**FOR CONTRACT NO.:05-0P3104**

# INFORMATION HANDOUT

## WATER QUALITY

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD 401 CERTIFICATION

## PERMITS

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

COASTAL DEVELOPMENT PERMIT

## MATERIALS INFORMATION

GEOTECHNICAL DESIGN REPORT DATED NOVEMBER 2007

**ROUTE: 05-Mon-1-21.2**

**DEPARTMENT OF THE ARMY**
SAN FRANCISCO DISTRICT, U.S. ARMY CORPS OF ENGINEERS
1455 MARKET STREET
SAN FRANCISCO, CALIFORNIA 94103-1398

NOV 25 2009

Regulatory Division

SUBJECT: File Number 2009-00422S

Ms. Cecilia Boudreau
California Department of Transportation
District 05 Environmental Planning
50 Higuera Street
San Luis Obispo, CA 93401

Dear Ms. Boudreau:

This letter is written in response to your submittal of October 27, 2009 concerning Department of the Army authorization for the Department of Transportation (Caltrans) to repair the rock slope protection wall at Limekiln State Beach located In Monterey County along Coast Highway 1 at Post Mile 21.1 approximately 1.92 miles south of Lucia, California. This letter authorizes Caltrans to excavate an approximate 90-foot long, 20-foot wide trench on the beach removing approximately 350 cubic yards of sand to expose bedrock. Caltrans is authorized to anchor a ring net system to the bedrock and place approximately 350 cubic yards of rock slope protection (RSP) and some of the removed sand back into the trench over the lower section of the ring net. Caltrans is authorized to collect the remaining RSP that has been moved by wave action away from the existing RSP protective wall, and to replace the RSP back onto the protective wall. Caltrans is authorized to add additional RSP as needed to bring the wall back to the size required to protect the Limekiln Creek Bridge north abutment. Caltrans is authorized to pull the remaining above ground section of ring netting over the RSP wall and anchor the netting to the larger RSP, the existing crib wall and attenuation wall on the embankment behind the RSP.

Based on a review of the information you submitted to the Corps on October 27, 2009, your project qualifies for authorization under Department of the Army Nationwide Permit 03 – Maintenance (72 Fed. Reg. 11092, March 12, 2007), pursuant to Section 404 of the Clean Water Act (33 U.S.C. Section 1344) and Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. Section 403). See Enclosure 1. All work shall be completed in accordance with the plans and drawings titled "*Draft Plans, Layout L-1, dated October 21, 2009; Rock Slope Protection & Ring Net System, Typical Cross Section X-1, Jan 27, 2009*; and *Ring Net System Construction Details C-1, dated January 30, 2009*".

The project must be in compliance with the General Conditions cited in Enclosure 2 for this Nationwide Permit authorization to remain valid. Non-compliance with any condition could result in the suspension, modification or revocation of the authorization for your project, thereby

requiring you to obtain an Individual Permit from the Corps. This Nationwide Permit authorization does not obviate the need to obtain other State or local approvals required by law.

This authorization will remain valid for two years from the date of this letter unless the Nationwide Permit is modified, suspended or revoked. If you have commenced work or are under contract to commence work prior to the suspension, or revocation of the Nationwide Permit and the project would not comply with the resulting Nationwide Permit authorization, you have 12 months from that date to complete the project under the present terms and conditions of the Nationwide Permit. Upon completion of the project and all associated mitigation requirements, you shall sign and return the Certification of Compliance, Enclosure 3, verifying that you have complied with the terms and conditions of the permit.

This authorization will not be effective until you have obtained a Section 401 water quality certification from the Central Coast Regional Water Quality Control Board (RWQCB). If the RWQCB fails to act on a valid request for certification within two months after receipt of a complete application, the Corps will presume a waiver of water quality certification has been obtained. You shall submit a copy of the certification to the Corps prior to the commencement of work.

This authorization will not be effective until you have obtained a concurrence from the Central Coast Office of the California Coastal Commission that your project will comply with California's Coastal Zone Management Act. If the Commission fails to act on a valid request for concurrence with your certification within six months after receipt, the Corps will presume a concurrence has been obtained. You shall submit a copy of the concurrence to the Corps prior to the commencement of work.

To ensure compliance with this Nationwide Permit authorization, the following special conditions shall be implemented:

1. Endangered Species Act (ESA) fencing will be placed around Limekiln Creek to prevent construction activity from entering the creek. No disturbance or work will occur adjacent to or within Limekiln Creek.

2. The contractor will be required, as part of the construction best management practices BMP's), to inspect all construction equipment for leaks prior to entering the project work area. If leaks are observed the equipment will be cleaned and free from leaks prior to entering the work area.

3. The contractor will only work on or below the high tide line (HTL) or mean high water (MHW) during low tide events and will remove all construction equipment from the jurisdictional areas prior to high tide events.

4. The contractor will be required to keep adequate quantities of absorbent spill cleanup material and spill kits on site in the event of accidentl petroleum or other chemical spill.

Should you have any questions regarding this matter, please call Hal Durio of our Regulatory Division at 415-503-6785. Please address all correspondence to the Regulatory Division and refer to the File Number at the head of this letter. If you would like to provide comments on our permit review process, please complete the Customer Survey Form available online at http://per2.nwp.usace.army.mil/survey.html.

Sincerely,

Jane M. Hicks
Chief, Regulatory Division

Enclosures

Copy furnished:

Copy furnished (w/o enclosures):

CA CC, Santa Cruz, CA
CA RWQCB, San Luis Obispo, CA

**3. *Maintenance*.**

(a) The repair, rehabilitation, or replacement of any previously authorized, currently serviceable, structure, or fill, or of any currently serviceable structure or fill authorized by 33 CFR 330.3, provided that the structure or fill is not to be put to uses differing from those uses specified or contemplated for it in the original permit or the most recently authorized modification. Minor deviations in the structure's configuration or filled area, including those due to changes in materials, construction techniques, or current construction codes or safety standards that are necessary to make the repair, rehabilitation, or replacement are authorized. This NWP authorizes the repair, rehabilitation, or replacement of those structures or fills destroyed or damaged by storms, floods, fire or other discrete events, provided the repair, rehabilitation, or replacement is commenced, or is under contract to commence, within two years of the date of their destruction or damage. In cases of catastrophic events, such as hurricanes or tornadoes, this two-year limit may be waived by the district engineer, provided the permittee can demonstrate funding, contract, or other similar delays.

(b) This NWP also authorizes the removal of accumulated sediments and debris in the vicinity of and within existing structures (e.g., bridges, culverted road crossings, water intake structures, etc.) and the placement of new or additional riprap to protect the structure. The removal of sediment is limited to the minimum necessary to restore the waterway in the immediate vicinity of the structure to the approximate dimensions that existed when the structure was built, but cannot extend further than 200 feet in any direction from the structure. This 200 foot limit does not apply to maintenance dredging to remove accumulated sediments blocking or restricting outfall and intake structures or to maintenance dredging to remove accumulated sediments from canals associated with outfall and intake structures. All dredged or excavated materials must be deposited and retained in an upland area unless otherwise specifically approved by the district engineer under separate authorization. The placement of riprap must be the minimum necessary to protect the structure or to ensure the safety of the structure. Any bank stabilization measures not directly associated with the structure will require a separate authorization from the district engineer.

(c) This NWP also authorizes temporary structures, fills, and work necessary to conduct the maintenance activity. 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 preconstruction elevations. The areas affected by temporary fills must be revegetated, as appropriate.

(d) This NWP does not authorize maintenance dredging for the primary purpose of navigation or beach restoration. This NWP does not authorize new stream channelization or stream relocation projects.

*Notification*: For activities authorized by paragraph (b) of this NWP, the permittee must submit a preconstruction notification to the district engineer prior to commencing the activity (see general condition 27). Where maintenance dredging is proposed, the pre-construction notification must

include information regarding the original design capacities and configurations of the outfalls, intakes, small impoundments, and canals. (Sections 10 and 404)

**Note**: This NWP authorizes the repair, rehabilitation, or replacement of any previously authorized structure or fill that does not qualify for the Clean Water Act Section 404(f) exemption for maintenance.

## *Enclosure 2 - Nationwide Permit General Conditions* (March 12, 2007)

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

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

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

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

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

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

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

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

8. *Adverse Effects From Impoundments.* If the activity creates an impoundment of water, adverse effects to the aquatic system due to accelerating the passage of water, and/or restricting its flow must be minimized to the maximum extent practicable.

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

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

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

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

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

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

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

16. *Tribal Rights.* No activity or its operation may impair reserved tribal

rights, including, but not limited to, reserved water rights and treaty fishing and hunting rights.

17. *Endangered Species.* (a) No activity is authorized under any NWP which is likely to jeopardize the continued existence of a threatened or endangered species or a species proposed for such designation, as identified under the Federal Endangered Species Act (ESA), or which will destroy or adversely modify the critical habitat of such species. No activity is authorized under any NWP which ''may affect'' a listed species or critical habitat, unless Section 7 consultation addressing the effects of the proposed activity has been completed.
(b) Federal agencies should follow their own procedures for complying with the requirements of the ESA. Federal permittees must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements.
(c) Non-federal permittees shall notify the district engineer if any listed species or designated critical habitat might be affected or is in the vicinity of the project, or if the project is located in designated critical habitat, and shall not begin work on the activity until notified by the district engineer that the requirements of the ESA have been satisfied and that the activity is authorized. For activities that might affect Federally-listed endangered or threatened species or designated critical habitat, the pre-construction notification must include the name(s) of the endangered or threatened species that may be affected by the proposed work or that utilize the designated critical habitat that may be affected by the proposed work. The district engineer will determine whether the proposed activity ''may affect'' or will have ''no effect'' to listed species and designated critical habitat and will notify the non-Federal applicant of the Corps' determination within 45 days of receipt of a complete pre-construction notification. In cases where the non-Federal applicant has identified listed species or critical habitat that might be affected or is in the vicinity of the project, and has so notified the Corps, the applicant shall not begin work until the Corps has provided notification the proposed activities will have ''no effect'' on listed species or critical habitat, or until Section 7 consultation has been completed.
(d) As a result of formal or informal consultation with the FWS or NMFS the district engineer may add 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.
(c) Non-federal permittees must submit a pre-construction notification to the district engineer if the authorized activity may have the potential to cause effects to any historic properties listed, determined to be eligible for listing on, or potentially eligible for listing on the National Register of Historic Places, including previously unidentified properties. For such activities, the preconstruction notification must state which historic properties may be affected by the proposed work or include a vicinity map indicating the location of the historic properties or the potential for the presence of historic properties. Assistance regarding information on the location of or potential for the presence of historic resources can be sought from the State Historic Preservation Officer or Tribal Historic Preservation Officer, as appropriate, and the National Register of Historic Places (see 33 CFR 330.4(g)). The district engineer shall make a reasonable and good faith effort to carry out appropriate identification efforts, which may include background research, consultation, oral history interviews, sample field investigation, and field survey. Based on the information submitted and these efforts, the district engineer shall determine whether the proposed activity has the potential to cause an effect on the historic properties. Where the non-Federal applicant has identified historic properties which the activity may have the potential to cause effects and so notified the Corps, the non-Federal applicant shall not begin the activity until notified by the district engineer either that the activity has no potential to cause effects or that consultation under Section 106 of the NHPA has been completed.
(d) The district engineer will notify the prospective permittee within 45 days of receipt of a complete preconstruction notification whether NHPA Section 106 consultation is required. Section 106 consultation is not required when the Corps determines that the activity does not have the potential to cause effects on historic properties (see 36 CFR 800.3(a)). If NHPA section 106 consultation is required and will occur, the district engineer will notify the non-Federal applicant that he or she cannot begin work until Section 106 consultation is completed.
(e) Prospective permittees should be aware that section 110k of the NHPA (16 U.S.C. 470h–2(k)) prevents the Corps from granting a permit or other assistance to an applicant who, with intent to avoid the requirements of Section 106 of the NHPA, has intentionally significantly adversely affected a historic property to which the permit would relate, or having legal power to prevent it, allowed such significant adverse effect to occur, unless the Corps, after consultation with the Advisory Council on Historic Preservation (ACHP), determines that circumstances justify granting such assistance despite the adverse effect created or permitted by the applicant. If

circumstances justify granting the assistance, the Corps is required to notify the ACHP and provide documentation specifying the circumstances, explaining the degree of damage to the integrity of any historic properties affected, and proposed mitigation. This documentation must include any views obtained from the applicant, SHPO/THPO, appropriate Indian tribes if the undertaking occurs on or affects historic properties on tribal lands or affects properties of interest to those tribes, and other parties known to have a legitimate interest in the impacts to the permitted activity on historic properties.

19. *Designated Critical Resource Waters.* Critical resource waters include, NOAA-designated marine sanctuaries, National Estuarine Research Reserves, state natural heritage sites, and outstanding national resource waters or other waters officially designated by a state as having particular environmental or ecological significance and identified by the district engineer after notice and opportunity for public comment. The district engineer may also designate additional critical resource waters after notice and opportunity for comment.
(a) Discharges of dredged or fill material into waters of the United States are not authorized by NWPs 7, 12, 14, 16, 17, 21, 29, 31, 35, 39, 40, 42, 43, 44, 49, and 50 for any activity within, or directly affecting, critical resource waters, including wetlands adjacent to such waters.
(b) For NWPs 3, 8, 10, 13, 15, 18, 19, 22, 23, 25, 27, 28, 30, 33, 34, 36, 37, and 38, notification is required in accordance with general condition 27, for any activity proposed in the designated critical resource waters including wetlands adjacent to those waters. The district engineer may authorize activities under these NWPs only after it is determined that the impacts to the critical resource waters will be no more than minimal.

20. *Mitigation.* The district engineer will consider the following factors when determining appropriate and practicable mitigation necessary to ensure that adverse effects on the aquatic environment are minimal:
(a) The activity must be designed and constructed to avoid and minimize adverse effects, both temporary and permanent, to waters of the United States to the maximum extent practicable at the project site (i.e., on site).
(b) Mitigation in all its forms (avoiding, minimizing, rectifying, reducing, or compensating) will be required to the extent necessary to ensure that the adverse effects to the aquatic environment are minimal.
(c) Compensatory mitigation at a minimum one-for-one ratio will be required for all wetland losses that exceed 1/10 acre and require preconstruction notification, unless the district engineer determines in writing that some other form of mitigation would be more environmentally appropriate and provides a projectspecific 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 activityspecific compensatory mitigation. In all cases, the mitigation provisions will specify the party responsible for accomplishing and/or complying with the mitigation plan.
(h) Where certain functions and services of waters of the United States are permanently adversely affected, such as the conversion of a forested or scrub-shrub wetland to a herbaceous wetland in a permanently maintained utility line right-of-way, mitigation may be required to reduce the adverse effects of the project to the minimal level.

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

22. *Coastal Zone Management.* In coastal states where an NWP has not previously received a state coastal zone

management consistency concurrence, an individual state coastal zone management consistency concurrence must be obtained, or a presumption of concurrence must occur (see 33 CFR 330.4(d)). The district engineer or a State may require additional measures to ensure that the authorized activity is consistent with state coastal zone management requirements.

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

24. *Use of Multiple Nationwide Permits.* The use of more than one NWP for a single and complete project is prohibited, except when the acreage loss of waters of the United States authorized by the NWPs does not exceed the acreage limit of the NWP with the highest specified acreage limit. For example, if a road crossing over tidal waters is constructed under NWP 14, with associated bank stabilization authorized by NWP 13, the maximum acreage loss of waters of the United States for the total project cannot exceed ⅓-acre.

25. *Transfer of Nationwide Permit Verifications.* If the permittee sells the property associated with a nationwide permit verification, the permittee may transfer the nationwide permit verification to the new owner by submitting a letter to the appropriate Corps district office to validate the transfer. A copy of the nationwide permit verification must be attached to the letter, and the letter must contain the following statement and signature: "When the structures or work authorized by this nationwide permit are still in existence at the time the property is transferred, the terms and conditions of this nationwide permit, including any special conditions, will continue to be binding on the new owner(s) of the property. To validate the transfer of this nationwide permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below."

(Transferee)_____
(Date) _____

26. *Compliance Certification.* Each permittee who received an NWP verification from the Corps must submit a signed certification regarding the completed work and any required mitigation. The certification form must be forwarded by the Corps with the NWP verification letter and will include:
(a) A statement that the authorized work was done in accordance with the NWP authorization, including any general or specific conditions;
(b) A statement that any required mitigation was completed in accordance with the permit conditions; and
(c) The signature of the permittee certifying the completion of the work and mitigation.

27. *Pre-Construction Notification.* (a) *Timing.* Where required by the terms of the NWP, the prospective permittee must notify the district engineer by submitting a pre-construction notification (PCN) as early as possible. The district engineer must determine if the PCN is complete within 30 calendar days of the date of receipt and, as a general rule, will request additional information necessary to make the PCN complete only once. However, if the prospective permittee does not provide all of the requested information, then the district engineer will notify the prospective permittee that the PCN is still incomplete and the PCN review process will not commence until all of the requested information has been received by the district engineer. The prospective permittee shall not begin the activity:
(1) Until notified in writing by the district engineer that the activity may proceed under the NWP with any special conditions imposed by the district or division engineer; or
(2) If 45 calendar days have passed from the district engineer's receipt of the complete PCN and the prospective permittee has not received written notice from the district or division engineer. However, if the permittee was required to notify the Corps pursuant to general condition 17 that listed species or critical habitat might be affected or in the vicinity of the project, or to notify the Corps pursuant to general condition 18 that the activity may have the potential to cause effects to historic properties, the permittee cannot begin the activity until receiving written notification from the Corps that is "no effect" on listed species or "no potential to cause effects" on historic properties, or that any consultation required under Section 7 of the Endangered Species Act (see 33 CFR 330.4(f)) and/or Section 106 of the National Historic Preservation (see 33 CFR 330.4(g)) is completed. Also, work cannot begin under NWPs 21, 49, or 50 until the permittee has received written approval from the Corps. If the proposed activity requires a written waiver to exceed specified limits of an NWP, the permittee cannot begin the activity until the district engineer issues the waiver. If the district or division engineer notifies the permittee in writing that an individual permit is required within 45 calendar days of receipt of a complete PCN, the permittee cannot begin the activity until an individual permit has been obtained. Subsequently, the permittee's right to proceed under the NWP may be modified, suspended, or revoked only in accordance with the procedure set forth in 33 CFR 330.5(d)(2).
(b) *Contents of Pre-Construction Notification:* The PCN must be in writing and include the following information:
(1) Name, address and telephone numbers of the prospective permittee;
(2) Location of the proposed project;
(3) A description of the proposed project; the project's purpose; direct and indirect adverse environmental effects the project would cause; any other NWP(s), regional general permit(s), or individual permit(s) used or intended to be used to authorize any part of the proposed project or any related activity. The description should be sufficiently detailed to allow the district engineer to determine that the adverse effects of the project will be minimal and to determine the need for compensatory mitigation. Sketches should be provided when necessary to show that the activity complies with the terms of the NWP. (Sketches usually clarify the project and when provided result in a quicker decision.);
(4) The PCN must include a delineation of special aquatic sites and other waters of the United States on the

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

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

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

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

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

(d) *Agency Coordination:* (1) The district engineer will consider any comments from Federal and state agencies concerning the proposed activity's compliance with the terms and conditions of the 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 intend to provide substantive, site-specific comments. If so contacted by an agency, the district engineer will wait an additional 15 calendar days before making a decision on the preconstruction notification. The district engineer will fully consider agency comments received within the specified time frame, but will provide no response to the resource agency, except as provided below. The district engineer will indicate in the administrative record associated with each preconstruction notification that the resource agencies' concerns were considered. For NWP 37, the emergency watershed protection and rehabilitation activity may proceed immediately in cases where there is an unacceptable hazard to life or a significant loss of property or economic hardship will occur. The district engineer will consider any comments received to decide whether the NWP 37 authorization should be modified, suspended, or revoked in accordance with the procedures at 33 CFR 330.5.

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

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

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

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

consideration of the compensatory mitigation proposal) are determined by the district engineer to be minimal, the district engineer will provide a timely written response to the applicant. The response will state that the project can proceed under the terms and conditions of the NWP.

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

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

**Enclosure 3**

Permittee: California Department of Transportation

File Number: 2009-00422S

**Certification of Compliance**
**for**
**Nationwide Permit**

"I hereby certify that the work authorized by the above referenced File Number and all required mitigation have been completed in accordance with the terms and conditions of this Nationwide Permit authorization."

_____ _____

(Permittee) (Date)

Return to:

Hal Durio
U.S. Army, Corps of Engineers
San Francisco District
Regulatory Division, CESPN-OR-R
1455 Market Street
San Francisco, CA 94103-1398

California Coastal Commission

# COASTAL DEVELOPMENT PERMIT

## CDP 3-09-020(Limekiln Beach Rock Slope Protection Project)

**Issue Date: December 17, 2009**



Coastal development permit (CDP) number 3-09-020 was approved by the California Coastal Commission on December 11, 2009. CDP 3-09-020 provides for the modification of existing rock slope protection including through installing new flexible ring-net gabion baskets adjacent to existing seawall/cribwall to protect Highway 1 and the Limekiln Creek Bridge. Project includes approximately 1,214 cubic yards of rock "fill" for the gabions and voids, including rock to be salvaged from prior armoring projects that have failed. The maximum dimensions of modified revetment affected will be 29 feet high, 41.5 feet wide, and 90 feet long, within Limekiln State Park, at the toe of slope and along the north end of Limekiln Beach, seaward side of Limekiln Creek Bridge, State Highway Route 1 (P.M. 21.1), in the Big Sur Coast Area of Monterey County (all as more specifically described in the Commission's CDP file). CDP 3-09-020 is subject to certain terms and conditions, including the standard and special conditions beginning on page 2 of this CDP.

The CDP can now be issued. Thus, by my signature below, the CDP is issued on behalf of the California Coastal Commission:

12/17/2009

Dan Carl, Central Coastal District Manager for Peter M. Douglas, Executive Director

Acknowledgement

The undersigned Permittees acknowledge receipt of this coastal development permit and agree to abide by all terms and conditions thereof. The undersigned Permittees acknowledge that Government Code Section 818.4 (that states in pertinent part that "a public entity is not liable for injury caused by the issuance of any permit") applies to the issuance of this coastal development permit.

Permittee: Caltrans

01/07/10

Date

Please note that this coastal development permit is not valid unless and until a copy of it with the signed acknowledgement has been returned to the California Coastal Commission's Central Coast District Office (14 Cal. Admin. Code Section 13158(a)).

## A. Standard Conditions

1. **Notice of Receipt and Acknowledgment.** The permit is not valid and development shall not commence until a copy of the permit, signed by the Permittee or authorized agent, acknowledging receipt of the permit and acceptance of the terms and conditions, is returned to the Commission office.
2. **Expiration.** If development has not commenced, the permit will expire two years from the date on which the Commission voted on the application. Development shall be pursued in a diligent manner and completed in a reasonable period of time. Application for extension of the permit must be made prior to the expiration date.
3. **Interpretation.** Any questions of intent or interpretation of any condition will be resolved by the Executive Director or the Commission.
4. **Assignment.** The permit may be assigned to any qualified person, provided assignee files with the Commission an affidavit accepting all terms and conditions of the permit.
5. **Terms and Conditions Run with the Land.** These terms and conditions shall be perpetual, and it is the intention of the Commission and the Permittee to bind all future owners and possessors of the subject property to the terms and conditions.

## B. Special Conditions

**Construction Plan.** PRIOR TO COMMENCEMENT OF CONSTRUCTION, the Permittee shall submit two sets of a Construction Plan to the Executive Director for review and approval. The Construction Plan shall, at a minimum, include the following:

(a) **Construction Areas.** The Construction Plan shall identify the specific location of all construction areas, all staging areas, all storage areas, all construction access corridors (to the construction site and staging areas), and all public pedestrian access corridors. All such areas within which construction activities and/or staging are to take place shall be consolidated to the maximum extent feasible in order to limit construction encroachment on the beach, to maintain a clear beach access corridor, to minimize disruption of the campground, to avoid Limekiln Creek, and to have the least impact on public access (assuming the park is otherwise open during the construction period) and habitat overall.

(b) **Construction Methods and Timing.** The Construction Plan shall specify the construction methods to be used, including all methods to be used to keep the construction areas separated from public recreational use and habitat areas (including the use of security fencing including or equivalent measures to delineate construction exclusion areas). All erosion control/water quality

best management practices to be implemented during construction and their location shall be noted.

(c) **Property Owner (State Parks) Consent.** The Construction Plan shall be undertaken in accordance with the submitted State Park Right of Entry Permit, executed August 31, 2009. Any proposed changes or amendments to this State Park Right of Entry Permit shall be submitted for Executive Director review, along with written evidence indicating that State Parks has consented to such changes. This requirement applies to use of any State Park properties on which construction activities are to take place, including properties to be crossed in accessing the site. No changes to the approved project shall occur without a Commission amendment to this coastal development permit unless the Executive Director determines that no amendment is legally necessary.

(d) **Construction Requirements.** The Construction Plan applies to initial installation of the modified revetment, as well as maintenance of the overall permitted shoreline armoring system at this location (i.e., revetment, seawall/cribwall, splash apron, drainage, and associated landscaping). The Construction Plan shall include the following construction requirements specified by written notes on the Construction Plan. Minor adjustments to the following construction requirements may be allowed by the Executive Director if such adjustments: (1) are deemed reasonable and necessary; and (2) do not adversely impact coastal resources.

- All work shall take place during daylight hours and floodlighting of the beach area is prohibited.
- Construction work or equipment operations shall not be conducted below the mean high tide line unless tidal waters have receded from the authorized work areas.
- Grading and excavation of intertidal areas is prohibited, except for the minimum necessary to establish the keyway for the permitted armoring project. Retrieval of fugitive armor rock is limited to that which can be accomplished without substantial excavation.
- Only rubber-tired construction vehicles are allowed on the beach, except track vehicles may be used if the Executive Director agrees that they are required to safely carry out construction or rock retrieval. When transiting on the beach, all such vehicles shall remain as high on the upper beach as possible and avoid contact with ocean waters and intertidal areas when feasible.
- In order to minimize contamination risk to the marine environment, hydraulic fluids in such vehicles shall be specified as biodegradable (to the extent feasible and consistent with appropriate equipment maintenance practices).
- All construction materials and equipment placed on the beach during daylight construction hours shall be stored beyond the reach of tidal waters. Except for armoring rock, all loose construction materials and equipment shall be removed in their entirety from the beach area by sunset each day that work occurs. The only other exceptions shall be for erosion and

sediment controls and/or construction area temporary boundary fencing where such controls and/or fencing have been previously approved by State Parks.

- Construction (including but not limited to construction activities, and materials and/or equipment storage) is prohibited outside of the defined construction, staging, and storage areas.

- When the State Park is open, no work that would potentially interfere with public use of the beach area southwards of Limekiln Creek shall be allowed. Similarly, no work that would reduce the available beach parking or camping opportunities shall occur during weekends and/or the summer peak months (i.e., from the Saturday of Memorial Day weekend through Labor Day, inclusive), other than the approved staging area. In event of extenuating circumstances (such as tidal issues or other environmental concerns), exceptions may be allowed if both State Parks and the Executive Director authorize such work.

- Equipment washing, servicing, and refueling shall not take place on the beach, and shall only be allowed at a designated inland location as noted on the Plan. Appropriate best management practices shall be used to ensure that no spills of petroleum products or other chemicals take place during these activities.

- The construction site shall maintain good construction site housekeeping controls and procedures (e.g., clean up all leaks, drips, and other spills immediately; keep materials covered and out of the rain, including covering exposed piles of soil and wastes; dispose of all wastes properly, place trash receptacles on site for that purpose, and cover open trash receptacles during wet weather; remove all construction debris from the beach; etc.).

- For any portion of the project where the existing soil surface is disturbed, all erosion and sediment controls shall be in place prior to the commencement of construction as well as at the end of each workday. At a minimum, with respect to such disturbed areas, silt fences, or equivalent apparatus, shall be installed at the perimeter of the construction site to prevent construction-related runoff and/or unwanted sediment from entering into Limekiln Creek or the Pacific Ocean.

- All beach areas and all beach access points impacted by construction activities shall be restored to their pre-construction condition or better within three days of completion of construction. Any beach sand impacted shall be filtered or screened as necessary to remove all construction debris from the beach.

- The Permittee shall notify planning staff of the Coastal Commission's Central Coast District Office at least three working days in advance of commencement of construction or maintenance activities, and immediately upon completion of construction or maintenance activities.

All requirements above and all requirements of the approved Construction Plan shall be enforceable components of this coastal development permit. The Permittee shall undertake development in

accordance with the approved Construction Plan. Any proposed changes to the Construction Plan shall be reported to the Executive Director. No changes to the approved Construction Plan shall occur without a Commission amendment to this permit unless the Executive Director determines that no amendment is legally necessary.

2. **Construction Site Documents & Construction Coordinator.** DURING ALL CONSTRUCTION:

   **(a) Construction Site Documents.** Copies of the signed coastal development permit and the approved Construction Plan shall be maintained in a conspicuous location at the construction job site or at the beach access trailhead (at all times the park is open to the public), and such copies shall be available for public review on request. All persons involved with the construction shall be briefed on the content and meaning of the coastal development permit and the approved Construction Plan, and the public review requirements applicable to them, prior to commencement of construction.

   **(b) Construction Coordinator.** A construction coordinator shall be designated to be contacted during construction should questions arise regarding the construction (in case of both regular inquiries and emergencies), and their contact information (i.e., address, phone numbers, etc.) including, at a minimum, a telephone number that will be made available 24 hours a day for the duration of construction, shall be conspicuously posted at the job site where such contact information is readily visible from public viewing areas, along with indication that the construction coordinator should be contacted in the case of questions regarding the construction (in case of both regular inquiries and emergencies). The construction coordinator shall record the name, phone number, and nature of all complaints received regarding the construction, and shall investigate complaints and take remedial action, if necessary, within 24 hours of receipt of the complaint or inquiry.

3. **Aesthetic Treatment Measures**. WITHIN TWO (2) MONTHS OF ISSUANCE OF THIS COASTAL DEVELOPMENT PERMIT, the Permittee shall submit, for review and approval by the Executive Director, an aesthetic treatment plan to mitigate the visual impact of man-made shoreline protection structures in this highly scenic area. The overall mitigation objective is to evoke natural colors, textures and surface undulations appropriate to this beach area and State Park context, to the maximum extent feasible. Proposed measures for this purpose shall be of a nature that can be left in place, or can be readily removed if need be upon future removal of the permitted rock slope protection structure(s).

   At minimum, all exposed concrete surfaces and incongruously-colored imported rock, whether within or immediately adjoining the permitted rock slope protection structure, shall be colored or stained to mimic the naturally-occurring rock seen in surrounding natural bluff faces.

   Similarly, the visual impact of the existing concrete splash apron, above-surface downdrain culvert pipes, and other incongruous lineal elements associated with the permitted rock slope protection structure, shall be reduced, to the extent feasible. Examples of appropriate measures for consideration include trenching to bury pipes, covering with earthen materials, installation of native

plantings, contouring, and texturing to increase visual roughness. In determining feasibility, the limited duration of the improvements authorized by this permit shall be considered.

All approved measures shall be in place WITHIN THREE MONTHS OF PLACEMENT OF THE PERMITTED ROCK SLOPE PROTECTION or PRIOR TO SCHEDULED RE-OPENING OF THE PARK, whichever is later.

4. **As -Built Plans.** WITHIN THREE (3) MONTHS OF COMPLETION OF CONSTRUCTION, the Permittee shall submit two copies of As-Built Plans showing all development completed pursuant to this coastal development permit; all property lines; and all highway structures inland of the existing and permitted revetment structures. The As-Built Plans shall be substantially consistent with the submitted project plans . The As-Built Plans shall include a graphic scale and all elevation(s) shall be described in relation to National Geodetic Vertical Datum (NGVD). The As-Built Plans shall include color photographs (in hard copy and jpg format) that clearly show the as-built project, and that are accompanied by a site plan that notes the location of each photographic viewpoint and the date and time of each photograph. At a minimum, the photographs shall be from upcoast, seaward, and downcoast viewpoints, seen from the edge of the highway; and from a sufficient number of beach viewpoints as to provide complete photographic coverage of the permitted and existing revetments. Such photographs shall be at a scale that allows comparisons to be made with the naked eye between photographs taken in different years and from the same vantage points; recordation of GPS coordinates would be desirable for this purpose. The As-Built Plans shall be submitted with certification by a licensed civil engineer with experience in coastal structures and processes, acceptable to the Executive Director, verifying that the revetment has been constructed in conformance with the submitted project plans.

5. **Future Monitoring and Maintenance.** This coastal development permit requires ongoing monitoring of the overall permitted shoreline armoring system at this location (i.e., revetment, seawall/cribwall, splash apron, drainage, and associated landscaping), and authorizes future maintenance as described in this special condition. The Permittee acknowledges and agrees on behalf of Caltrans and all successors and assigns that: (a) it is Caltrans' responsibility to maintain the overall permitted shoreline armoring system in a structurally sound manner and in its approved state; (b) it is Caltrans' responsibility to retrieve loose armor rock that might otherwise substantially impair the recreational qualities of Limekiln Beach; and (c) it is Caltrans' responsibility to annually or more often inspect the overall permitted shoreline armoring system for signs of failure and/or displaced armor rock. Any such maintenance-oriented development associated with the approved as-built overall permitted shoreline armoring system shall be subject to the following:

   **(a) Construction Site Documents.** Copies of the signed coastal development permit and the approved Construction Plan shall be maintained in a conspicuous location at the construction job site or at the beach access trailhead (at all times the park is open to the public), and such copies shall be available for public review on request. All persons involved with the construction shall be briefed on the content and meaning of the coastal development permit and the approved Construction Plan, and the public review requirements applicable to them, prior to commencement of construction.

**(b) Maintenance.** "Maintenance," as it is understood in this condition, means development that would otherwise require a coastal development permit whose purpose is to repair and/or maintain the overall permitted shoreline armoring system in its approved configuration, including retrieval of armor rock that may be displaced from the approved structure.

**(c) Maintenance Parameters.** Maintenance shall only be allowed subject to the parameters of the approved Construction Plan required by Special Condition 1, above. Any proposed modifications to the approved construction plan and/or beach restoration requirements associated with any maintenance event shall be reported to planning staff of the Coastal Commission's Central Coast District Office with the maintenance notification (described below), and such changes shall require a coastal development permit amendment unless the Executive Director deems the proposed modifications to be minor in nature (i.e., the modifications would not result in additional coastal resource impacts).

**(d) Other Agency Approvals.** The Permittee acknowledges that these maintenance stipulations do not obviate the need to obtain permits from other agencies for any future maintenance and/or repair episodes.

**(e) Maintenance Notification.** Prior to commencing any maintenance event, the Permittee shall notify, in writing, planning staff of the Coastal Commission's Central Coast District Office. Except for necessary emergency interventions, such notice shall be given by regular mail or e-mail at least two weeks in advance of the actual commencement of work. The notification shall include a detailed description of the maintenance event proposed, and shall include any plans, engineering and/or geology reports, proposed changes to the maintenance parameters, other agency authorizations, and other supporting documentation describing the maintenance event. The maintenance event shall not commence until the Permittee has been informed by planning staff of the Coastal Commission's Central Coast District Office that the maintenance event complies with this coastal development permit. If the Permittee has not received a response within 30 days of receipt of the notification by the Coastal Commission's Central Coast District Office, the maintenance event shall be authorized as if planning staff affirmatively indicated that the event complies with this coastal development permit. The notification shall clearly indicate that the maintenance event is proposed pursuant to this coastal development permit, and that the lack of a response to the notification within 30 days of its receipt constitutes approval of it as specified in the permit.

**(f) Maintenance Coordination.** Maintenance events shall, to the degree feasible, be coordinated with State Parks, with the goal being to limit coastal resource impacts, including the length of time that construction occurs in and around the beach area and beach access points at Limekiln Beach.

**(g) Non-compliance Proviso.** If the Permittee is not in compliance with the conditions of this permit at the time that a maintenance event is proposed, then the maintenance event that might otherwise be allowed by the terms of this future maintenance condition may not be allowed by this condition, subject to determination by the Executive Director.

**(h) Emergency.** Nothing in this condition shall serve to waive any Permittee rights that may exist in cases of emergency pursuant to Coastal Act Section 30611, Coastal Act Section 30624, and Subchapter 4 of Chapter 5 of Title 14, Division 5.5, of the California Code of Regulations (Permits for Approval of Emergency Work).

**(i) Duration of Covered Maintenance.** Future maintenance under this coastal development permit is allowed subject to the above terms for TEN (10) YEARS FROM THE DATE OF PERMIT ISSUANCE. Maintenance can be carried out beyond the 10-year period if the Executive Director extends the maintenance term in writing. The intent of this permit is to regularly allow for 10-year extensions of the maintenance term unless there are changed circumstances that may affect the consistency of this maintenance authorization with the policies of Chapter 3 of the Coastal Act and thus warrant a re-review of this permit.

6. **MBNMS Review and authorization.** PRIOR TO COMMENCEMENT OF CONSTRUCTION, the Permittees shall submit to the Executive Director for review a copy of the Monterey Bay National Marine Sanctuary (MBNMS) permit, letter of permission, or evidence that no MBNMS permit is necessary for the approved project. Any changes to the approved project required by the Sanctuary shall be reported to the Executive Director. No changes to the approved project shall occur without a Commission amendment to this coastal development permit unless the Executive Director determines that no amendment is legally necessary.

7. **State Lands Commission Authorization.** PRIOR TO COMMENCEMENT OF CONSTRUCTION, the Permittee shall submit to the Executive Director for review a copy of the State Lands Commission authorization to allow the approved project, or evidence that no State Lands Commission authorization is necessary. Any changes to the approved project required by the State Lands Commission shall be reported to the Executive Director. No changes to the approved project shall occur without a Commission amendment to this coastal development permit unless the Executive Director determines that no amendment is legally necessary.

8. **Public Acc ess/Sand Supply Mitigation.**

**(a) Beach Access.** A continuously available pedestrian beach access route that is safely separated from construction equipment movements by temporary fencing parallel to and set back from Limekiln Creek shall be provided during the construction period.

**(b) Rock Retrieval.** All rock located on the beach that is not located within the existing permitted configuration of the revetment shall be removed as part of project construction (except for deeply embedded rock, the removal of which would substantially disrupt the beach).

**(c) Construction Restoration.** All beach areas, equipment access routes, and campground areas impacted by permitted construction activities shall be restored to their pre-construction condition or better immediately following revetment completion.

**(d) State Parks Improvements.** Prior to commencement of construction, the Permittee shall pay $18,900 to State Parks to fund in-kind recreational improvements including but not limited to

rehabilitation and improvement of the State Park entrance road, campsites, beach trailhead parking area and associated restroom facilities, picnic tables, trails, interpretive signage, and the useable sandy beach itself.

(e) **Right of Entry Permit.** The permitted development shall be completed in accordance with the submitted State Park Right of Entry Permit, executed August 31, 2009. Any proposed changes or amendments to this State Park Right of Entry Permit shall be submitted for Executive Director review, along with written evidence indicating that State Parks has consented to such changes. This requirement applies to use of any State Park properties on which construction activities are to take place, including properties to be crossed in accessing the site. No changes to the approved project shall occur without a Commission amendment to this coastal development permit unless the Executive Director determines that no amendment is legally necessary.

9. **Ter m of Permit/Armoring Removal**. This coastal development permit SHALL EXPIRE TEN YEARS FOLLOWING ISSUANCE.

   Further, in order to assure orderly progress towards a long range solution to shoreline erosion at Limekiln Beach, Permittee shall submit to the Executive Director a progress report that confirms that the project development process is proceeding in the manner outlined by the Timeline attached as Exhibit G. Such report shall be submitted to the Executive Director for confirmation FIVE YEARS AFTER PERMIT ISSUANCE. Extension of this report submittal date or permit expiration date may be requested prior to the expiration date through the procedures for amendments to coastal development permits.

   All shoreline armoring at this location (i.e., revetment, seawall/cribwall, splash apron, and drainage), including all imported rock, metal and concrete shall be removed and the affected area restored to natural bluff and beach conditions by the expiration date of this permit, or upon completion of the identified long term highway protection measures, whichever occurs first. The Permittee shall submit, for Executive Director review and approval, a reclamation plan for such purposes PRIOR TO EXPIRATION OF THIS PERMIT. The required reclamation plan shall include environmentally sensitive area protective fencing, water quality best management practices, and all other applicable resource protection measures as were approved for the Construction Plan (to be submitted in accordance with Special Condition 1 above). Upon completion, Permittee shall provide written evidence from State Parks that the reclamation work has satisfactorily restored the bluff and beach to a natural condition, including restoring the beach area so that it is suitable and appropriate for public recreational use.

10. **Assumption of Risk, Waiver of Liability, and Indemnity Agreement.** By acceptance of this permit, the Permittee acknowledges and agrees on behalf of themselves and all successors and assigns:

**(a)** That the site is subject to extreme coastal hazards including but not limited to episodic and long-term shoreline retreat and coastal erosion, high seas, ocean waves, storms, tsunami, coastal flooding, landslides, bluff and geologic instability, and the interaction of same;

**(b)** To assume the risks to the Permittee and the property that is the subject of this permit of injury and damage from such hazards in connection with this permitted development;

**(c)** To unconditionally waive any claim of damage or liability against the Commission, its officers, agents, and employees for injury or damage from such hazards;

**(d)** To indemnify and hold harmless the Commission, its officers, agents, and employees with respect to the Commission's approval of the project against any and all liability, claims, demands, damages, costs (including costs and fees incurred in defense of such claims), expenses, and amounts paid in settlement arising from any injury or damage due to such hazards; and,

**(e)** That any adverse effects to property caused by the permitted project shall be fully the responsibility of the Permittee.

State of California

Business, Transportation and Housing Agency

# Memorandum

To : MR.JIM PERANO – Design Manager
Project Design

Attention: Mark Ballentine

Date : November 19, 2007

File No. : 05-MON-001-PM 21.1
05-0P3100

From : **DEPARTMENT OF TRANSPORTATION**
**Division of Engineering Services**
**Geotechnical Services**

Subject : Geotechnical Design Report

## Introduction

This project proposes to reduce or eliminate the maintenance of the rock slope protection and concrete crib walls that protect the northern spans of the Limekiln Creek Bridge and its northern roadway approach (Attachment 1). Wave action is causing deterioration of the concrete crib wall founded on the beach, eroding the soil slope above the crib wall, and the rock slope protection immediately to the north of the crib wall (Photo 1). Periodic intensive maintenance is necessary to assure the continued functioning of the shore protection facilities. The project was initiated by Caltrans District 5 personnel to address the rapidly deteriorating shore protection that supports the bridge abutment. The project includes proposals to reduce the energy of incoming waves. The purpose of this report is to provide recommendations for shoreline protection at the northern abutment of the Limekiln Creek Bridge.

## Pertinent Reports and Investigations

This investigation consisted of a review of previous surface and subsurface exploration, which was used to evaluate the nature and extent of the geologic and geotechnical conditions. Surface exploration consisted of mapping general geologic conditions and surficial distributions of geologic materials and structure. Subsurface exploration consisted of a review of previous boring logs and geophysical studies. The following publications were also reviewed to assist in the assessment of site conditions:

Geologic Map of California, San Luis Obispo Sheet, Division of Mines, Olaf P. Jenkins edition, 1958.

California Seismic Hazard Map 1996, Caltrans, Lalliana Mualchin, July 1996.

Foundation Report, 05-Mon-001-PM21.2, Rain Rocks Viaduct, Office of Structural Foundations, Engineering Service Center, California Department of Transportation, May 30, 1995.

Materials Information in Monterey County near Lucia from Limekiln Creek Bridge to 0.5 Mile North (Rain Rocks), 05-Mon-001-PM21.2, Rains Rocks Viaduct, California Department of Transportation, District 5, June 12, 1995

Landslides in the Highway 1 Corridor: Geology and Slope Stability along the Coast Between Point Lobos and San Carporfora Creek, Monterey and San Luis Obispo Counties, California, California Department of Conservation, Division of Mines and Geology, Wills, C.J., Manson, M.W., Brown, K.D., Davenport, C.W., Domrose, C.J., August 2001.

Alternatives, 05-Mon-1-(21.0PM, Contract # 05-0J040K, California Department of Transportation, Division of Engineering Services, Geotechnical Services, December 4, 2002.

Geotechnical Recommendations and Estimate, 05-Mon-1-KP33.9(21.0PM), Contract # 05-0J040K, California Department of Transportation, Division of Engineering Services, Geotechnical Services, June 16, 2003.

Proposed Project Overview, 05-Mon-1-KP33.9(21.0PM), Contract # 05-0J040K, California Department of Transportation, Design Branch U Project Development Division, July 1, 2003.

Preliminary Structure Foundation report, 05-Mon-1-KP33.9(21.0PM), Contract # 05-0J040K, California Department of Transportation, Division of Engineering Services, Geotechnical Services, September 11, 2003.

Crib Wall at Lime Kiln Creek, Pacific Coast Highway, by Division of New Technology, Materials & Research, Department of Transportation, 5-MON-1-21.0, dated March 1, 1991.

Crib Wall at Lime Kiln Creek, Pacific Coast Highway, District 5 Materials Engineering, Department of Transportation, 5-MON-21.0, dated June 18, 1992

Crib Wall at Lime Kiln Creek, Pacific Coast Highway, District 5 Materials Engineering, Department of Transportation, 5-MON-21.0, dated September 9, 1993.

Failing Crib Wall and Proposed Rock Slope Protection (RSP) at Lime Kiln Creek, Division of New Technology, Materials, and Research, Department of Transportation, 05-MON-PCH 21.0, dated July 25, 1994.

Rock Slope Protection recommendations for the Limkiln Crib Wall (Geophysical Study to Determine Bedrock Profile), Contract # 05-409300, Division of New Technology, Materials, and Research, Department of Transportation, 05-MON-PCH 21.0, dated October 31, 1994.

Coast Highway Management Plan, Guidelines for Landslide Management and Storm Damage Response, California Department of Transportation, District 05, Federal Highway Administration, March 2004.

National Assessment of Shoreline Change, Part 4: Historical Coastal Cliff Retreat along the California Coast, Open File Report 2007-1133, US Department of the Interior, US Geological Survey, Cheryl J. Hapke and David Reid, 2007.

## Description of Existing Facilities, Background and Proposed Improvements

### Existing Facilities

Route 1 in the project area is a two-lane conventional highway with variable width travel lanes and paved shoulders. The existing Limekiln Creek Bridge (Bridge No. 44-0058) is approximately 578 feet long. It is a nine-span bridge consisting of a six-span precast prestressed "I" girder portion and a three span reinforced concrete "T" girder portion. The north abutment is supported by driven steel WF 10x42 piles.

The north abutment is protected from coastal erosion by a concrete crib wall and a steel bin wall for an approximate distance of 328 feet. Both structures exhibit significant deterioration. The crib wall, which begins a short distance north of the abutment wing wall, exhibits cracking along the stretchers which is consistent with corrosion of the reinforcing steel. Light longitudinal pavement cracking in the middle of the southbound lane was observed behind

the concrete crib wall. The crack width is approximately 0.08 inches. The crack is likely located immediately behind the back of the crib members. The crib wall is unstable in response to loss of foundation material as the bluff below the wall is eroded by waves. The steel bin wall, which is further to the north, is heavily rusted and buckling in places. The bin wall may be partially undermined at its highest point.

**Background**

The existing structure was constructed in 1957. The original bridge was a timber truss structure built in 1936. There was no reference to the need to provide protection from wave attack in the Project Report for the 1957 structure; therefore, no shore protection was placed.

Bridge reports from 1958 to 1974 describe the loss of material and the poor foundation conditions of the northwest wing wall. In 1963, a connection was made between these problems and wave erosion at the toe of slope. In 1974, a major slip out occurred and the north crib wall was built. A 2 foot thick, 6 foot high concrete seawall was placed in front of it. Rock was placed between the crib wall and seawall between 1974 and 1984.

Storm waves in 1982 and 1983 caused erosion and damage at the bridge. Steel piles were exposed, the concrete slope protection above the crib wall was damaged, and the rock between the crib wall and seawall washed out. In 1988, the concrete slope protection was repaired, a new crib wall was constructed adjacent to and south of the original crib wall and 4-ton rock slope protection was placed at the toe of slope.

Beginning in 1990, degradation of both crib walls and the seawall were observed. In 1995, 8-ton rock slope protection was placed in front of the seawall, but was not keyed into the native rock due to environmental constraints. The rock slope protection was also founded on the seawall to protect the old crib wall, and it was keyed into the native rock to the extent possible in front of the new crib wall. In 1997 the structure underwent a seismic retrofit.

It has been noted in 2002 that the rock in front of the seawall washed away after the first winter it was placed. The seawall has deteriorated severely since then and the rock founded on it has started to wash out.

**Proposed Improvements**

This project proposes to reduce or eliminate the maintenance of the rock slope protection (RSP) and concrete crib walls that protect the northern spans of the bridge and the northern roadway approach, by improving the shoreline protection. Several options are being considered including repairing the damaged RSP and replacing the lost RSP to reduce the energy of incoming waves.

## Physical Setting

The project is located adjacent to the coastline within the Santa Lucia Mountain Range in the Coast Ranges Geomorphic Province. An area characterized by rugged, steep terrain with steeply incised drainages.

The steep slopes of the Santa Lucia Mountains dominate the topography of the project area. The only relatively flat ground can be found on the beach at the mouth of Limekiln Creek and at a few locations along the Limekiln Creek channel. The elevation at roadway level on the existing Limekiln Creek Bridge is approximately 105 feet and the elevation in the creek channel is approximately 16 feet. The surrounding mountains rise from sea level to approximately 5000 feet. Peaks in close proximity to the project reach elevation 888 feet.

The climate in the project area remains temperate year-round because of the close proximity to the Pacific Ocean. December is the coolest month of the year with an average high temperature in the low 60's degrees Fahrenheit and an average low temperature of near 42 degrees Fahrenheit. September and October are typically the warmest months with average highs and lows of 69 degrees and 50 degrees respectively. Annual rainfall averages 17 inches, most of which occurs between November and April. Snowfall is rare, even at the higher elevations nearby. A common feature of the summer weather is the coastal fog, which usually lifts by late morning and returns before midnight

## Geology, and Soil Conditions

The surficial soil deposits within the project area include Quaternary (Recent) beach deposits (sand and gravel), Quaternary creek channel alluvium, and Quaternary landslide deposits. Franciscan Formation rocks of various lithologies are exposed in road cuts and natural exposures both north and south of the existing Limekiln Creek Bridge (Attachment 2). Meta-volcanic rock, schist, and phyllite were observed in the outcrop exposures on the beach on

June 18, 2007 during low tide. Exposures were found throughout the beach area. The surface is undulating and there are topographic lows filled with sand, cobbles and boulders.

A seismic refraction study was performed for the purpose of determining the depth to bedrock on the beach and bedrock characteristics. The study was performed adjacent to this project location. The data from this investigation indicates that the exposed bedrock is an intermediate velocity layer, approximately 3335 feet per second, and is interpreted to be sheared, fractured and weathered serpentinized shale varying in thickness. This is underlain by a high velocity layer, approximately 11,235 feet per second, is interpreted to be more competent bedrock.

## Geotechnical Conditions

### Groundwater

Groundwater was observed at approximately elevation 5.5 meters in October 1955, in a sounding performed at pier 4. Pier 4 is located in the channel of Limekiln Creek, and the sounding penetrates alluvial soils. It is expected that groundwater is periodically present within the fractures of the bedrock and within the Quaternary landslide deposits. Saturation of surface soils occurs in response to significant rainfall. The resulting groundwater spatial distribution is expected to be complex.

### Coastal Erosion

The site is periodically indurated by seawater due to high tides and high surf. This results in aggressive scour and transport of materials via the long shore current. Rocks as large as 8-10 tons have been moved within this high energy zone. Erosion is very aggressive and persistent. The United States Geological Survey has measured average cliff retreat rates for Central California over a 70-year period at 56.7 feet.

### Corrosion

This structure is within 1000 feet of marine water. The Department considers a structure that is located within a horizontal distance of 1000 feet of marine or brackish water to be exposed to marine atmosphere. The site is in a corrosive environment having a chloride content of 500 ppm or greater.

## Seismicity

According to the Caltrans' California Seismic Hazard Map (1996), the controlling fault for this site is the Sur-Arroyo Laguna-San Simeon (ST, strike-slip) with a maximum credible earthquake Moment Magnitude (M) of 7.5. The California Seismic Hazards map (Mualchin) locates the fault approximately 3.4 miles west of the site. According to the Caltrans-adopted Mualchin peak acceleration curves, the peak bedrock acceleration (PBA) in the project area due to an earthquake along the Sur-Arroyo Laguna-San Simeon Fault is estimated to be 0.6g (gravity).

No known active or potentially active faults project towards or cross the highway alignment within the project limits. Therefore, there is no potential for surface fault rupture to occur and no mitigation efforts are necessary.

## Site Conditions

### Condition of Existing Crib Wall

Numerous crib cells have loss of material. A PCC apron sits above the crib wall. Winter wave action is known to splash above the apron. This apron has failed in several locations. Additionally the wave pounding shakes the cells and vibrates the material out of the cells. The existing crib wall longitudinal limits appear to be adequate and there are no know instances of the existing wall being out flanked by wave splash. The wall, however, occasionally is overtopped by wave splash. The return wall at the toe of the north half of the crib wall is deteriorating.

### Wave Energy (height, angle of attack, frequency, etc.)

Normal wave action is about a 14-15 second wave period. During storms, a 20 second storm wave period is common. Wave velocities have been calculated as high as 41 mph. The high-energy waves generated are capable of moving the 8-12 ton rock slope protection placed in 1996. Most of that material has been transported offshore or to the south with the longshore drift.

## Recommendations

The proposed design to protect the embankment that supports the north bridge abutment from continuous erosion from high surf and strong currents was chosen after assessing all available mitigation measures. Three fundamental measures were considered; relocate, stabilize, and manage/protect the roadway. Each solution was weighed against the purpose of the project and practical construction costs. Seven potential alternatives were reviewed.

**Relocate/Separate**
Construct a longer bridge over Limekiln Creek with an alignment change further to the east. This new alignment may or may not require coastal revetments. Cutting into the eastern slopes is not recommended due to poor slope stability conditions.

Construct a tunnel into the existing hillside and realign the existing roadbed to the east. Coastal revetments would not be necessary with this alternative.

**Stabilize**
Augment the existing bridge foundation (underpin the existing bridge foundation) to minimize the slope protection which is currently necessary. Coastal revetments to protect the slope would not be required if the bridge foundations were not dependent upon the slope for support.

**Manage/Protect**
Construct rock slope protection with an engineered toe at the beach elevation to protect the slope from wave attack. Rock slope protection would dissipate the wave energy and protect the slope which supports the existing bridge foundations from wave attack.

Construct a seawall at the beach elevation that would deflect the wave energy from the slope that supports the bridge foundations.

Construct floating breakwaters in the ocean that would dissipate the wave energy prior to the waves reaching the beach. Onshore coastal revetments would be minimized or unnecessary.

Develop maintenance agreements with external governing agencies to allow specific maintenance activities to occur to the existing coastal revetment system (No Build).

**Recommendations**
Following careful deliberations among the project development team it was decided to construct a shoreline protection system. The design supplements the natural protective shoreline features with rock slope protection (RSP) along the promontories, in order to take immediate action to protect the bridge abutment

(Attachment 3). It is recommended that only supplementing the north promontory is required.

**RSP Design**

The proposed RSP design is to contain 35 to 40 tons of two to four ton rock by wrapping cable ring nets around the rocks. In effect this will create a rectangular shaped mass approximately 12 x 20 x 8 feet in dimension. Two rows will be placed along the proposed layout. The first row will be placed on top of bedrock and against the existing attenuation (seawall) wall along the northern section for approximately 100 feet (Attachment 4). The proposed technique is to first lay the cable ring nets on the footing area and place two lifts of rock on top of the nets. The first lift will be 4 ton rock (4T). Two ton (2t) or smaller rock will be placed on this layer to fill in voids. The second layer will also be 2 to 4 ton rock (4T). Additional cable ring nets are then fastened to the footing cable ring net and wrapped around the rock and secured with shackles.

Method A rock placement, standard specification 72-2.03, is recommended for the ring net RSP. The rock will be placed in a fashion where the rock can be wrapped up by cable ring nets.

Each rock mass will be connected together with shackles creating a single 100 foot long rock mass. The rock mass will be connected to bedrock outcrops and the seawall with cable anchors drilled and grouted into the bedrock. The second row will be placed on top of the first row set back approximately 1/3 from the seaward edge of the first row. This mass will be shackled to the first row.

Behind the RSP wrapped in ring nets 2 to 4 ton unwrapped rock slope protection (RSP) should be placed upslope on a 1.5:1 (H: V) or flatter slope ratio. Method A rock placement, standard specification 72-2.03, is recommended for the ring net RSP. In locations where a steeper slope is required a 1:1 slope ratio is recommended provided the rock is carefully placed with a well sorted rock selection to ensure an interlocking rock matrix. The well sorted rocks should be a mixture of ½ to 4 ton rock with the heavier rock comprising the lower portion of the RSP.

The rock mass will be porous and allow tides and waves to flow through dissipating energy from currents and wave impacts. The individual rocks

comprising the mass are expected to shift within the nets but the entire mass is designed to stay in place.

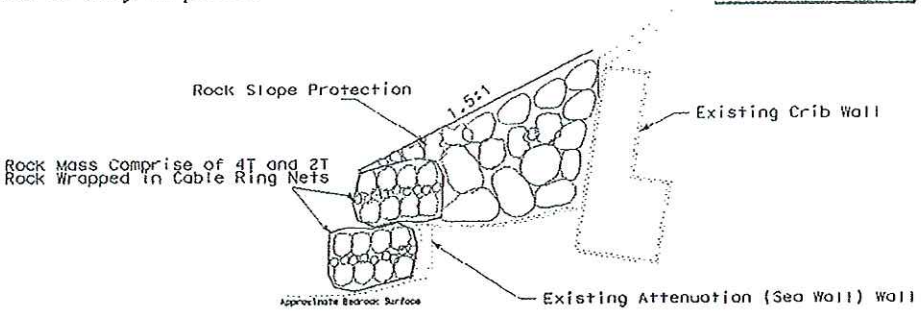



Figure 1: Generalized Ring Net Cable RSP Design Schematic.

The cable rings nets should be a constructed of a minimum 1/8 inch (3 mm) diameter wire with a minimum of 7 turns creating a minimum ¾ inch diameter (18 mm) cable and forming a minimum 12 inch (300 mm) diameter ring. Each individual ring shall interlock with a minimum of 4 surrounding rings or a maximum of 6 surrounding rings. Cable ring net individual panels shall be 12 x 25 feet.

The wire mesh fabric, wire rope, and cable all anchors, bolts, nuts, washers, clamps, and similar exposed metal should be protected to prevent corrosion. The recommended corrosion protection is a zinc aluminum galvanizing process. Salt spray tests (NaCl) using ASTM B117 test method resulted in a 3-fold longer lifespan over conventional galvanizing. Washington Department of Transportation has an installation using conventional galvanized cable ring nets in a similar ocean environment installed in 1995 and at present is performing well. Based on this 12 year installation utilizing the al-zinc galvanizing process a minimum design life of 36 years can be projected.

At this time there are three suppliers of ring nets;
Geobrugg North America, LLC.
1500 Glendale Ave
Sparks, NV 89431
775 626 7474
eric.ruud@geobrugg.com

American Mountain Management Inc.
Financial Plaza Building, 1135 Terminal Way, Suite 106

Reno, Nevada, 89502-2145, U.S.A.
Telephone: 1-866-466-7223

Macafferri
3650 Seaport Blvd
West Sacramento, CA. 95691
Tel: 916 371 5805
agharpure@maccaferri-usa.com

As of this writing only one supplier, Geobrugg North America, can comply with the American made requirement. The estimated cost for American made compliant cable ring nets and all associated hardware including cable ground anchors is 14.00 US dollars per square foot.

**Foundations**

The existing foundation elevation, visible on June 18, 2007, is the target elevation for the footing (Photo 2). Depending on when the work occurs, this area could be covered by migrating beach sand. It will be necessary to remove the boulder field on the beach area and excavate beach sand down to the June 18, 2007 level. The bedrock surface undulates along the beach front. Local surface irregularities undulate as much as 2 feet. Care should be taken to remove materials from the undulating lows but the undulating highs comprised of bedrock should remain untouched. Irregularities in this application are encouraged and should be as large as the terrain dictates. This will increase the surface roughness between the bedrock surface and the rock mass encased in cable ring nets. Excavating into bedrock is not recommended.

Following the foundation preparation and prior to placing the rock and cable ring nets, ground anchors are to be placed in outcrops within the foundation area and into the attenuation (seawall) wall. The ground anchors should be cable anchors. Cable anchors are flexible and will shift with the system and not shear. Grout can be either cement grout of a resin grout. Resin grout has the advantage of a quick set up time. If cement grout is used standard ¾ inch cable can be used. The minimum hole diameter shall be 2 inches and the minimum hole depth should be 4 feet. If resin grout is used a steel bar must be used with a coupler for a cable extension. The bar should be a 1 inch in diameter and the hole diameter should be 1 1/8 inch. Minimum resin grouted length should be 18 inches. The hole needs to be counter sunk 6.5 inches at 1 3/8 inches in diameter to counter sink the coupler connection between the bar and the cable extension. The total hole length will be 24.5 inches. In either

scenario only cable should be protruding from the hole. The end of the cable should have a loop with a thimble.

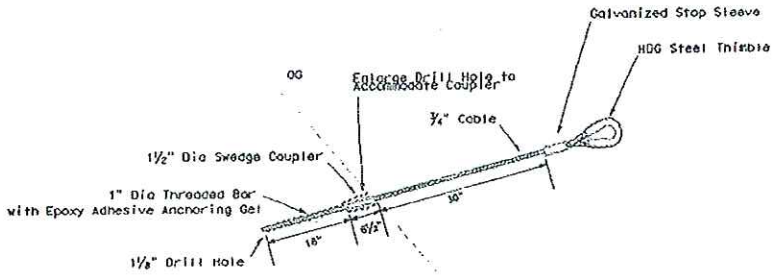



Figure 2. Typical Schematic of Resin Grouted Cable/Rod Ground Anchor

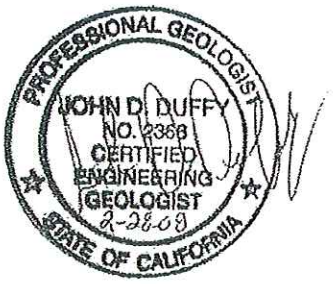
**Rock Sources**

Any rock removed during the site preparation should be stored nearby for use in the RSP design. A considerable amount of local formation rock in the general beach area adjacent to the site is available for use in the RSP design.

**Construction Considerations**

The tidal fluctuations and wave activity is quite prominent at this location. Careful planning to ensure construction takes place during low tide and during low wave heights is recommended.

If you have any questions or require additional information please contact me at 549-3663.




JOHN D DUFFY, P.G., C.E.G.
Senior Engineering Geologist
Geotechnical Design Branch - North
Attachments
cc:RBibbens
File

List of Attachments

Attachment 1 .....Location Map

Attachment 2 .....Geologic Map

Attachment 3 .....Layout

Attachment 4.....RSP Concept

List of Photos

Photo 1.....Wave Action on Beach

Photo 2.....Beach View

| DIST | COUNTY | ROUTE | POST MILE TOTAL PROJECT | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 05 | Mon | 1 | 21.0 | 1 | 5 |

STATE OF CALIFORNIA

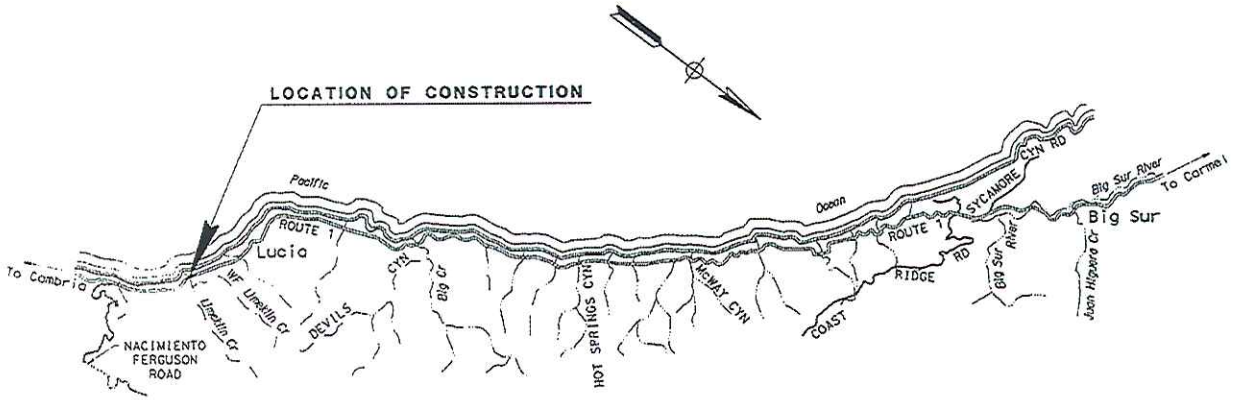
# DEPARTMENT OF TRANSPORTATION

## LOCATION MAP FOR CONSTRUCTION ON STATE HIGHWAY

## IN MONTEREY COUNTY

## NEAR LUCIA AT LIMEKILN CREEK BRIDGE




Attachment 1
Location Map

NO SCALE

The Contractor shall possess the Class (or classes) of license as specified in the "Notice to Contractors".

Contract No.

| | | | |
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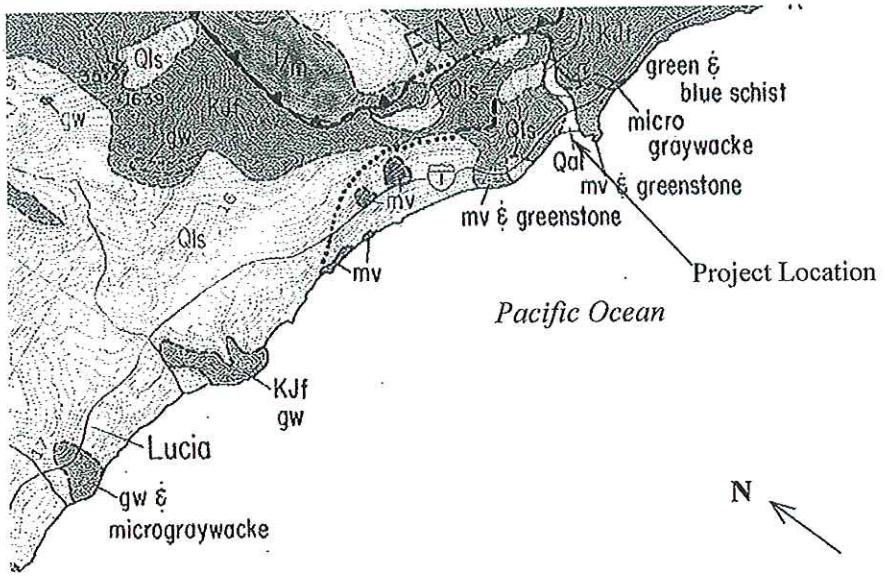
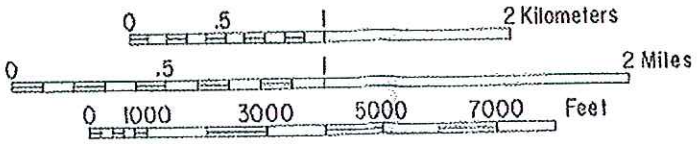



## Legend

Qal/Qoal

**Alluvial deposits**

Cobble-pebble gravel, sand, silt, and clay; Qoal, older alluvial deposits

Qls/Qc (i), Qls (gw) Qols

**Landslide and colluvial deposits**

Qls, rock and mudflow debris composed of material from source rocks upslope. Some small landslide deposits are omitted, and not all landslide deposits are shown in areas where Franciscan rocks crop out; dominant lithology in debris, e.g., igneous rocks (i), graywacke (gw)
Qc, loose mass of soil and/or rock fragments
Qols, relatively older rock and mudflow debris

KJf

**Cretaceous-Jurassic Franciscan mélange**

Medium- to coarse-grained brown lithofeldspathic sandstone or graywacke (gw), micrograywacke (gw or sh), chert (ch), metavolcanic rocks (mv), and green (gs) and blue (bs) schist (sch). Conglomerate (cg) and silica carbonates (sc) rare. Pervasively sheared

**Plutonic igneous rocks**

Granitic, dioritic, charnockitic rocks and intimately associated metamorphic rocks (e.g., calcsilicates, gneiss, schist); where predominantly igneous rocks with intermixed metamorphic rocks, shown as *i/m*

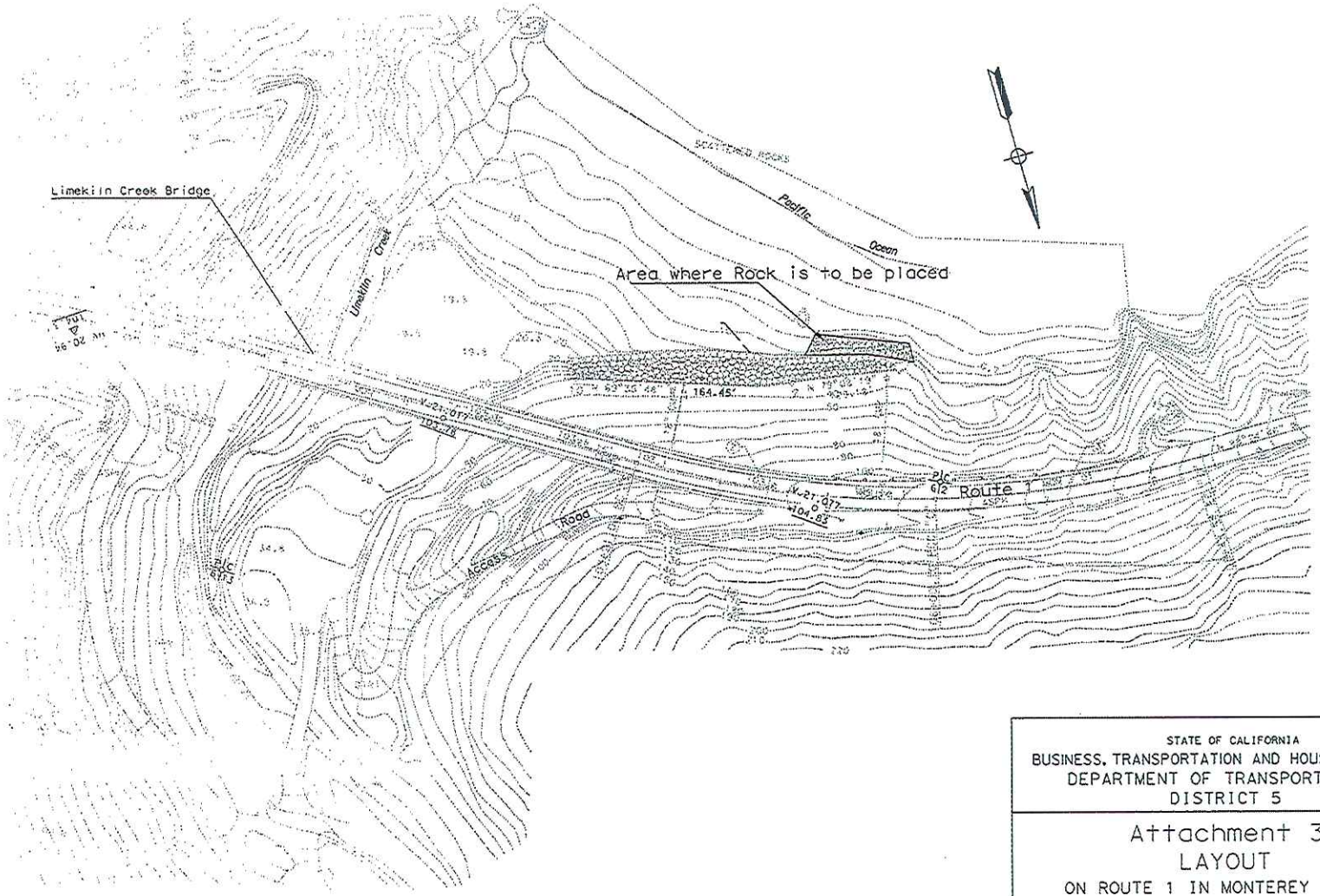
**Metamorphic rocks**

Gneiss, schist, marble (ma), includes igneous dikes and minor intrusions of plutonic rocks; where predominantly metamorphic rocks and with igneous intrusive rocks, shown as *m/i*

PART OF:
GEOLOGY OF THE POINT SUR-LOPEZ POINT REGION, PLATE 1b
BY CLARENCE A. HALL, JR., 1991

**GEOLOGIC MAP**

05-MON-001-34.4/34.8
(21.2/21.4 PM)
05-0E960K
October 12, 2001
**ATTACHMENT 2**




STATE OF CALIFORNIA
BUSINESS, TRANSPORTATION AND HOUSING AGENCY
DEPARTMENT OF TRANSPORTATION
DISTRICT 5

# Attachment 3
## LAYOUT
ON ROUTE 1 IN MONTEREY COUNTY
NEAR LUCIA
AT LIMEKILN CREEK BRIDGE

| CO | RTE | KP(PM) | SCALE | DATE | ATTACH |
|---|---|---|---|---|---|
| Mon | 1 | 33.9(21.1) | None | 5/02 | |

P.E.W.A. 0P3100

| DIST | COUNTY | ROUTE | POST MILES TOTAL PROJECT | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
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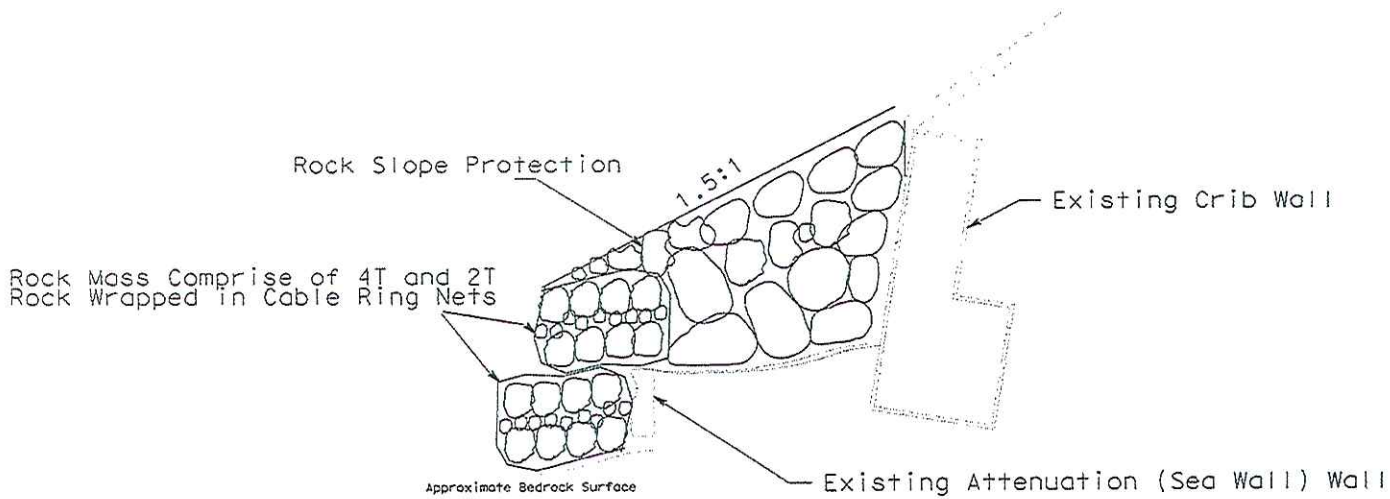



# Attachement 4
# RSP Concept

STATE OF CALIFORNIA — DEPARTMENT OF TRANSPORTATION
Caltrans PROJECT DEVELOPMENT
PROJECT ENGINEER
CALCULATED/DESIGNED BY
CHECKED BY
REVISED BY
DATE REVISED

FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES 0 1 2 3

USERNAME => jcuffy
DGN FILE => Attachment 4.dgn

CU 05312

EA 0P3100

TIME PLOTTED => 16-NOV-2007 13:11

FORM DC-OE-P2-PF (REV. 7/88)

Photo 1: Wave action on beach. (Waves are causing deterioration of the concrete crib wall founded on the beach, and eroding the soil slope above the crib wall and the rock slope immediately to the north of the crib wall)

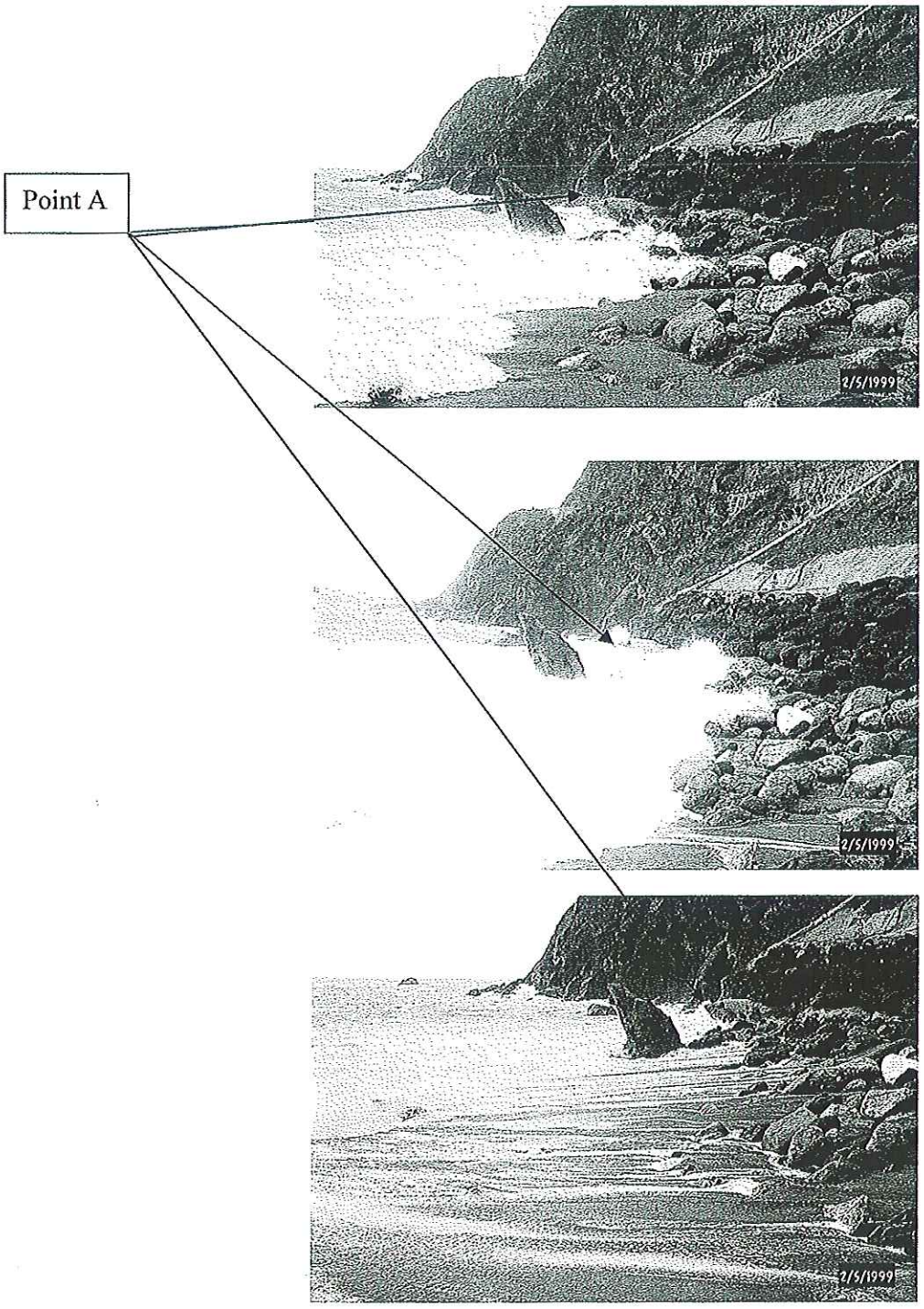
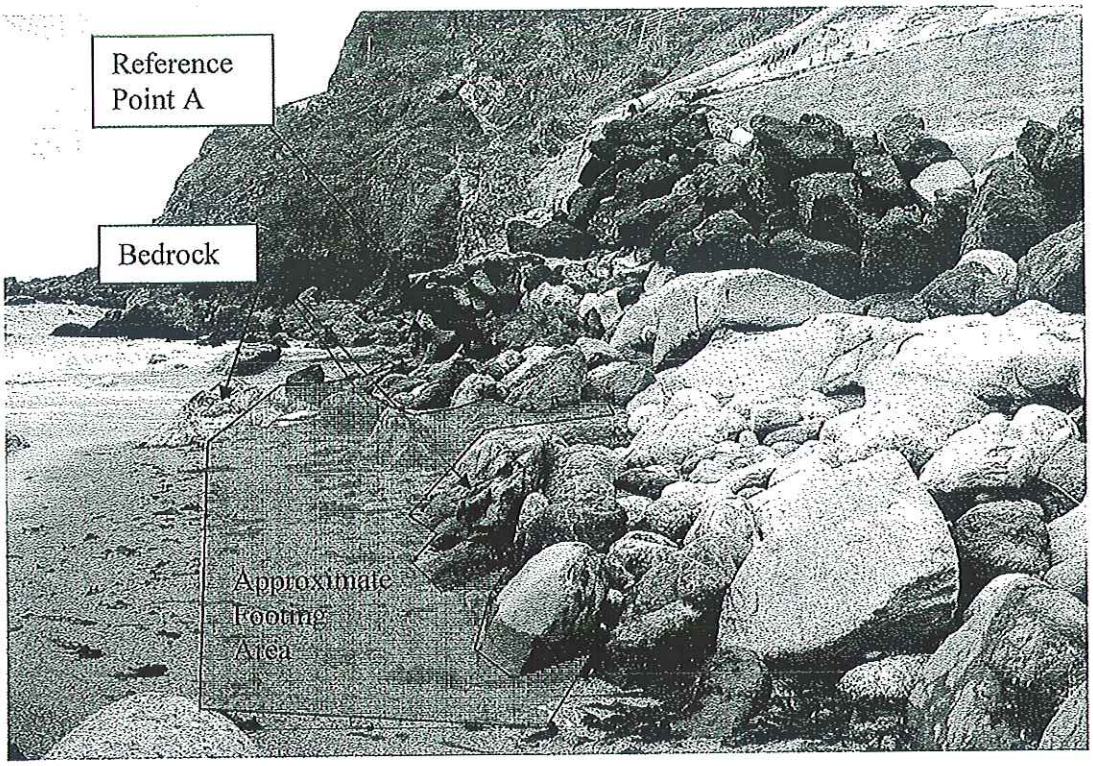


Photo 2: Beach View (The existing elevation, visible on June 18, 2007)




The existing elevation, visible on June 18, 2007, is the target elevation for the footing. Depending on when the work occurs, this area could be covered by migrating beach sand. It will be necessary to excavate down to the June 18, 2007 level. The bedrock surface undulates along the beach front. Local surface irregularities will be more than 1 foot. Care should be taken to remove materials from the undulating lows but the undulating highs comprised of bedrock should remain untouched. Irregularities in this application are encouraged and should be as large as the terrain dictates. This will increase the friction surface between the bedrock surface and the rock mass encased in cable ring nets. Excavating into bedrock is not recommended.