CALIFORNIA COASTAL COMMISSION
South Coast Area Office
200 Oceangate, Suite 1000
Long Beach, CA 90802-4302
(562) 590-5071

Th 13b

ADDENDUM

May 10, 2010

TO: Coastal Commissioners and Interested Parties

FROM: South Coast District Staff

SUBJECT: ADDENDUM TO **ITEM Th 13b**, COASTAL DEVELOPMENT PERMIT APPLICATION **#5-09-163 (CalTrans)** FOR THE COMMISSION MEETING OF **May, 2010**.

Revisions/Additions to Staff Report Findings

Commission staff recommends the following changes and additions to section B. "Minimization of Adverse Impacts" in the staff report. Deleted language is shown in ~~strikethrough~~ and new language is in ***bold, underlined italic.***

1. Beginning at the fifth paragraph at bottom of page 8 of the staff report, modify as follows:

   Coastal Act Section 30235 acknowledges that cliff retaining walls and other such structural or "hard" methods designed to forestall erosion also alter natural landforms and natural shoreline processes. Accordingly, Section 30235 limits the construction of shoreline protective works to those required to serve coastal-dependant uses, or to protect existing structures or public beaches in danger from erosion, provided they are designed to eliminate or mitigate adverse impacts on shoreline sand supply. The Coastal Act provides these limitations because shoreline structures can have a variety of negative impacts on coastal resources including adverse ~~a~~***effects*** on sand supply, public access, coastal views, natural landforms, adjacent properties, and overall shoreline dynamics. The Commission must always consider the specifics of each individual project, but under the standards established by Section 30235 of the Coastal Act, it prefers alternatives that avoid the needs for shoreline armoring. In addition, the Commission has generally interpreted Section 30235 to require the Commission to approve protective devices for existing principal structures. Highway One is an existing principal structure and, therefore, ~~the applicant is entitled to protect the highway from erosion with the construction of a cliff retaining wall,~~ ***this section of highway can be considered for protection*** so long as the project complies with all other applicable requirements of Section 30235 ***is the least damaging feasible alternative, and adequate mitigation is provided***.

2. Beginning at the fifth paragraph at bottom of page 10 of the staff report, modify as follows:

   The proposed project will result in armoring portions of the upper bluff face along two sections adjacent to SR-1/PCH. This project will not occupy any existing beach space. A

minimal amount of coastal bluff material that would otherwise nourish the sand supply system will be trapped behind the new upper bluff armoring. There is a wide sandy beach between ***the*** toe of the bluff and the ocean, therefore there is ***currently*** no direct wave attack eroding the toe of the bluff along this section of coastal bluff to provide sand nourishment to the beach. Beach sediment is mostly fed by onshore transport of offshore sand***, but the coastal bluffs do contain some sand material and make contributions to the littoral cell through ongoing erosion..*** ~~Therefore, the impact to sand supply by the proposed retaining walls is not substantial as minimal amount of sediment is contributed from coastal bluff erosion at this beach. The applicant did not provide a beach sand supply impact analysis, instead provided an explanation that the design of the road initially involved compaction to a point where bluff erosion would not be allowed and would be prevented along the upper bluff face. If erosion of the upper bluff were allowed, the road would be compromised as it eroded away onto the beach below.~~

The proposed retaining walls would protect the road and prevent further erosion of the upper bluff. However, as there will be continued drainage down slope of the proposed retaining wall at PM 11.61 from an existing 21" diameter drainage pipe, there is the possibility for erosion to continue down slope of the retaining wall. The erosion that have already occurred at the upper bluff areas where the retaining walls are proposed have contributed to the sediment supply of the beach below.

The applicant concluded that the erosion that has occurred at the upper bluff areas adjacent to the road is primarily caused by rain and windstorms, recent weathering and the likelihood that the road cut/ fill was not properly benched into the underlying bedrock when the road was originally constructed and not caused as a result of flow from the drainage pipe. Future sediment contributions to the littoral cell may be estimated, but they cannot be related to any historic retreat rate (like the shoreline erosion rate) because erosion seems to be caused by subaerial processes (such as rain and run-off) and because of recent changes/removal of shoreline armoring along this segment of beach in conjunction with the El Moro campground project (see CDP 5-04-060 and CDP 5-04-297). No quantifiable impacts to sand supply associated with the construction of these upper bluff retaining walls were submitted by the applicant at this time and no quantifiable impacts have been estimated by staff.

Should additional erosion occur down slope of either of the proposed retaining walls and/or further erosion control efforts be found necessary for this bluff face, any future shoreline or bluff protection proposals would require mitigation for impacts to sand supply, and the submitted analysis must include long-term impacts from these retaining walls. Furthermore, alternatives to shoreline protection must be pursued by CalTrans and/or State Parks prior to any proposals that involve further structural armoring.

3. Beginning at the top of page 5 of the staff report, modify Special Condition 4 as follows:

4. COMPLIANCE WITH COASTAL BLUFF RE-VEGETATION IMPLEMENTATION/ MONITORING PLAN and PROPOSED PLANTING PLAN

The applicant shall conform to the proposed restoration and monitoring plan titled *El Moro Emergency Slope Repair Preliminary Restoration Plan* prepared by Maggi Elgeziry, CA Dept

of Transportation, District 12 dated January 2010 and the Plant List and Planting Specifications in the Planting Plan submitted to this office on April 26, 2010. ***The bluff restoration plan includes the installation of erosion control blankets with native seeds and planting of native California Sagebrush, Coyote Brush, and California Encelia container plants. Both seeds and container plants are to be from a genetic source within five miles of the coast within Orange County. The planting plan shall not contain any non-native plants. Only temporary irrigation for plant establishment is allowed with a minimum of two years watering, weeding, plant replacement and monitoring.***

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Item Th13b

Filed:	January 13, 2010
49th Day:	March 3, 2010
180th Day:	July 12, 2010
Staff:	Liliana Roman-LB
Staff Report:	April 28, 2010
Hearing Date:	May 12-14, 2010
Commission Action:	

STAFF REPORT: REGULAR CALENDAR

APPLICATION NUMBER: 5-09-163

APPLICANT: California Department of Transportation, District 12
Attn: Scott Shelley

PROJECT LOCATION: State Route 1 (aka Pacific Coast Hwy) right-of-way between El Moro Canyon and El Moro Ridge Road within Crystal Cove State Park in the City of Laguna Beach (Orange County)

PROJECT DESCRIPTION: Construction of two retaining walls to stabilize a portion of State Route 1 that is adjacent to a coastal bluff; one retaining wall located at Post Mile 11.61 proposed to be 45-feet high (mostly underground) and 40-feet long at a 5-foot offset from the edge of the road pavement; a second retaining wall located at Post Mile 11.65 is proposed to be 20-feet high (partially underground) and 40-feet long at a 5-foot offset from the edge of the road pavement; the project also includes new cable railing fencing along the top of the walls, aesthetic treatments for the above-ground parts of the retaining walls, approximately 74 cu. yds of imported fill to backfill between the road and the retaining wall, and bluff slope invasive plant removal and re-vegetation.

LOCAL APPROVALS: CEQA Categorically Exempt, Class 1(c)

OTHER AGENCY APPROVALS: Support letter from the Orange Coast District of the California Department of Parks and Recreation

SUBSTANTIVE FILE DOCUMENTS: *Geotechnical Design Report for Slope Erosion on Pacific Coast Highway, City of Laguna Beach, Orange County, PM 11.61 and PM 11.65* prepared by the Department of Transportation Division of Engineering Services and dated February 10, 2009; *Natural Environment Study on Route 1 at PM 11.61/11.65, EA Number OK370* prepared by Maggi Elgeziry, Environmental Planner District 12 dated May 28, 2009; *El Morro Emergency Slope Repair Preliminary Restoration Plan, State Route 1 PM 11.61 & 11.65, EA Number OK370* prepared by Maggi Elgeziry, Associate District Biologist, District 12 dated January 2010.

SUMMARY OF STAFF RECOMMENDATION:

Staff recommends approval of the proposed project with **Nine (9) Special Conditions** regarding: 1) Construction Responsibilities and Debris Removal; 2) Conformance of Design/Construction Plans to Geotechnical Report; 3) Assumption of Risk, Waiver of Liability and Indemnity; 4) Compliance with Coastal Bluff Re-vegetation Implementation and Monitoring Plan; 5) Retaining

Wall Color and Texture Plan; 6) Future Soldier Pile/Grade Beam Exposure Plans, 7) Compliance with Proposed Erosion Control Plan; 8) Compliance with Proposed Construction Staging Plan; and 9) Future Development

The project proposes construction of two retaining walls to stabilize portions of State Route 1 undermined by erosion caused by rain and wind weathering. The applicant is proposing a color-texturization treatment of the proposed walls to address possible visual impacts of the retaining walls from the public beach below.

The primary issues associated with this development are visual resources, hazards, public access, biological resources, and water quality.

LIST OF EXHIBITS:

1. Location Map
2. Road/Bluff Deterioration Photographs
3. Project Plans
4. Existing Bluff Vegetation and Proposed Planting Plan
5. Project Visual Simulations
6. Sample Retaining Wall Aesthetic Treatments

PROCEDURAL NOTE – Standard of Review:

The proposed development occurs within the California Department of Transportation's right-of-way along State Route 1 (aka Pacific Coast Hwy) in an area partially within the Newport Coast LCP certified jurisdiction and partially within areas of Crystal Cove State Park that are not subject to the LCP.

The standard of review for the portion of the project within the State Park is Chapter 3 policies of the Coastal Act. The proposed development also occurs within a certified area under the Newport Coast Local Coastal Program, where the County of Orange has permitting jurisdiction. Where a project is located both within the Commission's and a local government's permitting jurisdiction, Section 30601.3 of the Coastal Act authorizes the Commission to act on a consolidated coastal development permit application for the entire project if the applicant, the local government, and the Commission all agree. The standard of review for a consolidated coastal development permit application submitted pursuant to Section 30601.3(a) is Chapter 3 (commencing with Section 30200) of the Coastal Act, with the appropriate local coastal program used as guidance.

The County of Orange and Cal Trans both concur with the Commission's processing of this coastal development permit for the entire project.

STAFF RECOMMENDATION:

MOTION: ***I move that the Commission approve Coastal Development Permit No. 5-09-163 pursuant to the staff recommendation.***

STAFF RECOMMENDATION OF APPROVAL:

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 TO APPROVE THE PERMIT:

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. 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 this permit is reported to the Commission. 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. CONSTRUCTION RESPONSIBILITIES AND DEBRIS REMOVAL

The permittee shall comply with the following construction-related requirements:

(a) No construction materials, debris, or waste shall be placed or stored where it may be subject to wave/wind erosion and dispersion;

(b) Any and all debris resulting from construction activities shall be removed from the project site within 24 hours of completion of construction;

(c) Erosion control/sedimentation Best Management Practices (BMP's) shall be used to control sedimentation impacts to coastal waters during construction. BMPs shall include, but are not limited to: placement of sand bags around drainage inlets to prevent runoff/sediment transport into the storm drain system and the Pacific Ocean, use of debris fences as appropriate and no stockpiling of materials in the project area.

(d) Construction debris and sediment shall be removed from construction areas each day that construction occurs to prevent the accumulation of sediment and other debris which may be discharged to coastal waters.

(e) The applicant shall dispose of all demolition and construction debris resulting from the proposed project at an appropriate location. If the disposal site is located within the coastal zone, a coastal development permit or an amendment to this permit shall be required before disposal can take place.

2. CONFORMANCE OF DESIGN/CONSTRUCTION PLANS TO GEOTECHNICAL REPORT

A. All final design and construction plans, including foundations, grading and drainage plans, shall be consistent with all recommendations contained in the *Geotechnical Design Report for Slope Erosion on Pacific Coast Highway, City of Laguna Beach, Orange County, PM 11.61 and PM 11.65* report prepared by the Department of Transportation Division of Engineering Services, Office of Geotechnical Design – South 1, Branch B and dated February 10, 2009. **PRIOR TO THE ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT**, the applicant shall submit, for the Executive Director's review and approval, evidence that an appropriate licensed professional has reviewed and approved all final design and construction plans and certified that each of those final plans is consistent with all of the recommendations specified in the above-referenced geologic evaluation approved by the California Coastal Commission for the project site.

B. The permittee shall undertake development in accordance with the approved final plans. Any proposed changes to the approved final plans shall be reported to the Executive Director. No changes to the approved final plans shall occur without a Commission amendment to this coastal development permit unless the Executive Director determines that no amendment is legally required.

3. ASSUMPTION OF RISK, WAIVER OF LIABILITY AND INDEMNITY

A. By acceptance of this permit, the applicant acknowledges and agrees (i) that the site may be subject to hazards from erosion, landslide, bluff retreat, earth movement, waves, storm waves and sea level rise; (ii) to assume the risks to the applicant and the property that is the subject of this permit of injury and damage from such hazards in connection with this permitted development; (iii) to unconditionally waive any claim of damage or liability against the Commission, its officers, agents, and employees for injury or damage from such hazards; and (iv) 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.

4. COMPLIANCE WITH COASTAL BLUFF RE-VEGETATION IMPLEMENTATION/ MONITORING PLAN and PROPOSED PLANTING PLAN

The applicant shall conform to the proposed restoration and monitoring plan titled *El Moro Emergency Slope Repair Preliminary Restoration Plan* prepared by Maggi Elgeziry, CA Dept of Transportation, District 12 dated January 2010 and the Plant List and Planting Specifications in the Planting Plan submitted to this office on April 26, 2010.

5. RETAINING WALL COLOR AND TEXTURE PLAN

A. **PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT**, the applicant shall submit, for the review and approval of the Executive Director, a plan demonstrating that the color and texture of the structure will be compatible with the adjacent bluff. The plan shall demonstrate that:

1. the entire face of the proposed shotcrete wall structure (both above and below finished grades) will receive the architectural/sculpted treatment should the underground components become exposed by future erosion
2. the shotcrete wall structure will be colored/constructed with concrete that has been colored with earth tones that are compatible with the adjacent bluff,
2. white and black tones will not be used,
3. the color will be maintained through-out the life of the structure,
4. the structure will be textured for a natural look that better blends with the bluff face
5. native vegetation appropriate to the habitat type may also be used if feasible to cover and camouflage the structure.

B. The permittee shall undertake development in accordance with the approved final color and texture plan. Any proposed changes to the approved final plan shall be reported to the Executive Director. No changes to the approved final plan shall occur without a Commission amendment to this coastal development permit unless the Executive Director determines that no amendment is legally required.

6. FUTURE SOLDIER PILE/GRADE BEAM EXPOSURE PLANS

In the event any subsurface project features subsequently become exposed to public view from the public beach below the site, the applicant shall submit plans to the Executive Director, for his review and concurrence, that provide for visual and aesthetic treatment plans similar to those required in conjunction with this coastal development permit. The aesthetic treatment shall provide that exposed materials match the surrounding terrain to the extent feasible and minimize visual impact of the exposed features. The applicant shall identify proposed materials, colors, monitoring, and maintenance plans, in conjunction with their submittal. The Executive Director shall determine whether the proposed work will require an amendment to this coastal development permit, a new coastal development permit, or whether no amendment or new permit is legally required.

7. COMPLIANCE WITH PROPOSED EROSION CONTROL PLAN

The applicant shall conform to the proposed Erosion Control Plan submitted on January 2010.

The permittee shall undertake development in accordance with the approved final plans. Any proposed changes to the approved final plans shall be reported to the Executive Director. No changes to the approved final plans shall occur without a Commission amendment to this coastal development permit unless the Executive Director determines that no amendment is legally required.

8. COMPLIANCE WITH PROPOSED CONSTRUCTION STAGING PLAN

The applicant shall conform to the proposed Construction Staging Plan submitted on January 2010.

The permittee shall undertake development in accordance with the approved final plans. Any proposed changes to the approved final plans shall be reported to the Executive Director. No changes to the approved final plans shall occur without a Commission amendment to this coastal development permit unless the Executive Director determines that no amendment is legally required.

9. FUTURE IMPROVEMENTS

This permit is only for the development described in coastal development permit 5-09-163. Except as provided in Public Resources Code section 30610 and applicable regulations, any future development as defined in PRC section 30106, including, but not limited to, a change in the density or intensity of use land, shall require an amendment to coastal development permit 5-09-163 from the California Coastal Commission or shall require an additional coastal development permit from the California Coastal Commission or from the applicable certified local government.

IV. FINDINGS AND DECLARATIONS:

The Commission hereby finds and declares:

A. Project Description and Location

The proposed development is located at two coastal bluff face locations along the roadway embankment of State Route 1 (SR-1) or Pacific Coast Highway (PCH) at Post Mile (PM) 11.61 and PM 11.65. The project site is within the SR-1 road right-of-way within the Irvine Coast LCP area of Orange County and a portion of the project site is also within the Crystal Cove State Park which is under the jurisdiction of the Department of Parks and Recreation. Crystal Cove State Park continues to the north, south, east and west of the project area (Exhibit 1). Since the development is located partly in the County's jurisdiction and partly within the Commission's, Section 30601.3 of the Coastal Act allows the Commission to act on a consolidated CDP application if the applicant, the local government, and the Commission all agree. Both the applicant and the County have agreed to allow the Commission to review this project as a consolidated application.

The site is a tall, steep coastal bluff slope between the first public road and the sea. There is a sandy beach at the toe of the bluff that is within the State Park. There is no parking along this portion of State Route 1 or, currently, in the vicinity of this portion of Crystal Cove State Park (a

public day-use parking lot is under construction nearby as part of the El Moro Campground and Day Use project). To access the beach at the site, the public must currently park at the Reef Point entrance to Crystal Cove State Park and walk over ½ mile downcoast along the sandy beach. At this time, upper portions of this public beach, closer to the bluff are currently fenced-off due to construction activities (i.e., removal of a mobile home park development and associated structures from the sandy beach), however, dry and wet sand areas continue to be open and available to the public.

Due to natural rain and wind erosion from multiple rainy seasons, the roadway bluff slope embankment adjacent to State Route 1 (SR-1) in the 2 subject locations has deteriorated causing the southbound roadway shoulder and bicycle lane to become unstable and in danger of collapse. CalTrans proposes to construct two retaining walls adjacent to PCH within the State right-of-way to stabilize and protect existing damaged and eroded embankment to prevent the loss of the roadway shoulder and an existing paved bicycle lane in the two identified areas. One retaining wall located at PM 11.61 is proposed to be 45-feet high and 40-feet long at a 5-foot offset from the edge of the road pavement with approximately 17-feet of the face of the sculpted shotcrete concrete wall visible above the finished grade looking inland from the beach below the project site, and the remainder of the structure is underground. The second retaining wall located at PM 11.65 is proposed to be 20-feet high and 40-feet long at a 5-foot offset from the edge of the road pavement with approximately 13-feet of the face of the sculpted shotcrete concrete wall visible above finished grade looking inland from the beach below the project site and the remainder fo the structure is underground. The project also includes new cable railing fencing along the top of the walls, aesthetic treatments for the above-ground parts of the retaining walls, approximately 74 cu. yds of imported fill to backfill between the road and the retaining walls, and bluff slope invasive plant removal and re-vegetation plan. Construction of the proposed retaining walls is entirely within the Cal Trans road right-of-way, however, a portion of the proposed bluff re-vegetation is within Crystal Cove State Park.

B. Minimization of Adverse Impacts

Section 30251 of the Coastal Act states in part:

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 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.

Section 30253 of the Coastal Act states in part:

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.

Section 30235 of the Coastal Act states in part:

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 Structure / Danger from Erosion

A geotechnical recommendation was prepared to remediate the developing instability along two sections of SR-1/PCH along the southwestern side of SR-1 in a cut slope made during the original construction of the roadway. The scarps of the slope failures have eroded up to the edge of pavement at the top of the slope. Within the immediate vicinity of the northernmost erosion area, there is roadway cracking along seaward southbound lane, lane #2, and road settlement. Exhibit #2 provides photographs of the road/bluff deterioration. The applicant provided a geotechnical report titled "Geotechnical Design Report for Slope Erosion on Pacific Coast Highway, City of Laguna Beach, Orange County, PM 11.61 and PM 11.65" and dated February 10, 2009 which consisted of field reconnaissance and geotechnical boring and sampling.

The study found that the material encountered at the site is Capistrano Formation bedrock prone to erosion. The northern most erosion area (PM 11.61) is at the cut/fill transition, therefore, it is likely that fill was not benched into the underlying bedrock. Roadway cracking and settlement was observed within the immediate vicinity of PM 11.61 along the #2 lane of the southbound roadway (closest to the bluff). The erosion is at the edge of pavement along a 25 – 30 feet wide area and is approximately 15 feet below the adjacent roadway elevation. The geotechnical report recommends a soldier pile retaining wall system with wood lagging to retain the top 15 feet of soil at areas of maximum erosion at PM 11.61 with structural backfill at areas to fill the voids between the lagging and eroded areas along PCH. The plans for RM 11.61 proposed a 45' tall and 40' long steel pile and timber lagging wall covered with a sculpted shotcrete concrete wall. Approximately 17 feet of the face of the sculpted shotcrete concrete wall would be visible above the finished ground looking inland from the beach below the project site, while the remainder of the structure is underground.

The southern most erosion area (PM 11.65) also appears to be the result of the runoff spilling over the slope and eroding fill material that was also not properly benched into the underlying bedrock. The depth of erosion here is approximately 2-5 feet below the original slope grade. The impacted area begins at the edge of pavement and extends west about 35 feet and is approximately 25 feet wide. The geotechnical report recommends a sheet piling wall system to retain the top 5-10 feet of soil at areas of maximum erosion at PM 11.65 with structural backfill to bring the soil to match roadway elevations. The plans for RM 11.65 proposed a 20' tall and 40' long steel pile and timber lagging wall covered with a sculpted shotcrete concrete wall. Approximately only the top 13-feet of the face of the sculpted shotcrete concrete wall would be visible above the finished ground looking inland from the beach below the project site.

Coastal Act Section 30235 acknowledges that cliff retaining walls and other such structural or "hard" methods designed to forestall erosion also alter natural landforms and natural shoreline processes. Accordingly, Section 30235 limits the construction of shoreline protective works to those required to serve coastal-dependant uses, or to protect existing structures or public beaches in danger from erosion, provided they are designed to eliminate or mitigate adverse impacts on shoreline sand supply. The Coastal Act provides these limitations because shoreline structures can have a variety of negative impacts on coastal resources including adverse affects on sand supply, public access, coastal views, natural landforms, adjacent properties, and overall shoreline

dynamics. The Commission must always consider the specifics of each individual project, but under the standards established by Section 30235 of the Coastal Act, it prefers alternatives that avoid the needs for shoreline armoring. In addition, the Commission has generally interpreted Section 30235 to require the Commission to approve protective devices for existing principal structures. Highway One is an existing principal structure and, therefore, the applicant is entitled to protect the highway from erosion with the construction of a cliff retaining wall, so long as the project complies with all other applicable requirements of Section 30235.

Feasible Alternatives

The next Section 30235 "test" that must be met before a shoreline protective device can be approved is that the proposed armoring is "required" to serve coastal-dependant uses or to protect existing threatened structures. In other words, shoreline armoring shall be permitted if it is the only feasible alternative capable of protecting the structure. Other alternatives typically considered include: the "no project" alternative; drainage and vegetation measures on the blufftop itself; abandonment or relocation of the threatened structures; sand replenishment programs; other less damaging structural alternatives; and combinations of some or all of these options.

1. No Project Alternative

Based on current conditions, the no-project option would result in continued undermining of the roadway, erosion of the coastal bluff and additional exposure of the roadway embankment. Such retreat would eventually cause the road to fail completely.

2. Drainage and Landscaping

Non-structural alternatives to the proposed upper bluff protective device include the use of landscaping and improved blufftop drainage controls to reduce erosion. While improved drainage controls and modifications to existing landscaping could slow coastal erosion, they would not, by themselves, be sufficient to protect the existing road from being undermined by continued erosion from wind and rainstorms. Plantings and bluff drainage controls alone will not be adequate to address the erosion problem.

3. Relocation of Threatened Structures

Another alternative to protection devices is to relocate the threatened structures outside of harm's way. However, in this case, there is no available land within the right of way in order to relocate the road.

4. Least Damaging Structural Alternatives

Because there are no feasible non-structural alternatives, protection is needed along the upper bluff in order to protect the existing principal structure. The CalTrans Project Development Team coordinated to determine the most effect method of stabilizing the slope, analyzing different potential structural solutions. The applicant contends that the proposed project represents the least damaging alternative.

The Commission staff geologist reviewed the geotechnical report and proposed retaining wall plans and concurs that the proposed work is the least environmentally damaging alternative as it requires no major excavation and has a minimal footprint thereby entailing a minimum amount of work on the coastal bluff. Compared to the other structural options, and as conditioned to address impacts of the project on coastal resources, the proposed project is the least environmentally damaging structural alternative.

Sand Supply Impacts

Coastal Act Section 30235 requires that, where permitted, shoreline structures must be designed to eliminate or mitigate adverse impacts to local shoreline sand supply. Beach sand material generally comes to the shoreline from inland areas, carried by rivers and streams; from offshore deposits, carried by waves; and from coastal dunes and bluffs, becoming beach material when the bluffs or dunes lose material due to wave attack, landslides, surface erosion, gullying, et cetera. For most sandy beaches, sand is supplied from the littoral drift of materials from upcoast and downcoast sources miles away. In other cases, sand is derived locally from erosion of terrace deposits and bedrock. Thus, the potential impact to sand supply associated with the proposed project includes loss of material that would have been supplied to the beach if the bluffs were allowed to erode naturally.

Shoreline retreat and erosion is a natural process that can result from many different factors such as wind, wave and tidal erosion, sea cave formation and collapse, saturation due to high ground water, and bank sloughing. Erosion of the shoreline materials is a source of sand supply that may be deposited further downstream or downcoast. Since most coastal bluffs in California are made of sandy marine terrace deposits, or sandy alluvial and fluvial sediment, bluff retreat is one of several ways that beach quality sand is added to the shoreline. Thus the natural coastal processes that work to form and retain material on sandy beaches can be significantly altered by the construction of shoreline armoring structures because they remove sediment that would otherwise be supplied to the littoral system.

Finally, sand supply losses could affect public access and recreation by removing sand from the system that might otherwise replenish sandy beaches. Loss of sand supply to the beach, could lead to a narrowing of the beach in the project area, and consequently loss of the public recreational opportunities provided by these sandy beach areas.

The proposed project will result in armoring portions of the upper bluff face along two sections adjacent to SR-1/PCH. This project will not occupy any existing beach space. A minimal amount of coastal bluff material that would otherwise nourish the sand supply system will be trapped behind the new upper bluff armoring. There is a wide sandy beach between toe of the bluff and the ocean, therefore there is no direct wave attack eroding the toe of the bluff along this section of coastal bluff to provide sand nourishment to the beach. Beach sediment is mostly fed by onshore transport of offshore sand. Therefore, the impact to sand supply by the proposed retaining walls is not substantial as minimal amount of sediment is contributed from coastal bluff erosion at this beach. The applicant did not provide a beach sand supply impact analysis, instead provided an explanation that the design of the road initially involved compaction to a point where bluff erosion would not be allowed and would be prevented along the upper bluff face. If erosion of the upper bluff were allowed, the road would be compromised as it eroded away onto the beach below.

Conformance with Geotechnical Recommendations

The geologic consultant has found that the subject site is suitable for the proposed development provided the recommendations contained in the geotechnical investigation prepared by the consultant are implemented in design and construction of the project. Adherence to the recommendations contained in the above-mentioned geotechnical investigations is necessary to ensure that the proposed project assures stability and structural integrity, and neither creates nor contributes significantly to erosion, geologic instability, or destruction of the site or surrounding area. Therefore, **Special Condition #3** requires that the applicant conform to the geotechnical recommendations in the above mentioned geotechnical investigation.

Assumption of Risk

Although adherence to the geotechnical consultant's recommendations will minimize the risk of damage from erosion, the risk is not eliminated entirely. The site is an oceanfront, bluff top site, which is inherently hazardous. Given that the applicant has chosen to implement the project despite potential risks from bluff erosion and landslides, the applicant must assume the risks. Therefore, the Commission imposes **Special Condition #4** requiring the applicant to assume the risk of the development. In this way, the applicant is notified that the Commission is not liable for damage as a result of approving the permit for development. The condition also requires the applicant to indemnify the Commission in the event that third parties bring an action against the Commission as a result of the failure of the development to withstand the hazards. In addition, the condition ensures that future owners of the property will be informed of the risks and the Commission's immunity from liability. As conditioned, the Commission finds the proposed project is consistent with Section 30253 of the Coastal Act.

Visual Resources

The applicant provided a visual analysis (Exhibit #5) of the proposed retaining wall project from the road and from the public beach below the bluff. No impacts to blue ocean water views from either the northbound or southbound State Route 1 lanes are anticipated as the retaining walls will be seaward of, and below the roadway surface. However, there would be impacts to views from the public beach. In order to address those visual impacts, the applicant proposes to color and provide a texture treatment to blend in the retaining walls with the natural bluff face, thereby mitigating the visual impact of the retaining wall from the beach below. Examples of previous Cal Trans color/texture retaining wall treatments along roadways were provided (see Exhibit #6), however, **Special Condition #4** requires the applicant provide a color and texture plan specific for the proposed project. Additionally, **Special Condition #6** requires the applicant provide a plan for aesthetic treatment plans similar to those required in Special Condition #4 in the event any subsurface project features (i.e., soldier pile/grade beam structures) subsequently become exposed to public view from the public beach below. The aesthetic treatment shall provide that exposed materials match the surrounding terrain to the extent feasible and minimize visual impact of the exposed features.

Another potential visual impact would be from proposed safety fencing on top of the retaining walls. However, the design of the approximately 50 linear feet of required safety fencing for each retaining wall is proposed to be of the cable-railing design which minimizes visual obstruction. Additionally, the proposed cable-rail fence will be approximately the same height as the existing

metal beam guard rail, so, the visual impact from the roadway toward the water won't be significantly changed by the project.

Conclusion

The Commission finds that only as conditioned as described above, can the proposed development be found consistent with Sections 30235, 30251 and 30253 of the Coastal Act which require that landform alteration be minimized, scenic coastal views be protected, and geologic stability be assured.

C. Marine and Land Resources

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 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 sited and designed to prevent impacts which would significantly degrade those areas, and shall be compatible with the continuance of those habitat and recreation areas.*

Sensitive Habitats and Resources

Crystal Cove State Park provides habitat for protected plant and wildlife species. Several federally listed plant and avian species associated with coastal sage scrub habitats have been observed or have a high potential to occur in the vicinity and may be present within the general vicinity of the project. The project area is within upland coastal sage scrub habitat and ruderal vegetation. The

habitat at the top of the slope is sparse coastal sage scrub. The slope area is primarily eroded bare ground with patches of coastal sage scrub (i.e., Coast Sunflower, Golden Bush, Prickly Pear Cactus, Lemonade Berry, Laguna Beach Dudleya, Big-leaved Crownbeard, Buckwheat and California sage brush) ruderal vegetation and invasive species (i.e., iceplant, black mustard, fennel, bermuda grass and non-native grasses). The applicant obtained a species list for the Laguna Beach Quadrangle from the California Natural Diversity Database (CNDDB, 2009). The CNDDB shows three species of special concern, Tidewater Goby, Pacific Pocket Mouse, and California Gnatcatcher and two federally and state listed plant species, Laguna Beach dudleya and Big-leaved Crownbeard within the project limits. No listed bird or animal species were observed in the project area by a single field survey conducted on June 2, 2009 by Cal Trans District 12 biologists to assess habitat conditions, however, federally and state listed plant species, Laguna Beach dudleya and Big-leaved Crownbeard were observed in the general vicinity.

Coastal bluffs act as open space and potential wildlife habitat, as well as corridors for native fauna. Decreases in the amount of native vegetation due to displacement by non-native vegetation have resulted in cumulative adverse impacts upon the habitat value of the bluffs. As such, the quality of bluff habitat must be assessed on a site-by-site basis. The coastal bluff at the subject site is considered somewhat degraded due to the presence of both native and non-native plant species. Based on the information provided by the applicant, no portion of the site contains resources that rise to the level of ESHA. No listed bird or animal species were observed in the project area (i.e., construction and staging areas), however, two federally and state listed plant species, Laguna Beach dudleya and Big-leaved Crownbeard were observed in the vicinity, but outside the area that would be disturbed by construction activities. A vegetation map of the project area is provided as Exhibit #4. No sensitive plant species will be directly impacted by the proposed project. The proposed construction of the two retaining walls will, however, impact 0.04 acres of fragmented portions of Coastal Sage Scrub habitat but will not result in significant disruption of coastal sage scrub habitat. Vegetation will be protected in place to the maximum extent practicable. Furthermore, the applicant proposes a Slope Restoration Plan to replace any vegetation removed in-kind and proposes a weeding plan to reduce the area of invasive plant species in the project area. The Slope Restoration Plan includes the installation of erosion control blankets with native seeds and planting of California Sagebrush, Coyote Brush, and California Encelia container plants. Both seeds and container plants are proposed to be from a genetic source within five miles of the coast within Orange County. Temporary irrigation for plant establishment and a two-year watering, weeding, plant replacement and monitoring plan is also proposed. **Special Condition #3** requires the applicant comply with the proposed Planting Plan and Slope Restoration Plan.

Although construction of the retaining walls is entirely within the Cal Trans right-of-way, the applicant will implement the proposed Slope Restoration Plan on approximately 245 sq. ft. of Crystal Cove State Park land, in the vicinity of the proposed retaining wall at PM 11.65, resulting in habitat enhancement along the coastal bluff within the park.

Water Quality

The proposed project would maintain the same drainage paths and patterns as currently exist. The surface flow rates entering the existing 21” diameter RCP drainage pipe located at PM 11.61 are also not expected to change with the implementation of the project. Minimal drainage improvements consisting of a minor concrete gutter preventing water run-off from directly spilling over the bluff is proposed as part of the project. Surface water runoff from the road is designed to runoff back onto the roadway (graded at 5%) into the existing roadway storm drain system.

The applicant proposes and **Special Condition #5** requires compliance with the submitted Erosion Control Plan and **Special Condition #1** requires Best Management Practices (BMPs), such as placement of sand bags around drainage inlets to prevent runoff/sediment transport into the storm drain system and the Pacific Ocean, use of debris fences as appropriate, a pre-construction meeting to review procedural and BMP guidelines and removal of construction debris and sediment from construction areas each day to prevent the accumulation of sediment and other debris which may be discharged to coastal waters in order to protect water quality in the ocean during construction activities.

Therefore, as conditioned, the Commission finds the proposed development consistent with the relevant marine and biological protection policies of the Coastal Act — Sections 30230, 30231 and 30240.

D. 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 30212 of the Coastal Act states, in relevant part:

> *(a) Public access from the nearest public roadway to the shoreline and along the coast shall be provided in new development projects except where: (1) It is inconsistent with public safety, military security needs, or the protection of fragile coastal resources, (2) Adequate access exists nearby*

Currently, direct public access to this portion of beach at Crystal Cove State Park is not readily available in the project vicinity due to geologic constraints (i.e., steep coastal bluff). However, adequate public access from State Route 1/PCH exists nearby approximately half a mile north at Reef Point (Exhibit #1). Furthermore, the project seeks to protect a portion of State Route 1 currently undermined by natural erosion. State Route 1 is an important transportation corridor providing access along the coast to coastal resources such as Crystal Cove State Park.

As proposed, construction access would be entirely from the roadway above the bluff, no access will be required from the beach. Additionally, a 10-foot wide staging/stockpile area for construction vehicles and equipment is proposed along PCH within paved CalTrans right-of-way with no impact to the sandy beach below or the vegetated bluff. No actual equipment will be stored at the project site. Construction activities will not require any lane closures on PCH, instead the inside shoulder and inside lane widths will be reduced. Furthermore, the applicant proposes construction to be completed between Labor Day weekend and Memorial Day weekend to avoid potential public access impacts to coastal access due to construction. Therefore, no temporary public access impacts are anticipated from construction activities.

The Commission finds the development as proposed in conformity with public access and promotion of public recreational opportunities policies of the Coastal Act.

E. Local Coastal Program (LCP)

Section 30604(a) of the Coastal Act provides that the Commission shall issue a coastal development permit only if the project will not prejudice the ability of the local government having jurisdiction to prepare a Local Coastal Program that conforms with the Chapter 3 policies of the Coastal Act.

Crystal Cove State Park General Plan PWP was originally certified by the Coastal Commission on March 12, 1982 and the Newport Coast LCP Land Use Plan was originally certified by the Coastal Commission on January 18, 1982/the LCP Land Use Plan and Implementing Action Program was certified on January 14, 1988. The proposed development, as conditioned, is consistent with Chapter 3 of the Coastal Act and with the certified LCPs for the area.

F. 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.

The California Department of Transportation is the lead agency for California Environmental Quality Act (CEQA) purposes. On August 20, 2009 the Department of Transportation determined that project to be Categorically Exempt, Class 1(c), repair/maintenance of existing highway.

The proposed project is located in a natural open space area. Infrastructure necessary to serve the site exists in the area. As conditioned, the proposed project has been found consistent with the public access, water quality, visual resource protection, biological resource protection and hazard related policies of the Coastal Act. Special conditions to ensure compliance with Coastal Act requirements relate to 1) Construction Responsibilities and Debris Removal; 2) Conformance of Design/Construction Plans to Geotechnical Report; 3) Assumption of Risk, Waiver of Liability and Indemnity; 4) Compliance with Coastal Bluff Re-vegetation Implementation and Monitoring Plan; 5) Retaining Wall Color and Texture Plan; 6) Future Soldier Pile/Grade Beam Exposure Plans, 7) Compliance with Proposed Erosion Control Plan; 8) Compliance with Proposed Construction Staging Plan; and 9) Future Development Restriction.

As conditioned, there are no feasible alternatives or additional feasible mitigation measures available which would substantially lessen any significant adverse effect which the activity may have on the environment. Therefore, the Commission finds that the proposed project, as conditioned to mitigate the identified possible impacts, is the least environmentally damaging feasible alternative and is consistent with the requirements of the Coastal Act and CEQA.

Click here to go to the exhibits.