

## CALIFORNIA COASTAL COMMISSION

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Th10a



Appeal Filed:	4/18/2001
49th day:	Waived
Staff report prepared:	2/26/2009
Staff report prepared by:	J.Bishop
Staff report approved by:	D. Carl
Hearing date:	3/12/2009

## APPEAL STAFF REPORT

## SUBSTANTIAL ISSUE DETERMINATION &amp; DE NOVO HEARING

**Appeal number** .....A-3-SLO-01-040, Brett Revetment

**Applicant** .....Harold Brett

**Appellants** .....Commissioners Dave Potter and Sara Wan

**Local government** .....San Luis Obispo County

**Local decision** .....Approved with conditions on March 16, 2001 (Minor Use Permit/Coastal Development Permit (CDP) File Number D980047P).

**Project location** .....Bluffs and beach area fronting 463 Lucerne Road at the north end of Cayucos State Beach in Cayucos (Estero Planning Area), San Luis Obispo County.

**Project description** .....Recognition of an engineered rock rip-rap revetment (along roughly 65 linear feet of shoreline) that was authorized and constructed in October 1998 under an emergency County coastal permit (emergency CDP number P980250E).

**File documents** .....San Luis Obispo County CDP file number D980047P and emergency CDP file number P980250E; San Luis Obispo County certified Local Coastal Program (LCP); Coastal Commission CDP file numbers 52-1, 96-20, and 411-17.

**Staff recommendation** ...**Substantial Issue Exists; Approve with Conditions**

## A. Staff Recommendation

## 1. Summary of Staff Recommendation

On March 16, 2001, San Luis Obispo County approved a coastal development permit to recognize the installation of an engineered rock rip-rap revetment that was originally authorized and constructed two and a half years earlier under an emergency County coastal permit. The revetment is located on the beach and bluffs at the north end of Cayucos State Beach in San Luis Obispo County. The County approved project was intended to protect an existing blufftop residence from erosion, and in particular from a “sink hole” that had formed near the bluff edge within roughly 15 feet of the house foundation. The appeal contends that the County-approved project does not conform to the County’s certified LCP regarding coastal hazards and shoreline armoring.



California Coastal Commission

March 2009 Meeting in Monterey  
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The certified LCP allows shoreline protective structures only when proven necessary to protect existing structures in danger from erosion. If a shoreline protective structure is found to be the least environmentally damaging feasible option for protecting an endangered existing structure, then the LCP requires that such a project: eliminate or mitigate impacts to local sand supply; not preclude public access; be visually compatible with adjacent structures and natural features; minimize erosion impacts on adjacent properties; and not adversely affect fish and wildlife. Per the LCP, all areas seaward of permitted shoreline protective devices must be dedicated for public access.

The Commission's staff geologist has evaluated the relevant materials and has visited the site and has concluded that there is an existing residence at this site that is in danger from erosion. The erosion danger is primarily due to underground water seeps that have destabilized the bluff, where this is most obviously manifested in terms of a roughly 10-foot diameter sink hole that precipitated the original emergency permit back in 1998. Thus, there is little doubt that there is an existing structure in danger from erosion necessitating some action to protect it consistent with the LCP. The fundamental question raised by the appeal in this case is which of the various alternatives capable of providing such protection have the least impact on coastal resources, including by appropriately mitigating any unavoidable impacts associated with it.

The County-approved rip-rap revetment is inconsistent with the LCP because it is not the least environmentally damaging feasible option to protect the existing blufftop residence from erosion. The revetment can serve to protect the residence from the erosion danger, but it does not avoid and limit coastal resource impacts, and it does not mitigate for its unavoidable impacts to coastal resources. Specifically, the revetment footprint results in a direct loss of usable public beach area (in an already dedicated and accepted public access easement), it has not been sited and designed to minimize visual impacts, and the project fails to mitigate for long-term sand supply and related beach recreational access impacts at a popular beach area. In sum, although some type of protection project can be found consistent with the LCP, issues are raised with the County approval because a less environmentally damaging feasible alternative project is available that reduces, and in some cases completely avoids these impacts.

For these reasons, Staff recommends that the Commission find that **a substantial issue** exists with respect to the grounds on which the appeal has been filed and that the Commission take jurisdiction over the CDP application.

With respect to the coastal development permit, Staff is recommending an alternative structure that will protect the endangered residence from erosion but that avoids impacts to coastal resources to the maximum degree feasible, and that minimizes and mitigates those impacts that are unavoidable as required by the LCP and the Coastal Act access and recreation policies. In this case, a semi-vertical (i.e., sloped to match the original grade of the bluff) contoured concrete wall tied back to the bluff with abundant drainage to address saturation issues will protect the endangered structure while avoiding encroachment into the already dedicated and accepted lateral public access easement at the toe of the bluff. Such a wall can be camouflaged to mimic the natural bluff landform, and the blufftop area in the wall vicinity landscaped in such a way as to further stabilize bluff soils and provide natural softening and screening of the wall itself. As part of such an approved project, the existing revetment would have



to be removed, and the underlying areas (i.e., those areas not occupied by the sloped wall structure) restored back to their pre-development condition. Finally, compensatory mitigation for the impacts to sand supply and public recreational beach access is required. Lacking a program in this area to which such a project can contribute in that respect, this approval is conditioned for the Applicant to submit a fee of \$53,250, calculated using the Commission's beach sand impact methodology, to State Parks or another appropriate entity to be used exclusively for beach recreational access improvements in the immediate area. Although this fee is calculated with respect to sand supply impacts, in this case Staff believes that the fee will adequately offset sand supply and public recreational beach access impacts, including because the sand supply impact in this case is ultimately a beach recreational access impact in a public access sense. As conditioned, the project will be in conformance with the Coastal Act and with the LCP's coastal hazards and shoreline armoring policies, and staff recommends that the Commission **approve a CDP** for the project. **Motions and resolutions to find substantial issue and to approve the project subject to the staff recommendation are found below on pages 3 and 4 of this staff report.**

## 2. Staff Recommendation on Substantial Issue

Staff recommends that the Commission determine that a **substantial issue** exists with respect to the grounds on which the appeals were filed. A finding of substantial issue would bring the project under the jurisdiction of the Commission for hearing and action.

**Motion.** I move that the Commission determine that Appeal Number A-3-SLO-01-040 raises no substantial issue with respect to the grounds on which the appeal has been filed under Section 30603 of the Coastal Act.

**Staff Recommendation of Substantial Issue.** Staff recommends a **NO** vote. Failure of this motion will result in a de novo hearing on the application, and adoption of the following resolution and findings. Passage of this motion will result in a finding of No Substantial Issue and the local action will become final and effective. The motion passes only by an affirmative vote of the majority of the appointed Commissioners present.

**Resolution to Find Substantial Issue.** The Commission hereby finds that Appeal Number A-3-SLO-01-040 presents a substantial issue with respect to the grounds on which the appeal has been filed under Section 30603 of the Coastal Act regarding consistency with the Certified Local Coastal Plan and/or the public access and recreation policies of the Coastal Act.

## 3. Staff Recommendation on CDP Application

Staff recommends that the Commission, after public hearing, approve a coastal development permit for the proposed development subject to the standard and special conditions below.

**Motion.** I move that the Commission approve Coastal Development Permit Number A-3-SLO-01-040 pursuant to the staff recommendation.

**Staff Recommendation of Approval.** Staff recommends a **YES** vote. Passage of this motion



will result in approval of the coastal development 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 a CDP.** The Commission hereby approves the coastal development permit on the grounds that the development as conditioned, will be in conformity with the policies of the San Luis Obispo County Local Coastal Program and the public access and recreation policies 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.

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Click on the link at left to go to the exhibits.



## B. Findings and Declarations

The Commission finds and declares as follows:

### 1. Previous CDP History

The onsite two-story residential development was originally approved by the Commission on June 26, 1975 (CDP 52-1). At that time, the Commission found that the project would “dominate the bluff front view” resulting in “adverse but not substantial visual impact on the coastal zone” because the large “box-like structure” would be seen from public areas around Cayucos Pier and Cayucos State Beach. To address these and related concerns and issues, the Commission’s approval was conditioned to provide a rear setback of 25 feet from the top of bluff and submittal of a drainage plan prior to construction.

When CDP 52-1 was approved, the Commission was aware that the Applicant intended to add a carport after the residence was completed. Although the project as proposed did not specifically include a carport or garage, the foundation and retaining wall for the garage were laid at the time the residence was under construction (erection of the garage at the proposed location required a County variance to allow a two foot front yard setback on the lot). This variance was granted on June 8, 1976 (Resolution 76-479). Subsequent to the completion of the residence and garage foundation, the Applicant began construction on the garage without a valid CDP. The project was nearly complete when the Applicant was notified by the Commission (by letter dated August 27, 1976) that development of the garage was a violation and was advised to stop construction. Construction was ceased and the Applicant submitted an application to allow for completion of the project. The Commission approved completion of the project on November 4, 1976 (CDP 96-20).

On March 7, 1980 the Commission approved development of a 320 square foot one-story addition to the existing onsite residence (CDP 411-17). Approval of the addition project was subject to three Special Conditions. First, the Applicant agreed that the authorized development shall not prejudice any subsequent assertion of public rights (e.g. prescriptive rights, public trust, etc). Second, the Applicant was required to record a deed restriction providing that: a) the Applicant understands that the site is subject to extraordinary hazards from waves during storms and from erosion; b) the Applicant unconditionally waives any claim of liability on the part of the Commission or any other regulatory agency for any damage from such hazards; and c) the Applicant understands that construction in the face of these known hazards may make them ineligible for public disaster funds or loans for repair, replacement, or rehabilitation of the property in the event of storms and landslides. Third, the approval required the Applicant to record an offer to dedicate (OTD) an easement for public access and passive recreational use running from the mean high tide line to the toe of the bluff (OTD number 25130). The County of San Luis Obispo accepted the OTD on December 18, 1996 (acceptance number 1997-072256), which the Coastal Commission acknowledged on November, 14, 1997.

See Exhibits G, H, and I for copies of past permits and the recorded lateral public access and recreation property restrictions.

### 2. Project Description and Setting



The proposed rock rip-rap revetment is located on the beach and bluffs fronting Cayucos State Beach at 463 Lucerne Road in the community of Cayucos in San Luis Obispo County (see Exhibit A). Because the revetment was approved on a temporary basis pursuant to a County emergency permit, the proposed development has already been constructed on the bluff and beach seaward of the Applicant's residence, and has been in place for over a decade since 1998.

On October 28, 1998, citing bluff erosion conditions, potential loss or severe damage to the existing residence, and the length of the regular permit processing time frame in relation to the immediate threat of the sink hole adjacent to the residence, the County issued an emergency permit for the proposed revetment (emergency CDP number D980047P). Subsequently, the County processed the required follow-up coastal development permit to recognize the emergency revetment as permanent, approving the permit on March 16, 2001. Thus, the specific development proposed consists of an engineered rock rip-rap revetment (approximately 65 feet long and 30 feet high) keyed into bedrock at the base of the bluff, combined with a piped drainage system and blufftop landscaping (see Exhibits B and C).

The revetment is designed to protect an existing residence located on top of the nearly vertical coastal bluff (approximately 30 feet high). The bluff face consists of about 25 feet of exposed bedrock topped by a 5-6 foot layer of marine terrace deposits and vegetation. At the base of the bluff is a narrow stretch of sandy/cobbly beach where the proposed revetment would be (has been) constructed. This beach transitions into the rocky intertidal and surf zone seaward and to the north. The beach area is an extension of the larger Cayucos State Beach that is located north of the Cayucos Pier. The beach fronting the bluff and stretching downcoast from the project site is a much used public beach and a popular area for tidepooling. Rocky intertidal areas extend south and well to the north and are backed by bluffs similar to the project site (see Exhibit C).

Because the County approved the revetment as an emergency, the "proposed" project has already been constructed. However, for the Commission's CDP review purposes, the revetment must be treated as a proposed revetment. Where appropriate, though, on the ground observations and information about the project as constructed are provided.

### 3. Jurisdiction

The Commission retains coastal permit jurisdiction over tidelands, submerged lands, and/or public trust lands. Other areas within the County's coastal zone are within the County's delegated coastal permit jurisdiction. Historically, it has been relatively difficult to determine the precise jurisdictional boundary with respect to shoreline armoring projects (like revetments), and this case is no different. There is some question as to whether the proposed revetment would encroach on public lands, including an area below the mean high tide line (MHTL). This uncertainty was also part of the basis of the appeal that was submitted (see Exhibit F).

Documentation submitted by the applicant shows that a portion of the project, in particular the area of the "keyway" trenched into bedrock, apparently extends below the MHTL shown on the plans. Although the applicant's consulting engineer has surveyed the site and indicates that the rock was placed above the MHTL, the State Lands Commission has not evaluated this survey, and it is not clear at this time



whether that is the case. In addition, the location of the MHTL is ambulatory, meaning that at certain times of the year, the revetment may sit below the mean high tide. Thus, although the information to date on the jurisdictional boundary line is inconclusive, it appears that the project is likely located within the Commission's retained coastal permit jurisdiction.

If the project is located within the Commission's coastal permit jurisdiction, then the County does not have the legal authority to approve a coastal permit for the project, and its action would be deemed moot for that reason, and the applicant would instead need to apply to the Commission directly for the proposed project. Given that the evidence presented to date regarding the Commission's jurisdiction is inconclusive, however, the Commission will analyze the project as it has been presented, but it in no way waives the right to assert jurisdiction over the original coastal development permit if evidence is presented that shows that the project is located within the Commission's retained coastal permit jurisdiction.

Thus, the standard of review for this coastal development permit determination is the San Luis Obispo County LCP and, because the project lies between the first public road and the sea, the public access and recreation policies of the Coastal Act.

#### 4. San Luis Obispo County CDP Approval

On March 16, 2001, San Luis Obispo County approved a Minor Use Permit/CDP to recognize an engineered rock rip-rap revetment subject to conditions (see Exhibit E for the County's adopted findings, conditions, and related materials supporting this action). A Negative Declaration under CEQA was completed for the project on March 24, 2000, and was approved at the same time. Notice of the County's action on the project was received in the Commission's Central Coast District Office on April 4, 2001. The Commission's ten-working day appeal period began on April 5, 2001 and concluded at 5pm on April 18, 2001. One valid appeal was received during the appeal period (see below).

#### 5. Appeal Procedures

Coastal Act Section 30603 provides for the appeal to the Coastal Commission of certain CDP decisions in jurisdictions with certified LCPs. The following categories of local CDP decisions are appealable: (a) approval of CDPs for development that is located (1) between the sea and the first public road paralleling the sea or within 300 feet of the inland extent of any beach or of the mean high tide line of the sea where there is no beach, whichever is the greater distance, (2) on tidelands, submerged lands, public trust lands, within 100 feet of any wetland, estuary, or stream, or within 300 feet of the top of the seaward face of any coastal bluff, and (3) in a sensitive coastal resource area; or (b) for counties, approval of CDPs for development that is not designated as the principal permitted use under the LCP. In addition, any local action (approval or denial) on a CDP for a major public works project (including a publicly financed recreational facility and/or a special district development) or an energy facility is appealable to the Commission. This project is appealable because it is located between the sea and the first public road, it is located within 300 feet of the top of the seaward face of a coastal bluff, and because a shoreline protective structure is not a principally-permitted use under the LCP.



The grounds for appeal under Section 30603 are limited to allegations that the development does not conform to the certified LCP or to the public access policies of the Coastal Act. Section 30625(b) of the Coastal Act requires the Commission to conduct a de novo CDP hearing on an appealed project unless a majority of the Commission finds that “no substantial issue” is raised by such allegations. Under Section 30604(b), if the Commission conducts a de novo hearing and ultimately approves a CDP for a project, the Commission must find that the proposed development is in conformity with the certified LCP. If a CDP is approved for a project that is located between the nearest public road and the sea or the shoreline of any body of water located within the coastal zone, Section 30604(c) also requires an additional specific finding that the development is in conformity with the public access and recreation policies of Chapter 3 of the Coastal Act. This project is located between the nearest public road and the sea, and thus this additional finding must be made if the Commission approves the project following a de novo hearing.

The only persons qualified to testify before the Commission on the substantial issue question are the applicant, persons who made their views known before the local government (or their representatives), and the local government. Testimony from other persons regarding substantial issue must be submitted in writing. Any person may testify during the de novo CDP determination stage of an appeal.

## 6. Summary of Appeal Contentions

The Appellants contend that the County-approved project is inconsistent with the LCP’s hazard policies and ordinances. In sum, the Appellants contend that even if erosion danger can be clearly demonstrated at this site, the engineered rock rip-rap revetment is not the least environmentally damaging feasible alternative to abate the danger to the blufftop residence. The Appellants further contend that the revetment was not sited and designed to avoid impacts to coastal resources, including sand supply, visual resources, and public access and recreation. See Appellants’ complete appeal document in Exhibit F.<sup>1</sup>

## 7. Commission Hearing History

The appeal was filed on April 14, 2001. Pursuant to Section 30621 of the Coastal Act, an appeal hearing must be set within 49 days from the date that an appeal is filed. The 49th day in this case was June 6, 2001. On May 29, 2001, the applicant waived the right for a hearing to be set within the 49-day period. The matter was subsequently set for a July 2001 hearing. On June 23, 2001, the Applicant exercised his one right to postpone the de novo hearing on their application<sup>2</sup> so that he could develop additional information for consideration by the Commission. Several years later, this information was provided to Commission staff for review. Additional technical information was requested by Commission staff in

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<sup>1</sup> In addition, the Appellants question whether the project is located in the Coastal Commission’s retained coastal permit jurisdiction as opposed to the County’s delegated coastal permit jurisdiction, and thus question whether the County had the legal authority to process a coastal permit for this project. This latter contention is not an LCP conformance question per se, but rather is a fact-based question under the Coastal Act and related post-certification mapping requirements. Thus although the issue is a valid one, it is not a proper grounds for appeal in terms of LCP conformance, and it is not further evaluated in that context in this report (for more information see the “Jurisdiction” section above).

<sup>2</sup> Pursuant to California Code of Regulations (CCR) Section 13073(a).



order to adequately analyze the project for LCP and Coastal Act conformance. It wasn't until more recently that the Applicant completed and submitted this material, which has been considered in this report, and the item was set for the Commission's March 2009 hearing calendar.

## 8. Substantial Issue Determination

As discussed below, the Commission finds that the project as approved by the County raises substantial issues of conformity with the San Luis Obispo County LCP. Section 9 of this report, Coastal Development Permit Determination, provides further details concerning these Substantial Issue Determination findings, and these Coastal Development Permit Determination findings are incorporated in full herein by reference.

### Applicable Policies<sup>3</sup>

LCP Hazard Policy 4 and Coastal Zone Land Use Ordinance (CZLUO) Section 23.05.090 limit shoreline structures to those necessary for the protection of existing endangered structures where no less environmentally damaging alternative exists. If a shoreline protective structure is found to be the least environmentally damaging feasible option for protecting an endangered existing structure, then the LCP requires that such a project: 1) eliminate or mitigate impact to local sand supply; 2) not preclude public access; 3) be visually compatible with adjacent structures and natural features; 4) minimize erosion impacts on adjacent properties; 5) not adversely impact fish and wildlife; and 6) utilize non-structural methods of protection when feasible. Per the LCP, areas seaward of permitted shoreline protective devices must be dedicated for public access.

### Substantial Issue Analysis

The existing single-family residence is located approximately 20 feet from the edge of the bluff. The County recognized in its findings that a revetment is normally not allowed when a 20-foot bluff setback exists. However, due to site-specific bluff erosion conditions, including what the County describes as a 10 cubic yard rock fall and "sink hole" located between the house and the bluff edge, the County found that immediate action was necessary and approved the installation of the rip-rap revetment on an emergency basis in 1998.<sup>4</sup> According to the County, the sink hole apparently opened on the property sometime between July and October 1998. Evidence was submitted in support of the proposed emergency permit for the proposed revetment showing an undermined area near the bluff edge, and within approximately 15 feet of the house on the property (see Exhibit D). The emergency revetment was constructed in November 1998. At or near this time, the undermined area and any emergent sinkhole was apparently back-filled, but the manner and method of filling remains in question. The County subsequently recognized the emergency development as permanent through its action on CDP number D980047P.

The Commission's staff geologist has evaluated the relevant materials and has visited the site and has concluded that there is an existing residence at this site that is in danger from erosion. The erosion danger is primarily due to underground water seeps that have destabilized the bluff, where this is most

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<sup>3</sup> See Coastal Development Permit Determination findings for text of referenced policies.

<sup>4</sup> County emergency CDP number P980250E.



obviously manifested in terms of a roughly 10-foot diameter sink hole that precipitated the original emergency permit back in 1998. Thus, there is little doubt that there is an existing structure in danger from erosion necessitating some action to protect it, consistent with the LCP. The fundamental question raised by the appeal in this case is which of the various alternatives capable of providing such protection have the least impact on coastal resources, including by appropriately mitigating any unavoidable impacts associated with it.

While the threat to an existing structure has been established, the County-approved project remains inconsistent with LCP Hazards Policy 4 and CZLUO Section 23.05.090 because the rip-rap revetment spanning the entire 65-foot long coastal bluff fronting the Applicant's residence appears to go beyond the minimum project necessary to abate the threat to the residence. Pursuant to the LCP, shoreline protective devices may only be approved if alternatives, including non-structural methods of protection (e.g., sand nourishment, bluff stabilizing vegetation and drainage controls, relocation of endangered structures, etc.), have been proven impractical or infeasible. If non-structural solutions are deemed infeasible, then an evaluation of feasible alternatives to protect endangered structures is required. The least environmentally damaging feasible alternative is then required by the LCP. While the County analysis determined that beach nourishment and relocation would not be feasible, it did not address the full spectrum of options available to abate the risk to the existing residence past the revetment. In this case, there are less environmentally damaging alternatives available to fix the sink hole, to stabilize the bluff, and to reduce the threat to the residence. For example, filling the sink hole in conjunction with the implementation of groundwater controls, surface drainage improvements, and less intrusive armoring techniques, are feasible alternatives that have not been adequately evaluated.

In addition, the LCP requires that shoreline structures be designed and sited to not preclude public access to and along the coast. According to the consulting engineering geologist's December 17, 2007 assessment, the County approved revetment encroaches onto approximately 230 square feet of beach and rocky intertidal area, resulting in direct and indirect losses of usable beach space. The size of the beach area encroachment, or revetment "footprint," was calculated using figures showing a revetment base width of about 3.5 feet along 65 linear feet of bluff. A review of other materials, however, indicates that 230 square feet is a conservative estimate. Based on the *Compliance Report of Final Construction* prepared by GeoSolutions and dated December 1, 1998, the completed project included excavation of a 6-foot wide keyway across the toe of the bluff, which would result in a footprint of approximately 390 square feet (see Exhibit K). In addition, Commission staff assessment in the field indicates that the revetment appeared to extend out from the bluff face onto the beach area roughly 6-10 feet, which would translate into a footprint of between 390 and 650 square feet.<sup>5</sup> In sum, there is some uncertainty regarding the amount of beach coverage associated with the revetment. The conservative approach would estimate such coverage at the high end (i.e., above 650 square feet), or even at the middle end based on the as-built compliance report numbers (i.e., 390 square feet), but the Applicant's low end estimate is 230 square feet. Due to the lack of precision survey data collected before and after construction of the emergency rip-rap revetment, and so as not to unduly penalize the Applicant for this

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<sup>5</sup> Commission staff made a site visit on May 1, 2008. Staff notes that the revetment extended below the beach sand on May 1, 2008, and it was difficult to determine how far back or "deep" the toe of the bluff was located beyond the first row of rocks on the beach. Because the field observations on that day were above the beach sand, they likely underestimate the actual width of the base of the revetment.



uncertainty, it is reasonable to rely on the consulting geologist's low estimation of 230 square feet because it is consistent among the estimates and thus subject to a certain level of agreement (i.e., all estimates are at least 230 square feet). Thus the 230 square foot figure will be used for analytical purposes throughout the remainder of this report.

The revetment, including the excavated keyway and rocks stacked seaward of the toe of the bluff, interfere with lateral public access along the shoreline. It is important to note that the revetment footprint occupies an area of the beach previously dedicated and deed-restricted by the Applicant for public access and passive recreation, and that this easement was long ago accepted by the County (see Exhibit I for a copy of the easement). Moreover, the project fails to mitigate distinct and quantifiable sand supply impacts as required by the LCP.

In addition, the County approved revetment is not visually compatible with the natural bluff features in the area. The mass of stacked rocks are visible from public viewing areas along the fronting state beach and are visible from the downcoast Cayucos Pier. While the Applicant selected rocks to mimic the color of the intertidal zone, the dark colored stones are in stark contrast with the light colors of natural bluffs in the area. In addition, the pile of stones is not consistent with the natural landform found along this stretch of coast, and appears unnatural and out of place as a result. As such, the County approved revetment is inconsistent with the LCP's shoreline structure provisions with respect to visual compatibility.

#### Substantial Issue Determination Conclusion

In sum, there is an existing structure in danger from erosion necessitating some action to protect it, consistent with the LCP. The fundamental question raised by the appeal in this case is which of the various alternatives capable of providing such protection have the least impact on coastal resources, including by appropriately mitigating any unavoidable impacts associated with it. Although some type of protection project can be found consistent with the LCP, issues are raised with the County approval because a less environmentally damaging feasible alternative project appears to be available that lessens, and in some cases completely avoids, coastal resource impacts. For these reasons, the Commission finds that a **substantial issue exists** with respect to the project's conformance with the certified San Luis Obispo County LCP.

## 9. Coastal Development Permit Determination

The standards of review for this application are the County of San Luis Obispo certified LCP and the public access and recreation policies of the Coastal Act. All Substantial Issue Determination findings above are incorporated herein by reference.

### 1. Hazards

#### 1.1 Applicable Policies

Hazards Policy 1, 2, 4 and 5 of the County LCP address the use and design of shoreline protective



devices:

***Hazards Policy 1: New Development.*** All new development proposed within areas subject to natural hazards from geologic or flood conditions (including beach erosion) shall be located and designed to minimize risks to human life and property. Along the shoreline new development (with the exception of coastal-dependent uses or public recreation facilities) shall be designed so that shoreline protective devices (such as seawalls, cliff retaining walls, revetments, breakwaters, groins) that would substantially alter landforms or natural shoreline processes, will not be needed for the life of the structure. Construction of permanent structures on the beach shall be prohibited except for facilities necessary for public health and safety such as lifeguard towers. [THIS POLICY SHALL BE IMPLEMENTED AS A STANDARD.]

***Hazards Policy 2: Erosion and Geologic Stability.*** New development shall ensure structural stability while not creating or contributing to erosion or geological instability. [THIS POLICY SHALL BE IMPLEMENTED AS A STANDARD AND PURSUANT TO SECTION 23.07.086 OF THE CZLUO].

***Hazards Policy 4: Limitations on the Construction of Shoreline Structures.*** Construction of shoreline structures that would substantially alter existing landforms shall be limited to projects necessary for:

- a. protection of existing development (new development must ensure stability without depending upon shoreline protection devices);
- b. public beaches and recreation areas in danger of erosion;
- c. coastal dependant uses;
- d. existing public roadway facilities to public beaches and recreation areas where no alternative routes are feasible.

*These structures shall be permitted provided they are sited and designed to eliminate or mitigate adverse impacts on local shoreline sand supply, fish and wildlife provided that non-structural methods (e.g., artificial nourishment) have been proven to be infeasible or impracticable.*

*Shoreline structures include revetments, breakwaters, groins, harbor channels, seawalls, cliff-retaining walls and other such structures that alter natural shoreline processes. Retaining walls shall be permitted only where necessary to stabilize bluffs where no less environmentally damaging alternative exists or where necessary for those projects defined above. Where shoreline structures are necessary to serve the above, siting shall not preclude public access to and along the shore and shall be sited to minimize the visual impacts, erosive impacts on adjacent unprotected property, encroachment onto the beach and to provide public overlooks where feasible and safe. The area seaward of the protective devices shall be dedicated for lateral public access. The protective devices shall utilize materials which require minimum maintenance and shall specify within the plans the agencies or persons responsible for maintenance.*



*In addition to county review, most shoreline structures require review by federal and state agencies. These may include permits required by the federal Environmental Protection Agency, U.S. Army Corps of Engineers, U.S. Department of Fish and Wildlife, California Regional Water Quality Control Board, State Lands Commission, California Coastal Commission, etc. [THIS POLICY SHALL BE IMPLEMENTED AS A STANDARD.]*

***Hazards Policy 5: Design and Construction of Shoreline Structures.*** *Shoreline structures developed consistent with Policy 4 (including projects for maintenance and repair) shall be designed and constructed to mitigate or eliminate effects on local shoreline sand movement and supply. Construction activities shall be carefully managed to minimize unnecessary effects on natural landforms and shoreline processes. Upland grading and drainage shall be designed and constructed to avoid adverse impacts on bluff lines by channeling drainage away from the bluff where feasible. [THIS POLICY SHALL BE IMPLEMENTED AS A STANDARD AND PURSUANT TO SECTION 23.05.090 OF THE CZLUO.]*

Hazards Policy 5 is implemented as a standard (above) and also pursuant to Section 23.05.090 of the CZLUO:

***CZLUO Section 23.05.090 – Shoreline Structures.*** *Seawalls, cliff retaining walls, revetments, breakwaters and groins and other shoreline protective devices are subject to the following requirements.*

- a. Where allowed:*** *Construction of shoreline structures that would substantially alter existing landforms shall be limited to projects necessary for:*
  - (1) Protection of existing coastal development; or*
  - (2) Protection of public beaches and recreation areas in danger of erosion;*
  - (3) Coastal dependent uses; or*
  - (4) Existing public roadway facilities to public beaches and recreation areas where no alternative routes are feasible.*
- b. Permit requirement.*** *Minor Use Permit, unless a Development Plan is otherwise required by Chapters 23.03 or 23.08 of this title or planning area standards of the Land Use Element for the proposed use of the site. Structures located below mean high tide line or within the Coastal Commission's original permit authority may also require a permit from the California Coastal Commission.*
- c. Required findings.*** *In order to approve a land use permit for a shoreline structure, the Planning Director or other applicable review body shall first find that the structure is designed and sited to:*
  - (1) Eliminate or mitigate adverse impacts on the local shoreline sand supply as determined by a registered civil engineer or other qualified professional; and*



- (2) Not preclude public access to and along the coast where an accessway is consistent with the provision of Section 23.04.420 (Coastal Access Required); and*
- (3) Be visually compatible with adjacent structures and natural features to the maximum extent feasible; and*
- (4) Minimize erosion impacts on adjacent properties that may be caused by the structure; and*
- (5) Not adversely impact fish and wildlife; and*
- (6) That non-structural methods of protection (artificial sand nourishment or replacement) have been proven to be impractical or infeasible.*

## 1.2 Geologic Hazard Analysis

### A. Allowing Shoreline Armoring

The LCP sections cited above acknowledge that seawalls, revetments, cliff retaining walls, groins and other such structural or “hard” methods designed to forestall erosion also alter natural landforms and natural shoreline processes. Accordingly, with the exception of new coastal-dependent uses, the LCP limits the construction of shoreline protective works to those required to protect existing structures or public beaches in danger from erosion.<sup>6</sup> The LCP 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, and overall shoreline beach dynamics on and off site, ultimately resulting in the loss of beach.

LCP Policy 4 and CZLUO Section 23.05.090 provide specific requirements for development of seawalls and other shoreline protective devices. As applicable to this case, the LCP limits the construction of shoreline structures to those necessary to protect existing structures in danger from erosion.

Under LCP Policy 4, permits for shoreline protective devices may only be approved if (1) found to eliminate or mitigate impact to local sand supply; (2) not preclude public access; (3) be visually compatible with adjacent structures and natural features; (4) minimize erosion impacts on adjacent properties; (5) not adversely affect fish and wildlife; and (6) if non-structural methods of protection have been proven to be impracticable or infeasible. LCP Policy 4 also provides that areas seaward of permitted shoreline protective devices shall be dedicated for public access.

Under the LCP, new armoring may be approved if: (1) there is an existing structure; (2) the existing structure is in danger from erosion; (3) shoreline-altering construction is required to protect the existing threatened structure; and (4) the required protection is designed to eliminate or mitigate the adverse impacts on shoreline sand supply. The first three questions relate to whether the proposed armoring is necessary, while the fourth question applies to mitigating some of the impacts from it.

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<sup>6</sup> The LCP also includes “existing public roadway facilities to public beaches and recreation areas where no alternative routes are feasible” as an allowable protection category. This category is not applicable in this case.



### Existing Structure to be Protected

For the purposes of shoreline protective structures, the LCP distinguishes between development that is allowed shoreline armoring, and development that is not. Under LCP Hazards Policy 1, new development is to be designed, sited, and built to allow the natural process of erosion to occur without creating a need for a shoreline protective device. Coastal development permittees for new shorefront development are thus making a commitment to the public (through the approved action of the Commission and San Luis Obispo County) that, in return for building their project, the public will not lose public beach access, offshore recreational access, sand supply, visual resources, and natural landforms, and that the public will not be held responsible for any future stability problems.

In addition, the Commission has generally interpreted the LCP to apply only to existing principal structures. The Commission must always consider the specifics of each individual project, but has generally found that accessory structures (such as patios, decks, gazebos, stairways, etc.) are not required to be protected under the LCP, or can be protected from erosion by relocation or other means that do not involve shoreline armoring. The Commission has generally historically permitted at grade structures within geologic setback areas recognizing that they are expendable and capable of being removed rather than requiring a protective device that would alter natural landforms and processes along bluffs, cliffs, and beaches.

LCP Policy 4 and CZLUO Section 23.05.090 allow for shoreline protection in certain circumstances (if warranted and otherwise consistent with other LCP policies) for “existing” structures. One class of “existing structures” refers to those structures in place prior to the effective date of the Coastal Act. Coastal zone development approved and constructed prior to the time the Coastal Act went into effect was not subject to Coastal Act and LCP requirements. Although some local hazard policies may have been in effect prior to the Coastal Act, these pre-Coastal Act structures have not necessarily been built in such a way as to avoid the future need for shoreline protection (in contrast to those evaluated pursuant to LCP Policy 4).

A second class of existing structures refers to those structures that have been permitted since the effective date of the Coastal Act. There has long been discussion that these structures should not constitute “existing structures” for purposes of Section 30235 because they were developed pursuant to 30253 (and/or similar LCP) standards so as not to require shoreline armoring in the future. The Commission, though, has, in some cases, interpreted “existing” to mean structures existing at the time the armoring proposal is being considered, whether these structures were originally constructed before or after the Coastal Act, and has not limited consideration of armoring only to those structures constructed prior to the Coastal Act.

In more recent years, the Commission has required applicants for blufftop structures to waive any right to a seawall that may exist pursuant to Section 30235; in other words to stipulate that they are not existing structures for 30235 purposes because the structures have been sited and designed to not need shoreline armoring in the future (pursuant to Section 30253 and LCP counterpart policies).

In this case, the structure for which protective armoring is being considered is the Commission-approved single-family residence. This structure was originally approved in 1975, and an addition to it was approved in 1980. This residence is the “existing structure” to be protected in this case pursuant to



## LCP Policy 4 and CZLUO Section 23.05.090.

### Danger from Erosion

The LCP allows shoreline armoring to protect existing structures in danger from erosion, but doesn't define the term "in danger." There is a certain amount of risk in maintaining development along a California coastline that is actively eroding and can be directly subject to violent storms, large waves, flooding, earthquakes, and other geologic hazards. These risks can be exacerbated by such factors as sea level rise and localized geography that can focus storm energy at particular stretches of coastline. As a result, some would say that all development along the immediate California coastline is in a certain amount of "danger." It is the degree of threat that distinguishes between danger that represents an ordinary and acceptable risk, and danger that requires shoreline armoring per the LCP.

Lacking a LCP definition, the Commission's long practice has been to evaluate the immediacy of any threat in order to make a determination as to whether an existing structure is "in danger." While each case is evaluated based upon its own particular set of facts, the Commission has generally interpreted "in danger" to mean that an existing structure would be unsafe to occupy in the next two or three storm cycles (generally, the next few years) if nothing were to be done (i.e., the no project alternative). In this case, the Applicant has explicitly acknowledged this danger through the previously described deed restriction on the property that states that the site "is subject to extraordinary hazards from waves during storms and from erosion." Through this property restriction, the Applicant has knowingly assumed responsibility for the hazards of building along an eroding shoreline.

A number of the geotechnical studies have been submitted by the Applicant to support the allegation that the existing residence is in danger from erosion.<sup>7</sup> A letter from the project engineer indicates the residence is setback approximately 20.4 feet from the bluff edge. The engineer used aerial photographs to estimate bluff retreat rates between 1952 and 1992 at a site approximately 100 feet west of the site. Due to the lack of reference features, only a 1978 and 1992 photograph could be used to estimate retreat rates, which for that interval apparently averaged approximately 6 inches per year. It should be noted

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<sup>7</sup> The project site has been well-reviewed from an engineering and geotechnical standpoint during the course of the Commission's original permit review, the County's review, as well as with materials developed since the project was appealed to the Commission. Important studies include: 1) Cotton, Shires and Associates, Inc. 2005, "Geotechnical Analysis – Stone Revetment"; 2) GeoSolutions Inc. 2002, "Alternative analysis for rock revetment, 463 Lucerne Road, Cayucos Area, San Luis Obispo, California", a 4 page letter report dated 15 April 2002 and signed by J. M. D. Kammer (CEG 2118 CHG 502); 3) Westland Engineering Company 2001, "Rock revetment on Brett property", a 2 page letter to John Belsher dated 31 October 2001 and signed by T. K. Orton (PE 21807); 4) GeoSolutions Inc. 2001, "Review of coastal bluff geologic conditions, 463 Lucerne Road, Cayucos Area, San Luis Obispo, California", a 3 page letter report dated 5 September 2001 and signed by J. M. D. Kammer (CEG 2118 CHG 502); 5) Westland Engineering Company 2001, "Brett Minor use permit D980047P", a 1 page letter to Martha Neder dated 19 January 2001 and signed by T. K. Orton (PE 21807); 6) GeoSolutions Inc. 1998, "Compliance report of final construction, rock revetment structure, 463 Lucerne Road, Cayucos area, San Luis Obispo County, California", a 3 page geologic report dated 1 December 1998 and signed by J. M. D. Kammer (CHG 502) and R. A. Pfost (CEG 1281); 7) Westland Engineering Company 1998, "Emergency permit for Brett property", a 1 page letter to Lauren LaJoie dated 13 October 1998 and signed by T. K. Orton (PE 21807); 8) GeoSolutions Inc. 1998, "Geologic assessment of bluff erosion and sea cliff retreat, 463 Lucerne Road, Cayucos area of San Luis Obispo County, California", a 14 page geologic report dated 16 July 1998 and signed by J. M. D. Kammer (CHG 502) and R. A. Pfost (CEG 1281); 9) John H. Wiese, 1980, "Construction of addition to Harold Brett residence, Lot 2, Locarno Tract (3 Lucerne Road), Cayucos, California", a 2 page letter to South Central Regional Coastal Commission dated 29 January 1980 and signed by J. H. Wiese (CEG 279); and 10) Central Coast Laboratories 1975, "Examination of geologic conditions, residential site near Seacliff, Lot 2, Locarno Tract, Cayucos, San Luis Obispo, California", a 4 page geologic report dated 1 April 1975 and signed by J. H. Wiese (CEG 279).



that a time interval of only 14 years is not long enough to unambiguously assess long-term bluff retreat rates, but these results are roughly consistent with the results obtained from the other geotechnical bluff studies in the general area. No period of especially rapid bluff retreat was noted in the studies other than a “recent” block fall of approximately 10 cubic yards from the bluff edge at the southwesterly portion of the site.

The studies provide abundant evidence that groundwater processes are active at the site. A spring is noted in the July 16, 1998 GeoSolutions Inc. report, emerging from the contact between the marine terrace deposits and the underlying Franciscan Formation sandstone bedrock at the site. The ensuing saturated conditions are cited in this report as a significant contributor to bluff weakness and erosion. Further, surface drainage at the site generally flows over the bluff edge, exacerbating erosion. The report indicates that there is much that could be done to improve site stability by controlling surface and subsurface drainage.

A sinkhole opened on the property apparently sometime between July and October 1998. A letter from the consulting engineer contains a figure showing an undermined area near the bluff edge, and apparently within 15 feet of the house on the property. The revetment was constructed shortly thereafter in November 1998. At or near this time, the undermined area and any emergent sinkhole were apparently filled, but the manner and method of filling is not described in detail in any of the submitted reports, nor was it known to the project’s geologist when discussed with Commission staff.

In addition to the erosion and bluff retreat process described above, coastal bluffs are subject to landslides, which have the capacity to place structures on bluff tops at risk. Measuring the degree of threat thus also requires evaluating the stability of the bluff materials themselves and their ability to resist failure. A landslide occurs because a number of factors come together; these include the overall geometry of the hillside (or bluff), decreases in the effective normal stress at depth caused by increased water in the slope (buoyancy forces), and the strength of the bluff materials themselves. Landslides on coastal bluffs occur at least partly because marine erosion continually undermines the toe of the bluff, creating an unsupported geometry that is prone to landsliding. The risk of landslide can be quantified, to some extent, by taking the forces resisting a landslide (principally the strength of the materials along a potential slide plane) and dividing them by the forces driving a landslide (principally the weight of the materials as projected onto the potential slide plane). If the quotient, called the factor of safety, is 1.0, failure is imminent. The factor of safety should never, in theory, be below 1.0, as a slide would have already occurred. A factor of safety greater than 1.0 leads to increasing confidence that the bluff is safe from failure.

Slope stability can be evaluated quantitatively by a “slope stability analysis.” In practice, hundreds of potential slide planes are typically evaluated. The one with the lowest factor of safety is the one on which failure will occur. So the potential slide plane with the minimum factor of safety is the appropriate one to design for. If one steps back far enough from the edge of the bluff, potential slide planes intersecting the top of the bluff generally will have higher and higher factors of safety. A factor of safety of greater than or equal to 1.5 is the industry standard for new development to be “safe” from a landslide.

During an earthquake, additional forces act on the bluff, and a landslide is more likely. To test for the



stability during an earthquake, a “pseudostatic” slope stability analysis can be performed. This analysis is rather crude, but the standard methodology is to apply a “seismic coefficient” of 15% of the force of gravity (0.15g), the force of which is added to the forces driving the landslide. The standard for new development in California is to assure a minimum factor of safety greater than or equal to 1.1 in the pseudostatic case.

In this case, a quantitative slope stability analysis was performed (Cotton, Shires and Associates, Inc., April 19, 2005) to help assess the degree of danger to the existing residence. The slope/bluff at this location is made up of Franciscan complex greywacke overtopped by a roughly 5 to 6 foot layer of terrace deposit material. Some amount of Franciscan complex serpentinite is also embedded deeper in the slope/bluff. The Cotton, Shires and Associates slope stability analysis concludes that without a revetment, the slope face failure plane daylights between 40 and 64 feet (depending on the factor of safety) landward from the slope/blufftop edge. Such an event would be enough to undermine the existing residence. The analysis further concludes that the stone revetment buttress results in reducing the upslope projection of hypothetical unstable slope conditions by approximately 40 feet. In sum, the report concludes that the revetment provides necessary buttressing support for protection of the residence and substantially reduces the potential for an additional landslide/bluff failure. The conclusions go on to recommend that surface water around the residence be collected and discharged into the municipal storm drain system if possible. Finally, the report recommends installation of an array of survey monuments which can be easily monitored on a regular basis in order to detect potential slope instability prior to a full-scale failure.

Also applicable to the threat analysis is that it is generally understood and accepted that sea level is slowly rising. Although there are a variety of estimates, an upper bound estimate for future sea level rise is that it may rise by an additional 3 feet over the next 100 years.<sup>8</sup> Because a rise in sea level will intensify coastal erosion conditions (moving the intensity of ocean storms inland because shallow water is encountered by such storms closer inland than today),<sup>9</sup> more intense storms and a possible increase in erosion are possible. In addition, the frequency of damaging storms (i.e., storms that can damage the

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<sup>8</sup> The closest tidal stations with an adequate record to use for a 100-year projection were San Francisco and Santa Monica. Both those locations could, by the year 2100, have a rise in sea level approaching 3 feet, with a 10% probability that it would be higher than that, based on estimates of historic and future sea level change provided by the U.S. Environmental Protection Agency in Titus and Narayanan (1995) “The Probability of Sea Level Rise” (EPA 230-R-95-008). Thus the future 100 year-change in mean sea level for the Cayucos area may be higher than the estimated 2.7 feet (for San Francisco) or the estimated 2.85 feet (for Santa Monica), for both of which there is a 10% probability of being exceeded.

<sup>9</sup> With global warming and sea level rise, increased relative wave heights and wave energy are expected. Along much of the California coast, the bottom depth controls the nearshore wave heights, with bigger waves occurring in deeper water. Since wave energy increases with the square of the wave height, a small increase in water depth and wave height can cause a significant increase in wave energy and wave damage. So, combined with the physical increase in water elevation, a small rise in sea level can expose previously protected back shore development to both inundation and wave attack, and those areas that are already exposed to wave attack will be exposed to more frequent wave attack with higher wave forces. Structures that are adequate for current storm conditions may not provide as much protection in the future.

A second concern with global warming and sea level rise is that the climatic changes could cause changes to the storm patterns and wave climate for the entire coast. As water elevations change, the transformation of waves from deep water will be altered and points of energy convergence and divergence could shift. The new locations of energy convergence would become the new erosion “hot spots” while the divergence points may experience accretion or stability. It is highly likely that portions of the coast will experience more frequent storms and the historic “100-year storm” may occur more often.



site) would be expected to increase from the historical averages so that more storms, and more intense storms, would be expected to occur at the site more often than has occurred in the past. The result is that future erosion danger will only increase as sea level rises relative to today.

The Commission's geologist has reviewed the slope stability and geologic analyses and has concluded that the conclusions are valid in light of the subterranean water piping failures and documented sinkhole collapse. The conclusions point to the real possibility of a slope failure threatening the residence. The Commission's geologist has concluded that the existing residential structure is "in danger" as that term is understood in an LCP context. As such, the blufftop residence qualifies as an existing structure in danger from erosion for the purposes of LCP Policy 4 and CZLUO Section 23.05.090.

#### Feasible Protection Alternatives to a Shoreline Structure

The next test under the LCP that must be met is that the proposal to alter the shoreline must be "required" to protect the existing threatened structure. Although LCP Policy 4 allows for the protection of structures in danger from erosion, revetments are not allowed unless they are also the "necessary" solution. CZLUO Section 23.05.090a(1) states in part:

*23.05.090a: Construction of shoreline structures that would substantially alter existing landforms shall be limited to projects necessary for: (1) Protection of existing coastal development; ...*

In other words, under the standards of the LCP, shoreline armoring shall be permitted if it is the least environmentally damaging feasible alternative capable of protecting the structure.<sup>10</sup> Other alternatives typically considered include: the "no project" alternative; abandonment of threatened structures; relocation of the threatened structures; a sand replenishment program; and other drainage and maintenance programs on or within the bluff itself. Because the no project alternative does not protect the existing endangered structure, it is not feasible.

The Applicant's geotechnical/coastal engineer evaluated a number of alternatives, including armoring alternatives (partial armoring, micropiles, retaining walls, caissons, soil nails and shotcrete facing, gravity walls, etc.) and non-armoring alternatives. In terms of non-armoring alternatives, the engineer evaluated the types of alternatives typically considered by the Commission.

#### Alternative Evaluation Study

The Applicant has submitted an analysis of a series of alternatives to protect the residence (see Exhibit K). The alternatives analysis summarizes each alternative presented by the Applicant's engineer and its impact on a range of coastal issues, as follows:

**1. Relocate the Residence Landward.** The option of moving the residence landward is constrained by a lack of space on the inland side of the property. As described previously, a variance to the front

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<sup>10</sup> Section 21080.5(d)(2)(A) of CEQA likewise prohibits a proposed development from being approved if there are feasible alternatives or feasible mitigation measures available that would substantially lessen any significant adverse effect that the activity may have on the environment. Any action the Coastal Commission may be required to take to continue protecting existing structures at this location must be consistent with this section of CEQA as well as the Coastal Act and LCP.



setback was already granted under an earlier CDP for the residence as a means to move development as far inland as possible so as to avoid bluff erosion issues. Although the component of the house added in 1980 (i.e., the 320 square foot addition) could possibly be relocated, thus increasing the setback by roughly 20 feet, this solution still does not address slope instability on the seaward half of the site. In other words, even if the existing residence were reconstructed in this way, it would still be endangered. In addition, the Applicant's structural engineer states that it is not feasible to move/relocate the residence landward because it is constructed on a concrete slab, making it "impractical to move."

**2. Subsurface Drainage Measures Only.** The subsurface drainage option evaluated involves installation of horizontal drains into the base of the bluff. While beneficial in reducing water pressures, the Applicant's engineer contends that they would only address one aspect of slope instability and would likely be destroyed overtime by factors such as weak geologic materials and seismic shaking. The Applicant's engineer also highlights that a large number of drains would have to be installed in this case to be successful. Because of variability in the bluff materials, the Applicant's engineer questions the success of these measures alone. The Applicant's engineer believes that subsurface drains alone would not alleviate stability problems, and concludes that in order to be successful they must be installed in combination with a stabilization measure such as a wall or revetment.

**3. Micropiles.** According to the Applicant's engineer, micropiles could be used to underpin the residence. However, the engineer concludes that micropiles alone do not have sufficient lateral load-carrying capacity to resist slumping or slope failures and would likely be compromised in the event of headward migration of the bluff instability, particularly under seismic loading. The Applicant's engineer believes that micropiles do not address the sinkhole, which would significantly weaken the bluff. The Applicant's engineer further concludes that micropiles would have no beach area footprint and a lifespan of 5 to 20 years depending on the geologic conditions at each pile location. The long-term shoreline retreat rate would continue and the system would continue to generate sand from the erosion.

**4. Drilled Caissons.** Drilled caissons would provide lateral load-carrying capacity, but would allow the bluff to retreat until the caissons eventually became exposed. The Applicant's engineer contends that eventually a seawall would have to be built to retain the material from eroding between the caissons. Underpinning the house with caissons raises structural compatibility issues with the existing slab-on-grade foundation, and the Applicant's engineer asserts that the entire house foundation may have to be replaced if this alternative was pursued. With drilled caissons, there would be no beach area footprint and this alternative's anticipated life would equal the life of the structure. The long-term shoreline retreat rate would continue and the system would continue to generate sand from the erosion.

**5. Vertical Retaining Wall with Tiebacks.** According to the Applicant's engineer, because of the height of the bluff face and weak materials involved, any vertical structure would likely require the use of tieback anchors. According to the engineer, the effectiveness of tie backs are an unknown until they are drilled and are dependent on the type of material encountered. With the known void (sinkhole) in the bluff, the Applicant's engineer asserts that conventional construction practice would not use tiebacks for this area. The engineer notes that such a wall would be very expensive and would have some visual impacts, but that such a project could be built to achieve slope stability. The beach area footprint is estimated by the engineer to be roughly 860 square feet based on a footing width of 15 feet. The



anticipated life (with annual maintenance) would be 50 years. Without maintenance, the life span could be as low as 10 years, depending on wave and storm activity. According to the Applicant's engineer, long-term shoreline retreat would be negligible if such a wall is maintained and such a device would not allow the generation of beach sand from erosion.

**6. Soil Nails and Shotcrete Facing.** According to the Applicant's engineer, soil nails could be drilled in the bluff with shotcrete facing. However, the engineer asserts that this alternative is costly, and the slope would have to be layed back first before the soil nails could be installed. In addition, the shotcrete would have to be keyed into bedrock at the base of the bluff and the thickness and reinforcing would have to be designed to resist wave attack. Maintenance of this alternative is considered high and aesthetics is also an issue raised by the engineer. According to the engineer, conventional construction practice would not use soils nails for the same reason tiebacks are not favored here. The beach area footprint is estimated by the engineer to be approximately 290 square feet based on a footing width of 5 feet. The anticipated life of such a structure with maintenance would be 25 to 50 years. With maintenance the long term shoreline retreat rate would be negligible and would generate approximately 5% of sand from erosion.

**7. Gravity Wall.** Gravity walls include rock revetments, gabion walls, concrete walls, etc. The Applicant's engineer asserts that the rock revetment is the preferred type of gravity wall, but does not completely evaluate other types. The Applicant's engineer asserts that the beach area footprint of the revetment is 230 square feet. The anticipated life of the revetment is estimated to be 75 to 100 years. According to the Applicant's engineer, a stone revetment is estimated to provide about 30% of sand from erosion, as the granite used for the revetment will breakdown to sand overtime.

**8. Beach Replenishment.** The Applicant's consultants evaluated beach replenishment but concluded that it would be insufficient to protect the endangered structure in this case, including because of cost, feasibility, and unknown success probability, etc.

#### Alternative Analysis Conclusion

In this case, the "no project" alternative is not viable because the existing threatened structure would not be protected without some form of project that fixes the sinkhole, addresses the water piping failure in the vicinity of the house foundation, and that resolves the bluff stability issues associated with the geology of this site. In light of the specific geological factors at play in this case, "soft" solutions are likewise infeasible. It is clear that there are some non-armoring alternatives that could be pursued at this location, but it is equally clear that they are either infeasible or would not be sufficient to protect existing endangered structures for any length of time. Rather, they are alternatives that could extend the useful life of setbacks at this location. But, given the limited amount of space available, and the degree of threat currently to the structure (and as would continue in the future absent armoring), the useful life of the setback would not be expanded significantly in this case – and certainly not enough to protect the structure.

Given the geological danger area that applies to about half the site, and thus the infeasibility of moving the house or even major portions of it out of harms way, some form of a hard armoring project is necessary in this case. Based on the evaluations of the site, including the Applicant's alternatives



analyses, the nature of the bluff materials and the ground water conditions present in the bluff dictate that an approvable alternative needs to address slope stability, subsurface and surface drainage control, and landscaping to help stabilize exposed soils. In designing such a structure, the intent is to ensure that it is the least environmentally damaging feasible alternative in that respect (see also findings that follow). It is clear that a sloped-vertical (i.e., matching the original grade of the bluff slope) concrete wall with tie backs would best form the basis for an approvable project. It would occupy the least amount of beach space and could be colored and contoured to mimic the bluff landform at this location. Such a wall would have to be tall enough to protect the bluff face from erosive wave forces and to provide the necessary buttress, where the height would in part depend on the nature of the drainage installed in the bluff itself. Thus, in this case, the Commission can only approve an engineered drainage system and sloped-vertical wall with tie-backs, consistent with the third test of the LCP. The Commission's coastal engineer and geologist have reviewed the relevant studies and concur that such a project must include the following components:

- Sloped-vertical concrete wall. The sloped-vertical (i.e., sloped to match the bluff slope) wall shall be constructed of reinforced concrete designed to match the bluff landform in slope, integral color and undulation; shall be the minimum width and height necessary to protect the bluff face and provide the required slope buttress (with a wall height high enough to provide stability and protection from wave forces, but no taller than the height of the bluff itself); shall be embedded in the toe of the slope so as to avoid any undercutting or scour of the toe of the slope; and shall include sufficient structural tiebacks into the bluff to ensure its long term stability and effectiveness. The foundation shall conform to the general contours of the bluff toe and shore platform and with sufficient embedment to achieve stability and prevent undercutting or scour. Wall foundations such as this are typically no wider than 2 feet, and there is no compelling evidence in the record to suggest that a wider foundation would be necessary. Thus, the wall foundation has been conditioned to be the minimum feasible width.

As noted earlier, the Applicant's engineer has expressed some concern about the use of tie-backs in this area, but has concluded that, while costly, they can be effective. The proposed drainage system should reduce the soil piping and subsurface drainage and reduce the uncertainty about the long-term stability of the tie-back system. Subsurface sampling can be used to determine soil cohesion and develop the necessary tie-back parameters. An expanding tie-back design or anchoring system can also be considered. The Commission has experience with tie-back walls in poorly indurated rocks such as compromise the bluff here, and has found them to perform adequately in the past. When combined with proper drainage control, the Commission's geologist concludes that a comprehensive tie-back/concrete wall system is feasible at this location.

- Drainage. Drainage shall consist of a combination of a curtain drain near the bluff edge, and/or a series of drainage wells extending roughly parallel to the bluff edge that are equipped with sump pumps (or equivalent), and/or by drainage built into the vertical wall itself, where all such drainage mechanisms are designed to intercept subsurface water piping through the site and to direct it away from the bluff edge. There shall be as many such drainage mechanisms as is necessary to intercept enough of the subsurface drainage so that it doesn't collect to such a



degree behind the vertical wall as to cause structural stability problems to the wall. If more wells or larger curtain drains can be used as a means to limit the height of the vertical wall, then preference shall be given to installing more wells and larger curtain drains. The wells' drainage mechanisms shall be supplemented by a surface drainage collection system designed to collect surface drainage before it can pool at or flow over the blufftop edge. All drainage, with the exception of weep holes in the wall itself necessary for its proper function, shall not be directed seaward of the blufftop edge, but rather shall be directed inland to appropriate collection areas (whether for use in on site irrigation or directed to street collection systems) if it is feasible. If it is not feasible, then such drainage shall be directed as inconspicuously as possible into a drainage swale in a manner that avoids exacerbating erosion.

- Landscaping. All areas between the top of the vertical wall and a line 5 feet inland from the blufftop edge shall be vigorously landscaped with bluff species native to the Cayucos area. Non-native and invasive species shall be removed.

Thus, in this case, the Commission finds that a hard structure is required to protect the existing structure in danger, but that the only hard structure that can be found consistent with the LCP in this regard is the above-described semi-vertical contoured wall, drainage, and landscaping project.

As noted in Special Condition 1, engineered plans for the sloped vertical wall with tie backs, and the comprehensive drainage system that are in substantial conformance with this general direction shall be provided for review and approval of the Executive Director. Plans shall include the drainage plan, the wall and tie-back plan, foundation embedment plan, and any interconnections between the drainage system and the sloped vertical wall. The plans shall be accompanied by calculations of the 100-year runoff event and other drainage design elements, calculations for the tie-back system, calculations of the anticipated wave forces and estimates of future scour. A general monitoring and maintenance plan shall also be developed that will insure the stability of the drainage system and sloped vertical tie-back wall for the 50-year life of the structure.

The drainage system and sloped vertical tie-back wall alternative is environmentally superior to the proposed rip-rap revetment because it protects the endangered structure at the same time as it avoids a significant beach area footprint, is less visually intrusive, and eliminates concerns surrounding lateral public access and recreation impacts. As part of any approval of the vertical wall project, the rip-rap revetment must also be removed, and the area that is exposed from under the revetment (and not covered by the vertical wall) restored to its pre-revetment installation condition or better.

#### Sand Supply Impacts

Additional tests under LCP Policies 4, 5, and CZLUO Section 23.05.090c(1) require that shoreline structures be designed to eliminate or mitigate adverse impacts to local shoreline sand supply.

#### Shoreline Processes

Beach material 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, gullyng, et cetera. Coastal dunes



are almost entirely beach sand, and wind and wave action often provide an on-going mix and exchange of material between beaches and dunes. Many coastal bluffs are marine terraces – ancient beaches that formed when land and sea levels differed from current conditions. Since the marine terraces were once beaches, much of the material in the terraces is often beach quality sand or cobble, and a valuable contribution to the littoral system when it is added to the beach. While beaches can become marine terraces over geologic time, the normal exchange of material between beaches and bluffs is for bluff erosion to provide beach material. Bluff retreat and erosion is a natural process resulting from many different factors such as erosion by wave action causing cave formation, enlargement and eventual collapse, saturation of the bluff soil from ground water causing the bluff to slough off and natural bluff deterioration. When a shoreline protective device protects the back-beach or bluff, the natural exchange of material either between the beach and dune or from the bluff to the beach will be interrupted and, if the shoreline is eroding, there will be a measurable loss of material to the beach. Since sand and larger grain material is the most important component of most beaches, only the sand portion of the bluff or dune material is quantified as beach material.

These natural shoreline processes affecting the formation and retention of beaches can be significantly altered by the construction of shoreline armoring structures since bluff retreat is one of several ways that beach quality sand is added to the shoreline. Bluff retreat and erosion is a natural process resulting from many different factors (such as erosion by wave action causing cave formation, enlargement and eventual collapse, saturation of the bluff soil from ground water causing the bluff to slough off and natural bluff deterioration); shoreline armoring directly impedes these natural processes.

The subject site is located within the Morro Bay Littoral Cell. The main source of sediment for the Morro Bay Cell is coastal streams such as Arroyo de la Cruz, Santa Rosa Creek, Chorro Creek, and likely from Cayucos Creek just downcoast of the project site. The dominant direction of sediment transport is to the south. The main sediment sinks are the dunes immediately south of Piedras Blancas, the Morro Dunes, and the Morro Bay Harbor. Over centuries, there have been many millions of cubic yards of sand added to the dune features. On average, 120,000 cubic yards of sand are dredged annually from the Morro Bay Harbor Channel, indicating the approximate volume of material that is being transported and deposited there. If sediment in the Morro Bay Cell is not trapped in the dunes or the Bay, it is transported further south and becomes a source of sediment for the Santa Maria Cell. Approximately 125,000 cubic yards of sediment is deposited onto the Pismo/Nipomo dune system annually. Sources of this sediment include 40,000 cubic yards from streams and the remainder from offshore sources.<sup>11</sup>

Some of the effects of engineered armoring structures on the beach (such as scour, end effects and modification to the beach profile) are temporary or are difficult to distinguish from all the other actions that modify the shoreline. Others are more qualitative (e.g., impacts to the character of the shoreline and visual quality). Some of the effects that a shoreline structure may have on natural shoreline processes can be quantified, however, including: (1) the loss of the beach area on which the structure is located; (2) the long-term loss of beach which will result when the back beach location is fixed on an eroding

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<sup>11</sup> From John Meisenbach, 1974, Pismo State Beach and Pismo Dunes State Vehicular Recreation Area General Development Plan, California Department of Parks and Recreation, April 1975.



shoreline; and (3) the amount of material which would have been supplied to the beach if the back beach or bluff were to erode naturally. In this case, the sand supply impacts relate to both the temporary placement of the emergency rip-rap revetment that exists today (i.e., the impacts due to this revetment over the past 10 years), and the long-term placement of the alternative seawall approved under this permit.<sup>12</sup>

#### Fixing the back beach

Experts generally agree that where the shoreline is eroding and armoring is installed, as is the case here, the armoring will eventually define the boundary between the sea and the upland. On an eroding shoreline fronted by a beach, the beach will be present as long as some sand is supplied to the shoreline and the beach is not submerged by sea level rise. As erosion proceeds, the profile of the beach also retreats. This process stops, however, when the retreating shoreline comes to a revetment or a seawall. In such instance, while the shoreline on either side of the armor continues to retreat, shoreline retreat in front of the armor stops. Eventually, the shoreline fronting the armor protrudes into the water, with the mean high tide line fixed at the base of the structure. In the case of an eroding shoreline, this represents the loss of a beach as a direct result of the armor.

In addition, sea level has been rising slightly for many years. Also, there is a growing body of evidence that there has been an increase in global temperature and that acceleration in the rate of sea level can be expected to accompany this increase in temperature (some shoreline experts have indicated that sea levels could rise as much as 3 feet by the year 2100). Mean water level affects shoreline erosion several ways and an increase in the average sea level will exacerbate all these conditions. On the California coast the effect of a rise in sea level will be the landward migration of the intersection of the ocean with the shore. This, too, leads to loss of the beach as a direct result of the armor. These effects are also known as “passive erosion.”

The Commission has established a methodology for calculating the long-term loss of public beach sand due to fixing the back beach, this impact being equal to the long-term erosion rate multiplied by the width of property that has been fixed by a resistant shoreline protective device.<sup>13</sup> In this case, the methodology used for calculating the long-term loss of beach must be calculated twice. This is due to the placement of the emergency rip-rap revetment at the project site in late November 1998 that has remained in place until today (10 years), and then the armoring of the site with a vertical seawall approved under this permit moving forward for the design life of the replacement seawall (in this case, presumed to be 50 years<sup>14</sup>).

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<sup>12</sup> The sand supply impact refers to the way in which the project impacts creation and maintenance of beach sand. Although this ultimately translates into beach recreational access impacts, the discussion here is focused on the first part of the issue and the way in which the proposed project would impact sand supply processes.

<sup>13</sup> The area of beach lost due to long-term erosion ( $A_w$ ) is equal to the long-term average annual erosion rate ( $R$ ) times the number of years that the back-beach or bluff will be fixed ( $L$ ) times the width of the property that will be protected ( $W$ ). This can be expressed by the following equation:  $A_w = R \times L \times W$ .

<sup>14</sup> Shoreline structure design life varies considerably. In general, though, seawalls are typically understood to have a design life of 50 to 100 years. With repair and maintenance over time, some have argued that design life is even longer than this. In this case, 50 years (i.e., the lower end of the range) is identified based on the Commission’s general practice of using an estimated 50-year lifetime for a seawall when none is otherwise clearly specified.



Using this calculation for the temporary emergency revetment, the impact over the past ten years would translate in this case to 325 square feet.<sup>15</sup> To convert the 325 square foot loss of beach per year into the volume of sand necessary to restore the beach commensurately in cubic yards, coastal engineers use a conversion value representing units of cubic yards per square foot of beach.<sup>16</sup> In this case, the Commission has not been able to establish an actual conversion factor the Cayucos State Beach vicinity. However, if a 1.0 conversion factor is used (i.e., the low end of the spectrum of values typically assumed by coastal engineers), a conservative estimate of cubic yard equivalent of 325 square feet can be calculated. Using the sand conversion factor of 1.0, the direct loss of beach due to fixing the back beach (i.e., “passive erosion”) translates into an impact of 325 cubic yards of sand due to the ten years that the rip-rap revetment has been in place.<sup>17</sup>

Using this same calculation for the vertical wall approved under this permit, the impact going forward would translate in this case to 1,625 square feet.<sup>18</sup> To convert the 1,625 square foot loss of beach per year into the volume of sand necessary to restore the beach commensurately in cubic yards, again a conversion factor of 1.0 is used. For the approved vertical seawall project, the direct loss of beach due to fixing the back beach translates into an impact of 1,625 cubic yards of sand.

Thus the total passive erosion sand impact translates to 325 cubic yards of sand for the revetment and 1,625 cubic yards of sand for the seawall, for total impact of 1,950 cubic yards of sand.

#### Encroachment on the Beach

Shoreline protective devices such as the seawall and revetment proposed are all physical structures that occupy space. When a shoreline protective device is placed on a beach area, the underlying beach area cannot be used as beach. This generally results in a loss of public access. The area where the structure is placed will be altered from the time the protective device is constructed, and the extent or area occupied by the device will remain the same over time, until the structure is removed or moved from its initial location, or in the case of a revetment, as it spreads seaward over time. The beach area located beneath a shoreline protective device, referred to as the encroachment area, is the area of the structure’s footprint.

As discussed previously, the revetment has a footprint of roughly 230 square feet.<sup>19</sup> This revetment was placed on top of bedrock, cobbled rocky intertidal areas, and some amount of beach sand. This material

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<sup>15</sup> That is, 6 inches per year (the long term average annual erosion rate used by the Applicant and the Applicant’s consultants for demonstrating threat), multiplied by the 10 years the bluff has been fixed, multiplied by the 65 linear feet of bluff fronted by the revetment equals 325 square feet.

<sup>16</sup> This conversion value is based on the regional beach and nearshore profiles, and overall characteristics. When there is no regional data to better quantify this value, it is often assumed to be between 1 and 1.5, the idea being that to build a beach seaward one foot, there must be enough sand to provide a one-foot wedge of sand through the entire region of onshore-offshore transport. If the range of reversible sediment movement is from -30 feet msl to +10 feet msl, then a one-foot beach addition must be added for the full range from -30 to +10 feet, or 40 feet total. This 40-foot by 1 foot square parallelogram could be built with 1.5 cubic yards of sand (40 cubic feet divided by 27 cubic feet per cubic yard). If the range of reversible sediment transport is less than 40 feet, it will take less than 1.5 cubic yards of sand to rebuild one square foot of beach; if the range of reversible sediment transport is larger than 40 feet, it will take more than 1.5 cubic yards of sand to rebuild one square foot of beach.

<sup>17</sup> Passive erosion was not quantified by the County, the Applicant, nor their consultants.

<sup>18</sup> That is, 6 inches per year x 50 years x 65 feet = 1,625 square feet.

<sup>19</sup> Id.



would have (had the revetment not been placed) been part of the public beach area. While the emergency revetment has encroached on the bedrock, rocky intertidal and beach for 10 years, the impacts specifically to the beach area have not been quantified. The beach encroachment area wouldn't be a permanent encroachment impact because the revetment is to be removed and replaced with a vertical wall that does not encroach onto usable beach space. It would be difficult to quantify the one-time impact for encroachment onto the beach due to the variability of features upon which the emergency revetment was placed. Therefore, it can be concluded that the rip-rap revetment (for the time since it was installed in February 1998 until the seawall were to take its place), has resulted (and would result) in some negligible loss of beach area due to its footprint.

For a different reason, the approved seawall would likewise have a negligible footprint impact on sand materials. In this case it is because the seawall would be constructed in such a way as to have little to no footprint at the toe of the slope here. Rather, the base of the seawall would be cut into the toe of the slope as necessary to avoid any encroachment onto the beach area seaward of it. To the extent the seawall foundation required a wider footprint (i.e., a scour apron or equivalent), this footprint could be embedded in the underlying materials and contoured in such a way as to continue to accommodate access atop it, including when beach sand covered any such footprint/apron. In either case, it would not have a significant encroachment onto the beach. Thus, for both the revetment (for ten years) and the seawall, the encroachment impact is negligible and not included in the mitigation calculation.<sup>20</sup>

#### Retention of Potential Beach Material

If natural erosion were allowed to continue (absent the proposed armoring), some amount of beach material would be added to the Cayucos State Beach and larger littoral cell sand supply system from the bluffs. In addition to the 10 years that has lapsed since the rip-rap revetment was installed, the volume of total material that would have gone into the sand supply system over the lifetime of the shoreline structure would be the volume of material between (a) the likely future bluff face location with shoreline protection; and (b) the likely future bluff location without shoreline protection. Since the main concern is with the sand component of this bluff material, the total material lost must be multiplied by the percentage of bluff material that is beach sand, giving the total amount of sand that would have been supplied to the littoral system for beach deposition if the proposed device were not installed. The Commission has established a methodology for identifying this impact.<sup>21</sup>

<sup>20</sup> This is also appropriate inasmuch as there is some uncertainty as to the current revetment footprint (as indicated previously), and the precise seawall footprint is dependent upon revised plans where, as indicated, its footprint would be limited to the maximum degree feasible.

<sup>21</sup> The equation is  $V_b = (S \times W \times L) \times [(R \times h_s) + (1/2h_u \times (R + (R_{cu} - R_{cs})))]/27$ . Where:  $V_b$  is the volume of beach material that would have been supplied to the beach if natural erosion continued (this is equivalent to the long-term reduction in the supply of bluff material to the beach resulting from the structure);  $S$  is the fraction of beach quality material in the bluff material;  $W$  is the width of property to be armored;  $L$  is the design life of structure (again, 50 years assumed, though its lifetime can also be considered indefinite) or, if assumed a value of 1, an annual amount is calculated;  $R$  is the long term average annual erosion rate;  $h_s$  is the height of the shoreline structure;  $h_u$  is the height of the unprotected upper bluff;  $R_{cu}$  is the predicted rate of retreat of the crest of the bluff during the period that the shoreline structure would be in place, assuming no seawall were installed (this value can be assumed to be the same as  $R$  unless the Applicant provides site-specific geotechnical information supporting a different value);  $R_{cs}$  is the predicted rate of retreat of the crest of the bluff, during the period that the seawall would be in place, assuming the seawall has been installed (this value will be assumed to be zero unless the Applicant provides site-specific geotechnical information supporting a different value); and divide by 27



In this case, the Applicant's consultants have estimated this impact to be approximately 3 cubic yards of sand per year that would be retained based on a retreat rate of 6 inches per year. Given only the top 5 or 6 feet of the bluffs are terrace deposits, this seems a reasonable accounting of the sand retention per year due to armoring at this location.

Therefore, applying that 3 cubic yard per year figure, the revetment has retained 30 cubic yards of sand (in ten years), and the seawall would retain an additional 150 cubic yards of sand over its design lifetime (again, 50 years) for total retention impact of 180 cubic yards of sand.

#### Sand Supply Impacts Conclusion

Therefore, totaling the impacts just identified, the project would be expected to result in quantifiable beach access and sand supply impacts totaling 2,130 cubic yards.<sup>22</sup> Although relatively small in comparison to the total amount of littoral drift overtime, these impacts are not eliminated and constitute impacts for purposes of the LCP and the Coastal Act. The Applicant and his consultants indicate that that the project's effect on beach access and sand supply is not significant, and offer no mitigation directly tied to this impact.

It has proven difficult over the years to identify appropriate mitigation for such impacts. Partly this is due to the fact that creating an offsetting beach area is not an easy task, and finding appropriate properties that could be set aside to become beach area over time (through natural processes, including erosion) is difficult both due to a lack of such readily available properties and the cost of such coastal real estate more broadly. As a proxy, other types of mitigation typically required by the Commission for such direct sand supply impacts has been in-lieu fees and/or beach nourishment, and in some cases compensatory beach access improvements. With regards to beach nourishment, a formal sand replenishment strategy can introduce an equivalent amount of sandy material back into the system over time to mitigate the loss of sand that would be caused by a protective device over its lifetime. Obviously, such an introduction of sand, if properly planned, can feed into the Morro Bay Littoral Cell sand system to mitigate the impact of the project. However, as opposed to other areas with established programs (e.g., SANDAG in San Diego) there are not currently any existing beach nourishment programs directed at this beach area. Absent a comprehensive program that provides a means to coordinate and maximize the benefits of mitigation efforts in the area now and in the future, the success of piecemeal mitigation efforts, such as an Applicant-only project to drop equivalent amounts of sand over time at this location, is questionable.

With respect to using beach access improvements to offset impacts, such mitigation is typically applied by the Commission to public agencies that are in the beach management business when they have applied for armoring projects.<sup>23</sup> It is more difficult to put the burden for a public project on a private

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(since the dimensions and retreat rates are given in feet and volume of sand is usually given in cubic yards, the total volume of sand must be divided by 27 to provide this volume in cubic yards, rather than cubic feet).

<sup>22</sup> 1,950 cubic yards due to fixing the back beach and 180 cubic yards of lost sand to the beach system.

<sup>23</sup> For example, as recently required with respect to recreational access improvements along the Pleasure Point shoreline area of Santa Cruz County as part of the Commission's approval of a seawall fronting East Cliff Drive (CDPs A-3-SCO-07-015 and 3-07-019, approved December 13, 2007).



applicant and thus such mitigation is atypical.<sup>24</sup> In addition, the Commission is currently unaware of any specific projects in the Cayucos State Beach area that could benefit from such mitigation at this time.

As an alternative mitigation mechanism, the Commission oftentimes uses an in-lieu fee when in-kind mitigation of impacts is not available.<sup>25</sup> In situations where ongoing sand replenishment or other appropriate mitigation programs are not yet in place, the in-lieu mitigation fee is deposited into an account until such time as an appropriate program is developed and the fees can then be used to offset the designated impacts. When mitigation funds are pooled in this way for multiple projects in a certain area, the cumulative impacts can also be better addressed inasmuch as the pooled resources can sometimes provide for a greater mitigation impact than a series of smaller mitigations based on individual impacts and fees. In this case, the Commission finds that an in-lieu fee is the most appropriate and reasonable mitigation method given the above described factors.

Thus, in order to mitigate for the project's identified beach access and sand supply impact (and others related to it that are linked to beach recreational access loss and public view impacts),<sup>26</sup> this approval is conditioned for an in-lieu fee (see Special Condition 4). The fee is based on the volume of sand equivalent to the quantified impacts and the cost to replace this volume of sand.<sup>27</sup> The cost to supply beach quality sand varies widely, and averages about \$25 per cubic yard in the Cayucos area.<sup>28</sup> Based on the cost estimates to supply sand to this location of \$25 per cubic yard, the 2,130 cubic yards of sand translates into a fee of \$53,250 to be paid into a fund for beach access improvements. In this case the \$53,250 fee amount is premised on a 50-year presumed life of the structure. Consistent with current Commission practice regarding shoreline protective devices, at the end of the anticipated life of the structure the structure would need to be removed or replaced, and the need for a new fee (or similar mitigation) evaluated. Under special condition 4 the fee must be deposited into an interest-bearing account to be established and managed by State Parks or another appropriate entity. The sole purpose of the fee/account shall be for public beach recreational access improvements at Cayucos State Beach.

As conditioned, the project thus satisfies the tests of the LCP regarding required mitigation for sand

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<sup>24</sup> Although the Commission has applied such a requirement for this type of impact before (see, for example, CDP 3-02-107, Podesto).

<sup>25</sup> See, for example, CDP 3-98-102 (Panattoni) and CDP 3-97-065 (Motroni-Bardwell).

<sup>26</sup> See also public viewshed findings, and public access and recreation findings that follow.

<sup>27</sup> As previously noted, the Applicant has not identified any impact to beach sand resources or any proposed mitigation. The sand supply method has been used in many cases by the Commission, although other methods have also been used, such as recent cases where beach surveys have been used to establish recreational values of beaches. In this case, beach use data and survey information is not readily available for this beach area, and it would be both costly and difficult to develop such information now. As a result, and as has been done in the past by the Commission, the sand replacement cost method is applied to this case.

<sup>28</sup> This figure is based on estimates from four commercial sand suppliers in the vicinity of the project (Cambria Rock; Winsor Construction; Santa Barbara Stone; and Air-Vol Block), as well as from other experiences the Commission has had calculating sand supply costs statewide. The four commercial quotes range in price from \$20 per cubic yard to \$44 per cubic yard. Other factors to consider include the cost of delivery, availability of materials, as well as possible economies of scale that could be achieved from larger-scale regional sand nourishment programs. For example, the City of Encinitas gets about 5,000 cubic yards of sand each year for a public volleyball beach area and they pay roughly \$30 per cubic yard for sorted and washed sand. The general fee for sand for larger beach nourishment projects is closer to \$12 per cubic yard. Based on the specific characteristics of this project, as well as comparisons to other similar type projects, a cost of \$25 per cubic foot of beach sand delivered to the project site is reasonable.



supply impacts.<sup>29</sup>

#### B. Assumption of Risk

The Commission's experience in evaluating the consistency of proposed developments with LCP policies regarding development in areas subject to hazards, has been that development has continued to occur despite periodic episodes of heavy storm damage and other such occurrences. Development in such dynamic environments is susceptible to damage due to such long-term and episodic processes. Past occurrences statewide have resulted in public costs (through low interest loans, grants, subsidies, direct assistance, etc.) in the millions of dollars. As a means of allowing continued development in areas subject to these hazards while avoiding placing the economic burden for damages onto the people of the State of California, applicants are regularly required to acknowledge site hazards and agree to waive any claims of liability on the part of the Commission for allowing the development to proceed.

There are inherent risks associated with development on and around seawalls and eroding bluffs in a dynamic coastal bluff environment; this applies to the project proposed as well as for the development landward of the bluffs themselves. The approved project, and all development inland of it, is likely to be affected by shoreline erosion in the future. Although the Commission has sought to minimize the risks associated with the development proposed in this application (and in past actions with new development on this property), the risks cannot be eliminated entirely. Given that the Applicant has chosen to pursue the development despite these risks, the Applicant must again assume these risks. Accordingly, this approval is conditioned for the Applicant to assume all risks for developing at this location (see Special Condition 7(e)).

#### C. Off-site Impacts

Oftentimes there are also concerns that installing shoreline armoring where adjacent properties are not armored, such as is the case here at the upcoast (northern) end of the project, can result in increased erosion or other "end effects" at that location. This can lead to structural stability issues off-site. It should be noted that a sea cave has already formed upcoast of the existing revetment on the adjacent property. This effect is reduced downcoast of the project because rock armoring has already been placed there. In this case, based on the Applicant's geotechnical consultant's conclusions in this regard, and absent any evidence to the contrary, the proposed project would not be expected to result in any significant offsite end effects.

#### D. Monitoring, Maintenance, and Long-Term Stability

If the seawall were damaged in the future (e.g. as a result of wave action, storms, landsliding, etc.) it could threaten the stability of the site, which could lead to need for more bluff alteration and/or additional or more substantive armoring. In addition, the upper bluff soils must be adequately stabilized with vegetation, and upper bluff drainage controlled, to ensure overall stability. Long-rooted non-invasive native plant species should be used for this purpose. In a bluff setting, these species can help to stabilize bluff soils, minimize irrigation of the bluff (again helping to stabilize the bluff), and can help to avoid bluff failure and sloughing in some cases (e.g., mats of invasive and non-native iceplant can

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<sup>29</sup> Note that the proposed project, on the other hand, cannot be found consistent in this respect because it lacks sand supply mitigation.



become so heavy that they rip out of the bluff, particularly in saturated situations, taking bluff materials with them). They also help to create a more natural (to the bluff area) looking natural landform, helping to offset visual impacts of unnatural structures along bluffs (see also visual findings below).

Therefore, in order to find the proposed project consistent with the LCP, the Commission finds that the condition of the seawall, the bluff plantings, and the drainage controls in their approved state must be maintained for the life of the seawall. Further, in order to ensure that the Applicant and the Commission know when repairs or maintenance are required, the Applicant must monitor the condition of the seawall and the bluff over the long term. The monitoring will ensure that the Applicant and the Commission are aware of any damage and can determine whether repairs or other actions are necessary to maintain the seawall and bluff measures in their approved state before such repairs or actions are undertaken. Finally, such future monitoring and maintenance activities must be understood in relation to clear as-built plans.

Therefore, special conditions are attached to this approval for the submittal of as-built plans to define the footprint and profile of the permitted development (see special condition 5) and drainage and non-invasive native vegetation parameters are required for the bluff area (see special conditions 1 and 7). For monitoring, the Applicant is responsible for ensuring adequate monitoring of the approved project and is required to submit a monitoring report on five year intervals that evaluates the condition and performance of the seawall, and related drainage and vegetation elements, and to submit the report with recommendations, if any, for necessary maintenance, repair, changes or modifications to the project (see special condition 6). All monitoring and maintenance commitments must be recorded as property restrictions to ensure long-term compliance, and to ensure that any future landowners are clearly notified of these commitments (see special condition 11). Finally, this approval is structured to allow future standard maintenance to the approved project to maintain it in its approved state subject to the same construction and restorations parameters of the initial development; the term of this future maintenance is indefinite until there are changed circumstances that require its reevaluation (see special condition 8).

#### E. Future Shoreline Management

Although none are known or anticipated at this time, it is possible that in the future there may be a regional shoreline management project designed to address shoreline armoring issues in a more comprehensive regional manner. It is unknown what form such a planning initiative may take, or whether it will happen at all for this portion of the shoreline. This approval is conditioned for the Applicant to acknowledge that such future planning initiatives may involve this property (see special condition 7(f)).

### 1.3 Hazards Conclusion

As discussed above, the facts of this particular case show that the proposed rip-rap revetment is not required to protect an existing structure in danger from erosion and that a less environmentally damaging feasible alternative is available. As conditioned, the alternative seawall project will be designed to minimize (and to the extent feasible eliminate) sand supply impacts, and includes mitigation to offset impacts that are unavoidable in this regard. Conditions have been applied for monitoring, long-term maintenance, prohibition on future seaward encroachment, and assumption of risk. As conditioned,



the proposed project can be found consistent with the LCP hazard polices as cited in this finding.

## 2. Public Access and Recreation

### 2.1 LCP and Coastal Act Policies

The project is located between the first public road and the sea. As such, the project must be consistent not only with the certified LCP but also the access and recreation policies of the Coastal Act.

Coastal Act Section 30604(c) requires that every coastal development permit issued for any development between the nearest public road and the sea “shall include a specific finding that the development is in conformity with the public access and public recreation policies of [Coastal Act] Chapter 3.” The proposed project is located seaward of the first through public road. Coastal Act Sections 30210 through 30214 and 30220 through 30224 specifically protect public access and recreation. In particular:

***30210.** 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.*

***30211.** Development shall not interfere with the public's right of access to the sea where acquired through use or legislative authorization, including, but not limited to, the use of dry sand and rocky coastal beaches to the first line of terrestrial vegetation.*

***30213.** Lower cost visitor and recreational facilities shall be protected, encouraged, and, where feasible, provided. Developments providing public recreational opportunities are preferred. ...*

***30221.** Oceanfront land suitable for recreational use shall be protected for recreational use and development unless present and foreseeable future demand for public or commercial recreational activities that could be accommodated on the property is already adequately provided for in the area.*

***30223.** Upland areas necessary to support coastal recreational uses shall be reserved for such uses, where feasible.*

Coastal Act Section 30240(b) also protects parks and recreation areas, such as the adjacent beach area. Section 30240(b) states:

***30240(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.*

The LCP policies previously cited also require the protection of public access. Policy 4 requires that shoreline structures not preclude public access, and if approved, areas seaward of the protective device



must be dedicated for lateral public access. In addition, Policy 5 and implementing ordinance Section 23.05.090 require shoreline structures to mitigate or eliminate effects on local shoreline sand movement and supply. In this sense, sand supply effects relate to the way in which the project impacts creation and maintenance of beach sand, ultimately translating into potential impacts to beach access and recreation.

In sum, these overlapping Coastal Act and LCP policies clearly protect the beach (and access to and along it) and offshore waters for public access and recreation purposes, particularly free and low cost access.

## 2.2 Beach Access Impacts

### Loss of Beach Access Area and Lateral Access Opportunities

The beach area fronting the project site is a much-used mostly cobbly beach backed by coastal bluffs. Based on the Commission's 1980 approval of an addition to the existing residence at this site, this beach area fronting the bluff is also subject to a public access easement (see Exhibit I). A rocky promontory is located upcoast of the property line. Past this point there are numerous pocket beaches and some further rocky areas, which can be laterally accessed, particularly at lower tides. In general, most beach goers frequent the beaches in front and downcoast of the property towards the Cayucos Pier, while the rockier areas and pocket beaches upcoast are primarily used by visitors looking for the privacy of the pocket beaches, or those interested in exploring the rocky intertidal areas present there. This entire stretch of coast, including the cobbly beach area in front of the property, is extensively used by the public. In short, the beach area and lateral public access route that would be impacted by the proposed revetment is a significant public access resource much used by local residents and visitors alike.

The effect of covering a portion of this beach area with the proposed revetment would be to remove a portion of the beach from use. According to the Applicant's engineer, approximately 230 square feet of useable beach has been covered by rock.<sup>30</sup> At higher tides, the impact on public use of the beach has been exacerbated given that tidal influence foreshortens the beach at these times. Another effect has been to further limit the public's ability to gain access both up and down coast laterally along the beach being covered, particularly at higher tides. Furthermore, the rocks that make up rip-rap revetments can tend to migrate onto the beach and present a public access and public safety impediment. The Commission's experience has shown this rock migration to be the norm rather than the exception with rock revetments.

These adverse public access impacts are inconsistent with the LCP and Coastal Act Sections 30210, 30211, and 30240 which protect this recreational area and the public's right of access thereto. In addition, as discussed in the findings above, the area where the proposed revetment is located is a recorded and accepted public access easement area specifically required by the Commission previously. Per the terms of the easement, the revetment would not be allowed in the easement area (see Exhibit I).

Furthermore, as noted above in the discussion of sand supply impacts, in addition to the direct loss of useable recreational beach area, the introduction of the proposed revetment has a number of effects on

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<sup>30</sup> Id.



the dynamic shoreline system and the public's beach use interests. First, the revetment leads to a progressive loss of sand as shore material is not available to nourish the sand supply system. Second, and particularly in combination with the loss of sand generating materials, the proposed revetment fixes the back beach location. The effect on public use is that the useable beach space narrows; eventually this beach area between the revetment and the water would be expected to disappear. Third, changes in the shoreline profile, particularly changes in the slope of the profile that result from a reduced beach width, alter the useable beach area restricted for public access. A beach that rests either temporarily or permanently at a steeper angle than under normal conditions will have less horizontal distance available for the public to use. This reduces the actual area in which the public can pass on property restricted for public access. Fourth, the proposed revetment cumulatively affects public access by causing accelerated and increased erosion on the adjacent beaches. This effect may not become clear until such devices are constructed individually along a shoreline. Fifth, since the proposed revetment is not sited so far landward that it would only be acted upon during severe storm events, beach scour, particularly during the winter season, could be accelerated because there is less beach area to dissipate the wave's energy. This can act to exacerbate the narrowing of the useable beach space available for public access.

#### Public Trust Issues

In addition to publicly owned recreational beach parks, the public has ownership and use rights in the lands of the State seaward of the mean high tide line as it exists from time to time (public trust lands) and may also have rights landward of the mean high tide line through historic public use (public prescriptive rights). As mentioned above, in this case the beach area is also subject to a public access easement (see Exhibit I for the full text of these recorded documents).

By virtue of its admission into the Union, California became the owner of all tidelands and all lands lying beneath inland navigable waters. These lands are held in the State's sovereign capacity and are subject to the common law public trust. The public trust doctrine restricts uses of sovereign lands to public trust purposes, such as navigation, fisheries, commerce, public access, water-oriented recreation, open space and environmental protection. The public trust doctrine also severely limits the ability of the State to alienate these sovereign lands into private ownership and use free of the public trust. Consequently, the Commission must avoid decisions that improperly compromise public ownership and use of sovereign tidelands.

Where development is proposed that may impair public use and ownership of tidelands, the Commission must consider where the development will be located in relation to tidelands. The legal boundary between public tidelands and private uplands is known as the ordinary high water mark. (Civil Code, Section 830.) In California, where the shoreline has not been affected by fill or artificial accretion, the ordinary high water mark of tidelands is determined by locating the existing "mean high tide line." The mean high tide line is the intersection of the elevation of mean high tide with the shore profile. Where the shore is composed of a sandy beach whose profile changes as a result of wave and tidal action, the location at which the elevation of mean high tide line intersects the shore is subject to change. The result is that the mean high tide line (and therefore the boundary) is an "ambulatory" or moving line that moves seaward through the process known as accretion and landward through the process known as erosion.



Consequently, the position of the mean high tide line fluctuates seasonally as high wave energy (usually but not necessarily) in the winter months causes the mean high tide line to move landward through erosion, and as milder wave conditions (generally associated with the summer) cause the mean high tide line to move seaward through accretion. In addition to ordinary seasonal changes, the location of the mean high tide line is affected by long term changes such as sea level rise and diminution of sand supply.

In order to protect public tidelands when beachfront development is proposed, the Commission must consider (1) whether the development or some portion of it will encroach on public tidelands (i.e., will the development be located below the mean high tide line as it may exist at some point throughout the year); and (2) if not located on tidelands, whether the development will indirectly affect tidelands by causing physical impacts to tidelands.

In order to minimize approving development that will encroach on public tidelands during any time of the year, the Commission, usually relying on information supplied by the State Lands Commission, will look to whether the project is located landward of the most landward known location of the mean high tide line. In this case, the Applicant's site plan shows much of the proposed revetment landward of the mean high tide. However, this claim has not been verified by the State Lands Commission. Elevations submitted by the Applicant's engineer show portions of the rock and keyway extending below the elevation of the mean high tide. Given the ambulatory character of the mean high tide line, it may be the case that the proposed revetment lies partially (or totally) below mean high tide.

In either event, even structures located above the mean high tide line may have an impact on shoreline processes – and ultimately to the extent and availability of tidelands. That is why the Commission also must consider whether a project will have indirect impacts on public ownership and public use of shorelands. In this case, as discussed earlier in these findings, there is substantial evidence that this project would result in some indirect impacts on tidelands because the proposed revetment is located in an area that is subject to wave attack and wave energy. This wave interaction with the revetment would contribute to erosion and steepening of the shore profile. The proposed revetment would fix the back beach location, retain potential beach materials, cover beach area, contribute to beach scour, potentially alter the longshore transport of materials, and contribute to erosion and steepening of the shore profile to the detriment of the availability of tidelands.

In addition to a development proposal's impact on tidelands and on public rights protected by the common law public trust doctrine, the Commission must consider whether the project will affect a public right to use beachfront property, independent of who owns the underlying land on which the public use takes place. Generally, there are three additional types of public uses identified as: (1) the public's recreational rights in navigable waters guaranteed to the public under the California Constitution and state common law; (2) any rights that the public might have acquired under the doctrine of implied dedication based on continuous public use over a five-year period; and (3) any additional rights that the public might have acquired through public purchase or offers to dedicate.

These use rights are implicated as the public walks the wet or dry beach. This area of use, in turn, moves across the face of the beach as the beach changes in depth on a daily basis. The free movement of sand on the beach is an integral part of this process, and it is here that the effects of structures are of concern.



In this case, the public has been granted an easement for beach access seaward of the toe of the bluff through the Commission's approval of an addition to the residence in 1980 (again, see Exhibit I). Nonetheless, as discussed above in terms of sand supply impacts, there is evidence that the proposed revetment will be subject to wave uprush which may result in some potential adverse individual and cumulative impacts on sand supply, beach profile, and ultimately, public access as a result of fixing the back beach location, retention of beach material, localized beach scour, coverage of sandy beach area, and interruption of the alongshore and onshore sand transport process.

The Commission must protect those public rights by assuring that any proposed shoreline development does not interfere with, or will only minimally interfere with, those rights. In the case of the proposed project, the potential for the permanent loss of sandy beach, and a corresponding permanent loss of public access, does exist as a result of the proposed revetment.

As described, the revetment does negatively impact public beach access and recreation. The proposed revetment results in the direct loss of approximately 230 square feet of recreational beach area; limits the public's ability to gain access both up and down coast laterally along the beach being covered, particularly at higher tides; will eventually result in the migration of rock(s) seaward on the beach and into the intertidal zone where they will become a public access and public safety impediment; will eventually result in a loss of useable beach area by fixing the back beach location, retaining potential beach materials, contributing to beach scour, potentially alter the longshore transport of materials, and contributing to erosion and steepening of the shore profile, all to the detriment and availability of tidelands and the public trust. These impacts are inconsistent with the Coastal Act and LCP sections cited above, and they have been occurring for the last ten years at this site.

In addition, as described, a portion of the project may be below mean high tide, and thus subject to State Lands Commission and Monterey Bay National Marine Sanctuary requirements. This approval is conditioned for the review and approval of these agencies (see special condition 10).

#### No Seaward Encroachment

As discussed, the Coastal Act, LCP Policy 4, and CZLUO Section 23.05.090c(2) all require that shoreline structures not preclude public access. The proposed rip-rap revetment fails to comply with these standards inasmuch as it occupies recreational sandy beach/cobbly intertidal areas and increases the amount of armoring within the beach area public viewshed. Therefore, to protect the beach and easement area seaward of the toe of bluff, and in order to find this project consistent with the LCP requiring that development not interfere with public access, the Commission finds that no seaward encroachment/impediment to access beyond the immediate toe of bluff area is allowed (see special condition 7(a)).

#### Construction Issues

The project did, when it was installed, and will when the approved project is constructed: require the movement of large equipment, workers, materials, and supplies through the public beach and public beach access point off Cayucos State Beach to gain access to the revetment; include large equipment operations on the recreational beach area fronting the site; result in the loss of recreational beach area to a construction zone (at the immediate project area); potentially encroach on State Lands and Sanctuary



waters; and generally intrude and negatively impact the aesthetics, ambiance, serenity, and safety of the recreational beach experience. These beach recreational use impacts can be contained through construction parameters that limit the area of construction, limit the times when work can take place (to avoid both weekends and peak summer use months when recreational use is highest), clearly fence off the minimum construction area necessary, keep equipment out of coastal waters, require off-beach equipment and material storage during non-construction times, and clearly delineate and avoid to the maximum extent feasible beach use areas. A construction plan is required for this purpose (see special condition 2). In addition, to provide maximum information to the beach-going public during all construction, the Applicant must maintain copies of the CDP and approved plans available for public review at the construction site, as well as provide a construction coordinator whose contact information is posted at the site to respond to any problems and/or inquiries that might arise (see special condition 3).

Although the required construction conditions can minimize the impacts of this project on beach goers, the conditions cannot completely compensate for the unavoidable degradation of the usual beach recreational experience available at this location, including the overall diminution of aesthetics and ambiance, due to the proposed project. To offset these impacts to the recreational beach, mitigation is necessary.

### 2.3 Public Access and Recreation Conclusion

The preceding discussion establishes distinct and identifiable impacts due to the Applicant's proposed revetment: (1) the direct loss of 230 square feet of recreational beach; (2) increased difficulty for the public to gain access both up and down coast laterally along the pocket beach being covered, particularly at higher tides; (3) a loss of useable beach area by fixing the back beach location, retaining potential beach materials, contributing to beach scour, potentially alter the longshore transport of materials, and contributing to erosion and steepening of the shore profile, all to the detriment and availability of tidelands, shorelands and the public trust; and (4) temporary construction impacts on recreational beach use. Furthermore, the revetment has been shown to be inconsistent with the underlying public access easement. Even if the proposed revetment had been shown to be necessary and consistent with the Coastal Act and the LCP for allowing shoreline structures, the Commission finds that the proposed revetment is inconsistent with the access and recreation policies of the LCP and Coastal Act Sections 30210, 30211, 30220, and 30240.

Finally, from an access and recreation impact perspective, and based upon information available today, the proposed revetment would result in more adverse impacts than would a semi-vertical, sloped and contoured concrete wall in this instance. In past permit actions, the Commission has required that new shoreline protective devices be located as landward as possible in order to reduce the adverse impacts to the sand supply and public access resulting from the development. A concrete wall of this type that mimicked the natural slope would occupy less beach space than would the proposed revetment and would be located further landward. As such, the sloped concrete wall would have lesser impacts in terms of beach coverage, lateral access, beach goer safety, and the interrelated sand supply impacts discussed above. Furthermore, a sloped concrete wall could be shaped, colored, and textured to approximate the natural bluff contours and would be less visually intrusive (see also visual findings that follow).



Therefore, in order to protect public recreational access as required by the LCP and Coastal Act, including to minimize unavoidable access impacts and to mitigate for them, this approval is conditioned for a revised project that replaces the revetment with a sloped concrete seawall project, that includes significant drainage and landscaping improvements, and that includes an in-lieu fee of \$53,250 that will be applied to improve beach recreational access in the Cayucos State Beach area (see special conditions 1, 2, 3, 4, 7, 9, and 11). All of these requirements are necessary to offset the significant public access and recreation impacts discussed in this finding above. As conditioned, the project can be found consistent with the Coastal Act and LCP public access and recreation policies cited in this finding.

### 3. Visual Resources

#### 3.1 Applicable Policies

The LCP protects the scenic and visual qualities of the County's coastal zone, including specifically in relation to shoreline armoring structures. LCP Hazard Policy 4 states, in applicable part:

*Shoreline structures ... shall be sited to minimize the visual impacts....*

This requirement is mirrored by CZLUO Section 23.05.090 which states, in applicable part:

***CZLUO Section 23.05.090c(3) - Required findings.*** *In order to approve a land use permit for a shoreline structure, the Planning Director or other applicable review body shall first find that the structure is designed and sited to be visually compatible with adjacent structures and natural features to the maximum extent feasible; and Sections 30251 and 30240 of the Coastal Act also protect the scenic and visual qualities of the public viewshed.*

#### 3.2 Analysis

##### Additional Rock Massing in the Public Viewshed

Because of its geographic setting near Cayucos State Beach and the Cayucos Pier, the project area is located in a significant public viewshed. As previously detailed, the project site backs a popular beach recreation area. These areas are important coastal access destinations for residents and visitors to the area alike. Although some of the back beach bluffs have been degraded visually by the placement of revetments, it remains a valuable view area for which the LCP and Coastal Act require protection.

The proposed project has for ten years and would continue to adversely affect the overall public viewshed and aesthetic by introducing large rocks into the back beach area. While the Applicant has attempted to mitigate for some of the visual impact by using darker colored rocks in an attempt to achieve visual consistency with adjacent bluff formations, photographic evidence of the completed revetment shows an imposing and unnatural (compared to the natural bluff landforms in this area) rock boulder facade covering significant back beach and natural bluff area (see exhibit C). The pile of rock is prominently visible in public views from vantage points on the beach and pier, detracting from and degrading these views. Natural bluff landforms in the area include an actively eroding coastal bluff, bedrock benches, rocky intertidal zone, cobbly and sandy beach, and small sea caves. Although some downcoast properties include established revetments, most of this area, particularly to the north, remains free of shoreline protective structures, and the subject revetment does not maintain visual compatibility



in that regard.

In this case, alternative projects are available that would reduce this visual impact. Specifically, a colored and contoured vertically sloped seawall can approximate the natural bluff landform as much as possible with an armoring project, and complementary native bluff landscaping can be used atop the bluff and cascading over the seawall to soften the impact even further. This approval is conditioned accordingly (see special conditions 1 and 7).

### 3.3 Visual Resource Conclusion

As conditioned, the project is consistent with LCP Policy 4 and CZLUO section 23.05.090c(3) regarding visual and scenic resources.

## 10. Coastal Development Permit Conditions of Approval

### A. Standard Conditions

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

### B. Special Conditions

1. **Final Plans.** PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT AND WITHIN SIX MONTHS OF APPROVAL OF THIS PERMIT (I.E., BY SEPTEMBER 12, 2009), the Permittee shall submit two copies of Final Plans to the Executive Director for review and approval. The Final Plans (other than the landscape screening component – see below) shall be prepared and stamped by a licensed civil engineer with experience in coastal structures and processes and shall include, at a minimum, site plans, cross sections, and supporting information



(including all assumptions, methodologies, tie-back load calculations, etc. underlying the project design) that clearly show the following:

**(a) Sloped Concrete Seawall Detail.** The Plans shall provide for replacement of the revetment by a sloped-vertical (i.e., constructed at an angle generally approximating the bluff slope) concrete tie-back seawall. The seawall shall be constructed of reinforced concrete surfaced in such a way as to mimic the natural bluff landform in slope, integral mottled color, and undulation; shall be the minimum width and height necessary to provide the required slope buttress; shall be embedded at the toe of the slope (including any embedded scour apron or equivalent) so as to avoid any undercutting or scouring of the toe of the slope; and shall include sufficient structural tiebacks into the bluff to ensure its long-term stability and effectiveness.

**(b) Drainage Detail.** The Plans shall provide for an engineered drainage system (which may include, but not be limited to curtain drains, vertical drainage wells, sump pumps (or equivalent), swales, ditches, drainage in the sloped vertical wall, or some combination of these devices) sufficient to intercept and control groundwater, subsurface drainage and surface runoff (comparable to a 100-year storm event), such that water will not flow over the blufftop edge, or collect or pool near the sloped vertical wall to such a degree that it would cause structural stability problems to the wall. The drainage system shall be designed to minimize the need for and size of the sloped-vertical wall to the maximum degree feasible. All drainage, with the exception of weep holes in the wall itself necessary for its proper function, shall not be directed seaward of the blufftop edge, but rather shall be directed inland to appropriate collection areas (whether for use in on-site irrigation or directed to street collection systems) if it is feasible. If it is not feasible, then such drainage shall be directed as inconspicuously as possible into a natural drainage swale in a manner that avoids exacerbating erosion.

**(c) Concrete Surfacing.** All exposed concrete surfaces shall be faced with a colored, sculpted concrete surface that mimics natural bluff landforms in the vicinity in terms of integral mottled color, texture, and undulation. Any protruding concrete elements (e.g., corners, edges, etc.) shall be rounded to evoke natural bluff undulations. All drainage within the sculpted concrete and/or extending seaward (see also Drainage Detail above) shall be camouflaged (e.g., randomly spaced, hidden with overhanging or otherwise protruding sculpted concrete, etc.) so as to be hidden from view and/or inconspicuous as seen from the public viewing areas. The Plans shall include documentation describing the concrete surfacing techniques to be applied, including identifying application contractors and samples of their work, and clear visual simulations of the expected completed appearance of the seawall.

**(d) Landscape Screening.** The Plans shall provide for the removal of all non-native invasive plants (e.g., iceplant) currently present in the blufftop area seaward of the residence, and shall provide for the planting of native species (native to the Cayucos bluff area) in the area between the top of the approved seawall and a line roughly 5 feet inland of the blufftop edge in a manner designed to provide for a cascading screen of native vegetation to screen the upper portion of the seawall from view from the beach below. The Plans shall clearly identify in site plan view the type, size, extent and location of all native plant materials to be used. The Plans shall also provide for any



irrigation necessary to ensure that the landscape screening is successful. All initial plant removal and planting shall be completed within one month of completion of seawall construction. The Plans shall require regular monitoring and remedial action (such as replanting as necessary) to ensure success of the vegetative screen. The landscape screening component of the Plans shall be prepared by a landscape professional with experience in coastal bluff vegetation.

- (e) **Revetment Removal Detail.** The Plans shall provide for removal of all of the rock revetment, and restoration of that portion of the thus exposed beach and bluff area (previously underlying the revetment) that is not otherwise to be covered by the approved sloped-vertical seawall. All such rock removed shall be appropriately disposed of and all rock disposal locations shall be noted. Any such rock disposal in the coastal zone may require a separate coastal development permit.

The Permittee shall undertake development in accordance with the approved Final Plans, which shall be completed within two years of the approval of this permit (i.e., by March 12, 2011). Failure to submit the Final Plans within six months of approval of this permit and/or failure to complete the development identified in the approved Final Plans shall constitute a knowing and intentional violation and shall be subject to the provisions of Chapter 9 of the Coastal Act.

2. **Construction Plan.** PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT AND WITHIN SIX MONTHS OF APPROVAL OF THIS PERMIT (I.E., BY SEPTEMBER 12, 2009), the Permittee shall submit two copies of a Construction Plan to the Executive Director for review and approval. The Construction Plan shall identify the specific location of all construction areas, all staging areas, all storage areas, all construction access corridors (to the construction sites and staging areas), and all public pedestrian access and recreational use areas in site plan view. All such areas within which construction activities and/or staging are to take place shall be limited to the maximum extent feasible in order to minimize construction encroachment on the beach and to have the least impact on public access. The Plan shall specify all construction methods to be used, including all methods to be used to keep the construction areas separated from beach access and recreational use areas (including using the blufftop space available on the Permittee's property for staging, storage, and construction activities to the maximum extent feasible) and shall include a final construction schedule. All erosion control/water quality best management practices to be implemented during construction and their location shall be noted. Silt fences, or equivalent apparatus, shall be installed at the perimeter of the construction site to prevent construction-related runoff and/or sediment from entering into the Pacific Ocean. The Construction Plan shall, at a minimum, include the following construction requirements specified via written notes on the Plan. Minor adjustments to the following construction requirements may be allowed by the Executive Director if such adjustments: (1) are deemed necessary due to extenuating circumstances; and (2) will not adversely impact coastal resources.

- (a) All work shall take place during daylight hours. Lighting of the beach area is prohibited.
- (b) Construction work or equipment operations shall not be conducted seaward of the mean high water line unless tidal waters have receded from the authorized work areas.



- (c) Grading of intertidal areas is prohibited with the exception of removal of existing revetment rock per special condition 1. Any such existing rock retrieved from intertidal areas shall be recovered by excavation equipment positioned landward of the waterline (i.e., excavator equipment with mechanical extension arms, swing arm crane, etc.).
- (d) Any construction materials and equipment that cannot be delivered to the site from the blufftop above, shall be delivered to the beach area by rubber-tired construction vehicles. When transiting on the beach, all such vehicles shall remain as high on the upper beach as possible and avoid contact with ocean waters and intertidal areas.
- (e) All construction materials and equipment placed on the beach during daylight construction hours shall be stored beyond the reach of tidal waters. All construction materials and equipment shall be removed in their entirety from the beach area by sunset each day that work occurs. The only exceptions shall be for: (1) erosion and sediment controls (e.g., a silt fence at the base of the construction area) as necessary to contain rock and/or sediments in the construction area, where such controls are placed as close to the toe of the revetment/seawall as possible, and are minimized in their extent; and (2) storage of larger materials (i.e., steel I-beams, large forms, etc.) beyond the reach of tidal waters for which moving the materials each day would be extremely difficult. If larger materials are to be left on the beach area overnight, the Construction Plan shall clearly specify what types of materials are to be so stored, the difficulty associated with moving them each day, the methods to be taken to ensure they are completely encased (i.e., not in contact with beach sands and completely covered), and the contingency plan for moving said materials in the event of tidal/wave surge reaching them.
- (f) Construction (including but not limited to construction activities, and materials and/or equipment storage) is prohibited outside of the defined construction, staging, and storage areas.
- (g) No work shall occur on the beach during the summer peak months (start of Memorial Day weekend to Labor Day).
- (h) Equipment washing, refueling, and/or servicing shall not take place on the beach.
- (i) The construction site shall maintain good construction site housekeeping controls and procedures (e.g., clean up all leaks, drips, and other spills immediately; keep materials covered and out of the rain (including covering exposed piles of soil and wastes); dispose of all wastes properly, place trash receptacles on site for that purpose, and cover open trash receptacles during wet weather; remove all construction debris from the beach).
- (j) All erosion and sediment controls shall be in place prior to the commencement of construction as well as at the end of each work day.
- (k) All beach areas and all shoreline access points impacted by construction activities shall be restored to their pre-construction condition or better within three days of completion of construction. Any beach sand in the area that is impacted by construction shall be filtered as necessary to remove all construction debris.
- (l) All contractors shall insure that work crews are carefully briefed on the importance of observing



the construction precautions given the sensitive work environment. Construction contracts shall contain appropriate penalty provisions sufficient to offset the cost of retrieval/clean up of foreign materials not properly contained.

- (m) The Permittee shall notify planning staff of the Coastal Commission's Central Coast District Office at least 3 working days in advance of commencement of construction, and immediately upon completion of construction and required beach-area restoration activities. If planning staff should identify additional reasonable measures necessary to restore the beach and beach access points, such measures shall be implemented immediately.

The Permittee shall undertake construction in accordance with the approved Construction Plan.

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

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

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

- 4. Public Access/Sand Supply Mitigation. PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT AND WITHIN SIX MONTHS OF APPROVAL OF THIS PERMIT (I.E., BY SEPTEMBER 12, 2009),** the Permittee shall submit to the Executive Director evidence that a public access/sand supply mitigation fee of \$53,250 has been deposited into an interest-bearing account to be established and managed by State Parks or another appropriate entity as approved by the Executive Director. The sole purpose the fee/account shall be for public beach recreational access improvements at Cayucos State Beach. The entire fee and any accrued interest shall be used for the above-stated purpose, in consultation with the Executive Director, within ten years of the fee being deposited into the account. Any portion of the fee that remains after ten years shall be donated to one or more of the State Parks units located in the vicinity of Cayucos State Beach, or other organization acceptable to the Executive Director, for the purpose of public beach recreational access improvements. **PRIOR TO EXPENDITURE OF ANY FUNDS CONTAINED IN**



THIS ACCOUNT, the Executive Director must review and approve the proposed use of the funds as being consistent with the intent and purpose of this condition.

- 5. As-Built Plans.** WITHIN TWO (2) MONTHS OF COMPLETION OF CONSTRUCTION, the Permittee shall submit two copies of As-Built Plans showing all development completed pursuant to this coastal development permit; all property lines; and all residential development inland of the seawall structure. The As-Built Plans shall be substantially consistent with the approved final plans (see special condition 1), including providing for all of the same requirements specified there, and shall account for all of the parameters of special condition 6 (Monitoring), 7 (Shoreline Development Stipulations) and 8 (Future Maintenance). The As-Built Plans shall include a graphic scale and all elevation(s) shall be described in relation to National Geodetic Vertical Datum (NGVD). The As-Built Plans shall include color photographs (in hard copy and jpg format) that clearly show the as-built project, and that are accompanied by a site plan that notes the location of each photographic viewpoint and the date and time of each photograph. At a minimum, the photographs shall be from upcoast, seaward, and downcoast viewpoints, and from a sufficient number of beach viewpoints as to provide complete photographic coverage of the seawall and residence at a scale that allows comparisons to be made with the naked eye between photographs taken in different years and from the same vantage points. The As-Built Plans shall be submitted with certification by a licensed civil engineer with experience in coastal structures and process, acceptable to the Executive Director, verifying that the seawall has been constructed in conformance with the approved final plans described by special condition 1 above.
- 6. Monitoring.** The Permittee shall ensure that the condition and performance of the as-built project is regularly monitored by a licensed civil engineer with experience in coastal structures and processes. Such monitoring evaluation shall at a minimum address whether any significant weathering or damage has occurred that would adversely impact project performance, including the effectiveness of the drainage system and the camouflaging treatment applied to the sloped-vertical wall (i.e., the sculpted concrete and screening vegetation). Monitoring reports prepared by a licensed civil engineer with experience in coastal structures and processes, and covering the above-described evaluations, shall be submitted to the Executive Director for review and approval at five year intervals by May 1st of each fifth year (with the first report due May 1, 2014, and subsequent reports due May 1, 2019, May 1, 2024, and so on) for as long as the approved project exists at this location. The reports shall identify any recommended actions necessary to maintain the approved project in a structurally sound manner and its approved state, and shall include photographs taken from each of the same vantage points as required in the as-built plans (see special condition 5) with the date and time of the photographs and the location of each photographic viewpoint noted on a site plan.
- 7. Shoreline Development Stipulations.** By acceptance of this permit, the Permittee acknowledges and agrees, on behalf of itself and all successors and assigns that:

  - (a) No Further Seaward Encroachment.** Any future response to coastal hazards (including but not limited to coastal hazards associated with shoreline erosion, subterranean water “piping” failures, landslides, wave attack, etc.) requiring the placement of any type of shoreline structure, including, but not limited to, modifications to the as-built seawall, shall be constructed inland



(i.e., toward the blufftop) of the location of the seawall. As-Built Plans have been approved pursuant to coastal development permit A-3-SLO-01-040 that define the location of the seawall.

- (b) Screening Vegetation.** Screening vegetation has been approved pursuant to coastal development permit A-3-SLO-01-040 that provides for the removal of invasive plants and the planting with non-invasive native bluff plants in the bluff area above the seawall and extending inland 5 feet past the blufftop edge. The full linear extent of the upper bluff area above the seawall shall be completely covered by native vegetation so that exposed soils are not visible. For that upper bluff area located directly above the seawall, the upper 3 vertical feet of the seawall shall be completely screened from view (as seen from the beach) by a cascading screen of native vegetation. To allow for initial growth, the required screening shall be initially achieved within two years of the construction of the seawall, and shall thereafter be maintained for the life of the seawall. Screening vegetation has been approved pursuant to coastal development permit A-3-SLO-01-040 that specifies the allowed native planting palette and the required vegetation maintenance parameters. All native plantings shall be maintained in good growing conditions, including the use of appropriate irrigation and drainage apparatus, and shall be replaced as necessary to maintain the approved screening vegetation.
- (c) Maintenance.** It is the Permittee's responsibility to maintain the seawall, and all irrigation, drainage, and vegetation approved pursuant to coastal development permit A-3-SLO-01-040 in a structurally sound manner and its approved state. As-Built Plans have been approved pursuant to coastal development permit A-3-SLO-01-040 that defines the parameters of the approved project. Future maintenance as specified in special condition 8 is authorized pursuant to the parameters of coastal development permit A-3-SLO-01-040, but this does not obviate the need to obtain permits from other agencies for any future maintenance and/or repair episodes. Special condition 8 (Future Maintenance) is incorporated here in its entirety by reference.
- (d) Debris Removal.** The Permittee shall immediately remove all materials and/or debris that may fall from the blufftop area inland of the seawall onto the beach below.
- (e) Assumption of Risk, Waiver of Liability and Indemnity Agreement.** The Permittee acknowledges and agrees, on behalf of itself and all successors and assigns: (i) that the site is subject to hazards from episodic and long-term bluff retreat and coastal erosion, subsurface erosion (water "piping"), wave and storm events, bluff and other geologic instability, and the interaction of same; (ii) to assume the risks to the Permittee and the property that is the subject of this permit of injury and damage from such hazards in connection with this permitted development; (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; (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; and (v) that any adverse effects to property caused by the permitted project shall be fully the responsibility of the landowner.



**(f) Future Shoreline Planning.** The Permittee acknowledges, on behalf of itself and all successors and assigns, that there may be future shoreline armoring planning efforts that involve the seawall approved pursuant to coastal development permit A-3-SLO-01-040. Such planning efforts may involve consideration of a shoreline armoring management entity meant to cover the larger shoreline that includes the shoreline structure here, and may involve consideration of potential modifications and/or programs designed to reduce public viewshed and beach access impacts due to shoreline armoring. Acknowledgement in no way binds the Permittee (and all successors and assigns) to any particular outcome of such planning efforts, and in no way limits the ability of Permittee (and all successors and assigns) to express his viewpoint during the course of such planning efforts.

**8. Future Maintenance.** Coastal development permit A-3-SLO-01-040 authorizes future maintenance as described in this special condition. The Permittee acknowledges and agrees, on behalf of itself and all successors and assigns that: (a) it is the Permittee's responsibility to maintain the as-built seawall, the vegetative screening, and all irrigation and drainage structures in a structurally sound manner and their approved state; (b) remove all debris that may fall from the blufftop area onto the beach below. Any such development, or any other maintenance development associated with the as-built seawall, the vegetative screening, and related irrigation and drainage structures, shall be subject to the following:

**(a) Maintenance.** "Maintenance," as it is understood in this condition, means development that would otherwise require a coastal development permit whose purpose is: (1) to repair, reface, and/or otherwise maintain the approved seawall structure in its approved configuration (as shown on the approved As-Built Plans); (2) to reestablish the permitted bluff drainage, vegetation, and/or irrigation elements of the approved Final Plans.

**(b) Maintenance Parameters.** Maintenance shall only be allowed subject to the parameters of the approved Construction Plan required by special condition 2. Any proposed modifications to the approved construction plan and/or beach restoration requirements associated with any maintenance event shall be reported to planning staff of the Coastal Commission's Central Coast District Office with the maintenance notification (described below), and such changes shall require a coastal development permit amendment unless the Executive Director deems the proposed modifications to be minor in nature (i.e., the modifications would not result in additional coastal resource impacts).

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

**(d) Maintenance Notification.** At least 2 weeks prior to commencing any maintenance event, the Permittee shall notify, in writing, planning staff of the Coastal Commission's Central Coast District Office. The notification shall include a detailed description of the maintenance event proposed, and shall include any plans, engineering and/or geology reports, proposed changes to the maintenance parameters, other agency authorizations, and other supporting documentation describing the maintenance event. The maintenance event shall not commence until the



Permittee has been informed by planning staff of the Coastal Commission's Central Coast District Office that the maintenance event complies with this coastal development permit. If the Permittee has not received a response within 30 days of receipt of the notification by the Coastal Commission's Central Coast District Office, the maintenance event shall be authorized as if planning staff affirmatively indicated that the event complies with this coastal development permit. The notification shall clearly indicate that the maintenance event is proposed pursuant to this coastal development permit, and that the lack of a response to the notification within 30 days of its receipt constitutes approval of it as specified in the permit.

**(e) Maintenance Coordination.** Maintenance events shall, to the degree feasible, be coordinated with other maintenance events proposed in the immediate vicinity with the goal being to limit coastal resource impacts, including the length of time that construction occurs in and around the beach area and beach access points at Cayucos State Beach. As such, the Permittee shall make reasonable efforts to coordinate the Permittee's maintenance events with other events (such as those of the California Department of Parks and Recreation), including adjusting maintenance event scheduling as directed by planning staff of the Coastal Commission's Central Coast District Office.

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

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

**(h) Duration of Covered Maintenance.** Future maintenance under this coastal development permit is allowed subject to the above terms for five (5) years from the date of approval (i.e., until March 23, 2014). Maintenance can be carried out beyond the 5 year period if the Executive Director extends the maintenance term in writing.

**9. Public Rights.** The Coastal Commission's approval of this permit shall not constitute a waiver of any public rights which may exist on the property. The Permittee shall not use this permit as evidence of a waiver of any public rights which may exist on the property.

**10. Other Agency Review.** PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT AND WITHIN SIX MONTHS OF APPROVAL OF THIS PERMIT (I.E., BY SEPTEMBER 12, 2009), the Permittee shall submit to the Executive Director written evidence that all necessary permits, permissions, approvals, and/or authorizations for the project as approved by this coastal development permit have been granted by the California State Lands Commission and San Luis Obispo County. Any changes to the approved project required by these entities/agencies shall be reported to the Executive Director. No changes to the approved project shall occur without a Commission amendment to this coastal development permit unless the Executive Director



determines that no amendment is necessary.

**11. Deed Restriction.** PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT AND WITHIN SIX MONTHS OF APPROVAL OF THIS PERMIT (I.E., BY SEPTEMBER 12, 2009), the Permittee shall submit to the Executive Director for review and approval documentation demonstrating that the Permittee has executed and recorded against the parcel(s) governed by this permit a deed restriction, in a form and content acceptable to the Executive Director: (1) indicating that, pursuant to this permit, the California Coastal Commission has authorized development on the subject property, subject to terms and conditions that restrict the use and enjoyment of that property; and (2) imposing the special conditions of this permit as covenants, conditions and restrictions on the use and enjoyment of the Property. The deed restriction is in addition to, and not a substitute for, the existing lateral access easement on the property. The deed restriction shall include a legal description and site plan of: the entire parcel governed by this permit. The deed restriction shall also indicate that, in the event of an extinguishment or termination of the deed restriction for any reason, the terms and conditions of this permit shall continue to restrict the use and enjoyment of the subject property so long as either this permit or the development it authorizes, or any part, modification, or amendment thereof, remains in existence on or with respect to the subject property.

## 11. California Environmental Quality Act (CEQA)

Section 13096 of the California Code of Regulations requires that a specific finding be made in conjunction with coastal development permit applications showing the application to be consistent with any applicable requirements of 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 County, acting as lead agency under CEQA, adopted a Negative Declaration under CEQA on March 24, 2000. The Coastal Commission's review and analysis of land use proposals has been certified by the Secretary of Resources as being the functional equivalent of environmental review under CEQA. The Commission has identified additional significant adverse environmental effects beyond that recognized by the County's adopted CEQA document. This staff report has discussed the relevant coastal resource issues with the proposal, including the significant adverse environmental effects expected due to the project, and has recommended appropriate suggested modifications to avoid and/or lessen any potential for adverse impacts to said resources. All public comments received to date have been addressed in the findings above. All above Coastal Act findings are incorporated herein in their entirety by reference.

As such, there are no additional feasible alternatives nor feasible mitigation measures available which would substantially lessen any significant adverse environmental effects which approval of the proposed project, as modified, would have on the environment within the meaning of CEQA. Thus, if so modified, the proposed project will not result in any significant environmental effects for which feasible mitigation measures have not been employed consistent with CEQA Section 21080.5(d)(2)(A).

