P&D shall spot check and ensure compliance on-site. APCD inspectors shall respond to nuisance complaints.

6. AQ-2: Construction Impact Reduction for Equipment Exhaust: The following measures shall be employed during project grading and construction to reduce NOx and $PM_{2.5}$ emissions from construction equipment.
   - The number of construction equipment operating simultaneously shall be minimized through efficient management practices to ensure that the smallest practical number is operating at any one time.
   - The vehicle's primary diesel engine shall not idle for greater than 5 minutes at any location.
   - Only heavy-duty diesel-powered construction equipment manufactured after 1996 (with federally mandated "clean" diesel engines) shall be used.
   - The engine size of construction equipment shall be the minimum practical size.
   - Construction equipment shall be maintained in tune per manufacturer's specifications.
   - Construction equipment operating onsite shall be equipped with two to four degree engine timing retard or pre-combustion chamber engines.
   - Catalytic converters shall be installed on gasoline-powered equipment, if feasible.
   - Diesel catalytic converters, diesel oxidation catalysts and diesel particulate filters as certified and/or verified by EPA or California shall be installed on equipment operating on-site.
   - Diesel powered equipment should be replaced by electric equipment whenever feasible.
   - All construction vehicles shall use California Air Resources Board approved on-road diesel fuel (when locally available) to reduce emissions of carbon monoxide.

- Idling of heavy-duty diesel trucks during loading and unloading shall be limited to five minutes; auxiliary power units should be used whenever possible.
- Diesel-fueled auxiliary power system (APS) for more than shall not idle for more than 5 minutes to power a heater, air conditioner, or any ancillary equipment on the vehicle if within 100 feet of a restricted area (homes and schools).

Plan Requirement/Timing: All requirements shall be included in the Standard Specifications for the project and shall be provided to P&D prior to the start of construction. This condition shall be adhered to throughout all grading and construction periods.

MONITORING: P&D shall ensure measures are included in the Standard Specifications for the project and provided to P&D prior to the start of construction. P&D shall spot check and ensure compliance on-site. APCD inspectors shall respond to nuisance complaints.

7. AQ-3: Air quality impacts resulting from construction activities shall be reduced through the implementation of Caltrans Standard Specifications (1999) Section 7-1.01F and Section 10.

Plan Requirement/Timing: All requirements shall be shown on grading and building plans. Condition shall be adhered to throughout all grading and construction periods.

MONITORING: P&D shall ensure measures are on plans. P&D shall spot check; P&D shall ensure compliance on-site. APCD inspectors shall respond to nuisance complaints.

8. AQ-4: The contractor or builder shall designate a person or persons to monitor the dust control and emission program and to order increased watering or other measures as necessary. Their duties shall include holiday and weekend periods when work may not be in progress.

Plan Requirements/Timing: The name and telephone number of such persons shall be provided to Permit Compliance and the APCD. The monitor shall be designated prior to issuance of the Coastal Development Permit.

MONITORING: P&D Permit Compliance shall contact the designated monitor as necessary to ensure compliance with dust control and emission measures.

Cultural Resources

9. CulRes-1: All earth disturbances including scarification and placement of fill within the archaeological site areas shall be monitored by a qualified archaeologist and if determined necessary by Permit Compliance, a Native American Consultant , pursuant to County Archaeological Guidelines.

Plan Requirements and Timing: Prior to issuance of the Coastal Development Permit, a contract or Letter of Commitment between the applicant and the archaeologist, consisting of a project description and scope of work, shall be prepared.

MONITORING: P&D Permit Compliance shall confirm monitoring by the archaeologist and shall spot check field work.

10. CulRes-2: The archaeological sites shall be temporarily fenced at the edge of a 50 foot buffer or at the Area of Potential Effect (APE), whichever is greater, with chain link flagged with color or other material authorized by P&D where such site, buffer or APE intersects the project boundary.

    Plan Requirement/Timing: The fencing requirement shall be included in the Standard Specifications for the project and provided to P&D prior to the start of construction. Plans to be approved and fencing are to be in place prior to start of construction.

    MONITORING: P&D shall verify installation of fencing by reviewing photo documentation or by site inspection prior to start of construction. To ensure that fencing is in place throughout grading, construction and site inspections, the Caltrans Resident Engineer shall notify Permit Compliance when fencing is installed.

11. CulRes-3: In the event archaeological remains are encountered during grading, work shall be stopped immediately or redirected until a qualified archaeologist and Native American representative are retained by the applicant to evaluate the significance of the find pursuant to Phase 2 investigations of the County Archaeological Guidelines. If remains are found to be significant, they shall be subject to a Phase 3 mitigation program consistent with County Archaeological Guidelines and funded by the applicant. If human remains are discovered activities shall cease in any area or nearby area suspected to overlie remains and the County Coroner contacted. If the remains are thought to be Native American, the coroner will identify and notify the Native American Heritage Commission (NAHC) who will then notify the Most Likely Descendent (MLD). At this time, the person who discovered the remains will contact P&D and District 7 Environmental Branch so that they may work with the MLD on the respectful treatment and disposition of the remains. Further provisions of PRC 5097.98 are to be followed as applicable.

    Plan Requirements/Timing: This condition shall be included in the Standard Specifications for the project and provided to P&D prior to the start of construction.

    MONITORING: P&D shall ensure measures are included in the Standard Specifications for the project, provided to P&D prior to the start of construction, and P&D shall spot check in the field.

PROJECT SPECIFIC CONDITIONS.

12. Geo-1 Grading and erosion and sediment control plans shall be designed to minimize erosion and shall include the following:

    a. Methods such as geotextile fabrics, erosion control blankets, retention basins, drainage diversion structures, siltation basins and spot grading shall be used to reduce erosion and siltation into adjacent water bodies or storm drains during grading and construction activities.

b. All entrances/exits to the construction site shall be stabilized (e.g. using rumble plates, gravel beds or other best available technology) to reduce transport of sediment off site. Any sediment or other materials tracked off site shall be removed the same day as they are tracked using dry cleaning methods.

c. Storm drain inlets shall be protected from sediment-laden waters by the use of inlet protection devices such as gravel bag barriers, filter fabric fences, block and gravel filters, and excavated inlet sediment traps.

d. Graded areas shall be re-vegetated within four weeks of grading activities with deep rooted, native, drought-tolerant species to minimize slope failure.

Plan Requirements/Timing: A Storm Water Pollution Prevention Plan (SWPPP) shall be designed to address erosion and sediment control during all phases of development of the site. The applicant shall provide the final SWPPP to Permit Compliance prior to commencement of grading. Components of the grading plan shall be implemented prior to project completion. Erosion and sediment control measures shall be in place throughout grading and development of the site until all disturbed areas are permanently stabilized.

MONITORING: Permit Compliance will photo document revegetation and ensure compliance with plan.

13. Geo-2 The applicant shall limit excavation and grading to the dry season of the year (i.e. April 15 to November 1) unless an approved erosion and sediment control plan is in place and all measures therein are in effect. All exposed graded surfaces shall be reseeded with ground cover vegetation to minimize erosion.

Plan Requirements/Timing: Graded surfaces shall be reseeded within 4 weeks of grading completion, with the exception of surfaces graded for the placement of pavement. These surfaces shall be reseeded if construction of pavement does not commence within 4 weeks of grading completion.

MONITORING: P&D shall site inspect during grading to monitor dust generation and 4 weeks after grading to verify reseeding and to verify the construction has commenced in areas graded for placement of structures.

14. SolidW-1: Demolition and/or excess construction materials shall be separated onsite for reuse/recycling or proper disposal (e.g., concrete asphalt). During grading and construction, separate bins for recycling of construction materials and brush shall be provided onsite.

Plan Requirements/Timing: This requirement shall be included in the Standard Specifications for the project and provided to P&D prior to the start of construction. Materials shall be recycled as necessary throughout construction. All materials shall be recycled prior to project completion.

MONITORING: P&D shall spot check in the field.

15. Wat-1: A combination of structural and non-structural Best Management Practices (BMPs) from the California Stormwater BMP Handbook for New Development and

Redevelopment (California Storm Water Quality Association), or other approved methods, shall be installed to effectively prevent the entry of pollutants from the project site into the storm drain system after development.

Plan Requirements: The applicant shall submit and implement a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP shall include the following elements: identification of potential pollutant sources that may affect the quality of the storm water discharges; the proposed design and placement of structural and non-structural BMPs to address identified pollutants; a proposed inspection and maintenance program; and a method for ensuring maintenance of all BMPs over the life of the project. The approved measures shall also be shown on site, building and grading plans. Records of maintenance shall be maintained.

Timing: The SWPPP shall be submitted to P&D and Public Works Department, Water Resources Division. All measures specified in the plan shall be constructed and operational prior to project completion. Maintenance records shall be made available to P&D or Public Works on request.

MONITORING: P&D Permit Compliance and Public Works, Water Resources Division shall site inspect prior to project completion to ensure measures are constructed in accordance with the approved plan and periodically thereafter to ensure proper maintenance.

16. Wat-2: Construction materials and waste such as paint, mortar, concrete slurry, fuels, etc. shall be stored, handled, and disposed of in a manner which minimizes the potential for storm water contamination.

    Plan Requirements/Timing: Bulk storage locations for construction materials and any measures proposed to contain the materials shall be included in the final Storm Water Pollution Prevention Plan and submitted to P&D for review prior to start of construction.

    MONITORING: P&D shall site inspect prior to the commencement of, and as needed during, all grading and construction activities.

17. Wat-3: Where proposed project plans include outdoor material storage areas that could contribute pollutants to the storm water conveyance system, the following measures are required:

    1) Materials with the potential to contaminate storm water must either be (a) placed in an enclosure such as, but not limited to, a cabinet, shed, or similar structure that prevents contact with runoff or spillage to the storm water conveyance system; or (b) protected by a secondary containment structure such as a berm, dike, or curb and covered with a roof or awning.

    2) The storage area must be paved and sufficiently impervious to contain leaks and spill or otherwise be designed to prevent discharge of leaks or spills into the storm water conveyance system.

    MONITORING: P&D shall site inspect prior to project completion to ensure measures are constructed in accordance with the approved plan and periodically thereafter to ensure

proper maintenance.

18. Wat-3: All trash container areas must meet the following requirements:

    1) Trash container areas must divert drainage from adjoining paved areas.

    2) Trash container areas must be protected and regularly maintained to prevent off-site transport of trash.

19. A Traffic Management Plan (TMP) shall be developed for the proposed project to ensure a safe environment and continued access for the public and construction personnel during construction of the project. At a minimum, the TMP shall include measures for construction worker and public safety, temporary traffic controls, minimization of lane and bikeway closures and when necessary, alternate routing.

    Plan Requirements/Timing. The TMP shall be completed and submitted for review and approval to P&D and Public Works as soon as available and prior to start of construction.

    MONITORING: P&D Permit Compliance and Caltrans shall ensure requirements of the TMP are followed throughout the construction and landscaping period.

20. DP-1 Approval of the Final Development Plan shall expire five (5) years after approval by the Planning Commission unless prior to the expiration date, substantial physical construction has been completed on the development or a time extension has been applied for by the applicant. The decisionmaker with jurisdiction over the project may, upon good cause shown, grant a time extension for one year.

21. DP-3 No permits for development, including grading, shall be issued except in conformance with an approved Final Development Plan. The size, shape, arrangement, use, and location of structures and landscaped areas shall be developed in conformity with the approved development plan marked Exhibit 1, dated June19, 2009. Substantial conformity shall be determined by the Director of P&D.

22. DP-4 On the date a subsequent Preliminary or Final Development Plan is approved for this site, any previously approved but unbuilt plans shall become null and void.

23. DP-5 If the applicant requests a time extension for this permit/project, the permit/project may be revised to include updated language to standard conditions and/or mitigation measures and additional conditions and/or mitigation measures which reflect changed circumstances or additional identified project impacts. Mitigation fees shall be those in effect at the time of approval of a CDP.

COUNTY RULES AND REGULATIONS

24. Rules-1: **Additional Permits Required**: Before using any land or structure, or commencing any work pertaining to the erection, moving, alteration, enlarging, or rebuilding of any building, structure, or improvement, the applicant shall obtain issuance of the Coastal Development from Planning and Development. These Permits are required by ordinance and are necessary to ensure implementation of the conditions

required by the Planning Commission. Before any Permit will be issued by Planning and Development, the applicant must obtain written clearance from all departments having conditions; such clearance shall indicate that the applicant has satisfied all pre-construction conditions. A form for such clearance is available from Planning and Development.

25. Rules-4: **Print & illustrate conditions on plans**: All applicable final conditions of approval of the Planning Commission shall be included in their entirety in the applicable Standard Specifications and Storm Water Pollution Prevention Plan. Additionally, Conditions 3 and 4 shall be printed in their entirety on applicable plan sheets and submitted and approved by P&D prior to start of construction. These shall be graphically illustrated where feasible.

26. Rules-5: **Mitigation Monitoring required**: The applicant shall ensure that the project complies with all approved plans and all project conditions including those which must be monitored after the project is built and occupied. To accomplish this, the applicant agrees to:

    a. Contact P&D compliance staff as soon as possible after project approval to provide the name and phone number of the future contact person for the project and give estimated dates for future project activities.

    b. Contact P&D compliance staff at least two weeks prior to commencement of construction activities to schedule an on-site pre-construction meeting with the owner, compliance staff, other agency personnel and with key construction personnel.

    c. Pay fees prior to issuance of the Coastal Development Permit as authorized under ordinance and fee schedules to cover full costs of monitoring as described above, including costs for P&D to hire and manage outside consultants when deemed necessary by P&D staff (e.g. non-compliance situations, special monitoring needed for sensitive areas including but not limited to biologists, archaeologists) to assess damage and/or ensure compliance. In such cases, the applicant shall comply with P&D recommendations to bring the project into compliance. The decision of the Director of P&D shall be final in the event of a dispute.

27. Rules-6: **Fees Required:** Prior to issuance of the Coastal Development Permit, the applicant shall pay all applicable P&D permit processing fees in full.

28. Rules-7: **Indemnity and Separation Clauses:** Developer shall defend, indemnify and hold harmless the County or its agents, officers and employees from any claim, action or proceeding against the County or its agents, officers or employees, to attack, set aside, void, or annul, in whole or in part, the County's approval of the Development Plan. In the event that the County fails promptly to notify the applicant of any such claim, action or proceeding, or that the County fails to cooperate fully in the defense of said claim, this condition shall thereafter be of no further force or effect.

29. Rules-8: **Legal Challenge**: In the event that any condition imposing a fee, exaction, dedication or other mitigation measure is challenged by the project sponsors in an action

filed in a court of law or threatened to be filed therein which action is brought within the time period provided for by law, this approval shall be suspended pending dismissal of such action, the expiration of the limitation period applicable to such action, or final resolution of such action. If any condition is invalidated by a court of law, the entire project shall be reviewed by the County and substitute conditions may be imposed.

Santa Barbara County Public Works Department
Flood Control & Water Agency

May 7, 2009

Zoning Administrator
County of Santa Barbara
Planning & Development Department
123 E. Anapamu St.
Santa Barbara, CA 93101

Re: 09DVP-00000-00014; Caltrans High Occupancy Vehicle Lanes
APN: 111-111-111; Carpinteria

Dear Administrator:

The District recommends that approval of the above referenced project be subject to the following conditions:

1. General
   a. Any bridge upgrades or renovations shall not cause erosion to, reduce the capacity of, or cause any other adverse impacts to the creeks which they cross.
   b. Proposed project improvements shall not cause any adverse impacts to the limits or depth of the FEMA floodplain or floodway. The proposed project shall follow FEMA guidelines for any construction within the Floodplain or Floodway.
   c. The applicant shall submit all improvement plans, grading plans, drainage plans, drainage studies, and landscape plans to the District for review and approval.
   d. The applicant shall sign the Agreement for Payment of Plan Check Fees (attached to the Standard Conditions of Approval) and pay the appropriate plan check fee deposit at the time of the initial submittal of maps, plans and studies.
   e. The applicant shall submit to the District electronic drawings in PDF format of the approved grading plans, improvement plans, drainage plans, drainage studies and landscape plans on a compact disc along with one hard copy of each.

Scott D. McGolpin
123 East Anapamu Street, Santa Barbara, California 93101
PH: 805 568-3440 FAX: 805 568-3434 www.countyofsb.org/pwd/water
Thomas D. Fayram
Deputy Public Works Director

Sincerely,

SANTA BARBARA COUNTY FLOOD CONTROL & WATER CONSERVATION DISTRICT

By: _____

Nick Bruckbauer
Development Review Engineer

Cc: Ravi Ghate, Caltrans, 100 South Main Street, Los Angeles, CA 90012
Richard Galvin, GPA Associates, 1611 South Pacific Coast Highway, Suite 10, Redondo Beach, CA 90722

County of Santa Barbara Public Works Department
Project Clean Water
123 E. Anapamu Street, Suite 240, Santa Barbara, CA 93101
(805) 568-3440 FAX (805) 568-3434
Website: www.countyofsb.org/project_cleanwater

PROJECT CLEAN WATER
Santa Barbara County

SCOTT D. MCGOLPIN
Director

THOMAS D. FAYRAM
Deputy Director

May 7, 2009

Alex Tuttle
County of Santa Barbara
Planning & Development Department
123 E. Anapamu St.
Santa Barbara, CA 93101

Re: 09DVP-00000-00014 Caltrans High Occupancy Vehicle Lane
Santa Barbara

Dear Mr. Tuttle:

The above referenced project is subject to the County of Santa Barbara's Standard Conditions for Project Plan Approval – Water Quality BMPs. The conditions apply because the project is more than 0.5 acres of transportation-related development exposed to storm water. These conditions require appropriate treatment of runoff from impervious surfaces for the design storm to remove potential pollutants (see attached Standard Conditions).

Caltrans' Storm Water Management Plan directs Caltrans to identify and implement Best Management Practices (BMPs) to meet the Maximum Extent Practicable requirements set forth in the Department's Statewide National Pollutant Discharge Elimination System (NPDES) Storm Water Permit (Order No. 99-06-DWQ) adopted by the California State Water Resources Control Board (SWRCB) on July 15, 1999.

To the extent these requirements enable this project to comply with the County's NPDES permit requirements, the project will be deemed consistent with the attached Standard Conditions.

The following specific provisions apply:

1. Prior to issuance of Zoning Clearance or Building or Grading Permits, the applicant shall submit to the Water Resources Division (attention: Project Clean Water) for review and approval either A) improvement plans, grading & drainage plans, landscape plans, and a drainage study or B) a Storm Water Quality Management Plan or its equivalent that includes relevant details on the location and function of treatment control BMPs.

   At a minimum, the submittal(s) must:

a. show the locations of all treatment facilities and their drainage (treatment) areas,

b. demonstrate how the treatment facilities comply with the conditions by treating runoff from the design storm, and

c. include a long-term maintenance plan appropriate for the proposed facilities.

2. Prior to issuance of Zoning Clearance or Building or Grading Permits, applicant shall submit the long-term maintenance plan for review and approval. The maintenance plan must identify the party responsible for maintenance of all required storm water runoff treatment control facilities and assure perpetual maintenance of the facilities.

3. Prior to issuance of Occupancy Clearance, all drainage improvements required as part of the above conditions shall be constructed in accordance with the approved plans and certified by a Registered Civil Engineer. A set of As-Built plans shall be submitted to Water Resources Division. A Drainage Improvement Certificate shall be signed and stamped by the engineer of record and be submitted to the Water Resources Division (attn: Cathleen Garnand).

Note that the applicant will be required to pay the current plan check fee deposit at the time the Storm Water Quality Management Plan or equivalent is submitted for review and approval.

Sincerely,

Cathleen Garnand
Civil Engineering Associate

Attachment Standard Conditions

cc: Carlos Montez, Caltrans, 100 S. Main St., Los Angeles, CA 90012
Richard Galvin, GPA Associates, 1611 S. Pacific Coast Highway Suite 104, Redondo Beach CA 90277

CALIFORNIA COASTAL COMMISSION
SOUTH CENTRAL COAST AREA
89 SOUTH CALIFORNIA ST., SUITE 200
VENTURA, CA 93001
(805) 585-1800

COMMISSION NOTIFICATION OF FINAL APPEAL ACTION

DATE: December 23, 2010 **Commission Appeal No.** **A-4-STB-10-105**

TO: Ventura County
Planning Division
Attn: Michelle Glueckert D'Anna
800 So. Victoria Avenue
Ventura, CA 93009

FROM: Lee Otter, Coastal Program Analyst

RE: Appeal to the California Coastal Commission of Local Permit CDP No. **LU09-0085**

Applicant(s): **California Department of Transportation (Caltrans) District 7**

Description: **Construction of northbound and southbound high occupancy vehicle (HOV) lanes within the existing median of Highway 101, for a distance of 3.4 miles northwards from Mobil Pier Undercrossing; includes parallel Coastal Trail/bikeway with new or improved connecting shoreline access at seven locations, public access parking area at Punta Gorda, and new pedestrian undercrossing at La Conchita, all on public lands, highway and railroads rights of way.**

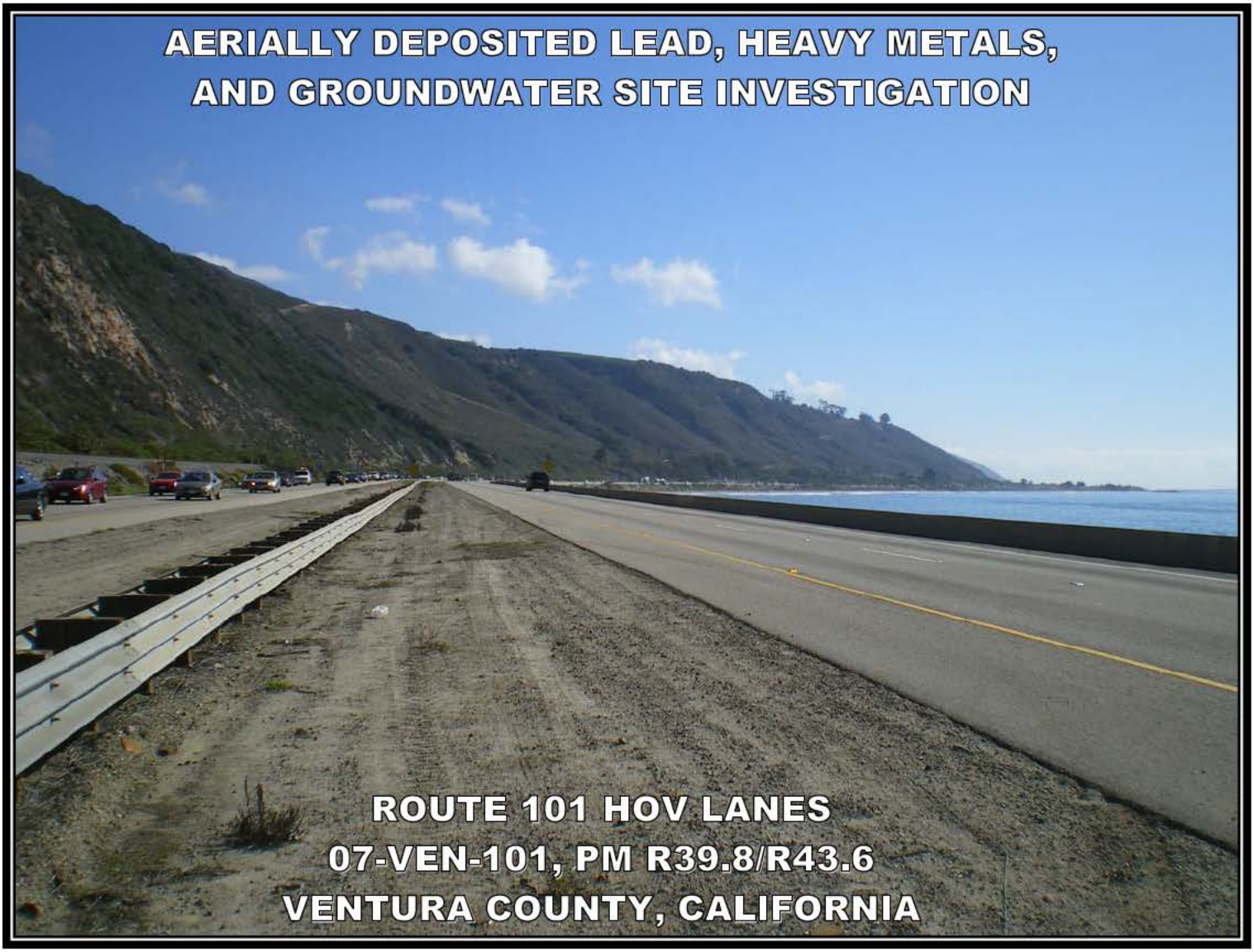
Location: **Highway 101, between Seacliff exit and Bates Road (at the Santa Barbara County line), adjacent to the communities of Mussel Shoals, La Conchita, and Rincon Point, Ventura County.**

Local Action **Approved w/ Conditions**

Please be advised that the California Coastal Commission heard the subject appeal on December 16, 2010 and found that no substantial issue existed with respect to the grounds on which the appeal was filed. As such, the Ventura County's action on Coastal Development Permit No. LU09-0085 is now final.

Please contact us if you have any questions.

AERIALLY DEPOSITED LEAD, HEAVY METALS, AND GROUNDWATER SITE INVESTIGATION



ROUTE 101 HOV LANES
07-VEN-101, PM R39.8/R43.6
VENTURA COUNTY, CALIFORNIA

PREPARED FOR:
CALIFORNIA DEPARTMENT OF TRANSPORTATION
DISTRICT 7
100 SOUTH MAIN STREET, 12.284
LOS ANGELES, CALIFORNIA

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

CALTRANS CONTRACT 06A1141
TASK ORDER NO. 86
EA No. 07-260701

GEOCON PROJECT NO. S9200-06-86

January 29, 2010

GEOCON
CONSULTANTS, INC.
ENVIRONMENTAL ■ GEOTECHNICAL ■ MATERIALS

Project No. S9200-06-86
January 29, 2010

Mr. G. Hossein Bahmanyar
California Department of Transportation, District 7
Environmental Engineering
100 South Main Street, 12.284
Los Angeles, California 90012

Subject: AERIALLY DEPOSITED LEAD, HEAVY METALS, AND GROUNDWATER SITE INVESTIGATION
ROUTE 101 HOV LANES, 07-VEN-101, PM R39.8/R43.6
VENTURA COUNTY, CALIFORNIA
CONTRACT NO. 06A1141, TASK ORDER NO. 31, EA. 07-260701

Dear Mr. Bahmanyar:

In accordance with Caltrans Contract No. 06A1141 and Task Order No. 86 dated October 19, 2009, Geocon Consultants, Inc. has performed an aerially deposited lead (ADL) and groundwater investigation along U. S. Route 101 from the Mobil Pier Road undercrossing north to Bates Road in Ventura County, California. The accompanying report summarizes the services performed, including the installation of two piezometers, gauging of existing wells and piezometers, groundwater sampling, advancement of direct-push, hand-auger, and hollow-stem auger borings, soil sampling, laboratory analyses, statistical analyses, and global positioning system (GPS) surveying.

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.

PROFESSIONAL GEOLOGIST
MICHAEL P. CONKLE
NO. 7624
Exp. 9/30/10
STATE OF CALIFORNIA

PROFESSIONAL GEOLOGIST
RICHARD W. DAY
No. 5479
Exp. 09-30-11
STATE OF CALIFORNIA

PROFESSIONAL GEOLOGIST
JOHN JUHREND
No. 1538
CERTIFIED ENGINEERING GEOLOGIST
STATE OF CALIFORNIA

Michael P. Conkle, PG
Senior Geologist

Richard Day, CEG, CHG
Vice President

John E. Juhrend, PE, CEG
Contract Manager

MPC:RWD:JEJ:am

(5/1CD Hand Del.) Addressee

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EXECUTIVE SUMMARY

Geocon Consultants, Inc. has performed an investigation of the soil in unpaved areas along the shoulder of Route 101 from Post Mile R39.8 north to Post Mile R43.6 in Ventura County, California. The California Department of Transportation (Caltrans) proposes to excavate soil at the Site as part of the widening of this portion of Route 101 to accommodate High Occupancy Vehicle (HOV) lanes and for the construction of new soundwalls and a pedestrian undercrossing. The objective of the investigation was to evaluate soil at the Site for the potential presence of heavy metals, including aerially deposited lead (ADL), and the potential presence of total petroleum hydrocarbons (TPH), pesticides, herbicides, and volatile organic compounds (VOCs) in soil in the vicinity of the railroad trestle near the planned pedestrian undercrossing at La Conchita.

In addition, two temporary piezometers were installed and groundwater level measurements were recorded at four existing piezometers and four existing monitoring wells to provide a means to evaluate groundwater quality in the vicinity of the new soundwalls and pedestrian undercrossing in anticipation that dewatering during construction will be required. Caltrans intends to construct soundwalls near the communities of Mussel Shoals and La Conchita in Ventura County and along the southbound Route 101 on ramp at Bates Road. Caltrans anticipates that the soundwalls will most likely be supported on piles that will be extended to depths of less than 40 feet. A groundwater sample was collected from one piezometer and analyzed for the necessary parameters to obtain a National Pollution Discharge Elimination System (NPDES) permit for the discharge of groundwater generated during construction dewatering activities.

Caltrans should notify the contractors performing the construction activities that elevated concentrations of lead may be present in onsite soil and that appropriate health and safety measures should be taken to minimize the exposure of construction workers to lead.

Data from the investigation were used to evaluate the potential reuse or disposal considerations for soil excavated at the site and to inform Caltrans of potential health and safety issues concerning the presence of lead in soil for workers at the site during construction activities.

Soil samples collected from the surface and depths up to four feet were analyzed for total lead. Selected samples were further analyzed for soluble lead using the Waste Extraction Test method using citric acid (WET) as the extractant, soluble lead using a modified WET method using de-ionized water (DI-WET) as the extractant, soluble lead using the Toxicity Characteristic Leaching Procedure (TCLP), and/or pH. Soil samples collected near the railroad trestle were analyzed for TPH, VOCs, herbicides, and pesticides. Additionally, soil samples collected from depths of 10 to 30 feet in three of the borings were analyzed for TPH.

Laboratory analytical results and statistical analysis using non-parametric bootstrap techniques to calculate the upper confidence limits (UCLs) were compared to the guidelines of the Department of Toxic Substances Control (DTSC) statewide Variance effective July 1, 2009, regarding the reuse of ADL-impacted soils within Caltrans right-of-way.

Offsite disposal conclusions were based upon comparison of the total lead 95% UCLs to the California Code of Regulations (CCR) Title 22 total threshold limit concentration (TTLC) of 1,000 milligrams per kilogram (mg/kg) and predicted WET results to the CCR Title 22 soluble threshold limit concentration (STLC) of 5.0 milligrams per liter (mg/l). Reuse and disposal options for roadway segments by sampling groups are summarized below.

Group 1 (Station 92)

None of the samples collected from Group 1 exhibited total lead concentrations in excess of the TTLC or 10 times the STLC. Based upon the reported total lead concentrations, excavated soil from the surface to a depth of four feet would be classified as non-hazardous with respect to lead content. Accordingly, the soil is suitable for onsite reuse or disposal as non-hazardous (as Caltrans Type X).

Group 2 (Station 9 to 13)

None of the samples collected from Group 2 exhibited total lead concentrations in excess of the TTLC or 10 times the STLC. Based upon the reported total lead concentrations, excavated soil from the surface to a depth of four feet would be classified as non-hazardous with respect to lead content. Accordingly, the soil is suitable for onsite reuse or disposal as non-hazardous (as Caltrans Type X).

Group 3 (Station 40 to 50)

Based upon the predicted WET lead concentrations, excavated soil from the surface to a depth of 3.5 feet would be classified as a hazardous waste since the predicted WET lead concentrations are greater than the STLC of 5.0 mg/l. The top 3.5 feet of soil is not considered a RCRA hazardous waste based on the TCLP lead results. Based on the DI-WET lead and pH results, the top 3.5 feet of soil may be reused onsite (as Caltrans Type Y1) by placing the lead-impacted soil under at least one foot of clean soil or a pavement structure maintained by Caltrans.

Underlying soil (i.e., deeper than 3.5 feet) could be reused or disposed as non-hazardous with respect to lead content.

Group 4a (Station 37 to 92)

Based upon the predicted WET lead concentrations, excavated soil from the surface to a depth of 0.5 foot would be classified as a hazardous waste since the 90% UCL-predicted WET lead concentration is greater than the STLC of 5.0 mg/l. The top 0.5 foot of soil is not considered a RCRA hazardous waste based on the TCLP lead results. Based on the DI-WET lead and pH results, the top 0.5 foot of soil may be reused onsite (as Caltrans Type Y1) by placing the lead-impacted soil under at least one foot of clean soil or a pavement structure maintained by Caltrans.

Underlying soil (i.e., deeper than 0.5 foot) could be reused or disposed as non-hazardous with respect to lead content.

Group 4b (Station 92 to 137)

Based upon the predicted WET lead concentrations, excavated soil from the surface to a depth of 0.5 foot would be classified as a hazardous waste since the 90% UCL-predicted WET lead concentration is greater than the STLC of 5.0 mg/l. The top 0.5 foot of soil is not considered a RCRA hazardous waste based on the TCLP lead results. Based on the DI-WET lead and pH results, the top 0.5 foot of soil may be reused onsite as Caltrans Type Y1 by placing the lead-impacted soil under at least one foot of clean soil or a pavement structure maintained by Caltrans.

Underlying soil (i.e., deeper than 0.5 foot) could be reused or disposed as non-hazardous with respect to lead content.

If excavations are 1.5 feet or deeper and soil is managed as a whole, excavated soil would not be classified as a hazardous waste and can be reused or disposed as non-hazardous with respect to lead content.

Group 5 (Station 178 to 193)

None of the samples collected from Group 5 exhibited total lead concentrations in excess of the TTLC or 10 times the STLC. Based upon the reported total lead concentrations, excavated soil from the surface to a depth of four feet would be classified as non-hazardous with respect to lead content. Accordingly, the soil is suitable for onsite reuse or disposal as non-hazardous (as Caltrans Type X).

Title 22 Metals

Analysis of selected soil samples for CCR Title 22 metals did not indicate the presence of heavy metals concentrations (other than lead) at or above their respective TTLCs or 10 times their respective STLCs. The concentrations of metals reported in the soil samples were below their respective California Human Health Screening Levels (CHHSLs) for residential use, with the exception of arsenic. However, arsenic is a naturally occurring element commonly found in soils at concentrations in excess of CHHSLs.

The concentrations of metals in the soil samples were within the reported range of background concentrations for California soils. Based on the reported concentrations offsite reuse of excavated soil may be restricted based on arsenic content. Based on the reported concentrations offsite reuse or disposal of excavated soil may be restricted based on lead content.

Petroleum Hydrocarbons

Petroleum hydrocarbons were not reported at concentrations equal to or greater than the laboratory reporting limits for the samples collected from depths of 10, 20, and 30 feet in the three deep borings.

Concentrations up to 520 mg/kg of heavy oil range (C18 to C40) petroleum hydrocarbons were reported in the 0- to 0.5-foot and 1- to 1.5-foot samples collected from the boreholes near the railroad trestle. Based on the reported TPH concentrations, onsite reuse or offsite disposal of soil excavated from this area may be restricted. Disposal facilities, or alternative offsite reuse locations, may have site specific acceptance criteria with respect to TPH. Depending on the intended receiving facility's requirements, soil excavated from the vicinity of the railroad trestle may require stockpiling and additional evaluation for TPH content prior to transport offsite.

Free phase petroleum (oil) was observed within Caltrans piezometer R-09-102 and the Caltrans geologist noted in the boring log that oil, related to naturally occurring oil seeps, was present at a depth of 108 feet. If Caltrans intends to perform deep excavations for piles in the vicinity of R-09-102 there is a potential that petroleum-impacted soil may be generated.

VOCs, Herbicides, and Pesticides

The four samples collected from the two boreholes advanced near the railroad trestle were analyzed for VOCs, herbicides, and pesticides. Concentrations of VOCs or herbicides greater than or equal to the laboratory reporting limits were not reported for the samples.

Concentrations of pesticides were reported in the 0- to 0.5-foot sample from both borings. The concentrations of pesticides reported for the samples are less than the residential land use CHHSLs. The reported concentrations of pesticides are below the thresholds that would classify the soil as a California hazardous waste. However, disposal facilities, or alternative offsite reuse locations, may have site specific acceptance criteria. Depending on the intended receiving facility's requirements, soil excavated from in the vicinity of the railroad trestle may require stockpiling and additional evaluation for pesticide content prior to transport offsite.

pH

Analysis of selected soil samples indicate that the pH ranged from 7.1 to 8.1 and the soil is suitable for reuse under the DTSC Variance.

Groundwater

One water sample was collected from the temporary piezometer at location 1082-120 and analyzed for screening parameters required to obtain an NPDES permit.

Reported concentrations in the groundwater sample were compared to Los Angeles Regional Water Quality Control Board (LARWQCB) screening levels for general construction dewatering NPDES permits. The reported concentrations of the metals arsenic, cadmium, copper, lead, nickel, selenium, and zinc exceed the screening level concentrations. The reported concentrations for all other analytes were below their respective screening levels.

If the metals concentrations reported in the groundwater sample collected from the piezometer are considered to be representative of the groundwater that will be removed during dewatering activities, the LARWQCB will require treatment of the water, to remove the concentrations of metals exceeding the screening levels, prior to discharge.

AERIALLY DEPOSITED LEAD, HEAVY METALS, AND GROUNDWATER SITE INVESTIGATION

1. INTRODUCTION

1.1 Project Description and Objectives

In accordance with the California Department of Transportation (Caltrans) Contract No. 06A1141 and Task Order (TO) No. 86 (presented in Appendix A), Geocon Consultants, Inc. has performed an investigation of the soil in unpaved areas along the shoulder of Route 101 from Mobil Pier Road undercrossing Post Mile (PM) R39.8 north to Bates Road PM R43.6 (the Site) in Ventura County, California (Figure 1). Caltrans proposes to excavate soil at the Site as part of the widening of this portion of Route 101 to accommodate High Occupancy Vehicle (HOV) lanes and for the construction of new soundwalls and a pedestrian undercrossing. The objective of the investigation was to evaluate soil at the Site for the presence of heavy metals, including aerially deposited lead (ADL), and the potential presence of petroleum hydrocarbons (TPH), pesticides, herbicides, and volatile organic compounds (VOCs) in soil in the vicinity of the railroad trestle near the planned pedestrian undercrossing at La Conchita. The information obtained from this investigation will be used by Caltrans to determine soil management (disposal or onsite reuse) and to identify health and safety concerns during proposed construction activities.

In addition, two temporary piezometers were installed and groundwater level measurements were recorded at four existing piezometers and four existing monitoring wells to provide a means to evaluate groundwater quality in the vicinity of the new soundwalls and pedestrian undercrossing in anticipation that dewatering during construction will be required. Caltrans intends to construct soundwalls near the communities of Mussel Shoals and La Conchita in Ventura County and along the southbound Route 101 on ramp at Bates Road. Caltrans anticipates that the soundwalls will most likely be supported on piles that will be extended to depths of less than 40 feet. A groundwater sample was collected from one piezometer and analyzed for the necessary parameters to obtain a National Pollution Discharge Elimination System (NPDES) permit from the Los Angeles Regional Water Quality Control Board (LARWQCB) for the discharge of groundwater generated during construction dewatering activities.

1.2 Scope of Services

Geocon performed the following tasks:

1.2.1 Pre-field Activities

- Attended a Task Order meeting on October 20, 2009, to discuss field methods, boring locations, health and safety measures, and the completion schedule.

- Prepared a Health and Safety Plan (HSP) dated October 28, 2009, for the use of personal protective equipment for Geocon employees during the field activities. The HSP specifies the safety procedures for work to be performed at the Site, chemical hazard information, site safety officers, and medical emergency locations.
- Contacted Underground Service Alert (USA) to notify utility companies of the field activities. The USA ticket numbers are A93000157, A93000175, A93000190, A93000199, A93000202, A93000207, and A93000226.
- Retained the services of Advanced Technology Laboratories (ATL), a Caltrans-approved, California-licensed laboratory, to perform the sample analyses.
- Retained the services of Gregg Drilling and Testing, a Caltrans-approved drilling subcontractor located in Signal Hill, California, to install groundwater piezometers.
- Retained the services of RP Barricade, a Caltrans-approved traffic control subcontractor, located in Ventura, California, to provide shoulder closures and traffic control during field activities.

1.2.2 Soil Sampling

A Geoprobe® direct-push hydraulic sampling rig, a hollow-stem auger drilling rig, and a 2.5-inch diameter hand-auger equipment were used to collect 127 soil samples that were submitted for laboratory analysis from 31 boring locations from within the project limits. A hand-auger was used to advance soil samples in areas that were inaccessible to the direct-push rig. Boring locations were provided by Caltrans as specified on the figures furnished to Geocon in the TO.

A direct-push hydraulic sampling rig was used to collect soil samples in acetate sleeves at depth intervals of 0.0 to 0.5 foot, 1.0 to 1.5 foot, 2.0 to 2.5 feet, and 4.0 to 4.5 feet. Seventeen additional soil samples were collected from select direct-push borings at depths between 5 and 8 feet and placed on hold at the lab pending the results from the shallower samples. Based on the analytical results the samples that were placed on hold were not analyzed. The hand-auger was used to advance soil samples in areas that were inaccessible to the direct-push rig. Soil samples obtained with a hand-auger were placed into laboratory-provided glass jars. Additionally, soil samples were collected from the deeper hollow-stem auger borings at depth intervals of 10.0 to 10.5 feet, 20.0 to 20.5 feet, and 30.0 to 30.5 feet using a split-spoon sampler lined with stainless-steel sleeves.

The approximate boring locations are shown on the Boring Location Maps (L-1 to L-14). Shallow soil boreholes were back-filled to surface with soil cuttings, deeper soil borings were backfilled with neat cement grout.

1.2.3 Piezometer Installation and Groundwater Monitoring

A hollow-stem auger drilling rig was used to install temporary piezometers at locations specified by the Caltrans Contract Manager. Water levels in the two new piezometers, four existing piezometers installed by Caltrans, and four existing Caltrans groundwater monitoring wells were measured.

One groundwater sample was collected from the piezometer installed at boring location 1082-120. Samples were not collected from the other piezometers or monitoring wells because they contained insufficient water to collect a sample.

1.2.4 Laboratory Analyses

Laboratory analyses were performed by ATL under ten-day turn-around-time. Reproductions of the laboratory reports and COC documentation are presented in Appendix B. Samples were analyzed as follows:

- One-hundred-twenty soil samples for total lead using Environmental Protection Agency (EPA) Test Method 6010.
- Nine equipment blank samples for total lead using EPA Test Method 6010.
- Twelve soil samples for Title 22 metals according to Title 22 CCR, EPA Test Method 6010.
- Twenty-one soil samples with total lead concentrations greater than 50 milligrams per kilogram (mg/kg) (i.e. greater than ten times the Soluble Threshold Limit Concentration (STLC) of than 5.0 milligrams per liter (mg/l)) were further analyzed for soluble lead using the Waste Extraction Test method (WET).
- Fourteen soil samples with total lead concentrations greater than 100 mg/kg and WET soluble lead concentrations greater than 5.0 mg/l were further analyzed for Toxicity Characteristic Leaching Procedure (TCLP) soluble lead.
- Sixteen soil samples with WET soluble lead concentrations greater than 5.0 mg/l were further analyzed using a modified WET method using deionized water as the extractant (DI-WET).
- Eleven soil samples for extended range TPH using modified EPA Test Method 8015B.
- Four soil samples for VOCs using EPA Method 8260B, pesticides using EPA Test Method 8081A, and herbicides using EPA Method 8151A
- Twelve soil samples for pH using EPA Test Method 9045.
- One composite sample from drums of soil cuttings for Title 22 metals, TPH and VOCs.
- One groundwater sample for NPDES parameters, which includes:
    - Total metals including boron and mercury using EPA Test Methods 3010A, 200.7, 200.8 and 245.1.
    - Hexavalent chromium using EPA Test Method 218.6.
    - Total cyanide and sulfide using EPA Test Methods SM4500-CN/S.
    - Gas and diesel range petroleum hydrocarbons (TPHg and TPHd), ethanol and methanol using EPA Test Method 8015.
    - VOCs using EPA Test Method 8260B.
    - Semi-volatile organic compounds (SVOCs) and 1,4-dioxane using EPA Test Methods 3510C/8270C.
    - Organochlorine pesticides using EPA Test Methods 3510C/8081A.
    - Polychlorinated biphenyls (PCBs) using EPA Test Methods 3510C/8082.
    - Biochemical oxygen demand (BOD) using EPA Test Methods SM5210B.
    - Oil & grease and total recoverable petroleum hydrocarbons (TRPH) using Test EPA Method 1664.
    - N-Nitrosodimethylamine (NDMA) using EPA Test Methods 3520C/1625CM.

- Perchlorate using EPA Test Method 314.0.
- 1,2,3-Trichloropropene (TCP), 1,2-dibromo-3-chloropropane (DBCP), and 1,2-dibromoethane (ethyldibromide; EDB) using EPA Test Method 504.1.
- Total dissolved solids (TDS), suspended solids (SS), and settleable matter using Standard Methods SM2540C/D/F.
- Chloride, nitrite, nitrate and sulfate using EPA Test Method 300.0.
- Hardness using Standard Method SM2340C.

1.2.5 GPS Surveying

Each boring location was recorded using a Global Positioning System (GPS) receiver. Data were recorded using the Axis III™ receiver system, using State Plane 83 coordinates, with the IMAP™ software package. Boring location coordinates in latitude and longitude are provided in Table 1.

1.2.6 Report Preparation

This report was prepared as outlined in Contract No. 06A1411 and Task Order No. 86 summarizing the results of the ADL, heavy metals, and groundwater site investigation activities requested by Caltrans.

1.3 Previous Site Investigations

A report entitled *Aerially Deposited Lead, Heavy Metals, and Groundwater Site Investigation, U.S. Route 101 (El Camino Real), 07-Ven-101, PM R39.8/R43.6 & 05-SB-101, PM 0.0/2.2, Ventura and Santa Barbara Counties, California*, dated March 2008, documents the results of an ADL survey performed within the project limits and the installation of the four groundwater monitoring wells that were gauged for this investigation. The ADL survey documented in the March 2008 report was performed within the median and along areas of the shoulders where soundwalls will be constructed. The areas evaluated for ADL in the March 2008 investigation are outside of the areas evaluated during this investigation.

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 resulting from vehicle exhaust containing lead from the combustion of leaded gasoline. The concentration and distribution of ADL in soil is dependent on many variables, but in general, traffic volume and age of a highway are the primary factors.

2.2 Hazardous Waste Classification Criteria

Regulatory criteria to classify a waste as "California hazardous" for handling and disposal purposes are contained in the 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 a waste containing metals, the waste is classified as "California hazardous" when: (1) the total metal content exceeds the Total Threshold Limit Concentration (TTLC); or (2) the soluble metal content exceeds the STLC based on a WET analysis. A material is classified as "RCRA hazardous" when the soluble metal content exceeds the Federal Regulatory Level based on TCLP testing.

The above regulatory criteria are based on toxicity. Wastes may also be classified as hazardous based on other criteria including ignitability, toxicity, corrosivity, and reactivity. However, 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 approved disposal facility.

2.3 DTSC Variance

The DTSC issued a statewide Variance effective July 1, 2009, regarding the reuse of ADL-impacted soils within Caltrans right-of-way. Under the Variance, soil that is classified as a non-RCRA hazardous waste, based primarily on ADL content, may be suitable for reuse within Caltrans right-of-way. ADL soil that is classified as a RCRA hazardous waste is not eligible for reuse under the Variance and must be disposed of as a RCRA hazardous waste (Caltrans Type Z3).

ADL soil reused under the Variance must always be at least 5 feet above the highest groundwater elevation and, depending on lead concentrations, must be covered with at least one foot of non-hazardous soil or a pavement structure. The ADL soil may not be placed in areas where it might contact groundwater or surface water (such as streams and rivers), and must be buried in locations that are protected from erosion that may result from storm water run-on and run-off.

Review of the statewide Variance indicates the following conditions regarding the reuse and management of ADL-impacted soil as fill material for construction and maintenance operations. If ADL soil meets the Variance criteria but is not intended to be reused within Caltrans right-of-way, then the excavated soil must be disposed of as a California hazardous waste (Caltrans Type Z2). A copy of the Variance is presented as Appendix C.

Caltrans Type Y1

ADL soil exhibiting a total lead concentration less than or equal to 1,411 mg/kg, a DI-WET (WET using deionized water as extractant) soluble lead concentration less than or equal to 1.5 mg/l, and a pH value greater than or equal to 5.5 may be reused within the same Caltrans corridor and must be covered with at least one foot of non-hazardous soil.

Caltrans Type Y2

ADL soil exhibiting a total lead concentration less than or equal to 1,411 mg/kg, a DI-WET lead concentration less than or equal to 1.5 mg/l, and a pH value greater than 5 and less than 5.5 may be reused within the same Caltrans corridor and must be covered and protected from infiltration by a pavement structure.

ADL soil exhibiting a total lead concentration less than or equal to 1,411 mg/kg, a DI-WET lead concentration greater than 1.5 mg/l and less than or equal to 150 mg/l, and a pH value greater than 5 may be reused within the same Caltrans corridor and must be covered and protected from infiltration by a pavement structure.

ADL soil exhibiting a total lead concentration greater than 1,411 mg/kg and less than or equal to 3,397 mg/kg, a DI-WET lead concentration less than or equal to 150 mg/l, and a pH value greater than 5 may be reused within the same Caltrans corridor and must be covered and protected from infiltration by a pavement structure.

Caltrans Type Z2

ADL soil exhibiting a total lead concentration greater than 3,397 mg/kg, or a DI-WET lead concentration greater than 150 mg/l, or a pH value less than or equal to 5 is not eligible for reuse under the Variance and must be disposed of as a California hazardous waste.

Surplus Type Y1 and Type Y2 soil which requires offsite disposal is also classified as Type Z2.

Caltrans Type Z3

ADL soil exhibiting a TCLP lead concentration greater than or equal to 5 mg/l is not eligible for reuse under the Variance and must be disposed of as a RCRA hazardous waste.

3. INVESTIGATIVE METHODS

3.1 Field Methods

3.1.1 Soil Sampling

Soil cores obtained from the borings advanced with the direct-push hydraulic sampling rig were collected in new disposable, 1-inch diameter, cellulose thermoplastic (acetate) liners driven by the direct-push rig. Soil samples for lab analysis were cut from the acetate liners, capped, and placed in an ice chest chilled to approximately 4 degrees Celsius for subsequent delivery to the laboratory with chain-of-custody documentation. Soil samples were delivered to the analytical laboratory within 48-hours of collection.

Soil sample identification numbers were assigned based on boring number and the 6-inch interval from which the sample was collected. For example, the soil sample designated 1082-101-1 was obtained from approximately 0.5 to 1 foot from boring 1082-101.

Quality Assurance/Quality Control (QA/QC) procedures conducted during field activities included sampling equipment decontamination prior to each boring advancement, single use of new disposable soil core liners, single use of new re-sealable plastic sample bags, and sample chain-of-custody documentation. Soil sampling equipment was cleansed between borings 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 direct-push borings were backfilled with surface soil from the immediate vicinity of the boring location. Decontamination water was discharged to the ground surface away from surface water bodies or storm drain inlets.

Soil sampling and handling methods used to collect samples from borings that were advanced with a hand-auger are outlined in the Geocon Standard Operating Procedure (SOP) *Modified SOP No. 11 - Hand-Augering and Soil Sample Collection/Handling Procedures* presented in Appendix D.

3.1.2 Equipment Blank Sampling

One equipment blank sample was collected per chain-of-custody (approximately every 20 soil samples) to verify proper cleaning of the sampling equipment. The equipment blank samples were obtained by passing distilled water over the decontaminated sampling equipment and into unpreserved laboratory-provided containers.

3.1.3 Piezometer Installation and Groundwater Monitoring

A hollow-stem auger drilling rig was used to advance two 30-foot-deep borings for the installation of temporary piezometers at boring locations 1082-101 and 1082-120. Prior to drilling the borings each location was cleared for underground utilities by advancing a hand excavated hole to five feet. Soil samples collected for laboratory analysis from the upper five feet were collected into laboratory provided glass jars. Soil samples, from 5-feet to 30-feet, were collected at 5-foot intervals with a split-spoon sampler lined with stainless-steel sleeves. One sleeve from depths of 10, 20, and 30-feet was capped, labeled, and submitted for laboratory analysis. Soil samples were reviewed by the site geologist and described in accordance with the Unified Soil Classification System. Boring logs are presented in Appendix E.

Temporary piezometers were installed in borings 1082-101 and 1082-120. The piezometers were constructed by placing slotted 2-inch-diameter Schedule 40 PVC pipe in the open boring. The annular space between the boring walls and PVC pipe was not backfilled.

Water levels in the two new piezometers (borings 1082-101 and 1082-120), four existing piezometers installed by Caltrans (R-09-102, R-09-103, A-09-105, and A-09-108), and four existing Caltrans groundwater monitoring wells (MW 301, MW 302, MW 303, and MW 304) were measured on October 30 and November 2, 2009. The locations of the piezometers and wells are shown on the Boring Locations Maps with the exception of piezometer A-09-105 and monitoring wells MW 303 and MW 304 that are located approximately two miles north of the Site, in the vicinity of Bailard Avenue.

One groundwater sample was collected from the piezometer installed at boring location 1082-120. Samples were not collected from the other piezometers or monitoring wells due to insufficient water to collect a sample. The groundwater sample was collected with a new disposable bailer and decanted into appropriate laboratory-supplied containers.

Soil cuttings generated during hollow-stem auger drilling of borings 1082-101 and 1082-120 were placed in four 55-gallon DOT rated drums which were removed by Belshire Environmental Services. One composite soil sample was collected from the drums for waste profiling purposes. The sample was analyzed for extended range TPH by modified EPA Test Method 8015B, VOCs by EPA Test Method 8260B, and Title 22 metals by EPA Test Method 6010B. Based on the analytical results of the composite drum sample the material was recycled as a non-hazardous waste. Copies of the waste disposal manifests are presented in Appendix F.

3.2 Deviations from Work Plan

The TO served as the work plan for this investigation. Geocon performed the scope of work as described in the TO with the following exceptions:

- The planned sampling depths for boreholes 1082-116 and 1082-117 were changed at the TO meeting to include collecting samples at the surface and 1.5-feet only.
- The planned piezometer at boring location 1082-119 was eliminated by Caltrans.
- Borings 1082-101 and 1082-120, which were drilled with a hollow-stem auger to facilitate piezometer installation, were not backfilled with excavated soils. Soils generated during drilling were placed in 55-gallon drums and transported offsite for disposal. The boring were backfilled with neat cement grout.
- Refusal conditions were encountered in boreholes 1082-103, 1082-106, 1082-107, 1082-121, and 1082-126 at a depth of four feet due to the presence of cobbles and the borings were not completed to the planned total depth.
- Due to limited access, boring 1082-118 was advanced with a direct-push rig instead of a hollow-stem auger drilling rig. Consequently the boring was only advanced to a total depth of 11 feet rather than the planned depth of 20 feet.
- Groundwater levels were not measured in Caltrans piezometer A-09-109 because its proximity to the edge of travel lane would have required a lane closure to safely access.
- Sufficient quantities of groundwater for sampling were only encountered in the piezometer at boring location 1082-120.
- Soil samples were delivered to the analytical laboratory within 48 hours of collection.

4. INVESTIGATIVE RESULTS AND FIELD OBSERVATIONS

4.1 Soil and Groundwater Conditions

The soil conditions encountered in the ADL boreholes generally consisted of loose to moderately dense, dry, brown to dark-brown, clayey sand with coarse gravel. Groundwater was not encountered in the direct-push and hand-auger borings.

The soils in the boring at location 1082-101 consisted of medium dense, dry, light yellow brown to dark brown silty sand and sand. Soft, dry, light reddish brown, poorly laminated siltstone with some fine to medium sand and trace amounts of gravel was encountered from approximately 10 feet to the total depth of the boring at 30 feet. Groundwater was not encountered during drilling of boring 1082-101.

The soils in the boring at location 1082-120 consisted of dense, slightly moist, dark yellow brown to dark brown sandy silt with trace gravel from the surface to a depth of approximately 10-feet. Loose, slightly moist, light brown fine to medium sand with trace silt was encountered between approximately 10 to 15 feet. Stiff, slightly moist, dark brown silt with trace sand and gravel was encountered between approximately 15 and 20 feet.

Loose, wet, light brown fine to coarse sand with trace gravel and silt was encountered between approximately 20 and 25 feet. Dense to very dense, wet, light grey brown sand with gravel was encountered between 25 feet to the total depth of the boring at 30 feet. Groundwater was encountered at a depth of approximately 20 feet during drilling of boring 1082-120. Boring logs for borings 1082-101 and 1082-120 are presented in Appendix E.

Water levels in the two new piezometers, four existing piezometers installed by Caltrans, and four existing Caltrans groundwater monitoring wells were measured on October 30 and November 2, 2009. At that time wells MW-301, MW-302, and MW-303 had accumulated 2.63 feet, 0.32 feet, and 2.17 feet of water, respectively. Well MW-304 was dry. The depth to water in the monitoring wells ranged from 19.6 feet in MW-302 to 37.45 feet in MW-303.

Two of the Caltrans piezometers, R-09-103 and A-09-105, were dry. Piezometer A-09-108 was measured to have accumulated 8.06 feet of water. The depth to water in piezometer A-09-108 was 23.59 feet. Viscous oil was noted to have accumulated at a depth of approximately 25 feet in piezometer R-09-102. The viscosity of the oil prevented measurement of the thickness of the oil column within the piezometer. According to the Caltrans geologist, oil was encountered during drilling at a depth of approximately 108 feet.

New piezometer 1082-120 was measured to have accumulated 11.19 feet of water. The depth to water in 1082-120 was 18.1 feet. Piezometer 1082-101 was dry. Water level measurements are summarized on Table 2.

4.2 Soil Analytical Laboratory Results

A summary of the soil results for total lead, WET lead, DI-WET lead, TCLP lead, and pH is presented in Table 1. A summary of the soil results for VOCs, herbicides, and TPH is presented in Table 3. A summary of soil results for Title 22 metals is presented in Table 4. A summary of the soil results for pesticides is presented in Table 5. Reproductions of the laboratory reports and chain-of-custody documentation are presented as Appendix B. Analyses were processed using laboratory ten-business-day turn-around times. The nine equipment blank water samples were analyzed for total lead. The equipment blank samples did not contain lead concentrations above the laboratory detection limit of 0.25 mg/l.

Soil sample analytical results are summarized below (see Section 1.2.4 for analytical methods used):

- Title 22 metals antimony, beryllium, mercury, silver, and thallium were not detected above their respective laboratory reporting limits.
- Remaining Title 22 metals were reported for the samples at concentrations less than ten times their respective STLCs, with the exception of lead.

- Total lead was reported for 59 of 120 soil samples at concentrations ranging from 5.5 to 410 mg/kg. Total lead was not reported above the laboratory reporting limit of 5.0 mg/kg in the remaining 61 samples.
- WET lead was reported for each of the 21 samples analyzed at concentrations ranging from 3.5 to 35 mg/l. Concentrations of WET lead exceeding the STLC of 5.0 mg/l were reported for 16 of the samples.
- DI-WET lead was not reported above the laboratory reporting limit of 0.25 mg/l for the 16 samples analyzed.
- TCLP soluble lead was reported for 11 of the 14 samples analyzed at concentrations ranging from 0.27 to 2.7 mg/l.
- TPH concentrations were reported in 4 of the 12 samples analyzed at total concentrations ranging from 68 to 520 mg/kg.
- Pesticides were reported for samples 116-0.0-0.5 and 117-0.0-0.5 as follows: 4,4'-DDT at concentrations of 4.9 micrograms per kilogram (µg/kg) and 3.6 µg/kg, chlordane at concentrations of 53 µg/kg and 10 µg/kg; alpha-chlordane and gamma-chlordane were each reported in sample 116-0.0-0.5 at a concentration of 6.3 µg/kg.
- Herbicides and VOCs were not reported above their respective laboratory reporting limits.
- Soil pH values ranged from 7.1 to 8.1.

4.3 Groundwater Analytical Laboratory Results

One water sample was collected from the temporary piezometer at location 1082-120 and analyzed for screening parameters required to obtain an NPDES permit. Prior to collecting the water sample, the depth to water within the PVC pipe was measured to be 18.1 feet below ground surface. Field measurements of temperature, conductivity, and pH were recorded to be 70.7 degrees Fahrenheit, 3,921 micro siemens per centimeter, and 6.26, respectively. As a result of collecting the sample from an undeveloped boring the water was observed to be very turbid.

Total metals were reported at the following concentrations:

- Antimony at 0.93 micrograms per liter (µg/l)
- Arsenic at 42 µg/l
- Barium at 1,400 µg/l
- Cadmium at 38 µg/l
- Chromium (total) at 360 µg/l
- Cobalt at 59 µg/l
- Copper at 250 µg/l
- Lead at 72 µg/l
- Molybdenum at 72 µg/l
- Nickel at 520 µg/l
- Selenium at 180 µg/l
- Silver at 1.8 µg/l
- Thallium at 1.4 µg/l
- Vanadium at 500 µg/l
- Zinc at 460 µg/l

- Boron was reported at a concentration of 1.9 mg/l.
- Chloride was reported at a concentration of 300 mg/l
- Hardness was reported at 4,800 mg/l
- Nitrate was reported at a concentration of 18 mg/l
- Sulfate at a concentration of 1,100 mg/l
- TPHd was reported at a concentration of 0.058 mg/l
- TDS was reported at 2,700 mg/l
- SS was reported at 15,000 mg/l
- Settleable matter was reported at 87 mg/l

The following analytes were not reported above their respective laboratory reporting limits: beryllium, BOD, total cyanide, 1,4-dioxane, DBCP, EDB, ethanol, hexavalent chromium, methanol, mercury, NDMA, nitrite, Oil & Grease, pesticides, PCBs, perchlorate, sulfide, SVOCs, TCP, TRPH, TPHg, and VOCs. A copy of the laboratory analytical report and chain-of-custody documentation is provided in Appendix B.

4.4 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 successive rinses in tap and de-ionized water. Based on the results of the equipment blanks collected during sampling we consider the field investigation 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.

5. DATA EVALUATION

5.1 Lead

The lead data for the Site were treated as six separate sample populations based on geographic location and the similarity of total lead results for statistical evaluation, which consisted of the following groups of soil samples:

- Group 1 – Boring 1082-120 (Station 92)
- Group 2 – Borings 1082-101 and 1082-102 (Station 9 to 13)
- Group 3 – Borings 1082-103, 1082-106, and 1082-108 (Station 40 to 50)
- Group 4a – Borings 1082-104, 1082-105, 1082-107, and 1082-109 to 1082-115, and 1082-118 (Station 37 to 92)

- Group 4b – Borings 1082-116, 1082-117, and 1082-121 to 1082-128 (Station 92 to 137)
- Group 5 – Borings 1082-129 to 1082-132 (Station 178 to 193)

Statistical methods were applied to the total lead data to evaluate: 1) the upper confidence limits (UCLs) of the arithmetic means of the total lead concentrations for each sampling depth; and 2) if an acceptable correlation between total and soluble lead concentrations exists that would allow the prediction of soluble lead concentrations based on calculated UCLs. The statistical methods used are discussed in a book entitled *Statistical Methods for Environmental Pollution Monitoring*, by Richard Gilbert; in an EPA *Technology Support Center Issue* document entitled, *The Lognormal Distribution in Environmental Applications*, by Ashok Singh et. al., dated December 1997; and in a book entitled *An Introduction to the Bootstrap*, by Bradley Efron and Robert J. Tibshirani.

Where UCLs could not be computed for data sets consisting of four or less unique values we used maximum reported total lead concentrations. Maximum values were used for the statistical evaluation of sample Group 3 depth interval 0 to 0.5 feet, and Group 4b depth intervals 1.5 to 2.0 and 3.5 to 4.0 feet. Statistical analysis was not performed on samples collected from Groups 1, 2, and 5 because none of the samples collected from these groups exhibited total lead concentrations in excess of the TTLC or 10 times the STLC.

5.1.1 Calculating the UCLs for the Arithmetic Mean

The upper one-sided 90% and 95% UCLs of the arithmetic mean are defined as the values that, when calculated repeatedly for randomly drawn subsets of site data, equal or exceed the true mean 90% and 95% of the time, respectively. Statistical confidence limits are the classical tool for addressing uncertainties of a distribution mean. The UCLs of the arithmetic mean concentration are used as the mean concentrations because it is not possible to know the true mean due to the essentially infinite number of soil samples that could be collected from a site. The UCLs therefore account for uncertainties due to limited sampling data. As data become less limited at a site, uncertainties decrease, and the UCLs move closer to the true mean.

Non-parametric bootstrap techniques used to calculate the UCLs are discussed in the previously referenced EPA document and in *An Introduction to the Bootstrap*. The bootstrap test results are included in Appendix G. Note that maximum reported lead concentrations were used for certain depth intervals due to the small number of samples in the data sets. For those samples in which total lead was not detected at concentrations exceeding the laboratory reporting limit of 5.0 mg/kg, a value equal to one-half of the detection limit was used in the UCL calculation or as the maximum total lead concentration.

5.1.2 Correlation of Total and Soluble Lead

Total and corresponding WET lead concentrations are bivariate data with a linear structure. This linear structure should allow for the prediction of soluble lead WET concentrations based on the UCLs calculated above in Section 5.1.1.

To estimate the degree of interrelation between total and corresponding WET lead values (*x* and *y*, respectively), the *correlation coefficient [r]* is used. The correlation coefficient is a ratio that ranges from +1 to –1. A *correlation coefficient* of +1 indicates a perfect direct relationship between two variables; a *correlation coefficient* of –1 indicates that one variable changes inversely with relation to the other. Between the two extremes is a spectrum of less-than-perfect relationships, including zero, which indicates the lack of any sort of linear relationship at all. The *correlation coefficient* was calculated for the 21 (*x, y*) data points (i.e., soil samples analyzed for both total lead [*x*] and WET lead [*y*]). The resulting *coefficient of determination* (r^2) equaled 0.8176, which yields a corresponding *correlation coefficient* (*r*) of 0.9042.

For the *correlation coefficient* that indicates a linear relationship between total and WET lead concentrations, it is possible to compute the line of dependence or a best-fit line between the two variables. A least squares method was used to find the equation of a best-fit line (regression line) by forcing the y-intercept equal to zero since that is a known point. The equation of the regression line was determined to be $y = 0.0747(x)$, where *x* represents total lead concentrations and *y* represents predicted WET lead concentrations. This equation was used to estimate the expected WET lead concentrations for the maximums and UCLs calculated in for samples collected from the Site (see Section 5.1.1). Regression analysis results and a scatter plot depicting the (*x, y*) data points along with the regression line are included in Appendix G.

Due to small population size, UCLs could not be calculated for individual layers in Group 3. At the request of Caltrans, the UCLs for combined soil layers were calculated using underlying soil samples. The maximum concentrations and calculated total lead UCLs and predicted WET lead concentrations for Groups 3 are summarized in the following table:

Group 3 (Station 40 to 50)

Combined Layer(s)	Total Lead (mg/kg)		Predicted WET Lead (mg/l)	
	Max/ 90% UCL (mg/kg)	Max/ 95% UCL (mg/kg)	Max/ 90% UCL (mg/l)	Max/ 95% UCL (mg/l)
0 to 0.5 foot*	380	380	28.4	28.4
0.5 to 4.0 feet	*63*	*69*	*4.7*	*5.2*
0 to 1.5 feet	168	190	12.5	14.2
1.5 to 4.0 feet	*67*	*77*	*5.0*	*5.7*
0 to 3.5 feet	137	152	10.2	11.3
*3.5 to 4.0 feet**	*28*	*28*	*2.1*	*2.1*
0 to 4.0 feet	108	118	8.1	8.8

* - Value is the maximum reported total lead concentration because UCLs could not be calculated due to less than 4 unique values in the data set.

The predicted WET lead concentrations for sample Groups 4a and 4b are based on the maximum and calculated UCL total lead concentrations for each sample interval and weighted averages for combined layers.

Due to small population size, UCLs could not be calculated for the 1.5- to 2.0-foot and 3.5- to 4.0-foot intervals in Group 4b so maximum values were used. Weighted averages are calculated by using the total lead concentration for each 0.5-foot depth interval as the value for the underlying 0.5-foot depth interval (unless a sample was collected from the underlying depth interval). For samples where total lead was not detected above the laboratory reporting limit of 5.0 mg/kg, half of the reporting limit value was used. The calculated total lead UCLs and predicted WET lead concentrations for Groups 4a and 4b are summarized in the following tables:

Group 4a (Station 37 to 92)

Layer	Total Lead (mg/kg)		Predicted WET Lead (mg/l)	
	90% UCL (mg/kg)	95% UCL (mg/kg)	90% UCL (mg/l)	95% UCL (mg/l)
0 to 0.5 foot	203	217	15.2	16.2
0.5 to 1.0 foot	105	117	7.9	8.8
1.5 to 2.0 feet	15	16	1.1	1.2
3.5 to 4.0 feet	17	19	1.3	1.4
Combined Layers				
0 to 0.5 foot	203	217	15.2	16.2
0.5 to 4.0 feet	*41*	*45*	*3.1*	*3.4*
0 to 1.5 feet	138	151	10.3	11.2
1.5 to 4.0 feet	*16*	*17*	*1.2*	*1.3*
0 to 3.5 feet	68	74	5.1	5.5
3.5 to 4.0 feet	*17*	*19*	*1.3*	*1.4*
0 to 4.0 feet	61	67	4.6	5.0

Group 4b (Station 92 to 137)

Layer	Total Lead (mg/kg)		Predicted WET Lead (mg/l)	
	90% UCL (mg/kg)	95% UCL (mg/kg)	90% UCL (mg/l)	95% UCL (mg/l)
0 to 0.5 foot	77	84	5.7	6.3
0.5 to 1.0 foot	23	26	1.7	1.9
1.5 to 2.0 feet*	41	41	3.1	3.1
3.5 to 4.0 feet**	2.5	2.5	0.2	0.2
Combined Layers				
0 to 0.5 foot	77	84	5.7	6.3
0.5 to 4.0 feet	*30*	*31*	*2.3*	*2.3*
0 to 1.5 feet	41	45	3.1	3.4
1.5 to 4.0 feet	*33*	*33*	*2.5*	*2.5*
0 to 3.5 feet	41	43	3.1	3.2
3.5 to 4.0 feet	*2.5*	*2.5*	*0.2*	*0.2*
0 to 4.0 feet	36	38	2.7	2.8

* - Value is the maximum reported total lead concentration because UCLs could not be calculated due to less than 4 unique values in the data set.

** - All results less than laboratory reporting limit of 5.0 mg/kg. Value is one half of reporting limit.

5.2 Title 22 Metals

Analysis of selected soil samples for CCR Title 22 metals did not indicate the presence of metals (other than lead) at or above their respective TTLCs or 10 times their respective STLCs. The concentrations of metals reported in the soil samples were below their respective California Human Health Screening Levels (CHHSLs) for residential land use, with the exception of arsenic. However, arsenic is a naturally occurring element commonly found in soils at concentrations in excess of CCHLS. A copy of the CHHSLs for soil from the California Environmental Protection Agency *Use of California Human Health Screening Levels in Evaluation of Contaminated Properties,* dated January 2005 is provided in Appendix H.

Reported metals concentrations were compared with published background levels typically present in California soils as presented in *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). Concentrations of metals, other than lead, reported in soil at the Site are within the published background ranges.

5.3 Petroleum Hydrocarbons

Samples collected from depths of 10, 20, and 30 feet in borings 1082-101 and 1082-120, and a sample collected from a depth of 10 feet in boring 1082-118 were analyzed for TPH. Concentrations of TPH greater than the laboratory reporting limits of 10 mg/kg were not reported for the samples analyzed from borings 1082-101 and 1082-120.

Samples collected from depths of 0 to 0.5 foot and 1.0 to 1.5 feet from the two boreholes advanced near the railroad trestle (1082-116 and 1082-117) were analyzed for TPH. Concentrations of TPH in the waste oil range (C18 to C40) were reported for all four samples. The total TPH concentrations reported for the samples ranged from 70 to 520 mg/kg.

5.4 VOCs, Herbicides, and Pesticides

The four samples collected from the boreholes advanced near the railroad trestle were analyzed for VOCs, herbicides, and pesticides. Concentrations of VOCs or herbicides greater than or equal to the laboratory reporting limits were not reported for any of the samples.

The 0- to 0.5-foot sample from 1082-116 was reported to have 4,4-DDT, chlordane, alpha-chlordane, and gamma-chlordane at concentrations of 4.9 µg/kg, 53 µg/kg , 6.3 µg/kg, and 6.3 µg/kg, respectively. The 0- to 0.5-foot sample from 1082-117 was reported to have 4,4-DDT and chlordane at concentrations of 3.6 µg/kg and 10 µg/kg, respectively. The concentrations of pesticides reported in the soil samples were below their respective residential land use CHHSLs. The concentrations of pesticides reported in the soil samples are below their respective TTLCs or 10 times their respective STLCs.

5.5 Groundwater

Reported concentrations were compared to the to the "receiving waters other than municipal and domestic supply and/or groundwater recharge beneficial use" Screening Levels for General NPDES Permits, provided as Attachment A in Los Angeles Regional Water Quality Control Board (LARWQCB) *Order No. R4-2008-0032, Waste Discharge Requirements for Discharges of Groundwater from Construction and Project Dewatering to Surface Waters in Coastal Watersheds of Los Angeles and Ventura Counties (General NPDES Permits No. CAG994004).*

The reported concentrations of the metals arsenic, cadmium, copper, lead, nickel, selenium, and zinc exceed the screening level concentrations. The reported concentrations for all other analytes were below their respective screening levels. Screening levels for each of the metals and petroleum hydrocarbons are presented on Table 6.

6. CONCLUSIONS AND RECOMMENDATIONS

Lead

Waste classifications and onsite reuse for ADL containing soil under the Variance are evaluated based on the 90% UCL of the lead content for the relevant excavation depths; this has historically been considered sufficient to satisfy a good faith effort by the EPA as discussed in SW-846. Risk assessment characterization for offsite reuse is based on the 95% UCL of the lead content in the waste for the relevant depths; this is in accordance with the Risk Assessment Guidance for Superfund (RAGS) Volume 1 Documentation for Exposure Assessment. Disposal and reuse options for each Group are discussed below.

Group 1 (Station 92)

None of the samples collected from Group 1 exhibited total lead concentrations in excess of the TTLC or 10 times the STLC. Based upon the reported total lead concentrations, excavated soil from the surface to a depth of four feet would be classified as non-hazardous with respect to lead content. Accordingly, the soil is suitable for onsite reuse or disposal as non-hazardous (as Caltrans Type X).

Group 2 (Station 9 to 13)

None of the samples collected from Group 2 exhibited total lead concentrations in excess of the TTLC or 10 times the STLC. Based upon the reported total lead concentrations, excavated soil from the surface to a depth of four feet would be classified as non-hazardous with respect to lead content. Accordingly, the soil is suitable for onsite reuse or disposal as non-hazardous (as Caltrans Type X).

Group 3 (Station 40 to 50)

The total and predicted WET lead calculations for Group 3 are summarized in Table 7a. Excavation scenarios by layer are presented below. Block diagrams are presented in Appendix G.

Combined Layer (s)	Total Lead (mg/kg)		Predicted WET Lead (mg/l)		SOIL TYPE	
	Max/ 90% UCL (mg/kg)	Max/ 95% UCL (mg/kg)	Max/ 90% UCL (mg/l)	Max/ 95% UCL (mg/l)	Invoke Variance	Surplus Soil
0 to 0.5 foot	380	380	28.4	28.4	Type Y1	Type Z2
0.5 to 4.0 feet	*63*	*69*	*4.7*	*5.2*	*Type X*	*Type Z2*
0 to 1.5 feet	168	190	12.5	14.2	Type Y1	Type Z2
1.5 to 4.0 feet	*67*	*77*	*5.0*	*5.7*	*Type Y1*	*Type Z2*
0 to 3.5 feet	137	152	10.2	11.3	Type Y1	Type Z2
3.5 to 4.0 feet	*28*	*28*	*2.1*	*2.1*	*Type X*	*Type X*
0 to 4.0 feet	108	118	8.1	8.8	Type Y1	Type Z2

Based upon the predicted WET lead concentrations, excavated soil from the surface to a depth of 3.5 feet would be classified as a hazardous waste since the predicted WET lead concentrations are greater than the STLC of 5.0 mg/l. The top 3.5 feet of soil is not considered a RCRA hazardous waste based on the TCLP lead results. Based on the DI-WET lead and pH results, the top 3.5 feet of soil may be reused onsite (as Caltrans Type Y1) by placing the lead-impacted soil under at least one foot of clean soil or a pavement structure maintained by Caltrans.

Underlying soil (i.e., deeper than 3.5 feet) could be reused or disposed as non-hazardous with respect to lead content.

Group 4a (Station 37 to 92)

The total and predicted WET lead calculations for Group 4a are summarized in Table 7b. Excavation scenarios by layer are presented below. Block diagrams are presented in Appendix G.

Layer (s)	Total Lead (mg/kg)		Predicted WET Lead (mg/l)		SOIL TYPE	
	90% UCL (mg/kg)	95% UCL (mg/kg)	90% UCL (mg/l)	95% UCL (mg/l)	Invoke Variance	Surplus Soil
0 to 0.5 foot	203	217	15.2	16.2	Type Y1	Type Z2
0.5 to 4.0 feet	*41*	*45*	*3.1*	*3.4*	*Type X*	*Type X*
0 to 1.5 feet	138	151	10.3	11.2	Type Y1	Type Z2
1.5 to 4.0 feet	*16*	*17*	*1.2*	*1.3*	*Type X*	*Type X*
0 to 3.5 feet	68	74	5.1	5.5	Type Y1	Type Z2
3.5 to 4.0 feet	*17*	*19*	*1.3*	*1.4*	*Type X*	*Type X*
0 to 4.0 feet	61	67	4.6	5.0	Type X	Type Z2

Based upon the predicted WET lead concentrations, excavated soil from the surface to a depth of 0.5 foot would be classified as a hazardous waste since the 90% UCL-predicted WET lead concentration is greater than the STLC of 5.0 mg/l. The top 0.5 foot of soil is not considered a RCRA hazardous waste based on the TCLP lead results. Based on the DI-WET lead and pH results, the top 0.5 foot of soil may be reused onsite (as Caltrans Type Y1) by placing the lead-impacted soil under at least one foot of clean soil or a pavement structure maintained by Caltrans.

Underlying soil (i.e., deeper than 0.5 foot) could be reused or disposed as non-hazardous with respect to lead content.

Group 4b (Station 92 to 137)

The total and predicted WET lead calculations for Group 4b are summarized in Table 7c. Excavation scenarios by layer are presented below. Block diagrams are presented in Appendix G.

Layer (s)	Total Lead (mg/kg)		Predicted WET Lead (mg/l)		SOIL TYPE	
	90% UCL (mg/kg)	95% UCL (mg/kg)	90% UCL (mg/l)	95% UCL (mg/l)	Invoke Variance	Surplus Soil
0 to 0.5 foot	77	84	5.7	6.3	Type Y1	Type Z2
0.5 to 4.0 feet	*30*	*31*	*2.3*	*2.3*	*Type X*	*Type X*
0 to 1.5 feet	41	45	3.1	3.4	Type X	Type X
1.5 to 4.0 feet	*33*	*33*	*2.5*	*2.5*	*Type X*	*Type X*
0 to 3.5 feet	41	43	3.1	3.2	Type X	Type X
3.5 to 4.0 feet	*2.5*	*2.5*	*0.2*	*0.2*	*Type X*	*Type X*
0 to 4.0 feet	36	38	2.7	2.8	Type X	Type X

Based upon the predicted WET lead concentrations, excavated soil from the surface to a depth of 0.5 foot would be classified as a hazardous waste since the 90% UCL-predicted WET lead concentration is greater than the STLC of 5.0 mg/l. The top 0.5 foot of soil is not considered a RCRA hazardous waste based on the TCLP lead results. Based on the DI-WET lead and pH results, the top 0.5 foot of soil may be reused onsite as Caltrans Type Y1 by placing the lead-impacted soil under at least one foot of clean soil.

Underlying soil (i.e., deeper than 0.5 foot) could be reused or disposed as non-hazardous with respect to lead content.

If excavations are 1.5 feet or deeper and soil is managed as a whole, excavated soil would not be classified as a hazardous waste and can be reused or disposed as non-hazardous with respect to lead content.

Group 5 (Station 178 to 193)

None of the samples collected from Group 5 exhibited total lead concentrations in excess of the TTLC or 10 times the STLC. Based upon the reported total lead concentrations, excavated soil from the surface to a depth of four feet would be classified as non-hazardous with respect to lead content. Accordingly, the soil is suitable for onsite reuse or disposal as non-hazardous (as Caltrans Type X).

Title 22 Metals

Analysis of selected soil samples for CCR Title 22 metals did not indicate the presence of heavy metal concentrations (other than lead) at or above their respective TTLCs or 10 times their respective STLCs. The concentrations of metals reported in the soil samples were below their respective residential land use CHHSLs, with the exception of arsenic. However, arsenic is a naturally occurring element commonly found in soils at concentrations in excess of CHHSLs. The concentrations of metals in the soil samples were within the reported range of background concentrations for California soils. Based on the reported concentrations offsite reuse of excavated soil may be restricted based on arsenic content. Based on the reported concentrations offsite reuse and disposal of excavated soil may be restricted based on lead content

Petroleum Hydrocarbons

Petroleum hydrocarbons were not reported at concentrations equal to or greater than the laboratory reporting limits for the samples collected from depths of 10, 20, and 30 feet in borings 1082-101 and 1082-120 or the sample collected from a depth of 10 feet in boring 1082-118.

Concentrations up to 520 mg/kg of heavy oil range (C18 to C40) petroleum hydrocarbons were reported in the 0- to 0.5-foot and 1- to 1.5-foot samples collected from the boreholes near the railroad trestle (1082-116 and 1082-117). Based on the reported TPH concentrations, onsite reuse and offsite disposal of soil excavated from this area may be restricted. Disposal facilities, or alternative offsite reuse locations, may have site specific acceptance criteria with respect to TPH. Depending on the intended receiving facility's requirements, soil excavated from in the vicinity of the railroad trestle may require stockpiling and additional evaluation for TPH content prior to transport offsite.

Free phase petroleum (oil) was observed within Caltrans piezometer R-09-102 and the Caltrans geologist noted in the boring log that oil from naturally occurring oil seeps was present at a depth of 108 feet. If Caltrans intends to perform deep excavations for piles in the vicinity of R-09-102 there is a potential that petroleum-impacted soil may be generated.

VOCs, Herbicides, and Pesticides

The four samples collected from the two boreholes advanced near the railroad trestle were analyzed for VOCs, herbicides, and pesticides. Concentrations of VOCs or herbicides greater than or equal to the laboratory reporting limits were not reported for the samples.

Concentrations of pesticides were reported in the 0- to 0.5-foot sample from both borings (1082-116 and 1082-117). The concentrations of pesticides reported for the samples are less than the residential land use CHHSLs. The reported concentrations of pesticides are below the thresholds that would classify the soil as a California hazardous waste. However, disposal facilities, or alternative offsite reuse locations, may have site specific acceptance criteria. Depending on the intended receiving facility's requirements, soil excavated from in the vicinity of the railroad trestle may require stockpiling and additional evaluation for pesticide content prior to transport offsite.

pH

Analysis of selected soil samples indicate that the pH of the soil ranged from 7.1 to 8.1 and the soil is suitable for reuse under the DTSC Variance.

Groundwater

The reported concentrations of the metals arsenic, cadmium, copper, lead, nickel, selenium, and zinc reported for the groundwater sample collected from boring 1082-120 exceed the NPDES screening level concentrations. The reported concentrations for all other analytes were below their respective screening levels.

If the metals concentrations reported in the groundwater sample collected from the piezometer are considered to be representative of the groundwater that will be removed during dewatering activities, the LARWQCB will require treatment of the water, to remove the concentrations of metals exceeding the screening levels, prior to discharge into a storm drain system.

Worker Protection

Per Caltrans requirements, contractor(s) should prepare a project-specific Lead Compliance Plan to prevent or minimize worker exposure to lead-impacted soil. The plan should include 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.

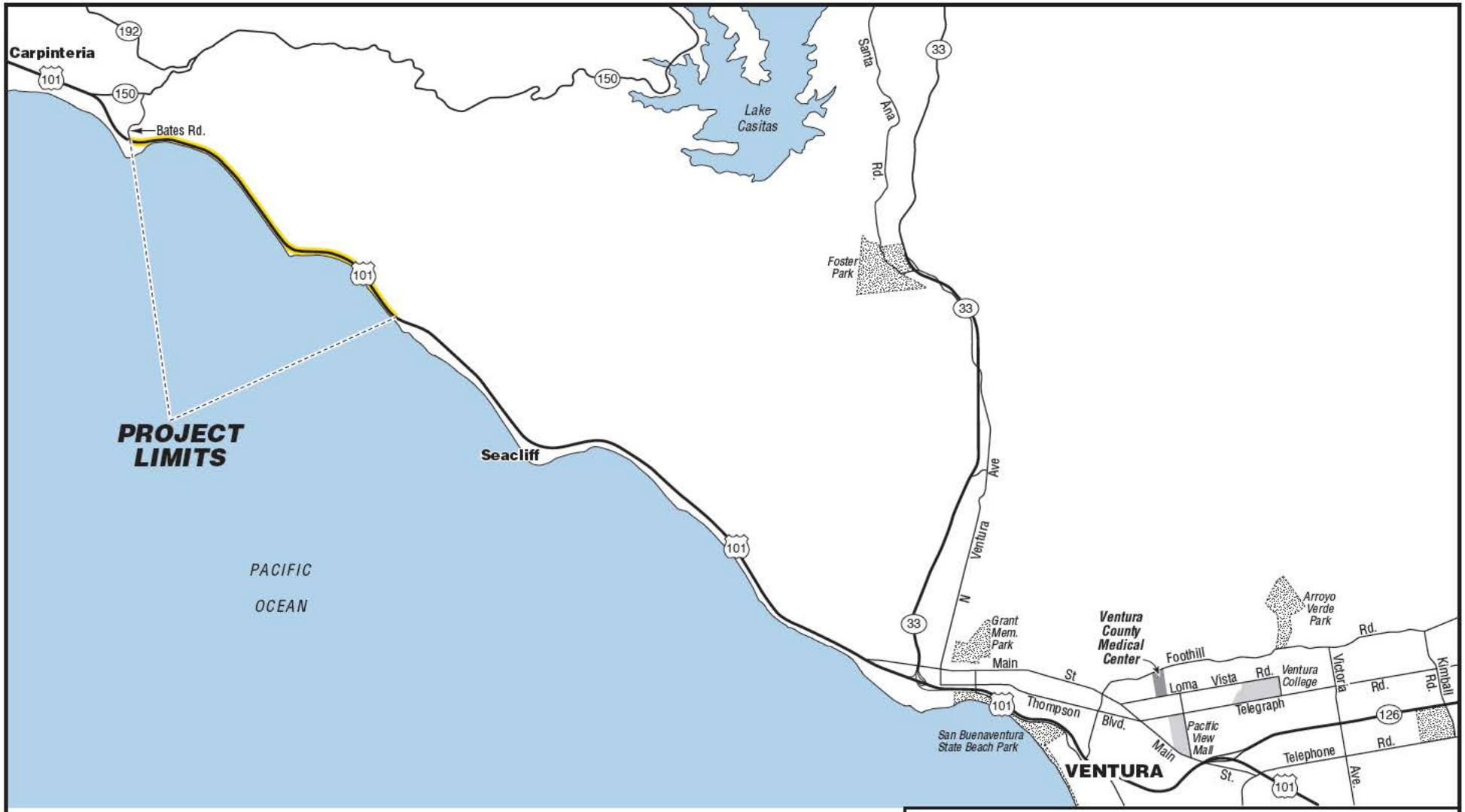
7. REPORT LIMITATIONS

This report has been prepared exclusively for Caltrans. The information obtained is only relevant as of the date of the latest site visit. The information contained herein is only valid as of the date of the report 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 and from widely spaced locations 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.



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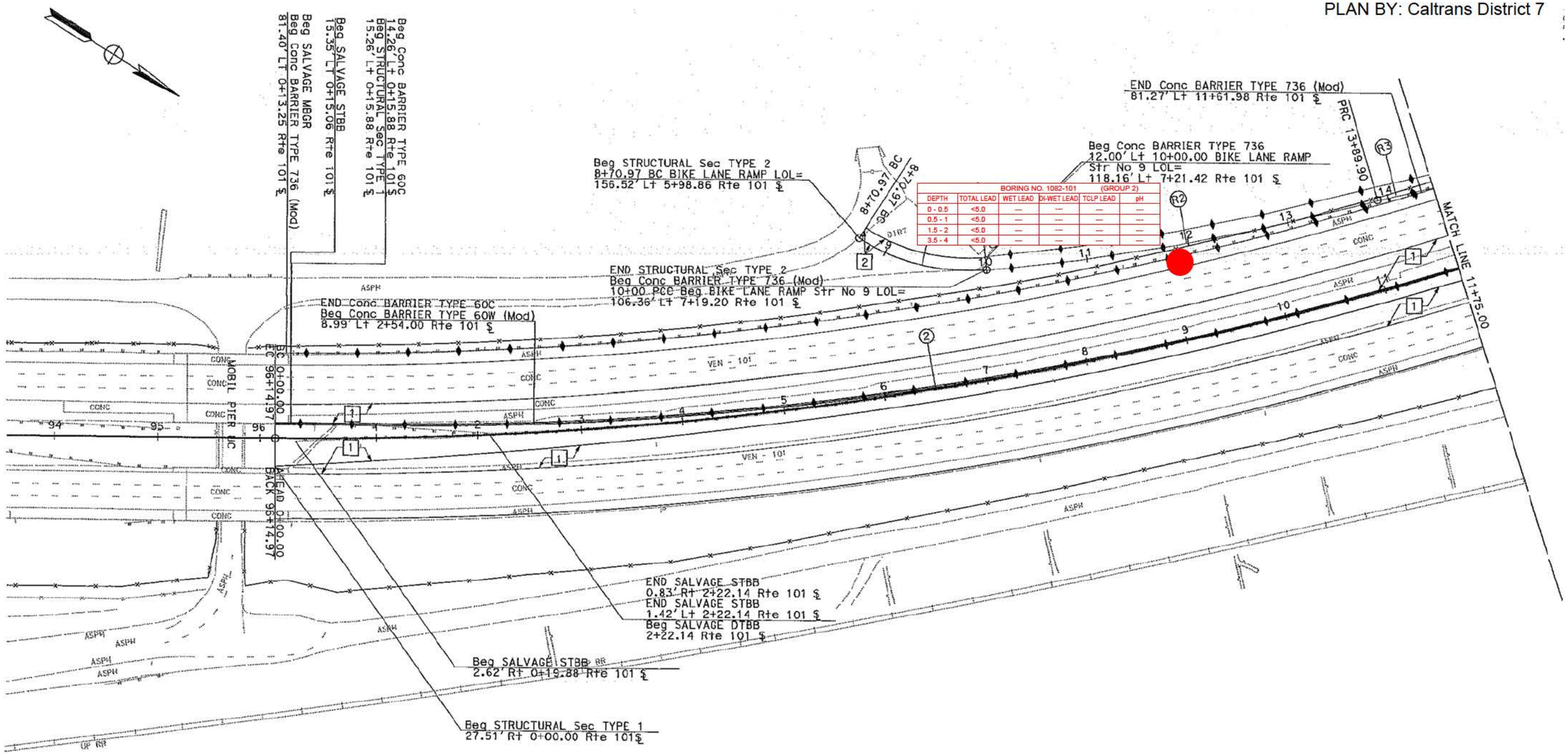
PHONE 916 852-9118 – FAX 916 852-9132

Route 101 HOV Lanes, Ven-101, PM R39.8/R43.6

Ventura County, California	**VICINITY MAP**	
GEOCON Proj. No. S9270-06-86		
Task Order No. 86	January 2010	Figure 1

PLAN BY: Caltrans District 7



BORING NO. 1082-101 (GROUP 2)

DEPTH	TOTAL LEAD	WET LEAD	DI-WET LEAD	TCLP LEAD	pH
0 - 0.5	<5.0	---	---	---	---
0.5 - 1	<5.0	---	---	---	---
1.5 - 2	<5.0	---	---	---	---
3.5 - 4	<5.0	---	---	---	---

LEGEND

Approximate Location Of Boring

TOTAL LEAD Results in milligrams / kilogram (mg/kg)
WET, DI-WET, and TCLP Results in milligrams/liter (mg/l)
DEPTH in feet
<5.0 = Not detected at or above laboratory detection limit indicated
--- = Analysis not performed.

0 100' 200'

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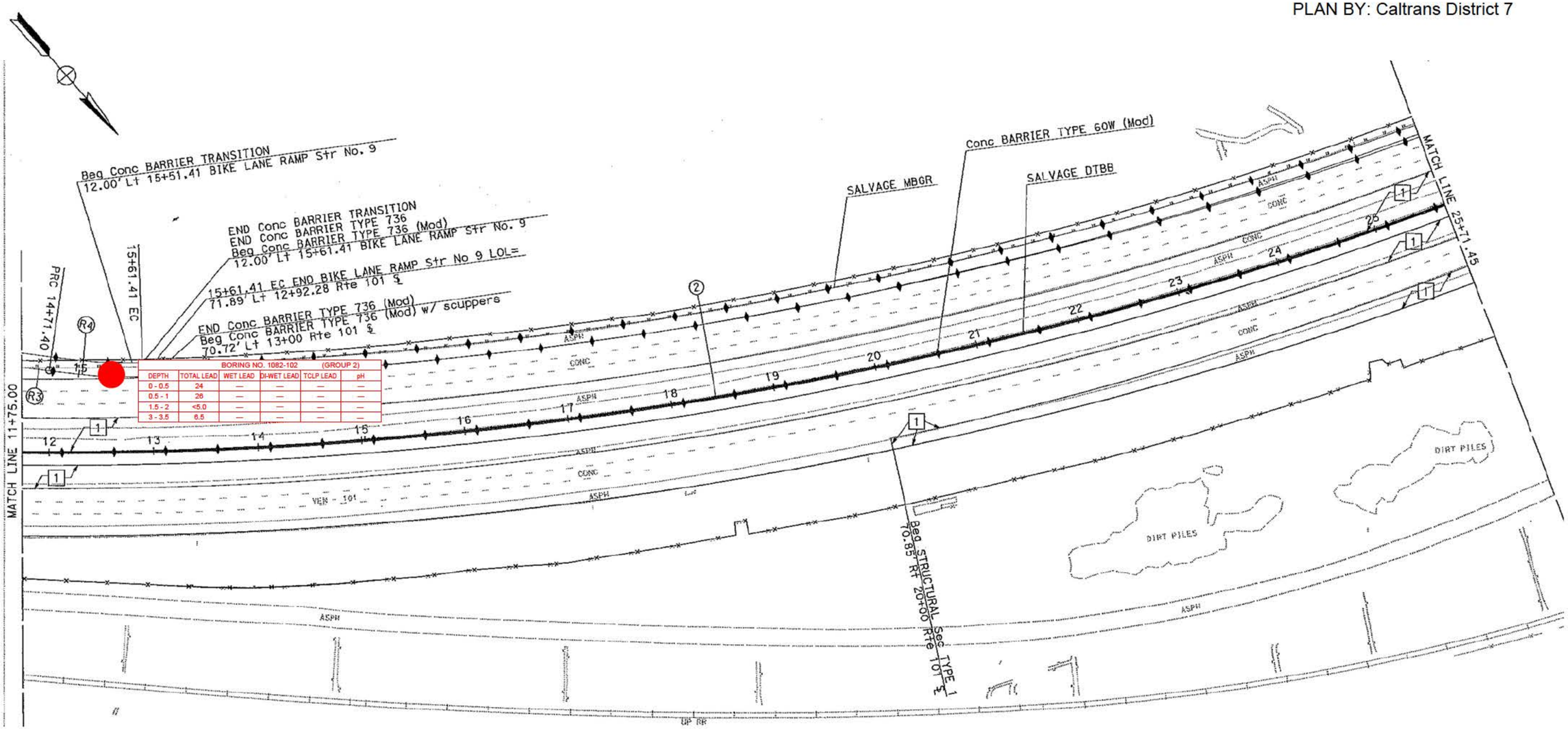
CHL		8000

BORING LOCATION MAP

CALTRANS
ROUTE 101 HOV LANES
VEN-101, PM R39.8/R43.6
TASK ORDER NO. 86

JAN. 2010	PROJECT NO. S9200 - 06 - 86	FIG. L-1

PLAN BY: Caltrans District 7



LEGEND

Approximate Location Of Boring

TOTAL LEAD Results in milligrams / kilogram (mg/kg)
WET, DI-WET, and TCLP Results in milligrams/liter (mg/l)
DEPTH in feet
<5.0 = Not detected at or above laboratory detection limit indicated
--- = Analysis not performed.

0 100' 200'

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CHL		8000

BORING LOCATION MAP

CALTRANS
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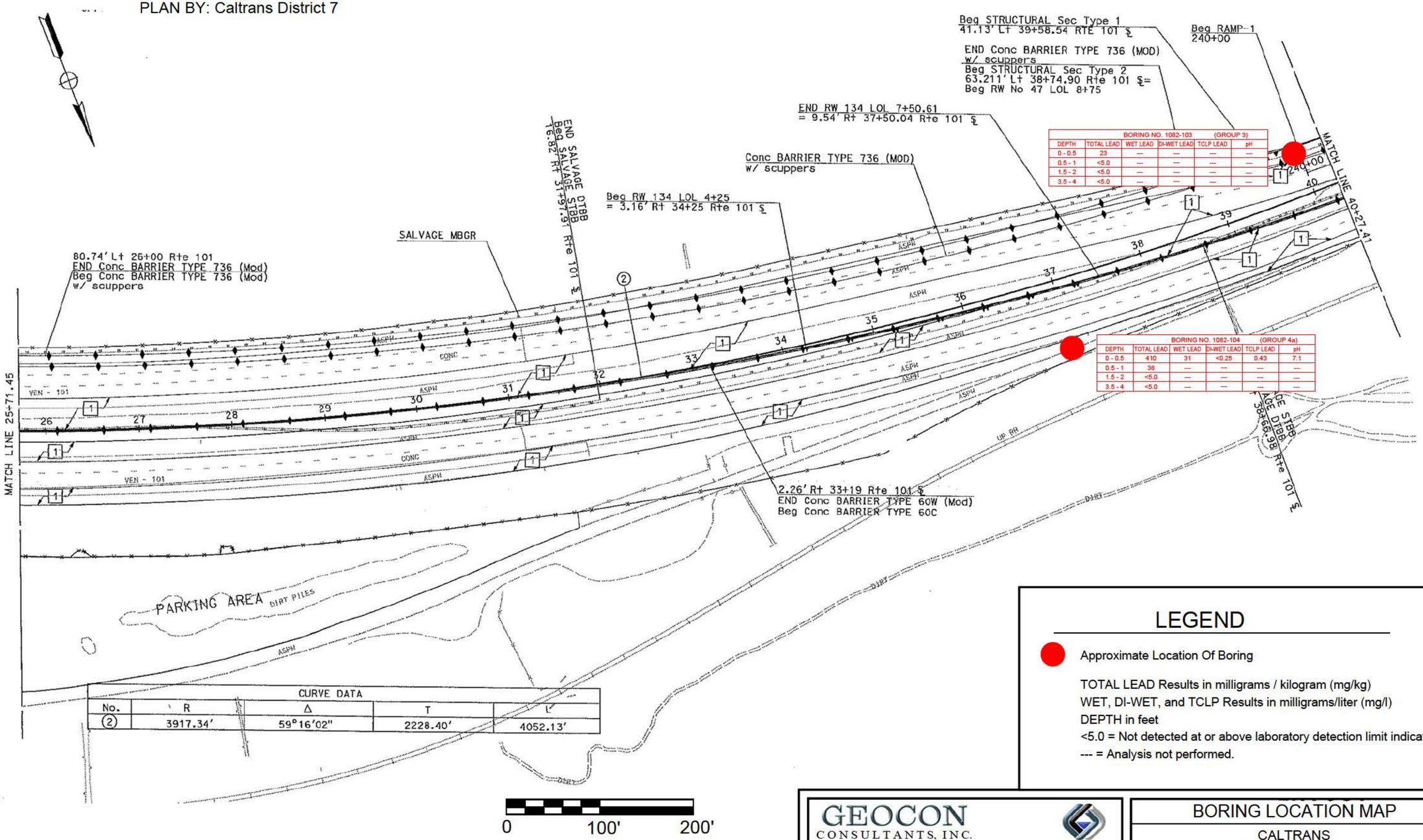
TASK ORDER NO. 86

JAN. 2010	PROJECT NO. S9200 - 06 - 86	FIG. L-2

PLAN BY: Caltrans District 7



BORING NO. 1082-103 (GROUP 3)					
DEPTH	TOTAL LEAD	WET LEAD	DI-WET LEAD	TCLP LEAD	pH
0 - 0.5	23	---	---	---	---
0.5 - 1	<5.0	---	---	---	---
1.5 - 2	<5.0	---	---	---	---
3.5 - 4	<5.0	---	---	---	---

BORING NO. 1082-104 (GROUP 4a)					
DEPTH	TOTAL LEAD	WET LEAD	DI-WET LEAD	TCLP LEAD	pH
0 - 0.5	410	31	<0.25	0.43	7.1
0.5 - 1	38	---	---	---	---
1.5 - 2	<5.0	---	---	---	---
3.5 - 4	<5.0	---	---	---	---

CURVE DATA				
No.	R	Δ	T	L
(2)	3917.34'	59°16'02"	2228.40'	4052.13'

0 100' 200'

LEGEND

Approximate Location Of Boring

TOTAL LEAD Results in milligrams / kilogram (mg/kg)
WET, DI-WET, and TCLP Results in milligrams/liter (mg/l)
DEPTH in feet
<5.0 = Not detected at or above laboratory detection limit indicated
--- = Analysis not performed.

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CHL		8000

BORING LOCATION MAP

CALTRANS
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TASK ORDER NO. 86

JAN. 2010	PROJECT NO. S9200 - 06 - 86	FIG. L-3

PLAN BY: Caltrans District 7

END SALVAGE DTBB
Beg REMOVE MEDIAN Conc BARRIER
15.15' Rt 44+89.47 Rte 101 ℄

37.84' Lt 44+25 Rte 101 ℄
END Conc BARRIER TYPE 736 (Mod)
w/ scuppers
Beg Conc BARRIER TYPE 734 (Mod)

CRASH CUSHION (TYPE REACT 9CBB)
91.585' Lt ℄ Rte 101 50+23.65=
END SW 147 LOL 40+45.417

75.829' Lt ℄ Rte 101 49+42.69 =
END RW 47 LOL

RAMP-1 BC 250+42.97

RAMP-2 BC 250+41.98

Beg SALVAGE NBGR
90.05' LT 51+09.34 Rte 101 ℄

Beg STRUCTURAL Seg TYPE 1
87.90' Lt 51+8.41 RTE 101 ℄

41+07.09 Beg RW 57 LOL=
99.709' Lt 51+34.625 Rte 101 ℄

RAMP-1 EC 242+54.93

RAMP-1 BC 247+14.14

RAMP-1 EC 249+0

RAMP-2 EC 251+14.32

MW 301

SALVAGE CRASH CUSHION
(TYPE REACT 9SCBS)
Beg SALVAGE DTBB
51+44.07 Rte 101 ℄

MATCH LINE 40+27.41

EC 40+46.96

241+00 242+00 243+00 244+00 245+00 246+00 247+00 248+00 249+00 250+00 251+00 252+00 253+00

41 42 43 44 45 46 47 48 49 50 51 52 53

VEN - 101 422.67'
S 89°03'24" W

ASPH

BC 44+69.66

PCC 50+21.65

UP RR

MATCH LINE 53+82.68

65.181' Rt Rte 101 ℄ 40+50 =
Beg RW 44 LOL BC 0+50

62.901' Rt Rte 101 ℄ 47+25 =
END RW 44 LOL BC 7+20.372

21.00' Rt 43+42 Rte 101 ℄
END Conc BARRIER TYPE 60C
Beg Conc BARRIER TYPE 60W (Mod)

RELOCATE CRASH CUSHION
(TYPE REACT 9CBB)
END REMOVE MEDIAN Conc BARRIER
3.19' Lt 50+01.70 Rte 101 ℄

RAMP-2 BC 252+49.54

DIRT

BORING NO. 1082-106 (GROUP 3)

DEPTH	TOTAL LEAD	WET LEAD	DI-WET LEAD	TCLP LEAD	pH
0 - 0.5	72	7.3	<0.25	—	7.7
0.5 - 1	19	—	—	—	—
1.5 - 2	7.0	—	—	—	—
3.5 - 4	<5.0	—	—	—	—

BORING NO. 1082-108 (GROUP 3)

DEPTH	TOTAL LEAD	WET LEAD	DI-WET LEAD	TCLP LEAD	pH
0 - 0.5	380	35	<0.25	2.6	7.4
0.5 - 1	110	12	<0.25	0.62	7.4
1.5 - 2	170	16	<0.25	0.63	7.4
3.5 - 4	28	—	—	—	—

BORING NO. 1082-105 (GROUP 4a)

DEPTH	TOTAL LEAD	WET LEAD	DI-WET LEAD	TCLP LEAD	pH
0 - 0.5	95	4.4	—	—	—
0.5 - 1	<5.0	—	—	—	—
1.5 - 2	5.5	—	—	—	—
3.5 - 4	6.8	—	—	—	—

BORING NO. 1082-107 (GROUP 4a)

DEPTH	TOTAL LEAD	WET LEAD	DI-WET LEAD	TCLP LEAD	pH
0 - 0.5	150	7.5	<0.25	<0.25	7.5
0.5 - 1	41	—	—	—	—
1.5 - 2	15	—	—	—	—
3 - 3.5	5.7	—	—	—	—

BORING NO. 1082-109 (GROUP 4a)

DEPTH	TOTAL LEAD	WET LEAD	DI-WET LEAD	TCLP LEAD	pH
0 - 0.5	290	18	<0.25	0.27	7.6
0.5 - 1	310	21	<0.25	<0.25	—
1.5 - 2	7.8	—	—	—	—
3.5 - 4	22	—	—	—	—

LEGEND

Approximate Location Of Boring

Approximate Location Of Monitoring Well

MW 301

TOTAL LEAD Results in milligrams / kilogram (mg/kg)
WET, DI-WET, and TCLP Results in milligrams/liter (mg/l)
DEPTH in feet
<5.0 = Not detected at or above laboratory detection limit indicated
--- = Analysis not performed.

0 100' 200'

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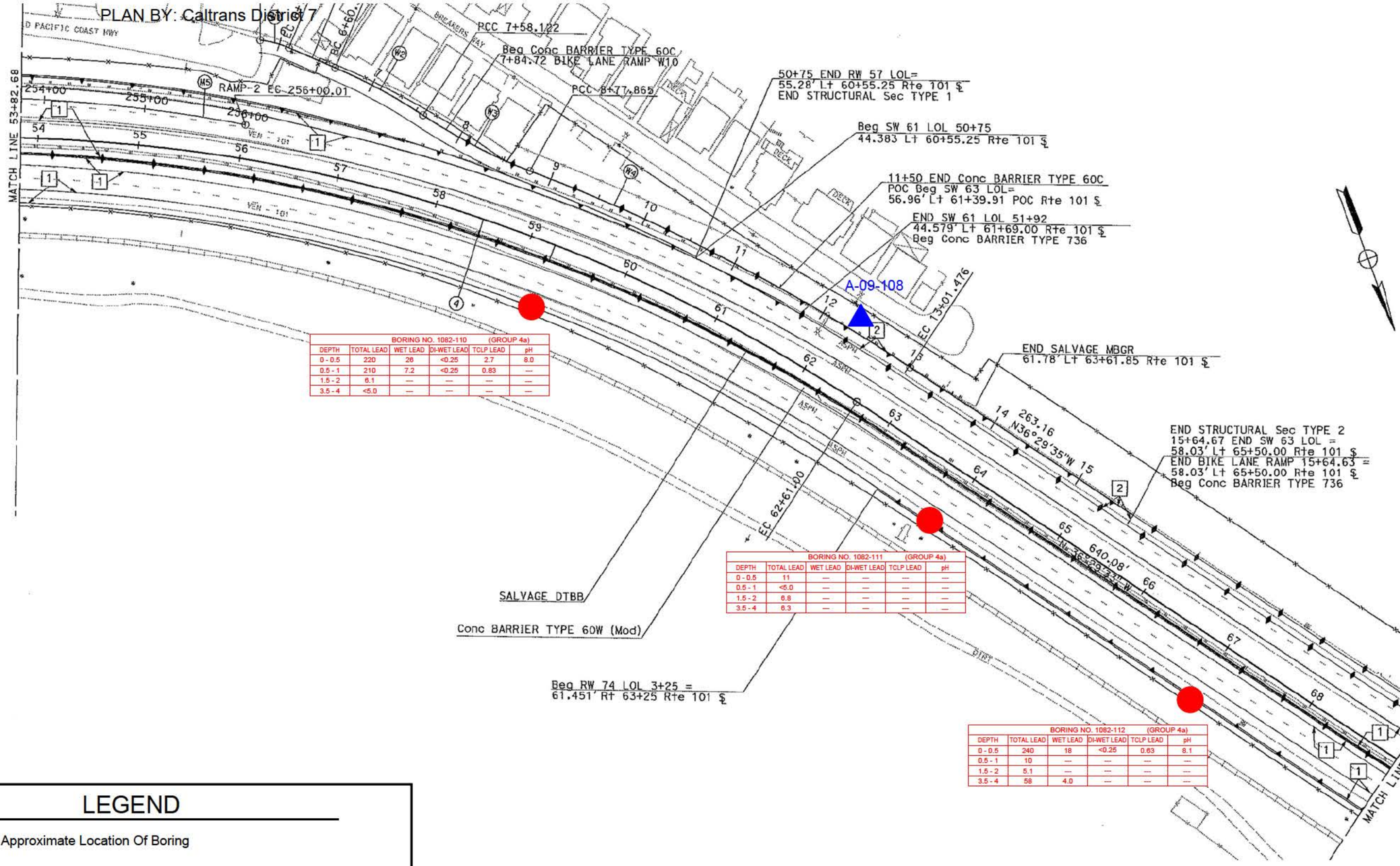
BORING LOCATION MAP

CALTRANS
ROUTE 101 HOV LANES
VEN-101, PM R39.8/R43.6
TASK ORDER NO. 86

JAN. 2010	PROJECT NO. S9200 - 06 - 86	FIG. L-4

PLAN BY: Caltrans District 7



BORING NO. 1082-110 (GROUP 4a)					
DEPTH	TOTAL LEAD	WET LEAD	DI-WET LEAD	TCLP LEAD	pH
0 - 0.5	220	26	<0.25	2.7	8.0
0.5 - 1	210	7.2	<0.25	0.83	---
1.5 - 2	6.1	---	---	---	---
3.5 - 4	<5.0	---	---	---	---

BORING NO. 1082-111 (GROUP 4a)					
DEPTH	TOTAL LEAD	WET LEAD	DI-WET LEAD	TCLP LEAD	pH
0 - 0.5	11	---	---	---	---
0.5 - 1	<5.0	---	---	---	---
1.5 - 2	6.8	---	---	---	---
3.5 - 4	6.3	---	---	---	---

BORING NO. 1082-112 (GROUP 4a)					
DEPTH	TOTAL LEAD	WET LEAD	DI-WET LEAD	TCLP LEAD	pH
0 - 0.5	240	18	<0.25	0.63	8.1
0.5 - 1	10	---	---	---	---
1.5 - 2	5.1	---	---	---	---
3.5 - 4	58	4.0	---	---	---

LEGEND

Approximate Location Of Boring

Approximate Location Of Caltrans Piezometer
R-09-103

TOTAL LEAD Results in milligrams / kilogram (mg/kg)
WET, DI-WET, and TCLP Results in milligrams/liter (mg/l)
DEPTH in feet
<5.0 = Not detected at or above laboratory detection limit indicated
--- = Analysis not performed.

0 100' 200'

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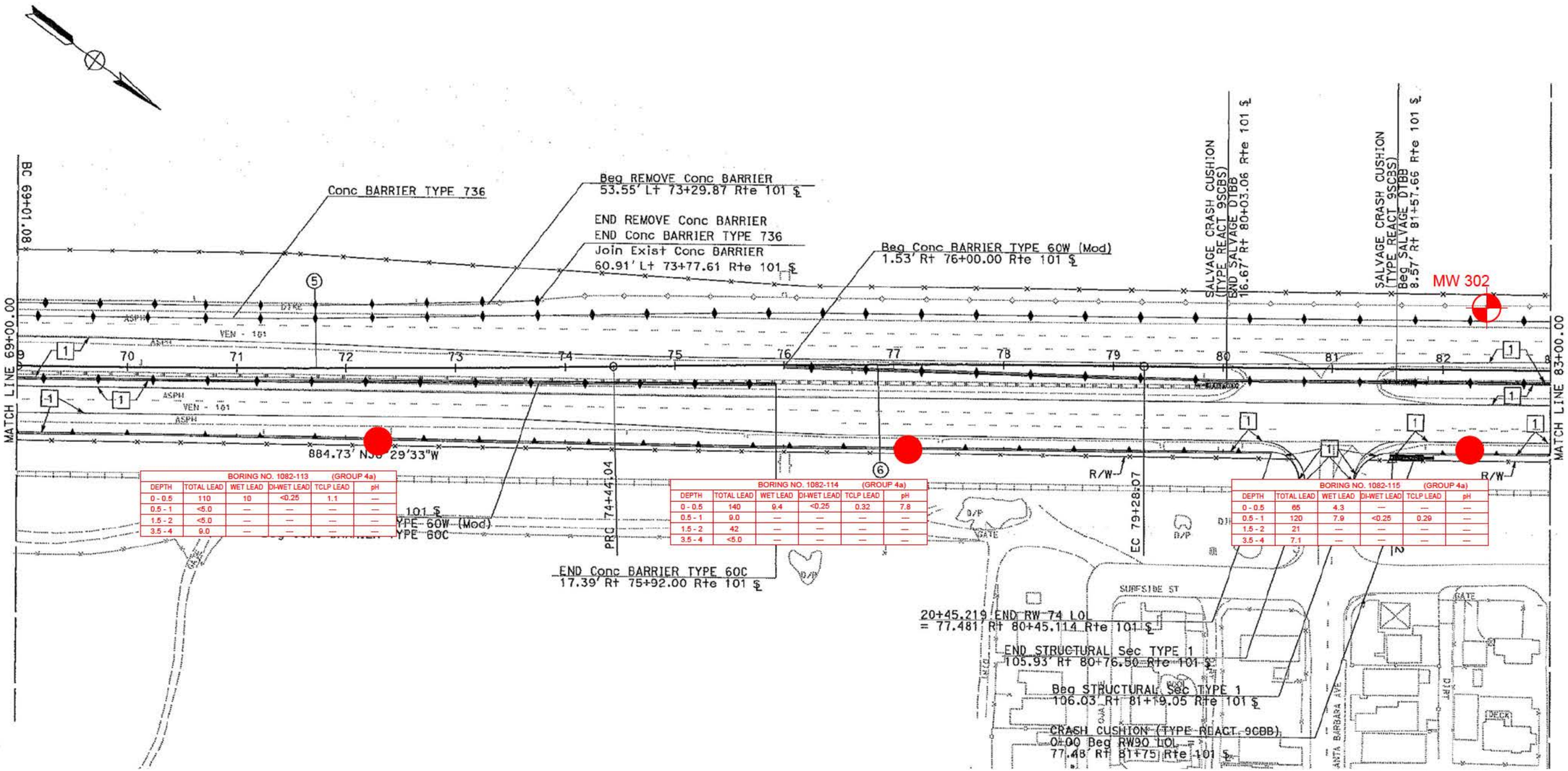
CHL		8000

BORING LOCATION MAP

CALTRANS
ROUTE 101 HOV LANES
VEN-101, PM R39.8/R43.6
TASK ORDER NO. 86

JAN. 2010	PROJECT NO. S9200 - 06 - 86	FIG. L-5

PLAN BY: Caltrans District 7



BORING NO. 1082-113 (GROUP 4a)

DEPTH	TOTAL LEAD	WET LEAD	DI-WET LEAD	TCLP LEAD	pH
0 - 0.5	110	10	<0.25	1.1	—
0.5 - 1	<5.0	—	—	—	—
1.5 - 2	<5.0	—	—	—	—
3.5 - 4	9.0	—	—	—	—

BORING NO. 1082-114 (GROUP 4a)

DEPTH	TOTAL LEAD	WET LEAD	DI-WET LEAD	TCLP LEAD	pH
0 - 0.5	140	9.4	<0.25	0.32	7.8
0.5 - 1	9.0	—	—	—	—
1.5 - 2	42	—	—	—	—
3.5 - 4	<5.0	—	—	—	—

BORING NO. 1082-115 (GROUP 4a)

DEPTH	TOTAL LEAD	WET LEAD	DI-WET LEAD	TCLP LEAD	pH
0 - 0.5	65	4.3	—	—	—
0.5 - 1	120	7.9	<0.25	0.29	—
1.5 - 2	21	—	—	—	—
3.5 - 4	7.1	—	—	—	—

LEGEND

Approximate Location Of Boring

Approximate Location Of Monitoring Well

MW 302

TOTAL LEAD Results in milligrams / kilogram (mg/kg)
WET, DI-WET, and TCLP Results in milligrams/liter (mg/l)
DEPTH in feet
<5.0 = Not detected at or above laboratory detection limit indicated
--- = Analysis not performed.

0 100' 200'

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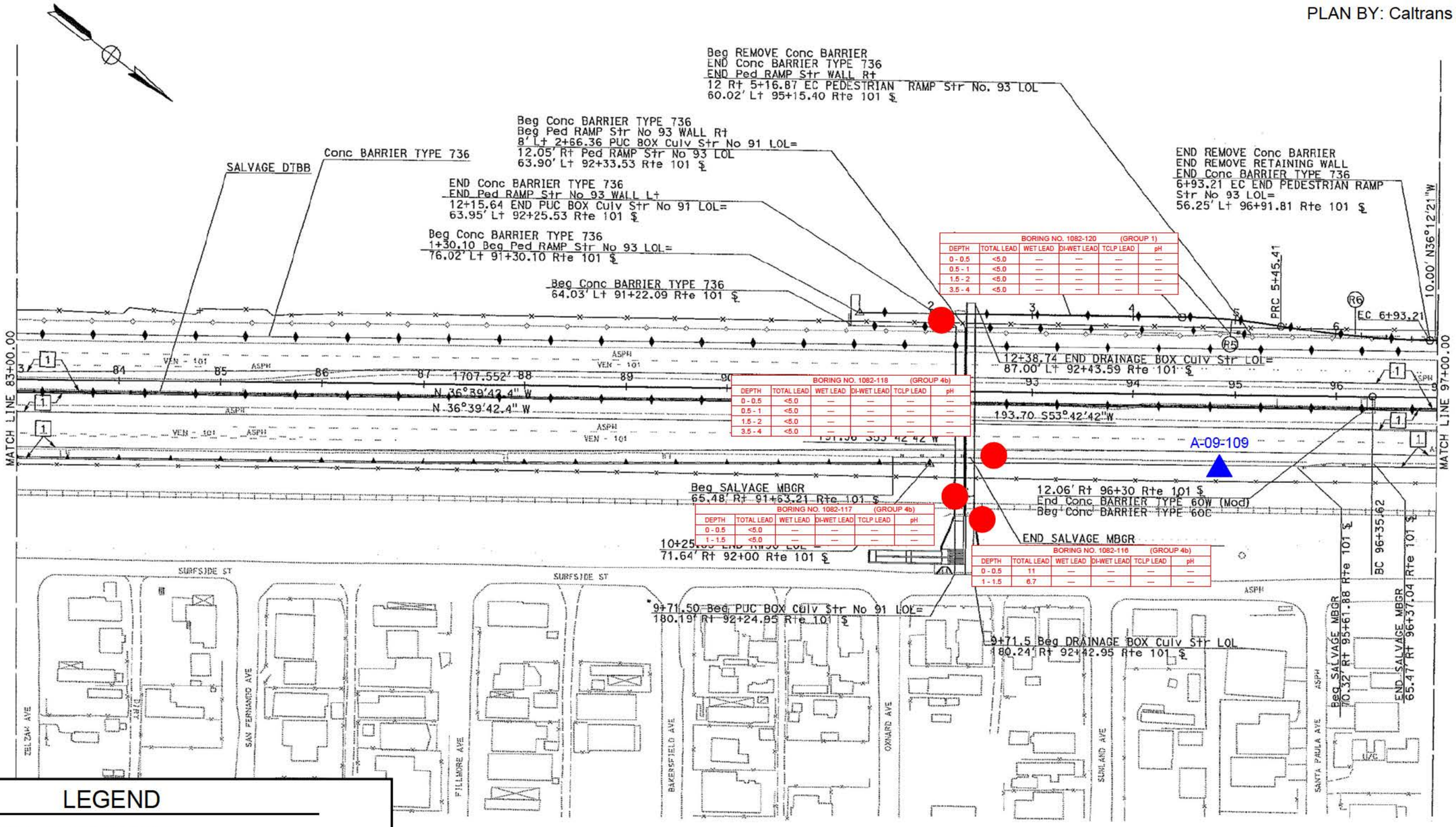
CHL		8000

BORING LOCATION MAP

CALTRANS
ROUTE 101 HOV LANES
VEN-101, PM R39.8/R43.6
TASK ORDER NO. 86

JAN. 2010	PROJECT NO. S9200 - 06 - 86	FIG. L-6

PLAN BY: Caltrans District 7



LEGEND

- Approximate Location Of Boring
- Approximate Location Of Caltrans Piezometer

R-09-103

TOTAL LEAD Results in milligrams / kilogram (mg/kg)
WET, DI-WET, and TCLP Results in milligrams/liter (mg/l)
DEPTH in feet
<5.0 = Not detected at or above laboratory detection limit indicated
--- = Analysis not performed.

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CHL		8000

BORING LOCATION MAP

CALTRANS
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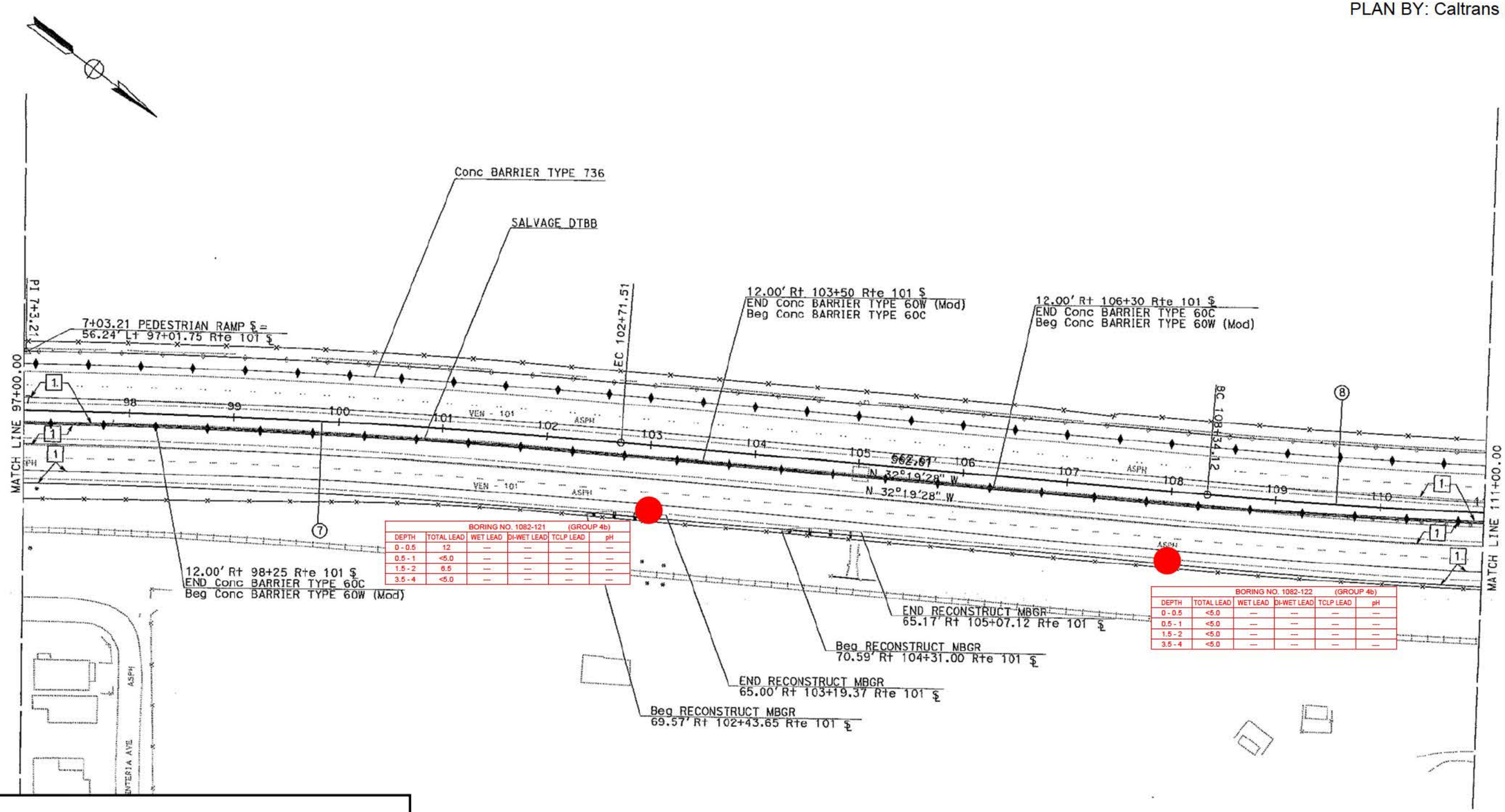
TASK ORDER NO. 86

JAN. 2010	PROJECT NO. S9200 - 06 - 86	FIG. L-7

PLAN BY: Caltrans District 7



BORING NO. 1082-121 (GROUP 4b)

DEPTH	TOTAL LEAD	WET LEAD	DI-WET LEAD	TCLP LEAD	pH
0 - 0.5	12	---	---	---	---
0.5 - 1	<5.0	---	---	---	---
1.5 - 2	6.5	---	---	---	---
3.5 - 4	<5.0	---	---	---	---

BORING NO. 1082-122 (GROUP 4b)

DEPTH	TOTAL LEAD	WET LEAD	DI-WET LEAD	TCLP LEAD	pH
0 - 0.5	<5.0	---	---	---	---
0.5 - 1	<5.0	---	---	---	---
1.5 - 2	<5.0	---	---	---	---
3.5 - 4	<5.0	---	---	---	---

LEGEND

Approximate Location Of Boring

TOTAL LEAD Results in milligrams / kilogram (mg/kg)
WET, DI-WET, and TCLP Results in milligrams/liter (mg/l)
DEPTH in feet
<5.0 = Not detected at or above laboratory detection limit indicated
--- = Analysis not performed.

0 100' 200'

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CHL		8000

BORING LOCATION MAP

CALTRANS
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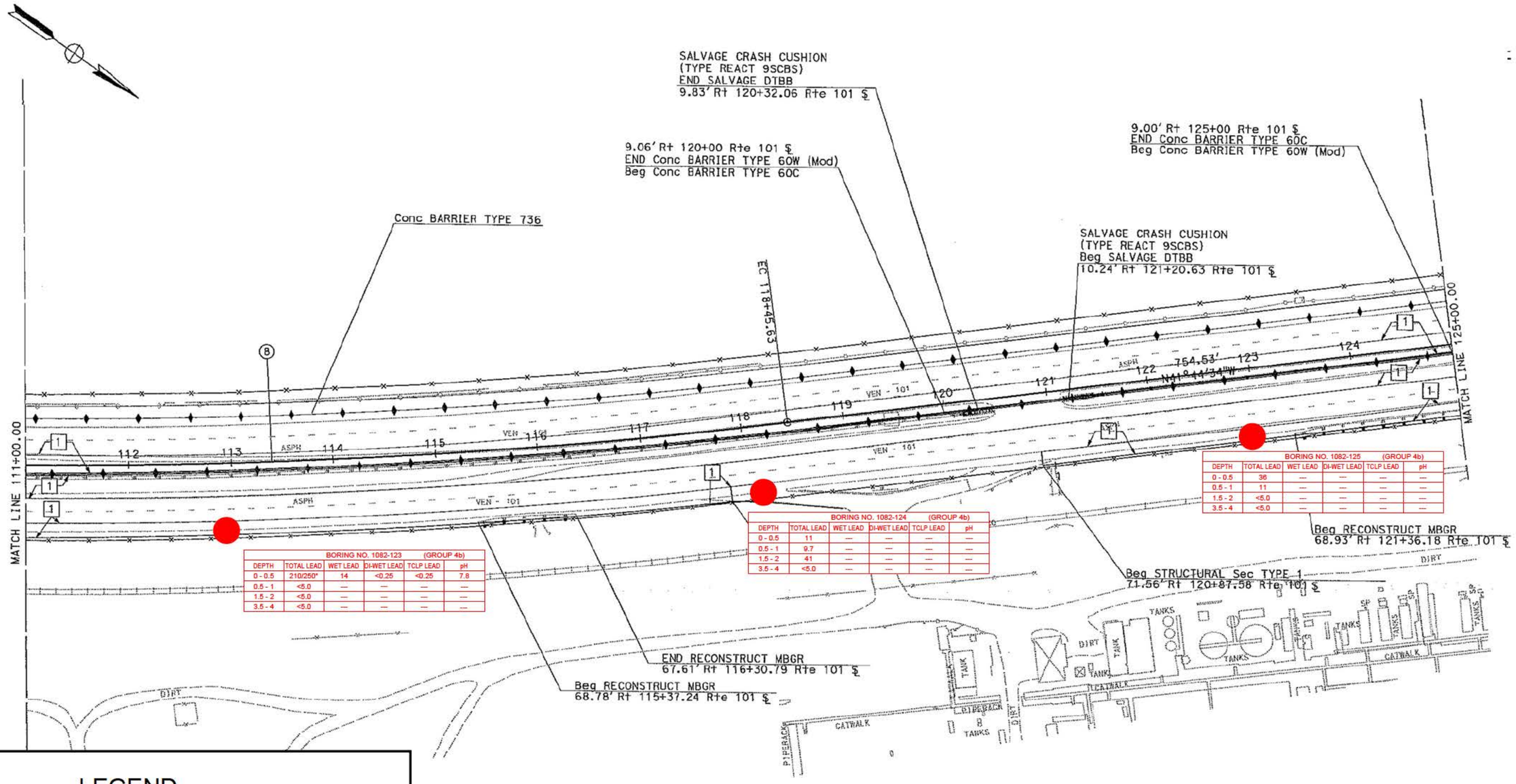
VEN-101, PM R39.8/R43.6
TASK ORDER NO. 86

JAN. 2010	PROJECT NO. S9200 - 06 - 86	FIG. L-8

PLAN BY: Caltrans District 7



BORING NO. 1082-123 (GROUP 4b)

DEPTH	TOTAL LEAD	WET LEAD	DI-WET LEAD	TCLP LEAD	pH
0 - 0.5	210/260*	14	<0.25	<0.25	7.8
0.5 - 1	<5.0	---	---	---	---
1.5 - 2	<5.0	---	---	---	---
3.5 - 4	<5.0	---	---	---	---

BORING NO. 1082-124 (GROUP 4b)

DEPTH	TOTAL LEAD	WET LEAD	DI-WET LEAD	TCLP LEAD	pH
0 - 0.5	11	---	---	---	---
0.5 - 1	9.7	---	---	---	---
1.5 - 2	41	---	---	---	---
3.5 - 4	<5.0	---	---	---	---

BORING NO. 1082-125 (GROUP 4b)

DEPTH	TOTAL LEAD	WET LEAD	DI-WET LEAD	TCLP LEAD	pH
0 - 0.5	36	---	---	---	---
0.5 - 1	11	---	---	---	---
1.5 - 2	<5.0	---	---	---	---
3.5 - 4	<5.0	---	---	---	---

LEGEND

● Approximate Location Of Boring

TOTAL LEAD Results in milligrams / kilogram (mg/kg)
WET, DI-WET, and TCLP Results in milligrams/liter (mg/l)
DEPTH in feet
<5.0 = Not detected at or above laboratory detection limit indicated
--- = Analysis not performed.
* = Reanalysis result.

0 100' 200'

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CHL | | 8000

BORING LOCATION MAP

CALTRANS
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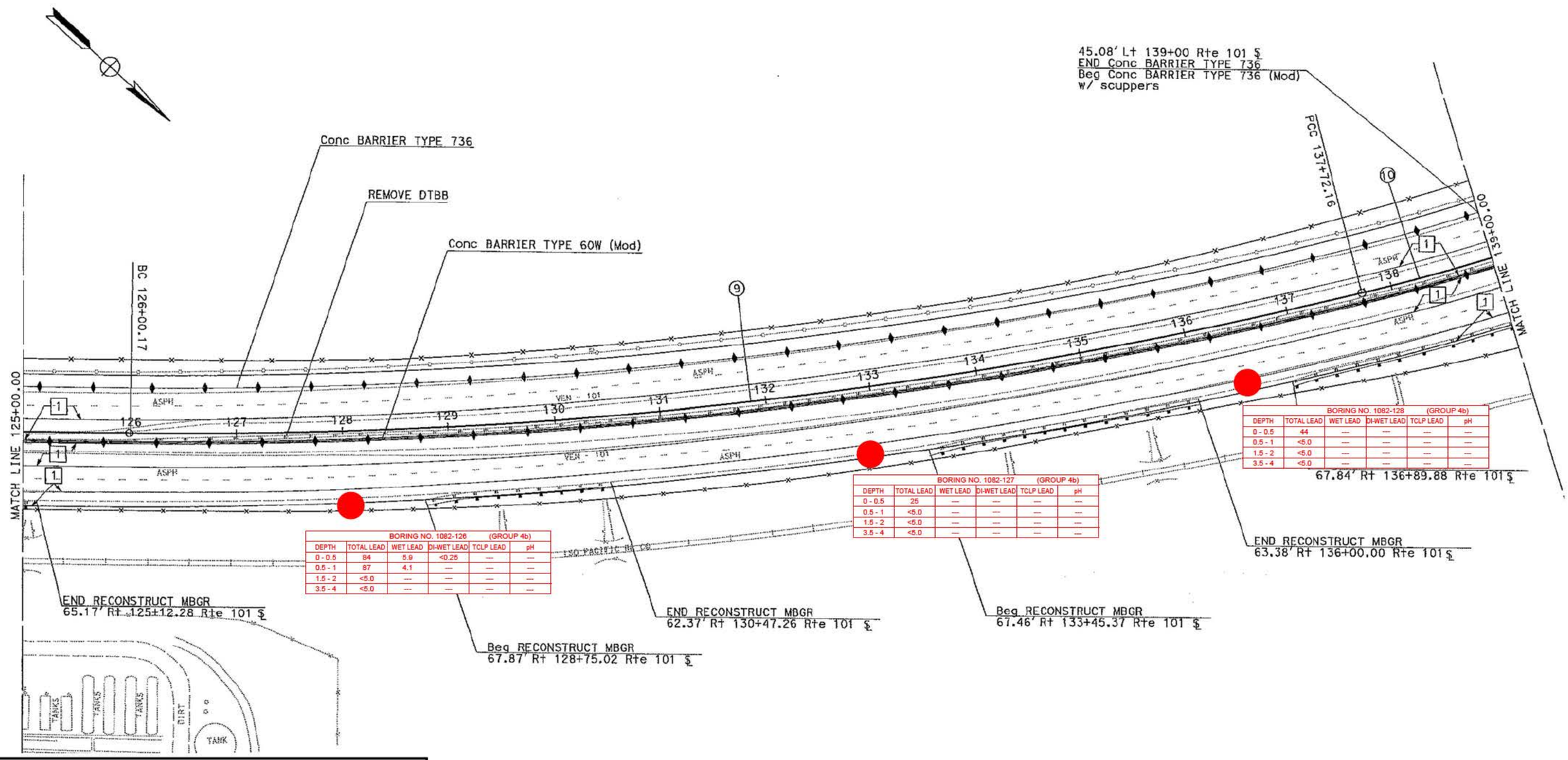
TASK ORDER NO. 86

JAN. 2010 | PROJECT NO. S9200 - 06 - 86 | FIG. L-9

PLAN BY: Caltrans District 7



BORING NO. 1082-126 (GROUP 4b)

DEPTH	TOTAL LEAD	WET LEAD	DI-WET LEAD	TCLP LEAD	pH
0 - 0.5	84	5.9	<0.25	---	---
0.5 - 1	87	4.1	---	---	---
1.5 - 2	<5.0	---	---	---	---
3.5 - 4	<5.0	---	---	---	---

BORING NO. 1082-127 (GROUP 4b)

DEPTH	TOTAL LEAD	WET LEAD	DI-WET LEAD	TCLP LEAD	pH
0 - 0.5	25	---	---	---	---
0.5 - 1	<5.0	---	---	---	---
1.5 - 2	<5.0	---	---	---	---
3.5 - 4	<5.0	---	---	---	---

BORING NO. 1082-128 (GROUP 4b)

DEPTH	TOTAL LEAD	WET LEAD	DI-WET LEAD	TCLP LEAD	pH
0 - 0.5	44	---	---	---	---
0.5 - 1	<5.0	---	---	---	---
1.5 - 2	<5.0	---	---	---	---
3.5 - 4	<5.0	---	---	---	---

LEGEND

Approximate Location Of Boring

TOTAL LEAD Results in milligrams / kilogram (mg/kg)
WET, DI-WET, and TCLP Results in milligrams/liter (mg/l)
DEPTH in feet
<5.0 = Not detected at or above laboratory detection limit indicated
--- = Analysis not performed.

0 100' 200'

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CHL		8000

BORING LOCATION MAP

CALTRANS
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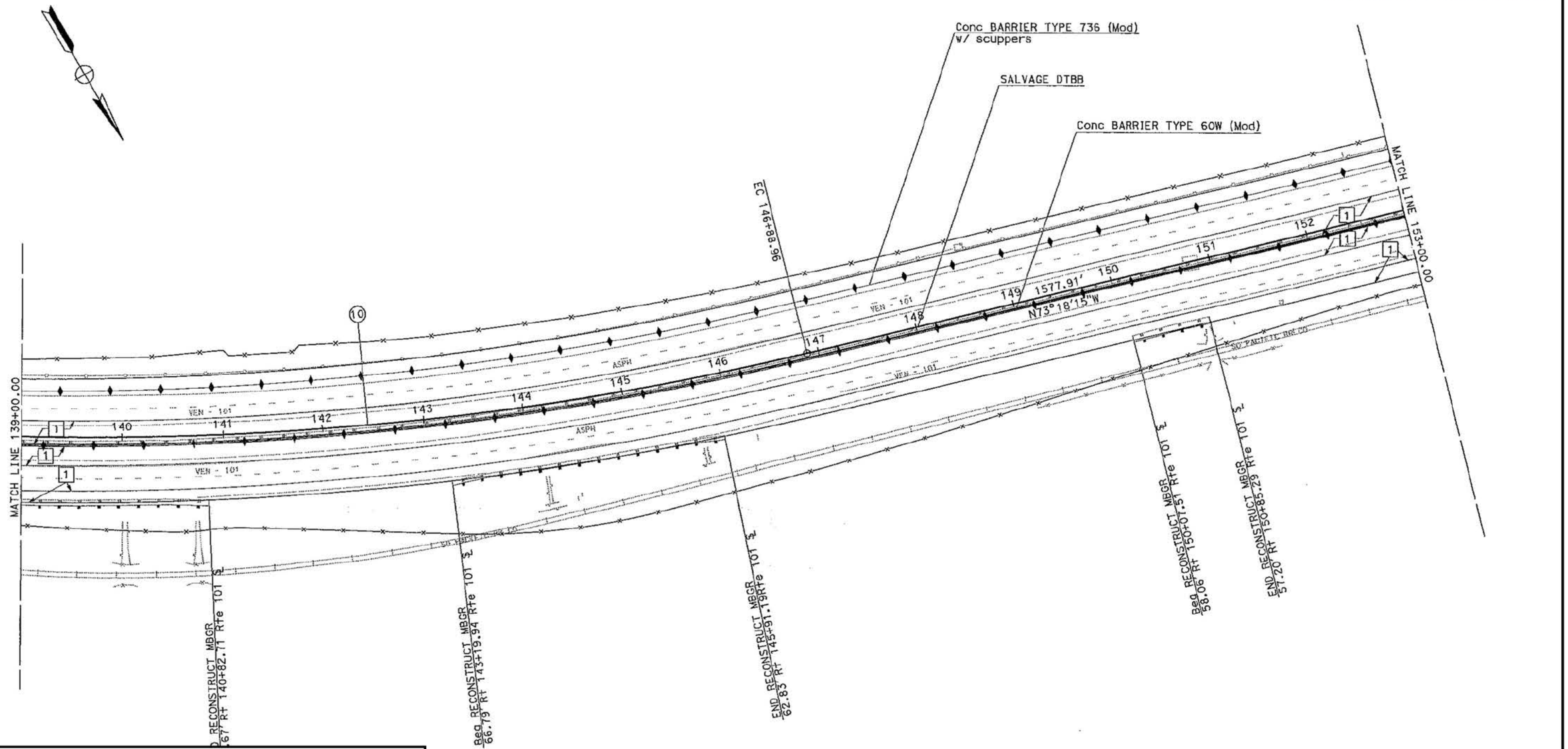
TASK ORDER NO. 86

JAN. 2010	PROJECT NO. S9200 - 06 - 86	FIG. L-10

PLAN BY: Caltrans District 7



LEGEND

Approximate Location Of Boring

TOTAL LEAD Results in milligrams / kilogram (mg/kg)
WET, DI-WET, and TCLP Results in milligrams/liter (mg/l)
DEPTH in feet
<5.0 = Not detected at or above laboratory detection limit indicated
--- = Analysis not performed.

0 100' 200'

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BORING LOCATION MAP

CALTRANS
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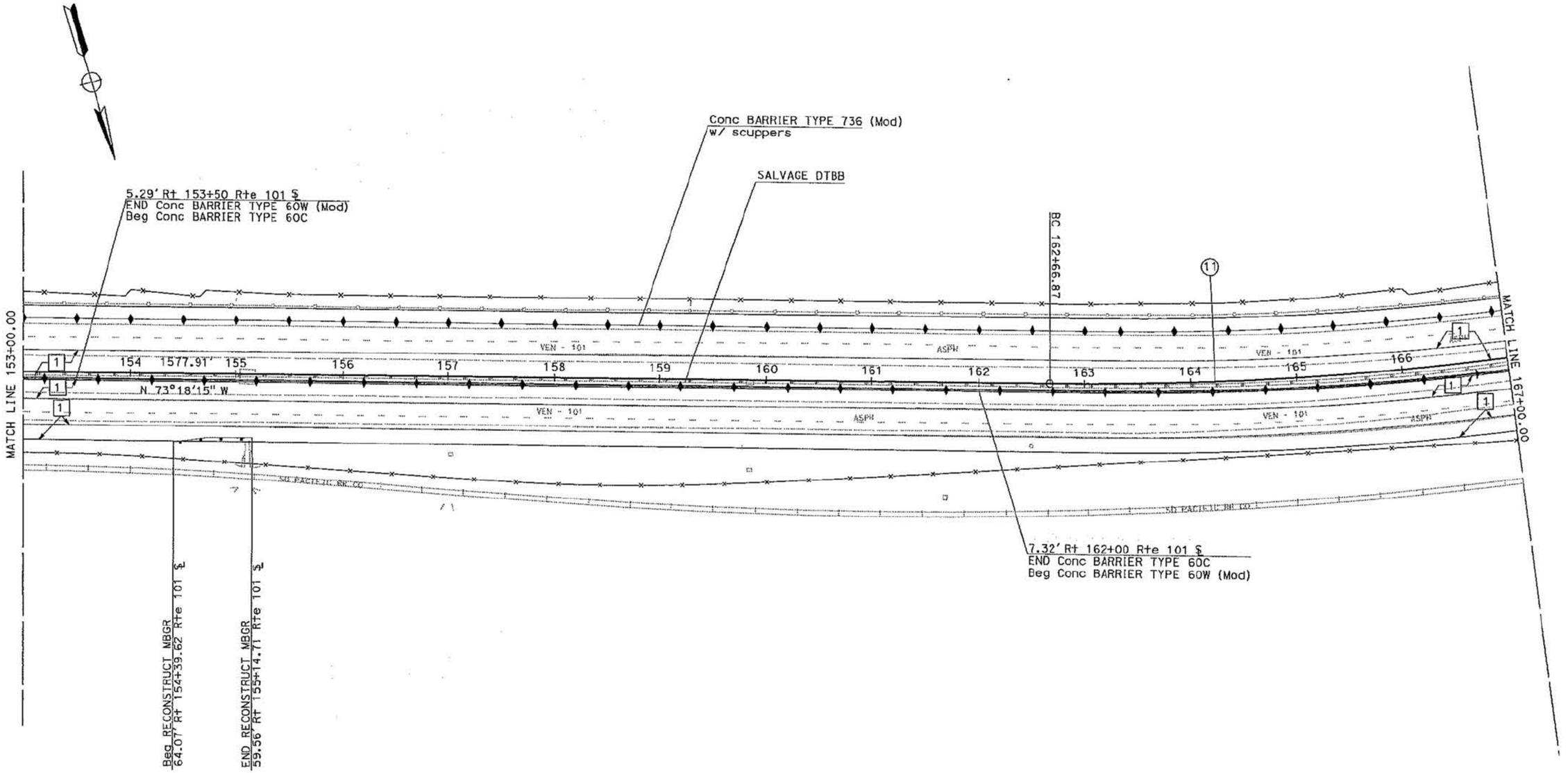
TASK ORDER NO. 86

JAN. 2010	PROJECT NO. S9200 - 06 - 86	FIG. L-11

PLAN BY: Caltrans District 7



LEGEND

Approximate Location Of Boring

TOTAL LEAD Results in milligrams / kilogram (mg/kg)
WET, DI-WET, and TCLP Results in milligrams/liter (mg/l)
DEPTH in feet
<5.0 = Not detected at or above laboratory detection limit indicated
--- = Analysis not performed.

0 100' 200'

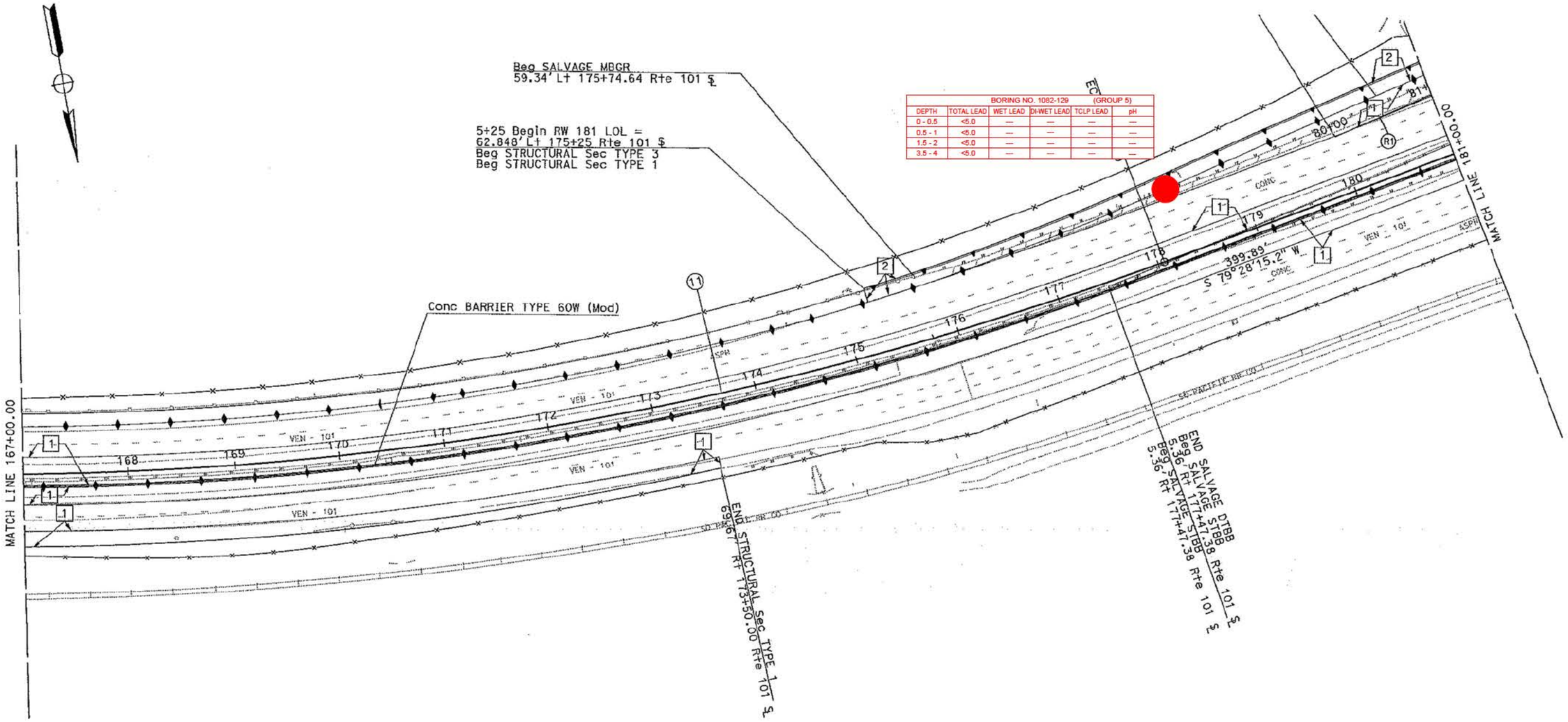
GEOCON CONSULTANTS, INC.
ENVIRONMENTAL GEOTECHNICAL MATERIALS
3303 N. SAN FERNANDO BLVD. - SUITE 100 - BURBANK, CA 91504
PHONE (818) 841-8388 - FAX (818) 841-1704

CHL		8000

BORING LOCATION MAP

CALTRANS
ROUTE 101 HOV LANES
VEN-101, PM R39.8/R43.6
TASK ORDER NO. 86

JAN. 2010	PROJECT NO. S9200 - 06 - 86	FIG. L-12



BORING NO. 1082-129 (GROUP 5)					
DEPTH	TOTAL LEAD	WET LEAD	DI-WET LEAD	TCLP LEAD	pH
0 - 0.5	<5.0	---	---	---	---
0.5 - 1	<5.0	---	---	---	---
1.5 - 2	<5.0	---	---	---	---
3.5 - 4	<5.0	---	---	---	---

LEGEND

Approximate Location Of Boring

TOTAL LEAD Results in milligrams / kilogram (mg/kg)
WET, DI-WET, and TCLP Results in milligrams/liter (mg/l)
DEPTH in feet
<5.0 = Not detected at or above laboratory detection limit indicated
--- = Analysis not performed.

0 100' 200'

PLAN BY: Caltrans District 7

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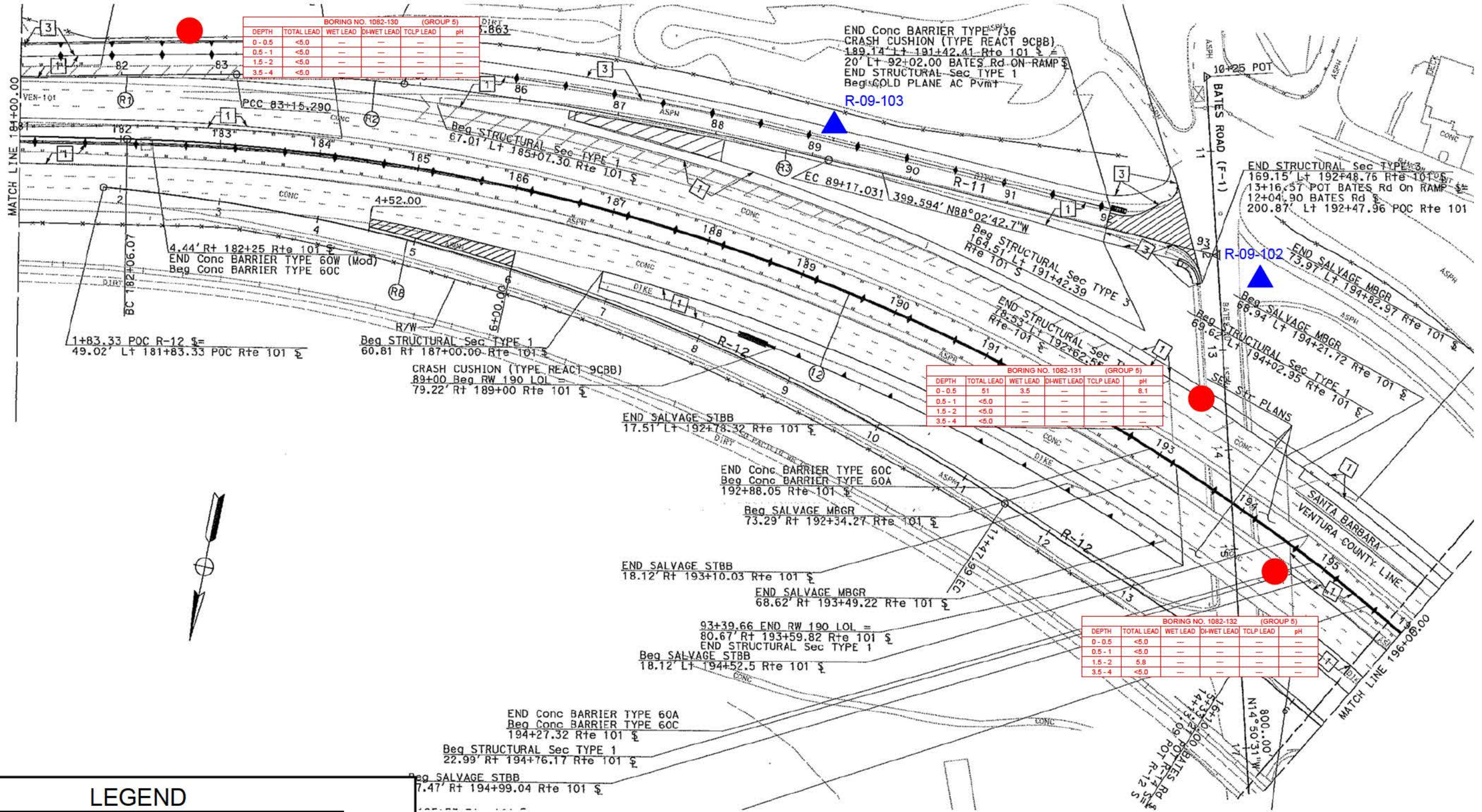
CHL		8000

BORING LOCATION MAP

CALTRANS
ROUTE 101 HOV LANES
VEN-101, PM R39.8/R43.6
TASK ORDER NO. 86

JAN. 2010	PROJECT NO. S9200 - 06 - 86	FIG. L-13



LEGEND

- Approximate Location Of Boring
- Approximate Location Of Caltrans Piezometer R-09-103
- TOTAL LEAD Results in milligrams / kilogram (mg/kg)
- WET, DI-WET, and TCLP Results in milligrams/liter (mg/l)
- DEPTH in feet
- <5.0 = Not detected at or above laboratory detection limit indicated
- --- = Analysis not performed.

PLAN BY: Caltrans District 7

GEOCON CONSULTANTS, INC.
ENVIRONMENTAL GEOTECHNICAL MATERIALS
3303 N. SAN FERNANDO BLVD. - SUITE 100 - BURBANK, CA 91504
PHONE (818) 841-8388 - FAX (818) 841-1704

CHL | | 8000

BORING LOCATION MAP

CALTRANS
ROUTE 101 HOV LANES
VEN-101, PM R39.8/R43.6
TASK ORDER NO. 86

JAN. 2010 | PROJECT NO. S9200 - 06 - 86 | FIG. L-14

TABLE 1
BORING COORDINATES AND SUMMARY OF LEAD AND pH RESULTS
ROUTE 101 HOV LANES
VEN-101, PM R39 8/R43 6
VENTURA COUNTY, CALIFORNIA

BORING ID	SAMPLE DATE	LATITUDE	LONGITUDE	TOTAL LEAD (mg/kg)	WET LEAD (mg/l)	TCLP LEAD (mg/l)	DI-WET Lead (mg/l)	pH
GROUP 1 (Station 92)								
1082-120-0 5	10/30/2009	34 364264950	-119 449943679	<5 0	---	---	---	---
1082-120-1	10/30/2009			<5 0	---	---	---	---
1082-120-2	10/30/2009			<5 0	---	---	---	---
1082-120-4	10/30/2009			<5 0	---	---	---	---
GROUP 2 (Station 9 to 13)								
1082-101-0	10/30/2009	34 353018248	-119 427827382	<5 0	---	---	---	---
1082-101-1	10/30/2009			<5 0	---	---	---	---
1082-101-2	10/30/2009			<5 0	---	---	---	---
1082-101-4	10/30/2009			<5 0	---	---	---	---
1082-102-0	10/30/2009	34 353482890	-119 428428916	24	---	---	---	---
1082-102-1	10/30/2009			26	---	---	---	---
1082-102-2	10/30/2009			<5 0	---	---	---	---
1082-102-3 5	10/30/2009			6 5	---	---	---	---
GROUP 3 (Station 40 to 50)								
1082-103-0 0-0 5	11/2/2009	34 356097169	-119 437929708	23	---	---	---	---
1082-103-0 5-1	11/2/2009			<5 0	---	---	---	---
1082-103-1 5-2	11/2/2009			<5 0	---	---	---	---
1082-103-3 5-4	11/2/2009			<5 0	---	---	---	---
1082-106-0 0-0 5	11/2/2009	34 356086467	-119 439196026	72	7 3	---	<0 25	7 7
1082-106-0 5-1	11/2/2009			19	---	---	---	---
1082-106-1 5-2	11/2/2009			7 0	---	---	---	---
1082-106-3 5-4	11/2/2009			<5 0	---	---	---	---
1082-108-0 0-0 5	11/2/2009	34 356086467	-119 439196026	380	35	2 6	<0 25	7 4
1082-108-0 5-1	11/2/2009			110	12	0 62	<0 25	7 4
1082-108-1 5-2	11/2/2009			170	16	0 63	<0 25	7 4
1082-108-3 5-4	11/2/2009			28	---	---	---	---
GROUP 4a (Station 37 to 93)								
1082-104-0 0-0 5	11/2/2009	34 356461719	-119 437054298	410	31	0 43	<0 25	7 1
1082-104-0 5-1 0	11/2/2009			38	---	---	---	---
1082-104-1 5-2 0	11/2/2009			<5 0	---	---	---	---
1082-104-3 5-4 0	11/2/2009			<5 0	---	---	---	---
1082-105-0 0-0 5	11/2/2009	34 356408789	-119 438869048	95	4 4	---	---	---
1082-105-0 5-1 0	11/2/2009			<5 0	---	---	---	---
1082-105-1 5-2 0	11/2/2009			5 5	---	---	---	---
1082-105-3 5-4 0	11/2/2009			6 8	---	---	---	---
1082-107-0 0-0 5	11/2/2009	34 356438732	-119 440362609	150	7 5	<0 25	<0 25	7 5
1082-107-0 5-1 0	11/2/2009			41	---	---	---	---
1082-107-1 5-2 0	11/2/2009			15	---	---	---	---
1082-107-3 5-4 0	11/2/2009			5 7	---	---	---	---
1082-109-0 0-0 5	11/2/2009	34 356918749	-119 442071346	290	18	0 27	<0 25	7 6
1082-109-0 5-1 0	11/2/2009			310	21	<0 25	<0 25	---
1082-109-1 5-2 0	11/2/2009			7 8	---	---	---	---
1082-109-3 5-4 0	11/2/2009			22	---	---	---	---

TABLE 1
BORING COORDINATES AND SUMMARY OF LEAD AND pH RESULTS
ROUTE 101 HOV LANES
VEN-101, PM R39 8/R43 6
VENTURA COUNTY, CALIFORNIA

BORING ID	SAMPLE DATE	LATITUDE	LONGITUDE	TOTAL LEAD (mg/kg)	WET LEAD (mg/l)	TCLP LEAD (mg/l)	DI-WET Lead (mg/l)	pH
1082-110-0 0-0 5	11/2/2009	34 357830838	-119 443462710	220	26	2 7	<0 25	8 0
1082-110-0 5-1 0	11/2/2009			210	7 2	0 83	<0 25	---
1082-110-1 5-2 0	11/2/2009			6 1	---	---	---	---
1082-110-3 5-4 0	11/2/2009			<5 0	---	---	---	---
1082-111-0 0-0 5	11/2/2009	34 358355478	-119 443933152	11	---	---	---	---
1082-111-0 5-1 0	11/2/2009			<5 0	---	---	---	---
1082-111-1 5-2 0	11/2/2009			6 8	---	---	---	---
1082-111-3 5-4 0	11/2/2009			6 3	---	---	---	---
1082-112-0 0-0 5	11/2/2009	34 359242283	-119 444753669	240	18	0 63	<0 25	8 1
1082-112-0 5-1 0	11/2/2009			10	---	---	---	---
1082-112-1 5-2 0	11/2/2009			5 1	---	---	---	---
1082-112-3 5-4 0	11/2/2009			58	4 0	---	---	---
1082-113-0 0-0 5	11/2/2009	34 360043305	-119 445507629	110	10	1 1	<0 25	---
1082-113-0 5-1 0	11/2/2009			<5 0	---	---	---	---
1082-113-1 5-2 0	11/2/2009			<5 0	---	---	---	---
1082-113-3 5-4 0	11/2/2009			9 0	---	---	---	---
1082-114-0 0-0 5	11/2/2009	34 360759666	-119 446154528	140	9 4	0 32	<0 25	7 8
1082-114-0 5-1 0	11/2/2009			9 0	---	---	---	---
1082-114-1 5-2 0	11/2/2009			42	---	---	---	---
1082-114-3 5-4 0	11/2/2009			<5 0	---	---	---	---
1082-115-0 0-0 5	11/2/2009	34 362256936	-119 447535731	65	4 3	---	---	---
1082-115-0 5-1	11/2/2009			120	7 9	0 29	<0 25	---
1082-115-1 5-2	11/2/2009			21	---	---	---	---
1082-115-3 5-4	11/2/2009			7 1	---	---	---	---
1082-118-0 0-0 5	11/2/2009	34 364594974	-119 449732279	<5 0	---	---	---	---
1082-118-0 5-1 0	11/2/2009			<5 0	---	---	---	---
1082-118-1 5-2 0	11/2/2009			<5 0	---	---	---	---
1082-118-3 5-4 0	11/2/2009			<5 0	---	---	---	---
GROUP 4b (Station 93 to 137)								
1082-116-0 0-0 5	11/2/2009	34 364652545	-119 449536879	11	---	---	---	---
1082-116-1-1 5	11/2/2009			6 7	---	---	---	---
1082-117-0 0-0 5	11/2/2009	34 364515183	-119 449563585	<5 0	---	---	---	---
1082-117-1-1 5	11/2/2009			<5 0	---	---	---	---
1082-118-0 0-0 5	11/2/2009	34 364594974	-119 449732279	<5 0	---	---	---	---
1082-118-0 5-1 0	11/2/2009			<5 0	---	---	---	---
1082-118-1 5-2 0	11/2/2009			<5 0	---	---	---	---
1082-118-3 5-4 0	11/2/2009			<5 0	---	---	---	---
1082-121-0 0-0 5	11/2/2009	34 366633016	-119 451532002	12	---	---	---	---
1082-121-0 5-1 0	11/2/2009			<5 0	---	---	---	---
1082-121-1 5-2 0	11/2/2009			6 5	---	---	---	---
1082-121-3 5-4 0	11/2/2009			<5 0	---	---	---	---
1082-122-0 0-0 5	11/2/2009	34 367759428	-119 452407873	<5 0	---	---	---	---
1082-122-0 5-1 0	11/2/2009			<5 0	---	---	---	---
1082-122-1 5-2 0	11/2/2009			<5 0	---	---	---	---
1082-122-3 5-4 0	11/2/2009			<5 0	---	---	---	---

TABLE 1
BORING COORDINATES AND SUMMARY OF LEAD AND pH RESULTS
ROUTE 101 HOV LANES
VEN-101, PM R39 8/R43 6
VENTURA COUNTY, CALIFORNIA

BORING ID	SAMPLE DATE	LATITUDE	LONGITUDE	TOTAL LEAD (mg/kg)	WET LEAD (mg/l)	TCLP LEAD (mg/l)	DI-WET Lead (mg/l)	pH
1082-123-0 0-0 5	11/2/2009	34 368868837	-119 453313099	210/250*	14	<0 25	<0 25	7 8
1082-123-0 5-1 0	11/2/2009			<5 0	---	---	---	---
1082-123-1 5-2 0	11/2/2009			<5 0	---	---	---	---
1082-123-3 5-4 0	11/2/2009			<5 0	---	---	---	---
1082-124-0 0-0 5	11/2/2009	34 370214063	-119 454655498	11	---	---	---	---
1082-124-0 5-1 0	11/2/2009			9 7	---	---	---	---
1082-124-1 5-2 0	11/2/2009			41	---	---	---	---
1082-124-3 5-4 0	11/2/2009			<5 0	---	---	---	---
1082-125-0 0-0 5	11/2/2009	34 371138895	-119 455685877	36	---	---	---	---
1082-125-0 5-1 0	11/2/2009			11	---	---	---	---
1082-125-1 5-2 0	11/2/2009			<5 0	---	---	---	---
1082-125-3 5-4 0	11/2/2009			<5 0	---	---	---	---
1082-126-0 0-0 5	11/2/2009	34 372288219	-119 456993182	84	5 9	---	<0 25	---
1082-126-0 5-1 0	11/2/2009			87	4 1	---	---	---
1082-126-1 5-2 0	11/2/2009			<5 0	---	---	---	---
1082-126-3 5-4 0	11/2/2009			<5 0	---	---	---	---
1082-127-0 0-0 5	11/2/2009	34 373170555	-119 458170064	25	---	---	---	---
1082-127-0 5-1 0	11/2/2009			<5 0	---	---	---	---
1082-127-1 5-2 0	11/2/2009			<5 0	---	---	---	---
1082-127-3 5-4 0	11/2/2009			<5 0	---	---	---	---
1082-128-0 0-0 5	11/2/2009	34 373797481	-119 459202542	44	---	---	---	---
1082-128-0 5-1 0	11/2/2009			<5 0	---	---	---	---
1082-128-1 5-2 0	11/2/2009			<5 0	---	---	---	---
1082-128-3 5-4 0	11/2/2009			<5 0	---	---	---	---
GROUP 5 (Station 178 to 193)								
1082-129-0 0-0 5	11/1/2009	34 375749232	-119 473706192	<5 0	---	---	---	---
1082-129-0 5-1 0	11/1/2009			<5 0	---	---	---	---
1082-129-1 5-2 0	11/1/2009			<5 0	---	---	---	---
1082-129-3 5-4 0	11/1/2009			<5 0	---	---	---	---
1082-130-0 0-0 5	11/1/2009	34 375659884	-119 474117593	<5 0	---	---	---	---
1082-130-0 5-1 0	11/1/2009			<5 0	---	---	---	---
1082-130-1 5-2 0	11/1/2009			<5 0	---	---	---	---
1082-130-3 5-4 0	11/1/2009			<5 0	---	---	---	---
1082-131-0 0-0 5	11/1/2009	NA	NA	51	3 5	---	---	8 1
1082-131-0 5-1 0	11/1/2009			<5 0	---	---	---	---
1082-131-1 5-2 0	11/1/2009			<5 0	---	---	---	---
1082-131-3 5-4 0	11/1/2009			<5 0	---	---	---	---
1082-132-0 0-0 5	11/1/2009	NA	NA	<5 0	---	---	---	---
1082-132-0 5-1 0	11/1/2009			<5 0	---	---	---	---
1082-132-1 5-2 0	11/1/2009			5 8	---	---	---	---
1082-132-3 5-4 0	11/1/2009			<5 0	---	---	---	---

Notes:
WET = Soluble lead using Waste Extraction test method
TCLP = Soluble lead using Toxicity Charateristic Leaching Potential test method
DI-WET = Soluble lead using modified Waste Extraction test method using deionized water as the extractant
mg/kg = Milligrams per kilogram
mg/l = Milligrams per liter
< = Less than the laboratory reporting limits
NA = not available (no signal)
* Reanalysis results

TABLE 2
WATER LEVEL MEASUREMENTS
ROUTE 101 HOV LANES
VEN-101, PM R39.8/R43.6
VENTURA COUNTY, CALIFORNIA

Well/Piezometer No.	Date	Time	DTW (feet)	TD (feet)	water column	Notes
MW 301	11/2/2009	9:05	22.05	24.68	2.63	
MW 302	11/2/2009	8:15	19.6	19.92	0.32	
MW 303	10/30/09	14:00	37.45	39.62	2.17	
MW 304	10/30/2009	14:10	dry	40.02	0	
R 09-102	10/30/2009	14:30	NA	NA	NA	oil at ~25 feet
R 09-103	11/2/2009	8:00	dry	25.89	0	
A 09-105	10/30/2009	14:20	dry	19.4	0	
A 09-108	11/2/2009	8:38	23.59	31.65	8.06	
A 09-109	11/2/2009	NA	NA	NA	NA	unable to open
boring 101	10/30/2009	13:07	dry	29.74	0	
boring 120	11/2/2009	8:05	18.1	29.29	11.19	

Notes:
DTW = Depth to Water - measured from top of casing
TD = Total Depth - measured from top of casing
NA = not available

TABLE 3
SUMMARY OF VOCs, HERBICIDES AND TPH RESULTS - SOIL
ROUTE 101 HOV LANES
VEN-101, PM R39.8/R43.6
VENTURA COUNTY, CALIFORNIA

SAMPLE I.D.	SAMPLE DATE	VOCs (µg/kg)	Herbicides (µg/kg)	C6-C12 (mg/kg)	C8-C10 (mg/kg)	C10-18 (mg/kg)	C18-28 (mg/kg)	C28-36 (mg/kg)	C36-40 (mg/kg)	TOTAL C8-40 (mg/kg)
1082-101-10	10/30/2009	---	---	<1.0	<10	<10	<10	<10	<10	<10
1082-101-20	10/30/2009	---	---	<1.0	<10	<10	<10	<10	<10	<10
1082-101-30	10/30/2009	---	---	<1.0	<10	<10	<10	<10	<10	<10
1082-116-0.0-0.5	11/2/2009	ND	ND	<1.0	<10	<10	68	260	190	520
1082-116-1.0-1.5	11/2/2009	ND	ND	<1.0	<10	<10	<10	31	37	68
1082-117-0.0-0.5	11/2/2009	ND	ND	<1.0	<10	<10	<10	29	41	70
1082-117-1.0-1.5	11/2/2009	ND	ND	<1.0	<10	<10	12	66	75	150
1082-118-9.5-10.0	11/2/2009	---	---	<1.0	<10	<10	<10	<10	<10	<10
1082-120-10	10/30/2009	---	---	<1.0	<10	<10	<10	<10	<10	<10
1082-120-20	10/30/2009	---	---	<1.0	<10	<10	<10	<10	<10	<10
1082-120-30	10/30/2009	---	---	<1.0	<10	<10	<10	<10	<10	<10
R101-DRUM	10/30/2009	ND	---	<1.0	<10	<10	<10	<10	<10	<10

Notes:
mg/kg = Milligrams per kilogram
µg/kg = Micrograms per kilogram
ND, < = Less than laboratory reporting limits
--- = Not analzyed
VOCs = Volatile organic compounds

TABLE 4
SUMMARY OF TITLE 22 METALS RESULTS - SOIL
ROUTE 101 HOV LANES
VEN-101, PM R39 8/R43 6
VENTURA COUNTY, CALIFORNIA

Sample ID	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
1082-104-0 0-0 5	<2 0	<1 0	86	<1 0	1 3	16	2 5	34	410	<0 10	1 3	14	<1 0	<1 0	<1 0	20	170
1082-106-0 0-0 5	<2 0	3 6	390	<1 0	<1 0	14	3 2	57	72	<0 10	1 3	22	<1 0	<1 0	<1 0	20	250
1082-107-0 0-0 5	<2 0	2 6	70	<1 0	1 1	11	2 4	11	150	<0 10	1 5	14	<1 0	<1 0	<1 0	20	49
1082-108-0 0-0 5	<2 0	2 8	150	<1 0	<1 0	13	3 0	21	380	<0 10	1 3	16	<1 0	<1 0	<1 0	20	160
1082-109-0 0-0 5	<2 0	1 6	120	<1 0	1 4	12	2 7	26	290	<0 10	1 9	16	<1 0	<1 0	<1 0	20	170
1082-110-0 0-0 5	<2 0	3 6	62	<1 0	<1 0	9 6	2 6	17	220	<0 10	<1 0	15	<1 0	<1 0	<1 0	20	76
1082-112-0 0-0 5	<2 0	1 9	43	<1 0	<1 0	15	3 2	11	240	<0 10	1 2	20	<1 0	<1 0	<1 0	17	32
1082-113-0 0-0 5	<2 0	1 9	65	<1 0	<1 0	8 6	2 5	16	110	<0 10	1 0	13	<1 0	<1 0	<1 0	24	91
1082-114-0 0-0 5	<2 0	1 6	75	<1 0	<1 0	14	3 2	19	140	<0 10	<1 0	18	<1 0	<1 0	<1 0	18	90
1082-115-0 5-1	<2 0	2 6	140	<1 0	1 8	17	3 3	21	65	<0 10	3 3	29	1 5	<1 0	<1 0	29	87
1082-131-0 0-0 5	<2 0	1 4	29	<1 0	<1 0	4 8	1 8	4 0	51	<0 10	<1 0	12	<1 0	<1 0	<1 0	10	16
R101-DRUM	<2 0	3 1	160	<1 0	2 0	32	4 6	14	3 9	<0 10	4 4	42	1 7	<1 0	<1 0	46	50
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
STLC	15	5 0	100	0 75	1 0	5	80	25	5 0	0 2	350	20	1 0	5	7 0	24	250
CHHSLs Ind/Res	380/ 30	0 24/ 0 07	6,300/ 5,200	1,700/ 150	7 5/ 1 7	10,000/ 10,000	3,200/ 600	38,000/ 3,000	150/ 3,500	180/ 18	4,800/ 380	16,000/ 1,600	4,800/ 380	4,800/ 380	63/ 5 0	6,700/ 530	100,000/ 23,000
Background Concentrations																	
Minimum	0 15	0 6	133	0 25	0 05	23	2 7	9 1	12 4	0 05	0 10	9	0 015	0 1	5 3	39	88
Maximum	1 95	11 0	1400	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:

Results shown in milligrams per kilogram

< = Not detected above the laboratory reporting 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 show for chromium are for chromium III

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)

TABLE 5
SUMMARY OF PESTICIDES RESULTS - SOIL
ROUTE 101 HOV LANES
VEN-101, PM R39.8/R43.6
VENTURA COUNTY, CALIFORNIA

SAMPLE ID	4,4'-DDD	4,4'-DDE	4,4'-DDT	Aldrin	alpha-BHC	alpha-Chlordane	beta-BHC	Chlordane	delta-BHC	Dieldrin	Endosulfan I	Endosulfan II	Endosulfan Sulfate	Endrin	Endrin aldehyde	Endrin ketone	gamma-BHC	gamma-Chlordane	Heptachlor	Heptachlor Epoxide	Methoxychlor	Toxaphene
1082-116-0.0-0.5	<2.0	<2.0	4.9	<1.0	<1.0	6.3	<1.0	53	<1.0	<2.0	<1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<1.0	6.3	<1.0	<1.0	<5.0	<50
1082-116-1.0-1.5	<2.0	<2.0	<2.0	<1.0	<1.0	<1.0	<1.0	<8.5	<1.0	<2.0	<1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<1.0	<1.0	<1.0	<1.0	<5.0	<50
1082-117-0.0-0.5	<2.0	<2.0	3.6	<1.0	<1.0	<1.0	<1.0	10	<1.0	<2.0	<1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<1.0	<1.0	<1.0	<1.0	<5.0	<50
1082-117-1.0-1.5	<2.0	<2.0	<2.0	<1.0	<1.0	<1.0	<1.0	<8.5	<1.0	<2.0	<1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<1.0	<1.0	<1.0	<1.0	<5.0	<50
TTLC	1,000	1,000	1,000	1,400	--	2,500	--	2,500	--	8,000	--	--	--	200	200	200	--	2,500	4,700	4,700	100,000	5,000
STLC	100	100.0	100	140.00	--	250	--	250	--	800.0	--	--	--	20	20.0	20	--	250	470	470	10,000	500
CHHSLs Ind/Res	9,000/ 2,300	6,300/ 1,600	6,300/ 1,600	130/ 33	--	1,700/ 430	--	1,700/ 430	--	130/ 35	--	--	--	230,000 /21,000	230,000 /21,000	230,000/ 21,000	--	1,700/ 430	520/ 130	520/ 130	3,800,00 /340,000	1,800/ 460

Notes:
Data are shown in units of micrograms per kilogram (ug/kg), STLC values are in micrograms per liter (ug/l)
<2.0 = Not detected above the laboratory reporting 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
-- = no value availalbe

TABLE 6
SUMMARY OF METALS AND PETROLEUM HYDROCARBON RESULTS
BORING 1082-120 GROUNDWATER
ROUTE 101 HOV LANES
VEN-101, PM R39.8/R43.6
VENTURA COUNTY, CALIFORNIA

Analyte	Result	Units	Screening Level [1]	Units
Metals				
Antimony	0.93	µg/l	4,300	µg/l
Arsenic	**42**	µg/l	36	µg/l
Barium	1,400	µg/l	NA	µg/l
Beryllium	<2.0	µg/l	NA	µg/l
Cadmium	**38**	µg/l	9.4	µg/l
Total Chromium	360 [2]	µg/l	NA	µg/l
Chromium VI	<0.20	µg/l	11	µg/l
Cobalt	59	µg/l	NA	µg/l
Copper	**250**	µg/l	3.7	µg/l
Lead	**72**	µg/l	8.5	µg/l
Mercury	<0.40	µg/l	0.05	µg/l
Molybdenum	72	µg/l	NA	µg/l
Nickel	**520**	µg/l	8.3	µg/l
Selenium	**180**	µg/l	71	µg/l
Silver	1.8	µg/l	2.2	µg/l
Thallium	0.62	µg/l	6.3	µg/l
Vanadium	500	µg/l	NA	µg/l
Zinc	**460**	µg/l	86	µg/l
Petroleum Hydrocarbons				
Diesel Range Petroleum Hydrocarbons	0.058	mg/l	100	mg/l

Notes:
1. Applies to receiving waters other than municipal and domestic supply designations.
2. Total chromium includes Cr III and Cr VI.
3. Screening level for Cr III.
mg/l = milligrams per liter.
µg/l = micrograms per liter.
NA = No established screening level.
Results in **bold** indicate a concentration in excess of the screening level.

TABLE 7a
STATISTICAL ANALYSIS SUMMARY RESULTS FOR SAMPLE GROUP 3
Borings 1082-103, 1082-106 and 1082-108
ROUTE 101 HOV LANES PROJECT (EA 07-260701) - Station 40 to 50

	Total Lead (mg/kg)		Predicted WET Lead (mg/l)		Soil Type	
	Maximum/90% UCL	Maximum/95% UCL	Max/90% UCL	Max/95% UCL	Invoking Variance	Surplus Soil
Combined Layer(s)						
0 to 0.5 foot*	*380*	*380*	28.4	28.4	Type Y1	Type Z2
0.5 to 4.0 feet	*63*	*69*	***4.7***	***5.2***	***Type X***	***Type Z2***
0 to 1.5 feet	*168*	*190*	12.5	14.2	Type Y1	Type Z2
1.5 to 4.0 feet	*67*	*77*	*5.0*	*5.7*	Type Y1	Type Z2
0 to 3.5 feet	137	152	10.2	11.3	Type Y1	Type Z2
*3.5 to 4.0 feet**	*28*	*28*	*2.1*	*2.1*	*Type X*	*Type X*
0 to 4.0 feet	*108*	*118*	8.1	8.8	Type Y1	Type Z2

Notes:
* = Value is the maximum reported total lead concentration because UCLs could not be calculated due to less than 4 unique values in the data set.
mg/kg = milligrams per kilogram
mg/l = milligrams per liter
Type X = Non-hazardous
Type Y1 = CA Hazardous Waste - cover with 1 foot clean soil; Type Y2 = CA Hazardous Waste - cover with pavement
Type Z2 = CA Hazardous Waste - dispose at Class 1 landfill; Type Z3 = RCRA Hazardous Waste - dispose at Class 1 landfill.
Soluble (WET) lead concentrations are predicted using slope of regression line,
where y = predicted soluble (WET) lead and x = total lead.
Regression Line Slope: 0.0747 x

TABLE 7b
STATISTICAL ANALYSIS SUMMARY RESULTS FOR SAMPLE GROUP 4a
Borings 1082-104, 1082-105, 1082-107, 1082-109 to 1082-115, and 1082-118
ROUTE 101 HOV LANES PROJECT (EA 07-260701) - Station 37 to 92

	Total Lead (mg/kg)		Predicted WET Lead (mg/l)		Soil Type	
	90% UCL	95% UCL	90% UCL	95% UCL	Invoking Variance	Surplus Soil
Each Layer						
0 to 0.5 foot	203	217	15.2	16.2	Type Y1	Type Z2
0.5 to 1.0 foot	105	117	7.9	8.8	Type Y1	Type Z2
1.5 to 2.0 feet	15	16	1.1	1.2	Type X	Type X
3.5 to 4.0 feet	17	19	1.3	1.4	Type X	Type X
Combined Layer(s)						
0 to 0.5 foot	*203*	*217*	15.2	16.2	Type Y1	Type Z2
0.5 to 4.0 feet	*41*	*45*	*3.1*	*3.4*	*Type X*	*Type X*
0 to 1.5 feet	*138*	*151*	10.3	11.2	Type Y1	Type Z2
1.5 to 4.0 feet	*16*	*17*	*1.2*	*1.3*	*Type X*	*Type X*
0 to 3.5 feet	68	74	5.1	5.5	Type Y1	Type Z2
3.5 to 4.0 feet	*17*	*19*	*1.3*	*1.4*	*Type X*	*Type X*
0 to 4.0 feet	*61*	*67*	**4.6**	**5.0**	**Type X**	**Type Z2**

Notes:
mg/kg = milligrams per kilogram
mg/l = milligrams per liter
Type X = Non-hazardous
Type Y1 = CA Hazardous Waste - cover with 1 foot clean soil; Type Y2 = CA Hazardous Waste - cover with pavement
Type Z2 = CA Hazardous Waste - dispose at Class 1 landfill; Type Z3 = RCRA Hazardous Waste - dispose at Class 1 landfill.
Soluble (WET) lead concentrations are predicted using slope of regression line,
where y = predicted soluble (WET) lead and x = total lead.
Regression Line Slope: 0.0747 x

TABLE 7c
STATISTICAL ANALYSIS SUMMARY RESULTS FOR SAMPLE GROUP 4b
Borings 1082-116, 1082-117 and 1082-121 to 1082-128
ROUTE 101 HOV LANES PROJECT (EA 07-260701) - Station 92 to 137

	Total Lead (mg/kg)		Predicted WET Lead (mg/l)		Soil Type	
	90% UCL	95% UCL	90% UCL	95% UCL	Invoking Variance	Surplus Soil
Each Layer						
0 to 0.5 foot	77	84	5.7	6.3	Type Y1	Type Z2
0.5 to 1.0 foot	23	26	1.7	1.9	Type X	Type X
1.5 to 2.0 feet*	41	41	3.1	3.1	Type X	Type X
3.5 to 4.0 feet**	2.5	2.5	0.2	0.2	Type X	Type X
Combined Layer(s)						
0 to 0.5 foot	*77*	*84*	5.7	6.3	Type Y1	Type Z2
0.5 to 4.0 feet	*30*	*31*	*2.3*	*2.3*	*Type X*	*Type X*
0 to 1.5 feet	*41*	*45*	3.1	3.4	Type X	Type X
1.5 to 4.0 feet	*33*	*33*	*2.5*	*2.5*	*Type X*	*Type X*
0 to 3.5 feet	41	43	3.1	3.2	Type X	Type X
3.5 to 4.0 feet	*2.5*	*2.5*	*0.2*	*0.2*	*Type X*	*Type X*
0 to 4.0 feet	*36*	*38*	2.7	2.8	Type X	Type X

Notes:
* = Maximum reported value was used because a UCL could not be calculated due to less than four unique values in the data set.
** = One-half of reporting limit was used where total lead not detected.
mg/kg = milligrams per kilogram
mg/l = milligrams per liter
Type X = Non-hazardous
Type Y1 = CA Hazardous Waste - cover with 1 foot clean soil; Type Y2 = CA Hazardous Waste - cover with pavement
Type Z2 = CA Hazardous Waste - dispose at Class 1 landfill; Type Z3 = RCRA Hazardous Waste - dispose at Class 1 landfill.
Soluble (WET) lead concentrations are predicted using slope of regression line,
where y = predicted soluble (WET) lead and x = total lead.
Regression Line Slope: 0.0747 x

APPENDIX A

Task Order 86
October 19, 2009
Contract No. 06A1141
EA: 07-260701
Supplemental Site Investigation
for
Hazardous Materials/Wastes in Soils and Groundwater
Regarding
Recent Additional Features
US Route 101 (El Camino Real)
Highway Widening for HOV Lanes
In Ventura County, from North of Mobil Pier Undercrossing to Santa Barbara County Line
07-VEN-101, PM R39.8/R43.6
AND
In Santa Barbara County, from Ventura County Line to 0.44 Miles South of Casitas Pass Road
05-SB-101, PM 0.0/2.2

I. Project Description

A. Introduction

Project Location

The Design Team of District 07 of California Department of Transportation (Department/Caltrans) has recently prepared the Plans, Specifications, and Estimates (PS&E) at about 60 percent to widen Route 101 (US-101), renowned El Camino Real, within the project limits, as shown on the Vicinity Map, Attachment A. This project is located near several communities including Mussel Shoals, La Conchita, and Tank Farm in Ventura County as well as Carpinteria, in Santa Barbara County.

Project Background

The project proposes to add a High Occupancy Vehicle (HOV) lane in each of northbound (NB) and southbound (SB) directions of the Route 101 (US-101) within the project limits. The project will improve the traffic operations and relieve traffic congestion during the peak hours in this portion of

the existing four-lane expressway. On 03/12/2008, A Site Investigation (SI) report was completed in March 2008, based on the preliminary plans submitted to this Branch on August 16, 2007.

Alternative 2 (Minimum Build) has been selected as shown on the 60% plans. This Alternative includes several features in addition to the version we received in August 2007. The main features include the following:

1. Widening the Bates Road Undercrossing by closing the gap between the Right and Left Bridges and adding to the right sides.
2. Selecting the existing culvert near the Tee intersection of Surfside Street and Oxnard Avenue, in La Conchita, for the Pedestrian Undercrossing (PUC). The height of culvert most likely will be expanded. A smaller culvert, only for drainage, will be added to the north side of the existing culvert.
3. A bikeway is planned on the right side of SB (ocean side) from Bates Road to Mobil Pier Road. The Bikeway will be separated from the vehicular traffic by a concrete barrier. A 90-inch chain link fence (CLF) will top the concrete barrier for preventing trespassing. Metal beam guardrail (MBGR) may be used instead of concrete barrier.
4. A State-owned paved land will be converted to a parking area.
5. Several piles, retaining walls, soundwall-over-retaining walls, cuts, and fills.
6. Removal of Metal Beam Guardrails (MBGR), which most likely include treated wood.

From the preliminary four soundwalls, only the soundwall at Mussel Shoals remains. This soundwall was evaluated by the SI completed on 03/12/2008.

During June and July 2009, Caltrans Geotechnical (OGDS-1) drilled 20 borings for its own investigation. Per our request, piezometers were installed in five (5) borings. The list of piezometers and their locations are summarized in Table I in Attachment B. Only two of piezometers (at SB before Mussel Shoals access and NB La Conchita access) had groundwater at the installation. These readings are also shown in Table II.

Existing Reports

Dist.-07 Hazardous Waste Branch library contains an SI report regarding a site about a mile south of the Project Begin. Since the SI was performed over 10 years ago for a bridge support location, the report's findings and conclusions deem inapplicable.

In addition, District 5 has three SI reports covering a portion of or the entire Santa Barbara County segment. The most relevant report was regarding the median at 05-SB–101 PM 0.0/2.1. However, because a median barrier has been built after that report's completion date, the soil conditions do most definitely differ from those addressed in the report. Thus, the findings of that report deem also inapplicable.

The library also contains a copy of the SI report, which was finalized in March 2008, which is available for reviewing and/or copying.

Petroleum Contaminated Subsurface Materials

During the 2007-2008 SI, which included four borings up to 40 feet deep, no petroleum laden subsurface materials were encountered. However, in June 2009, Caltrans Geotechnical (OGDS-1) encountered petroleum contaminated materials at about 30 feet and 110 feet below grade surface (bgs), respectively, at the right shoulder of SB Bates Road offramp and onramp. OGDS-1 did not encounter any petroleum substance in the other 18 borings.

This project is in an area of active oil field. Although, we understand the oil (petroleum) fields are at the greater depths, the Consultant should be aware of possibility of encountering petroleum laden earth materials.

B. Purpose of Task Order

Presence of ADL is suspected in the soils adjacent to the highway as the result of the historical vehicle emissions during the time of leaded gasoline usage, which was totally discontinued as mid 1980s. Typically, ADL has been found within 30 feet from the edge of traveled way (ETW) in the moderately to heavily trafficked highways. Because the barren soils within the median and shoulders will be disturbed by the proposed construction activities, such as grading and retaining-wall foundation excavations, the excavated soils may contain Aerially Deposited Lead (ADL). The March-2008 SI report identifies the ADL along the median down to two feet below the grade surface (bgs).

Heavy metals, from various sources such as vehicle parts, may be present in those soils. Although all proposed work would be within the Caltrans Right of Way (R/W), unexpected and/or unlawful hazardous wastes and materials may also be present.

Piles below the sea level will support the La Conchita PUC's shore side. Piles will support south end of Bikeway ramp. Other piles are also considered to support retaining walls and other structures, as shown on the layouts. If the pile excavation encounters groundwater, dewatering might be required. Then a dewatering permit must be obtained based on the characteristics of the groundwater and adjacent body of water.

Since the highway is an historic road back to the early Hispanic era or possibly before that, many unknown materials may be encountered at the depth.

This Task Order (TO) is executed to obtain the detailed profile of hazardous wastes and materials, particularly in the soils and groundwater, within the scope of work detailed herein, and to provide recommendations for their proper management and handling to the final destination.

The Supplemental Site Investigation (SSI) report shall also evaluate and address the health risks to the persons entering the potentially contaminated area, particularly the field personnel who would handle the potentially ADL-laden soils as well as those who would deal with the potentially contaminated groundwater.

C. *Scope of Services*

The scope of this TO shall include, as a minimum, the following:

1- Preparing a Heath and Safety Plan (HSP) for the SSI.
2- Sampling soils at the locations shown on the borehole layout plans (BLP), in Attachment C, for ADL and heavy metals and if any other hazardous materials suspected.
3- Advancing Hollow Stem Auger (HSA) borings and sampling soils at the locations shown on the BLP.
4- Installing piezometers in the select borings.
5- Sampling groundwater at all Piezometers (including Geotechnical piezometers) & Monitoring Wells that have accumulated Groundwater after five working days. Sampling water from their respective adjacent bodies of water.
6- Conducting appropriate laboratory tests to address the following:
   a. Lead contamination due to ADL,
   b. Heavy metal contamination,
   c. Miscellaneous hazardous materials, if suspected, and
   d. Groundwater and water characteristics as required by the RWQCB.
7- Characterizing the soils to be excavated.
8- Providing recommendations regarding management and handling of the excavated soils (reuse and/or disposal).
9- Characterizing the groundwater that may be encountered during the construction and could be discharged in the adjacent surface water body.
10- Applying for and obtaining the NPDES permit(s) and all other necessary permit(s).
11- Preparing and finalizing the SSI report

The Consultant shall implement the work based on the requirements stipulated in this task order and in Contract 06A1141.

II. Detailed Tasks

Basic Rules

a. Layout orientation shall be maintained. That is the stationing increases from left to right.
b. Caltrans geographic directions shall be used unless for geologic information.
c. Holes smaller than 4 inches in diameter shall be named boreholes.
d. Holes larger than 4-inch diameter shall be named borings.
e. Header and/or footer shall include, as a minimum, the EA: 07-260701, date, Post Miles, and Task Order Number.

A. Task 1 - Traffic Control (WBS 235.10.15)

1. Based upon the Department's field reconnaissance, the proposed investigation site most likely will require formal lane closure at several locations. Prior to accepting this TO, the Consultant is required to verify the site access conditions for providing the optimum traffic control during the fieldwork. The borehole locations shall be selected such that the lane

closures are minimized and the most number of boreholes are advanced during each lane closure.

2. Encroachment permits is required for all work within the Department's R/W. However, the approved TO will serve as the encroachment permit for the Consultant to perform work within the Department's R/W. A copy of the approved TO shall be kept at the site for reference.
3. In the event that a standard left or right shoulder closure is required for this TO, closure hours shall be between 9:00 AM and 3:00 PM. The closure hours can be extended provided that the Consultant submits an advanced written request to the Department at least three working days prior to the fieldwork commencement in the area requiring closure.

B. Task 2- ADL Site Investigation (WBS 235.10.15)

1. Sampling

a. Caltrans Utilities
The Department will provide the Consultant, upon its request at the District Headquarters, a set of plans showing the existing Caltrans utilities within the project limits.

b. Awareness
During the fieldwork, the Consultant shall be aware and observant to avoid drilling on obstacles and valuable objects including, but not limited to, the utilities as well as the storm drains, culverts, concrete surfaces, tree roots, and other non-soil objects. In addition, the Consultant shall be observant of any unexpected hazardous waste and materials, such as illegally dumped materials. These shall be documented and reported immediately to the Department and TO Manager.

c. Dig Alert
The Consultant shall obtain an inquiry identification number from Dig Alert (formerly known as Underground Services Alert (USA)) prior to the start of work at areas beyond Caltrans R/W. Identification number documentation shall be provided to the Department Contract Manager and TO Manger. In Southern California, the Consultant shall call 811 (previously 1-800-227-2600) or contact www.call811.com.

d. Sampling Procedure
An appropriate sampling method (such as hand auger or direct push), which would provide sufficient volume of samples, shall be used for collecting potentially ADL-contaminated soil samples. Any other sampling method shall receive the TO Manager's acceptance. After collecting each sample, it shall be immediately placed in a laboratory supplied glass jar, which has already been labeled with the pre-set information, such as EA number, project name, and project number. The jar shall be immediately capped or sealed. Then, the sample depth, sample identification, time, date of sampling, sample matrix, and other pertinent information shall be added on the label. Without any delay, the sample shall be stored in an ice-cooled (4°C) chest for transporting, within 24 hours, to the laboratory

certified by the Environmental Laboratory Accreditation Program (ELAP). Next, all required information (including the EA number, project number, sample identification, sample matrix type, turn-around-time, and container type) should be neatly recorded on the chain-of-custody form. A copy of current laboratory's certificate shall be provided along with the cost estimate.

To preserve the integrity of samples and prevent delay in sample handling, the Consultant shall utilize the services of a nearby laboratory, for example in the city of Ventura.

e. Decontamination

Clean and decontaminated sampling equipments (for example, hand augers and spoons) shall be used for each borehole and sample. The spoon shall be decontaminated between consecutive samples or another decontaminated spoon shall be utilized. All sampling equipment shall be properly decontaminated between boreholes to prevent introduction of any foreign materials and cross contamination.

Decontamination water may be disposed of on the site. Measures shall be taken to prevent entering any liquid into the storm drains or escaping the Department's R/W.

f. Longitudinal Interval

Depending on the particular feature, the sampling interval varies. The approximate borehole and boring locations are summarized in Table II, Proposed Borehole/Boring/Piezometer Locations.

The proposed location of boreholes are shown by single green dots (which will turn black upon copying) on the Borehole Layout Plan (BLP). Borings are shown with double green dots. New Piezometers are indicated by a "P" next to the boring. The Consultant shall locate the piezometers installed by OGDS-1 and shown on the BLP in the SSI report. Since each dot is about 20 feet in diameter on the layout, the borehole/boring locations are approximate. Therefore, upon the site conditions, which cannot be clearly viewed from the few-year old in-house or commercially available aerial photos, each borehole may be relocated up to 20 feet in either NB or SB direction to a more feasible location. The borehole numbering is in the successive order. However, the sampling could continue on any time- and cost-effective order as long as the borehole or boring numbering is maintained. No borehole/boring shall be advanced in the densely tree lined areas where the tree roots could prevent sampling. If any borehole cannot be advanced within a reasonable distance, the Consultant shall discuss the mater with the TO Manager. The borehole/boring might be relocated or abandoned and the reason shall be documented at the site and reported in the SSI report.

g. Lateral Spacing

The borehole/boring shall be located in the middle of each feature. The proposed borehole/boring locations are shown on the BLP. The distance between the actual borehole

and a fixed existing reference (such as the concrete barrier or the nearest delineation) should be measured and reported in a table along with the respective borehole number.

h. Depth of Boreholes and Borings
Depending on the depth of excavation, the maximum depth of borehole or boring varies. These are shown in Table II, Attachment D.

i. Borehole, Boring, Drilling, and Sampling
An area with a minimum 1-foot radius from each borehole location shall be cleared and maintained free of debris and vegetation, prior to commencing and during advancing the borehole and sampling. To prevent mixing with the surface soils, an adequately large plastic sheet (or equivalent) shall be placed close to each borehole for placing the spoon and collected soil samples. Soil samples shall be obtained in the most representative state as much as possible to minimize contamination by upper layer(s). Because the ADL investigation is conducted concerning the current DTSC Variance requirements, the Consultant shall follow the US EPA SW-846 (Test Methods for Evaluating Solid Wastes, Physical and Chemical Methods, Chapter Two, Choosing the Correct Method). Upon completion of each borehole, all excess soil cuttings shall be returned to the corresponding borehole. The borehole location shall be left free of all hazards, for example, sharp object or object that might cause trip and fall. The Chain-of-Custody forms shall be properly and legibly filled in with all required information. All signatures shall be identified with legibly printed names.

j. Soil Sample Depths, Locations, and Logs
The proposed depths are provided in Table II, Attachment D. At each borehole, soil sampling shall begin at the depths of 0.0', 1.0', 2.0', 4.0', and 6.0' depending on the feature. The last soil sample shall be taken at the bottom. Each sample shall be a minimum of 3.0 inches long or longer as needed for all tests.

All borehole/boring locations shall be recorded in accordance with the requirements specified in GIS Data Collection, item (2) below.

The logs of borehole/boring shall be provided in the SSI report. The logs shall legibly contain all pertinent information including, but not limited to, the depths of top and bottom of samples, team members' names, date and time of start and finish, soil descriptions, and field conditions.

k. Investigative Derived Wastes (IDW)
Used equipment and supplies such as broken spoons, gloves, and pails shall be disposed of properly. IDW is not considered hazardous and can be disposed of at a permitted disposal collection point. All equipment and articles that are to be disposed of, which may still be re-used by others, shall be rendered inoperable prior to their disposal.

2. GIS Data Collection

a. Recording Borehole Locations
The locations of all boreholes and borings shall be recorded in the field, using the Department's GPS NAD83 datum. The Department will provide the Consultant with an electronic Microsoft Access 2000 Database file to record the investigative data for all boreholes, samples, and test results. GPS data shall be recorded in accordance with the allowable format and tolerances required in Caltrans Surveys Manual.

b. Borehole, Boring, and Monitoring Well Naming Convention
The boreholes and borings shall be identified by a pre-assigned unique identification (ID) number. The Unique ID number for this project is **1082** Each borehole/boring shall bear a name consisting of the Unique ID number followed by a dash and sequential borehole/boring number beginning with "101," such as 1082-101, 1082-102, and so forth. The numbering shall begin from south end of project (Sheet L-1), as shown on BLT.

On the BLP, for legibility, the Unique ID number has been excluded from the proposed numbering.

c. Sample Naming Convention
Each sample shall bear the name of the borehole or boring followed by a dash and the sample depth in feet. In the above example, samples taken from borehole 982-101 at 0.0', 1.0' and 2.0' would be named 1082-101-0.0, 1082-101-1.0 and 1082-101-2.0, respectively.

d. Data Entry
The sample data and analytical results shall be recorded in the appropriate tables. The Consultant shall note that the database tables are related such that the borehole and boring data must be recorded first, followed by the sample data, and finally the analytical data.

e. GPS data
GPS data shall be collected at the completion of each borehole/boring sampling.

f. Data Submittal
The Consultant shall submit the database file along with the draft SSI report. Transmittal of the Database will not be accepted as a substitute for the complete written report, which is addressed in the Deliverables. The Consultant must ensure that the information in the SSI report is consistent with the data recorded in the Database. A final electronic copy of the GIS Database shall be submitted along with the electronic copy of the final SSI Report.

3. Laboratory Analysis

a. The laboratory shall use the fastest turn around time (TAT) that costs the least expensive rate without incurring any surcharge.

b. In the laboratory, each soil sample shall be thoroughly homogenized such that any portion of it will represent the whole sample. Then, the sample shall be divided for the forthcoming and referee tests. The first test shall be the total lead, Total Threshold Limit Concentration (TTLC), using EPA Method 6010 series. When the TTLC is less than 1000 mg/kg but greater than or equal to 50 mg/kg, the laboratory shall proceed with the soluble lead test, Soluble Threshold Limit Concentration (STLC), by the California Waste Extraction Test (WET) using the Citrate Acid as the extractant. A minimum of four or 50 percent of the total number of soil samples having the highest TTLC, whichever is greater for each group, shall be tested for STLC. Please see Art. II.D.4 for recommendations on grouping. When the STLC is equal or greater than 5.0 mg/L, the laboratory shall proceed with the soluble lead test using De-Ionized Water (DI-WET) on the sample.

c. For each group, a minimum of four or 10 percent of the total number of soil samples tested for ADL, whichever is greater, shall be tested for soil pH using EPA Method 9045. The samples for pH testing shall be selected from those samples exhibiting the highest total lead test results.

d. For each group, a minimum of four or 30 percent of the total number of soil samples tested for ADL, whichever is greater, shall be tested for soluble lead using Toxicity Characteristic Leaching Procedure (TCLP), by EPA Method 1311. The TCLP shall be performed on all samples with 1,000 mg/kg or higher and, if needed, the sample with the highest total lead concentration.

e. In each group, for verification purposes, a minimum of one or 10 percent of the soil samples tested for total lead (TTLC), whichever is greater, shall be tested for Title 22 metals. These samples shall be obtained from the homogenized samples exhibited the highest total lead (TTLC) concentrations. This is to determine whether any concerns for heavy metals exist at the project site. This test is in anticipation of the Regional Water Quality Control Board (RWQCB) requirements for an SI involving the possibility of other metals along the highway besides ADL.

f. The laboratory limit on the analysis shall be reported as both Method Detection Limit (MDL) and a Practical Quantitation Limit (PQL).

g. The test results of each borehole samples shall be presented in a table, similar to Attachment E, next to the borehole/boring location on the appropriate layout sheet.

4. *Statistical Analysis*

Since limited boreholes and borings are planned, the Consultant shall discuss grouping with the TO Manager prior to any grouping.

If ADL is found above the threshold, the statistical analyses shall be performed for each group.

The Consultant shall group the data in such a way as to divide the soils into beneficial use areas that will allow for effective site characterization during the removal, reuse, or disposal activities as well as groups of foundation excavation. The Consultant shall determine grouping areas in accordance with the laboratory test results, and sections of the site where stockpiling is more likely to occur. The Consultant shall proceed with the grouping after receiving approval from the Department, particularly the TO Manager, on the proposed grouping.

The Consultant shall perform the statistical analyses on the laboratory test results in accordance with the EPA SW-846 and as specified in the current DTSC Variance. The goals of statistical analyses are to determine (1) which soil layers are hazardous waste per CCR Title 22 due to the total lead concentration greater than 1,000 mg/kg and/or soluble lead concentration greater than 5.0 mg/l, (2) which soil layers can be reused on-site applying the DTSC Variance terms, and (3) which soil layers must be disposed at a Class I Landfill. ***No statistical analysis shall be performed if no samples contain lead and/or heavy metals above the hazardous threshold specified by the federal and state regulations.***

The ADL section of SSI report shall evaluate the ADL-contaminated soils that may be present at the site. The analytical results of soil-samples shall be used to determine the applicability of the Department of Toxic Substances Control (DTSC) Variance granted to Caltrans District 7 regarding the re-use of certain types of ADL-contaminated soils within the project limit. On June 30, 2009, DTSC awarded Caltrans the current Variance (V09HQSCD006), effective 07/01/2009 through 07/01/2014.

a. <u>Graphical Representation – Histogram</u>

A histogram of the un-transformed data shall be developed for **each group** to determine normality of the data set (skewed or evenly distributed). If the data proves to be abnormal, the data shall be transformed in accordance with the SW-846 procedure. A new histogram then shall be generated using transformed data to verify the normality of data upon the transformation.

b. <u>Regression Analysis and Correlation Coefficient Calculation</u>

i. Perform linear regression analysis using the total lead concentrations (TTLC) as the independent variable (x) and the soluble lead concentrations (STLC) as the dependent

variable (y). The regression analysis shall consider the entire analytical results as one data set. The regression analysis should have a correlation coefficient (r-value) equal or greater than 0.8 (80%). If the correlation coefficient is less than 0.8, this must be explained in the SSI report or the sample procedures should be adjusted and the samples should be re-analyzed for both total lead and soluble lead concentrations. If the laboratory determines that sample(s) do not warrant the re-examination and analysis of the samples, a justification shall be documented in the SSI report.

ii. Perform the regression analysis for all raw data. Then, the regression analysis trend line equation (***y= m x +b***) shall be generated for predicting the STLC with known TTLC. The maximum allowable total lead concentration ($TTLC_m$) for the project can be calculated using the STLC concentration of 5.0 mg/l (y = 5.0). Then, the soils having TTLC equal or less than $TTLC_m$ are considered non hazardous.

c. Upper Confidence Limit Calculation

Perform the statistical analyses for one-tailed 90% and 95% upper confidence limits, (UCLs). The two-tailed 80% UCL is equivalent to the one-tailed 90% UCL as explained in SW-846 Manual. The 90% Upper Confidence Limits of TTLC and STLC are used to determine the applicability of DTSC Variance. The 95% Upper Confidence Limits of TTLC and STLC are used to determine relinquishment to the Contractor or handling and disposal of excess soils in accordance with the total lead regulatory threshold value of 1000 (mg/kg). Conclusions and recommendation shall be based upon the statistical analysis results for each group.

i. General Considerations:

Perform the statistical analyses for each group including each soils layer separately (0.0, 1.0', 2.0' and so forth) and combined soils layers based on the requirements at the following sections.

ii. 90% and 95% Upper Confidence Limits of TTLC and STLC:

Each Soil Layer

Calculate the 90% and 95% UCLs of TTLC for each soil layer. Then calculate the predicted STLC using the regression analysis equation mentioned in Section (b).

Combined Soil Layers

Calculate the 90% and 95% UCLs of TTLC for the combined soil layers and, then, calculate the predicted STLC using the regression analysis equation. If the UCL of TTLC for each and combined soil layer is less than 1000 mg/kg and the predicted STLC is less than 5.0 mg/l, then this statistical analysis is complete. If the UCLs of TTLC for each and/or combined soil layers are greater than the maximum allowable TTLC value ($TTLC_m$), perform the following analysis.

Step 1. Eliminate the first layer (i.e., 0.0) and calculate the 90% and 95% UCLs of TTLC for the underlying combined layers (i.e., 1.0' + 2.0' and so forth) and the corresponding predicted STLCs for these layers.

Step 2. Isolate the top 2 soil layers (0.0' and 1.0'). Considering the values of the two top layers as one data set, then calculate the 90% and 95% UCLs of TTLC and corresponding STLCs. Perform the UCLs of TTLC calculation for the underlying layer (2.0' and so forth), and calculate the corresponding predicted STLCs.

Step 3. Present the complete statistical analyses and the results, including tables and diagrams, in an Appendix. One example of table and one example of diagram, respectively, are provided as Attachments F and G.

iii. DTSC Variance Application

Analyze the 90% UCLs based on the DTSC Variance requirements. In addition, analyze the 95% UCLs to determine the applicability of the disposal limit per Health and Safety Code 25157.8 and AB 414. When invoking the DTSC Variance, refer to the current DTSC Variance, which will expire on July 1, 2014.

In addition, the SSI report shall recommend the proper management of excess soils in accordance with the Health and Safety Code disposal criteria.

d. Quality Control and Quality Assurance (QA/QC)

i. Field QA/QC

One equipment rinse shall be collected for every Chain-of-Custody as the field QA/QC. Equipment rinse shall be collected by passing de-ionized water in the sampler and collecting a sample of the water in a laboratory container.

ii. Laboratory QA/QC

The Consultant shall be responsible for ensuring that the laboratory will fulfill all QA/QC requirements of the TO per Contract 06A1141. No extra cost shall be paid for laboratory QA/QC samples. Laboratory QA/QC is included in all bid prices for the laboratory items. Laboratory report shall include a holding timetable with the sample collection date, the sample received date at the laboratory, and the samples extracted and analyzed dates. Samples with results below the detection limit (non-detect) shall not be used in the QA/QC calculations of Relative Percent Difference (RPD).

C. Task 3- Converting Culvert to PUC (WBS 235.10.15)

In La Conchita Community, the existing culvert has been considered for Pedestrian Undercrossing (PUC). We understand that its size will be changed. A smaller culvert, for drainage, is designed on the north side of existing culvert. Therefore, the adjacent soils will be disturbed. The Consultant shall advance three (3) borings as shown on Table II, Attachment D. Sample depths shall be 0.0', 1.0', 2.0', 5.0', 10', 15', & 20'.

For entering the PUC, one has to pass under the railroad trestle which has a limited height. We understand that later under an agreement with the railroad company, the trestle will be replaced by a bridge. Therefore, one borehole shall be advanced on the east and west side

of the existing railroad trestle, as shown in Table II. Sample depths shall be 0.0', 1.0', 2.0', & 5.0'.

Sampling and testing shall follow as provided in Task 4.

D. Task 4- Unforeseen Hazardous Materials (WBS 235.10.15)

The Department will handle Lead and Chromium in the traffic delineation as well as Treated Wood Waste.

The location, amount or count of the other hazardous materials observed, if any, on the site shall be reported in the SSI report.

E. Task 5- Groundwater Investigation (WBS 235.10.15)

a. Locations

Within the project limits, parts of the highway are at the low elevations and near the Pacific Ocean. Therefore, some of the foundations (pile and footing) might encounter groundwater. In addition, piles will most likely support the soundwalls near the Mussel Shoal community, in Ventura County. Several retaining walls and soundwall-on-retaining wall will be supported on the piles. Depending on their depths, a few of them may encounter groundwater. If groundwater encountered, dewatering will be required during construction. In turn, the Dewatering Permit shall be processed before contracting.

On the first day of field work, the Consultant shall take measurement of groundwater levels in four (4) existing Monitoring Wells (MW) and five (5) existing Piezometers, which are listed in Attachment B. If any groundwater stands therein, the MW or Piezometer shall be developed and after a minimum of five working days, the Consultant shall collect samples of groundwater and the adjacent body of water for analyses of their constituents toward obtaining the Dewatering Permit.

In addition, two (2) piezometers should be installed at the earliest time; one at SB right shoulder between the planned PUC and Pedestrian Ramp AND the other one at SB right shoulder near the Bikeway Ramp. These are listed in Table II, Attachment D.

b. Numbers and Depths

Four (4) groundwater monitoring wells (MWs) were installed during the 2007-08 SI. Their locations are given in Table I, Attachment B. The MWs have well covers with two 15/16-inch bolt flush cover. The MWs are pad locked with the same key Master #3258. Department will provide the Consultant a key. Since no considerable water was gathered in the MWs, they were not developed and no sample was collected. No groundwater was accumulated in any MW during the subsequent measurements by the Department.

In addition, Caltrans Geotechnical (OGDS-1) installed 5 piezometers without caps and well covers, after the advancing borings in June and July 2009.

Monitoring Wells and piezometers shall be addressed with the nearest centerline Stations along with the old numbering.

c. Installation
Since the time is very limited, the piezometers shall remain without converting to MWs.

d. Requirements
If groundwater encountered in any MW or piezometer, the Consultant shall investigate and test all parameters required by the Regional Water Quality Control Board (RWQCB) for issuing an NPDES permit No. CAG 994004 for dewatering and discharging the groundwater onto the adjacent surface body (ies) of water, for each location.

e. Measurements and Sampling
Then, one representative sample of groundwater, for chemical analyses, shall be collected. In addition one sample of the nearest surface body of water shall be obtained for the same chemical analyses. The samples shall be analyzed for the constituents required by the Regional Water Quality Control Board (RWQCB) for the Construction Dewatering Permit No. CAG 994004. This permit will be used for disposing the excess water discharged from dewatering systems.

II. Meeting and Reports

A. Task Order Meeting

The Consultant and the Department staff shall meet as often as necessary to ensure that both parties share a common understanding of the TO objectives. The meetings may be replaced by emails, facsimiles, and/or telephone calls upon mutual agreement. Upon executing this task order, the following meetings are required:

1. An initial TO meeting shall be attended by the Consultant's Project Manager and the Professional Geologist/Engineer responsible for implementing the TO to discuss the scope of work, details, procedures, Borehole Layout Plan, and other issues of concern. This meeting is a must.
2. Intermittent meeting(s), calls, and/or emails for coordinating the investigation, field conditions, the results, and the report, if needed.
3. Review meeting(s) of SSI findings.
4. Final SSI report discussion meeting.

B. Deliverables

This project is at 60 percent of design. **Therefore, the time is of essence.** The Consultant shall commence preparing the SSI report immediately upon authorization of the TO.

1. The draft HSP shall be electronically transmitted for the Department's review, in the editable MSWord or PDF format. After incorporating the Department's comments and upon the Department's acceptance, two (2) copies of the final HSP shall be submitted with the CIH's wet-ink seal and signature. A copy of the final HSP shall be available at the site at all times during the fieldwork.

2. The Draft SSI Report shall be electronically transmitted for the Department's review and comment. In addition, two (2) print copies of the Draft SSI Report shall be submitted. The Draft SSI Report shall be as complete as the final report, including the laboratory test results, GIS Data, MS Access database file, conclusions, and recommendations regarding the soil management alternatives for reusing soils in accordance with the DTSC Variance, disposing of excess soils in accordance with the Health and Safety Code, and so forth. The Consultant shall incorporate the Department's comments or acceptance prior to finalizing the report.

3. The Consultant shall submit five (5) print copies and one (1) electronic copy (on a CD) of the Final Report. The electronic copy shall be a replica of an entire print copy including the registration, stamp, date, and signature(s). Text and figures shall be in pdf format including the GIS Spreadsheet results.

IV. Period of Performance

Work under the Task Order shall begin on October 19, 2009 and end by February 15, 2010.

V. Project Schedule

ACTION	BY	DUE
Department/Consultant Agreement	D & C	10/19/09
Task Order Kickoff Meeting	D & C	10/22/09
Draft HSP Transmittal	C	10/26/09
Review and Comment Draft HSP	D	10/29/09
Final HSP	C	10/30/09
Commence Field Work	C	11/02/09
Preliminary Laboratory Results	C	12/18/09
Draft SSI Report	C	12/30/09
Review and Comment Draft SSI Report	D	1/08/10
Final SSI Report	C	1/15/10
Submit NPDES Permit Applications	C	1/15/10

D = Department
C = Client

VI. Cost

The Consultant will be reimbursed for hours worked in accordance with the cost estimate provided in the approved final work plan for this Task Order 86 Contract No. 06A1141. The Consultant's billing shall reference all hours worked according to the Department's WBS. In addition, the Consultant will be reimbursed for direct cost, other than salary costs, that are identified in the approved cost estimate. The Department's total amount payable under Task Order 86 shall not exceed the amount **$ 80,970.00.**

VII. Contract Manager

The Department's Contract Manager is:

Gale Chew-Yep
California Department of Transportation, District 6
Consultant Services
2015 E. Shields Ave, Suite 100
Fresno, CA
Tel.: (559)-243-3464
Fax: (559)-243-3426
E-mail: gale_chew-yep@dot.ca.gov

VIII. Task Order Manager

The Department's TO Manager is:

G. Hossein Bahmanyar, G.E., Transportation Engineer
Department of Transportation, District 7
Division of Planning
Office of Environmental Engineering and Corridor Studies
100 South Main Street, 12.284
Los Angeles, CA 90012
Tel.: 1-866-399-9050+213-897-0284
Fax: (213) 897-1634
E-mail: G_Hossein_Bahmanyar@dot.ca.gov

The Consultant's Contract Manager shall be:

John Juhrend
Geocon Consultants, Inc.
3160 Gold Valley Drive, Suite 800
Rancho Cordova, CA 95742
Tel.: (916) 852-9118
E-mail: juhrend@geoconinc.com

IX. Signatures

I certify that this Task Order and Attachments comply with the provisions of Contract No. 06A1141, are necessary for the satisfactory completion of the product(s) contracted for, and that sufficient funding has been encumbered to pay for this work.

Gale Chew-Yep
Gale Chew-Yep
Caltrans Contract Manager

10/19/09
DATE

I certify that this Task Order and attachments are within the scope of the project and are necessary for the successful completion of the project.

STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION (District 7)

By Ayubur Rahman
Ayubur Rahman
Branch Chief/Hazardous Waste North

Date 10/19/09

By Sam Alameddine
Sam Alameddine
Office Chief of Environmental Engineering & Corridor Studies

Date 10/19/09

IN WITNESS WHEREOF, this Task Order and its attachments have been executed under the provisions of Contract No. 06A1141 between the State of California, Business, Transportation, and Housing Agency, and Geocon Consultants, Inc. By the signatures below, the parties hereto agree that all terms and conditions of this Task Order and Contract No. 06A1141 shall be in full force and effect.

GEOCON CONSULTANT, INC.

By:
John Juhrend
Project Manager

Date: 10-19-09

Attachments:

Attachment A, Vicinity Map
Attachment B, Table I, Summary of Piezometers and Existing Monitoring Wells
Attachment C, Borehole Layout Plans, (22 Sheets, 11" X 17")
Attachment D, Table II, Proposed Boreholes/Borings/Piezometers (3 sheets. 8.5" X 11")
Attachment E, Example of Tabulated Test Results on a Layout Sheet, (1 Sheet, 8.5" X 11")
Attachment F, Example of Summary of Statistical Analysis Results (1 Sheet, 8.5" X 11")
Attachment G, Example of Block Diagram of Upper Confidence Levels (1 Sheet, 8.5" X 11")

California Environmental Protection Agency
Department of Toxic Substances Control

VARIANCE

Applicant Names:

State of California
Department of Transportation
(Caltrans)
1120 N Street
Sacramento, California 95814

Variance No. V09HQSCD006

Effective Date: July 1, 2009

Expiration Date: July 1, 2014

Modification History:

Pursuant to California Health and Safety Code, Section 25143, the Department of Toxic Substances Control hereby issues the attached Variance consisting of 9 pages to the Department of Transportation.

Beverly Rikala
Team Leader, Operating Facilities Team
Department of Toxic Substances Control

Date: 6/30/09

1. INTRODUCTION.

a) Pursuant to Health and Safety Code, section 25143, the California Department of Toxic Substances Control (DTSC) grants this variance to the applicant below for waste considered to be hazardous solely because of its lead concentrations and as further specified herein.

b) DTSC hereby grants this variance only from the requirements specified herein and only in accordance with all terms and conditions specified herein.

2. IDENTIFYING INFORMATION.

APPLICANT/OWNER/OPERATOR

State of California
Department of Transportation, (Caltrans)
All Districts

3. TYPE OF VARIANCE.

Generation, Manifest, Transportation, Storage and Disposal.

4. ISSUANCE AND EXPIRATION DATES.

DATE ISSUED: July 1, 2009 EXPIRATION DATE: July 1, 2014

5. APPLICABLE STATUTES AND REGULATIONS. The hazardous waste that is the subject of this variance is fully regulated under Health and Safety Code, section 25100, et seq. and California Code of Regulations, title 22, division 4.5 except as specifically identified in Section 8 of this variance.

6. DEFINITION. For purposes of this variance, "lead-contaminated soil(s)" shall mean soil that meets the criteria for hazardous waste but contains less than 3397 mg/kg total lead and is hazardous primarily because of aerially-deposited lead contamination associated with exhaust emissions from the operation of motor vehicles.

7. FINDINGS/DETERMINATIONS. DTSC has determined that the variance applicant meets the requirements set forth in Health and Safety Code, section 25143 for a variance from specific regulatory requirements as outlined in Section 8 of this variance. The specific determinations and findings made by DTSC are as follows:

a) Caltrans intends to excavate, stockpile, transport, bury and cover large volumes of soil associated with highway construction projects. In the more urbanized highway corridors around the State this soil is contaminated with lead, primarily due to historic emissions from automobile exhausts. In situ sampling and laboratory testing has shown that some of the soil contains concentrations of lead in excess of State regulatory thresholds, and thus any generated waste from disturbance of the soil

would be regulated as hazardous waste. Such soil contains a Total Threshold Limit Concentration (TTLC) of 1000 milligrams per kilogram (mg/kg) or more lead and/or it meets or exceeds the Soluble Threshold Limit Concentration (STLC) for lead of 5 milligrams per liter (mg/l). A Human Health Risk Assessment prepared for this variance concludes that soil contaminated with elevated concentrations of lead can be managed in a way that presents no significant risk to human health.

b) The lead-contaminated soil will be placed only in Caltrans' right-of-way. Depending on concentration levels, the wastes will be covered with a minimum thickness of one (1) foot of non-hazardous soil or asphalt/concrete cover and will always be at least five (5) feet above the highest groundwater elevation. Caltrans will assure that proper health and safety procedures will be followed for workers, including any persons engaged in maintenance work in areas where the waste has been buried and covered.

c) DTSC finds and requires that the lead-contaminated soil excavated, stockpiled, transported, buried and covered pursuant to this variance is a non-RCRA hazardous waste, and that the waste management activity is insignificant as a potential hazard to human health and safety and the environment, when managed in accordance with the conditions, limitations and other requirements specified in this variance.

8. PROVISIONS WAIVED.

Provided Caltrans meets the terms and conditions of this variance, DTSC waives the hazardous waste management requirements of Health and Safety Code, Chapter 6.5 and California Code of Regulations, title 22 for the lead-contaminated soil that Caltrans reuses in projects that would require Caltrans to obtain a permit for a disposal facility and any other generator requirements that concern the transportation, manifesting, storage and land disposal of hazardous waste.

9. SPECIFIC CONDITIONS, LIMITATIONS AND OTHER REQUIREMENTS.

In order for the provisions discussed in section 8 to be waived, lead-contaminated soil must not exceed the contaminant concentrations discussed below and Caltrans management practices must meet all the following conditions:

a) Caltrans implementation of this variance shall comply with all applicable state laws and regulations for water quality control, water quality control plans, waste discharge requirements (including storm water permits), and others issued by the State Water Resources Control Board (SWRCB) and/or a California Regional Water Quality Control Board (RWQCB). Caltrans shall provide written notification to the appropriate RWQCB at least 30 days prior to advertisement for bids of projects that involve invocation of this variance, or as otherwise negotiated with the SWRCB or appropriate RWQCB.

b) The waivers in this variance shall only be applied to lead-contaminated soil that is not a RCRA hazardous waste and is hazardous primarily because of aerially-

deposited lead contamination associated with exhaust emissions from the operation of motor vehicles. The variance is not applicable to any other hazardous waste.

c) Soil containing 1.5 mg/l extractable lead or less (based on a modified waste extraction test using deionized water as the extractant) and 1411 mg/kg or less total lead may be used as fill provided that the lead-contaminated soil is placed a minimum of five (5) feet above the maximum historic water table elevation and covered with at least one (1) foot of nonhazardous soil that will be maintained by Caltrans to prevent future erosion.

d) Soil containing 150 mg/L extractable lead or less (based on a modified waste extraction test using deionized water as the extractant) and 3397 mg/kg or less total lead may be used as fill provided that the lead-contaminated soils are placed a minimum of five (5) feet above the maximum historic water table elevation and protected from infiltration by a pavement structure which will be maintained by Caltrans.

e) Lead-contaminated soil with a pH less than 5.5 but greater than 5.0 shall only be used as fill material under the paved portion of the roadway. Lead-contaminated soil with a pH at or less than 5.0 shall be managed as a hazardous waste.

f) For each project that has the potential to generate waste by disturbing lead-contaminated soil (as defined in 6), Caltrans shall conduct sampling and analysis to adequately characterize the soils containing aerially deposited lead in the areas of planned excavation along the project route. Such sampling and analysis shall include the Toxicity Characteristic Leaching Procedure (TCLP) as prescribed by the United States Environmental Protection Agency to determine whether concentrations of contaminants in soil exceed federal criteria for classification as a hazardous waste.

g) Lead-contaminated soil managed pursuant to this variance shall not be moved outside the designated corridor boundaries (see paragraph t) below. All lead-contaminated soil not buried and covered within the same Caltrans corridor where it originated is not eligible for management under this variance and shall be managed as a hazardous waste.

h) Lead-contaminated soil managed pursuant to this variance shall not be placed in areas where it would become in contact with groundwater or surface water (such as streams and rivers).

i) Lead-contaminated soil managed pursuant to this variance shall be buried and covered only in locations that are protected from erosion that may result from storm water run-on and run-off.

j) The lead-contaminated soil shall be buried and covered in a manner that will prevent accidental or deliberate breach of the asphalt, concrete, and/or cover soil.

k) The presence of lead-contaminated soil shall be incorporated into the projects' as-built drawings. The as-built drawings shall be annotated with the location, representative analytical data, and volume of lead-contaminated soil. The as-built drawings shall also state the depth of the cover. These as-built drawings shall be retained by Caltrans.

l) Caltrans shall ensure that no other hazardous wastes, other than the lead-contaminated hazardous waste soil, are placed in the burial areas.

m) Lead-contaminated soil shall not be buried within ten (10) feet of culverts or locations subject to frequent worker exposure.

n) Excavated lead-contaminated soil not placed into the designated area (fill area, roadbed area) by the end of the working day shall be stockpiled and covered with sheets of polyethylene or at least one foot of non-hazardous soil. The lead-contaminated soil, while stockpiled or under transport, shall be protected from contacting surface water and from being dislodged or transported by wind or storm water. The stockpile covers shall be inspected at least once a week and within 24 hours after rainstorms. If the lead-contaminated soil is stockpiled for more than 4 days from the time of excavation, Caltrans shall restrict public access to the stockpile by using barriers that meet the safety requirements of the construction zone. The lead-contaminated soil shall be stockpiled for no more than 90 days from the time the soil is first excavated. If the contaminated soil is stockpiled beyond the 90 day limit Caltrans shall:

1. notify DTSC in writing of the 90 day exceedance and expected date of removal;
2. perform weekly inspections of the stockpiled material to ensure that there is adequate protection from run-on, runoff, public access, and wind dispersion; and
3. notify DTSC on weekly basis of the stockpile status until the stockpile is removed.

The lead-contaminated soil shall be stockpiled for no more than 180 days from the time the soil is first excavated.

o) Caltrans shall ensure that all stockpiling of lead-contaminated soil remains within the project area of the specified corridor. Stockpiling of lead-contaminated soil within the specified corridor, but outside the project area, is prohibited.

p) Caltrans shall conduct confirmatory sampling of any stockpile area in areas not known or expected to contain lead-contaminated soil after removal of the lead-contaminated soil to ensure that contamination has not been left behind or has not migrated from the stockpiled material to the surrounding soils.

q) Caltrans shall stockpile lead-contaminated soil only on high ground (i.e. no sump areas or low points) so that stockpiled soil will not come in contact with surface

water run-on or run-off.

r) Caltrans shall not stockpile lead-contaminated soil in environmentally and ecologically sensitive areas.

s) Caltrans shall ensure that storm/rain run-off that has come into contact with stockpiled lead-contaminated soil will not flow to storm drains, inlets, or waters of the State.

t) Caltrans may dispose of the lead-contaminated soil only within the operating right-of-way of an existing highway, as defined in Streets and Highways Code, section 23. Caltrans may move lead-contaminated soil from one Caltrans project to another Caltrans project only if the lead-contaminated soil remains within the same designated corridor.

Caltrans shall record any movement of lead-contaminated soil by using a bill of lading. The bill of lading must contain: 1) the US DOT description including shipping name, hazard class and ID number; 2) handling codes; 3) quantity of material; 4) volume of material; 5) date of shipment; 6) origin and destination of shipment; and 7) any specific handling instructions. The bill of lading shall be referenced in and kept on file with the project's as-built drawings. The lead-contaminated soil must be kept covered during transportation.

u) For each specific corridor where this variance is to be implemented, all of the following information shall be submitted in writing to DTSC at least five (5) days before construction of any project begins:

1. plan drawing designating the boundaries of the corridor where lead-contaminated soils will be excavated, stockpiled, buried and covered;

2. a list of the Caltrans projects that the corridor encompasses;

3. a list of Caltrans contractors that will be conducting any phase of work on any project affected by this variance;

4. duration of corridor construction;

5. location where sampling and analytical data used to make lead concentration level determinations are kept (e.g. a particular Caltrans project file);

6. name and phone number (including area code) of project resident engineer and project manager;

7. location where Caltrans and contractor health and safety plan and records are kept;

8. location of project special provisions (including page or section number) for soil excavation, transportation, stockpile, burial and placement of cover material;

9. location of project drawings (including drawing page number) for soil excavation, burial and placement of cover in plan and cross section (for example, "The project plans are located at the resident engineer's office located at 5th and Main Streets, City of Fresno, See pages xxxxx of contract xxxx");

10. updated information if a Caltrans project within the corridor is added, changed or deleted; and

11. type of environmental document prepared for each project, date of adoption, document title, Clearing House number and where the document is available for review. A copy of the Caltrans Categorical Exemption, Categorical Exclusion Form, or if filed, the Notice of Exemption for any project shall be submitted to the DTSC Headquarters Project Manager.

v) Changes in location of lead-contaminated soil placement, quantities or protection measures (field changes) shall be noted in the resident engineer's project log within five (5) days of the field change.

w) Caltrans shall ensure that field changes are in compliance with the requirements of this variance.

x) Operational procedures described in the California Environmental Quality Act (CEQA) Special Initial Study shall be followed by Caltrans for activities conducted under this variance.

y) Caltrans shall implement appropriate health and safety procedures to protect its employees and the public, and to prevent or minimize exposure to potentially hazardous wastes. A project-specific health and safety plan must be prepared and implemented. The monitoring and exposure standards shall be based on construction standards for exposure to lead in California Code of Regulations, title 8, section 1532.1.

z) Caltrans shall provide a district Coordinator for this variance. This Coordinator will be the primary point of contact for information flowing to, or received from, DTSC regarding any matter or submission under this variance. Caltrans shall promptly notify DTSC of the name of Coordinator and any change in the Coordinator.

aa) Caltrans shall conduct regular inspections, consistent with Caltrans' Maintenance Division's current Pavement Inspection and Slope Inspection programs, of the locations where lead-contaminated soil has been buried and/or covered pursuant to this variance. If site inspection reveals deterioration of cover so that conditions in the variance are not met, Caltrans shall repair or replace the cover.

bb) Caltrans shall develop and implement a record keeping mechanisms to record and retain permanent records of all locations where lead-contaminated soil has been buried per this variance. The records shall be made available to DTSC.

cc) If areas subject to the terms of this variance are sold, relinquished or abandoned (including roadways), all future property owners shall be notified in writing in advance by Caltrans of the requirements of this variance, and Caltrans shall provide the owner with a copy of the variance. A copy of such a notice shall be sent to DTSC and contain the corridor location and project. Caltrans shall also disclose to DTSC and the new owner the location of areas where lead-contaminated soil has been buried. Future property owners shall be subject to the same requirements as Caltrans.

dd) For the purposes of informing the public about instances where the variance is implemented, Caltrans shall:

1. maintain current fact sheets at all Caltrans resident engineer offices and the Caltrans District office. Caltrans shall make the fact sheets available to anyone expressing an interest in variance-related work.

2. maintain a binder(s) containing copies of all reports submitted to DTSC at the District office. Caltrans shall ensure that the binders are readily accessible to the public.

3. carry out the following actions when it identifies additional projects:

(A) notify the public via a display advertisement in a newspaper of general circulation in that area.

(B) update and distribute the fact sheet to the mailing list and repository locations.

ee) Lead-contaminated soil may be buried only in areas where access is limited or where lead-contaminated soil is covered and contained by a pavement structure.

ff) Dust containing lead-contaminated soil must be controlled. Water or dust palliative may be applied to control dust. If visible dust migration occurs, all excavation, stockpiling and truck loading and burying must be stopped. The granting of this variance confers no relief on Caltrans from compliance with the laws, regulations and requirements enforced by any local air district or the California Air Resources Board.

gg) Sampling and analysis is required to show the lead-contaminated soil meets the variance criteria. All sampling and analysis must be conducted in accordance with the appropriate methods specified in U.S. EPA SW-846.

hh) DTSC retains the right to require Caltrans or any future owner to remove, and properly dispose of, lead-contaminated soil in the event DTSC determines it is necessary for protection of public health, safety or the environment.

ii) DTSC finds that some projects involving lead-contaminated soil are joint projects between Caltrans and other government entities. In these joint projects, Caltrans may not be the lead agency implementing the project although Caltrans is still involved if the project occurs on its right-of-way.

Caltrans may invoke this variance for joint projects where Caltrans and local government entity are involved provided that 1) the project is within the Caltrans Right-of-Way; 2) Caltrans reviews/ oversees all phases of the project including design, contracting, environmental assessment, construction, operation, and maintenance; and 3) Caltrans oversees the project to verify all variance conditions are complied with. Caltrans will be fully responsible for the variance notification and implementation in these joint projects.

jj) All correspondence shall be directed to the following office:

Hazardous Waste Permitting
Department of Toxic Substances Control
8800 Cal Center Drive
Sacramento, CA 95826

Attn: Caltrans Lead Variance Notification Unit

10. DISCLAIMER.

a) The issuance of this variance does not relieve Caltrans of the responsibility for compliance with Health and Safety Code, chapter 6.5, or the regulations adopted thereunder, and any other laws and regulations other than those specifically identified in Section 8 of this variance. Caltrans is subject to all terms and conditions herein. The granting of this variance confers no relief from compliance with any federal, State or local requirements other than those specifically provided herein.

b) The issuance of this variance does not release Caltrans from any liability associated with the handling of hazardous waste, except as specifically provided herein and subject to all terms and conditions of this variance.

11. VARIANCE MODIFICATION OR REVOCATION. This variance is subject to review at the discretion of DTSC and may be modified or revoked by DTSC upon change of ownership and at any other time pursuant to Health and Safety Code, section 25143.

12. CEQA DETERMINATION. DTSC adopted a Negative Declaration on June 30, 2009.

Approved:

6/30/09
Date

Beverly Rikala
Operating Facilities Team
Department of Toxic Substances Control

APPENDIX D

APPENDIX D

GEOCON CONSULTANTS, INC.
MODIFIED STANDARD OPERATING PROCEDURE (SOP) NO. 11
HAND-AUGERING AND SOIL SAMPLE COLLECTION/HANDLING

Purpose

The purpose of this SOP is to outline procedures and methods to be used to advance hand-augers and collect soil samples for chemical analyses.

Hand-Augering and Soil Sample Collection/Handling Procedures

1. Initiate boring using a hand-held 2.5-inch centimeter diameter stainless steel auger.

2. Advance boring to initial sample depth of approximately 0 to 0.5 feet below the ground surface.

3. Transfer the soil sample from the hand auger into a plastic bag to homogenize the sample, transfer the sample from the plastic bag to a glass jar supplied by the laboratory. Label glass jar with the boring number, EA number, and sample depth.

4. Record the sample identification, time and date of sample collection, sample matrix type, turn-around time, and container type on the laboratory chain of custody.

5. Each prepared sample jar will be placed into a cooler for transport to Advanced Technology Laboratories.

6. Repeat the procedure and collect soil samples at subsequent depths as specified in the Task Order, if possible.

7. Backfill the borings to surface grade with soil cuttings generated.

8. Clean and rinse sampling equipment prior to the collection of each soil sample by washing the equipment with a trisodium phosphate solution followed by subsequent tap water and deionized water rinses.

9. Transport all samples to Advance Technology Laboratories under chain of custody control.

APPENDIX E

PROJECT NO. S9200-06-86

BORING 1082-101

ELEV. (MSL.) _____ DATE COMPLETED Oct. 30, 2009

EQUIPMENT Hollow Stem Auger BY: MPC

DEPTH IN Feet	SAMPLE NO>	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	MATERIAL DESCRIPTION	PENETRATION RESISTANCE (BLOWS/FT)*	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
0	0 - 0.5				**Asphalt : 2 inches**			
	1 - 1.5				**ARTIFICIAL FILL** Silty Sand with Gravel, fine- to coarse-grained, some fine-gravel, dark brown, medium dense, dry			
2	2 - 2.5							
	3 - 3.5				**ALLUVIUM** Sand, well graded, trace fine-gravel, light yellowish brown, medium dense, dry			
4	4 - 4.5							
6				SW				
8								
10	10 - 11.5				**BEDROCK** Siltstone, light reddish brown, poorly laminated, soft, dry, some fine- to medium-grained sand	28		
12								
14								
	15 - 16.5					44		
16								
18								
20	20 - 21.5				-Slightly moist	39		
22								
24								
	25 - 26.5				-Trace gravel up to 1 inch, dark brown	14		
26								
28								

S9200-06-86 BORING LOGS A1-A2.GPJ

Figure A1,
Log of Boring 1082-101, Page 1 of 2

SAMPLE SYMBOLS

- ☐ ... SAMPLING UNSUCCESSFUL
- ◧ ... STANDARD PENETRATION TEST
- ■ ... DRIVE SAMPLE (UNDISTURBED)
- ⊠ ... DISTURBED OR BAG SAMPLE
- ◥ ... CHUNK SAMPLE
- ▼ ... WATER TABLE OR SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

GEOCON

PROJECT NO. S9200-06-86

DEPTH IN Feet	SAMPLE NO>	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	**BORING 1082-101** ELEV. (MSL.) _____ DATE COMPLETED **Oct. 30, 2009** EQUIPMENT **Hollow Stem Auger** BY: **MPC**	PENETRATION RESISTANCE (BLOWS/FT)*	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
					MATERIAL DESCRIPTION			
30	30 - 31.5				-Clasts up to 2 inches	24		
					End boring at 31.5 feet. Fill to 2.5 feet. No groundwater encountered. Backfilled with cement grout.			

Figure A1,
Log of Boring 1082-101, Page 2 of 2

S9200-06-86 BORING LOGS A1-A2.GPJ

SAMPLE SYMBOLS

- ☐ ... SAMPLING UNSUCCESSFUL
- ◧ ... STANDARD PENETRATION TEST
- ■ ... DRIVE SAMPLE (UNDISTURBED)
- ⊠ ... DISTURBED OR BAG SAMPLE
- ◪ ... CHUNK SAMPLE
- ▼ ... WATER TABLE OR SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

GEOCON

PROJECT NO. S9200-06-86

BORING 1082-120

ELEV. (MSL.) _____ DATE COMPLETED Oct. 30, 2009

EQUIPMENT Hollow Stem Auger BY: MPC

DEPTH IN Feet	SAMPLE NO>	SOIL CLASS (USCS)	MATERIAL DESCRIPTION	PENETRATION RESISTANCE (BLOWS/FT)*	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
0	0 - 0.5		**Asphalt: 2 inches Base: 3 inches**			
	0.5 - 1		**ARTIFICIAL FILL**			
2	1 - 1.5		Silty Sand, fine- to coarse-grained, trace fine- to coarse-gravel, dark			
	2 - 2.5		yellowish brown, dense, slightly moist			
4			**ALLUVIUM**			
	4 - 4.5		Sandy Silt, fine- to coarse-grained, trace fine-gravel, trace clay, dark brown, stiff, slightly moist			
6		ML				
8						
10	10 - 11.5		Sand, poorly graded, fine- to medium-grained, trace silt, light brown,	12		
12		SP	loose, slightly moist			
14						
	15 - 16.5		Silt with Sand and Gravel, dark brown, trace layers of fine-grained sand	23		
16			(< 1cm. thick), stiff, slightly moist			
18		ML				
20	20 - 21.5		Sand, well graded, trace gravel, trace silt, light brown, loose, wet	26		
22						
24						
		SW				
	25 - 26.5		-Sand with Gravel, well graded, fine- to coarse-gravel, trace cobbles, dark	49		
26			brown, dense, wet			
28						

S9200-06-86 BORING LOGS A1-A2.GPJ

Figure A2,
Log of Boring 1082-120, Page 1 of 2

SAMPLE SYMBOLS

- ☐ ... SAMPLING UNSUCCESSFUL
- ◧ ... STANDARD PENETRATION TEST
- ■ ... DRIVE SAMPLE (UNDISTURBED)
- ⊠ ... DISTURBED OR BAG SAMPLE
- ◥ ... CHUNK SAMPLE
- ▼ ... WATER TABLE OR SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

GEOCON

PROJECT NO. S9200-06-86

DEPTH IN Feet	SAMPLE NO>	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	**BORING 1082-120** ELEV. (MSL.) _____ DATE COMPLETED **Oct. 30, 2009** EQUIPMENT **Hollow Stem Auger** BY: **MPC**	PENETRATION RESISTANCE (BLOWS/FT)*	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
					MATERIAL DESCRIPTION			
30	30 - 31.5			SP	Sand, poorly graded, medium dense, trace fine-gravel, light gray brown, very dense, wet	79		
					End boring at 31.5 feet. Fill to 2.5 feet. Groundwater encountered at 20 feet. Backfilled and tamped with soil cuttings.			

Figure A2,
Log of Boring 1082-120, Page 2 of 2

S9200-06-86 BORING LOGS A1-A2.GPJ

SAMPLE SYMBOLS

- ☐ ... SAMPLING UNSUCCESSFUL
- ◧ ... STANDARD PENETRATION TEST
- ■ ... DRIVE SAMPLE (UNDISTURBED)
- ⊠ ... DISTURBED OR BAG SAMPLE
- ◥ ... CHUNK SAMPLE
- ▼ ... WATER TABLE OR SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

GEOCON

APPENDIX F

Manifest

TPST Soil Recyclers of CA
Non-Hazardous Soils

Manifest #

Date of Shipment:	Responsible for Payment:	Transporter Truck #:	Facility #:	Given by TPST:	Load #
1 1		111 733	A07	34404	001

Generator and/or Consultant

Generator's Name and Billing Address:	Generator's Phone #:	Generator's US EPA ID No.
CALTRANS - DISTRICT 7 100 S. MAIN ST. LOS ANGELES, CA 90012	213-620-2313	
	Person to Contact:	
	FAX#:	Customer Account Number with TPST:

Consultant's Name and Billing Address:	Consultant's Phone #:	
	Person to Contact:	
	FAX#:	Customer Account Number with TPST:

Generation Site (Transport from): *(name & address)*	Site Phone #:	BTEX Levels
CALTRANS - U.S. HIGHWAY 101 INVESTIGATION U.S. HWY 101 (S/B VICINITY OF SANTA BARBARA AVE.) LA CONCHITA, CA 93001	Person to Contact:	TPH Levels
	FAX#:	AVG. Levels

Designated Facility (Transport to): *(name & address)*	Facility Phone #:	Facility Permit Numbers
TPST SOIL RECYCLERS OF CALIFORNIA 12328 HIBISCUS AVENUE ADELANTO, CA 92301	(800) 862-8001	
	Person to Contact: DELLENA JEFFREY	
	FAX#: (760) 246-8004	

Transporter Name and Mailing Address:	Transporter's Phone #:	Transporter's US EPA ID No.:
BELSHIRE 25971 TOWNE CENTRE DRIVE FOOTHILL RANCH, CA 92610 BESI: 174022	949-460-6200	CAR000183913
	Person to Contact: LARRY MOOTHART	Transporter's DOT No.: 450647
	FAX#: 949-460-6210	Customer Account Number with TPST:

Description of Soil	Moisture Content	Contaminated by:	Approx. Qty:	Description of Delivery	Gross Weight	Tare Weight	Net Weight
Sand ☐ Organic ☐ Clay ☐ Other ☐	0 - 10% ☐ 10 - 20% ☐ 20% - over ☐	Gas ☐ Diesel ☐ Other ☐	4 d/ms		4880	2440	2360
Sand ☐ Organic ☐ Clay ☐ Other ☐	0 - 10% ☐ 10 - 20% ☐ 20% - over ☐	Gas ☐ Diesel ☐ Other ☐					1.18

List any exception to items listed above: Bin # 2301 Scale Ticket# 76033

Generator's and/or consultant's certification: I/We certify that the soil referenced herein is taken entirely from those soils described in the Soil Data Sheet completed and certified by me/us for the Generation Site shown above and nothing has been added or done to such soil that would alter it in any way.

Print or Type Name: Generator ☐ Consultant ☐	Signature and date:	Month	Day	Year
[illegible] for Caltrans		10	30	09

Transporter

Transporter's certification: I/We acknowledge receipt of the soil described above and certify that such soil is being delivered in exactly the same condition as when received. I/We further certify that this soil is being directly transported from the Generation Site to the Designated Facility without off-loading, adding to, subtracting from or in any way delaying delivery to such site.

Print or Type Name:	Signature and date:	Month	Day	Year
Luis Navarro		10	30	09

Recycling Facility

Discrepancies:

Recycling Facility certifies the receipt of the soil covered by this manifest except as noted above:

Print or Type Name:	Signature and date:
D. JEFFREY/J. PROVANSAL	10/9/09

Please print or type

TRANSPORTER COPY

APPENDIX G

Lead Concentrations for ProUCL Input
U.S. ROUTE 101 HOV LANES

BORING ID	TOTAL LEAD (mg/kg)	Depth (feet)
GROUP 3		
1082-103-0.0-0.5	23	0.5
1082-106-0.0-0.5	72	0.5
1082-108-0.0-0.5	380	0.5
1082-103-0.5-1	2.5	1
1082-106-0.5-1	19	1
1082-108-0.5-1	110	1
1082-103-1.5-2	2.5	2
1082-106-1.5-2	7.0	2
1082-108-1.5-2	170	2
1082-103-3.5-4	2.5	4
1082-106-3.5-4	2.5	4
1082-108-3.5-4	28	4
GROUP 4a		
1082-104-0.0-0.5	410	0.5
1082-105-0.0-0.5	95	0.5
1082-107-0.0-0.5	150	0.5
1082-109-0.0-0.5	290	0.5
1082-110-0.0-0.5	220	0.5
1082-111-0.0-0.5	11	0.5
1082-112-0.0-0.5	240	0.5
1082-113-0.0-0.5	110	0.5
1082-114-0.0-0.5	140	0.5
1082-115-0.0-0.5	65	0.5
1082-118-0.0-0.5	2.5	0.5
1082-104-0.5-1.0	38	1
1082-105-0.5-1.0	2.5	1
1082-107-0.5-1.0	41	1
1082-109-0.5-1.0	310	1
1082-110-0.5-1.0	210	1
1082-111-0.5-1.0	2.5	1
1082-112-0.5-1.0	10	1
1082-113-0.5-1.0	2.5	1
1082-114-0.5-1.0	9.0	1
1082-115-0.5-1	120	1
1082-118-0.5-1.0	2.5	1
1082-104-1.5-2.0	2.5	2
1082-105-1.5-2.0	5.5	2
1082-107-1.5-2.0	15	2
1082-109-1.5-2.0	7.8	2
1082-110-1.5-2.0	6.1	2
1082-111-1.5-2.0	6.8	2
1082-112-1.5-2.0	5.1	2
1082-113-1.5-2.0	2.5	2
1082-114-1.5-2.0	42	2
1082-115-1.5-2	21	2
1082-118-1.5-2.0	2.5	2
1082-104-3.5-4.0	2.5	4
1082-105-3.5-4.0	6.8	4
1082-107-3.5-4.0	5.7	4
1082-109-3.5-4.0	22	4
1082-110-3.5-4.0	2.5	4
1082-111-3.5-4.0	6.3	4
1082-112-3.5-4.0	58	4
1082-113-3.5-4.0	9.0	4
1082-114-3.5-4.0	2.5	4
1082-115-3.5-4	7.1	4
1082-118-3.5-4.0	2.5	4

BORING ID	TOTAL LEAD (mg/kg)	Depth (feet)
GROUP 4b		
1082-116-0.0-0.5	11	0.5
1082-117-0.0-0.5	2.5	0.5
1082-121-0.0-0.5	12	0.5
1082-122-0.0-0.5	2.5	0.5
1082-123-0.0-0.5	250	0.5
1082-124-0.0-0.5	11	0.5
1082-125-0.0-0.5	36	0.5
1082-126-0.0-0.5	84	0.5
1082-127-0.0-0.5	25	0.5
1082-128-0.0-0.5	44	0.5
1082-116-1-1.5	6.7	1
1082-117-1-1.5	2.5	1
1082-121-0.5-1.0	2.5	1
1082-122-0.5-1.0	2.5	1
1082-123-0.5-1.0	2.5	1
1082-124-0.5-1.0	9.7	1
1082-125-0.5-1.0	11	1
1082-126-0.5-1.0	87	1
1082-127-0.5-1.0	2.5	1
1082-128-0.5-1.0	2.5	1
1082-121-1.5-2.0	6.5	2
1082-122-1.5-2.0	2.5	2
1082-123-1.5-2.0	2.5	2
1082-124-1.5-2.0	41	2
1082-125-1.5-2.0	2.5	2
1082-126-1.5-2.0	2.5	2
1082-127-1.5-2.0	2.5	2
1082-128-1.5-2.0	2.5	2
1082-121-3.5-4.0	2.5	4
1082-122-3.5-4.0	2.5	4
1082-123-3.5-4.0	2.5	4
1082-124-3.5-4.0	2.5	4
1082-125-3.5-4.0	2.5	4
1082-126-3.5-4.0	2.5	4
1082-127-3.5-4.0	2.5	4
1082-128-3.5-4.0	2.5	4

ProUCL Output
ROUTE 101 HOV LANES

grp3-0-1	
Number of Valid Observations	6
Number of Distinct Observations	6
Minimum	2.5
Maximum	380
Mean	101.1
Median	47.5
SD	142.3
Variance	20255
Coefficient of Variation	1.408
Skewness	2.049
Mean of log data	3.652
SD of log data	1.731
90% Standard Bootstrap UCL	167.6
95% Standard Bootstrap UCL	189.6

grp3 0-2	
Number of Valid Observations	9
Number of Distinct Observations	8
Minimum	2.5
Maximum	380
Mean	87.33
Median	23
SD	123.9
Variance	15361
Coefficient of Variation	1.419
Skewness	1.968
Mean of log data	3.324
SD of log data	1.824
90% Standard Bootstrap UCL	137
95% Standard Bootstrap UCL	151.6

grp3 0-4	
Number of Valid Observations	12
Number of Distinct Observations	9
Minimum	2.5
Maximum	380
Mean	68.25
Median	21
SD	111.4
Variance	12403
Coefficient of Variation	1.632
Skewness	2.352
Mean of log data	2.923
SD of log data	1.816
90% Standard Bootstrap UCL	108
95% Standard Bootstrap UCL	118.2

grp3 0.5-4	
Number of Valid Observations	9
Number of Distinct Observations	6
Minimum	2.5
Maximum	170
Mean	38.22
Median	7
SD	60.28
Variance	3634
Coefficient of Variation	1.577
Skewness	1.788
Mean of log data	2.414
SD of log data	1.694
90% Standard Bootstrap UCL	62.65
95% Standard Bootstrap UCL	69.26

grp3 1-4	
Number of Valid Observations	6
Number of Distinct Observations	4
Minimum	2.5
Maximum	170
Mean	35.42
Median	4.75
SD	66.67
Variance	4445
Coefficient of Variation	1.883
Skewness	2.336
Mean of log data	2.194
SD of log data	1.727
90% Standard Bootstrap UCL	67.16
95% Standard Bootstrap UCL	76.59

ProUCL Output
ROUTE 101 HOV LANES

4a-0.5	
Number of Valid Observations	11
Number of Distinct Observations	11
Minimum	2.5
Maximum	410
Mean	157.6
Median	140
SD	123.5
Variance	15259
Coefficient of Variation	0.784
Skewness	0.724
Mean of log data	4.478
SD of log data	1.526
90% Standard Bootstrap UCL	203.4
95% Standard Bootstrap UCL	217.1

4b-0.5	
Number of Valid Observations	10
Number of Distinct Observations	8
Minimum	2.5
Maximum	250
Mean	47.8
Median	18.5
SD	75.25
Variance	5663
Coefficient of Variation	1.574
Skewness	2.598
Mean of log data	2.965
SD of log data	1.456
90% Standard Bootstrap UCL	76.65
95% Standard Bootstrap UCL	83.98

4a-1	
Number of Valid Observations	11
Number of Distinct Observations	8
Minimum	2.5
Maximum	310
Mean	68
Median	10
SD	103.5
Variance	10707
Coefficient of Variation	1.522
Skewness	1.722
Mean of log data	2.853
SD of log data	1.881
90% Standard Bootstrap UCL	105.2
95% Standard Bootstrap UCL	117.2

4b-1	
Number of Valid Observations	10
Number of Distinct Observations	5
Minimum	2.5
Maximum	87
Mean	12.94
Median	2.5
SD	26.23
Variance	688
Coefficient of Variation	2.027
Skewness	3.072
Mean of log data	1.654
SD of log data	1.163
90% Standard Bootstrap UCL	23.16
95% Standard Bootstrap UCL	26

4a-2	
Number of Valid Observations	11
Number of Distinct Observations	9
Minimum	2.5
Maximum	42
Mean	10.62
Median	6.1
SD	11.87
Variance	140.9
Coefficient of Variation	1.118
Skewness	2.194
Mean of log data	1.941
SD of log data	0.915
90% Standard Bootstrap UCL	15.16
95% Standard Bootstrap UCL	16.19

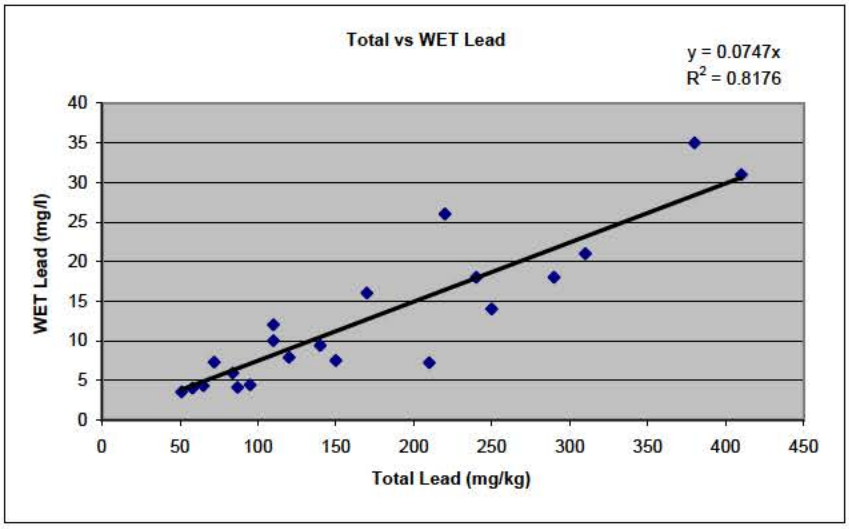
4b-2	
Number of Valid Observations	8
Number of Distinct Observations	3
Minimum	2.5
Maximum	41
Mean	7.813
Median	2.5
SD	13.48
Variance	181.8
Coefficient of Variation	1.726
Skewness	2.771
Mean of log data	1.385
SD of log data	0.998
90% Standard Bootstrap UCL	N/A
95% Standard Bootstrap UCL	N/A

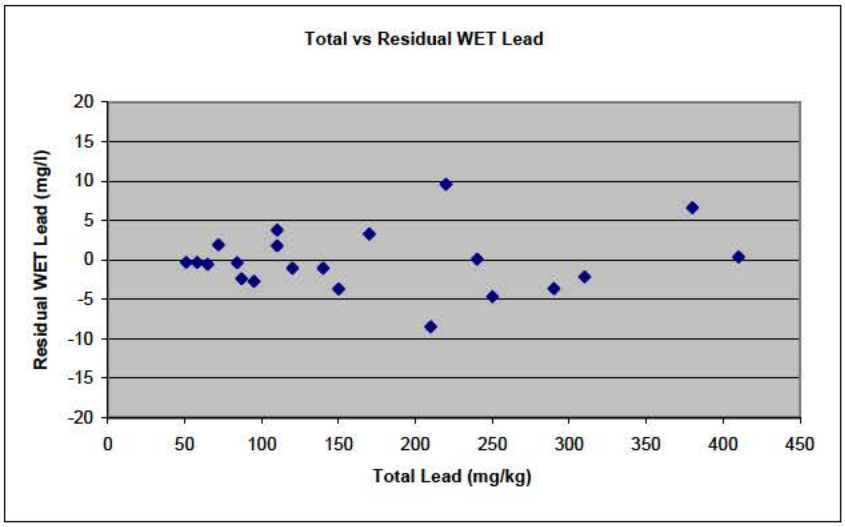
4a-4	
Number of Valid Observations	11
Number of Distinct Observations	8
Minimum	2.5
Maximum	58
Mean	11.35
Median	6.3
SD	16.45
Variance	270.5
Coefficient of Variation	1.448
Skewness	2.732
Mean of log data	1.861
SD of log data	1.003
90% Standard Bootstrap UCL	17.35
95% Standard Bootstrap UCL	19.02

4b-4	
Number of Valid Observations	8
Number of Distinct Observations	1
Minimum	2.5
Maximum	2.5

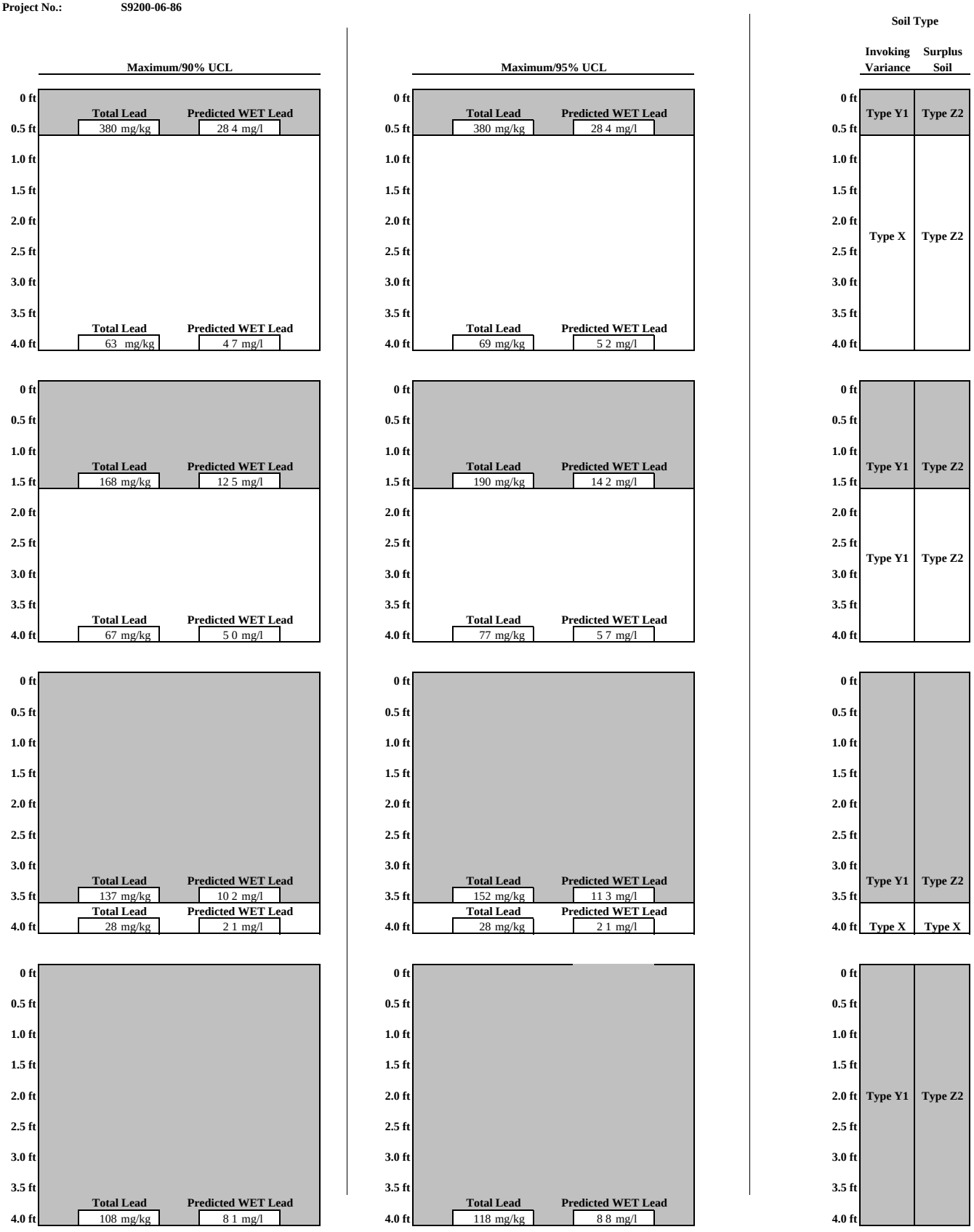
REGRESSION GRAPHS
ROUTE 101 HOV LANES

Sample ID	Total Lead (mg/kg)	WET Lead (mg/l)	Residual WET Lead (mg/l)	Squared Residual WET Lead (mg/l)
1082-112-0 0-0 5	240	18	0.07	0.00
1082-131-0 0-0 5	51	3 5	-0.31	0.10
1082-112-3 5-4 0	58	4 0	-0.33	0.11
1082-104-0 0-0 5	410	31	0.36	0.13
1082-126-0 0-0 5	84	5 9	-0.38	0.14
1082-115-0 0-0 5	65	4 3	-0.56	0.31
1082-114-0 0-0 5	140	9 4	-1.06	1.13
1082-115-0 5-1	120	7 9	-1.07	1.14
1082-113-0 0-0 5	110	10	1.78	3.17
1082-106-0 0-0 5	72	7 3	1.92	3.69
1082-109-0 5-1 0	310	21	-2.16	4.68
1082-126-0 5-1 0	87	4 1	-2.40	5.76
1082-105-0 0-0 5	95	4 4	-2.70	7.28
1082-108-1 5-2	170	16	3.30	10.87
1082-109-0 0-0 5	290	18	-3.67	13.46
1082-107-0 0-0 5	150	7 5	-3.71	13.75
1082-108-0 5-1	110	12	3.78	14.29
1082-123-0 0-0 5	250	14	-4.68	21.91
1082-108-0 0-0 5	380	35	6.61	43.63
1082-110-0 5-1 0	210	7 2	-8.49	72.11
1082-110-0 0-0 5	220	26	9.56	91.42

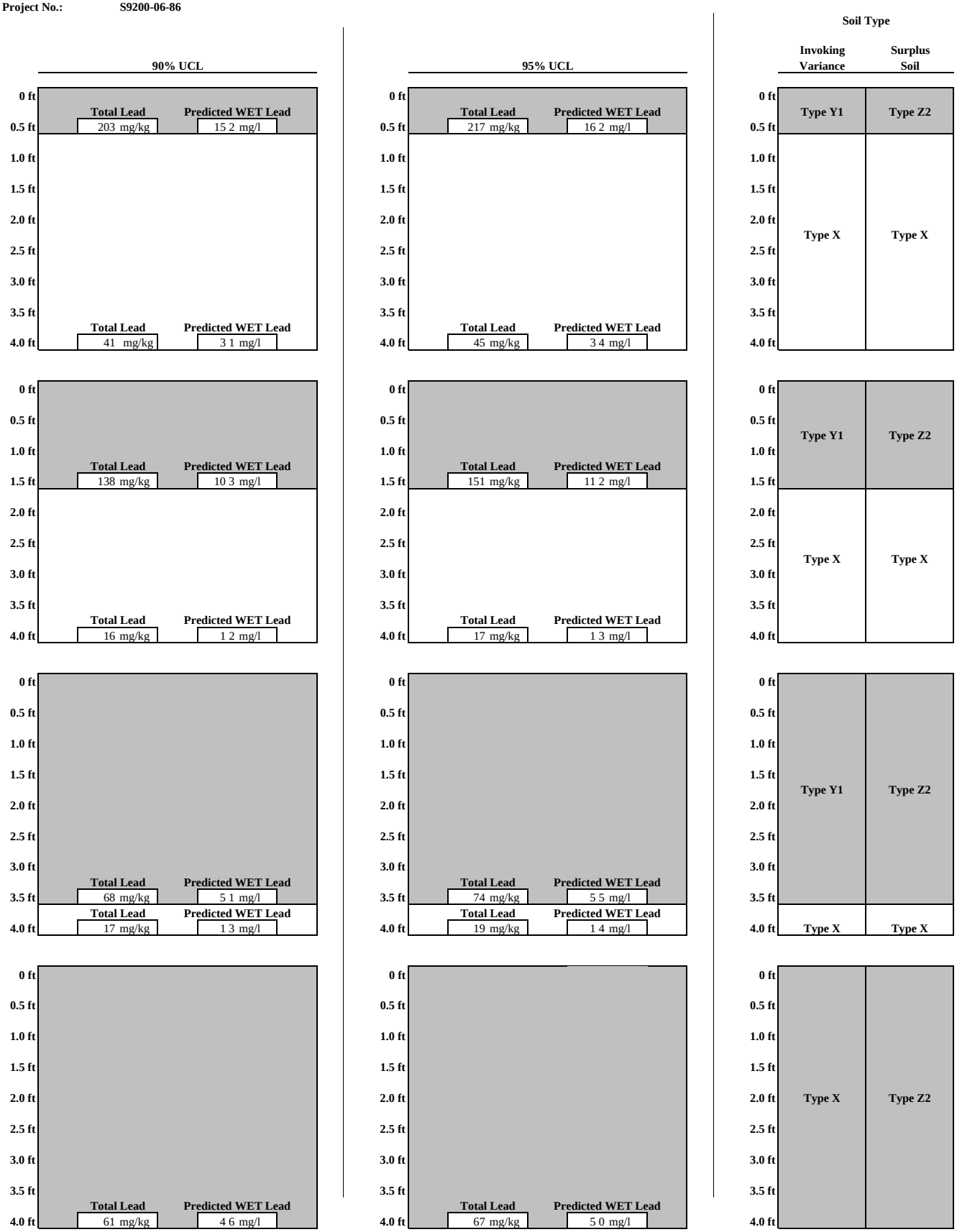




Task Order Number: 86 **Group 3, Borings 1082-103, 1082-106 and 1082-108, Station 40 to 50**
EA: 07-260701
Project Name: Route 101 Ven PM 39.8/43.6
Project No.: S9200-06-86

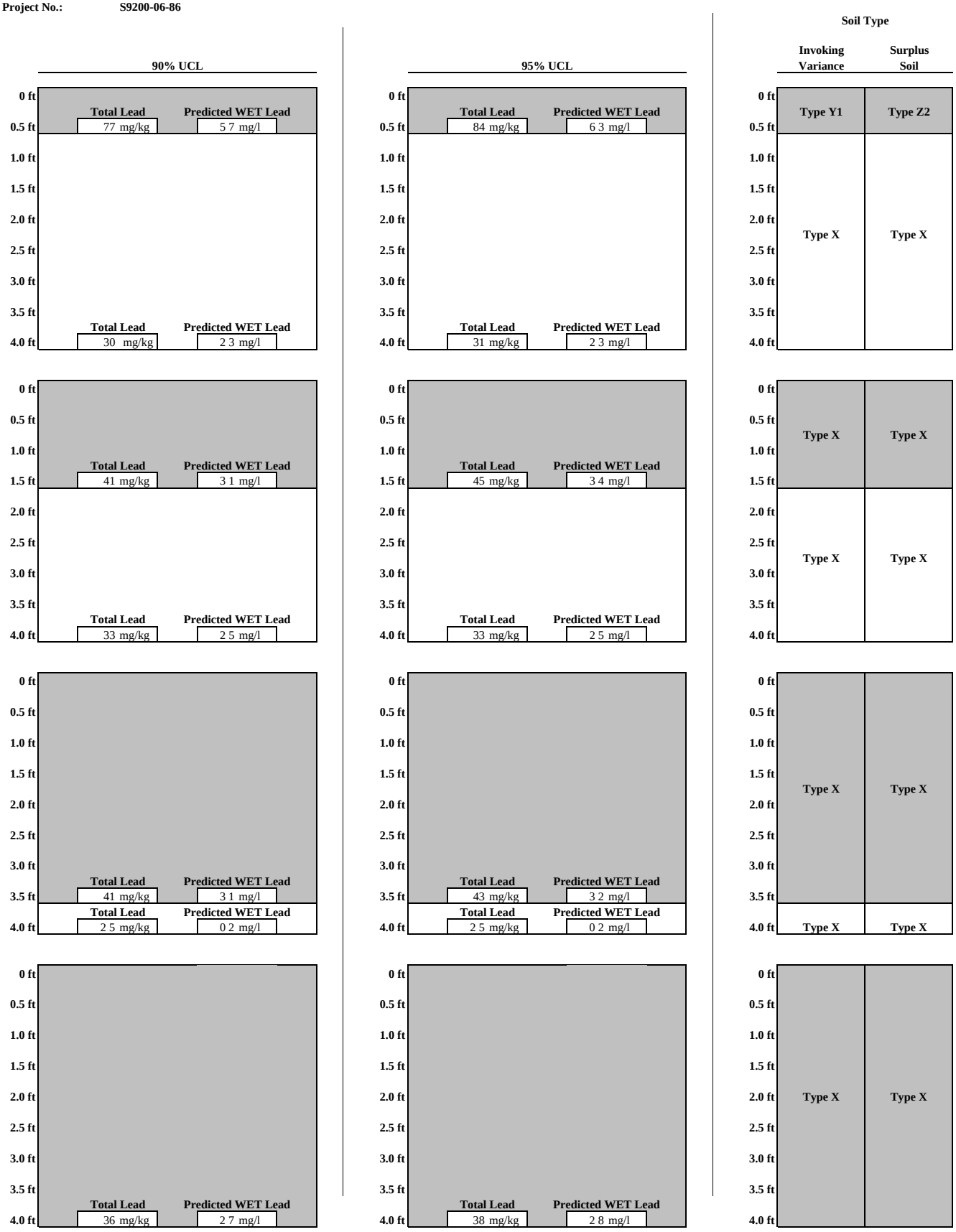


Task Order Number: 86 **Group 4a, Borings 1082-104, 1082-105, 1082-107, 1082-109 to 1082-115 and 1082-118, Station 37 to 92**
EA: 07-260701
Project Name: Route 101 Ven PM 39.8/43.6
Project No.: S9200-06-86



Task Order Number: 86
EA: 07-260701
Project Name: Route 101 Ven PM 39.8/43.6
Project No.: S9200-06-86

Group 4b, Borings 1082-116, 1082-117, and 1082-121 to 1082-128, Station 92 to 137



APPENDIX H

Table 1. California Human Health Screening Levels for Soil And Comparison To Other Potential Environmental Concerns

Chemical	[1]Soil Human Health Screening Levels (mg/kg of dry soil)		[2]Other Potential Environmental Concerns Posed By Contaminated Soil			
	Residential Land Use	Commercial/ Industrial Land Use Only	[3]Leaching	[4]Ecotoxicity	[5]Nuisance/ Aesthetic Concerns	[6]Other
Organic Acidic Chemicals						
2,4-D	6.9E+02	7.7E+03	X	X	o	
2,4,5-T	5.5E+02	6.1E+03	X	X	o	
Pentachlorophenol	4.4E+00	1.3E+01	X	X	o	
Organic Neutral Chemicals						
Aldrin	3.3E-02	1.3E-01	o	X	o	
Benzo(a)pyrene	3.8E-02	1.3E-01	o	X	o	TPH
Chlordane	4.3E-01	1.7E+00	o	X	o	
DDD	2.3E+00	9.0E+00	o	X	o	
DDE	1.6E+00	6.3E+00	o	X	o	
DDT	1.6E+00	6.3E+00	o	X	o	
Dieldrin	3.5E-02	1.3E-01	X	X	o	
1,4 Dioxane	1.8E+01	6.4E+01	X	o	o	
Dioxin (2,3,7,8-TCDD)	4.6E-06	1.9E-05	o	o	o	
Endrin	2.1E+01	2.3E+02	X	X	o	
Heptachlor	1.3E-01	5.2E-01	X	X	o	
Lindane	5.0E-01	2.0E+00	X	X	o	
Kepone	3.5E-02	1.3E-01	X	o	o	
Methoxychlor	3.4E+02	3.8E+03	o	X	o	
Mirex	3.1E-02	1.2E-01	X	X	o	
PCBs	8.9E-02	3.0E-01	o	X	o	
Toxaphene	4.6E-01	1.8E+00	X	X	o	

Table 1. California Human Health Screening Levels for Soil And Comparison To Other Potential Environmental Concerns

Chemical	[1]Soil Human Health Screening Levels (mg/kg of dry soil)		[2]Other Potential Environmental Concerns Posed By Contaminated Soil			
	Residential Land Use	Commercial/ Industrial Land Use Only	[3]Leaching	[4]Ecotoxicity	[5]Nuisance/ Aesthetic Concerns	[6]Other
Inorganic Chemicals						
Antimony and compounds	3.0E+01	3.8E+02	site specific	o	o	
Arsenic	7.0E-02	2.4E-01	site specific	X	o	Ambient background
Barium and compounds	5.2E+03	6.3E+04	site specific	X	o	Construction workers
Beryllium and compounds	1.5E+02	1.7E+03	site specific	X	o	
Beryllium oxide[7]	9.1E-02	4.1E-01	o	o	o	Construction workers
Beryllium sulfate[7]	2.1E-04	9.5E-04	o	o	o	
Cadmium and compounds	1.7E+00	7.5E+00	site specific	X	o	Ambient background
Chromium III	1.0E+05	1.0E+05	site specific	X	X	
Chromium VI	1.7E+01	3.7E+01	site specific	X	o	Construction workers
Cobalt	6.6E+02	3.2E+03	site specific	X	o	Construction workers
Copper and compounds	3.0E+03	3.8E+04	site specific	X	X	
Fluoride	4.6E+03	5.7E+04	site specific	o	o	
Lead and lead compounds	1.5E+02	3.5E+03[9]	site specific	X	o	Uptake in fruits and vegetables
Lead acetate[7]	2.3E+00	1.0E+01	X	o	o	
Mercury and compounds	1.8E+01	1.8E+02	site specific	X	o	
Molybdenum	3.8E+02	4.8E+03	site specific	X	X	
Nickel and compounds	1.6E+03	1.6E+04	site specific	X	X	Construction workers
Nickel subsulfide[7]	3.8E-01	1.1E+04	site specific	o	o	
Perchlorate[8]	pp[8]	pp[8]	X	o	o	
Selenium	3.8E+02	4.8E+03	site specific	X	X	
Silver and compounds	3.8E+02	4.8E+03	site specific	X	X	
Thallium and compounds	5.0E+00	6.3E+01	site specific	o	o	Ambient background
Vanadium and compounds	5.3E+02	6.7E+03	site specific	X	X	

Table 1. California Human Health Screening Levels for Soil And Comparison To Other Potential Environmental Concerns

Chemical	[1]Soil Human Health Screening Levels (mg/kg of dry soil)		[2]Other Potential Environmental Concerns Posed By Contaminated Soil			
	Residential Land Use	Commercial/ Industrial Land Use Only	[3]Leaching	[4]Ecotoxicity	[5]Nuisance/ Aesthetic Concerns	[6]Other
Zinc	2.3E+04	1.0E+05	site specific	X	X	

Notes:

1. Direct-exposure screening levels address human exposure to chemicals in soil via incidental ingestion, dermal absorption and inhalation of vapors and particulates emitted to outdoor air (refer to Appendix 1). Assumes impacted soil is situated at or near the ground surface or could be at some time in the future. Volatile chemicals not included at this time (refer to Section 2.5).
   "Residential Land Use" screening levels generally considered appropriate for other sensitive uses (e.g., day-care centers, hospitals, etc.).
   Commercial/industrial properties should be evaluated using both residential and commercial/industrial CHHSLs. A deed restriction that prohibits use of the property for sensitive purposes may be required at sites that are evaluated and/or remediated under a commercial/industrial land use scenario only.
   Carcinogens: CHHSLs based on target cancer risk of 10^{-6}. Cal/EPA cancer slope factors used when available.
   Noncarcinogens: CHHSLs based on target hazard quotient of 1.0.
   Calculation of cumulative risk may be required at sites where multiple contaminants with similar health effects are present (see Section 2.8).
   Residential and C/I soil CHHSLs for arsenic below background for most sites in California (0.07 mg/kg and 0.24 mg/kg, respectively - see Appendix 1). Use identified or anticipated background as screening level (see Section 2.7).
2. Environmental concerns in addition to direct exposure that may need to be considered in evaluation of contaminated soil. Based on a comparison of soil CHHSLs to soil screening levels for noted concerns compiled by the San Francisco Bay Regional Water Quality Control Board (SFBRWQCB 2003). The need to address other environmental concerns must be evaluated separately in coordination with the lead regulatory agency (See Sections 1.4, 2.2 and Chapter 4).
   "X": Noted concern may outweigh direct-exposure risks at many sites and drive decisions for cleanup actions.
   "o": Potential concern but generally will be addressed if cleanup of contaminated soils to meet direct-exposure CHHSLs is carried out.
   "site specific": Potential concern, but evaluation as to whether this factor is a potential concern must be done on a site specific basis.
3. Leaching of chemicals from soil and subsequent impacts to groundwater. Soil ESLs consider of impacts to drinking water resources, re-emission of volatile chemicals from groundwater into overlying buildings and discharges of contaminated groundwater to surface water. Leaching of metals from soil should be evaluated on a site-specific basis, depending on the potential mobility of the metal species present. Laboratory-based leaching studies are generally preferred over model-derived screening levels.
4. Toxicity to terrestrial flora and fauna. Need to consider ecotoxicity concerns generally determined on a site-by-site basis.
5. Nuisance and gross contamination concerns address odors and aesthetic concerns as well as general resource degradation and presence of potentially mobile free product.
6. Other pertinent environmental concerns and considerations as determined on a site-specific basis.
   Health risk to construction workers may outweigh risk to residents or commercial/industrial workers for chemicals that are carcinogenic due to increased exposure to airborne dust particles and incidental ingestion of soil. Uptake of chemicals in edible fruits and vegetables from soil may need to be considered in some cases for noted chemicals.
7. These metal salts are significantly (greater than 10-fold) more toxic than the values for the metals in general. If it is known that this chemical was used at the site, the screening number for this chemical should be used instead of the screening number for the metal and its compounds.
8. Calculation of a screening number for the chemical has been postponed (pp) until the toxicity criterion currently being developed by OEHHA is published as a final document.
9. This screening number is above the Total Threshold Limit Concentration for lead of 1000 mg/kg, as defined in Title 22, California Code of Regulations. It is also above the US EPA Region IX PRG of 800 mg/kg.

State of California Business, Transportation and Housing Agency

Memorandum

Flex your power!
Be energy efficient!

To: MATT HOLM
Bridge Design Branch 12
Office of Bridge Design-South 1

Date: 04/05/10

File: 07-VEN-101-PM R39.80/R43.60
and 05-SB-101-PM R0.0/R2.2
07-26070
SB/VEN 101 HOV Lane

Attention: Mahmoud Fustok, Doug Menzmer

From: **DEPARTMENT OF TRANSPORTATION**
DIVISION OF ENGINEERING SERVICES
Geotechnical Services
Office of Geotechnical Design – South 1

Subject: Foundation Report-Bates Road Undercrossing Bridge 52-279

INTRODUCTION

This report presents the foundation recommendations for the proposed widening of the Bates Road Undercrossing Bridge 52-279.

The report is based on literature search, review of the previous field investigations, the "As Built" Log of Test Borings (LOTB) of the Rincon Point Undercrossing 52-279 dated 08/02/1967, Preliminary Foundation Report sent to Structure Design on June 06, 2009 and subsurface exploration on June, 2009

This report presents the foundation recommendations for widening of Bates Road Undercrossing Bridge 52-279.

PROJECT DESCRIPTION

US Highway 101 is a divided highway with a dirt median and guardrail. It was completed in 1970's. Currently there are three northbound lanes (one merge lane and two traffic lanes) and three southbound lanes (one center turn lane and two traffic lanes).

The project is in between post miles 39.8 to 43.6 in Ventura and post mile 0.0 to 2.2 in Santa Barbara County. Bates Road Undercrossing lies on the Ventura-Santa Barbara county line. The existing left and right, single span structures are supported on 90 kips "H" piles.

GEOLOGIC SETTING

The proposed project area is located within the Transverse Ranges geologic/geomorphic province of California. The project area lies along Pitas Point quadrangle in Ventura and Carpinteria quadrangle in Santa Barbara County. The land portion of this quadrangle is mostly mountainous terrain bordering the Pacific Ocean in west. The small, rural communities of La Conchita, Seacliff, and Faria Beach are located along the coastline in the area.

Geological map of the Ventura and Pitas Point quadrangles by Dibblee, 1988 and Carpinteria quadrangle in Santa Barbara by Dibblee, 1986 show that most of the section of US Highway 101 in this region lies on alluvium. This is unconsolidated floodplain deposits of silt, sand and gravel. Pico formation lies on the hills on the east side of the highway. Pico formation is mostly light gray to tan sandstone, well bedded, in some places pebble and including some interbedded claystone. Landslide debris lie on several locations on the east side of the highway.

SUBSURFACE EXPLORATION

Rotary wash boring with Standard Penetration Test (SPT) were conducted at or near the proposed widening of the Bates Road Undercrossing. One boring per each abutment was planned, however boring at the north bound 101 off ramp to Bates Road had to be abandoned at about 20 feet depth due to the presence of naturally occurring oil. Generalized subsurface layer, soil description and properties of soil obtained by correlating with the SPT blow counts obtained during the subsurface exploration has been presented in Table 1.

Table 1. Generalized subsurface profile and correlated soil properties.

Structure	Applicable Bore hole	Elevation amsl, (ft)	Description	Avg. $(N)_{60}$	Relative Density/ Consistency	Soil Properties	
						Apparent friction angle (ϕ)	Undrained Shear Strength Su (psf)
Bates Road Undercrossing Bridge 52-279	R-09-102	33 to 18	Sand with Silt, Silty Sand	11	Medium dense	30	
		18 to 2	Gravelly silty sand	25	Medium dense	33	
		2 to -70	Siltstone, Claystone		Moderately hard to hard.		

As-built log of test borings of Rincon Point Undercrossing completed in 08/02/67 indicates presence of compact brown fine sandy silt to very dense gray fine to medium sand upto an

elevation of about 0 feet, underlain by cobbles and gravel with sandy silt binder upto an elevation of about -18 feet.

LAB TEST RESULTS

Unconfined compression test was performed on the obtained rock samples and the results are shown in Table 2.

Table 2: Lab test result.

Sample	Depth (ft)	Elevation (ft)	Dry Density, (pcf)	Moisture Content (%)	Unconfined Compressive Strength (psi)
S01	37	-4	97.18	24.47	22.16
S02	44	-11	119.9	15.34	300.4
S03	52	-19	117	14.41	462.5
S04	57	-24	112	14	255.4
S05	65	-32	112.5	12.23	211.1

SEISMICITY

The project is located in seismically active area. Earthquakes have been experienced in the past and can be expected to continue. Moderate seismic event on Red Mountain fault and Mesa Rincon Creek Fault are likely to produce greatest bedrock acceleration for structures in this project.

Acceleration Response Spectrum (ARS) is provided in Appendix 1. The design ARS curve is affected by the Mesa Rincon Fault (Mw = 6.8) and the proximity of the structure to this fault.

ARS curve is prepared based on 2009 Caltrans Deterministic Peak Ground Acceleration (PGA) Map. The result is compared with Probabilistic Response Spectrum based on data from the 2008 USGS National Seismic Hazard Map for the 5% in 50 years probability of exceedance (or 975 year return period).

For design purpose, envelope of ARS consisting of higher value among deterministic and probabilistic methods is considered. For sedimentary rock at elevation of about 0 feet and to the depth of more than 100 feet, shear wave velocity of 400 m/s is considered.

LIQUEFACTION.

Liquefaction typically occurs over widespread areas during long-duration, strong ground motion generally exceeding 0.15 g peak ground acceleration (PGA). These ground motions typically are produced by large-magnitude earthquakes, exceeding magnitude (Mw) 6.5. Liquefaction-related damage is generally seen in recently alluviated areas that contain loose, saturated, cohesionless soil.

The bridge site consists of medium dense silty sand with gravel underlain by siltstone/claystone. Liquefaction hazard is unlikely at this bridge site.

CORROSIVITY

Soil sample was collected for this site at two different boreholes. Corrosion test results showed soil on the upper 5-10 feet as corrosive whereas soil at 25 feet depth as non corrosive. Caltrans Corrosion Guidelines, Sep 2003, indicates the site to be corrosive if one or more of the following conditions exist for the representative soil and/or water samples taken at the site: Chloride concentration is 500 ppm or greater, sulfate concentration is 2000 ppm or greater, or the pH is 5.5 or less. Corrosion test results is presented in Table 3.

Table 3: Corrosion test results

Applicable Borehole	Sample Location	Sample Depth, ft	Minimum Resistivity (ohm-cm)	pH	Chloride Content (ppm)	Sulfate Content (ppm)	Remarks
R-09-101	Bates Rd UC NB 101 off ramp	5	701	7.48	26	6600	Corrosive
R-09-102	Bates Rd UC SB 101 off ramp	25	1456	8.02			Non-corrosive

Note:
For Corrosion definitions refer to Caltrans Division of Engineering Services "Memo to Designers" 3-1.
1 Lab Sample Number is assigned when resistivity is less than 1000 ohm-cm and further testing for sulfate and chloride is required.

2 Caltrans Corrosion Technology Section policy states that if the minimum resistivity is greater than 1000 ohm-cm the sample is considered to be non-corrosive and testing to determine sulfate and chloride is not performed.

Caltrans Corrosion guidelines states "project site located within 1000 ft of marine or brackish water is also considered corrosive (even if the soil is characterized as non corrosive)". So the soil at this bridge site should be considered as corrosive since the bridge structures are located within 1000 ft from the marine water.

GROUND WATER

Groundwater information is not available in the previous log of test borings for this Undercrossing. A piezometer has been installed to measure the groundwater. For design purpose, groundwater table at 25 feet below ground surface is assumed.

GEOTECHNICAL RECOMMENDATIONS

For the bridge foundation, 24" CIDH piles can be used. Alternatively, Class 200 Standard Plan piles can also be used.

1. Cast in Drilled Hole (CIDH)

Bridge foundation recommendations are presented in Table 4 and pile data table is presented in Table 5. Deep foundation design is based on Caltrans Memo to Designers 3-1, July 2008. Pile group efficiency factor of 0.65 has been considered for left and right abutments and 1.0 for median abutment. Design tip elevations are determined using the SHAFT 5.0 Program and the generalized soil profile. Only skin friction has been considered for determining the pile capacity. The settlement of the piles in all cases is expected to be less than 1 inch.

Table 4: Abutment Foundation Design Recommendations.

Support Location	Pile Type	Cut-off Elevation (ft)	LRFD Service-I Limit State Load (kips) per support		LRFD Service-I Limit State Total Load (kips) per pile (Compression)	Nominal Resistance per pile (kips)	Design Tip Elevation (ft)	Specified Tip Elevation (ft)
			Total	Permanent				
Abut 1 Left	24" CIDH	42.55	625	475	153	310	-3	-3
Abut 1 Median	24" CIDH	38.75	1763	1267	192	390	-2	-2
Abut 1 Right	24" CIDH	35.75	605	448	177	360	-7	-7
Abut 2 Left	24" CIDH	41.75	658	502	157	320	-5	-5
Abut 2 Median	24" CIDH	42.25	1763	1267	192	390	-2	-2
Abut 2 Right	24" CIDH	39.25	594	439	166	340	-5	-5

Table 5: Pile Data Table

Support Location	Pile Type	Cut-off Elevation (ft)	Nominal Resistance per pile (kips)		Design Tip Elevation (ft)	Specified Tip Elevation (ft)
			Compression	Tension		
Abut 1 Left	24" CIDH	42.55	310	0	-3	-3
Abut 1 Median	24" CIDH	38.75	390	0	-2	-2
Abut 1 Right	24" CIDH	35.75	360	0	-7	-7
Abut 2 Left	24" CIDH	41.75	320	0	-5	-5
Abut 2 Median	24" CIDH	42.25	390	0	-2	-2
Abut 2 Right	24" CIDH	39.25	340	0	-5	-5

2. Driven Piles

Class 200 Standard Plan Piles (alternative X or Y) with side 16 inches can also be used. Foundation design recommendations and Pile data table for Driven piles are presented in Tables 6 and Table 7 respectively.

Table 6: Abutment Foundation Design Recommendations.

Support Location	Pile Type	Cut-off Elevation (ft)	LRFD Service-I Limit State Load (kips) per support		LRFD Service-I Limit State Total Load (kips) per pile (Compression)	Nominal Resistance per pile (kips)	Design Tip Elevation (ft)	Specified Tip Elevation (ft)	Nominal Driving Resistance Required (kips)
			Total	Permanent					
Abut 1 Left	Class 200	42.55	625	475	153	310	-5	-5	310
Abut 1 Median	Class 200	38.75	1763	1267	192	390	-5	-5	390
Abut 1 Right	Class 200	35.75	605	448	177	360	-7	-7	360
Abut 2 Left	Class 200	41.75	658	502	157	320	-5	-5	320
Abut 2 Median	Class 200	42.25	1763	1267	192	390	-5	-5	390
Abut 2 Right	Class 200	39.25	594	439	166	340	-5	-5	340

Table 7: Pile Data Table (Class 200 Piles Alternative X or Y – 16 inch).

Support Location	Pile Type	Cut-off Elevation (ft)	Nominal Resistance per pile (kips)		Design Tip Elevation (ft)	Specified Tip Elevation (ft)	Nominal Driving Resistance Required (kips)
			Compression	Tension			
Abut 1 Left	Class 200	42.55	310	0	-5	-5	310
Abut 1 Median	Class 200	38.75	390	0	-5	-5	390
Abut 1 Right	Class 200	35.75	360	0	-7	-7	360
Abut 2 Left	Class 200	41.75	320	0	-5	-5	320
Abut 2 Median	Class 200	42.25	390	0	-5	-5	390
Abut 2 Right	Class 200	39.25	340	0	-5	-5	340

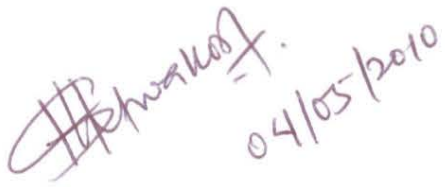
DESIGN AND CONSTRUCTION CONSIDERATIONS

Caving potential during CIDH construction is present due to medium dense coarse granular alluvial material. Wet or Slurry method should be used for CIDH construction. Temporary casing may be required to stabilize pile borings during construction of CIDH piles. The casing may be either placed in a predrilled hole or advanced through the ground by twisting, driving or vibration before being cleaned out. Difficult drilling condition may be encountered with anticipated claystone at about 0 feet elevation.

For driven pile foundation, difficult driving condition may be encountered near 0 feet elevation. Pile acceptance criteria for all driven pile types will be based on the ENR equation (Standard Specifications in Section 49-1.08).

Any questions regarding the above recommendations should be directed to the attention of Harihar Shiwakoti, (916) 227-5739 or Deh-Jeng Jang, (916) 227-5722 at the Office of Geotechnical Design South-1, Branch A.

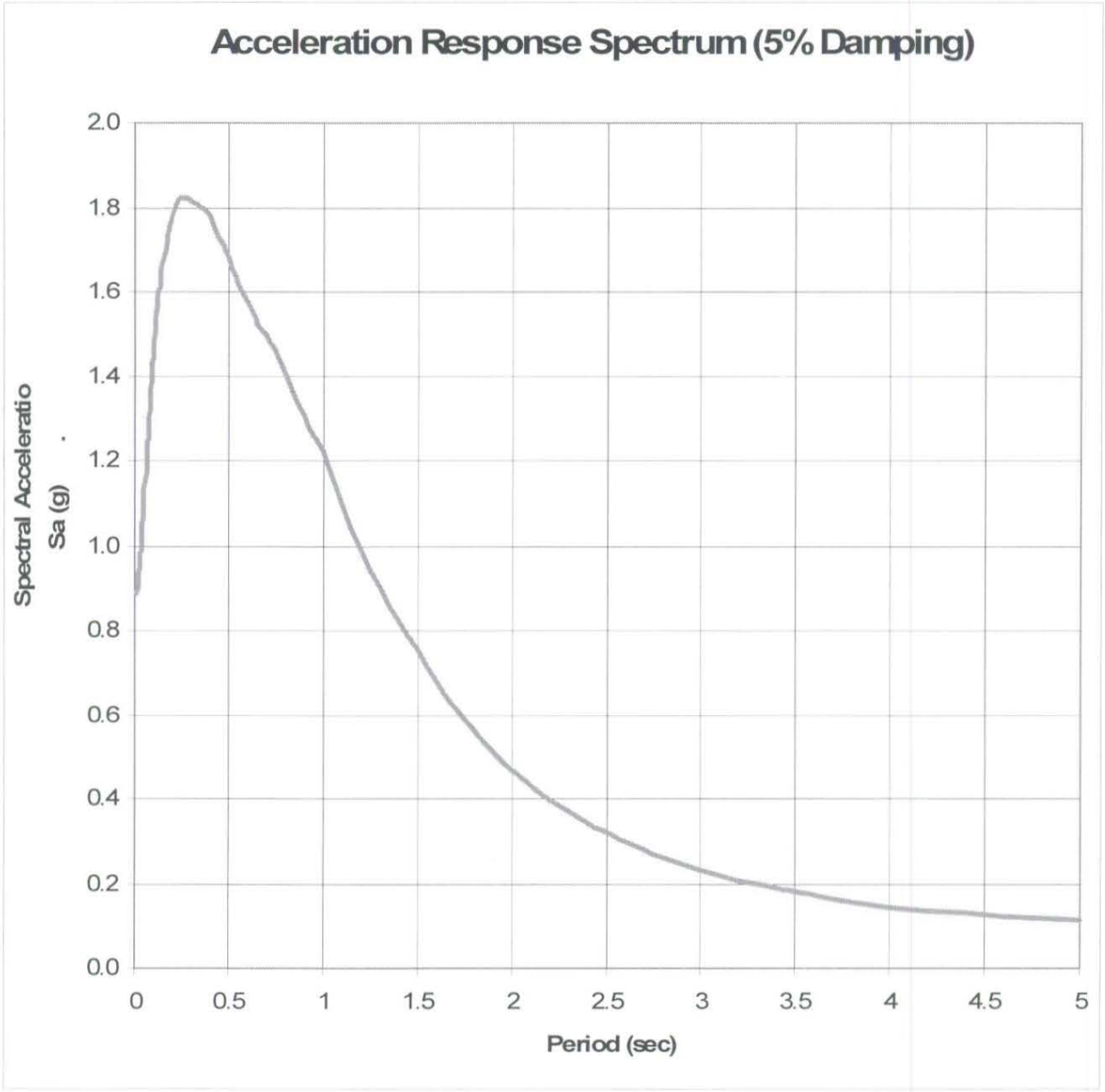
Prepared by:



Harihar Shiwakoti, P.E.(C76035)
Transportation Engineer Civil
Branch A

cc: GS File Room
District Project Manager
Project Coordination Engineer
GS Corporate

APPENDIX 1


Acceleration Response Spectrum (5% Damping)
Spectral Acceleratio
Sa (g)
2.0
1.8
1.6
1.4
1.2
1.0
0.8
0.6
0.4
0.2
0.0
0
0.5
1
1.5
2
2.5
3
3.5
4
4.5
5
Period (sec)

T (sec)	CB-CY S(a)
0.010	0.88868
0.020	0.91463
0.022	0.92679
0.025	0.94538
0.029	0.96872
0.030	0.97525
0.032	0.98938
0.035	1.01039
0.036	1.01769
0.040	1.04547
0.042	1.05989
0.044	1.07369
0.045	1.08107
0.046	1.08825
0.048	1.10221
0.050	1.11638
0.055	1.15126
0.060	1.18638
0.065	1.21971
0.067	1.23312
0.070	1.25210
0.075	1.28421
0.080	1.31874
0.085	1.35273
0.090	1.38544
0.095	1.41780
0.100	1.44928
0.110	1.50836
0.120	1.56087
0.130	1.60450
0.133	1.61501
0.140	1.63811
0.150	1.66682
0.160	1.69842
0.170	1.72351
0.180	1.74596
0.190	1.76493
0.200	1.78117
0.220	1.80268
0.240	1.81830
0.250	1.82347
0.260	1.82259
0.280	1.82153

0.290	1.81813
0.300	1.81494
0.320	1.81063
0.340	1.80491
0.350	1.80096
0.360	1.79745
0.380	1.78884
0.400	1.77997
0.420	1.75903
0.440	1.73762
0.450	1.72770
0.460	1.71757
0.480	1.69741
0.500	1.67869
0.550	1.62257
0.600	1.57407
0.650	1.53137
0.660	1.51796
0.700	1.49369
0.750	1.45957
0.800	1.40276
0.850	1.35146
0.900	1.30390
0.950	1.26022
1.000	1.21918
1.100	1.09622
1.200	0.99131
1.300	0.90022
1.400	0.82106
1.500	0.75168
1.600	0.67722
1.700	0.61327
1.800	0.55795
1.900	0.50997
2.000	0.46839
2.200	0.39711
2.400	0.34151
2.500	0.31804
2.600	0.29700
2.800	0.26090
3.000	0.23135
3.200	0.20774
3.400	0.18793
3.500	0.17922
3.600	0.17119
3.800	0.15682
4.000	0.14443

4.200	0.13659
4.400	0.12951
4.600	0.12313
4.800	0.11730
5.000	0.11193

State of California Business, Transportation and Housing Agency

Memorandum

Flex your power!
Be energy efficient!

To: MATT HOLM
Bridge Design Branch 12
Office of Bridge Design-South 1

Attention: Mahmoud Fustok

Date: 10/12/2010

File: 07-VEN-101-PM R39.80/R43.60
SB R0.0/R2.2
07-260701
La Conchita Pedestrian UC
Bridge No.: 52-0469; 52-0467;
52-0466

From: **DEPARTMENT OF TRANSPORTATION**
DIVISION OF ENGINEERING SERVICES
Geotechnical Services
Office of Geotechnical Design – South 1

Subject: Foundation Report for La Conchita Pedestrian UC

INTRODUCTION

This report presents the results of a subsurface investigation and foundation recommendations for the proposed La Conchita Pedestrian Under Crossing (PUC) and its ramps. This report supersedes our previous foundation report dated on September 08, 2010.

The report is based on literature search, review of the previous field investigations, and the Preliminary Foundation Report, dated June 09, 2009, and a subsurface exploration conducted on July 22, 2009.

PROJECT DESCRIPTION

US-101 is a divided highway with an unpaved median and guardrail. Currently, at the project location, there are three northbound lanes (one merge lane and two traffic lanes) and three southbound lanes (one center turn lane and two traffic lanes).

The overall project alignment is from Post Miles 39.8 to 43.6 in Ventura County and from Post Miles 0.0 to 2.2 in Santa Barbara County. The report pertains to the proposed La Conchita PUC structure project located at Post Mile 41.58. At the proposed PUC location, the Pacific Ocean beach is located on one side of US-101. A parallel railroad track is located adjacent to US-101 on the other side. A street is located on the other side of the railroad track.

The proposed structure project consists of three main components:

1. A PUC and a drainage culvert across US-101 and the adjacent railroad track. The PUC and the drainage culvert segments under the railroad track will consist of 8' x 8' precast Reinforced Concrete Box (RCB) cells, while the PUC and the drainage culvert segments underneath US 101 will consist of 8' x 8' and 4' x 8' RCB cells, respectively. These two structures are designed on the project general plan as "PUC Box Culvert Structure 91".

2. A ramp located on the street side of US-101. This ramp, designated as the "Street Ramp" Structure 92, will consist of U shape retaining wall.

3. A ramp on the beach side of US-101. This ramp, designated as Pedestrian Ramp 93, will consist of three different types of retaining walls.
   a) Station 1+40 to 2+19.2 and Station 2+44.4 to 3+79, will consist of back-to-back retaining wall supported on 24 inch piles.
   b) Station 3+79 to 6+00 will consist of a Type 5 retaining wall supported on 24 inch piles.
   c) Station 2+19.2 to 2+34.2 will consist of a special Type 5 retaining wall supported on the walls of the box culvert with strong beams (Provided by Structure Design).

GEOLOGIC SETTING

The proposed project area is located within the Transverse Ranges geologic/geomorphic province of California. The project area lies within Pitas Point Quadrangle in Ventura County and Carpinteria Quadrangle in Santa Barbara County. The land portions of these quadrangles are mostly mountainous terrain bordering the Pacific Ocean on the west. The small, rural communities of La Conchita, Seacliff, and Faria Beach are located along the coastline in the area.

Geological map of the Ventura and Pitas Point Quadrangles by Dibblee (1988) and Carpinteria Quadrangle in Santa Barbara by Dibblee (1986) show that most of the section of US Highway 101 in this region lies on alluvium. This alluvium is unconsolidated floodplain deposits of silt, sand and gravel. Pico formation lies on the hills on the east side of the highway. Pico formation is mostly light gray to tan sandstone and well bedded. In some places it includes pebbles and some interbedded claystone. Landslide debris lies on several locations on the east side of the highway.

SUBSURFACE EXPLORATION

Auger boring with Standard Penetration Test (SPT) was conducted at east shoulder of northbound highway 101 near the proposed Pedestrian Undercrossing. Generalized subsurface layer, soil description and properties of soil obtained by correlating with the SPT blow counts obtained during the subsurface exploration are presented in Table 1 below.

Table 1- Generalized subsurface profile and correlated soil properties.

Structure	Applicable Boring (Date Drilled)	Elevation amsl, (ft)	Description	Avg. $(N_1)_{60}$	Qualitative Relative Density	Soil Properties	
						Effective Friction Angle (ϕ')	Undrained Shear Strength Su (psf)
Pedestrian UC and its ramps	A-09-109 (July 22, 2009)	25 to 18	Sand with Silt/Silty Sand	56	very dense	36	
		18 to 10	Clayey sand with gravel	39	dense	34	
		10 to -1	Poorly graded Sand	42	dense	35	
		-1 to -30*	Poorly graded Sand *	42*	dense*	35*	

Note: * Soil properties from elevation -1.00 to -30.00 were assumed based on extrapolation of the boreholes available. No additional drilling has been done due to lack of access to the site at the time of drilling and time constraint.

As-built log of test borings for the nearby Mobil Pier Undercrossing, dated September 14, 1973, indicates presence of compact brown fine sand with numerous shell fragments and scattered gravel up to elevation of about -4 feet underlain by blue gray fine to medium grained, friable, poorly cemented sandstone with thin layers of fine gravel.

GROUND WATER

Groundwater was encountered at an elevation of about 6 feet during the recent subsurface exploration. Groundwater levels monitored using water level indicator by Boyle Engineering Corporation in June 2007, on La Conchita area showed presence of groundwater at elevation of 10 feet. The groundwater gradient is towards the beach. Groundwater conditions varies seasonally due to changes in runoff, tidal and storm conditions, rainfall and other factors.

SEISMICITY

The project is located in a seismically active area. The project area has experienced earthquakes in the past and should be expected to continue to experience more in the future.

Seismic events on Red Mountain fault and Mesa Rincon Creek Fault are likely to produce significant ground motion at the project site.

According to the stratigraphy of the project site, a shear wave velocity (v_{s30}) of 383 m/s is considered appropriate. Based on the Caltrans ARS online tool (2009), the proposed improvements are located 1.2 miles south of the Mesa Rincon Creek fault zone. Ground motion information presented in Table 2 is based on the deterministic analysis as per Caltrans (2009) procedure.

Table 2: Summary of ground motion hazard at the site

Fault	Fault Style	Maximum Earthquake Magnitude (M_{max})	Site to Fault Rupture Surface Distance (miles)	PGA[1] (g)
Mesa Rincon Creek fault	Reverse	6.8	1.2	0.87
Red Mountain fault	Reverse	7.0	0.4	0.74

LIQUEFACTION.

As stated above, groundwater was encountered in the exploratory borings at an elevation of about 6 feet. However, the structure site is underlain by dense to very dense sand and silty sand to poorly graded sand. Such soils are not considered susceptible to liquefaction. Therefore, the potential for any liquefaction hazard is considered very low for this site.

CORROSIVITY

Two soil samples from two nearby boreholes were tested for soils corrosivity. Test results are presented in Table 3. Based on these results and the Caltrans Corrosion Guidelines (2003), the tested soil sample retrieved from a depth of 5 feet within the Boring R-09-101 is corrosive. The other sample tested is considered not corrosive.

Table 3: Corrosion test results

Applicable Borehole	Sample Location	Sample Depth, ft	Minimum Resistivity (ohm-cm)	pH	Chloride Content (ppm)	Sulfate Content (ppm)	Remarks
R-09-101	Bates Rd UC NB 101 off ramp	5	701	7.48	26	6600	Corrosive
R-09-102	Bates Rd UC SB 101 off ramp	25	1456	8.02			Non-corrosive

However, PU and its ramps are located within 500 ft from the marine water and subject to the influence of wave action, the soil at this site should be considered as corrosive.

GEOTECHNICAL RECOMMENDATIONS

The structure is located within 500 ft of the Pacific Ocean. The Pedestrian Ramp Structure No. 93, and the PUC (and the drainage culvert) RCB Structure No. 91 may be subject to the influence of wave action.

1. PUC Box Culvert Structure 91

8' X 8' and 4' x 8' precast RCB will be used. With the minimum embedment depth of 10.5 feet, the estimated allowable bearing capacity is 9.4 kips/sq ft, which exceeds the design bearing pressure of 3.2 kips/sq ft.

2. On ramp of the street side

The ramp on the street side consists of U shape retaining wall. The base width of the retaining wall varies from 7.5 to 8.0 feet with minimum embedment of 3.0 feet. The estimated allowable bearing capacity is 5.6 kips/sq ft, which exceed the design bearing pressure of 2.1 kips/sq ft.

3. Pedestrian Ramp 93

For the back to back retaining wall located at stations 1+40 to 2+19.2, stations 2+44.4 to 3+79, and Type 5 retaining wall located at stations 3+79 to 6+00, either 24" CIDH or CISS piles can be used.

a). Cast in Drilled Hole (CIDH)

For drilled shaft concrete pile groups in cohesionless soil, the nominal axial resistance of the pile group shall be taken as the sum of the nominal resistance of all of the piles in the group multiplied by the group efficiency factor in Table 4.

Table 4: Group Effect

Center to Center Pile Spacing	Group Efficiency Factor
2.5 D	0.65
3.0 D	0.77
3.5 D	0.88
4.0 D	1.0

Note: D: pile diameter

Pile data table is presented in Table 5. Deep foundation design is based on Caltrans Memo to Designers 3-1, July 2008. Design tip elevations are determined using the SHAFT 5.0 Program and the generalized soil profile. Only skin friction has been considered for determining the pile capacity. The settlement of the piles in all cases is expected to be less than 1 inch.

Table 5: CIDH Piles

Support Location	Pile Type	Cut-off Elevation (ft)	Service-I Limit State Load (kips) per Pile	Required Nominal Resistance per pile (kips)		Design Tip Elevation (ft) *	Specified Tip Elevation (ft)
				Compression	Tension		
Station 1+28 to 1+80	24" CIDH	8.00	77	154	0	-27 (a) -27 (b)	-27
Station 1+80 to 2+19.2	24" CIDH	10.25	80	160	0	-27 (a) -25 (b)	-27
Station 2+44.4 to 3+79	24" CIDH	11.00	110	220	0	-26 (a) -23 (b)	-26
Station 3+79 to 4+74	24" CIDH	11.00	124	248	0	-29 (a) -22 (b)	-29
Station 4+74 to 5+30	24" CIDH	13.00	129	258	0	-26 (a) -19 (b)	-26
Station 5+30 to 5+70	24" CIDH	17.75	88	176	0	-15 (a) -14 (b)	-15
Station 5+70 to 6+00	24" CIDH	21.75	51	102	0	0 (a) -12 (b)	-12

Note: 1. *Design tip elevation are controlled by (a) compression, (b) lateral load
2. Design tip elevation for (b) lateral load is base on pinned connection at top of pile

Lateral resistance is determined using the Lpile Program, and displacement at top of pile is less than 0.25 inches. The lateral capacities and pile group are dependent on pile length, pile diameter, pile head fixity, pile configuration and pile type. For a single pile with pinned connection at top, the Lateral Resistance is 20 kips per pile with minimum pile length of 32 ft. For a single pile with fixed connection at top, the Lateral Resistance is 30 kips per pile with minimum pile length of 34 ft.

b). CISS Piles

Pile data table for CISS piles are presented in Table 6. Design tip elevations are determined using the Driven Program (version 1.2). Corrosion must be considered to determine shell thickness according to Caltran, Memo to Designer 3-1.

Table 6: CISS Piles

Support Location	Pile Type	Cut-off Elevation (ft)	Service-I Limit State Load (kips) per Pile	Required Nominal Resistance per pile (kips)		Design Tip Elevation (ft) *	Specified Tip Elevation (ft)
				Compression	Driving		
Station 1+28 to 1+80	24" CISS	8.00	77	154	230	-21 (a) -28 (b)	-28
Station 1+80 to 2+19.2	24" CISS	10.25	80	160	230	-19 (a) -26 (b)	-26
Station 2+44 to 3+79	24" CISS	11.00	110	220	220	-22 (a) -24 (b)	-24
Station 3+79 to 4+74	24" CISS	11.00	124	248	248	-24 (a) -24 (b)	-24
Station 4+74 to 5+30	24" CISS	13.00	129	258	258	-25 (a) -22 (b)	-25
Station 5+30 to 5+70	24" CISS	17.75	88	176	260	-10 (a) -17 (b)	-17
Station 5+70 to 6+00	24" CISS	21.75	51	102	285	0 (a) - 13 (b)	-13

Note: 1. *Design tip elevation are controlled by (a) compression, (b) lateral load
2. Design tip elevation for (b) lateral load is base on pinned connection at top of pile
3. Pile shell thickness is assumed to be minimum 0.5 inches after 75 years of service

Lateral resistance is determined using the Lpile Program, and displacement at top of pile is less than 0.25 inches. For a single pile with pinned connection at top, the Lateral Resistance is 20 kips per pile with minimum pile length of 35 ft. For a single pile with fixed connection at top, the Lateral Resistance is 30 kips per pile with minimum pile length of 37 ft.

CONSTRUCTION CONSIDERATIONS

- The construction of the culverts should follow Section 19-3 of the Standard Specifications and Caltrans Trenching and Shoring Manual.
- Groundwater was encountered during subsurface exploration. Caving potential during CIDH construction is relatively high due to the presence of medium dense coarse granular alluvial material.
- Wet or slurry method should be used for CIDH construction. Temporary casing may be required to stabilize drilled holes during construction of CIDH piles.
- Hard driving may be encountered since sandstone, siltstone, and claystone may exist above pile tip elevations. Center relief drilling may be needed.
- To verify the design assumptions and to minimize construction uncertainties, the contractor should drill two bore holes 70 feet deep each, with SPT every five feet, at the proposed Pedestrian Ramp 93 and forward boring records to this office for review before pile installations. The approximate locations of these two holes are about 50 to 70 feet left of station 92+00 and station 94+50 of Rte 101.

- Before installing driven pile, the Contractor shall provide a driving system submittal, including driveability analysis. Control location is between stations 1+80 to 2+19.2 of "STRNO93" line on Pedestrian Ramp 93.

Any questions regarding the above recommendations should be directed to the attention of Wendy Hou, (916) 227-7066 or Thang Le, (916) 227-5390 at the Office of Geotechnical Design South-1, Branch A.

APPENDICES

Appendix I: Site Map
Appendix II: Log of Test Boring
Appendix III: Analysis and Calculation

Prepared by:

REGISTERED PROFESSIONAL ENGINEER
SHANDAN WENDY HOU
C 77037
CIVIL
STATE OF CALIFORNIA
Expires 06/30/2011

S. Wendy Hou, P.E.
Transportation Engineer – Civil
Geotechnical Design Branch A

PROFESSIONAL GEOLOGIST
MICHAEL A. SALISBURY
NO. 2462
CERTIFIED ENGINEERING GEOLOGIST
STATE OF CALIFORNIA
EXP: 2/28/2010

Michael SalisburY, P.G, C.E.G.
Certified Engineering Geologist
Geotechnical Design Branch A

Reviewed by:

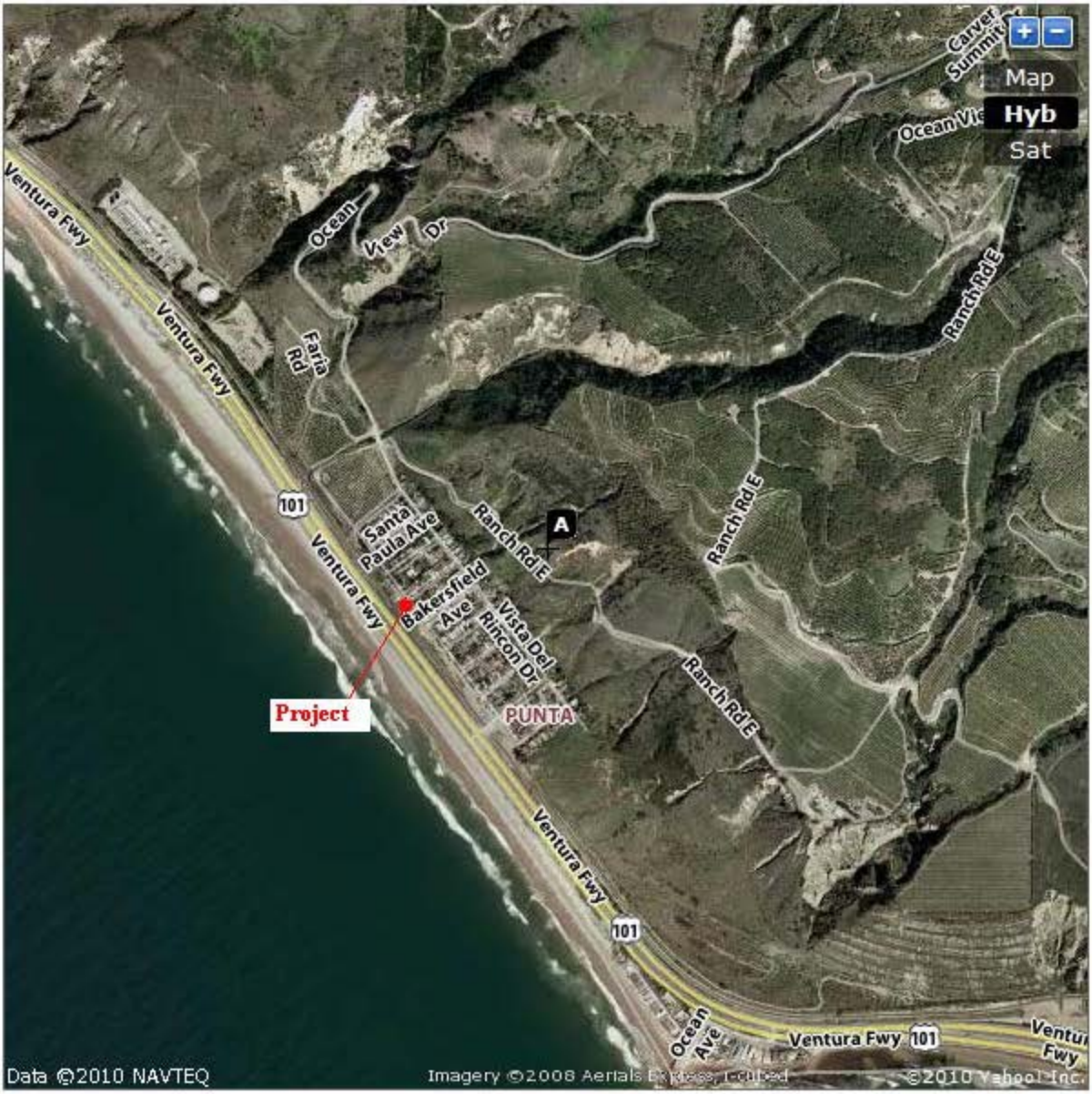
REGISTERED PROFESSIONAL ENGINEER
THANG KIM LE
C 33229
EXP 6/30/2012
CIVIL
STATE OF CALIFORNIA

Thang Le, P.E.
Senior Materials and Research Engineer
Acting Branch Chief, Geotechnical Design Branch A

cc: Project Coordination Engineer
OGDS-1 – (Sacramento)
OGDS-1 (Los Angeles)
GS – (File)

Appendix I

Site Map



Appendix II

Log of Test Boring

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
07	Ven	101			

REGISTERED CIVIL ENGINEER 4-7-10

PLANS APPROVAL DATE

The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

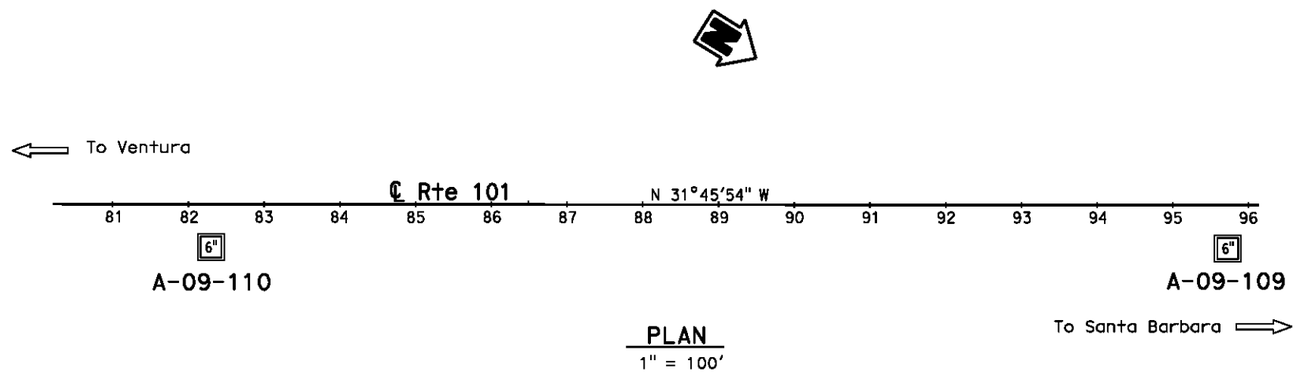
REGISTERED PROFESSIONAL ENGINEER — Harihar Shiwakoti — No. C76035 — Exp. 6-30-10 — CIVIL — STATE OF CALIFORNIA

This LOTB sheet was prepared in accordance with the Caltrans Soil & Rock Logging, Classification, & Presentation Manual (June 2007).

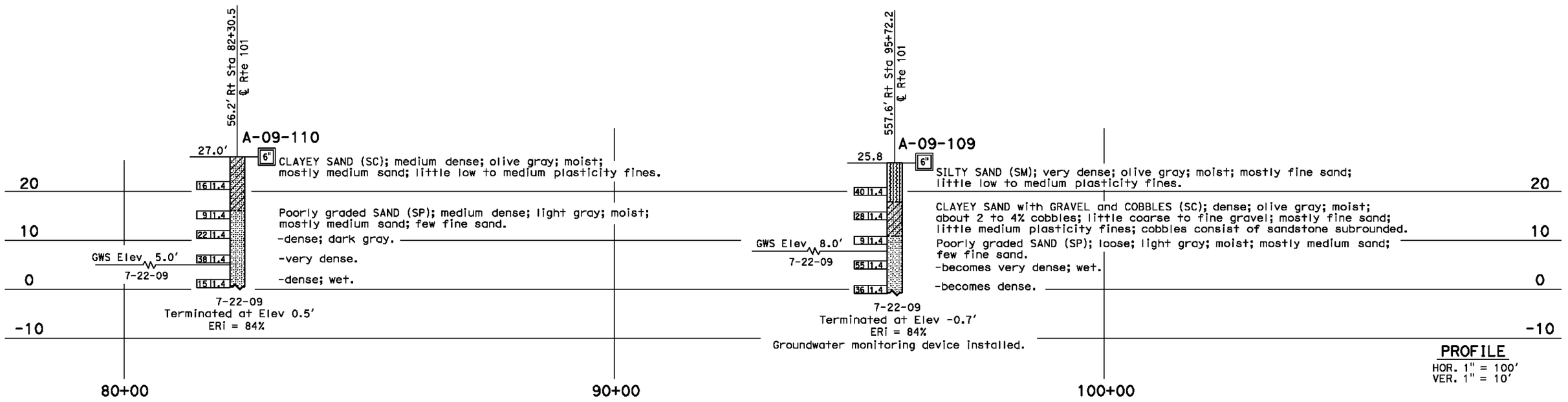
BENCH MARK

For Boring A-09-109
Datums: NAD '83 and NAVD '88
Well cap located at 57.57' Rt
Sta 95+72.24 Centerline Rte 101.
N 1958451.806
E 6123996.939
Elev 25.801'

For Boring A-09-110
Datums: NAD '83 and NAVD '88
Well cap located at 56.15' Rt
Sta 82+30.53 Centerline Rte 101.
N 1957374.669
E 6124796.917
Elev 27.010'



PLAN
1" = 100'



PROFILE
HOR. 1" = 100'
VER. 1" = 10'

ENGINEERING SERVICES		GEOTECHNICAL SERVICES		STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN	BRIDGE NO.	RETAINING WALLS 74, 90, 91, 93 PEDESTRIAN UNDERCROSSING
FUNCTIONAL SUPERVISOR	DRAWN BY: C. Christian, I.G-Remmen 11/09	FIELD INVESTIGATION BY:					
NAME: D. Jang	CHECKED BY: H. Liu	H. Shiwakoti			DESIGN BRANCH	POST MILES 39.8/43.6	LOG OF TEST BORINGS 1 OF 3

OGS CIVIL LOG OF TEST BORINGS SHEET

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

CU 07
EA 260701

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES: 12-24-09 | 03-18-10 | 04-07-10

SHEET OF

FILE => rws74-90-etc1of3.dgn

USERNAME => s128444 DATE PLOTTED => 13-SEP-2010 TIME PLOTTED => 15:06

REFERENCE: CALTRANS SOIL & ROCK LOGGING, CLASSIFICATION, AND PRESENTATION MANUAL (JUNE 2007)

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
07	Ven	101			

REGISTERED CIVIL ENGINEER 4-7-10

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER Harihar Shiwakoti No. C76035 Exp. 6-30-10 CIVIL STATE OF CALIFORNIA

The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

CEMENTATION

Description	Criteria
Weak	Crumbles or breaks with handling or little finger pressure.
Moderate	Crumbles or breaks with considerable finger pressure.
Strong	Will not crumble or break with finger pressure.

BOREHOLE IDENTIFICATION

Symbol	Hole Type	Description
Size	A	Auger Boring
Size	R P	Rotary drilled boring Rotary percussion boring (air)
Size Str	R	Rotary drilled diamond core
Size	HD HA	Hand driven (1-inch soil tube) Hand Auger
●	D	Dynamic Cone Penetration Boring
▲	CPT	Cone Penetration Test (ASTM D 5778-95)
⬚	O	Other

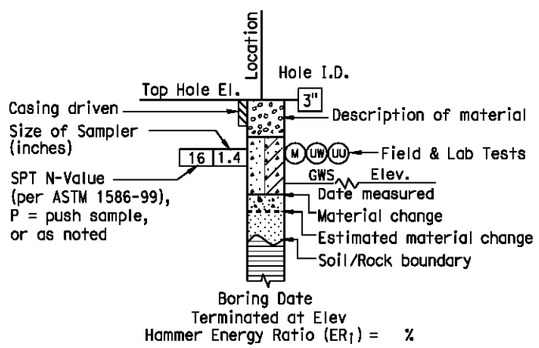
Note: Size in inches.

CONSISTENCY OF COHESIVE SOILS

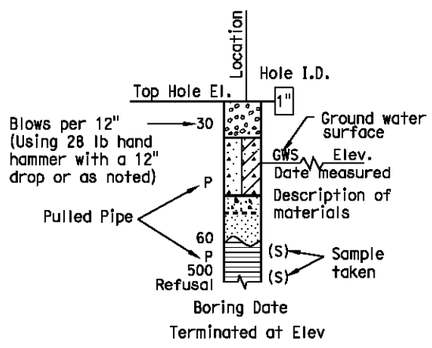
Description	Unconfined Compressive Strength (tsf)	Pocket Penetrometer Measurement (tsf)	Torvane Measurement (tsf)	Field Approximation
Very Soft	< 0.25	< 0.25	< 0.12	Easily penetrated several inches by fist
Soft	0.25 to 0.50	0.25 to 0.50	0.12 to 0.25	Easily penetrated several inches by thumb
Medium Stiff	0.50 to 1.0	0.50 to 1.0	0.25 to 0.50	Penetrated several inches by thumb with moderate effort
Stiff	1 to 2	1 to 2	0.50 to 1.0	Readily indented by thumb but penetrated only with great effort
Very Stiff	2 to 4	2 to 4	1.0 to 2.0	Readily indented by thumbnail
Hard	> 4.0	> 4.0	> 2.0	Indented by thumbnail with difficulty

PLASTICITY OF FINE-GRAINED SOILS

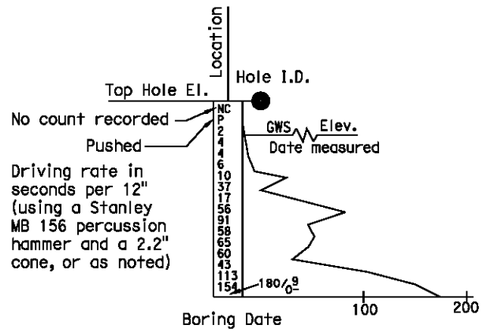
Description	Criteria
Nonplastic	A 1/8-inch thread cannot be rolled at any water content.
Low	The thread can barely be rolled and the lump cannot be formed when drier than the plastic limit.
Medium	The thread is easy to roll and not much time is required to reach the plastic limit. The thread cannot be rerolled after reaching the plastic limit. The lump crumbles when drier than the plastic limit.
High	It takes considerable time rolling and kneading to reach the plastic limit. The thread can be rerolled several times after reaching the plastic limit. The lump can be formed without crumbling when drier than the plastic limit.



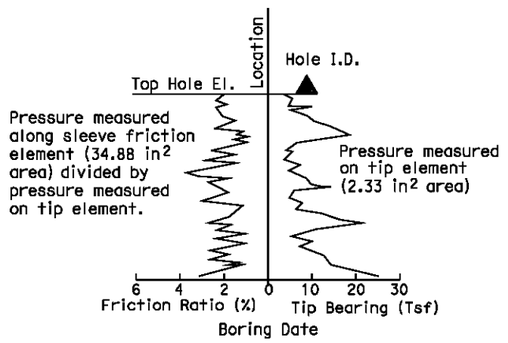
ROTARY BORING



HAND BORING



DYNAMIC CONE PENETRATION BORING



CONE PENETRATION TEST (CPT) SOUNDING

ENGINEERING SERVICES	GEOTECHNICAL SERVICES	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN	BRIDGE NO.	RETAINING WALLS 74, 90, 91, 93 PEDESTRIAN UNDERCROSSING
	PREPARED BY: I.G-Remmen 12/09		DESIGN BRANCH	POST MILE 39.8/43.6	LOG OF TEST BORINGS 2 OF 3

GS LOTB SOIL LEGEND

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

CU 07 EA 260701

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES | SHEET | OF

FILE => rws74-90-etc2of3.dgn

USERNAME => s128444 DATE PLOTTED => 13-SEP-2010 TIME PLOTTED => 15:06

REFERENCE: CALTRANS SOIL & ROCK LOGGING, CLASSIFICATION, AND PRESENTATION MANUAL (JUNE 2007)

GROUP SYMBOLS AND NAMES

Graphic/Symbol	Group Names	Graphic/Symbol	Group Names
GW	Well-graded GRAVEL Well-graded GRAVEL with SAND	CL	Lean CLAY Lean CLAY with SAND Lean CLAY with GRAVEL SANDY lean CLAY SANDY lean CLAY with GRAVEL GRAVELLY lean CLAY GRAVELLY lean CLAY with SAND
GP	Poorly graded GRAVEL Poorly graded GRAVEL with SAND		
GW-GM	Well-graded GRAVEL with SILT Well-graded GRAVEL with SILT and SAND	CL-ML	SILTY CLAY SILTY CLAY with SAND SILTY CLAY with GRAVEL SANDY SILTY CLAY SANDY SILTY CLAY with GRAVEL GRAVELLY SILTY CLAY GRAVELLY SILTY CLAY with SAND
GW-GC	Well-graded GRAVEL with CLAY (or SILTY CLAY) Well-graded GRAVEL with CLAY and SAND (or SILTY CLAY and SAND)		
GP-GM	Poorly graded GRAVEL with SILT Poorly graded GRAVEL with SILT and SAND	ML	SILT SILT with SAND SILT with GRAVEL SANDY SILT SANDY SILT with GRAVEL GRAVELLY SILT GRAVELLY SILT with SAND
GP-GC	Poorly graded GRAVEL with CLAY (or SILTY CLAY) Poorly graded GRAVEL with CLAY and SAND (or SILTY CLAY and SAND)		
GM	SILTY GRAVEL SILTY GRAVEL with SAND	OL	ORGANIC lean CLAY ORGANIC lean CLAY with SAND ORGANIC lean CLAY with GRAVEL SANDY ORGANIC lean CLAY SANDY ORGANIC lean CLAY with GRAVEL GRAVELLY ORGANIC lean CLAY GRAVELLY ORGANIC lean CLAY with SAND
GC	CLAYEY GRAVEL CLAYEY GRAVEL with SAND		
GC-GM	SILTY, CLAYEY GRAVEL SILTY, CLAYEY GRAVEL with SAND	OL	ORGANIC SILT ORGANIC SILT with SAND ORGANIC SILT with GRAVEL SANDY ORGANIC SILT SANDY ORGANIC SILT with GRAVEL GRAVELLY ORGANIC SILT GRAVELLY ORGANIC SILT with SAND
SW	Well-graded SAND Well-graded SAND with GRAVEL		
SP	Poorly graded SAND Poorly graded SAND with GRAVEL	CH	Fat CLAY Fat CLAY with SAND Fat CLAY with GRAVEL SANDY fat CLAY SANDY fat CLAY with GRAVEL GRAVELLY fat CLAY GRAVELLY fat CLAY with SAND
SW-SM	Well-graded SAND with SILT Well-graded SAND with SILT and GRAVEL		
SW-SC	Well-graded SAND with CLAY (or SILTY CLAY) Well-graded SAND with CLAY and GRAVEL (or SILTY CLAY and GRAVEL)	MH	Elastic SILT Elastic SILT with SAND Elastic SILT with GRAVEL SANDY elastic SILT SANDY elastic SILT with GRAVEL GRAVELLY elastic SILT GRAVELLY elastic SILT with SAND
SP-SM	Poorly graded SAND with SILT Poorly graded SAND with SILT and GRAVEL		
SP-SC	Poorly graded SAND with CLAY (or SILTY CLAY) Poorly graded SAND with CLAY and GRAVEL (or SILTY CLAY and GRAVEL)	OH	ORGANIC fat CLAY ORGANIC fat CLAY with SAND ORGANIC fat CLAY with GRAVEL SANDY ORGANIC fat CLAY SANDY ORGANIC fat CLAY with GRAVEL GRAVELLY ORGANIC fat CLAY GRAVELLY ORGANIC fat CLAY with SAND
SM	SILTY SAND SILTY SAND with GRAVEL		
SC	CLAYEY SAND CLAYEY SAND with GRAVEL	OH	ORGANIC elastic SILT ORGANIC elastic SILT with SAND ORGANIC elastic SILT with GRAVEL SANDY ORGANIC elastic SILT SANDY ORGANIC elastic SILT with GRAVEL GRAVELLY ORGANIC elastic SILT GRAVELLY ORGANIC elastic SILT with SAND
SC-SM	SILTY, CLAYEY SAND SILTY, CLAYEY SAND with GRAVEL		
PT	PEAT	OL/OH	ORGANIC SOIL ORGANIC SOIL with SAND ORGANIC SOIL with GRAVEL SANDY ORGANIC SOIL SANDY ORGANIC SOIL with GRAVEL GRAVELLY ORGANIC SOIL GRAVELLY ORGANIC SOIL with SAND
	COBBLES COBBLES and BOULDERS BOULDERS		

FIELD AND LABORATORY TESTING

- (C) Consolidation (ASTM D 2435)
- (CL) Collapse Potential (ASTM D 5333)
- (CP) Compaction Curve (CTM 216)
- (CR) Corrosivity Testing (CTM 643, CTM 422, CTM 417)
- (CU) Consolidated Undrained Triaxial (ASTM D 4767)
- (DS) Direct Shear (ASTM D 3080)
- (EI) Expansion Index (ASTM D 4829)
- (M) Moisture Content (ASTM D 2216)
- (OC) Organic Content-% (ASTM D 2974)
- (P) Permeability (CTM 220)
- (PA) Particle Size Analysis (ASTM D 422)
- (PI) Plasticity Index (AASHTO T 90) Liquid Limit (AASHTO T 89)
- (PL) Point Load Index (ASTM D 5731)
- (PM) Pressure Meter
- (PP) Pocket Penetrometer
- (R) R-Value (CTM 301)
- (SE) Sand Equivalent (CTM 217)
- (SG) Specific Gravity (AASHTO T 100)
- (SL) Shrinkage Limit (ASTM D 427)
- (SW) Swell Potential (ASTM D 4546)
- (TV) Pocket Torvane
- (UC) Unconfined Compression-Soil (ASTM D 2166) Unconfined Compression-Rock (ASTM D 2938)
- (UU) Unconsolidated Undrained Triaxial (ASTM D 2850)
- (UW) Unit Weight (ASTM D 4767)
- (VS) Vane Shear (AASHTO T 223)

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
07	Ven	101			

REGISTERED CIVIL ENGINEER — 4-7-10

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Harihar Shiwakoti — No. C76035 — Exp. 6-30-10 — CIVIL — STATE OF CALIFORNIA

The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

APPARENT DENSITY OF COHESIONLESS SOILS

Description	SPT N_{60} (Blows / 12 inches)
Very loose	0 - 4
Loose	5 - 10
Medium Dense	11 - 30
Dense	31 - 50
Very Dense	> 50

MOISTURE

Description	Criteria
Dry	Absence of moisture, dusty, dry to the touch
Moist	Damp but no visible water
Wet	Visible free water, usually soil is below water table

PERCENT OR PROPORTION OF SOILS

Description	Criteria
Trace	Particles are present but estimated to be less than 5%
Few	5 to 10%
Little	15 to 25%
Some	30 to 45%
Mostly	50 to 100%

PARTICLE SIZE

Description		Size
Boulder		> 12"
Cobble		3" to 12"
Gravel	Coarse	3/4" to 3"
	Fine	No. 4 to 3/4"
Sand	Coarse	No. 10 to No. 4
	Medium	No. 40 to No. 10
	Fine	No. 200 to No. 40

ENGINEERING SERVICES	GEOTECHNICAL SERVICES	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN	BRIDGE NO.	RETAINING WALLS 74, 90, 91, 93 PEDESTRIAN UNDERCROSSING
	PREPARED BY: I.G-Remmen 12/09		DESIGN BRANCH	POST MILE 39.8/43.6	LOG OF TEST BORINGS 3 OF 3

GS LOTB SOIL LEGEND

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

CU 07 EA 260701

FILE => rws74-90-etc3of3.dgn

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES | SHEET | OF

USERNAME => s128444 DATE PLOTTED => 13-SEP-2010 TIME PLOTTED => 15:06

Appendix III

Analysis and Calculations

Ultimate Bearing Capacity Determination (for continuous spread footings)

general equation: $Q_u = cN_c + qN_q + 0.5W_uBN_{Wu}$ where c = cohesion (psf)

q = surcharge
= footing depth x soil unit weight
= Df x Wu

$N_q = e^{(3.14)\tan(p)} \tan^2(45 + p/2)$

B = width of footing (or diameter)

$N_c = (Nq - 1)\cot(p)$

p = internal friction angle

$N_{Wu} = 2(Nq + 1)\tan(p)$
(After Vesic, 1973)

Type 1 **H(ft)= 10.5**

c (psf) =	0	W_u (pcf) =	100	Nq =	18.40
Df (ft) =	10.5	B (ft) =	8	Nc =	30.14
p (deg) =	30	F.S. =	3	Nw =	22.40
	0.52 rad				

Q_u (psf) = 28282

Q_a (psf) = 9427 (ultimate bearing capacity with Factor of Safety)

FOR ALTERNATE FOOTING CONFIGURATIONS:

Q =	0	+ Df	613	+ B	373

Friction Factor

f = 0.38

Equivalent Fluid Pressure

Back Slope	Active (pcf)	Passive (pcf)
Flat	33	300
2:1	54	
1.5:1	75	

	Lateral Pressure Coefficient	Equivalent Fluid Weight (pcf)
Free Cantilever	0.33333	33.3333
Restrained	0.5	50

CIDH Calculation

VERTICALLY LOADED DRILLED SHAFT ANALYSIS PROGRAM SHAFT
VERSION 5.0 (C) COPYRIGHT ENSOFT,INC. 1989,1995,1998,2001,2003

La Conchita Pedestrian UC

PROPOSED DEPTH = 40.0 FT
NUMBER OF LAYERS = 5
WATER TABLE DEPTH = 1.0 FT.
FACTOR OF SAFETY APPLIED TO THE TOTAL ULTIMATE CAPACITY = 2.00
FACTOR OF SAFETY APPLIED TO THE ULTIMATE BASE CAPACITY = 3.00

SOIL INFORMATION
LAYER NO 1----SAND

AT THE TOP

SKIN FRICTION COEFFICIENT- BETA = 0.120E+01
UNDRAINED SHEAR STRENGTH, LB/SQ FT = 0.000E+00
INTERNAL FRICTION ANGLE, DEG. = 0.380E+02
BLOWS PER FOOT FROM STANDARD PENETRATION TEST = 0.400E+02
SOIL UNIT WEIGHT, LB/CU FT = 0.130E+03
MAXIMUM LOAD TRANSFER FOR SOIL, LB/SQ FT = 0.100E+11
DEPTH, FT = 0.000E+00

AT THE BOTTOM

SKIN FRICTION COEFFICIENT- BETA = 0.117E+01
UNDRAINED SHEAR STRENGTH, LB/SQ FT = 0.000E+00
INTERNAL FRICTION ANGLE, DEG. = 0.380E+02
BLOWS PER FOOT FROM STANDARD PENETRATION TEST = 0.400E+02
SOIL UNIT WEIGHT, LB/CU FT = 0.130E+03
MAXIMUM LOAD TRANSFER FOR SOIL, LB/SQ FT = 0.100E+11
DEPTH, FT = 0.600E+01

LAYER NO 2----SAND

AT THE TOP

SKIN FRICTION COEFFICIENT- BETA = 0.117E+01
UNDRAINED SHEAR STRENGTH, LB/SQ FT = 0.000E+00
INTERNAL FRICTION ANGLE, DEG. = 0.360E+02
BLOWS PER FOOT FROM STANDARD PENETRATION TEST = 0.280E+02
SOIL UNIT WEIGHT, LB/CU FT = 0.125E+03
MAXIMUM LOAD TRANSFER FOR SOIL, LB/SQ FT = 0.100E+11
DEPTH, FT = 0.600E+01

AT THE BOTTOM

SKIN FRICTION COEFFICIENT- BETA = 0.103E+01
UNDRAINED SHEAR STRENGTH, LB/SQ FT = 0.000E+00
INTERNAL FRICTION ANGLE, DEG. = 0.360E+02
BLOWS PER FOOT FROM STANDARD PENETRATION TEST = 0.280E+02
SOIL UNIT WEIGHT, LB/CU FT = 0.125E+03
MAXIMUM LOAD TRANSFER FOR SOIL, LB/SQ FT = 0.100E+11
DEPTH, FT = 0.120E+02

LAYER NO 3----SAND

AT THE TOP

SKIN FRICTION COEFFICIENT- BETA = 0.619E+00
UNDRAINED SHEAR STRENGTH, LB/SQ FT = 0.000E+00
INTERNAL FRICTION ANGLE, DEG. = 0.300E+02
BLOWS PER FOOT FROM STANDARD PENETRATION TEST = 0.900E+01
SOIL UNIT WEIGHT, LB/CU FT = 0.110E+03
MAXIMUM LOAD TRANSFER FOR SOIL, LB/SQ FT = 0.100E+11
DEPTH, FT = 0.120E+02

AT THE BOTTOM

SKIN FRICTION COEFFICIENT- BETA = 0.556E+00
UNDRAINED SHEAR STRENGTH, LB/SQ FT = 0.000E+00
INTERNAL FRICTION ANGLE, DEG. = 0.300E+02
BLOWS PER FOOT FROM STANDARD PENETRATION TEST = 0.900E+01
SOIL UNIT WEIGHT, LB/CU FT = 0.110E+03
MAXIMUM LOAD TRANSFER FOR SOIL, LB/SQ FT = 0.100E+11
DEPTH, FT = 0.180E+02

LAYER NO 4----SAND

AT THE TOP

SKIN FRICTION COEFFICIENT- BETA = 0.927E+00
UNDRAINED SHEAR STRENGTH, LB/SQ FT = 0.000E+00
INTERNAL FRICTION ANGLE, DEG. = 0.400E+02
BLOWS PER FOOT FROM STANDARD PENETRATION TEST = 0.550E+02
SOIL UNIT WEIGHT, LB/CU FT = 0.130E+03
MAXIMUM LOAD TRANSFER FOR SOIL, LB/SQ FT = 0.100E+11
DEPTH, FT = 0.180E+02

AT THE BOTTOM

SKIN FRICTION COEFFICIENT- BETA = 0.853E+00
UNDRAINED SHEAR STRENGTH, LB/SQ FT = 0.000E+00
INTERNAL FRICTION ANGLE, DEG. = 0.400E+02
BLOWS PER FOOT FROM STANDARD PENETRATION TEST = 0.550E+02
SOIL UNIT WEIGHT, LB/CU FT = 0.130E+03
MAXIMUM LOAD TRANSFER FOR SOIL, LB/SQ FT = 0.100E+11
DEPTH, FT = 0.230E+02

LAYER NO 5----SAND

AT THE TOP

SKIN FRICTION COEFFICIENT- BETA = 0.853E+00
UNDRAINED SHEAR STRENGTH, LB/SQ FT = 0.000E+00
INTERNAL FRICTION ANGLE, DEG. = 0.360E+02
BLOWS PER FOOT FROM STANDARD PENETRATION TEST = 0.360E+02
SOIL UNIT WEIGHT, LB/CU FT = 0.125E+03
MAXIMUM LOAD TRANSFER FOR SOIL, LB/SQ FT = 0.100E+11
DEPTH, FT = 0.230E+02

AT THE BOTTOM

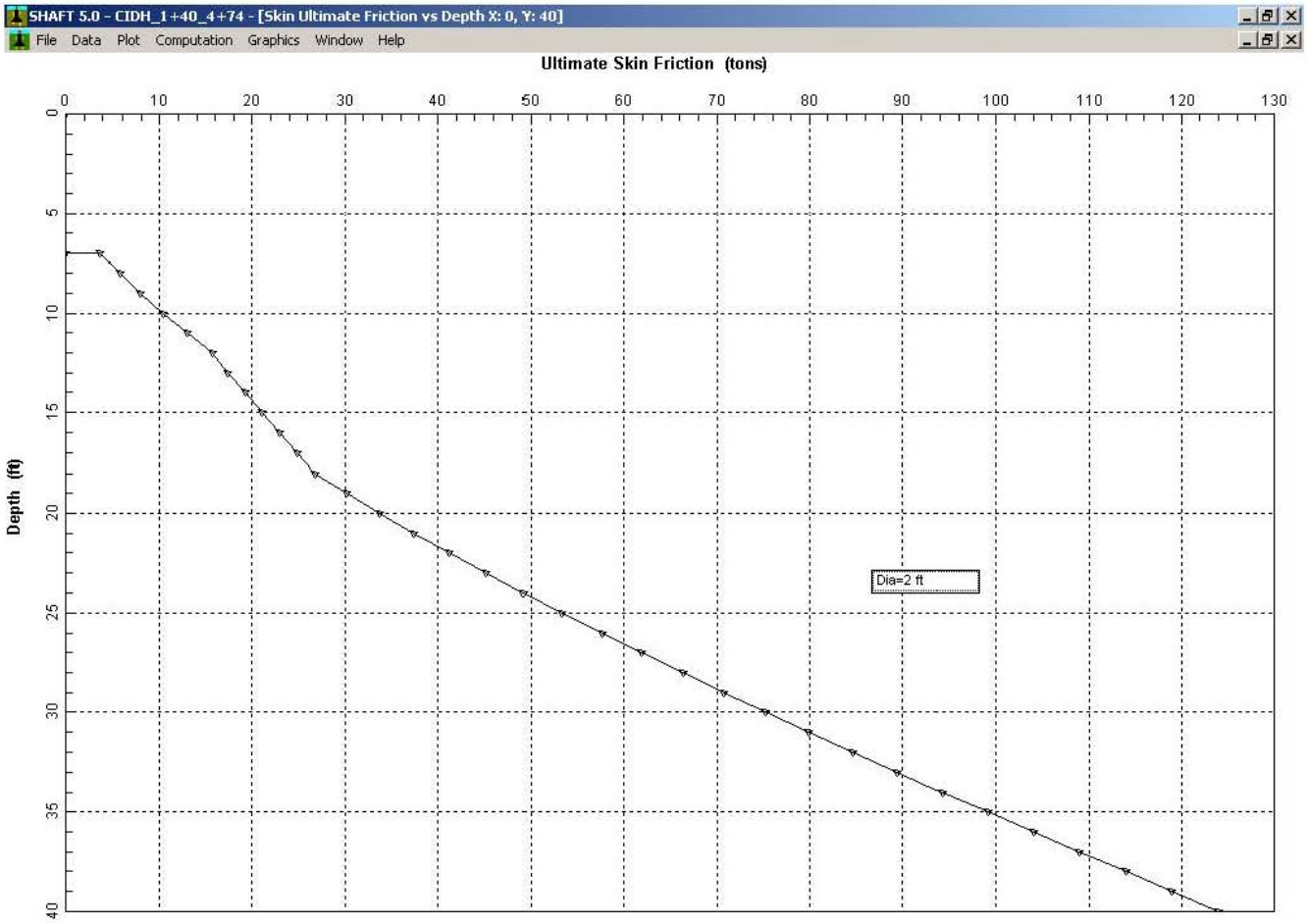
SKIN FRICTION COEFFICIENT- BETA = 0.545E+00
UNDRAINED SHEAR STRENGTH, LB/SQ FT = 0.000E+00
INTERNAL FRICTION ANGLE, DEG. = 0.360E+02
BLOWS PER FOOT FROM STANDARD PENETRATION TEST = 0.360E+02
SOIL UNIT WEIGHT, LB/CU FT = 0.125E+03
MAXIMUM LOAD TRANSFER FOR SOIL, LB/SQ FT = 0.100E+11
DEPTH, FT = 0.500E+02

DRILLED SHAFT INFORMATION

DIAMETER OF STEM = 2.000 FT.
DIAMETER OF BASE = 2.000 FT.
END OF STEM TO BASE = 0.000 FT.
ANGLE OF BELL = 0.000 DEG.
IGNORED TOP PORTION = 5.000 FT.
IGNORED BOTTOM PORTION = 0.000 FT.
AREA OF ONE PERCENT STEEL = 4.524 SQ.IN.
ELASTIC MODULUS, Ec = 0.342E+07 LB/SQ IN
VOLUME OF UNDERREAM = 0.000 CU.YDS.

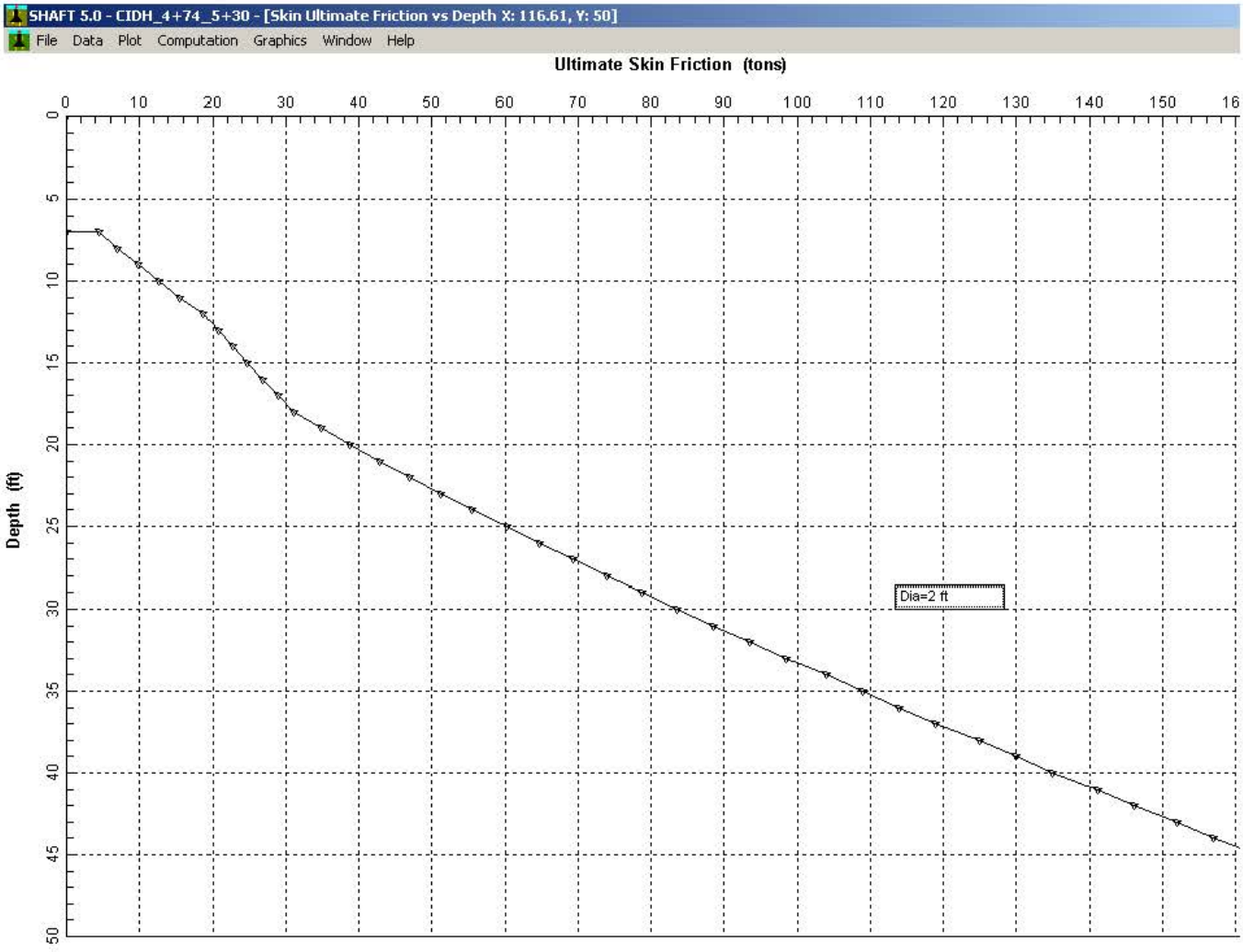
PREDICTED RESULTS (CIDH)

Station 1+28 to 4+74



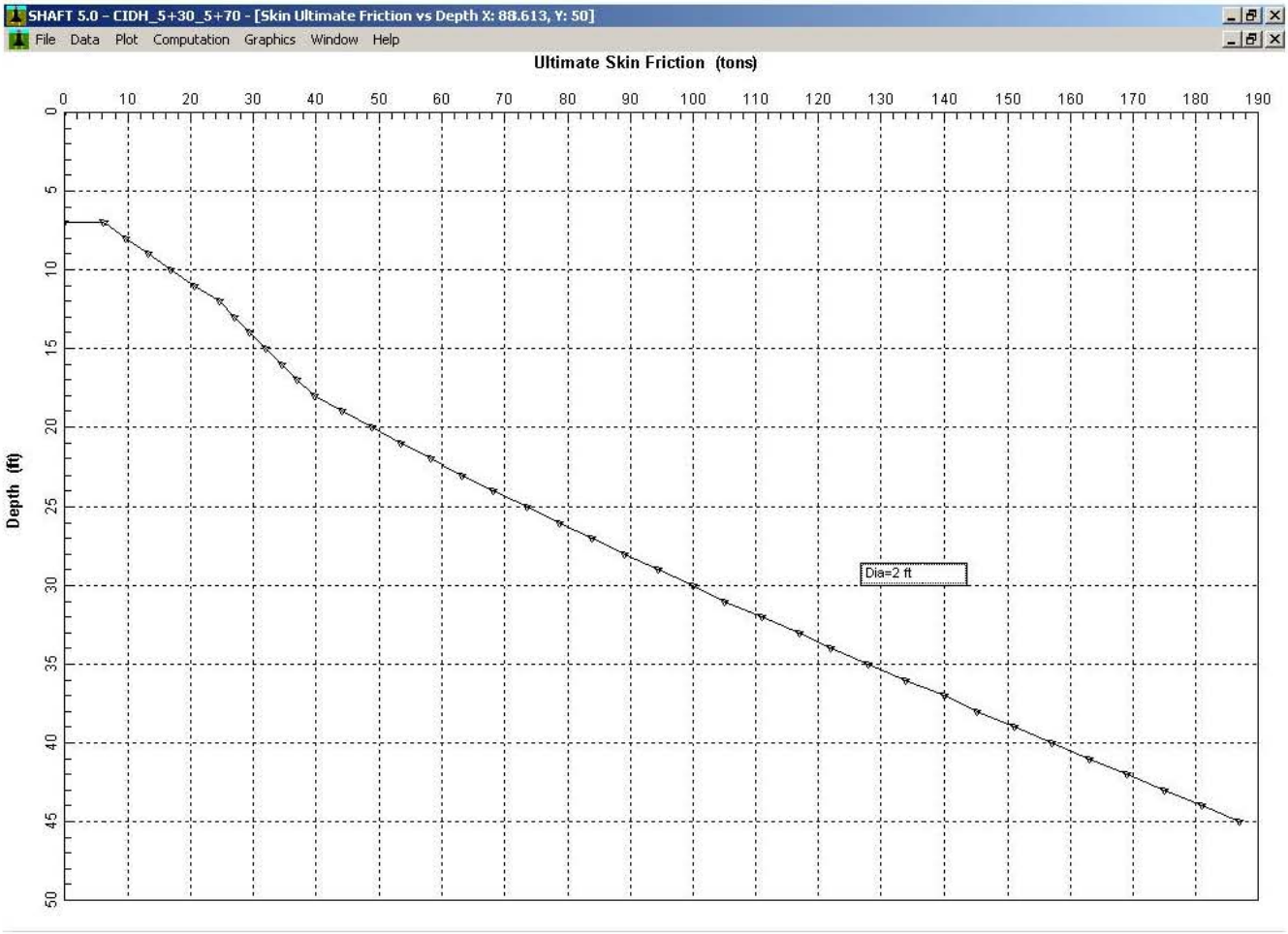
PREDICTED RESULTS (CIDH)

Station 4+74 to 5+30



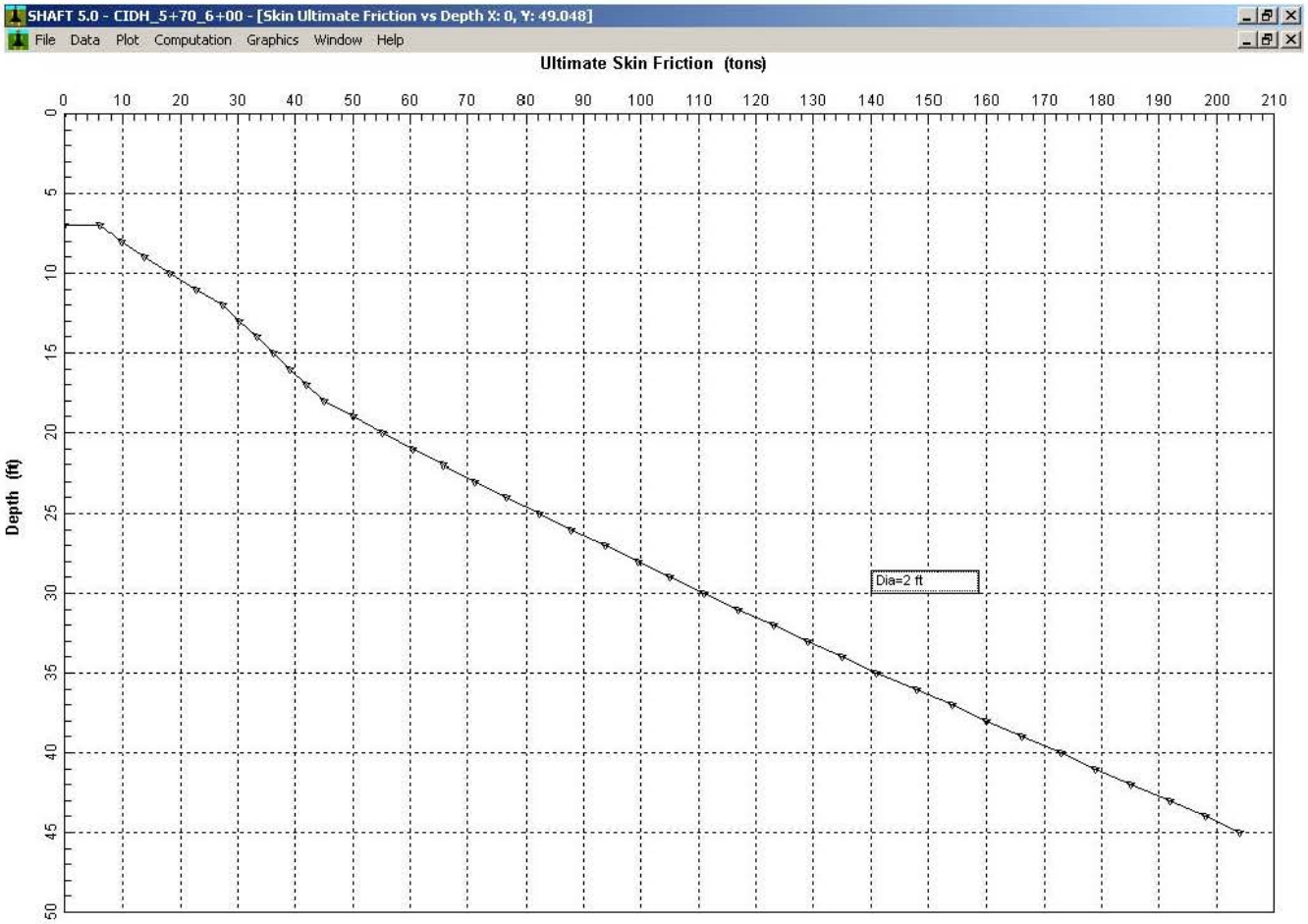
PREDICTED RESULTS (CIDH)

Station 5+30 to 5+70



PREDICTED RESULTS (CIDH)

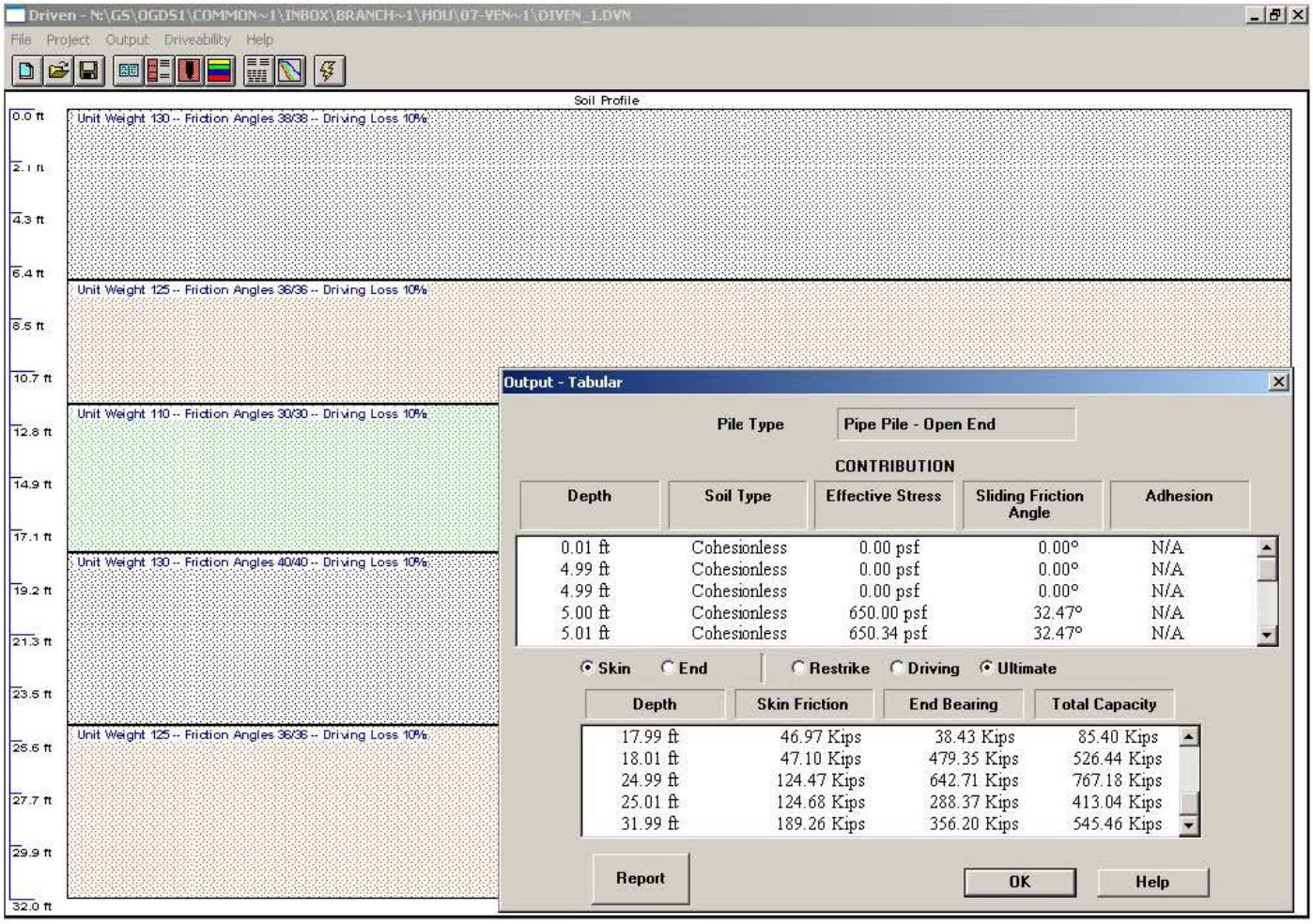
Station 5+70 to 6+00



CISS Pile Calculation

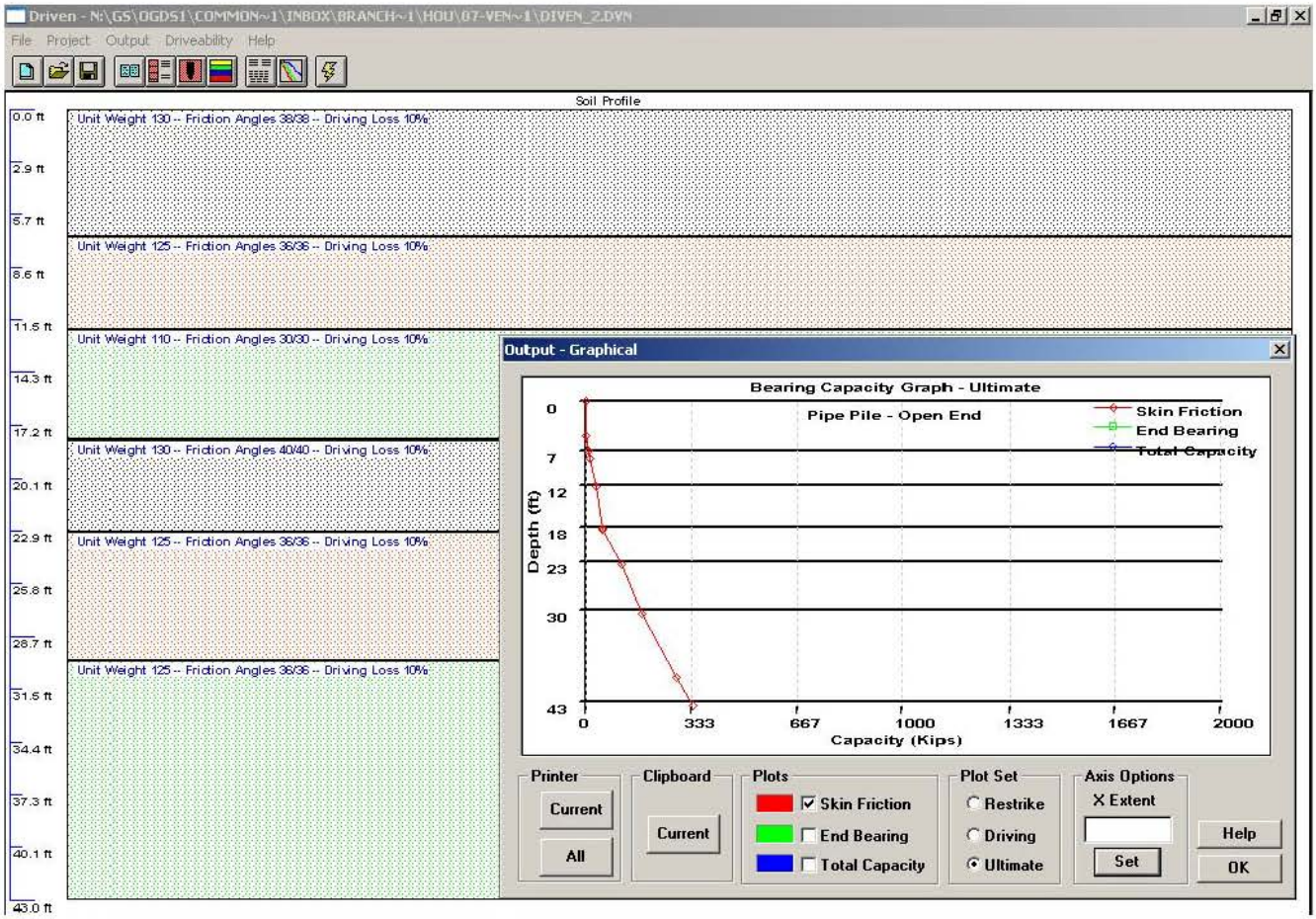
PREDICTED RESULTS (CISS)

Station 1+28 to 4+74



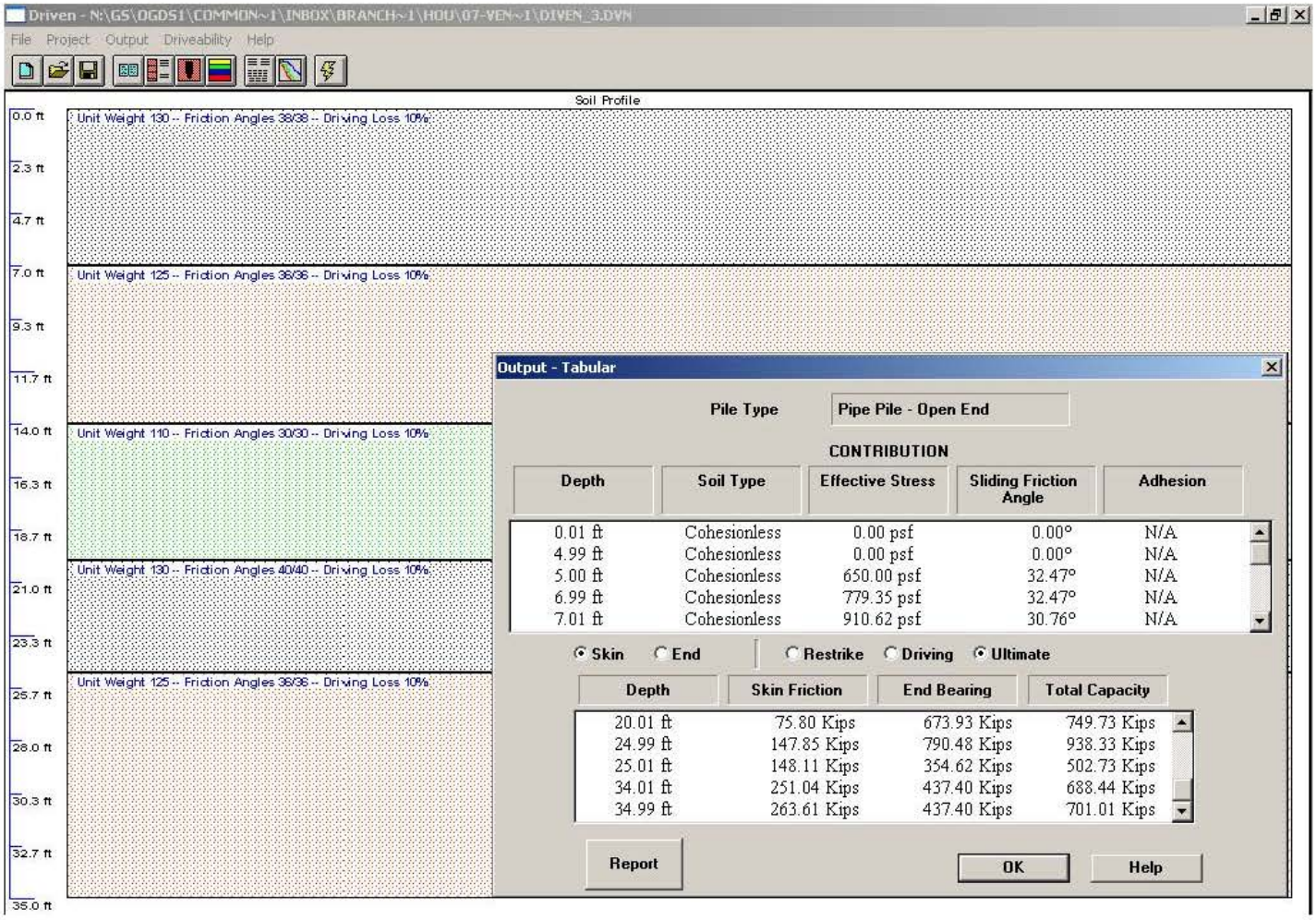
PREDICTED RESULTS (CISS)

Station 4+74 to 5+30



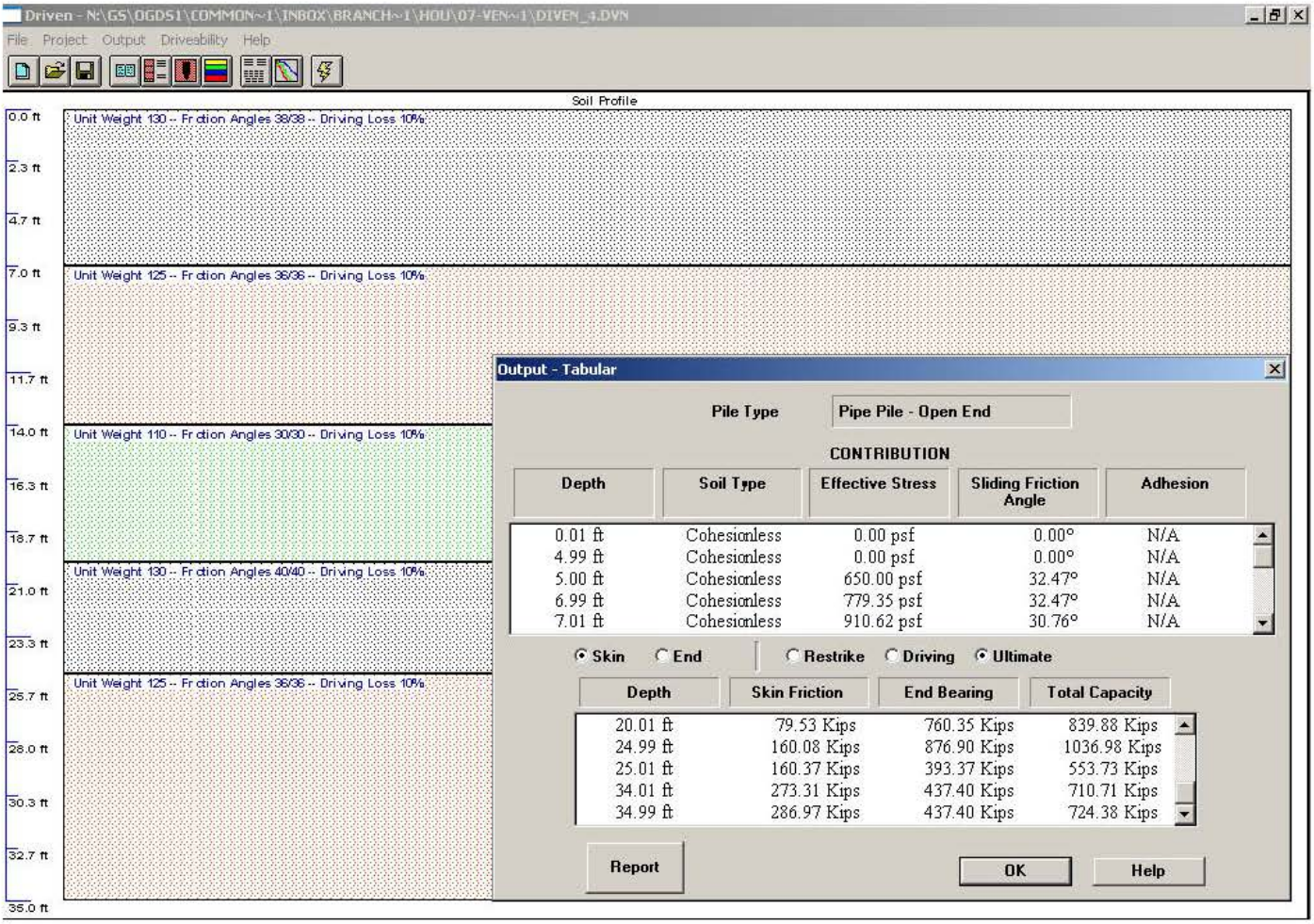
PREDICTED RESULTS (CISS)

Station 5+30 to 5+70



PREDICTED RESULTS (CISS)

Station 5+70 to 6+00



State of California Business, Transportation and Housing Agency

Memorandum

Flex your power!
Be energy efficient!

To: MATT HOLM
Bridge Design Branch 12
Office of Bridge Design-South 1

Date: 04/05/10

File: 07-VEN-101-PM R39.80/R43.60
and 05-SB-101-PM R0.0/R2.2
07-26070
SB/VEN 101 HOV Lane

Attention: Mahmoud Fustok, Doug Menzmer

From: **DEPARTMENT OF TRANSPORTATION**
DIVISION OF ENGINEERING SERVICES
Geotechnical Services
Office of Geotechnical Design – South 1

Subject: Foundation Report –Bike Lane Ramp Structure 9

INTRODUCTION

This report presents the foundation recommendations for the proposed bike lane ramp structure 9.

The report is based on literature search, review of the previous field investigations, the "As Built" Log of Test Borings (LOTB) for original construction of the Mobil Pier Undercrossing in February, 1970, District Preliminary Geotechnical Report sent to District Design on May 14, 2008 and subsurface exploration on July 20, 2009.

This report presents the foundation recommendations for Bike Lane Ramp Structure 9. The project area starts from Post Mile 39.8 to 43.6 of Highway 101 in Ventura County.

PROJECT DESCRIPTION

US Highway 101 is a divided highway with a dirt median and guardrail. It was completed in 1970's. Currently there are three northbound lanes (one merge lane and two traffic lanes) and three southbound lanes (one center turn lane and two traffic lanes).

The project is in between post miles 39.8 to 43.6 in Ventura and post mile 0.0 to 2.2 in Santa Barbara County. Proposed project consists of construction of bike lane ramp structure near Mobil Pier Undercrossing to provide access to the beach from south bound 101. Bike lane ramp retaining wall begins at station 5+98.86 and ends at station 12+92.28.

GEOLOGIC SETTING

The proposed project area is located within the Transverse Ranges geologic/geomorphic province of California. The project area lies along Pitas Point quadrangle in Ventura and Carpinteria quadrangle in Santa Barbara County. The land portion of this quadrangle is mostly mountainous terrain bordering the Pacific Ocean in west. The small, rural communities of La Conchita, Seacliff, and Faria Beach are located along the coastline in the area.

Geological map of the Ventura and Pitas Point quadrangles by Dibblee, 1988 and Carpinteria quadrangle in Santa Barbara by Dibblee, 1986 show that most of the section of US Highway 101 in this region lies on alluvium. This is unconsolidated floodplain deposits of silt, sand and gravel. Pico formation lies on the hills on the east side of the highway. Pico formation is mostly light gray to tan sandstone, well bedded, in some places pebble and including some interbedded claystone. Landslide debris lie on several locations on the east side of the highway.

SUBSURFACE EXPLORATION

Hollow stem auger boring with Standard Penetration Test (SPT) was conducted at the west shoulder of southbound highway 101 as permit was not obtained to drill on the Mobil Pier road. The bike lane ramp provides access to the beach, however bore hole was drilled only within Caltrans right of way. Generalized subsurface layer, soil description and properties of soil obtained by correlating with the SPT blow counts obtained during the subsurface exploration has been presented in Table 1.

Table 1. Generalized subsurface profile and correlated soil properties.

Structure	Applicable Borehole	Elevation amsl (ft)	Description	Avg. $(N)_{60}$	Relative Density/ Consistency	Soil Properties	
						Apparent friction angle (ϕ)	Undrained Shear Strength Su (psf)
Bike Lane Ramp, Str 9	A-09-106	41 to 28	Poorly Graded Sand with Silt	37	dense	36	
		28 to 23	Silty Sand	23	medium dense	33	
		23 to 10	Poorly Graded Sand with Gravel	32	medium dense	35	

As-built log of test borings of Mobil Pier Undercrossing completed in 9/14/73 indicates presence of compact brown fine sand with numerous shell fragments and scattered gravel up

to elevation of about -4 feet underlain by very dense blue gray fine to medium grained, friable, poorly cemented sandstone with thin layer of fine gravel.

SEISMICITY

The project is located in seismically active area. Earthquakes have been experienced in the past and can be expected to continue. Moderate seismic event on Red Mountain fault and Mesa Rincon Creek Fault are likely to produce greatest bedrock acceleration for structures in this project.

Acceleration Response Spectrum (ARS) is provided in Appendix 1. The design ARS curve is affected by the Red Mountain Fault (Mw = 7) and the proximity of the structure to this fault.

ARS curve is prepared based on 2009 Caltrans Deterministic Peak Ground Acceleration (PGA) Map. The result is compared with Probabilistic Response Spectrum based on data from the 2008 USGS National Seismic Hazard Map for the 5% in 50 years probability of exceedance (or 975 year return period).

For design purpose, envelope of ARS consisting of higher value among deterministic and probabilistic methods is considered. For sedimentary rock at elevation of about -4 feet shear wave velocity of 400 m/s is considered.

LIQUEFACTION.

Liquefaction typically occurs over widespread areas during long-duration, strong ground motion generally exceeding 0.15 g peak ground acceleration (PGA). These ground motions typically are produced by large-magnitude earthquakes, exceeding magnitude (Mw) 6.5. Liquefaction-related damage is generally seen in recently alluviated areas that contain loose, saturated, cohesionless soil.

The structure site consists of medium dense to dense silty sand to poorly graded sand with gravel with presence of sandstone at about elevation of -4 feet. Groundwater was not encountered during the boring up to elevation of about 10 feet. Liquefaction hazard is unlikely for this structure.

CORROSIVITY

Soil sample below water table was not collected for this site, as ground water was not encountered upto about 10 feet elevation. However, Corrosion guidelines 2003 states "project site located within 1000 ft of marine or brackish water is also considered corrosive (even if the soil is characterized as non corrosive)". So the soil for this project should be considered as corrosive where the structures are located within 1000 ft from the marine water.

GROUND WATER

Groundwater was not encountered upto an elevation of about 10 feet during the recent subsurface exploration. There is no groundwater information in the asbuilt log of test boring. For the design purpose, groundwater table at an elevation of 10 feet is assumed.

FOUNDATION RECOMMENDATIONS

Bike Ramp Structure No. 9 will be a multi-span, reinforced concrete slab with two-column bents on pile extensions. This structure may be subject to the influence of wave action. District Hydraulic Report indicates that the wave rupup elevation could be as high as 25.6 feet elevation.

For foundation design, 24" CIDH piles can be used. Foundation design recommendations are presented in Table 2 and 3 and pile data table is presented in Table 4. Deep foundation design is based on Caltrans Memo to Designers 3-1, July 2008. Design tip elevations are determined using the SHAFT Program. Only skin friction has been considered while determining the pile capacity. The settlement of the piles in all cases is expected to be less than 1 inch.

Table 2: Abutment Foundation Design Recommendations.

Support Location	Pile Type	Cut-off Elevation (ft)		LRFD Service-I Limit State Load (kips) per support		LRFD Service-I Limit State Total Load (kips) per pile (Comp)	Nominal Resistance per pile (kips)	Design Tip Elevation (ft)	Specified Tip Elevation (ft)
				Total	Permanent				
Abut 1	24" CIDH	L	20.9	139	69	70	140	-3	-3
		R	20.9					-3	-3
Abut 13	24" CIDH	L	30.5	139	69	70	140	11	11
		R	30.5					11	11

Table 3: Bent Foundation Design Recommendations.

Support Location	Pile Type	Cut-off Elevation (ft)		Service-I Limit State Load (kips) per support	Total Permissible Support Settlement (inches)	Required Factored Nominal Resistance per pile (kips)				Design Tip Elevation (ft)	Specified Tip Elevation (ft)
						Strength Limit		Extreme Event			
						Comp (ϕ=0.7)	Tension (ϕ=0.7)	Comp (ϕ=1)	Tension (ϕ=1)		
Bent 2	24" CIDH	L	23.5	333	1"	242	0	184	0	-15	-15
		R	27.5							-11	-11
Bent 3	24" CIDH	L	23.0	293	1"	214	0	185	0	-12	-12
		R	28.4							-7	-7
Bent 4	24" CIDH	L	23.2	310	1"	225	0	185	0	-13	-13
		R	29.4							-7	-7
Bent 5	24" CIDH	L	25.5	248	1"	180	0	185	0	-6	-6
		R	30.3							-1	-1
Bent 6	24" CIDH	L	26.3	333	1"	242	0	185	0	-12	-12
		R	31.3							-7	-7
Bent 7	24" CIDH	L	27.6	293	1"	214	0	184	0	-2	-2
		R	32.3							2	2
Bent 8	24" CIDH	L	27.8	310	1"	225	0	185	0	-4	-4
		R	33.2							1	1
Bent 9	24" CIDH	L	28.3	248	1"	180	0	185	0	0	0
		R	33.9							6	6
Bent 10	24" CIDH	L	29.0	332	1"	242	0	185	0	-4	-4
		R	34.6							2	2
Bent 11	24" CIDH	L	31.0	292	1"	213	0	184	0	1	1
		R	35.2							5	5
Bent 12	24" CIDH	L	34.3	332	1"	242	0	180	0	1	1
		R	35.6							3	3

Table 4: Pile Data Table

Support Location	Pile Type	Cut-off Elevation (ft)		Nominal Resistance per pile (kips)		Design Tip Elevation (ft)	Specified Tip Elevation (ft)
				Compression	Tension		
Abut 1	24" CIDH	L	20.9	140	0	-3	-3
		R	20.9			-3	-3
Bent 2	24" CIDH	L	23.5	350	0	-15	-15
		R	27.5			-11	-11
Bent 3	24" CIDH	L	23.0	310	0	-12	-12
		R	28.4			-7	-7
Bent 4	24" CIDH	L	23.2	330	0	-13	-13
		R	29.4			-7	-7
Bent 5	24" CIDH	L	25.5	260	0	-6	-6
		R	30.3			-1	-1
Bent 6	24" CIDH	L	26.3	350	0	-12	-12
		R	31.3			-7	-7
Bent 7	24" CIDH	L	27.6	310	0	-2	-2
		R	32.3			2	2
Bent 8	24" CIDH	L	27.8	330	0	-4	-4
		R	33.2			1	1
Bent 9	24" CIDH	L	28.3	260	0	0	0
		R	33.9			6	6
Bent 10	24" CIDH	L	29.0	350	0	-4	-4
		R	34.6			2	2
Bent 11	24" CIDH	L	31.0	310	0	1	1
		R	35.2			5	5
Bent 12	24" CIDH	L	34.3	350	0	1	1
		R	35.6			3	3
Abut 13	24" CIDH	L	30.5	140	0	11	11
		R	30.5			11	11

DESIGN AND CONSTRUCTION CONSIDERATIONS

Caving potential during CIDH construction is present due to medium dense coarse granular alluvial material. Wet or Slurry method should be used for CIDH construction. Temporary casing may be required to stabilize pile borings during construction of CIDH piles. The casing may be either placed in a predrilled hole or advanced through the ground by twisting, driving or vibration before being cleaned out. Difficult drilling condition may be encountered with anticipated sandstone at about -4 feet elevation

Any questions regarding the above recommendations should be directed to the attention of Harihar Shiwakoti, (916) 227-5739 or Deh-Jeng Jang, (916) 227-5722 at the Office of Geotechnical Design South-1, Branch A.

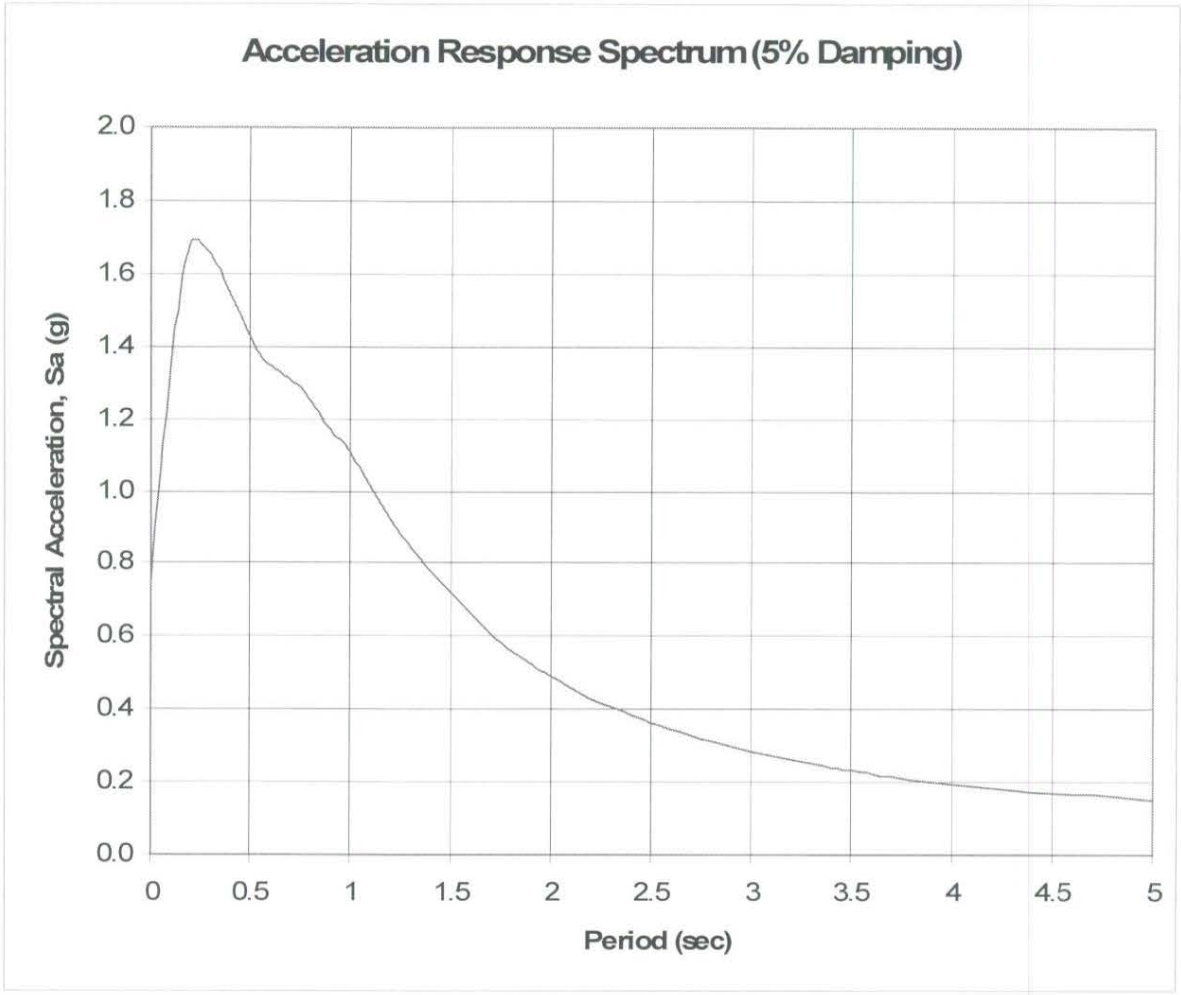
Prepared by:

04/05/2010

Harihar Shiwakoti, P.E.(C76035)
Transportation Engineer Civil
Branch A

cc: GS File Room
District Project Manager
Project Coordination Engineer
GS Corporate

Appendix 1: Acceleration Response Spectrum (ARS)



T (sec)	S_a (g)
0	0.7438
0.1	1.3381
0.2	1.6822
0.3	1.6571
0.5	1.4273
0.55	1.3769711
0.6	1.3507912
0.65	1.3274044
0.66	1.3190946
0.7	1.3063985
0.75	1.2873035
0.8	1.2456471
0.85	1.2078313
0.9	1.1724203
0.95	1.1398737
1	1.109019
1.1	1.0084945
1.2	0.9217933
1.3	0.8454912
1.4	0.7784865
1.5	0.719094
1.6	0.660186
1.7	0.6087459
1.8	0.5636229
1.9	0.5239795
2	0.4893074
2.2	0.4296646
2.4	0.3822211
2.5	0.3618396
2.6	0.3433342
2.8	0.3108531
3	0.2833877
3.2	0.2607136
3.4	0.2409522
3.5	0.2320161
3.6	0.2236311
3.8	0.2082754
4	0.1946676
4.2	0.1845436
4.4	0.1752755
4.6	0.1668325
4.8	0.1591038
5	0.1519766

State of California Business, Transportation and Housing Agency

Memorandum

Flex your power!
Be energy efficient!

To : Orlance Lee-07
Division of Design-Office of Design C

Date: Apr 05 2010

File No. 07/05-VEN/SB-101
VEN PM 39.8/43.6
SB PM 0.0/2/2
EA 260701
HOV Widening

Attn. : Barney Vorriettier

From : **DEPARTMENT OF TRANSPORTATION**
DIVISION OF ENGINEERING SERVICE
Geotechnical Service
Office of Geotechnical Design South-1

Subject : Geotechnical Design Report

Scope of the Work

This report presents the geotechnical recommendations for retaining wall and sound wall foundations of the proposed widening along US 101 Freeway. The scope of work included subsurface exploration, laboratory testing of the soil samples collected, engineering analysis of field and laboratory test results, and preparing this report. This report also includes the geotechnical design recommendations for a Sign Structure located in the project area.

Project Description

US Highway 101 is a divided highway with a dirt median and guardrail. It was completed in 1970's. Currently there are three northbound lanes (one merge lane and two traffic lanes) and three southbound lanes (one center turn lane and two traffic lanes). Railway tracks run parallel to the highway at about 40 feet northeast of the highway.

The project is in between post miles 39.8 to 43.6 in Ventura and post mile 0.0 to 2.2 in Santa Barbara County. Proposed project consists of construction of bike lane ramp structure near Mobil Pier Undercrossing to provide access to the beach from south bound 101, soundwalls at residential areas in Mussel Shoals, construction of Pedestrian Undercrossing (PUC) to provide beach access to the residents of La Conchita, widening of Bates Road Undercrossing and retaining walls at various locations in the project area.

Proposed Retaining Walls and Sound Walls

Various retaining walls and sound walls are proposed as a part of the widening of 101 Freeway. List of retaining walls and sound walls are presented in Table 1.

Table 1: Proposed retaining walls and soundwalls.

Structure	Rte 101	Structure equivalent 101 Station		General Locations	Structure Type (Length, ft)		Maximum Height, ft
	Direction	Beginning Station	End Station		RW	SW	
RW No. 134	Median	34+50.00	37+24.84	South of Mussel Shoals	275		8
RW/SW No. 47	SB	38+74.90	49+42.69	South of Mussel Shoals	1075		10
RW/SW No. 147	SB	45+98.12	50+23.65	South of Mussel Shoals	445	445	6
SW No. 63 on CIDH Piles	SB	61+39.91	65+50.00	North of Mussel Shoals		414	12
RW/SW No. 57	SB	51+34.61	60+55.23	North of Mussel Shoals	967	967	12
RW No. 53	SB	51+59.46	61+39.84	North of Mussel Shoals	1136		8
SW No. 61 on CIDH Piles	SB	60+55.23	61+68.88	North of Mussel Shoals		117	12
RW/SW No. 44	NB	40+50.00	47+25.00	South of Mussel Shoals	670		6
RW No. 74	NB	63+25.00	80+45.11	South of Santa Barbara Avenue	1720		8
RW No. 90	NB	81+75.00	92+00.00	North of Santa Barbara Avenue	1025		6
RW No. 190	NB	189+00.00	193+59.82	South of Bates Road UC	439		6
RW No. 196	NB	195+59.60	197+74.99	North of Bates Road UC	120		10
RW No. 181	SB	175+99.89	184+19.87	South of Bates Road UC	828		16
RW No. 260	Median	254+50.00	265+09.82	North of Rte 101/150 Interchange	1160		10
RW No. 272	Median	265+09.82	294+94.85	North of Rte 101/150 Interchange	1485		10
RW No. 282	Median	279+94.81	286+00.00	Between South & North of Bailard Ave OC	605		10

Proposed Sign Structure

A Changeable Message Sign (CMS) structure is proposed at Station 158+00. It is a Model 500 Unbalanced butterfly Type CMS structure of Standard Plans S101 Sign Structure.

Geologic Setting

The proposed project area is located within the Transverse Ranges geologic/geomorphic province of California. The project area lies along Pitas Point quadrangle in Ventura and Carpinteria quadrangle in Santa Barbara County. The land portion of this quadrangle is mostly mountainous terrain bordering the Pacific Ocean in west. The small, rural communities of La Conchita, Seacliff, and Faria Beach are located along the coastline in the area.

Geological map of the Ventura and Pitas Point quadrangles by Dibblee, 1988 and Carpinteria quadrangle in Santa Barbara by Dibblee, 1986 show that most of the section of US Highway 101 in this region lies on alluvium. This is unconsolidated floodplain deposits of silt, sand and gravel. Pico formation lies on the hills on the east side of the highway. Pico formation is mostly light gray to tan sandstone, well bedded, in some places pebble and including some interbedded claystone. Landslide debris lie on several locations on the east side of the highway.

Subsurface Exploration

Bore holes with Standard Penetration Test (SPT) were conducted at or near the proposed location of walls and structures. Hollow stem auger boring were conducted at retaining wall and sound wall locations whereas rotary wash boring were conducted at the proposed bridge widening location. Generalized subsurface layer, soil description and properties of soil obtained by correlating with the SPT blow counts obtained during the subsurface exploration has been presented in Table 2.

Table 2: Generalized soil profile from subsurface exploration

Structure/ Walls	Applicable Bore hole	Top of the hole elevation, ft	Soil layer ht. (feet)	Description	Avg. $(N)_{60}$	Relative Density/ Consistency	Soil Properties	
							Apparent friction angle (ϕ)	Undrained Shear Strength Su (psf)
Retaining wall 260, 272, 282	A-09-103	140.9	0-7	Poorly Graded Sand with Silt (SP-SM)	10	loose to medium dense	30	
			7-26.5	Sandy Silt (ML)	39	very stiff to hard		2000
	A-09-104	107.1	0-14	Silty Sand with Gravel	39	dense	36	
			14-26.5	Siltstone	> 50	hard	40	
	A-09-105 Piezometer installed	82.77	0-11	Elastic Silt (MH)	19	stiff to very stiff		1500
			11-13	Silty Sand	19	medium dense	32	
			13-26.5	Silty Sand with Gravel	> 50	very dense	38	

Structure/ Walls	Applicable Bore hole	Top of the hole elevation, ft	Soil layer ht. (feet)	Description	Avg. (N)60	Relative Density/ Consistency	Soil Properties	
							Apparent friction angle (ϕ)	Undrained Shear Strength Su (psf)
Bike Lane Ramp, Str 9	A-09-106	41.41	0-13	Poorly Graded Sand with Silt (SP-SM)	37	dense	36	
			13-18	Silty Sand	23	medium dense	33	
			18-31.5	Poorly Graded Sand with Gravel	32	medium dense	35	

Structure/ Walls	Applicable Bore hole	Top of the hole elevation, ft	Soil layer ht. (feet)	Description	Avg. (N)60	Relative Density/ Consistency	Soil Properties	
							Apparent friction angle (ϕ)	Undrained Shear Strength Su (psf)
Retaining/ Soundwall, 134, 47, 147, 63, 53, 57, 61, 44	A-09-107 GWT @ 26 feet depth	31.72	0-14	Silty Sand with Gravel (SM)	29	dense to medium dense	34	
			14-30	Silty Sand (SM)	37	dense	36	
			30-36.5	Sandstone	>50	hard		
	A-09-108 Piezometer installed	30.31	0-20	Silty Sand (SM)	10	medium dense	30	

	GWT @ 25 feet depth		20-36.5	Poorly Graded Sand (SP)	49	dense to very dense	37	

Structure/ Walls	Applicable Bore hole	Top of the hole elevation, ft	Soil layer ht. (feet)	Description	Avg. $(N)_{60}$	Relative Density/ Consistency	Soil Properties	
							Apparent friction angle (ϕ)	Undrained Shear Strength Su (psf)
Ret wall 74, 90,str 91,93,	A-09-109 Piezometer installed GWT @ 20 feet depth, N_{60}=12.6 @15 feet	25.8	0-8	Silty Sand (SM)	56	very dense	38	
			8-15	Clayey Sand with Gravel (SC)	39	dense	36	
			15-26.5	Poorly Graded Sand (SP)	42	dense	37	
	A-09-110 GWT @ 22 feet depth, N_{60}=12.6 @10 feet	27.01	0-11	Elastic Silt with sand (MH)	18	Very stiff	32	1500
			11-26.5	Poorly Graded Sand (SP)	31	medium dense to dense	35	

Structure/ Walls	Applicable Bore hole	Top of the hole elevation, ft	Soil layer ht. (feet)	Description	Avg. $(N)_{60}$	Relative Density/ Consistency	Soil Properties	
							Apparent friction angle (ϕ)	Undrained Shear Strength Su (psf)
RW 181	R-09-103 Piezometer installed	41.01	0-17	Silty Sand (SM)	15	medium dense	30	
			17-31.5	Elastic Silt with Sand (MH)	24	very stiff to hard	28	1800

Structure/ Walls	Applicable Bore hole	Top of the hole elevation, ft	Soil layer ht. (feet)	Description	Avg. $(N)_{60}$	Relative Density/ Consistency	Soil Properties	
							Apparent friction angle (ϕ)	Undrained Shear Strength Su (psf)
RW 190,196	R-09-101	34	0-14	Silty Sand	20	medium dense to dense	30	
			14-22	Siltstone		moderately hard		

Soil type for design and correlated soil properties for each retaining wall and sound wall obtained from the generalized soil profile are presented in the Table 3-1. Soil type for design of CMS structure is presented in Table 3-2.

Table 3-1: Soil properties for retaining walls/ soundwalls

Structures Name / Designation	Rte 101	Structure equivalent Fwy 101 Station		Soil Type for Design		Soil Properties	
	Direction	Beginning Station	End Station	Soil type	Lowest N_{60}	Apparent Friction Angle ϕ, deg	Undrained Shear Strength Su (psf)
RW No. 134	Median	34+50.00	37+24.84	Sand, Silty Sand	10	30	
RW/ SW No. 47	SB	38+74.90	49+42.69	Sand, Silty Sand	10	30	
RW/ SW No. 147	SB	45+98.12	50+23.65	Sand, Silty Sand	10	30	
SW No. 63 on CIDH Piles	SB	61+39.91	65+50.00	Sand, Silty Sand	10	30	
RW/ SW No. 57	SB	51+34.61	60+55.23	Sand, Silty Sand	10	30	
RW No. 53	SB	51+59.46	61+39.84	Sand, Silty Sand	10	30	
SW No. 61 on CIDH Piles	SB	60+55.23	61+68.88	Sand, Silty Sand	10	30	
RW/ SW No. 44	NB	40+50.00	47+25.00	Sand, Silty Sand	10	30	
RW No. 74	NB	63+25.00	80+45.11	Silty sand, clayey sand	12	30	1500
RW No. 90	NB	81+75.00	92+00.00	Silty sand, clayey sand	12	30	1500
RW No. 190	NB	175+99.89	184+19.87	Silty sand, siltstone	15	31	
RW No. 196	NB	189+00.00	193+59.82	Silty sand, siltstone	15	31	
RW No. 181	SB	195+59.60	197+74.99	Sand, Silty clayey Sand, siltstone	15	31	1800
RW No. 260	Median	254+50.00	265+09.82	Silty sand, clayey sand	10	30	2000
RW No. 272	Median	265+09.82	294+94.85	Silty sand, clayey sand	10	30	
RW No. 282	Median	279+94.81	286+00.00	Silty sand, clayey sand	10	30	1500

Table 3-2: Soil properties for retaining walls/ soundwalls

Structures Name / Designation	Structure equivalent Fwy 101 Station	Soil Type for Design		Soil Properties	
	Station	Soil type	SPT N_{60}	Apparent Friction Angle ϕ, deg	Undrained Shear Strength Su (psf)
CMS	158+00	Silty sand, clayey sand	10	30	-

Ground water

During the recent subsurface exploration performed by this office, groundwater was encountered at about elevation of 5-6 ft above mean sea level (amsl) at Mussel Shoals and La Conchita area. This is about 25 feet below the existing freeway surface level at Mussel Shoals and about 22 feet below at La Conchita area. Groundwater conditions varies seasonally due to changes in runoff, tidal and storm conditions, rainfall and other factors. Piezometers are installed at 5 different locations as shown in Table 2 above.

Groundwater levels monitored using water level indicator by Boyle Engineering Corporation in June 2007 on La Conchita area shows presence of groundwater at the depth of 15-15.5 feet from ground surface. According to their report, the groundwater gradient is towards the beach.

Seismicity

The project is located in seismically active area. Earthquakes have been experienced in the past and can be expected to continue. Moderate seismic event on Red Mountain fault or a larger seismic event on Ventura-Pitas Point fault and M. Ridge-Arroyo Parida-Santa Ana fault are likely to produce greatest bedrock acceleration for structures in this project.

A fault is considered by the State of California to be active if geologic evidence indicates that movement on the fault has occurred in the last 11000 years and potentially active if the movement is demonstrated to have occurred in the last 2 million years. Distances to major fault, Peak Bedrock Acceleration (PBA) and Peak Ground Acceleration (PGA) produced during the event of maximum credible earthquake to the structures are presented in Table 4.

Table 4: Distance of Red Mountain Fault (Mw = 7.25) from proposed structures

Structures	Latitude	Longitude	Distance, miles	PBA	PGA
Mobil Pier Bike Ramp	34.3519	119.4266	1.12	0.8 g	0.7 g
La Conchita PUC	34.3644	119.4494	0.43	0.9 g	0.7 g
Bates Road Undercrossing	34.3763	119.4775	0.25	0.9 g	0.7 g

Liquefaction

Liquefaction typically occurs over widespread areas during long-duration, strong ground motion generally exceeding 0.15 g peak ground acceleration (PGA). These ground motions typically are produced by large-magnitude earthquakes, exceeding magnitude (Mw) 6.5. Liquefaction-related damage is generally seen in recently alluviated areas that contain loose, saturated, cohesionless soil.

During the recent subsurface exploration, groundwater was encountered at about 20 feet depth below ground surface. Soils below 20 feet depth are generally medium dense to dense silty sand to poorly graded sand with $(N1)_{60CS} > 30$. Liquefaction potential is low in such soil.

Corrosivity

Caltrans Corrosive Guidelines, Sep 2003, indicates the site to be corrosive if one or more of the following conditions exist for the representative soil and/or water samples taken at the site: Chloride concentration is 500 ppm or greater, sulfate concentration is 2000 ppm or greater, or the pH is 5.5 or less.

Samples were collected and tested for Corrosivity and results are presented in the following Table.

Table 5: Corrosion test data

Applicable Borehole	Sample Location	Sample Depth, ft	Minimum Resistivity (ohm-cm)	pH	Chloride Content (ppm)	Sulfate Content (ppm)	Remarks
R-09-101	Bates Rd UC NB 101 off ramp	5	701	7.48	26	6600	Corrosive
R-09-102	Bates Rd UC SB 101 off ramp	25	1456	8.02			Non-corrosive
A-09-103	SB 101, North of Bailard Avenue	5	6494	7.94			Non-corrosive
A-09-108	SB 101, North of Mussel Shoals	10	414	7.61	870	7000	Corrosive
A-09-107	SB 101, South of Mussel Shoals	6	598	7.86	65	6600	Corrosive
A-09-109	NB 101, La Conchita	15	440	7.95	500	2200	Corrosive
A-09-110	NB 101, La Conchita	10	772	7.68	60	3300	Corrosive

Note:
For Corrosion definitions refer to Caltrans Division of Engineering Services "Memo to Designers" 3-1.

1 Lab Sample Number is assigned when resistivity is less than 1000 ohm-cm and further testing for sulfate and chloride is required.

2 Caltrans Corrosion Technology Section policy states that if the minimum resistivity is greater than 1000 ohm-cm the sample is considered to be non-corrosive and testing to determine sulfate and chloride is not performed.

Corrosion guidelines also state "project site located within 1000 ft of marine or brackish water is also considered corrosive (even if the soil is characterized as non corrosive)". So the soil for this project can be considered as corrosive where the structures are located within 1000 ft from the marine water.

Geotechnical recommendations

Retaining Walls and Soundwalls

Geotechnical design recommendation for proposed retaining walls and soundwalls are presented in the Table 6 below.

Type 1 walls refer to Standard Plans 2006 (B3-1), and Type 5 refers to Standard Plans 2006 (B3-7) walls.

For soundwall no. 147 with retaining wall height of 8 feet, retaining wall Type 1SW from Standard Details (XS-14-210e) can be used.

For soundwall no. 57 with retaining wall height of up to 12 feet, Type 5SW from Standard Details (XS-14-340e) can be used. We recommend excavating to a depth of half of the footing width below the footing base level and backfill the excavated portion to 95% relative compaction.

For Soundwall no. 63 and 61, sound wall masonry block on type 736S/SV barrier from Standard Plans 2006 (B15-8), for 30 degrees minimum friction angle can be used.

For spread footing, wall footings should be founded at least two feet below existing ground level.

For retaining wall 181, CIDH pile (diameter 24 inches) and length of 30 feet below the ground surface can be used. Alternatively, Class 90 Standard Plan Piles (alternative V, X or Y) may also be used for retaining wall 181.

For CIDH piles, side resistance is used to provide bearing capacity. Tip resistance is ignored. At locations where environmental hazard is of concern due to vibration and noise caused by pile driving, Class 90 Standard Plan piles can be replaced with CIDH piles.

The estimated settlement for all these walls varies from 1/4 inch to about 11/2 inch and is presented in the Table 6 below.

Table 6: Geotechnical Recommendations

Structures Name / Designation	Rte 101	Structure equivalent Freeway 101 Station		Max Height (ft)	Type	Ultimate Bearing Capacity (ksf)		Settlement (in)
	Direction	Beginning Station	End Station			q_{ult}	q_{all}, FS = 3	
RW No. 134	Median	34+50.00	37+24.84	8	Type 1	14	4.7	1/4 to 1/2
RW No. 47	SB	38+74.90	49+42.69	10	Type 5	15	5.0	1/2 to 3/4
RW/SW No. 147	SB	45+98.12	50+23.65	8	Type 1SW (Std Details XS14-220e)	16	5.3	1/2 to 3/4
SW No. 63	SB	61+39.91	65+50.00	12	CIDH, 16" dia (Std Plans B15-8)			
RW/ SW No. 57	SB	51+34.61	60+55.23	12	Type 5SW (Std Details XS14-350e)	17	5.7	1 1/4 to 1 1/2
RW No. 53	SB	51+59.46	61+39.84	8	Type 1	14	4.7	1/4 to 1/2
SW No. 61	SB	60+55.23	61+68.88	12	CIDH, 16" dia (Std Plans B15-8)			
RW No. 44	NB	40+50.00	47+25.00	6	Type 5	14	4.7	1/4 to 1/3
RW No. 74	NB	63+25.00	80+45.11	8	Type 5	11	3.7	1/4 to 1/2
RW No. 90	NB	81+75.00	92+00.00	6	Type 5	10	3.3	1/4 to 1/3
RW No. 190	NB	175+99.89	184+19.87	6	Type 1	9	3.0	1/4 to 1/3
RW No. 196	NB	189+00.00	193+59.82	10	Type 1	11	3.7	1/3 to 1/2
RW No. 181	SB	195+59.60	197+74.99	16	CIDH, 24" dia or Class 90 (V,X or Y)			Length = 30 ft/ 90 kips
RW No. 260	Median	254+50.00	265+09.82	10	Type 1	8	2.7	1/4 to 3/4
RW No. 272	Median	265+09.82	294+94.85	10	Type 1	8	2.7	1/4 to 3/4
RW No. 282	Median	279+94.81	286+00.00	10	Type 1	8	2.7	1/4 to 3/4

Sign Structure

The design of the sign structure foundations are primarily governed by lateral capacity of the pile. The evaluation was performed using LPILE PLUS 5.0. The load used in the analysis were provided by the district. Below are the detailed information of the parameters used in the LPILE analysis.

- CIDH pile diameter and reinforcement details are based on Caltrans Standard Plan of May 2006.
- Embedment length of the pile has been designed to limit the lateral deflection of the pile head under 0.5 in.
- The pile top is assumed to be at the ground surface.

The lateral pile analysis for the proposed sign post foundation are tabulated in the Table 7.

Table 7: Lateral Pile Analysis

Sign Post no.	Station	Pile Diameter (in)	Pile Depth (ft.)	Bending Moment (kip-in)	Shear (kips)	Axial (kips)	Calculated deflection at pile top (in)
CMS	158+00	60	22	4464	12.2	18.7	0.16

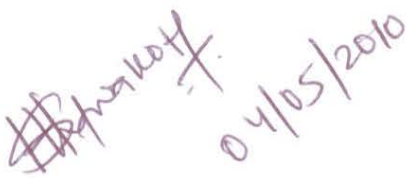
For Unbalanced Butterfly CMS Model 500 (2006 Standard Plans S101), CIDH pile foundation details (2006 Standard Plans S116) should be referred.

Construction Consideration

CIDH piles installation may be difficult due to seasonal rise in groundwater or below groundwater table, as well as caving-in of loose to medium dense sand.

Any questions regarding the above recommendations should be directed to the attention of Harihar Shiwakoti, (916) 227-5739 or Deh-Jeng Jang, (916) 227-5722 at the Office of Geotechnical Design South-1, Branch A.

Prepared by:



Harihar Shiwakoti, P.E. (C 76035)
Transportation Engineer, Civil, Branch A
cc: GS File Room
District Project Manager
Project Coordination Engineer
GS Corporate