CALIFORNIA COASTAL COMMISSION
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W19a

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Staff: Meg Vaughn-LB
Staff Report: 12/22/11
Hearing Date: 1/11-13/12
Commission Action:

STAFF REPORT: REGULAR CALENDAR

APPLICATION NUMBER: 5-10-106

APPLICANT: Caltrans

AGENT: Chris Flynn, Branch Chief
Gabriela Jauregui, Environmental Planner

PROJECT LOCATION: Pacific Coast Highway (northbound lane and shoulder adjacent to adjacent to Bolsa Chica Ecological Reserve), between Warner Avenue and Seapoint Street Huntington Beach, Orange County

PROJECT DESCRIPTION: Follow-up application to make permanent development approved under Emergency Coastal Development Permit Nos. 5-09-131-G and 5-09-160-G for emergency repair work to Pacific Coast Highway due to the undermining of the highway as a result of erosion. Work allowed under the two emergency coastal development permits included: installation of 475 linear feet of steel sheetpile, back fill between the edge of pavement and the sheetpile, and temporary placement of approximately 500 linear feet of concrete barrier (a.k.a. "K-rail") at the edge of the road shoulder. Additional work proposed that was not included under the two emergency permits includes: removal of the temporary concrete barrier railing (K-railing) and its underlying 479 feet of asphalt concrete strip (3.5 feet wide); installation of approximately 538 feet of metal beam guard rail (2.4 feet high) at the edge of the existing paved shoulder, 4 feet from the sheet pile wall; and, installation of approximately 495 feet (3 feet high) of pedestrian safety cable rails along the edge of the sheet pile wall.

SUMMARY OF STAFF RECOMMENDATION:

Staff is recommending the Commission **approve** the proposed project subject to five special conditions which are necessary to assure that the project conforms with Coastal Act Sections 30230 and 30231 regarding protection of marine resources and water quality; Section 30233 regarding protection of wetlands; Section 30240 regarding protection of sensitive habitats; Section 30251 regarding protection of public views; and Section 30253 regarding minimizing hazards. Special Condition No. 1 requires the applicant to submit an Erosion Monitoring Plan to assure that the project and surrounding area remain stable and that, if threatened by erosion, measures may be taken more quickly than if no monitoring were to occur. Special Condition No. 2 requires that construction occur outside the bird nesting season, or that surveys for nesting birds be performed for any work undertaken during the nesting season. Special Condition No. 3 requires that all reports prepared in conjunction with the mitigation project be submitted to the Executive Director. Special Condition No. 4 requires that all construction staging and access be from Pacific Coast Highway

and not from the ecological reserve. Special Condition No. 5 requires the applicant to comply with construction responsibilities and debris removal procedures.

SUBSTANTIVE FILE DOCUMENTS:
Emergency Coastal Development Permit No. 5-09-131-G (Caltrans); Emergency Coastal Development Permit No. 5-09-160-G (Caltrans); Natural Environment Study (NES), Bolsa Chica Roadway Embankment Reconstruction Project, prepared by Caltrans, August 2009; Addendum to NES prepared by LSA, dated 3/3/10; Addendum No. 2 to NES, prepared by LSA, dated 6/10/10; Revised Final Biological Construction Monitoring and Impact Assessment Report for the Bolsa Chica Roadway Embankment Reconstruction Project, prepared by LSA, dated 4/1/10; Habitat Mitigation and Monitoring Plan, Beach Marsh Invasive Nonnative Removal and Saltmarsh Restoration for the Bolsa Chica Emergency Roadway Embankment Repair Project, prepared by LSA, dated April 2010; Erosion Monitoring letter report prepared by RBF, and dated 6/15/10; Water Quality Technical Report State Route 1 Roadway Embankment Repair, prepared by Caltrans, dated December 2009; Initial Study/Negative Declaration (12-ORA-1-PM-28.7-29.7), prepared by Caltrans, dated August 2010;

I. APPROVAL WITH CONDITIONS

STAFF RECOMMENDATION:

Staff recommends that the Commission **APPROVE** the permit application with special conditions.

MOTION:

> ***I move that the Commission approve Coastal Development Permit No. 5-10-106 pursuant to the staff recommendation.***

Staff recommends a **YES** vote. Passage of this motion will result in approval of the permit as conditioned and adoption of the following resolution and findings. The motion passes only by affirmative vote of a majority of the Commissioners present.

RESOLUTION:

I. APPROVAL WITH CONDITIONS

The Commission hereby **APPROVES** a coastal development permit for the proposed development and adopts the findings set forth below on grounds that the development as conditioned will be in conformity with the policies of Chapter 3 of the Coastal Act and will not prejudice the ability of the local government having jurisdiction over the area to prepare a Local Coastal Program conforming to the provisions of Chapter 3. Approval of the permit complies with the California Environmental Quality Act because either 1) feasible mitigation measures and/or alternatives have been incorporated to substantially lessen any

significant adverse effects of the development on the environment, or 2) there are no further feasible mitigation measures or alternatives that would substantially lessen any significant adverse impacts of the development on the environment.

II. 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.

III. SPECIAL CONDITIONS:

1. Erosion Monitoring Plan

A. PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the applicant shall submit an Erosion Monitoring Plan, for the review and approval of the Executive Director. The permittee shall be responsible for carrying out all provisions of the approved Erosion Monitoring Plan. The monitoring plan, at a minimum, shall establish specific methods to be employed to assess whether erosion has occurred at the sheetpile site and whether the sheetpile wall remains stable and able to support the roadway. At a minimum the monitoring plan shall require:

1. Timing
    a. Monitoring shall occur at least once a year for the first five years.
    b. The yearly monitoring period shall be conducted in the spring after the generally accepted end of the rainy season (i.e. after April 15).
2. Location:

a. Monitoring shall be conducted bayward of the sheetpile wall along two to three profiles perpendicular to the wall to a depth of extreme low tide but no less than 15 feet bayward of the sheetpile, and;

b. Monitoring shall be conducted at each end of the sheetpile wall for a distance equal to 10% of the overall length of the wall (approximately 50 feet).

3. Inspections:

a. The inspections shall evaluate the rate of erosion in the locations identified above, and shall document the presence or absence of new scour spots resulting from increased erosion due to the subject sheetpile wall.

b. In addition, the inspections shall examine the exposed portions of the sheetpile (to the mud line) for signs of weakness or possible failure, including, but not limited to cracking, bending, splitting, splintering, or flaking. All weak or potential failure areas should be marked on an as-built plan of the sheetpile wall, and photographs and text shall be provided to explain the nature and extent of each area of weakness identified.

c. Based on a thorough inspection, the project engineer shall draw conclusions and make recommendations regarding the continued stability of the site and surrounding area and any measures necessary to arrest and/or correct erosive forces and/or deterioration of the sheetpile wall. The project engineer's conclusions and recommendations shall be forwarded to the Executive Director of the Coastal Commission.

d. If increased erosion, the presence of scour spots, and/or weakness in the sheetpile are discovered, as reflected in the project engineer's report required in subsection c above, the applicant shall submit an amendment to this permit or an application for a new coastal development permit to address issues arising from the increased erosion.

4. Personnel:

Monitoring inspections and evaluations shall be conducted by a qualified person familiar with marine sheetpile structures and marine processes.

B. After each monitoring event, reports shall be prepared and conveyed to the Executive Director within 30 days of the inspection work. These reports shall provide information on and photographs from the date of the inspection, the name and qualifications of the person performing the inspection, and an overall assessment of the continued integrity of the sheetpile wall. If the inspection identifies any areas where the sheetpile wall has been damaged, the report shall identify alternatives to remedy the damage.

C. In the event that any portion of the sheetpile wall is undermined or otherwise damaged, the permittees shall notify the Commission within 10 days; and in such event, within 30 days of such notification, submit to the Commission a complete application for any coastal development permit amendment, or new permit, necessary for the repair or replacement of the bulkhead reinforcement.

D. All work shall be carried out consistent with the approved Erosion Monitoring Plan.

2. Timing of Construction/Biological Monitoring

A. If construction (removal of "K" rail and underlying asphalt and installation of metal guard beam and pedestrian safety cable rails) occurs during bird nesting season (February 28 through August 31), preconstruction nesting bird surveys shall be conducted within 300 feet of the construction work area by a qualified biologist at least 30 days prior to start of construction. If a nest is found, no construction shall occur within 300 feet of any active nest, until the nest has been vacated, juveniles have fledged, and there is no evidence of additional nesting attempts.

B. A qualified biological monitor shall be present on site during all grading and construction activities for the project.

3. Mitigation Plan

A. As proposed and as required by the plan, all reports prepared in conjunction with the mitigation plan titled *Habitat Mitigation and Monitoring Plan*, prepared by LSA Associates, dated April 2010 (approved pursuant to Huntington Beach local coastal development permit No. 08-026 (5-HNB-10-035)) shall be submitted for the review and approval of the Executive Director. All reports shall be conveyed to the Executive Director within 30 days of completion of the report.

B. Any changes to the approved mitigation plan (pursuant to local coastal development permit 08-026), shall be reported to the Executive Director. No changes to the approved mitigation plan shall be allowed without the approval of the Executive Director. Where appropriate as determined by the Executive Director, changes to the mitigation plan shall require an amendment to local coastal development permit 08-026 or a new coastal development permit. Such amendment or new coastal development permit are appealable to the Coastal Commission.

C. A minimum of 0.488 acres of mitigation area (4:1 mitigation ratio) shall be reserved as mitigation specific to the subject project and shall not be allowed to serve as mitigation for any other project.

4. Staging & Access

Staging and access for the proposed construction (removal of "K" rail and underlying

asphalt and installation of metal guard beam and pedestrian safety cable rails) shall be limited to Pacific Coast Highway and shall not be taken from the bay.

5. Construction Responsibilities and Debris Removal

The permittee shall comply with the following construction related requirements:

A. No demolition or construction materials, equipment, debris, or waste shall be placed or stored where it may enter sensitive habitat, receiving waters or a storm drain, or be subject to wave, wind, rain or tidal erosion and dispersion.

B. Any and all debris resulting from demolition or construction activities, and any remaining construction material, shall be removed from the project site within 24 hours of completion of the project.

C. Demolition or construction debris and sediment shall be removed from work areas each day that demolition or construction occurs to prevent the accumulation of sediment and other debris that may be discharged into coastal waters.

D. Machinery or construction materials not essential for project improvements will not be allowed at any time in the intertidal zone.

E. Non buoyant debris discharged into coastal waters will be recovered by divers as soon as possible after loss.

F. All trash and debris shall be disposed in the proper trash and recycling receptacles at the end of every construction day.

G. The applicant shall provide adequate disposal facilities for solid waste, including excess concrete, produced during demolition or construction.

H. Debris shall be disposed of at a legal disposal site or recycled at a recycling facility. If the disposal site is located in the coastal zone, a coastal development permit or an amendment to this permit shall be required before disposal can take place unless the Executive Director determines that no amendment or new permit is legally required.

I. All stock piles and construction materials shall be covered, enclosed on all sides, shall be located as far away as possible from drain inlets and any waterway, and shall not be stored in contact with the soil.

J. Machinery and equipment shall be maintained and washed off-site in confined areas specifically designed to control runoff. The applicant shall dispose of thinners and solvents in a manner that is consistent with applicable local, state,

and/or federal law and, under no circumstances shall they be discharged into sanitary or storm sewer systems.

K. The discharge of any hazardous materials into any receiving waters shall be prohibited.

L. Spill prevention and control measures shall be implemented to ensure the proper handling and storage of petroleum products and other construction materials. Fueling and vehicle maintenance shall occur off-site and in an area with appropriate berms and protection to prevent any spillage of gasoline or related petroleum products or contact with runoff. The area shall be located as far away from the receiving waters and storm drain inlets as possible.

O. Best Management Practices (BMPs) and Good Housekeeping Practices (GHPs) designed to prevent spillage and/or runoff of demolition or construction-related materials, and to contain sediment or contaminants associated with demolition or construction activity, shall be implemented prior to the on-set of such activity.

P. All BMPs shall be maintained in a functional condition throughout the duration of construction activity.

IV. FINDINGS AND DECLARATIONS:

The Commission hereby finds and declares:

A. Project Description

The applicant proposes to make permanent development approved under Emergency Coastal Development Permit Nos. 5-09-131-G and 5-09-160-G for emergency repair work to Pacific Coast Highway due to the undermining of the highway as a result of erosional forces. The project site is located on the northbound side of Pacific Coast Highway, adjacent to the Outer Bolsa Bay area of the Bolsa Chica Ecological Reserve. In the subject area, peak high tides in late June 2009 and subsequent tide/scour action caused the loss of sections of roadway pavement, removed lateral support, and undermined approximately 475 linear feet of Pacific Coast Highway in an area that is heavily used by vehicular and bicycle traffic. The loss of pavement and unstable embankment condition created unsafe conditions for users of Pacific Coast Highway. With each subsequent tidal cycle, the exposed subbase of the roadway became saturated and then drained, resulting in loss of supporting embankment. The rate of pavement and material loss due to the tidal action and longitudinal scour accelerated daily and was expected to accelerate more rapidly during the July and August 2009 peak high tides. If left untreated, use of the roadway would have been impacted. In addition, if the eroded embankment were left untreated, a 6-inch oil pipeline buried longitudinally in the roadway may eventually have become endangered, threatening rupture of the pipeline and discharge of oil into the adjacent Bolsa Chica Ecological Reserve. Thus, the emergency coastal development permits were issued, allowing repair of the lost pavement and protection of the oil pipeline.

Development approved under emergency coastal development permits:

5-09-131-G: Installation of 475 linear feet of metal sheetpile (30 feet deep), parallel to and five (5) feet bayward of the edge of pavement, backfill of the area with sand between pavement and sheetpile to provide a 5 foot shoulder, and restoration of damaged pavement. All work will be conducted within the Caltrans right-of-way.

5-09-160-G: Temporary authorization for a one-year period for placement of approximately 500 linear feet of concrete barrier (a.k.a. "K-rail") at the edge of the road shoulder. The K-rail shall not exceed the height of 2 feet 8 inches above the road surface elevation and shall not exceed to 2 feet in width. All work will be conducted within the Caltrans right-of-way.

Additional work proposed that was not included under the two emergency permits includes: removal of 520 feet of temporary concrete barrier railing ("K-rail") and its underlying 479 feet of asphalt concrete strip, 3½ feet width (approval of the K-rail was temporary, so the request to remove it is consistent with approval of the emergency permit); installation of approximately 538 linear feet of metal beam guard rail (2.4 feet high) at the edge of the existing paved shoulder, 4 feet road-ward of the sheet pile wall; and, installation of approximately 495 linear feet (3 feet high) of pedestrian safety cable rails along the edge of the sheet pile wall.

Approval of the two emergency permits was subject to special conditions:

5-09-131-G special conditions required implementation of construction responsibilities and debris removal; reserved the ability to implement, through the regular cdp process other hazard avoidance and/or protective response options; limitation of sheetpile installation to no more than 5 feet bayward of the existing pavement prior to collapse and no more than 475 feet long, sheet pile top elevation to no higher than the elevation of the adjacent pavement; oil spill contingency measures in place during construction; documentation of pre-project biological conditions and documentation of post-project biological conditions with analysis to identify impacts to biological resources; avoidance to maximum extent feasible of significant adverse impacts to biological resources; minimization of impacts to public access on Pacific Coast Highway; compliance with erosion control plan, liquid waste management plan, spill prevention and control measures plan, and contaminated soil management measures; erosion monitoring; submittal of a follow-up cdp which shall at a minimum address the erosional effects of the sheetpile on adjacent areas of unprotected embankment and in front of the sheetpile, including an hydraulic analysis.

5-09-160-G special conditions required that the applicant remove the temporary "K-rail" by August 26, 2010 (unless additional time is needed to obtain a follow-up coastal development permit for a permanent barrier); implementation of construction responsibilities and debris removal; limited the K-rail to no more than approximately 500 feet in length and no higher than 2 feet 8 inches above the road surface elevation, minimization of public access impacts on Pacific Coast Highway; requirement for a follow-

up coastal development permit which was allowed to be a single consolidated follow up for both 5-09-131-G and 5-09-160-G.

B. Hazard

Section 30235 of the Coastal Act states:

> *Revetments, breakwaters, groins, harbor channels, seawalls, cliff retaining walls, and other such construction that alters natural shoreline processes shall be permitted when required to serve coastal-dependent uses or to protect existing structures or public beaches in danger from erosion, and when designed to eliminate or mitigate adverse impacts on local shoreline sand supply. Existing marine structures causing water stagnation contributing to pollution problems and fish kills should be phased out or upgraded where feasible.*

Section 30253 of the Coastal Act states, in pertinent part, that new development shall:

> *(1) Minimize risks to life and property in areas of high geologic, flood, and fire hazard.*
>
> *(2) Assure stability and structural integrity, and neither create nor contribute significantly to erosion, geologic instability, or destruction of the site or surrounding area or in any way require the construction of protective devices that would substantially alter natural landforms along bluffs and cliffs.*

Oftentimes armoring one area to prevent erosion results in transfer of the erosive force elsewhere, frequently to areas adjacent to the armored area. In this case, armoring (in the form of placement of the sheetpile wall) was necessary to protect the existing public access roadway as well as to prevent collapse into the immediately adjacent ecological reserve. However, the new sheetpile wall creates a perturbation to the system, which may have impacts to the areas immediately surrounding the sheetpile emplacement (at each end and bayward).

The proposed development involves structural reinforcement to protect an existing public roadway. As described previously, erosion at the subject site undermined the roadway, threatening continued public use of the road as well as an oil pipeline buried within the road. If protective measures were not implemented, further damage to the roadway and, eventually to the pipeline could have resulted, leading to failure and collapse of the roadway into the ecological reserve and potentially, rupture of the pipeline. The proposed development is designed to protect the roadway and thus, also the pipeline, and allow continued use of the roadway for public use and public access as well as to prevent damage within the ecological reserve.

Section 30253 of the Coastal Act requires that new development shall not require construction of protective devices that would substantially alter natural landforms along

bluffs and cliffs. The Coastal Act limits construction of these protective devices because they have a variety of negative impacts on coastal resources including adverse affects on sand supply, public access, coastal views, natural landforms, and overall shoreline beach dynamics on and off site, ultimately resulting in the loss of beach. However, under Coastal Act Section 30235, a shoreline protective structure must be approved if: (1) there is an existing principal structure in imminent danger from erosion; (2) shoreline altering construction is required to protect the existing threatened structure; and (3) the required protection is designed to eliminate or mitigate the adverse impacts on shoreline sand supply.

In this case, the shoreline protection (sheetpile wall) is necessary both to protect an existing structure (the public road), as well as to prevent damage to the ecological reserve. The sheetpile wall was proposed as the minimum development necessary to accomplish these goals. By using sheetpile, rather than rock rip rap, buttress fill, concrete retaining wall or other typical methods used for bank/slope stabilization, the footprint of the project and thus the project's wetland impact is minimized, while still achieving the necessary protection.

Section 30253 of the Coastal Act also requires that hazards be minimized. The proposed sheetpile wall protection is necessary to minimize the hazard of roadway failure. Without placement of the sheetpile wall the roadway would continue to be undermined and roadway collapse into the ecological reserve would continue. Such a scenario would not be consistent with Section 30253's requirement to minimize hazards. It is important to assure that the site remains stable and that the erosion problem is not simply redirected elsewhere, or if the erosive force is directed elsewhere, to address any related issues as quickly as possible and before the roadway or ecological reserve are threatened, the site vicinity must be monitored for erosional impacts.

A special condition of the emergency coastal development permit issued for placement of the sheetpile wall required monitoring for erosion at the site vicinity. So far the monitoring has not found increased erosion at either end of or bayward of the sheetpile wall (letter report prepared by RBF Consulting, dated 11/15/11 and Revised Final Biological Construction Monitoring and Impact Assessment Report for the Bolsa Chica Roadway Embankment Reconstruction Project, prepared by LSA, dated 4/1/10). However, if the erosive force that caused the road embankment failure has been redirected in a manner that causes further erosion, it is possible the roadway and/or ecological reserve could be in jeopardy. In order to avoid further roadway collapse into the wetlands, an on-going understanding of the effects of the sheetpile on the surrounding area is necessary. To identify any erosional issues that may arise, the applicant has proposed erosion monitoring at the site every three months for the next twelve months (Caltrans letter dated 6/22/11).

However, on-going, future monitoring is necessary to minimize hazards by identifying any erosional issues at the site associated with the sheetpile wall as soon as possible. In addition to minimizing hazards, by identifying problems due to erosion sooner, a wider range of potential solutions may be considered. A wider range of potential solutions allows for broader consideration of alternatives leading to consideration of alternatives that are

the least environmentally damaging to the Bolsa Chica Ecological Reserve and prevention of possible impacts to the public roadway.

Generally, for impacts to shoreline processes due to armoring (i.e. sheetpile placement), monitoring for a linear distance at either end of the sheetpile equal to 10% of the length of the wall has been considered acceptable. In this case, as the sheetpile wall is 475 feet in length, the area to be monitored at both ends would be equal to approximately 50 feet (475/10 = 47.5). In addition, erosion bayward of the sheetpile wall would need to be monitored in order to identify issues that could lead to undermining or other impacts to the wall and surrounding vicinity. To provide an effective understanding of the condition of possible erosion, monitoring should be conducted in the area bayward of the sheetpile wall along two to three profiles perpendicular to the wall to a depth of extreme low tide but no less than 15 feet bayward of the sheetpile wall. Such monitoring is necessary to minimize hazards due to erosion at the site vicinity.

Thus a special condition is imposed which requires the applicant to submit an Erosion Monitoring Plan, reflecting the standards described above, and to carry out the approved plan once a year for the first five years after placement of the wall. As conditioned, adverse erosional effects resulting from placement of the sheetpile wall will be identified sooner and measures necessary to address the issues identified can be implemented as appropriate in a timely manner to minimize hazard to the public roadway as well as to protect the sensitive resources of the ecological reserve. Therefore, the Commission finds that only as conditioned can the proposed project be found to be consistent with Section 30253 of the Coastal Act.

D. Wetlands

Section 30233 of the Coastal Act states, in pertinent part:

(a) The diking, filling or dredging of open coastal waters, wetlands, estuaries, and lakes shall be permitted in accordance with other applicable provisions of this division, where there is no feasible less environmentally damaging alternative, and where feasible mitigation measures have been provided to minimize adverse environmental effects, and shall be limited to the following:

…

(4) Incidental public service purposes …

…

(b) Dredging and spoils disposal shall be planned and carried out to avoid significant disruption to marine and wildlife habitats and water circulation. Dredge spoils suitable for beach replenishment should be transported for such purposes to appropriate beaches or into suitable long shore current systems.

(c) In addition to the other provisions of this section, diking, filling, or dredging in existing estuaries and wetlands shall maintain or enhance the functional capacity of the wetland or estuary. …

In conjunction with the emergency and proposed project, a Natural Environment Study (NES) was prepared by Caltrans, dated August 2009, with two addendums to the NES prepared by LSA Associates, dated 3/3/10 and 6/10/10. In addition, in compliance with the requirements of the emergency coastal development permits, a Revised Final Biological Construction Monitoring and Impact Assessment Report was prepared by LSA Associates, dated 4/1/10. Also, a Habitat Mitigation and Monitoring Plan was prepared by LSA Associates, dated April 2010.

The NES identified the extent of biological resources within a 33.3 acre area surrounding and including the project site (referred to in the NES as the biological study area [BSA]). The BSA included the 1 mile corridor and a 50 foot buffer extending into the Bolsa Chica Ecological Reserve and Bolsa Chica State Beach. The NES included a Jurisdictional Delineation documenting existing conditions prior to project implementation. The NES jurisdictional wetland delineation determined that the entire 33.3 acre study area included up to 3.55 acres of jurisdictional wetland. Of this area, the NES addenda found that a total of 0.096 acre of wetland area would be permanently impacted by the proposed project, and 0.004 acre of wetland would be temporarily impacted. However, the post construction survey, as reflected in the Habitat Mitigation and Monitoring Plan, prepared for the proposed project by LSA Associates and dated April 2010, determined that permanent impacts to wetland area from the project is 0.115 acre, permanent impacts to deepwater aquatic habitat is 0.002 acre, and temporary impacts to wetland area is 0.005 acre. Thus, the total area of impacts due to the subject project to wetland and open water, temporary and permanent, totals 0.122 acre. These impacts account for all project impacts including those due to placement of the sheetpile and/or backfill between the sheet pile and the roadway and anticipated impacts due to the proposed removal of the “K-rail”, construction of the metal beam guard rail, and construction of the pedestrian cable railing. Thus, the proposed project includes fill of wetlands, and must be evaluated under Section 30233 of the Coastal Act.

1) Allowable Use

The proposed project is necessary to protect an existing roadway. The proposed development restores pre-existing roadway capacity and does not result in any increase to the service capacity of the roadway. The roadway is heavily used by the general public. Without the proposed development (including the work conducted under the emergency permits), the roadway would continue to collapse into the adjacent Bolsa Chica wetlands. The proposed repair work represents a use that is incidental to the existing roadway. The roadway provides a public service in that it allows the general public to continue to travel along its route. This particular roadway is also heavily used by the general public for public access to the adjacent public beach at Bolsa Chica State Beach as well as other beaches and recreational amenities in the vicinity. It also provides access to the public trails of the Bolsa Chica Ecological Reserve and surrounding public trails. Thus, the proposed development is both incidental (to the existing public road, Pacific Coast Highway) and serves a public service purpose (continued public vehicular and bicycle transportation). Thus, as an incidental public service use the project constitutes an allowable use under Coastal Act Section 30233. Therefore, the proposed development is

consistent with Section 30233 of the Coastal Act with regard to uses allowed within wetlands.

2) Alternatives

The proposed project involves making permanent the installation of 475 linear feet of sheetpile, 30 feet deep, no more than 5 feet bayward of the pavement (or pre-existing pavement in areas of pavement collapse), and top elevation to no higher than the elevation of the adjacent pavement. By using sheetpile, rather than rock rip rap, buttress fill, concrete retaining wall or other typical methods used for bank/slope stabilization, the footprint of the project and thus the project's wetland impact is minimized. It is the applicant's intent that while providing the necessary embankment support, the least amount of wetland fill occur. As a result, the sheetpile stabilization was proposed under the emergency coastal development permit due to its narrower footprint compared to other possible embankment stabilization methods. In addition, the proposed backfill between the sheetpile and the roadway will restore the former roadway area. No expanded roadway would result. The project footprint represents the least area of impact that would still accomplish the goal of stabilizing the roadway embankment. The proposed alternative (retaining the sheetpile and backfill constructed under the emergency permit) represents the least environmentally damaging, feasible alternative and thus the preferred alternative.

As described above, the proposed project alternative represents the least environmentally damaging feasible alternative capable of achieving the necessary roadway protection goals. Therefore, the Commission finds the proposed alternative meets the requirements of Section 30233 that the least environmentally damaging feasible alternative be employed.

3) Mitigation

Section 30233 of the Coastal Act requires that projects resulting in impacts to wetlands include feasible mitigation measures to minimize adverse environmental effects. According to the Habitat Mitigation and Monitoring Plan, prepared by LSA, and dated April 2010 the permanent impacts to wetland area from the project is 0.115 acre, permanent impacts to deepwater aquatic habitat is 0.002 acre, and temporary impacts to wetland area is 0.005 acre. Thus, the total area of impact due to the subject project to wetland and open water, temporary and permanent, totals 0.122 acre.

Typically, the Commission has found that mitigation for wetland impacts should occur at ratios of either 4:1 or 3:1 (mitigation to impact) depending upon project specifics. In addition, the Commission typically requires that mitigation be as near as possible to the area of impact and that the mitigation habitat be the same type of habitat. The applicant is proposing to mitigate the project's impacts by restoring 1.06 acres to salt marsh habitat as described below. Based on total area of impact of 0.122 acre, applying a 4:1 mitigation ratio would generate a need for 0.488 acre of mitigation area. The applicant has requested that the additional mitigation area (0.572 acre) be reserved for future mitigation needs. Thus, although 1.06 acre of salt marsh habitat will be restored under the proposed

mitigation plan, 0.488 is specifically identified to offset the impacts due to the subject project.

The applicant is proposing to mitigate the proposed project's wetland impacts at a Caltrans-owned parcel located at the southeast corner of the intersection of Beach Boulevard and Pacific Coast Highway in the City of Huntington Beach. The mitigation site is approximately 3 ½ miles southeast of the project site. The mitigation site is further from the area of impact than the distance usually preferred by the Commission. However, a mitigation area in closer proximity to the area of impact was not possible due to the limited amount of roadway shoulder available and lack of on-site and near-site planting opportunities. In addition, the mitigation location is considered valuable due to its location adjacent to the Beach/Newland Marsh wetland restoration area recently undertaken.

The mitigation site is located within the LCP jurisdiction of the City of Huntington Beach, and received approval of local coastal development permit 08-026 on April 30, 2010. The mitigation project was begun in February 2011 with the removal of nonnative plants. Planting of native plants is expected to have occurred in mid December of 2011. The mitigation plan is described in greater detail below.

The restoration project includes removal of invasive nonnative vegetation, primarily giant reed (Arundo donax) but also including castor bean (Ricinus communis), and Brasilian pepper (Schinus terebinthifolius), and the installation of a native plant palette once the invasive, nonnative plants are removed. The removal of invasive nonnative species and restoration of native salt marsh habitat is intended to contribute to the overall effort of improving the Beach/Newland Marsh wetland. Removal of invasive nonnative species and restoration of native habitat is intended to recreate historical wetlands vegetation, thus reestablishing wildlife habitat and water quality functions.

The mitigation site location was selected through consultation with resource agencies and landowners, and based on hydrology, soil type, existing vegetation, quality of adjacent habitat, and land ownership. The removal of giant reed and other invasive species from the mitigation site and restoration of the site to native salt marsh vegetation, in addition to improving the habitat at the mitigation site itself, is also intended to protect the larger native salt marsh habitat adjacent to the mitigation site from invasion by giant reed and subsequent degradation of that restored habitat. The topography and elevation of the proposed mitigation site is higher than the adjacent native salt marsh habitat. Removal of the giant reed and its rhizomous roots is expected to lower the elevation of the mitigation site slightly, which would serve to move the ground level closer to the water table.

More specifically, the mitigation project includes: removal of all nonnative invasive species; fine grading and soil decompaction, if necessary; installation of temporary irrigation and erosion control measures, if necessary; initiation of grow/kill cycles following initial removal of invasive nonnative species and prior to installation of native saltmarsh plant palette; container plant installation of native plants; and, lastly, hydroseed application of native plant seed bank. If installed, the temporary irrigation system will be removed

once performance standards have been achieved or at the discretion of the monitoring biologist.

No erosion control measures are anticipated to be necessary for the proposed mitigation project. However, in the eventuality that erosion control measures are deemed necessary by the monitoring biologist, they are proposed to be consistent with the following: 1) in the case of heavy rainfall conditions, nonvegetative erosion control measures (e.g. sandbags, rice straw wattles) may be installed. All rice straw wattles used at the mitigation site are to be manufactured from straw that is wrapped in biodegradable, natural fiber netting a minimum of 8 inches in diameter. Erosion control measures, if necessary, would be installed prior to installation of the planned native plant community.

If an irrigation system is deemed necessary by the monitoring biologist, depending on current and anticipated hydrology, it will be installed as necessary to: 1) expedite the growth of nonnative vegetation during the grow/kill cycles, 2) prevent plant loss during periods of dry conditions, and/or, 3) help establish the newly installed native vegetation community. The irrigation system, if installed, will be removed once performance standards have been achieved or at the discretion of the monitoring biologist.

The goal of the habitat mitigation project is to remove all invasive nonnative species and restore healthy and functional salt marsh habitat. The native habitat performance standards include at least 80 percent relative coverage by native salt marsh plant components that are similar in composition to those of the adjacent high-quality salt marsh habitat; and evidence that the site is sustainable including showing signs of regeneration (progeny and new growth), healthy plants, a low mortality rate, and resistance to weeds (less than 10 percent nonnative weed cover, less than 5 percent cover by nonnative herbaceous invasive weed, absence of nonnative perennial invasive weeds, and minimal weed maintenance during the previous spring season). The site will not be deemed to have met performance standards until it has gone without irrigation for a period of 2 years; or the restoration/mitigation project may be deemed successful if there is agreement between the monitoring biologist and biologists from the California Department of Fish and Game (CDFG), the California Coastal Commission (CCC), and the Army Corps of Engineers (Corps) that the salt marsh restoration area has developed into healthy, functional habitat. The applicant's goal is to have met all of the above performance standards within 5 years. However, if the performance standards are not met within 5 years, continued maintenance and monitoring will be required.

The mitigation site is located within the certified LCP area of the City of Huntington Beach. Thus a coastal development permit to implement the mitigation plan was processed through the City of Huntington Beach. In order to assure that the implementation is carried out as proposed, as necessary to assure that impacts due to the roadway embankment repair project are in fact mitigated as required under Section 30233 of the Coastal Act, a special condition is imposed which requires that all reports prepared in conjunction with the mitigation project be submitted for the review and approval of the Executive Director. This requirement is also already included in the Habitat Mitigation and Monitoring Plan. If future changes to the mitigation plan should be proposed, however, those changes would also

need to be reviewed to determine whether the plan still adequately mitigates the impacts of the subject project. Thus, a special condition is imposed which requires that any future changes to the mitigation plan be subject to review and approval of the Executive Director and may require an amendment to the local coastal development permit approved for the mitigation project, or a new coastal development permit. The special condition also makes clear that such actions (amending the local coastal permit and/or a new coastal permit) are appealable to the Coastal Commission.

The applicant has indicated that the mitigation in excess of the area typically required 4:1 area ratio (mitigation:impact) will be reserved to serve future mitigation needs, it is important to assure that the minimum typically required mitigation area is reserved solely to offset impacts resulting from the roadway repair project. It must be clear that, at a minimum, the typically required 0.488 acres is reserved solely to offset impacts from the subject project. Therefore, a special condition is imposed which requires that at least 0.488 acres of the mitigation area be so reserved.

Therefore, as conditioned, the Commission finds the proposed mitigation meets the requirements of Section 30233 that the adequate mitigation be provided.

4) Conclusion

The proposed project serves the public service purpose of allowing continuation of existing public vehicular and bicycle use of Pacific Coast Highway at the subject site. In addition, the proposed repairs are incidental to the existing public roadway use. Therefore, the proposed development meets the requirement of Section 30233(a) of the Coastal Act that it be one of the specifically enumerated allowable uses. As described previously, the proposed project represents the least environmentally damaging feasible alternative. The proposed project will result in adverse impacts to 0.122 acre of wetland habitat. However, mitigation in the form of 1.06 acres of restored salt marsh habitat is proposed, of which 0.488 acre is dedicated to offset project impacts. The ratio of habitat lost to habitat recreated meets the 4:1 ratio typically imposed. Thus, the Commission finds that, as conditioned, adequate mitigation is proposed to offset the impacts to wetlands. Therefore, the Commission finds that the proposed project, as conditioned, is consistent with the requirements of Section 30233 of the Coastal Act regarding fill of wetlands.

E. Sensitive Habitats

Section 30240 of the Coastal Act states:

(a) Environmentally sensitive habitat areas shall be protected against any significant disruption of habitat values, and only uses dependent on those resources shall be allowed within those areas.

(b) Development in areas adjacent to environmentally sensitive habitat areas and parks and recreation areas shall be compatible with the continuance of those habitat and recreation areas.

In conjunction with the emergency and proposed project, a Natural Environment Study (NES) was prepared by Caltrans, dated August 2009, with two addendums to the NES prepared by LSA Associates, dated 3/3/10 and 6/10/10. In addition, in compliance with the requirements of the emergency coastal development permits, a Revised Final Biological Construction Monitoring and Impact Assessment Report (RFBCMIAR) was prepared by LSA Associates, dated 4/1/10. The Revised Final BCMIAR was prepared to incorporate the proposed two additions to the project: 1) installation of 538 linear feet of 2.4 foot high metal beam guard rail (MBGR) at the edge of the paved shoulder (4 feet away from the edge of the sheet pile), and 2) installation of 495 linear feet of 3 foot high pedestrian safety cable rail along the edge of the sheet pile.

The NES and subsequent reports described above identified the extent of biological resources within a 33.3 acre area surrounding and including the project site (referred to in the NES as the biological study area [BSA]). The BSA included a 1 mile corridor and a 50 foot buffer extending into the Bolsa Chica Ecological Reserve and Bolsa Chica State Beach. The NES found that the BSA consists of nine vegetation community types, including native dune mat, estuarine wetland/open water, invaded dune mat, invaded ice plant dune mat, dune scrub, coastal scrub, bare ground, disturbed, and exotic annual grassland. Additionally, focused wildlife surveys (burrowing owl, California black rail and light-footed clapper rail) included in the NES were conducted within a 500 foot buffer area of the project impact zone.

The subject project is immediately adjacent to the Bolsa Chica Ecological Reserve's Outer Bolsa Bay (see exhibit). A major restoration project was undertaken restoring full tidal action in the Bolsa Chica wetlands in 2004. Thus the project site is adjacent to environmentally sensitive habitat area and must be evaluated as to whether it would be compatible with the continuance of the habitat. The sheetpile repair work and placement of "K-rail" have already been accomplished under the approved emergency permits. The NES evaluated the site for impacts and, other than the wetland impacts identified above, the only other impacts identified were: 0.001 acre of impact to bare ground and 0.517 acre of impact to disturbed area. The Revised Final BCMIAR, prepared subsequent to construction of the emergency project found final impact figures to be 0.003 to bare ground and 0.094 to disturbed area. Disturbed area is described in the NES as "developed areas such as existing paved roads, ornamental vegetation, and commercial and residential properties. Disturbed area are characterized by nonnative vegetation associated with past human disturbances and can be found on old roads, roadsides, and in past clearings within the BSA. Where vegetated, these areas are typically dominated by ripgut brome (Bromus diandrus)." Neither of these "habitat" types are considered to be sensitive habitats.

Other than the above described wetland impacts, no impacts were identified in the Revised Final BCMIAR. Regarding the work that has already occurred (consistent with the approved emergency permits), the Revised Final BCMIAR concluded:

> *"All project activities were conducted in compliance with recommended avoidance and minimization measures and weed abatement measures, and no incident reports*

were issued. The project did not affect the nesting or breeding behavior of birds, and no violations to water quality conditions occurred."

However, additional work is yet proposed to occur. This includes removal of 520 feet of temporary concrete barrier railing (K-railing) and its underlying 479 feet of asphalt concrete strip (3.5 feet wide); installation of approximately 538 feet of metal beam guard rail (2.4 feet high) at the edge of the existing paved shoulder, 4 feet from the sheet pile wall; and, installation of approximately 495 feet (3 feet high) of pedestrian safety cable rails along the edge of the sheet pile wall.

The second addendum to the NES, prepared by LSA and dated 6/10/10 finds that the proposed removal of the "K" rails and construction of the metal beam guard rail and pedestrian safety cable rail have the potential to affect sensitive, native migratory and nesting birds which may occur in the project vicinity. Sensitive bird species may nest in the general vicinity of the proposed project. In order to assure that sensitive birds are not disturbed during their nesting season, a special condition is imposed which requires the applicant to conduct a bird survey for the area within 500 feet of the project within three days prior to commencement of construction if work is undertaken during the nesting season (February 28 to August 31). If the required bird survey reveals active nests, the project has been conditioned to cease work within 300 feet of active songbird nests and within 500 feet of any raptor nests until the nest has been vacated, juveniles have fledged, and there is no evidence of additional nest attempts. In addition, the project proposes to maintain a qualified biological monitor on site prior and during construction activities to ensure that the biological resources adjacent to the impact boundary are appropriately flagged and fenced prior to commencement of construction to protect the resources from any impacts outside the project footprint. The applicant proposes to maintain the flagging and fencing in place throughout the entire period of construction.

In addition, the project has been conditioned to employ construction responsibilities and debris removal measures that ensure protection of the site and surrounding habitat areas. Furthermore, the project has been conditioned to limit construction staging and access activities to access the site only for the Pacific Coast Highway side of the project. Therefore, the Commission finds that the proposed project, as conditioned, is consistent with Section 30240 of the Coastal Act which requires that development adjacent to ESHA be sited and designed to prevent impacts that would significantly degrade the ESHA and to be compatible with the continuance of the ESHA.

F. Water Quality

Section 30230 of the Coastal Act states:

Marine resources shall be maintained, enhanced, and where feasible, restored. Special protection shall be given to areas and species of special biological or economic significance. Uses of the marine environment shall be carried out in a manner that will sustain the biological productivity of coastal waters and that will

maintain healthy populations of all species of marine organisms adequate for long-term commercial, recreational, scientific, and educational purposes.

Section 30231 of the Coastal Act states:

The biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes appropriate to maintain optimum populations of marine organisms and for the protection of human health shall be maintained and, where feasible, restored through, among other means, minimizing adverse effects of waste water discharges and entrainment, controlling runoff, preventing depletion of ground water supplies and substantial interference with surface water flow, encouraging waste water reclamation, maintaining natural vegetation buffer areas that protect riparian habitats, and minimizing alteration of natural streams.

Section 30230 of the Coastal Act requires that marine resources be protected. Section 30231 of the Coastal Act requires that the biological productivity of coastal waters be maintained, and where feasible, restored. Sections 30230 and 30231 require that the quality of coastal waters be maintained and protected from adverse impacts. The proposed project includes work immediately adjacent to the Outer Bolsa Bay area of the Bolsa Chica Ecological Reserve. As such, it is important to assure that the proposed development protect marine resources and water quality in the area.

The proposed project includes measures to help assure protection of the waters of Outer Bolsa Bay, the BCER, and the associated marine resources. Proposed measures to ensure protection of water quality and marine resources include: temporary sediment control including temporary gravel bag berm, temporary silt fence, temporary soil stabilization, temporary sediment control, tracking control, and wind erosion control. In addition the project as proposed includes employee training in water pollution control work and implementation of Caltrans' Construction Site Best Management Practices (BMPs) Manual. Therefore, as proposed the project is consistent with Sections 30230 and 30231 of the Coastal Act with regard to maintaining and enhancing biological productivity and quality of coastal waters and wetlands.

G. Visual Impacts

Section 30251 of the Coastal Act states:

The scenic and visual qualities of coastal areas shall be considered and protected as a resource of public importance. Permitted development shall be sited and designed to protect views to and along the ocean and scenic coastal areas, to minimize the alteration of natural land forms, to be visually compatible with the character of surrounding areas, and, where feasible, to restore and enhance visual quality in visually degraded areas. New development in highly scenic areas such as those designated in the California Coastline Preservation and Recreation Plan prepared by the Department of Parks and Recreation and by local government shall be subordinate to the character of its setting.

The subject site is located along Pacific Coast Highway, between the Bolsa Chica Ecological Reserve to the east and Bolsa Chica State Beach to the west. This area of Pacific Coast Highway is also a major public access route. Views of the wetlands on the inland side and the beach and ocean on the seaward side are available along this stretch of the highway. In addition, this portion of Pacific Coast Highway is eligible for a Scenic Highway Designation. Consequently, impacts to public views arising from the proposed project must be considered.

The sheetpiles constructed under the emergency coastal development permit will not exceed the elevation of the existing roadbed. Thus, impacts to public views are not expected due to the sheetpile placement. However, the proposed metal beam guard rail and pedestrian cable rails will be visible. To assess whether impacts would accrue from construction of these rails, the applicant has submitted a Visual Analysis, prepared by Ronald J. Wong, Landscape Architect, dated December 10, 2009. The assessment method employed is based on the determination of the visual environment from the definition of and analysis of the landscape units and the project viewshed by the Landscape Architect. The basis for the visual analysis process is from the publication "Visual Impact Assessment for Highway Projects", Federal Highway Administration, March 1981.

The Visual Impact Assessment describes the project viewshed as follows:

> *"The project viewshed is the scene of the geography, the landscape and the development visible by the motorist, bicyclists and the recreational facility users from and to the project area. The elements and composition of the view shed is the visual environment".*

More specifically, the Visual Impact Assessment states:

> *"The northbound view from PCH is of the BCER, the surrounding development and the Bolsa Chica State Park. The southbound view from PCH is an opposite view of the same visual elements." … "The project foreground view has the roadway, the associated fence barrier along the Bolsa Chica State Park and the elements associated with the State Park. The project middle ground has views of the Bolsa Chica Mesa roadway associated with the ponds and islands of the BCER, the sand of the Bolsa Chica State Park and the associated recreational facilities. The project background view is of Pacific Ocean, the San Gabriel Mountains and Santa Ana Mountains."*

And further: *"The overall visual character of the landscape unit is of a natural coastal area. The area has some visual intrusions. They are the pavement of the roadway and various elements associated with the recreational facilities. The design of the improvements of the recreational facility has a character that complements the visual environment. Additionally the background has visual intrusions from the residential development and the associated ornamental landscape."*

The Visual Impact Analysis concludes:

> *"The steep slope of the lagoon that is adjacent to the northbound lanes of PCH is a safety hazard. As a result, the California Department of Transportation (Department) needs to install a safety barrier to protect the health and safety of the traveling public.*
>
> *The visual analysis of the project elements shows a minor degradation of the visual environment along PCH. On the other hand, since this area is unique in the region and since historically the viewer response to any development is high, it is very important that the safety barrier needs to complement the visual environment. Moreover, since Route 1 is eligible for scenic highway designation, it is also very important that any improvements by the Department have neutral effect to the visual environment as well. Additionally it is most important not to contribute to a cumulative degradation of the visual environment.*
>
> *Consequently, according to the visual analysis, the Department needs to use a metal beam guardrail rather than a concrete safety barrier, to avoid any change to this unique visual environment. Additionally the metal guardrail should have some treatment to minimize the shiny appearance of a new guardrail installation."*

In sum then, some type of guard rails are required due to Caltrans safety regulations (described previously). The current K-rail is more visually intrusive as it is solid and bulky. The proposed rails, the metal guard beam and the pedestrian cables, are open and allow views through the openings. In addition, the proposed rails are relatively low in height (3 feet and 2.4 feet high respectively), and so would typically be below the line of sight. Therefore, the Commission finds that, as proposed, the metal guard beam and pedestrian cables are the least visually intrusive alternatives that are consistent with Caltrans safety regulations. Thus, visual impacts from the proposed project are minimized. Therefore, the Commission finds that the proposed development is consistent with Section 30251 of the Coastal Act regarding protection of public views.

H. Public Access and Recreation

Section 30210 of the Coastal Act states:

> *In carrying out the requirement of Section 4 of Article X of the California Constitution, maximum access, which shall be conspicuously posted, and recreational opportunities shall be provided for all the people consistent with public safety needs and the need to protect public rights, rights of private property owners, and natural resource areas from overuse.*

Section 30210 of the Coastal Act requires that maximum public access and recreational opportunities be provided. In this area, Pacific Coast Highway lies between the ocean and the tidally influenced Bolsa Chica wetlands. The subject project would result in repairs to Pacific Coast Highway, a major public access route. The proposed project will allow

continued use of the highway to serve as a major access transportation corridor for both vehicles and bicycles. Timing of construction as proposed would avoid peak use weekend periods. In addition, the duration of the project is not expected to exceed two or three months. Therefore, the Commission finds that the proposed project is consistent with Section 30210 of the Costal Act which requires that maximum access be provided.

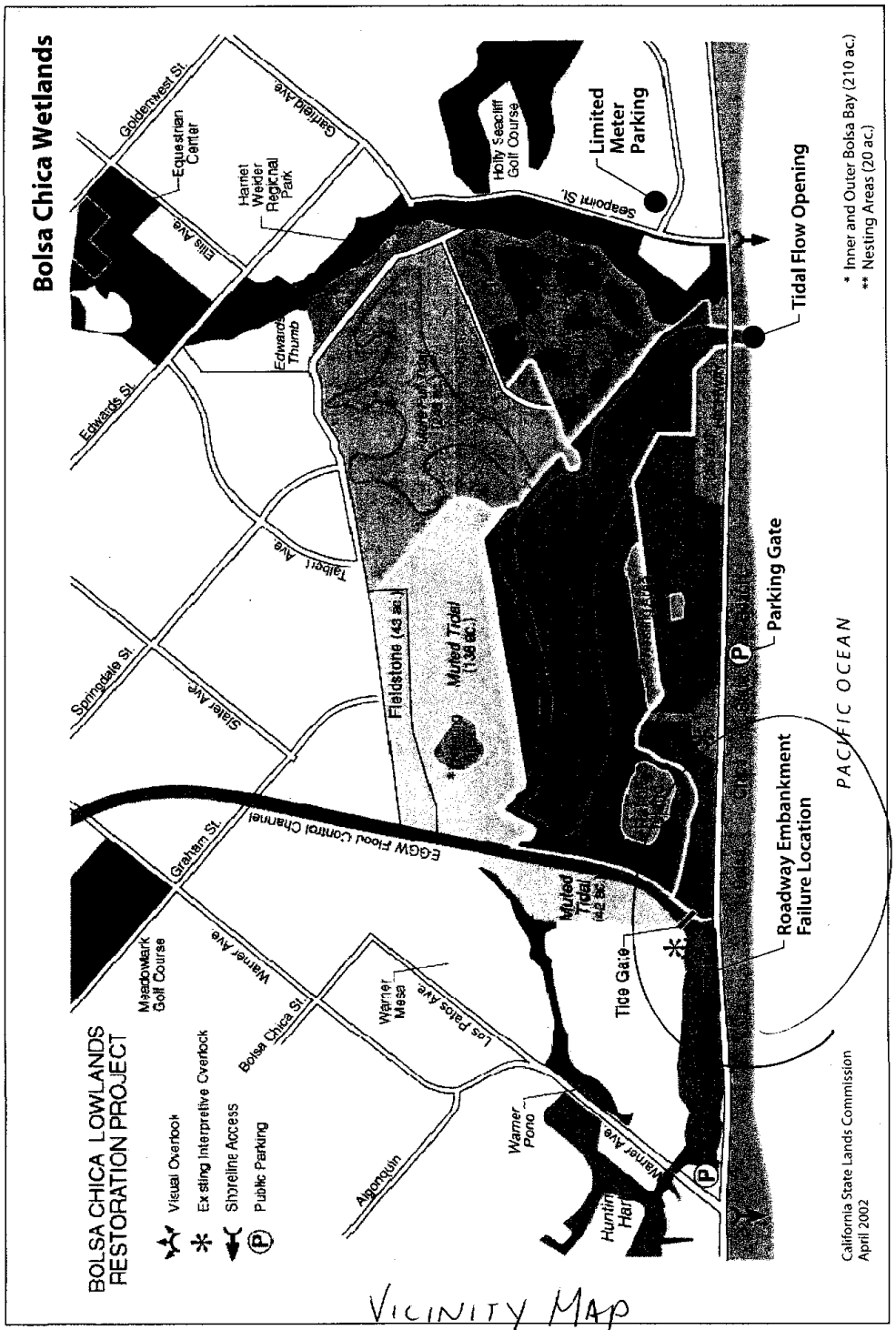
I. Local Coastal Program

The subject site is located in the unincorporated area of Orange County known as the Bolsa Chica LCP area. Therefore, permit authority remains with the Coastal Commission and the standard of review for development are the Chapter 3 policies of the Coastal Act. Approval of the project, as conditioned, will not prejudice the ability of the local government to prepare an LCP that is in conformity with the provisions of Chapter 3 of the Coastal Act.

J. California Environmental Quality Act

Section 13096 of the Commission's regulations requires Commission approval of Coastal Development Permit applications to be supported by a finding showing the application, as conditioned by any conditions of approval, to be consistent with any applicable requirements of the California Environmental Quality Act (CEQA). Section 21080.5(d)(2)(A) of CEQA prohibits a proposed development from being approved if there are feasible alternatives or feasible mitigation measures available which would substantially lessen any significant adverse effect which the activity may have on the environment. For the proposed project, Caltrans (California Department of Transportation) is the lead agency for CEQA purposes. Caltrans issued a Negative Declaration for the project (SCH # 2010041077).

The proposed project, as conditioned, has been found consistent with the hazard, wetland, habitat, marine resources, visual, and public access policies of the Coastal Act. As conditioned, there are no feasible alternatives or feasible mitigation measures available which would substantially lessen any significant adverse impact which the activity may have on the environment. Therefore, the Commission finds that the proposed project can be found consistent with the requirements of the Coastal Act to conform to CEQA.



PCH ROADWAY EMBANKMENT FAILURE INVESTIGATION

Location Map

Figure 2

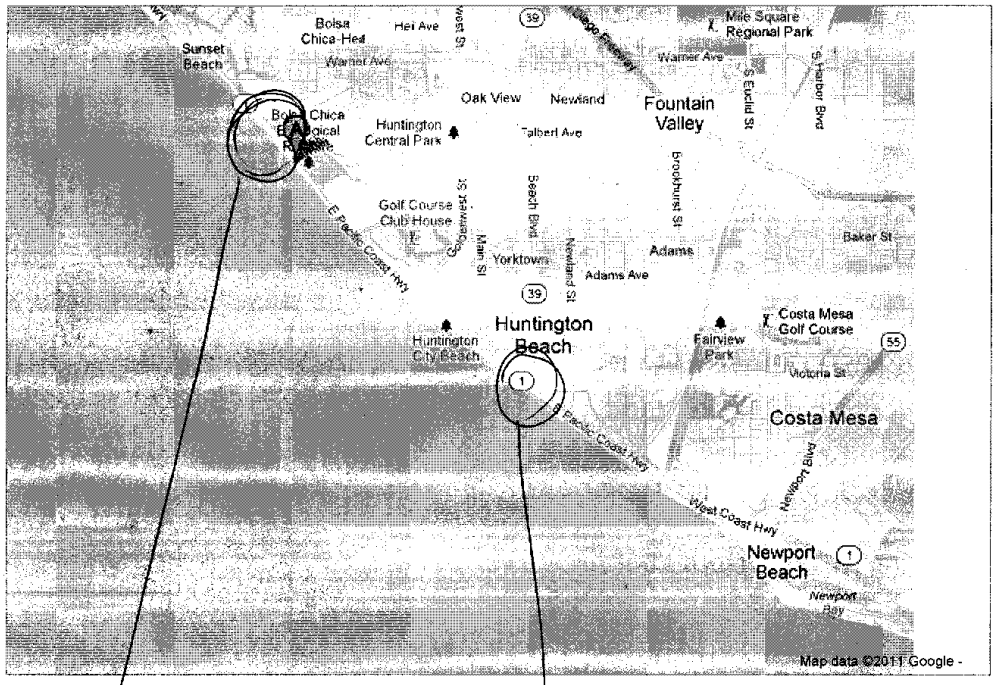
RBF CONSULTING | 3/31/11 JN 10-107848-17364 MAS

VICINITY MAP

5-10-106 Caltrans Exhibit A

To see all the details that are visible on the screen, use the "Print" link next to the map.

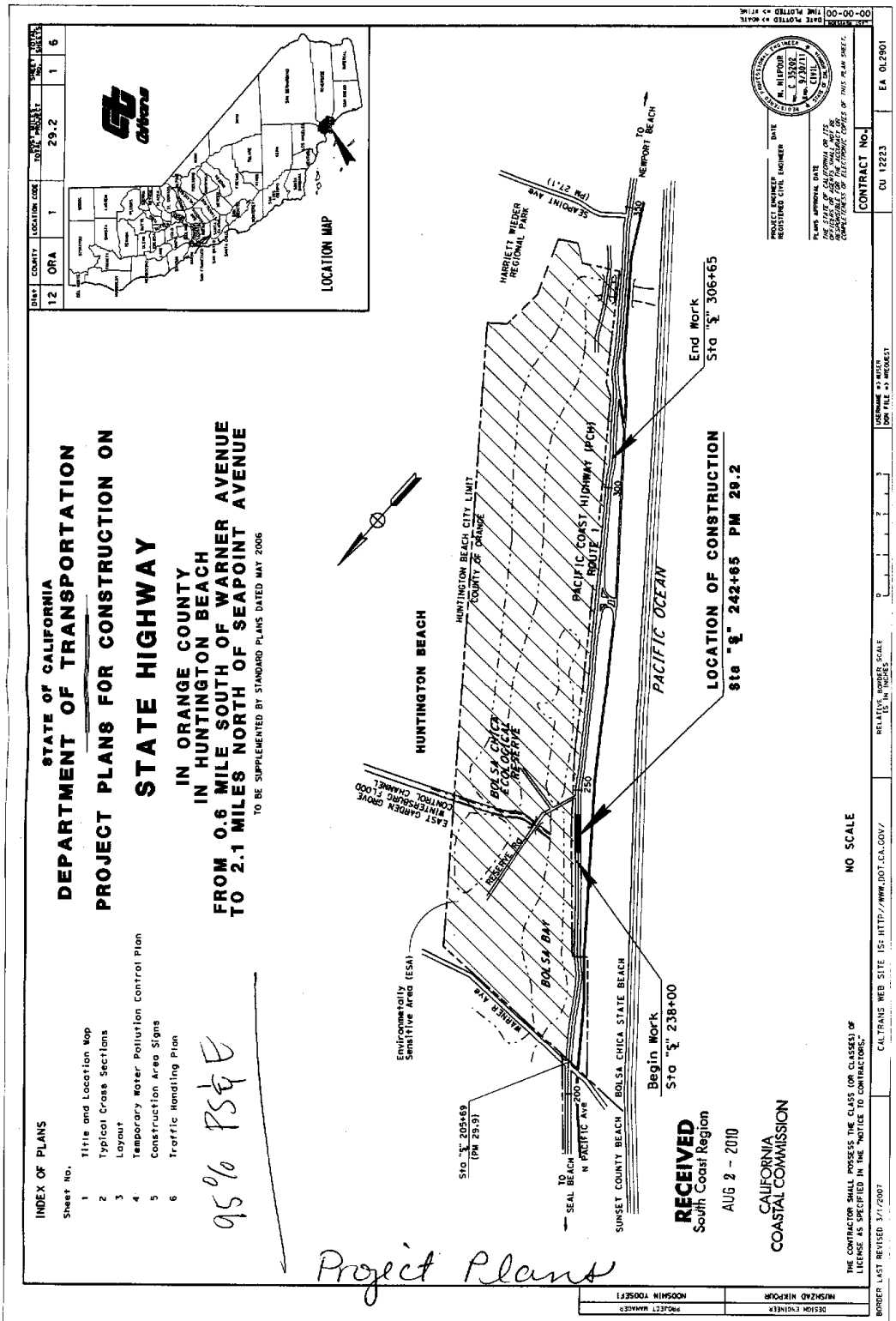
Google



repair project location

mitigation location

5-10-106 Caltrans Exhibit B



Project Plans

95 pgs PS&E

5-10-106 Caltrans · Exhibit C page 1 of 2

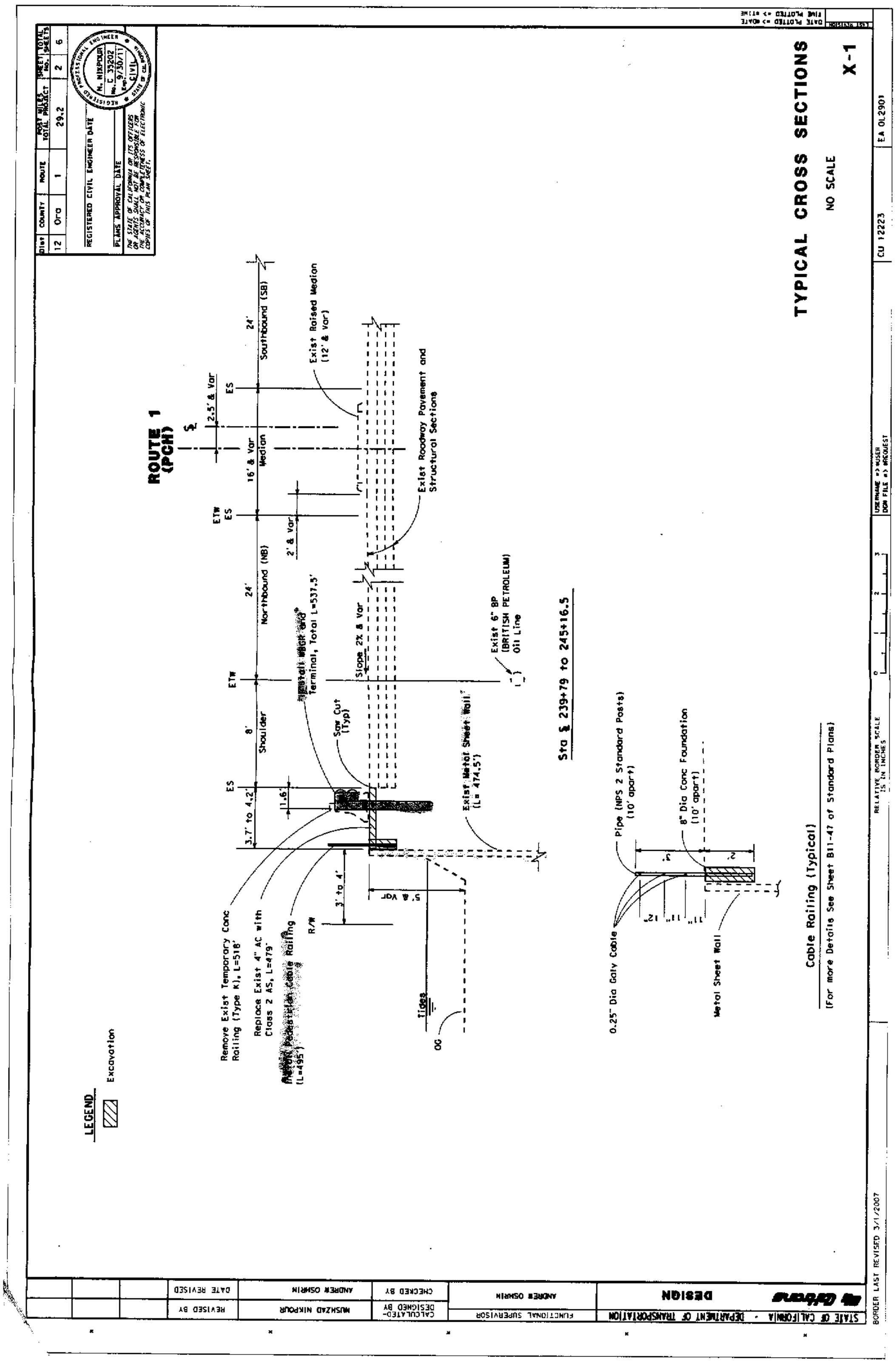

TYPICAL CROSS SECTIONS
NO SCALE
X-1
ROUTE 1 (PCH)
Sta ℄ 239+79 to 245+16.5
Cable Railing (Typical)
(For more Details See Sheet B11-47 of Standard Plans)
LEGEND
Excavation
STATE OF CALIFORNIA · DEPARTMENT OF TRANSPORTATION
DESIGN

Exhibit C2