

## CALIFORNIA COASTAL COMMISSION

SOUTH CENTRAL COAST AREA  
39 SOUTH CALIFORNIA ST., SUITE 200  
VENTURA, CA 93001  
(805) 641-0142



August 20, 1998

**TO:** Commissioners and Interested Persons

**FROM:** Charles Damm, Senior Deputy Director  
Gary Timm, District Manager *gt*  
Steven Hudson, Coastal Program Analyst

**SUBJECT:** Revised Findings for Major Amendment (2-97) to the University of California Santa Barbara Certified Long Range Development Plan for Public Hearing and Commission Action at the September 10, 1998 Commission Meeting in Eureka.

**COMMISSION ACTION:** Denial as Submitted and Approval if Modified as Suggested.

**DATE OF COMMISSION ACTION:** June 9, 1998

**COMMISSIONERS ON THE PREVAILING SIDE (DENIED AS PROPOSED):** Allen, Armanasco, Dettloff, Flemming, Johnson, Nava, Potter, Rose, Wright, Hickox, and Wan.

**COMMISSIONERS ON THE PREVAILING SIDE (APPROVED AS MODIFIED):** Allen, Armanasco, Dettloff, Flemming, Johnson, Nava, Rose, Wright, Hickox, and Wan.

### SUMMARY OF STAFF RECOMMENDATION ON REVISED FINDINGS

Staff recommends that the Commission adopt the following revised findings in support of the Commission's action on June 9, 1998. The findings reflect the denial of the University of California Santa Barbara Long Range Development Plan (LRDP) Amendment 2-97 as submitted and the approval of the LRDP amendment if modified as suggested in Modifications 1-6.

### SYNOPSIS

The University of California Santa Barbara is requesting an amendment to its Long Range Development Plan (LRDP). The amendment consists of four components: (1) expansion of the existing seawater renewal system; (2) adoption of the Lagoon Management Plan; (3) change in the proposed location of a public coastal access trail; and (4) added provisions to allow for improvements to the existing eastern lagoon barrier which will include 700 cu. yds. of grading, pavement of an existing access road across the barrier, construction of emergency vehicle turnaround, and the construction of an approximately 460 linear ft. long, 15-32 ft. wide, rock revetment core/dune.

The existing seawater renewal system provides seawater to Campus laboratories. The expansion will serve to increase the capacity of the system from its current maximum of 800 gallons per minute (gpm) to 1,200 gpm in order to meet increased educational and scientific needs and to increase the reliability of the system. Portions of the expanded seawater renewal system will be located in offshore marine habitat, sandy beach area, and in environmentally sensitive habitat area as designated by the LRDP. The existing seawater renewal system consists of offshore and onshore components including two 1,500 ft. linear-foot intake pipelines, a beach pumphouse, wet well, seawater filters, storage tanks, supply pumphouse, and distribution lines to several buildings on campus. The proposed expansion will include enlarging the pumphouse located on the beach directly in front of the lagoon barrier, a new wet well, new 2,500 linear-foot intake pipelines, new underground seawater storage tanks, additional seawater filters, pumps and distribution lines.

Preparation of the Lagoon Management Plan (LMP) was required by the Commission as a requirement of the University Center expansion project and associated LRDP Amendment approval. The LMP encompasses an area of approximately 94 acres, nearly a quarter of the entire Main Campus of UCSB, and includes coastal bluffs and terraces, ocean beaches, sand dunes, the rocky Goleta Point, wetlands, and the lagoon itself. The LMP identifies specific policies to protect, enhance, and restore the lagoon area; maintain and improve public access and education opportunities for the lagoon area; and ensure that activities occurring outside the lagoon area do not create adverse impacts within the lagoon area.

The University is also proposing to reroute the last link of the bluff top path to the beach around the landward side of the Marine Biotechnology Laboratory (Exhibit 3b). The existing terminus of the bluff trail will remain open to the public. A new sidewalk will connect the bluff top path with the existing access road to the beach will be designed to allow for access by the physically challenged. The new configuration of the access trail is minor-in nature, and will not result in a significant disruption to coastal access.

A cobblestone revetment to maintain the lagoon barrier and prevent breaching is identified for future development in the 1990 LRDP. The University is now proposing to construct a more substantial rock revetment core/dune which will occupy 25-50 percent of the public sandy beach to protect the existing/expanded seawater renewal system pumphouse, intake lines and lagoon barrier. However, regardless of the type of shoreline protection device to be used, the LRDP also specifically states that any future revetment would be subject to Coastal Commission review. In addition, the State Lands Commission has determined that the proposed revetment will be located on sandy beach seaward of the mean high tide and will therefore be subject to a lease agreement between the University and the State Lands Commission. Although the University has a certified Long Range Development Plan, the proposed rock revetment core/dune, pumphouse, and intake lines are located within the original permit

jurisdiction of the Coastal Commission (which includes all tidal lands) and are, therefore, subject to a coastal development permit (Exhibit 6).

Other improvements to the existing lagoon barrier would include the placement of approximately 700 cu. yds. of fill to raise the height of the barrier from approximately 8 ft. mean sea level (MSL) to approximately 11 ft. MSL. In addition, the University proposes to pave the access road across the barrier and construct a turnaround at the terminus of the access road at Lagoon Island. The Commission notes that the pavement of an access road atop the proposed 700 cu. yds. of fill would constitute the construction of a new, or reconfigured, road across the lagoon barrier. Sand elevation is approximately 5 ft. MSL at the lagoon barrier. As the lagoon barrier now exists, beachgoers may easily access the sandy beach from any point along the approximately 400 ft. long barrier road with only an approximate change in elevation between the road and the beach of 3 ft. As such, the placement of fill to increase the height of the barrier and reconfiguration of the existing access road, including the construction of the turnaround, will raise concerns under the Coastal Act policies regarding impacts to public access.

The proposed amendment is inconsistent with the Coastal Act. Section 30235 of the Coastal Act allows for the construction of a shoreline protection device when necessary to protect existing development and coastal dependent uses only when designed to eliminate or mitigate adverse impacts to the shoreline sand supply. However, under Section 30235 of the Coastal Act, the proposed rock revetment core/dune can not be considered "necessary" if a feasible alternative which would result in fewer adverse impacts to coastal resources exists. In this case, there may be feasible shoreline protective alternatives which could result in less adverse impacts to the shoreline sand supply and public access than the proposed rock revetment core/dune and these possible alternatives have not been adequately addressed in the Environmental Impact Report (EIR) or other information submitted for the proposed amendment. Therefore, the Commission can not find that the rock revetment core/dune component of the proposed amendment is consistent with the Coastal Act. Further, the policies within the LRDP are inadequate to ensure that any adverse impacts to public access, environmentally sensitive habitat resources, and shoreline sand supply which may result from the proposed amendment would be adequately mitigated.

**Additional Information:** Please contact Steven Hudson, California Coastal Commission, South Central Coast Area, 89 So. California St., Second Floor, Ventura, CA. (805) 641-0142.

### **STANDARD OF REVIEW**

The standard of review for the proposed amendment to the certified LRDP, pursuant to §30605, 30512(c), and 30514(b) of the Coastal Act, is that the proposed amendment meets the requirements of and is in conformance with the Chapter 3 policies of the Coastal Act.

## **MATTERS IN ISSUE AREA**

The proposed LRDP amendment does not meet the requirements of the Coastal Act. The matters that are at issue are discussed in the following sections according to the issue raised under the LRDP proposal and the related Coastal Act analysis.

## **PUBLIC PARTICIPATION**

§30503 of the Coastal Act requires public input in preparation, approval, certification and amendment of any LRDP. The University circulated a Notice of Preparation and a Draft EIR. In addition, the University held a public hearing and received written comments regarding the project from public agencies, organizations and individuals. The hearing was duly noticed to the public consistent with §13552 and §13551 of the California Code of Regulations which require that notice of availability of the draft LRDP amendment (LRDPA) be made available six (6) weeks prior to the Regents approval of the LRDP amendment and Final EIR. Notice of the subject amendment has been distributed to all known interested parties.

## **PROCEDURAL REQUIREMENTS**

At the June 9, 1998 Hearing, the Commission acted to deny the proposed amendment as submitted and to approve it with Suggested Modifications. Pursuant to Sections 13537(b), 13544, and 13547 of the California Code of Regulations, the University must accept and adopt the suggested modifications during the six-month effective period of the Commission's certification. In this case the effective period of UCSB LRDP Amendment 2-97 extends to December 9, 1998. In the event that the University of California Board of Regents does not accept and adopt the Commission's suggested modifications by December 9, 1998, the Certification of UCSB LRDP Amendment 2-97 will expire.

Further, the certification shall not be deemed final and effective until the Executive Director of the Commission determines in writing that the action of the Board of Regents and the notification procedures of the LRDP for development projects are legally adequate to satisfy any specific requirements set forth in the Commission's certification order; and until the Executive Director reports the determination to the Commission at its next regularly scheduled public meeting and the Commission does not object to the Executive Director's determination. In the event that a majority of the Commissioner's present object to the Executive Director's determination and find that the Board of Regent's action does not conform to the provisions of the Commission's action to certify the LRDP amendment, the Commission shall review the University's action and notification procedures pursuant to Articles 9-12 as if it were a resubmittal.

**I. ACTION ON UNIVERSITY OF CALIFORNIA, SANTA BARBARA  
LRDP AMENDMENT 2-97**

Following a public hearing, staff recommends the Commission adopt the following findings. The adopted resolutions and Commissioners on the prevailing side are indicated below.

**A. DENIAL OF CERTIFICATION OF AMENDMENT 2-97, AS SUBMITTED**

On June 9, 1998, the Commission denied, by a vote of 11-0, the University of California Santa Barbara Long Range Development Plan Amendment 2-97, as submitted.

**Commissioners on the Prevailing Side:** Allen, Armanasco, Dettloff, Flemming, Johnson, Nava, Potter, Rose, Wright, Hickox, and Wan.

**RESOLUTION I**

The Commission hereby denies certification of the University of California, Santa Barbara Long Range Development Plan Amendment 2-97 and adopts the findings stated below on the grounds that the amendment will not meet the requirements of and conform to the policies of Chapter 3 of the Coastal Act and that approval of the amendment as submitted will have significant adverse environmental effects for which feasible mitigation measures have not been employed consistent with the California Environmental Quality Act. There are feasible alternatives or feasible mitigation measures available which would substantially lessen the significant adverse effects which the approval of the Long Range Development Plan amendment would have on the environment.

**B. APPROVAL OF CERTIFICATION OF AMENDMENT 2-97, IF MODIFIED**

On June 9, 1998, the Commission certified, by a vote of 10-1, the University of California Santa Barbara Long Range Development Plan Amendment 2-97, if it is modified in conformance with the suggested modifications set forth in this staff report.

**Commissioners on the Prevailing Side:** Allen, Armanasco, Dettloff, Flemming, Johnson, Nava, Rose, Wright, Hickox, and Wan.

**RESOLUTION II**

The Commission hereby certifies the University of California, Santa Barbara Long Range Development Plan Amendment 2-97 for the reasons discussed below, on the grounds that the amended Long Range Development Plan meets the requirements of and conforms to the Chapter 3 policies of the Coastal Act if modified according to the suggested modifications stated in Section II of this report. The Long Range Development Plan amendment, if modified, will not have significant environmental effects within the meaning of the California Environmental Quality Act. The Commission further finds that if the University adopts and transmits its revisions to the amendment to the Long Range Development Plan in conformity with the suggested modifications, then the Executive Director shall so notify the Commission.

## II. SUGGESTED MODIFICATIONS

The staff recommends the Commission certify the following, with modifications as shown. Language proposed by the University of California, Santa Barbara in the subject LRDP amendment and language presently contained within the certified LRDP is shown in straight type. Language recommended by Commission staff to be deleted is shown in line-out. Language proposed by Commission staff to be inserted is shown underlined.

### Modification 1

Part 2, Chapter VI, Section D  
(Page 218-219)

#### 2. The 1990 LRDP

##### Campus Lagoon and Beach Protection

The Campus Lagoon is an environmentally sensitive habitat area and sometimes used for the instructional and research purposes of the Campus (a coastal-dependent use) (see Part 2, Chapter V, Section A). The lagoon was created by the Campus from a dry salt flat, when the University took over the Goleta Point site in 1950. Its water surface elevation is about seven feet above sea level, contained from overflow into the ocean by sandbars on the south and east side of the Point and artificial outlets to the ocean. In the past, the sandbar and beach on the east have come close to being breached by winter storm waters, adversely affecting existing plant and animal populations and, therefore, the value as an instruction and research resource (see Part 2, Chapter V, Section A).

While sandbags have been used as a temporary measure to stem the high waters and protect the sandbar and beach from erosion, the Campus will may wish to develop a more permanent revetment some form of permanent shoreline protection at that location. The beach seaward of the lagoon barrier is located within state tidal lands; and; therefore, the construction of any form of shoreline protection at this location will require a coastal development permit. Accordingly, the 1990 LRDP proposes In order to maintain the lagoon barrier by constructing a revetment that allows for easy foot traffic, both to the beach and across the barrier to the bluffs to the south, the height of the lagoon barrier shall not be increased through the placement of fill unless necessary as an integral component of approved shoreline protection. Policy 3-2 of the County LCP permits revetments Section 30235 of the Coastal Act allows for the use of shoreline protection measures when required to serve coastal-dependent uses or to protect existing structures or public beaches in danger from erosion, and when designed to mitigate adverse impacts on local shoreline sand supply and so as not to block lateral access. The proposed revetment is designed to have no significant effect on local sand supply that would reduce area beaches and block lateral access Shoreline protection and enhancement programs that minimize adverse impacts to shoreline sand supply, public access and the habitat value of the beach ESHA, such as dune nourishment and/or beach replenishment, shall be considered as potential alternative form(s) of protection for the lagoon barrier.

~~This proposed revetment will include the replacement of existing sandbags and gravel berm (spoils and debris from old construction sites) with approximately 400 lineal feet of rock revetment on either side of the Seawater System pump house. The revetment does not include materials which could erode and if shoreline protection is permitted, it shall not degrade the visual quality of the area, or become a safety hazard. The revetment design links the new structure with the two existing rock revetments on either side of the lagoon barrier. The footprint of the new revetment has an approximate width of 28 feet to 38 feet, and extends 10 to 12 feet more onto the sandy beach than the existing sand and gravel berm's encroachment. The Campus will design the revetment Shoreline protection shall be designed to: (1) protect, and to the maximum extent feasible enhance, the lagoon environmentally sensitive habitat areas as designated by the LRDP (Figure 27), to protect the Seawater System pump house structure, to and (2) minimize alteration of natural shoreline processes, and to maintain coastal access along dry sand area. The rock revetment is designed to arrest the landward migration of the coastline in the vicinity, and stabilize the pump house site. The revetment may result in the removal of up to 0.33 acre of sandy beach from the approximately 2 acres of sandy beach adjacent to the revetment. The revetment should be isolated from significantly impacting the erosion process because both the proposed and existing revetments are located within the wave and wind shadow from the typically northwesterly winds.~~

~~The revetment will replace the cobble, gravel, sandbags, and soil materials that have eroded as well as provide some additional protection to the pump house. The restrooms will remain in the same location and will be upgraded to be accessible for persons with disabilities. The restrooms will continue to be protected by the rip rap on rip rap the westside. To allow for easy and safe pedestrian and wheeled access to the beach, UCSB proposes to place a beach ramp across the revetment to provide wheeled access to the beach and increase coastal access for marine researchers by allowing for the launch of small inflatable craft. A service vehicle road and truck turnaround will be constructed on top of and between the revetment and the lagoon to provide for emergency vehicle access and maintenance of the pumphouse.~~

#### **Modification 2**

Policy 30235.1  
(page 219)

Where seawalls shoreline protection is are required for the protection of existing development or to serve coastal-dependent uses, or to protect public beaches in danger from erosion, and there is no less environmentally damaging alternative, seawall shoreline protection design and construction shall minimize, to the maximum extent feasible, the alteration of natural landforms, and eliminate or mitigate adverse impacts on public access or on local shoreline sand supply. and visual impacts shall be minimized through the use of appropriate colors and materials.

#### **Modification 3**

Long Range Development Plan  
(complete document)

The Lagoon Management Plan shall be deleted in its entirety from the Long Range Development Plan Amendment 2-97.

**Modification 4**

Long Range Development Plan  
(complete document)

All references to the use or construction of a revetment shall be replaced with the following language (consistent with modification one):

*Shoreline protection and enhancement programs that minimize adverse impacts to shoreline sand supply, public access and the habitat value of the beach ESHA, such as dune nourishment and/or beach replenishment, shall be considered as potential form(s) of protection for the lagoon barrier... If shoreline protection is permitted, it shall not degrade the visual quality of the area, or become a safety hazard... Shoreline protection shall be designed to: (1) protect, and to maximum extent feasible enhance, the environmentally sensitive habitat areas as designated by the LRDP (Figure 27), (2) protect the lagoon barrier, and (3) minimize alteration of natural shoreline processes and maintain coastal access along dry sand area.*

All figures within the LRDP shall be revised or replaced consistent with this modification.

**Modification 5**

Long Range Development Plan  
(complete document)

All references in the Long Range Development Plan Amendment 2-97 which would allow for improvements to the existing lagoon barrier, including the placement of additional fill resulting in an increase in the height of the barrier, pavement of the existing access road, or the construction of a vehicle turnaround, shall be deleted. All figures within the LRDP Amendment 2-97 shall be revised or replaced consistent with this modification.

**Modification 6**

Figure 26: Coastal Access Improvements:  
(page 163)

Update Figure 26 to include the improvements approved by the Coastal Commission and include relocation of coastal access route to the beach from the bluff top path and parking lot 6.



### **III. FINDINGS FOR THE APPROVAL OF THE LONG RANGE DEVELOPMENT PLAN IF MODIFIED AS SUGGESTED**

The following findings support the Commission's denial of the LRDP amendment as submitted, and approval of the LRDP amendment if modified as indicated in Section II (*Suggested Modifications*) above. The Commission hereby finds and declares as follows:

#### **A. Amendment Description**

The University of California Santa Barbara is requesting an amendment to its Long Range Development Plan (LRDP). The amendment consists of four components: (1) expansion of the existing seawater renewal system; (2) adoption of the Lagoon Management Plan; (3) change in the proposed location of a public coastal access trail; and (4) added provisions to allow for improvements to the existing eastern lagoon barrier which will include 700 cu. yds. of grading, pavement of an existing access road across the barrier, construction of emergency vehicle turnaround, and the construction of an approximately 460 linear ft. long, 15-32 ft. wide, rock revetment core/dune.

##### **1. Expansion of the Existing Seawater Renewal System**

The existing seawater renewal system was designed and constructed in the 1970's to provide 500 gallons per minute (gpm) of seawater to campus laboratories. The system was designed to be expandable to a maximum capacity of 800 gpm at which it is now operating. The expansion of the seawater renewal system is proposed in order to meet present and future demands, as well as to ensure a more reliable source of seawater supply, for the Marine Biotechnology Laboratory.

The existing system consists of offshore and onshore components including two 1,500 ft. linear-foot intake pipelines, a beach pumphouse, wet well, seawater filters, storage tanks, supply pumphouse, and distribution lines to several buildings on campus. The majority of the system is located directly adjacent to the Marine Biotechnology Laboratory, however, the pumphouse is located on the sandy beach in front of the eastern lagoon barrier with seawater intake lines extending offshore. The proposed expansion will include enlarging the approximately 250 sq. ft. beach pumphouse located in front of the eastern lagoon barrier to approximately 1,460 sq. ft., a new wet well, new 2,500 linear-foot seawater intake pipelines, new wet well, new 150,000 gallon and 36,000 gallon underground seawater storage tanks, additional seawater filters, pumps and distribution lines. The new system's capacity will be 1,200 gpm. The existing wet well, pump and two 1,500 ft. intake lines will remain as a backup system in the event of a failure.

## **2. Lagoon Management Plan**

The Campus Lagoon and much of its surrounding area has been designated as ESHA in the LRDP. Preparation of the Lagoon Management Plan (LMP) was required by the Commission as a requirement of the University Center expansion project and associated LRDP Amendment approval. The LMP encompasses an area of approximately 94 acres, nearly a quarter of the entire Main Campus of UCSB, and includes coastal bluffs and terraces, ocean beaches, sand dunes, the rocky Goleta Point, wetlands, and the lagoon itself. The LMP identifies specific policies to protect, enhance, and restore the lagoon area, maintain and improve public access and education opportunities for the lagoon area, and ensure that activities occurring outside the lagoon area do not create adverse impacts within the lagoon area.

## **3. Change in Proposed Coastal Access Path Location**

The University is also proposing to reroute the last link of the bluff top path to the beach around the landward side of the Marine Biotechnology Laboratory (see figure 3-5) in order to allow for greater security for the Marine Laboratory Service Yard. Rerouting the path will also allow for the provision of access for the physically challenged while reducing adverse impacts to coastal bluff habitat. The change in location is minor in nature and will not result in adverse impacts to public coastal access. The existing terminus of the bluff trail will remain open to the public. A new sidewalk will connect the bluff top path with the existing access road to the beach which will be designed to allow for access by the physically challenged.

## **4. Improvements to Lagoon Barrier**

The existing lagoon barrier is located on the southeast perimeter of the Main Campus and is bordered by the Marine Biotechnology Laboratory to the north and the "lagoon island" to the south. The barrier separates the Campus Lagoon to the west from the Santa Barbara Channel to the east. The lagoon barrier serves to retain the water of the Campus Lagoon which has a surface elevation of approximately 6 ft. above Mean Sea Level (MSL). The eastern lagoon barrier was originally constructed in 1942 when the subject site was used as a Marine Air Corp station in order to extend a dirt road to Goleta Point. In 1952, after the project site had been awarded to the Regents of the University of California, the barrier was raised and widened through the placement of construction debris.

A cobblestone revetment to maintain the lagoon barrier and prevent breaching is identified for future development in the 1990 LRDP. The University is now proposing to construct a more substantial rock revetment core/dune to protect the lagoon barrier. However, regardless of the type of shoreline protection device to be used, the LRDP also specifically states that any future revetment would be subject to Coastal Commission review. In addition, the California State Lands Commission has determined that any shoreline protective device at the proposed location would be

located within state tidal lands. Therefore, a coastal development permit is required for the proposed development.

Other improvements to the existing lagoon barrier would include the placement of approximately 700 cu. yds. fill to raise the height of the barrier from approximately 8 ft. mean sea level (MSL) to approximately 11 ft. MSL. The pavement of an access road across the lagoon barrier and construction of a turnaround is also proposed. Although there is currently an existing access road across the lagoon barrier, the pavement of an access road atop the proposed 700 cu. yds. of fill would constitute the construction of a new, or reconfigured, road across the lagoon barrier.

### **5. Related Hearing Items**

Notice of Impending Development (2-97) for a project which includes the expansion of the seawater renewal system and improvements to the existing lagoon barrier was approved with conditions by the Commission on June 9, 1998. The California State Lands Commission has determined that the rock revetment and intake lines for the seawater renewal system are located within state tidal lands. The original permit jurisdiction of the Coastal Commission includes all tidal lands, therefore, this revetment, pumphouse, and intake lines will require a coastal development permit. Therefore, in addition to the Notice of Impending Development, Coastal Development Permit Application 4-97-156 for the expansion of the existing seawater renewal system pumphouse, placement of two 2,500 ft. long seawater intake lines, and the construction of a 460 ft. long, 10 ft. high, 15-32 ft. wide, rock revetment core/dune, two stairways, access ramp and the removal of approximately 400-450 linear feet of existing rock revetment was also approved with conditions (including the requirement of revised plans to delete the proposed revetment) by the Commission on June 9, 1998.

### **B. Background**

On March 17, 1981, the University's LRDP was effectively certified by the Commission. The LRDP has been subject to seven major amendments. Under LRDP Amendment 1-91, the Commission reviewed and approved the 1990 UCSB LRDP; a 15 year long range planning document, which substantially updated and revised the certified 1981 LRDP. The 1990 LRDP provides the basis for the physical and capital development of the campus to accommodate a student population in the academic year 2005/06 of 20,000 and to expand the building area of the campus by 1.2 million square feet.

### **C. Marine Environment**

The proposed amendment is project-driven by the University's proposal to allow the expansion of the existing seawater renewal system and construction of a 460 ft. long rock revetment core/dune with related improvements. The revetment is proposed to protect the existing and expanded seawater system pumphouse and associated intake and distribution lines, as well as to prevent the lagoon barrier from breaching.

Coastal Act §30230 states:

*Marine resources shall be maintained, enhanced, and where feasible, restored. Special protection shall be given to areas and species of special biological or economic significance. Uses of the marine environment shall be carried out in a manner that will sustain the biological productivity of coastal waters and that will maintain healthy populations of all species of marine organisms adequate for long-term commercial, recreational, scientific, and educational purposes.*

Coastal Act §30231 states:

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

Coastal Act §30235 states:

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

Coastal Act §30253 states:

*New development shall:*

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

Section 30235 allows for the construction of a shoreline protection device when necessary to protect existing development and coastal dependent uses only when designed to eliminate or mitigate adverse impacts to the shoreline sand supply. In addition, Section 30253 of the Coastal Act requires that all new development must assure structural integrity and not contribute to significant erosion or destruction of the site or surrounding area.

Therefore, it is necessary to review the proposed project for its consistency with Sections 30235 and 30253 of the Coastal Act and with past Commission action. In addition, under Section 30235, the proposed rock revetment core/dune, can not be considered "necessary" if a feasible alternative which would result in fewer adverse impacts to coastal resources exists. The following sections will analyze the physical characteristics and dynamics of the subject site shoreline to determine whether the use of a shoreline protective device is required to protect the existing and proposed structures, as well as the existing lagoon, and whether the proposed shoreline protective device is designed to eliminate or mitigate the adverse impacts of such development or if there are feasible project alternatives which would accomplish adequate shoreline protection with fewer adverse impacts.

The California State Lands Commission has determined that a revetment at the proposed location would periodically be located seaward of the ambulatory mean high tide line. In addition, the Scour and Overtopping Report dated April 20, 1997, submitted by the University predicts that wave runup would have a 27 percent chance each year of overtopping a 10 ft. rock revetment on the project site.

Therefore, based on the determination by the California State Lands Commission and information provided by the applicant, the Commission finds that a rock revetment, at the proposed location, would periodically be seaward of the Mean High Tide Line and would encroach into an area of the beach that is currently subject to wave action during severe storm and high tide events. A revetment at this location, as a result of wave interaction, will potentially result in adverse impact the configuration of the shoreline and the beach profile.

It is a generally accepted opinion within the discipline of coastal engineering that, "Seawalls usually cause accelerated erosion of the beaches fronting them and an increase in the transport rate of sand along them."<sup>1</sup> Ninety-four experts in the field of coastal geology, who view beach processes from the perspective of geologic time, signed the following succinct statement of the adverse effects of shoreline protective devices:

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<sup>1</sup> Saving the American Beach: A Position Paper by Concerned Coastal Geologists (March 1981, Skidaway Institute of Oceanography), pg. 4.

***These structures are fixed in space and represent considerable effort and expense to construct and maintain. They are designed for as long a life as possible and hence are not easily moved or replaced. They become permanent fixtures in our coastal scenery but their performance is poor in protecting community and municipalities from beach retreat and destruction. Even more damaging is the fact that these shoreline defense structures frequently enhance erosion by reducing beach width, steepening offshore gradients, and increasing wave heights. As a result, they seriously degrade the environment and eventually help to destroy the areas they were designed to protect.<sup>2</sup>***

The above 1981 statement signed by 94 respected coastal geologists indicates that sandy beach areas available for public use can be harmed through the introduction of seawalls. Thus, in evaluating an individual project, the Commission assumes that the principles reflected in that statement are applicable. To do otherwise would be inconsistent with the Commission's responsibilities under the Coastal Act to protect the public's interest in shoreline resources and to protect the public's access along the ocean and to the water, as discussed in more detail in the subsequent Section IV.D. Public Access.

The impact of seawalls as they are related to sand removal on the sandy beaches is further documented by the State Department of Boating and Waterways:

***While seawalls may protect the upland, they do not hold or protect the beach which is the greatest asset of shorefront property. In some cases, the seawall may be detrimental to the beach in that the downward forces of water, created by the waves striking the wall rapidly remove sand from the beach.<sup>3</sup>***

Finally this observation was underscored more recently in 1987 by Robert G. Dean in "Coastal Sediment Processes: Toward Engineering Solutions":

***Armoring can cause localized additional storm scour, both in front of and at the ends of the armoring...Under normal wave and tide conditions, armoring can contribute to the downdrift deficit of sediment through decreasing the supply on an eroding coast and interruption of supply if the armoring projects into the active littoral zone.<sup>4</sup>***

The Commission has observed this phenomenon up and down California's coast where a seawall has successfully halted the retreat of the shoreline, but only at the cost of usurping the beach. For example, at La Conchita Beach in Ventura County, placement of a rock revetment to protect an existing roadway has caused narrowing of the existing

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<sup>2</sup> Saving the American Beach: A Position Paper by Concerned Coastal Geologists (March 1981, Skidaway Institute of Oceanography), pg. 4.

<sup>3</sup> State Department of Boating and Waterways (formerly called Navigation and Ocean Development), Shore Protection in California (1976), page 30.

<sup>4</sup> Coastal Sediments '87.

beach. Likewise, at City of Encinitas beaches in San Diego County, construction of vertical seawalls along the base of the bluffs to protect existing residential development above, has resulted in preventing the bluffs' contribution of sand to the beaches, resulting in narrowing. Although this may occur slowly, the Commission concludes that it is the inevitable effect of constructing a seawall on an eroding or equilibrium shoreline.

There is substantial evidence that a rock revetment core/dune, as proposed in this amendment, will adversely impact shoreline sand supply and public access as a result of beach scour, and retention of potential beach material. However, Coastal Act §30235, which is previously cited, states that shoreline protective devices, such as revetments and other construction that would alter natural shoreline processes, shall be permitted when those structures are necessary to serve coastal-dependent uses or to protect existing structures or to protect public beaches in danger from erosion and when they are designed to eliminate or mitigate adverse impacts on local shoreline sand supply. Although a shoreline protective device may provide protection for the existing lagoon barrier, the March 26, 1998, letter by Penfield and Smith Engineers indicates that the proposed seawater renewal system pump house is "designed to be free-standing on its pile foundation" and does not require the construction of a revetment. The applicant has indicated that the intake and electrical lines, which are located below grade within the existing lagoon barrier, may be further protected through encasement of the subterranean intake and utility lines in concrete. The University has confirmed by letter dated May 22, 1998, that the construction and integrity of the proposed seawater renewal system pump house and associated utility lines is not dependent upon the construction of a rock revetment (Exhibit 8). Staff notes that the proposed rock revetment core/dune would serve to protect the existing lagoon barrier and road and prevent breaching of the lagoon, however, the Commission notes that coastline development is routinely subject to potential damage as a result of storm and flood occurrences and that the lagoon barrier has been maintained with periodic maintenance in its present condition for more than 50 years. Staff observation of the site after recent severe storms has confirmed that both the pumphouse and barrier remained relatively intact. Thus, the applicant has not demonstrated that the proposed rock revetment core/dune is consistent with Section 30235 of the Coastal Act.

In addition, under section 30235, the proposed rock revetment core/dune, can not be considered "necessary" if a feasible alternative which would result in fewer adverse impacts to coastal resources exists. An analysis of alternatives to the proposed revetment which might better eliminate or mitigate adverse effects, is included in the Seawater Renewal System Final Environmental Impact Report (EIR) dated May 1997, As required by the California Environmental Quality Act (CEQA).

However, the Commission notes that alternative forms of shoreline protection which could achieve basic protection of the lagoon barrier with fewer adverse impacts have not been adequately addressed in the Environmental Impact Report or other

information submitted by the University. The UCSB LRDP states that the Campus Lagoon must be prevented from naturally breaching in order to maintain its ESHA, instructional and research value. Although the proposed rock revetment core/dune may protect the existing educational and scientific opportunities provided by the Campus Lagoon, it would also result in adverse impacts to the ESHA, habitat, recreational and public access values of the beach area. Further, alternative forms of shoreline protection, such as dune nourishment and beach replenishment, may not only be feasible but could also serve to enhance the habitat, educational, and scientific value of the project site which is located within an area designated as ESHA by the LRDP.

### **1. No Shoreline Protection Alternative**

The EIR identifies a "No Shoreline Protection Alternative" stating that "Over time, sand sediments comprising the lagoon barrier would naturally erode and transport offshore through wave action and littoral processes" which could allow the lagoon to partially breach. In addition, the provided analysis does not explore the alternative of periodic maintenance of the barrier. Since the lagoon is now being maintained as an unnatural closed system, it may be very acceptable to rebuild the lagoon closure after a partial breach, rather than to provide a solid, long-term closure. Periodic partial breaching may also provide some natural scour of the lagoon which could offset the sedimentation which could occur from upland runoff.

In addition, there is no analysis of the rate of erosion for the lagoon barrier and the possibility of a partial breach. In the Scour and Overtopping Report prepared by Dr. Anikouchine, it was found that "long-term erosion of the beach at the subject site is improbable." It is likely that the no protection alternative was in consideration of the short-term shoreline change which can occur during extreme storm events. Permanent shoreline armoring would provide a greater level of protection against breaching than the *No Protection Alternative*; however, there is no information on the immediacy of concern.

Although this alternative would not provide additional protection for the existing seawater renewal system, staff notes that a shoreline protective device is not necessary to protect the expanded pumphouse structure which will be constructed on 16 grade beam driven piles not including the wet well structure which also serves as an independent support for the structure. The University has also confirmed by letter dated May 22, 1998, that the construction and integrity of the proposed seawater renewal system pump house and associated utility lines are not dependent upon the construction of a rock revetment (Exhibit 8).



## **2. Beach Replenishment Alternative**

The EIR found that this alternative would protect the lagoon barrier and seawater system while resulting in beneficial effects on coastal access and beach recreation. However, this alternative was determined not to be feasible "because beach replenishment would need to be implemented on a periodic basis along the entire 56 mile coastline between Isla Vista and Point Mugu to achieve the basic project objectives of protecting seawater system improvement." It is also noted in the EIR that:

*beach replenishment would not provide a permanent structure and would require long-term maintenance activities to permanently stabilize the coastline...Costs associated with beach nourishment make it infeasible."*

However, Commission staff notes that, in many respects, the project site would be a prime area for beach nourishment. (1) The project site is in the upshore portion of the Santa Barbara Littoral Cell and, as such, could serve well as a feeder beach for the regional beach system. The Campus Lagoon Beach would receive primary benefits from the nourishment, but it might easily be developed as a long-term regional program. In addition, this alternative would serve to create new opportunities for educational and scientific studies. (2) There is approximately 24 million cubic yards of sand in an offshore deposit site immediately offshore from Goleta Point.<sup>5</sup> This sand has not been tested extensively for suitability for beach nourishment; however, it does hold promise as a source for the 20 to 40 thousand cubic yards of sand needed for beach replenishment.

Beach nourishment was found in the EIR to be infeasible because of costs and the need to replenish 56 miles of shoreline. However, the EIR does not indicate what the costs for beach nourishment are, so it is impossible to determine whether beach replenishment would, in fact, be too costly. (Critical to the determination of project costs would be the estimated replenishment rate for long-term stability.) Further, it is not clear why the beach replenishment program must address the entire Santa Barbara Cell to be effective at the Campus Lagoon Beach. The area between Goleta and the Santa Barbara Harbor is an identified subcell and this provides a better bound for the coastal processes affecting the Campus Lagoon Beach. Since the project site is at the upcoast portion of the cell and subcell, its nourishment could benefit much of the downcoast shoreline, but complete nourishment of the entire cell would not be necessary for nourishment to be successful at the Campus Lagoon Beach. Thus, the Commission finds that there is no basis for finding that beach nourishment is not feasible.

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<sup>5</sup> The Final EIR for the BEACON Beach Nourishment Demonstration Project, September 1992.

In addition, for the purpose of an adequate comparison, the analysis of the proposed rip-rap revetment does not address the long-term maintenance of this structure. While the proposed rock revetment core/dune will be an engineered structure, using geotextile material and core rock, it will be founded on sand and old landfill material. From study of revetment structures in the central coast, Griggs and Fulton-Bennet found that:

*Most engineered and non-engineered rip rap that we observed required additional stone after almost every moderate (say 5 to 10 year recurrence interval) storm season...In addition, rip rap settlement appears to be reactivated each time a major storm arrives. At many locations, rip rap has moved 5 to 10 feet vertically downward and 10 to 30 feet horizontally seaward during single storms.*<sup>6</sup>

Further, the option of beach replenishment was found in the EIR to be infeasible due to the need for long-term maintenance; however, the long-term maintenance for a revetment in this location was never considered and could equal or exceed the maintenance required for beach replenishment. Fulton-Bennet and Griggs found that "after a storm of roughly ten-year recurrence interval, engineered structures along the Central California coast required repairs totaling between 20 to 40 percent of their construction cost (2 to 4% per year) and that non-engineered structures required repairs totaling between 50 to 150 percent of construction cost (5 to 15% per year)."<sup>7</sup> Since the proposed rip rap revetment would be located on a significant proportion of the available dry beach, it would be very important for the University to maintain the rip rap revetment and replace all dislodged rock promptly. Dislodged rock does not provide effective protection of the backshore area and further reduces the area of beach available for public access and recreation.

### **3: Dune Nourishment Alternative**

One method for maximizing the retention of beach nourishment material not discussed in the EIR is to include a stable back beach dune into the beach nourishment project. This can often be very effective where there is limited space or nourishment material. The beach area seaward of the dunes can provide access and recreational opportunities and the dunes can provide habitat, new educational and scientific opportunities, reduce wind blown losses of sand, and provide a stable barrier to wave erosion and lagoon breaching. If appropriate, the dune system could be underlain by a

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<sup>6</sup> Fulton-Bennet, Kim and Griggs, Gary (No Date) Coastal Protection Structures And Their Effectiveness. Joint Publication of the State Department of Boating and Waterways and marine Science Institute of the University of California at Santa Cruz.

<sup>7</sup> Ibid.

rock or geotube core and covered by appropriate dune vegetation. Periodic additions of sand are often needed to sustain the dune system over the long term, but the amount of sand is usually less than that required for a standard beach nourishment program. A further benefit of this option for the academic setting provided by the University of Santa Barbara is that the dune system could be studied providing valuable information to assist in dune restoration efforts elsewhere along the coast. This alternative was not analyzed in the EIR and should be considered.

#### **4. Conclusion**

The University has included as part of this amendment application, changes to the text of the certified 1990 LRDP which would provide for the construction of a rock revetment to prevent the lagoon barrier from breaching and to protect the seawater renewal system. Section 30235 of the Coastal Act allows for the construction of a shoreline protection device when necessary to protect existing development and coastal dependent uses only when designed to eliminate or mitigate adverse impacts to the shoreline sand supply. However, under section 30235, the proposed rock revetment core/dune, can not be considered "necessary" if a feasible alternative which would result in fewer adverse impacts to coastal resources exists.

In this case, alternative forms of shoreline protection which could achieve the basic protection objectives with fewer adverse impacts are available which have not been adequately addressed in the University's submittal. In addition, as indicated in the March 26, 1998 letter by Penfield and Smith Engineers, the proposed seawater renewal system pump house is "designed to be free-standing on its pile foundation" and does not require the construction of a revetment. The applicant has indicated that the intake and electrical lines, which are located below grade within the existing lagoon barrier, may be further protected through encasement of the subterranean intake and utility lines in concrete. The University has also confirmed by letter dated May 22, 1998, that the construction of the proposed seawater renewal system pump house and associated utility lines is not dependent upon the construction of a rock revetment (Exhibit 8). Staff notes that the proposed rock revetment core/dune may serve to protect the existing lagoon barrier and road and prevent breaching of the lagoon. However, the Commission notes that coastline development is routinely subject to potential damage as a result of storm and flood occurrences and that the lagoon barrier has been maintained with periodic maintenance in its present condition for more than 50 years. Staff observation of the site after recent severe storms has confirmed that both the pumphouse and barrier remained relatively intact. Thus, the applicant has not demonstrated that the proposed rock revetment core/dune is consistent with Section 30235 of the Coastal Act or CEQA requirements.

Therefore, the Commission can not find that the rock revetment core/dune component of the proposed amendment is consistent with §30235 and §30253 of the Coastal Act. Modification one (1) is suggested in order to ensure that the proposed textual amendment of the LRDP does not provide for the construction of a rock revetment core/dune before all feasible alternatives which would result in less adverse impacts to shoreline sand supply, public access, and habitat resources have been considered. Modification four (4) is suggested to ensure that all references (text and figures) within the LRDP which refer to a revetment to protect the lagoon barrier and pump house are consistent with the language contained in modification one (1). Modification Two (2) is suggested in order to ensure that the policies contained within the LRDP are sufficient to provide for the elimination or mitigation of adverse impacts to shoreline sand supply and public access from the use of shoreline protection devices. The Lagoon Management Plan which the University proposes to incorporate into the LRDP makes extensive references to the placement of a rock revetment to protect the lagoon barrier and seawater renewal system and, therefore, is not consistent with the LRDP or §30235 and §30253 of the Coastal Act. In order to ensure that the proposed amendment is consistent with §30235 and §30253 of the Coastal Act, and to allow further review by the Commission of the Lagoon Management Plan through a separate amendment application, Modification Three (3) is suggested to ensure that the proposed Lagoon Management Plan is deleted in its entirety from this amendment to the UCSB Long Range Development Plan. Modification Five (5) is suggested to ensure that all references (text and figures) in this amendment to the Long Range Development Plan which would allow for improvements to the lagoon barrier which are integrally related to the construction of the proposed rock revetment core dune, including the placement of fill resulting in an increase in the height of the barrier, pavement of the existing access road, and the construction of a vehicle turnaround, shall be deleted. Therefore, the Commission finds that the proposed amendment to the LRDP, as modified, is consistent with the Chapter 3 policies of the Coastal Act.

#### **D. Public Access**

One of the basic mandates of the Coastal Act is to maximize public access and recreational opportunities along the coast. The Coastal Act has several policies which address the issues of public access and recreation along the coast. Coastal Act §30210 and §30211 mandate that maximum public access and recreational opportunities be provided and that development not interfere with the public's right to access the coast. Likewise, §30212 of the Coastal Act requires that adequate public access to the sea be provided to allow use of dry sand and rocky coastal beaches. In addition, §30213 requires that lower cost visitor and recreational opportunities be protected, encouraged and, where feasible provided. Finally, §30220 of the Coastal Act requires coastal areas suited for coastal recreational activities, that cannot be provided at inland water areas, be protected.

Coastal Act §30210 states:

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

Coastal Act §30211 states:

***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.***

Coastal Act §30212 states (in part):

***(a) Public access from the nearest public roadway to the shoreline and along the coast shall be provided in new development projects...***

Coastal Act §30213 states (in part):

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

Coastal Act §30220 states:

***Coastal areas suited for water-oriented recreational activities that cannot readily be provided at inland water areas shall be protected for such uses.***

The LRDP identifies a commitment to provide and maintain public access to coastal areas. The LRDP further provides that public access is permitted to all parts of the Campus except for the Coal Oil Point Natural Reserve where a special permit is required. The location of the proposed revetment and expansion of the existing beach pumphouse for the seawater renewal system is identified in the LRDP as a primary coastal access point (Figure 25).

The LRDP Figure 26, Coastal Access Improvements, identifies that the bluff top path that currently terminates at a seating area east of the Marine Biotechnology Laboratory would continue down the bluff face to the beach. In order to provide better security to the Marine Biotechnology Building yard which houses many of the components of the

existing and proposed additions to the seawater renewal system such as storage tanks, filters, pumps and distribution lines and to avoid further impacts to the fragile bluff face, the University is proposing to reroute the last link of the bluff top path to the beach around the landward side of the Marine Biotechnology Laboratory (Exhibit 3b). The existing terminus of the bluff trail will remain open to the public. The new configuration of the access trail is minor in nature, and will not result in a significant disruption to coastal access. In addition, the new sidewalk which will connect the bluff top path with the existing access road to the beach will be designed to allow for access by the physically challenged. Signs indicating public access to the coast will be posted along the new pathway. Modification six (6) is suggested in order to ensure that the above changes to coastal access are accurately reflected in the LRDP.

The University is proposing to amend the LRDP to allow for a rock revetment core/dune to protect the existing lagoon barrier which would convert a significant portion of the adjacent public sandy beach, depending on tides, to large rock rip-rap resulting in a reduction of the physical area of the sandy beach available for coastal access. In addition, as discussed above, over time the use of shoreline protection devices, while effective at protecting upland areas, is likely to contribute to erosion of the sandy beach area located seaward of the device further reducing the sandy beach area available for lateral public access.

Further, the existing lagoon barrier is approximately 8 ft. in height above mean sea level (MSL). The University has submitted information confirming that the average sandy beach elevation at the barrier is approximately 5 ft. above MSL. Thus, there is approximately only a 3 ft. difference in elevation between the existing barrier road and the sandy beach. As the lagoon barrier now exists, beachgoers may easily access the sandy beach from any point along the approximately 400 ft. long barrier road. The placement of a an 11 ft. high revetment along the existing lagoon barrier will adversely impact or restrict vertical public access.

The University is proposing to incorporate a stairway adjacent to the beach pumphouse and a beach access ramp which will allow beach access for the physically challenged as part of the design of the lagoon barrier revetment. Although the construction of a ramp will supply new access for the physically challenged, the Commission notes that the stairway improvement is not necessary unless the approximately 400 ft. area which allows vertical public access along the existing lagoon barrier to the sandy beach is eliminated through the construction of a revetment. Further, ramp access to the sandy beach for the physically challenged is possible regardless of whether a revetment is constructed in the proposed location.

The addition of other related improvements to the lagoon barrier including the placement of approximately 700 cu. yds. of fill to raise the height of the existing barrier from approximately 8 ft. MSL to approximately 11 ft. MSL, paving an access road across the barrier, and constructing a hammerhead style turnaround at the Lagoon Island terminus would also require an amendment to the LRDP. The Commission

notes that the pavement of an access road atop the proposed 700 cu. yds. of fill would constitute the construction of a new, or reconfigured, road across the lagoon barrier. In addition, the placement of 700 cu. yds. of fill in order to raise the height of the revetment to 11 ft. MSL and to construct a turnaround will create a difference in elevation between the access road and the sandy beach (sand elevation is approximately 5 ft. MSL at the lagoon barrier according to University information) of approximately 6 ft effectively restricting or eliminating public access to the sandy beach. In addition, the Commission notes that the placement of fill in order to increase the height of the existing lagoon barrier and road is integrally related to the construction of a shoreline protection device and should not be approved as separate development.

The Commission finds that the amendment, as proposed, will result in significant adverse impacts to public access both to and along the beach. As discussed in the previous section, the Commission also finds that there are potentially feasible shoreline protection alternatives which could result in less adverse impacts to the shoreline sand supply and public access than the proposed rock revetment and that these possible alternatives have not been adequately addressed in the EIR submitted for the proposed amendment. Therefore, Modification One (1) is suggested in order to ensure that the height of the lagoon barrier shall not be increased unless necessary as an integral component of approved shoreline protection. Modification Four (4) is suggested to ensure that all references (text and figures) within the LRDP which refer to a revetment to protect the lagoon barrier are consistent with the language contained in modification one (1). Modification Two (2) is suggested in order to ensure that the policies contained within the LRDP are sufficient to provide for the elimination or mitigation of adverse impacts to shoreline sand supply and public access from the use of shoreline protection devices. The Lagoon Management Plan which the University proposes to incorporate into the LRDP makes extensive references to the placement of a rock revetment to protect the lagoon barrier and seawater renewal system and, therefore, is not consistent with the LRDP or the public access sections of the Coastal Act. In order to ensure that the proposed amendment is consistent with §30235 and §30253 of the Coastal Act and to allow further review by the Commission of the Lagoon Management Plan through a separate amendment application, Modification Three (3) is suggested to ensure that the proposed Lagoon Management Plan is deleted in its entirety from this amendment to the UCSB Long Range Development Plan. Modification Five (5) is suggested to ensure that all references (text and figures) in this amendment to the Long Range Development Plan which would allow for improvements to the lagoon barrier which are integrally related to the construction of the proposed rock revetment core dune, including the placement of fill resulting in an increase in the height of the barrier, pavement of the existing access road, and the construction of a vehicle turnaround, shall be deleted. Therefore, the Commission finds that the proposed amendment to the LRDP, as modified, is consistent with the Chapter 3 policies of the Coastal Act.

## **E. Environmentally Sensitive Habitat Area**

The Coastal Act mandates that ESHAs be protected against habitat disruption. Furthermore, the Coastal Act requires that development adjacent to an ESHA be sited and designed to prevent impacts that would degrade the ESHA value. Specifically, §30240 states:

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

*(b) Development in areas adjacent to environmentally sensitive habitat areas shall be sited and designed to prevent impacts which would significantly degrade such areas and shall be compatible with the continuance of such habitat areas.*

In certifying the UCSB LRDP, the Commission found that ESHAs should be defined by the following four categories: 1) areas that support plant or animal species which are officially classified as "Rare or Endangered" or "Fully Protected" by State or Federal agencies; 2) areas that support a large number and/or diversity of species. If such areas were lost, many species that are now regularly occurring would become locally threatened or disappear; 3) areas that represent the last example of a certain habitat type on Campus, the disappearance or major alteration of which would result in a loss of species that depend solely on the habitat type; or, 4) areas that provide unique opportunities for UCSB instruction and research.

By applying the criteria contained in the LRDP which defines ESHA, in part, as any area that provides unique opportunities for UCSB instruction and research, the Campus Lagoon and surrounding area was identified for inclusion in the LRDP as an ESHA. The proposed expansion of the seawater renewal system is compatible with Coastal Act §30240. The expansion of the seawater renewal system will have no new adverse impacts to the lagoon ESHA and may contribute to improved water quality, better circulation of lagoon water, and a reduction in eutrophication problems.

In addition, any impacts resulting from the placement of the offshore intake lines for the Seawater Renewal System would not be significant. The Marine Biology/Water Quality Report by MEC Analytical Systems dated 11/22/96 states:

*Mobile organisms, such as fish and marine mammals (including sensitive species), would have the ability to leave or avoid the area of impact and not be affected. Organisms that are attached or buried, however, would be affected...While some smothering of benthic infauna may occur, effects are expected to be localized and short-term. These organisms are routinely impacted by winter storms and recover rapidly*

Adverse impacts from the operation of the intake lines include increased surface area of hard substrate on the sea floor and impacts to biological resources from the intake of seawater. The increase in hard substrate surface on the sea floor will be localized in nature and result in a change of habitat in the affected area. The pipeline and anchor



structures may result in the beneficial impact of the development of a hard-bottom community through the colonization of benthic invertebrates and algae. The capacity of the existing seawater renewal system will increase by 400 gpm from 800 gpm to a new maximum capacity of 1,200 gpm. However, studies of similar larger facilities indicate that impacts to plankton which may occur from the 400 gpm increased intake of seawater will not be significant. As such, the adverse impacts to the marine environment resulting from the physical presence of the new intake lines, and corresponding increase in hard substrate habitat will not be significant.

The proposed expansion of the seawater renewal system is consistent with Coastal Act §30230 as it will serve to maintain existing educational and scientific uses of the marine environment. In addition, the lagoon functions artificially receiving its source water from the Campus stormwater drainage system and the seawater discharge of the marine laboratory which has a capacity of 800 gpm. Outflow from the lagoon is from an overflow weir located at the western terminus of the lagoon and from two overflow pipes located in the lagoon barrier. As discharge from the existing seawater renewal system is the main source or input of water for the lagoon, the expansion of the seawater renewal system will serve to increase water circulation and quality within the lagoon and is consistent with Coastal Act §30231.

As discussed in a previous section, there is substantial evidence that a rock revetment core/dune, as proposed in this amendment, could adversely impact sand supply and public access as a result of beach scour, and retention of potential beach material. Further, the Commission notes that alternative forms of shoreline protection which could achieve basic protection of the lagoon barrier and seawater renewal system with fewer adverse impacts have not been adequately addressed in the Environmental Impact Report submitted by the University. The LRDP maintains that the Campus Lagoon should be prevented from naturally breaching in order to maintain its ESHA, instructional and research value. However, the Commission notes that although the proposed rock revetment core/dune may serve to protect the existing educational and scientific opportunities provided by the Campus Lagoon in its present state, such development would also directly result in adverse impacts to the habitat, recreational and public access values of the public beach area (located on State Tidal Lands) which the LRDP has also designated as ESHA. Further, alternative forms of shoreline protection such as dune nourishment and beach replenishment, may not only be feasible but could also serve to enhance the habitat, educational, and scientific value of the project site which is located within an area designated as ESHA by the LRDP. Therefore, Modification One (1) is suggested in order to ensure that the proposed textual amendment of the LRDP does not provide for the construction of a rock revetment core/dune before all feasible alternatives which would result in less adverse impacts to ESHA value of the beach have been considered. Modification four (4) is suggested to ensure that all references (text and figures) within the LRDP which refer to a revetment to protect the lagoon barrier and pumphouse are consistent with the language contained in Modification One (1).

The Lagoon Management Plan that the University proposes to incorporate into the LRDP identifies specific policies to protect, enhance, and restore the lagoon area, public access, and educational opportunities within the lagoon area. However, the proposed Lagoon Management Plan also includes extensive references to the placement of a rock revetment to protect the lagoon barrier and seawater renewal system and, therefore, is not consistent with the LRDP or with Section 30240 of the Coastal Act. In order to ensure that the proposed amendment concerning the Lagoon Management Plan is consistent with the Coastal Act and to allow further review by the Commission of the Lagoon Management Plan, it is appropriate that such plan be the subject of a separate amendment application. Therefore, Modification Three (3) is suggested to delete the proposed Lagoon Management Plan, in its entirety, from this amendment to the UCSB Long Range Development Plan. Modification Five (5) is suggested to ensure that all references (text and figures) in this amendment to the Long Range Development Plan are deleted that would allow for improvements to the lagoon barrier which are integrally related to the construction of the proposed rock revetment core dune, including the placement of fill resulting in an increase in the height of the barrier, pavement of the existing access road, and the construction of a vehicle turnaround.

Therefore, the Commission finds that the proposed amendment to the LRDP, as modified, is consistent with the Chapter 3 policies of the Coastal Act.

#### **F. California Environmental Quality Act**

Pursuant to §21080.9 of the California Environmental Quality Act ("CEQA"), the Coastal Commission is the lead agency responsible for reviewing Long Range Development Plans for compliance with CEQA. The Secretary of Resources Agency has determined that the Commission's program of reviewing and certifying LRDPs qualifies for certification under §21080.5 of CEQA. In addition to making the finding that the LRDP amendment is in full compliance with CEQA, the Commission must make a finding that no less environmentally damaging feasible alternative exists. §21080.5(d)(1) of CEQA and §13540(f) of the Coastal Code of Regulations require that the Commission not approve or adopt a LRDP, "...if there are feasible alternative or feasible mitigation measures available which would substantially lessen any significant adverse impact which the activity may have on the environment."

A Notice of Preparation ("NOP") for the seawater renewal system was circulated on November 18, 1996 and a draft of the EIR was released for public review in February 1997. Notice of the availability of the draft documents was sent to all organizations and individuals who had requested such notice, and was also published in the Santa

Barbara News-Press (a newspaper of general circulation) and the Nexus, UCSB's campus newspaper. Pursuant to §13515(a), notice of the availability of the document was also given to potentially affected local governments and special districts, and state and federal agencies listed in Appendix A of the Local Coastal Program Manual. Copies of the draft document were made available at local public libraries and at the UCSB Library, and were provided at no charge to all individuals, community groups, state and local agencies, and University-affiliated groups who requested them.

The notice provided to interested parties began a 45-day public review and comment period, which ran from February 14, 1997, through March 28, 1997. A noticed public hearing to receive comments on the draft EIR was held on March 19, 1997, at UCSB. Written comments were received from public agencies, organizations and individuals during the comment period.

For the reasons discussed in this report, the LRDP amendment, as submitted is inconsistent with the Chapter 3 policies of the Coastal Act, there are feasible alternatives or mitigation measures available which would lessen any significant adverse effect which the approval would have on the environment. The Commission has modified the proposed LRDPA to include such feasible measures as will reduce environmental impacts of new development. As discussed in the preceding section, the Commission's suggested modifications bring the proposed LRDP amendment into conformity with the Coastal Act. Therefore, the Commission finds that the LRDP amendment, as modified, is consistent with CEQA and the Chapter 3 policies of the Coastal Act.

**SMH-VNT**

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## APPENDIX

### **SUBSTANTIVE FILE DOCUMENTS**

Scour and Overtopping Report by William Anikouchine, PH.D, dated 4/20/97.

Marine Biology/Marine Water Quality Report by MEC Analytical Systems, Inc., dated 11/22/96.

Certified Long Range Development Plan 1990-2005, University of California at Santa Barbara dated 12/11/86.

Final Environmental Impact Report for Seawater System Renewal Project, University of California at Santa Barbara, dated May 1997.

Draft Management Plan for the Campus Lagoon, University of California at Santa Barbara, dated August 1996.

Draft Environmental Impact Report/Environmental Assessment for the BEACON Beach Nourishment Demonstration Project by Chambers Group, Inc. dated February 1992.

### **STUDIES AND PUBLICATIONS**

Dean, Robert G., "Coastal Sediment Processes: Toward Engineering Solutions". Coastal Sediments '87. 1987.

Denison, Frank and Hugh Robertson. "Assessment of 1982-83 Winter Storms Damage to Malibu Coastline". California Geology. September 1985.

Graber & Thompson. The Issues and Problems of Defining Property Boundaries on Tidal Waters in California. California's Battered Coast (California Coastal Commission, 1985).

Griggs, G., K. Fulton-Bennet. Coastal Protections and Their Effectiveness. Joint Publication of the State of California Department of Boating and Waterways and the Marine Science Institute of the University of California at Santa Cruz.

Griggs, G., J. Tait, and W. Corona. "The Interaction of Seawalls and Beaches: Seven Years of Monitoring, Monterey Bay, California". Shore and Beach. Vol. 62, No. 3. 1994

McDougal, W.G., M.A. Sturtevant, and P.D. Komar. "Laboratory and Field Investigations of the Impact of Shoreline Stabilization Structures on Adjacent Properties". Coastal Sediments '87. 1987.

**EXHIBITS TO THE STAFF REPORT ARE  
ATTACHED SEPARATELY AS LISTED BELOW**

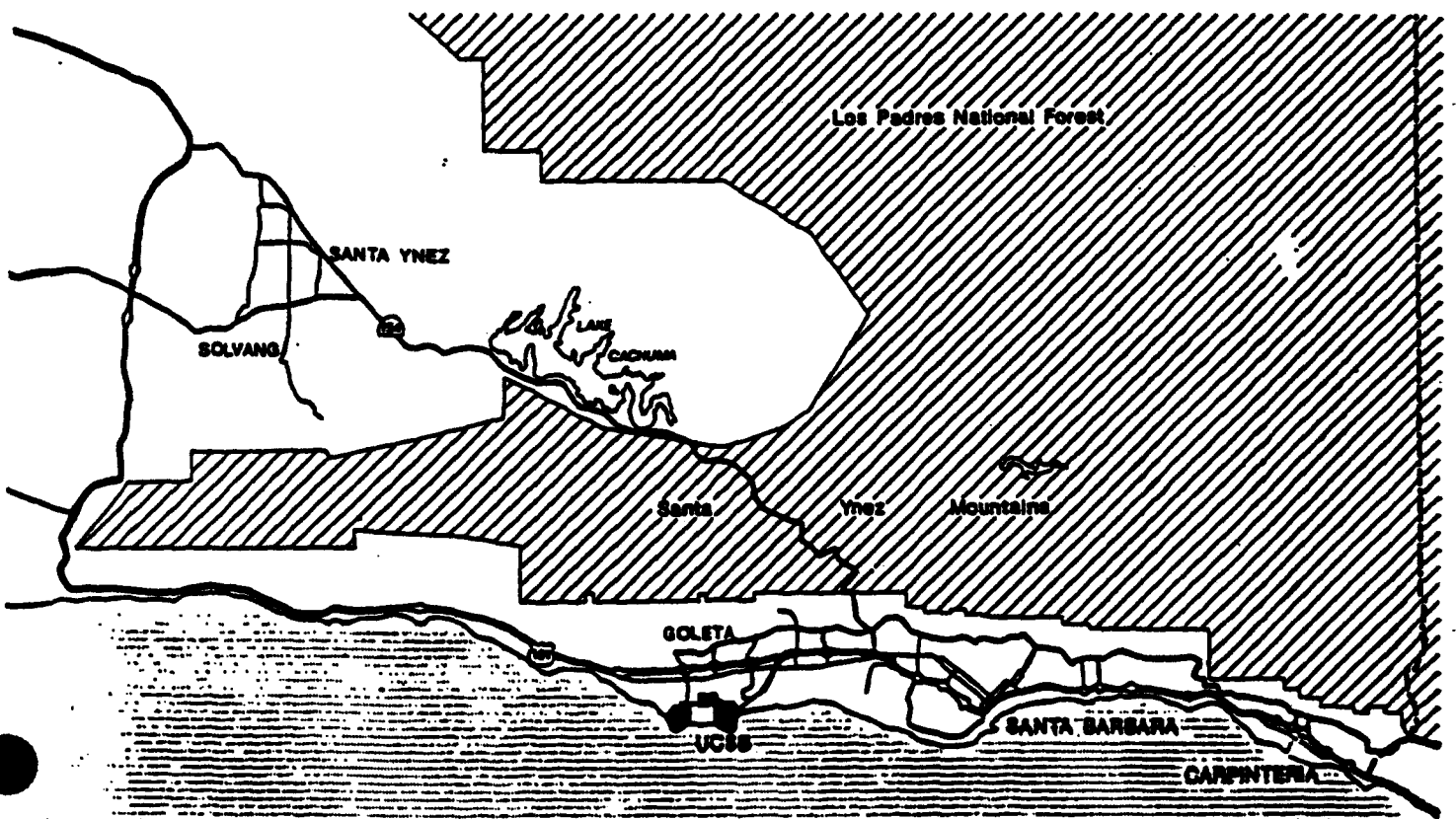
Regional Location Map	(Exhibit 1)
Local Vicinity Map	(Exhibit 2)
Site Plan-Lagoon Barrier	(Exhibit 3a)
Site Plan-Marine Science Center	(Exhibit 3b)
Campus Land Use Map	(Exhibit 4)
Proposed Amendments to Text	(Exhibit 5)
State Lands Determination Letter	(Exhibit 6)
Original Proposal (Site Plan)	(Exhibit 7)
UCSB Letter	(Exhibit 8)
Response to UCSB Letter	(Exhibit 9)
Petition in Opposition	(Exhibit 10)
Letters from Public Against Revetment	(Exhibit 11)
Letters from UCSB Staff	(Exhibit 12)



25 50 100 MILES

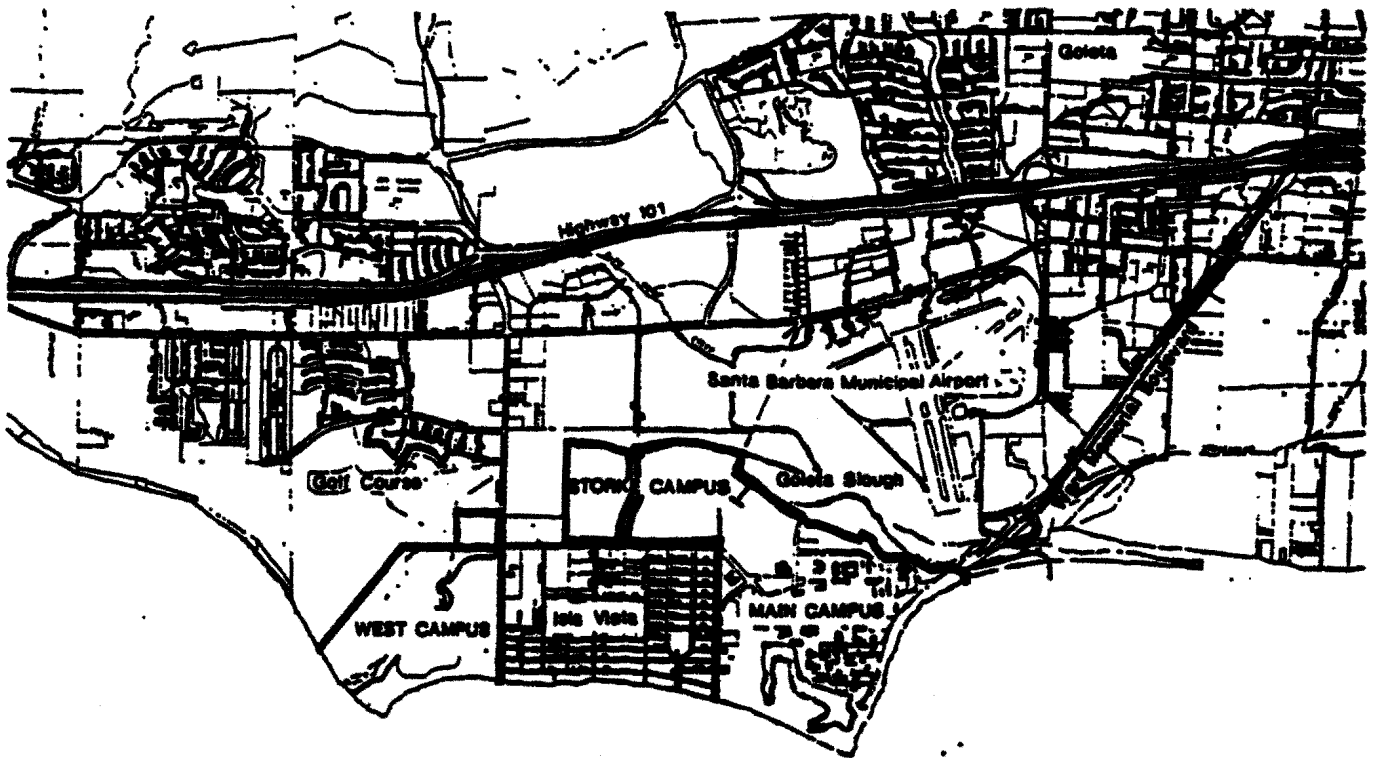
SANTA BARBARA COUNTY

UCSB



0 25 50 100 MILES

**EXHIBIT 1**  
**UCSB LRDP A 2-9**  
**Regional Location**

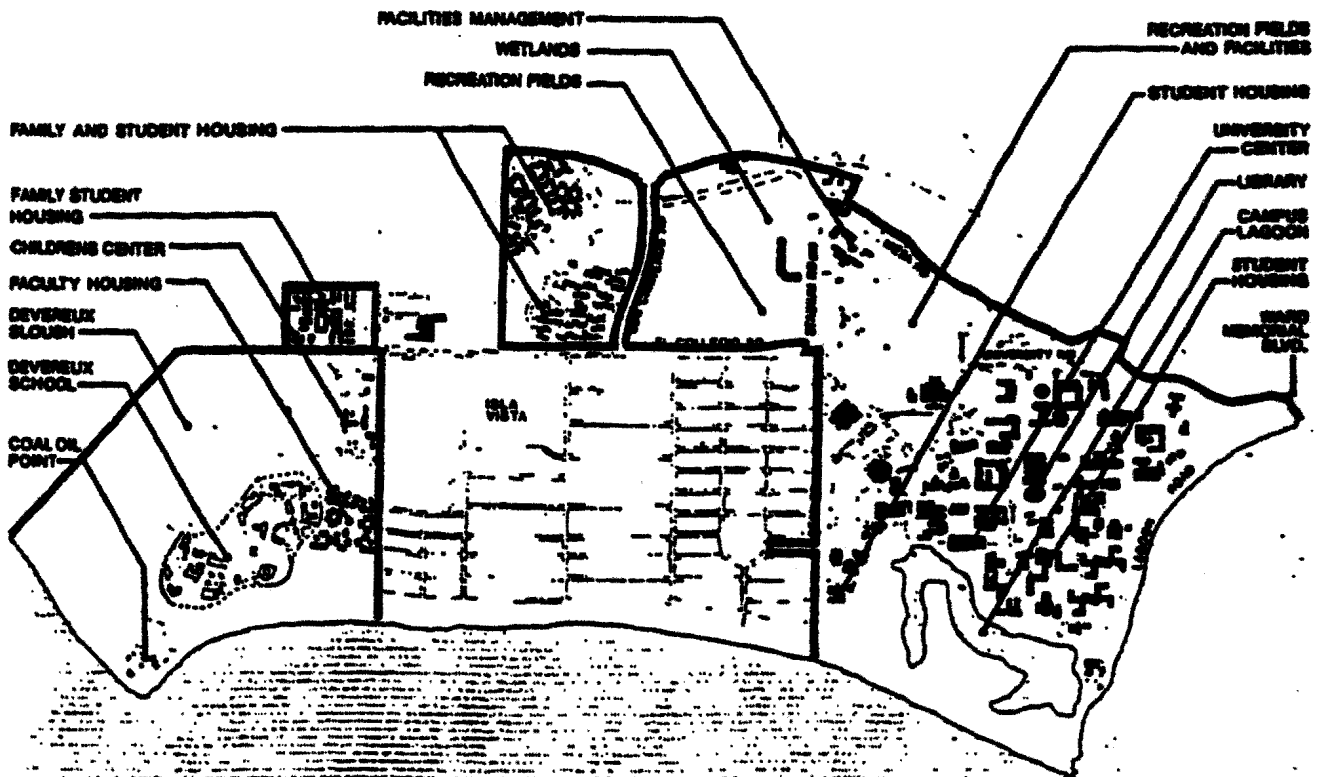


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**WEST CAMPUS**

**STORKE CAMPUS**

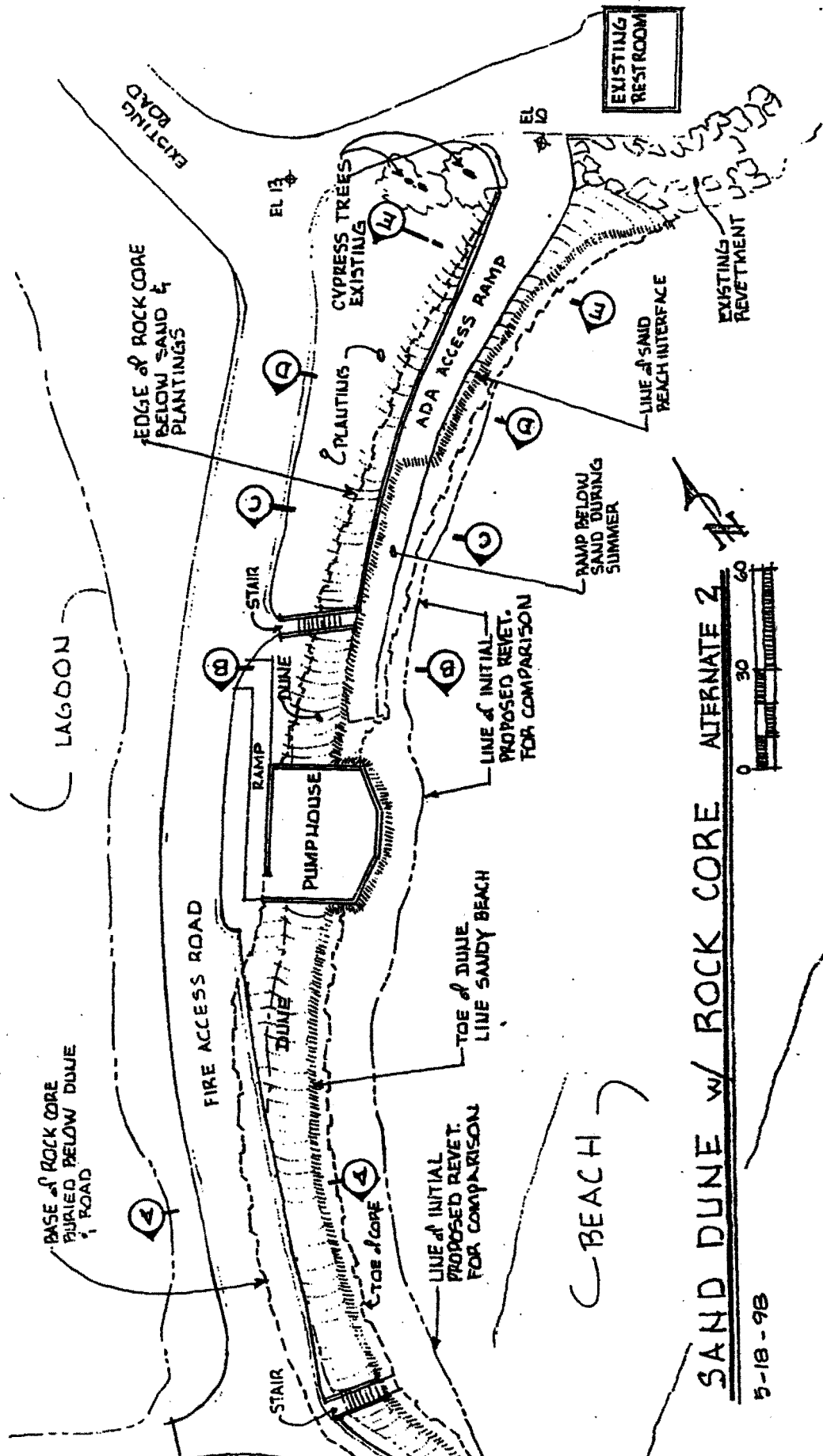
**MAIN CAMPUS**



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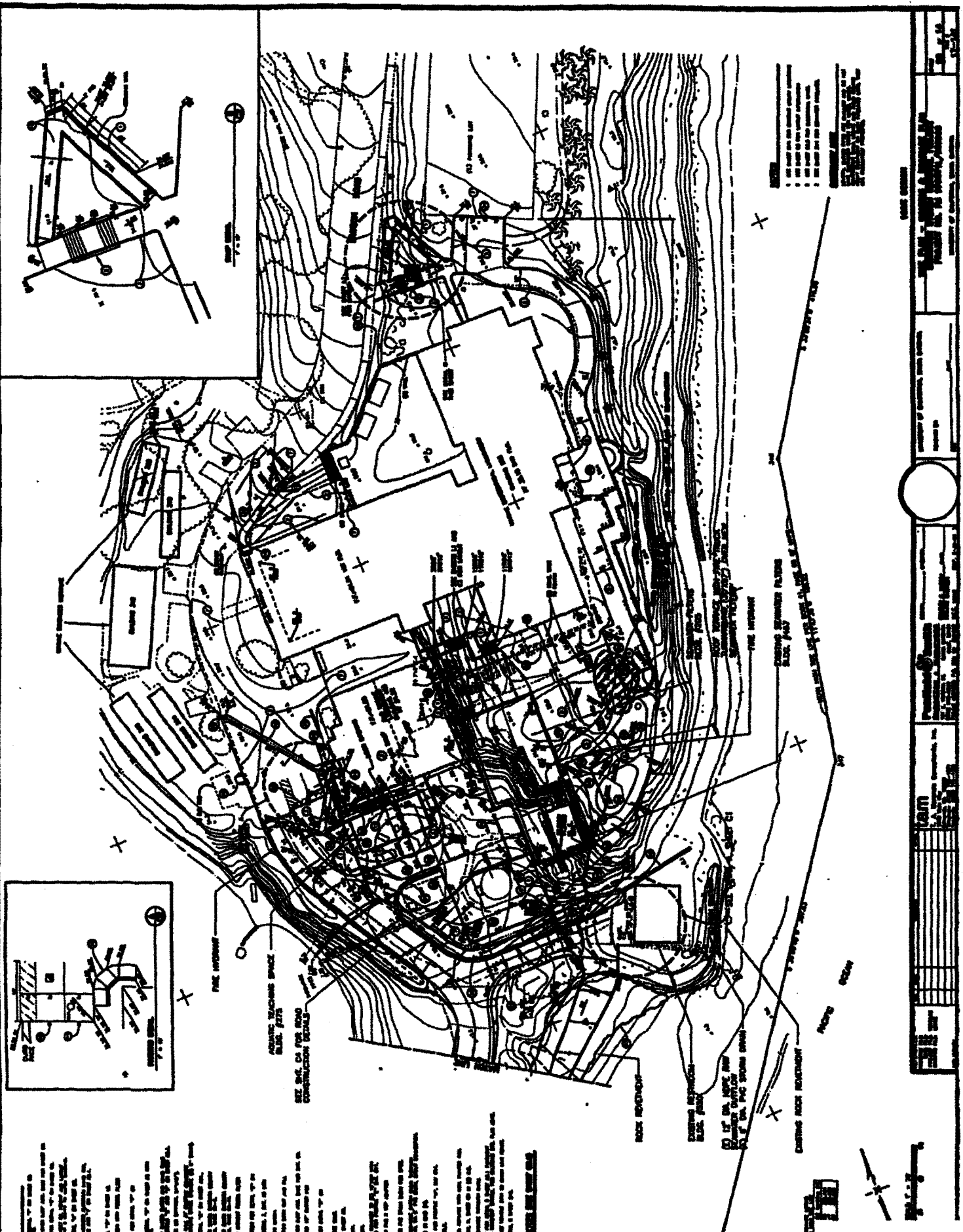
**EXHIBIT 2**  
**UCSB LRDPA 2-97**  
**Campus Features**





SAND DUNE w/ ROCK CORE ALTERNATE 2  
 5-18-98

EXHIBIT 3a  
 UCSB LRDPA 2-97  
 Site Plan-Lagoon Barrier



- LEGEND**
- UNIMPAVED ROAD
  - - - - - IMPROVED ROAD
  - ROAD UNDER CONSTRUCTION
  - ROAD TO BE DELETED
  - ROAD TO BE WIDENED
  - ROAD TO BE NARROWED
  - ROAD TO BE REALIGNED
  - ROAD TO BE RECONSTRUCTED
  - ROAD TO BE REPAIRED
  - ROAD TO BE MAINTAINED
  - ROAD TO BE DEMOLISHED
  - ROAD TO BE ABANDONED
  - ROAD TO BE BYPASSED
  - ROAD TO BE DIVERTED
  - ROAD TO BE CLOSED
  - ROAD TO BE OPENED
  - ROAD TO BE REROUTED
  - ROAD TO BE RELOCATED
  - ROAD TO BE REDESIGNED
  - ROAD TO BE REENGINEERED
  - ROAD TO BE RECONSTRUCTED AND REENGINEERED
  - ROAD TO BE RECONSTRUCTED AND REDESIGNED
  - ROAD TO BE RECONSTRUCTED AND RELOCATED
  - ROAD TO BE RECONSTRUCTED AND REROUTED
  - ROAD TO BE RECONSTRUCTED AND DIVERTED
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  - ROAD TO BE RECONSTRUCTED AND REROUTED AND DIVERTED AND CLOSED AND OPENED

PROJECT NO.	UCSB LRDPA 2-97
DATE	1997
SCALE	AS SHOWN
DRAWN BY	[Name]
CHECKED BY	[Name]
APPROVED BY	[Name]
DATE OF REVISION	
REVISION NO.	
REVISION DESCRIPTION	
DATE	
BY	
FOR	
PROJECT NO.	UCSB LRDPA 2-97
DATE	1997
SCALE	AS SHOWN
DRAWN BY	[Name]
CHECKED BY	[Name]
APPROVED BY	[Name]
DATE OF REVISION	
REVISION NO.	
REVISION DESCRIPTION	
DATE	
BY	
FOR	

**EXHIBIT 3b**  
**UCSB LRDPA 2-97**  
**Site Plan**

1. THE SITE PLAN IS A REPRESENTATION OF THE PROPOSED PROJECT AND DOES NOT GUARANTEE THE ACCURACY OF THE INFORMATION SHOWN THEREON. THE USER OF THIS SITE PLAN SHALL BE RESPONSIBLE FOR VERIFYING THE ACCURACY OF THE INFORMATION SHOWN THEREON.

2. THE SITE PLAN IS A REPRESENTATION OF THE PROPOSED PROJECT AND DOES NOT GUARANTEE THE ACCURACY OF THE INFORMATION SHOWN THEREON. THE USER OF THIS SITE PLAN SHALL BE RESPONSIBLE FOR VERIFYING THE ACCURACY OF THE INFORMATION SHOWN THEREON.

3. THE SITE PLAN IS A REPRESENTATION OF THE PROPOSED PROJECT AND DOES NOT GUARANTEE THE ACCURACY OF THE INFORMATION SHOWN THEREON. THE USER OF THIS SITE PLAN SHALL BE RESPONSIBLE FOR VERIFYING THE ACCURACY OF THE INFORMATION SHOWN THEREON.

4. THE SITE PLAN IS A REPRESENTATION OF THE PROPOSED PROJECT AND DOES NOT GUARANTEE THE ACCURACY OF THE INFORMATION SHOWN THEREON. THE USER OF THIS SITE PLAN SHALL BE RESPONSIBLE FOR VERIFYING THE ACCURACY OF THE INFORMATION SHOWN THEREON.

5. THE SITE PLAN IS A REPRESENTATION OF THE PROPOSED PROJECT AND DOES NOT GUARANTEE THE ACCURACY OF THE INFORMATION SHOWN THEREON. THE USER OF THIS SITE PLAN SHALL BE RESPONSIBLE FOR VERIFYING THE ACCURACY OF THE INFORMATION SHOWN THEREON.

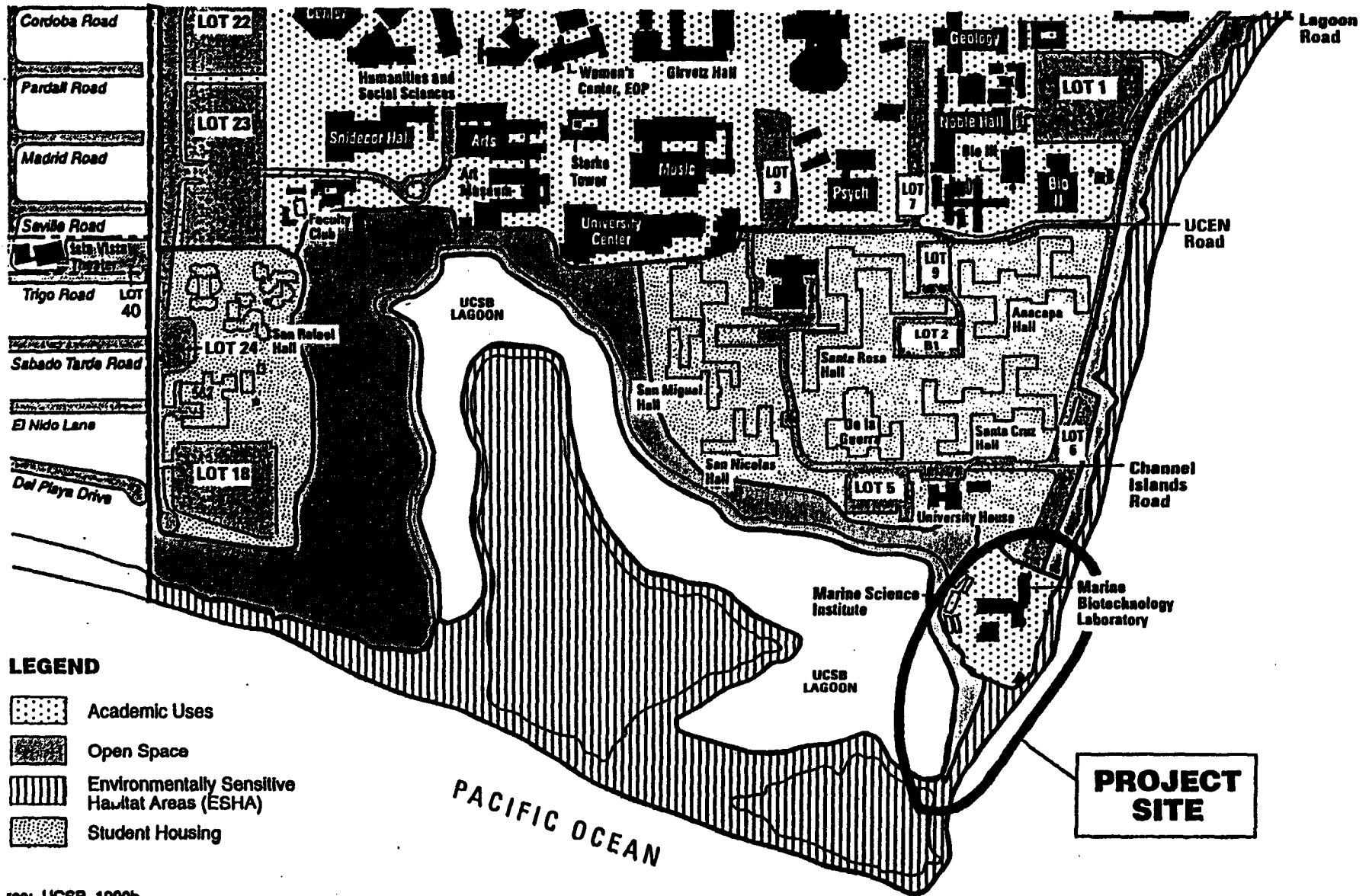
6. THE SITE PLAN IS A REPRESENTATION OF THE PROPOSED PROJECT AND DOES NOT GUARANTEE THE ACCURACY OF THE INFORMATION SHOWN THEREON. THE USER OF THIS SITE PLAN SHALL BE RESPONSIBLE FOR VERIFYING THE ACCURACY OF THE INFORMATION SHOWN THEREON.

7. THE SITE PLAN IS A REPRESENTATION OF THE PROPOSED PROJECT AND DOES NOT GUARANTEE THE ACCURACY OF THE INFORMATION SHOWN THEREON. THE USER OF THIS SITE PLAN SHALL BE RESPONSIBLE FOR VERIFYING THE ACCURACY OF THE INFORMATION SHOWN THEREON.

8. THE SITE PLAN IS A REPRESENTATION OF THE PROPOSED PROJECT AND DOES NOT GUARANTEE THE ACCURACY OF THE INFORMATION SHOWN THEREON. THE USER OF THIS SITE PLAN SHALL BE RESPONSIBLE FOR VERIFYING THE ACCURACY OF THE INFORMATION SHOWN THEREON.

9. THE SITE PLAN IS A REPRESENTATION OF THE PROPOSED PROJECT AND DOES NOT GUARANTEE THE ACCURACY OF THE INFORMATION SHOWN THEREON. THE USER OF THIS SITE PLAN SHALL BE RESPONSIBLE FOR VERIFYING THE ACCURACY OF THE INFORMATION SHOWN THEREON.

10. THE SITE PLAN IS A REPRESENTATION OF THE PROPOSED PROJECT AND DOES NOT GUARANTEE THE ACCURACY OF THE INFORMATION SHOWN THEREON. THE USER OF THIS SITE PLAN SHALL BE RESPONSIBLE FOR VERIFYING THE ACCURACY OF THE INFORMATION SHOWN THEREON.



Source: UCSB, 1990b.

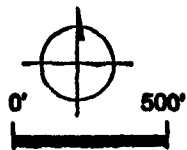


Figure 5 LRDP Land Uses

EXHIBIT 4

UCSB LRDP 2.97

Land Use Map

was identified as the best unit to coordinate efforts of this sort because: it has a successful track record of similar projects; it is well situated to work with community or UCSB volunteers such as the Habitat Restoration Club; it has the extensive botanical and zoological knowledge required for this type of work; and the ability to coordinate restoration work with instructional opportunities.

The instructional aspects of the implementation program is a key component of the recommended approach. The annual funding will go much further if portions of the work are performed by volunteers or as part of class exercises. It is anticipated that Museum staff will use some of the funding to seek grants.

To monitor implementation of the plan, the Director of the Museum would prepare an annual status report describing management actions accomplished during the preceding year, and submit it to the Office of Budget and Planning, for distribution to the California Coastal Commission staff, members of the Wetlands Committee and Landscape Committee, and other interested persons.

### Category 3

Existing campus activities that are related to management of the lagoon area include such things as maintenance of the outflow weir, roads, fences, stairways, and parking lots, replacement of signs, and law enforcement. The Management Plan assumes the existing activities and responsibilities of Police, Fire, Environmental Health & Safety and Facilities Management will continue. The current maintenance of the campus physical plant would be supplemented by new habitat management activities under the direction of the Museum. The additional burden of maintaining these areas would not fall to existing Grounds personnel who are already committed to maintaining the more urbanized portions of the campus.

## III. 1990 Long Range Development Plan Text Changes

### Part 1: Seawater

The Seawater System Renewal project as proposed requires the following text changes to the 1990 LRDP, Part 2: Coastal Act Element, Section VI. Marine Environment, D. Revetments, Breakwaters [PRC § 30235]. Text deletions are shown with strike-out and text additions are underlined.

#### **D. REVETMENTS, BREAKWATERS, ETC. [PRC § 30235]**

*Revetments, breakwaters, groins, harbor channels, seawalls, cliff retaining walls, and other such construction that alters natural shoreline processes shall be permitted when required to serve coastal-dependent uses or to protect existing structures or public beaches in danger from erosion, and when designed to eliminate or mitigate adverse impacts on local shoreline sand supply.*

##### **1. Existing Conditions and the 1980 LRDP**

*There is only one location on Campus where a structure has been placed to reduce coastal erosion: at the base of the east-facing coastal bluffs on the Main Campus Rip-rap rock material at this location has reduced coastal erosion without significantly altering natural beach conditions. As described in Part 2, Chapter II, Section C, coastal erosion affects the east- and south-facing bluffs on the Main Campus.*

The 1980 LRDP included policies allowing the construction of additional protective devices to protect existing development from the effects of coastal erosion, as long as the site or surrounding area is not significantly disrupted. These policies have been reincorporated in Part 2, Chapter II, Section C of the 1990 LRDP. No specific projects to construct seawalls, revetments or other shoreline protective devices were proposed in the 1980 LRDP.

## 2. The 1990 LRDP

### Campus Lagoon and Beach Protection

The Campus Lagoon is an environmentally sensitive habitat area and sometimes used for the instructional and research purposes of the Campus (a coastal-dependent use) (see part 2, Chapter V, Section A). The lagoon was created by the Campus from a dry salt flat, when the University took over the Goleta Point site in 1950. Its water surface elevation is about seven feet above sea level, contained from overflow into the ocean by sandbars on the south and east side of the Point and artificial outlets to the ocean. In the past, the sandbar and beach on the east have come close to being breached by winter storm waters, adversely affecting existing plant and animal populations and, therefore, the value as an instruction and research resource (see Part 2, Chapter V, Section A).

While sandbags have been used as a temporary measure to stem the high waters and protect the sandbar and beach from erosion, the Campus ~~has decided to~~ will develop a more permanent revetment at that location. Accordingly, the 1990 LRDP proposes to maintain the lagoon barrier by constructing ~~an aesthetically pleasing fill revetment that allows for easy foot traffic both to the beach and across the barrier to the bluffs to the south.~~ Policy 3-2 of the County LCP permits revetments when designed to mitigate adverse impacts on local shoreline sand supply and so as not to block lateral access. The proposed revetment ~~is will be designed with these mitigation objectives in mind~~ ~~have no significant effect on local sand supply that would reduce area and will be subject to further Commission review~~ ~~beaches and block lateral access.~~

~~This proposed revetment will include the removal replacement of existing sandbags and gravel berm (spoils and debris from old construction sites) with approximately 400-lineal feet of rock revetment on either side of the Seawater System pump house, adding fill consisting of cobbles, gravel, and soil. This fill will~~ ~~The revetment does not include materials which could erode and degrade the visual quality of the area, or become a safety hazard. The revetment design links the new structure with the two existing rock revetments on either side of the lagoon barrier. The footprint of the new revetment has an approximate width of 28 feet to 38 feet, and extends 10 to 12 feet more onto the sandy beach than the existing sand and gravel berm's encroachment. The fill will be placed on the beach side of the barrier, expanding its total width to seventy five to 100 feet at any given point. The Campus will design the revetment to protect the lagoon habitat, to protect the Seawater System pump house structure, to minimize avoid alteration of natural shoreline processes, and to maintain coastal access along dry sand area. he rock revetment is designed to arrest the landward migration of the coastline in the vicinity, and stabilize the pump house site. The revetment may result in the removal of up to 0.33 acre of sandy beach from the approximately 2 acres of sandy beach adjacent to the revetment. The revetment should be isolated from significantly impacting the erosion process because both the proposed and existing revetments are located within the wave and wind shadow from the typically northwesterly winds.~~

~~The fill revetment will restore thereplace the cobble, gravel, sandbags, and soil materials that has eroded, and it should provide that have eroded as well as provide some additional protection to the pump house. The restrooms will remain in the same location, and will be~~

~~upgraded to be accessible for persons with disabilities, continuing to be protected by the rip-rap on the west side while. The restrooms will continue to be protected by the rip-rap on adding fill to reinforce the rip-rap the westside. To allow for easy and safe pedestrian and wheeled access to the beach, the 1990 LRDP UCSB proposes to place a beach ramp across the revetment to provide wheeled access to the beach, slope the fill gently downward toward the beach with all the materials compacted according to "good engineering practice." and increase coastal access for marine researchers by allowing for the launch of small inflatable craft. A service vehicle road and truck turnaround will be constructed on top of, and between the revetment and the lagoon, to provide for emergency vehicle access and maintenance of the pumphouse~~

### 3. Policies and Implementation Measures

*Policies related to the protection of development from coastal erosion are discussed in Part 2, Chapter V, Section A. Policies related to habitat protection on coastal beaches and bluffs are discussed in Part 2, Chapter V, Section A.*

#### 30235.1

*Where seawalls are required for the protection of existing development or to serve coastal-dependent uses, or to protect public beaches in danger from erosion, and there is no less environmentally damaging alternative, seawall design and construction shall minimize, to the extent feasible, the alteration of natural land forms, adverse impacts on public access, and visual impacts through the use of appropriate colors and materials (1980 LRDP policy, as amended).*

#### 30235.2

*No permanent above-ground structures shall be permitted on the dry sand beach except facilities necessary for public health and safety, research needs, and temporary recreational structures such as volleyball poles and nets (1980 LRDP policy, as amended).*

## PART 2: LMP

The 1990 LRDP will be amended to include the Lagoon Management Plan; an implementation plan with policies for protection, enhancement, restoration, and public interpretation and access for the Campus Lagoon. No other LRDP land use changes or text revisions are proposed. The LMP was written to be consistent with, and identifies management actions to implement LRDP policies. The LMP was prepared during the same time frame as design development for the Seawater System project, and thus reflects the proposed changes to the revetment design described in Part 1: Seawater.

The following sections follow the California Administrative Code ("CAC") sections related to the content of amendments to certified Long Range Development Plans.

**CALIFORNIA STATE LANDS COMMISSION**  
 100 Howe Avenue, Suite 100 South  
 Sacramento, CA 95825-8202



**ROBERT C. HIGHT, Executive Officer**  
 (916) 574-1800 FAX (916) 574-1810  
 California Relay Service From TDD Phone 1-800-735-2922  
 from Voice Phone 1-800-735-2929

Contact Phone: (916) 574-1833  
 Contact FAX: (916) 574-1925

December 15, 1997

File Ref: W 25374

Catriona Gay  
 University of California, Santa Barbara  
 Office of the Assistant Chancellor  
 Budget and Planning  
 Santa Barbara, California 93106-2030

**RECEIVED**

DEC 18 1997

UNIVERSITY OF CALIFORNIA  
 COASTAL COMMISSION  
 SOUTH CENTRAL COAST DISTRICT

Dear Ms. Gay:

**Subject: Expansion of Seawater Renewal Project, Santa Barbara County**

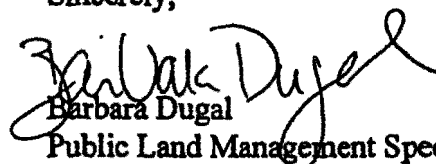
This letter confirms our recent discussions regarding the University of California, Santa Barbara's (UCSB) proposed seawater renewal project and serves to clarify the status of UCSB's application.

When staff reviewed UCSB's initial application, we determined that the existing and proposed intake pipelines would involve State lands under the jurisdiction of the Commission and a lease would be required. At that time, we had not made a final determination regarding the rock revetment and whether it involved lands under the jurisdiction of the Commission. Commission staff recently completed a formal review of the additional information provided regarding the rock revetment portion of the proposed seawater renewal project. Based on this review, we have determined that the revetment will involve lands under the jurisdiction of the Commission and will, therefore, require a lease. It is our intent to process a lease to the University for both the intake pipelines and for both the existing and proposed rock revetment.

I am currently drafting the proposed lease terms and am having a land description prepared. Normally, this portion of the application process can take between one and two months to complete. Once these two items have been completed, I will forward the proposed lease document to the University for review and consideration. After I receive the signed lease documents from the University, I will schedule this item to be heard by the Commission at a regularly scheduled Commission meeting.

I hope this clarifies the status of the University's application with the Commission. I do appreciate your patience and cooperation regarding the lease application. Please do not hesitate to contact me at (916) 574-1833 should you have any questions regarding the application process.

Sincerely,

  
 Barbara Dugal  
 Public Land Management Specialist

<b>EXHIBIT 6</b>
<b>UCSB LRDP A 2-97</b>
<b>State Land Letter</b>

cc: Rebecca Richardson ✓  
California Coastal Commission  
89 South California Street, #200  
San Buenaventura, CA 93001

Gary Timm  
California Coastal Commission  
89 South California Street, #200  
San Buenaventura, CA 93001

Dr. Theresa Stephens  
U. S. Army Corps of Engineers  
2151 Alessandro Drive, #255  
Ventura, CA 93001



**CONSTRUCTION NOTES:**

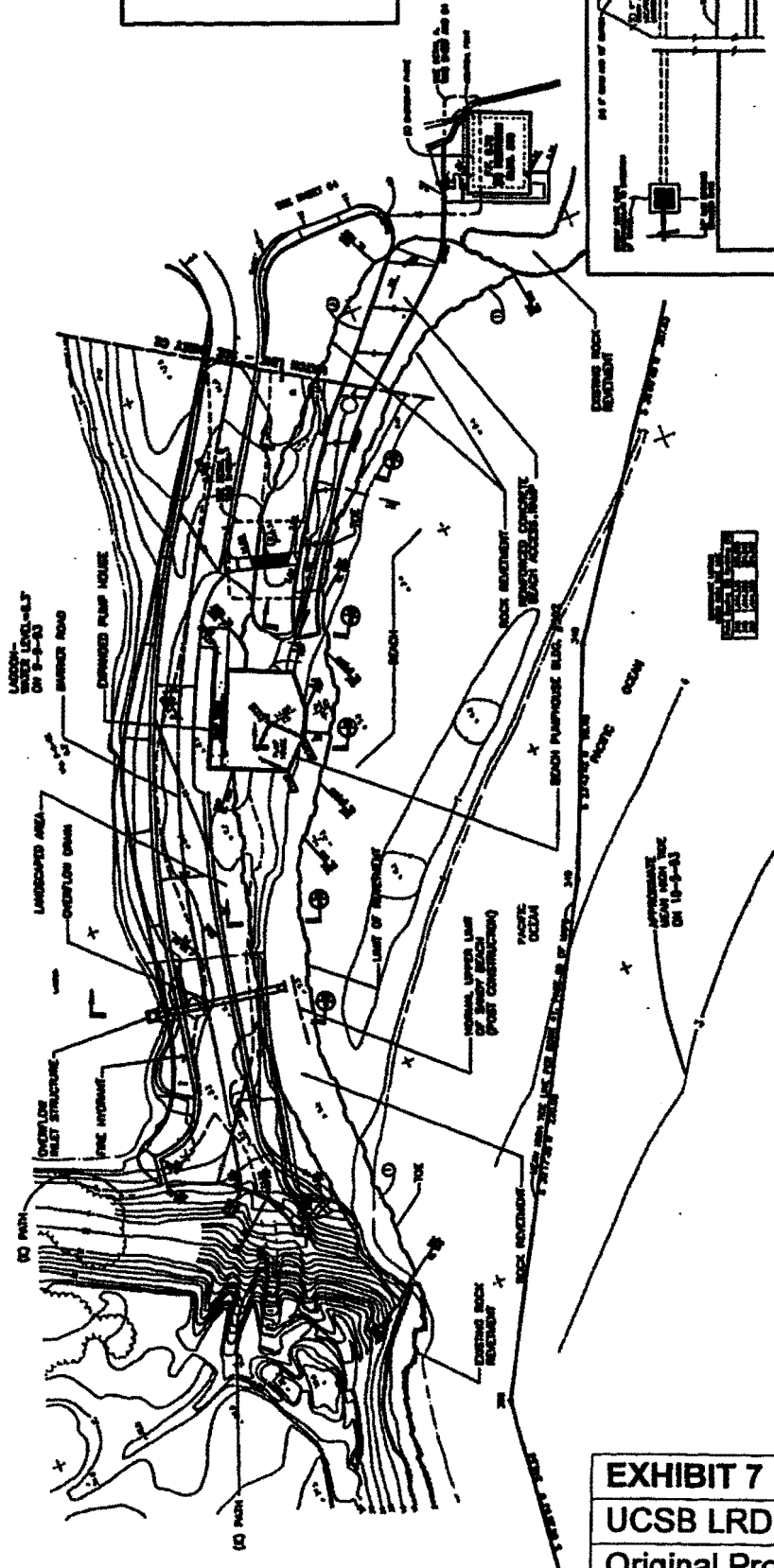
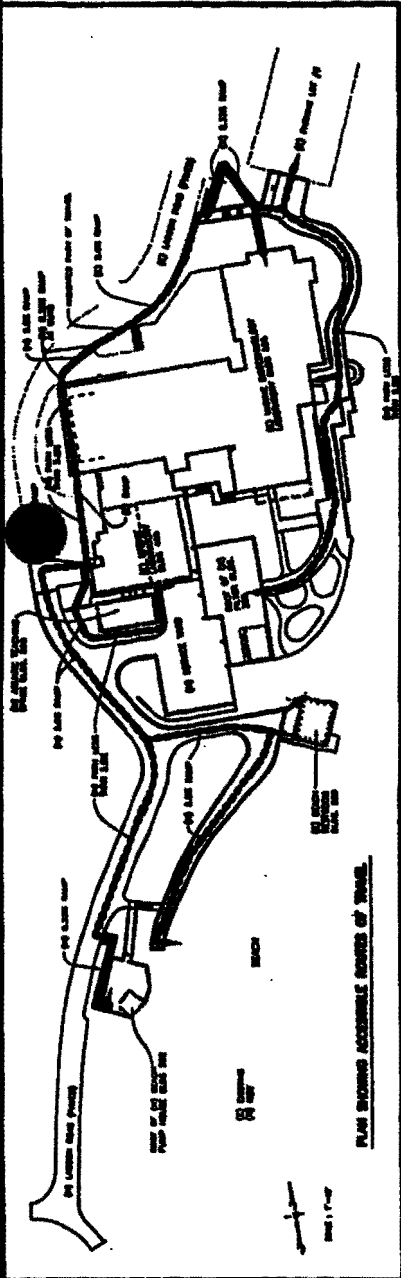
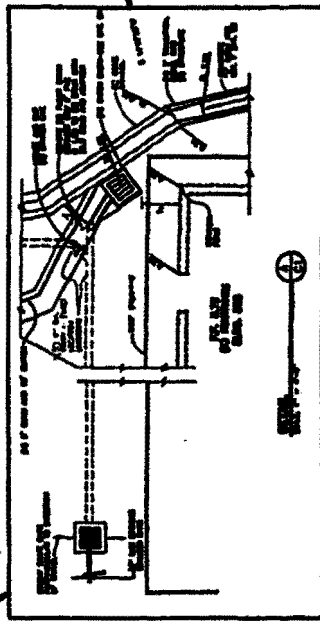
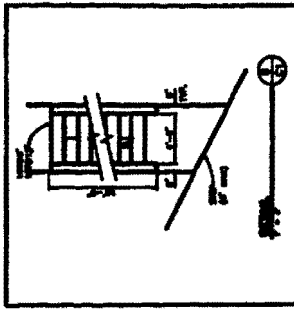
1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST EDITIONS OF THE CALIFORNIA BUILDING CODE AND THE CALIFORNIA ELECTRICAL CODE.
2. ALL UTILITIES SHALL BE DEPTH TESTED PRIOR TO CONSTRUCTION.
3. ALL EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO THE START OF CONSTRUCTION.

**GENERAL NOTES:**

1. ALL DIMENSIONS ARE IN FEET AND INCHES.
2. ALL FINISH GRADES SHALL BE AS SHOWN UNLESS OTHERWISE NOTED.

NO.	DESCRIPTION	DATE	BY
1	ISSUED FOR PERMIT	10/15/97	J. SMITH
2	REVISION 1	11/01/97	J. SMITH
3	REVISION 2	11/15/97	J. SMITH

NO.	DESCRIPTION	DATE	BY
4	ISSUED FOR PERMIT	12/01/97	J. SMITH
5	REVISION 3	12/15/97	J. SMITH
6	REVISION 4	01/01/98	J. SMITH



**PROJECT INFORMATION**

PROJECT NO. UCSB LRDPA 2-97

DATE: 10/15/97

SCALE: AS SHOWN

**DESIGNER:** [Logo]

**CLIENT:** [Logo]

**APPROVED:** [Signature]

**DATE:** 11/15/97

**EXHIBIT 7**  
**UCSB LRDPA 2-97**  
**Original Proposal (Site Plan)**

## UNIVERSITY OF CALIFORNIA, SANTA BARBARA

UCSB

BERKELEY • DAVIS • IRVINE • LOS ANGELES • RIVERSIDE • SAN DIEGO • SAN FRANCISCO



SANTA BARBARA • SANTA CRUZ

Office of the Assistant Chancellor -  
Budget and Planning  
Santa Barbara, CA 93106-2090  
Tel: (805) 893-3971  
Fax: (805) 893-8388

May 22, 1998

Mr. Steve Hudson  
California Coastal Commission  
89 South California Street Suite 200  
Ventura, CA 93001

Dear Mr. Hudson:

This letter is in response to your request that the University confirm that the pumphouse and utility lines associated with our proposed Seawater System can be constructed in such a manner as not to require a rock revetment or seawall as a form of protection. It is my understanding from my conversation with Deputy Director Damm that staff are recommending that the Commission approve the Seawater System Project as originally submitted with the exception of the original proposed rock revetment. It is also my understanding from Deputy Director Damm that it is staff's opinion that the barrier road and handicap access ramp constitute structures and that, an appropriate form of shoreline protection, such as proposed in our project revision, is consistent with the Coastal Act.

In recognition that:

1. Staff is requesting to work with the University to refine the design of the handicap ramp to ensure that it is set back as far off the beach as possible;
2. That this may result in deferment of Coastal Commission action on our proposed solution for shoreline protection; and
3. In order to enable the Coastal Commission to be able to take action on the remaining components of the project;

the University confirms that it can construct the beach pumphouse and encase the utility lines in concrete so as not to necessitate a hard form of shoreline protection such as a rock revetment or seawall. I should also state that this is not our preferred option nor do we feel that it is the optimum approach for our overall project.

Sincerely,

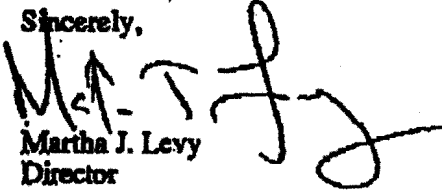
  
Martha J. Levy  
Director

EXHIBIT 8

UCSB LRDP A 2-97

UCSB Letter

**CALIFORNIA COASTAL COMMISSION**

1000 SOUTH CENTRAL COAST AREA  
87 SOUTH CALIFORNIA ST., SUITE 200  
VENTURA, CA 93001  
(805) 641-0142



May 22, 1998

Martha J Levy  
Director  
Capital and Physical Planning  
Office of the Assistant Chancellor - Budget and Planning  
University of California Santa Barbara  
Santa Barbara, CA 93106-2030

**Re: Long Range Development Plan Amendment 2-97 and Coastal Development  
Permit 4-97-156**

Dear Ms. Levy:

I have received your letter dated May 22, 1998, and wish to clarify that while it is accurate that staff does believe that the existing barrier road and the new proposed access ramp are structures under the Coastal Act, Staff has not reached an opinion that the form of shoreline protection proposed in UCSB's project revision is consistent with the Coastal Act.

Sincerely,

A handwritten signature in black ink, appearing to read "Steve Hudson".

Steve Hudson  
Staff Analyst

cc: Charles Damm  
Cat Gay

<b>EXHIBIT 9</b>
UCSB LRDP 2-97
Response to UCSB Letter

# **Save Campus Point Petition**

**Staff has received a petition in opposition to the  
revetment which includes approximately 962  
signatures.**

**(A sample page has been attached)**

<b>EXHIBIT 10</b>
<b>UCSB LRDP A 2-97</b>
<b>Petition in Opposition</b>

# Save Campus Point



Without the benefit of public input, the University of California at Santa Barbara is attempting to gain Coastal Commission approval for expansion of a seawater renewal system, pumphouse, placement of two 2,500 ft. long seawater intake lines and the construction of a 469 ft. long, 10 ft. high, 15-45 ft. wide, rock revetment, stairway, and access ramp. at Campus Point.

The proposed structured will result in several negative impacts to Campus Point, including, but not limited to the:

- Alteration of the shape and rideability of the waves at Campus Point.
- The loss of lateral access.
- The loss of the beach, to erosion and structures.
- The destruction of the Campus Point environment.

We, the undersigned, would like to encourage the members of the California Coastal Commission to follow Staff's recommendation and deny the University of California at Santa Barbara a permit for the Campus Point project.

NAME	ADDRESS	PHONE
Tamara Cuevas	1482 E Valley Rd. SB	909-5412
Judy Garcia	1420 Las Positas Pl <sup>93108</sup>	682-1042
J. Mann	1060 Tremont Rd.	
Colin D. Camp	6440 W. Camino Cuervo	688-5699
Royce Sharps	1374 Shoreline Drive <sup>SB 93109</sup>	564-3101
Cristina Pritchard	5458 Paseo Dycsb 93111	964-0159
David Pritchard	" " "	"
DIANA STORY	2730 ONTIVEROS SANTA YNEZ	688-2425
SUMNER Shepard	1624 Garden #3 93101	965-7687
JOHN KLINE	816 SANTA MARGUERITA	967-2843
Kevin Steele	2976 Glen Allyn Dr <sup>SB 93105</sup>	569-8881
Howie Grayson	11 W. Urzavin Ct. <sup>SB 93101</sup>	208-0999
Diane Wondolowski	227 Palo Alto Dr. Goleta	968-2918
At Whitebear	395 Sherwood Dr SB <sup>93109</sup>	682-6905
JOHN HOUSTON	6174 Cathedral Oaks Rd <sup>93117</sup>	964-3138
Mike Wondolowski	227 Palo Alto Dr., Goleta	968-2918
Cathy Barnes	474 Cinderella SB	
Patricia Pritchard-Houston	6194 Cathedral Oaks Rd <sup>Goleta 93117</sup>	964-3138
Nick McLee	PO 32 SANTA YNEZ	6885851

# **Letter from the Public**

**Staff has received 22 letters from the public in opposition to the revetment, attached are 5 sample letters.**

**EXHIBIT 11**

**UCSB LRDP A 2-97**

**Letters from Public Against  
Revetment**



**SURFRIDER FOUNDATION**  
SANTA BARBARA CHAPTER

April 1, 1998

**RECEIVED**

MAY 20 1998

California Coastal Commission  
Attention: Steve Hudson  
89 S. California Street, Suite 200  
Ventura, CA 93001

CALIFORNIA  
COASTAL COMMISSION  
SOUTH CENTRAL COAST DISTRICT

RE: UCSB CAMPUS POINT SEAWALL; SEAWATER RENEWAL SYSTEM PROJECT;  
LRDP AMENDMENT 2-97

Honorable Coastal Commissioners:

The Santa Barbara Chapter of the Surfrider Foundation is one chapter of the international organization based in Southern California. The Santa Barbara Chapter has a membership of over 900 members dedicated to preserving access and environments of coastal and offshore Santa Barbara County.

The Chapter would like to thank the Coastal Commission for continuing this issue for one month to allow for public input on this issue. I was informed of this issue a mere 36 hours before the March 12th Coastal Commission hearing, being the SEAWALL was disguised under the Seawater System Renewal Project. I also was the one who happened upon the illegal dumping of rebar and pipe laden concrete into the ocean on March 11 and informed the Environmental Defence Center and Fish and Game which resulted in citing of both UCSB and Granite Construction Co.

My personal experience with Goleta Point (Campus Point) started in fall of 1957 when I started surfing at this extremely popular surfing spot. This is by far the most popular surfing beach in the Goleta area, with quality waves for not only beginners but experts alike, and used not only by the University students but the Community extensively. Access to this beach is very limited since the stairs in the cove has been washed out. The only truly safe access is near the lagoon area. Putting a rock revetment and boulder seawall in this area would create an extremely dangerous situation on high tide and large surf episodes. The reflection of waves from this seawall will make it nearly impossible to exit the beach due to the loss of the beach. This could be very dangerous for inexperienced waterusers because once caught in the 4 to 5 knot longshore current they will not be able to exit the ocean for nearly a mile to the east at Goleta Beach County Park.

The University staff contends a net increase in access will result from the seawall development but it is a documented fact that seawalls in tidal zones will result in beach skewering which will result in less beach and less access. The connecting

of the existing revetment along the bluffs South and North will reflect wave energy toward the cove area and will create a scalping of that area of the coast, which is already happening, and threatening the Universities road. The UCSB staff will probably be back to the Coastal Commission looking to get approval of a revetment wall in the cove area extending to Goleta Beach in the next few years. Where will it stop? Seawalls only exasperate the problems. Arming of the coastal zone is not the answer.

Alternatives need to be explored much more extensively than has been done in this review. Hardscapes along an ever changing coast are not the answer and placing the Pumpouse in the tidal zone is not the answer. The Pumpouse should be placed in a much less susceptible place. Suggestion of some sort of Dune Restoration Program would be much more acceptable and desirable. The Blue Prints look as if an industrial operation is going to take place in the area, such as an oil operation.

The perplexing concept of degrading the coastal environment with this kind of development is hypocritical, to what the University maintains as being one the best environmental studies programs in the UC system. The view of a large Seawall on the beach will ruin views from the lagoon to the beach and from the beach to the lagoon, which are quite pleasant at this time.

This project violates the following sections of the Coastal Act; 30210, 30211, 30212, and 30220 which mandate maximum public access and recreational opportunities and new development not interfere with that access.

The Santa Barbara Chapter of Surfrider Foundation is in agreement with The Coastal Commissions Staff's, **RECOMMENDATION OF DENIAL OF THE CAMPUS POINT SEAWALL.**

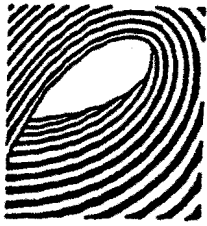
Sincerely,



Keith Zandona  
Chapter Chair  
Santa Barbara Chapter  
Surfrider Foudation  
PO Box 60021  
Santa Barbara, CA 93160

cc: Coastal Commissioners  
Steve Hudson, CCC Staff  
Environmental Defense Center





**SURFRIDER FOUNDATION**  
SANTA BARBARA CHAPTER

May 18, 1998

California Coastal Commission  
Attn; Steve Hudson  
89 S. California Street, Suite 200  
Ventura, CA 93001

RE: UCSB CAMPUS POINT SEAWALL; SEAWATER RENEWAL SYSTEM PROJECT;  
LRDP AMENDMENT 2-97

Honorable Coastal Commissioners:

The Santa Barbara Chapter of Surfrider Foundation would like to thank the Coastal Commission for continuing this issue till June when the Commission will be meeting in Santa Barbara. The continuance will allow the community of Santa Barbara to participate in this very important democratic process.

Surfrider is submitting a petition to Coastal Commission Staff of 962 signatures of people who are against the Seawall at Campus Point. This is a very important recreational site.

The University has sent the Coastal Commission an apology letter for illegally dumping on the beach to protect the lagoon from breaching, the fact is they cut the rebar off the concrete rubble and left it on the beach.

The cumulative effect of both the 2,200 ft. Seawall at Del Playa and this 470 ft. Seawall at Campus Point less than a mile from each other will have cumulative adverse effects upon this area of the coast. This sort of arming the coast should be avoided whenever possible and alternatives need to be researched and implemented.

The Santa Barbara Chapter of Surfrider urges your denial of the UCSB CAMPUS POINT SEAWALL.

**RECEIVED**

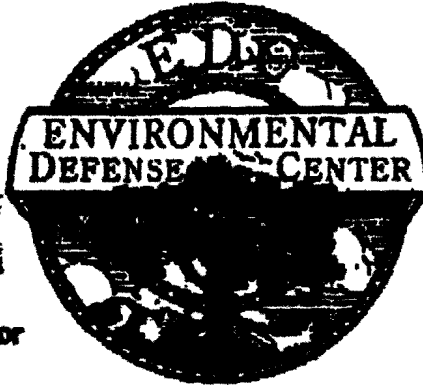
MAY 20 1998

CALIFORNIA  
COASTAL COMMISSION  
SOUTH CENTRAL COAST DISTRICT

Sincerely,

Keith Zardona  
Chapter Chair  
Santa Barbara Chapter  
Surfrider Foundation  
PO Box 60021  
Santa Barbara, CA 93160

cc: Coastal Commission-Steve Hudson  
Environmental Defense Center



May 20, 1998

California Coastal Commission  
Attention Steve Hudson  
89 S. California Street, 2<sup>nd</sup> Floor  
Ventura, CA 93001  
by fax: (805) 641-1732

**RE: UCSB LAGOON SEAWALL; SEAWATER RENEWAL SYSTEM PROJECT;  
LRDP AMENDMENT 2-97**

Honorable Commissioners:

The Environmental Defense Center is a public interest environmental law firm representing the Santa Barbara Chapter of the Surfrider Foundation in the matter concerning the proposed LRDP Amendment by UCSB for its proposed seawater renewal project and rip rap seawall at Campus Point. On behalf of Surfrider, we attended the April 9, 1998 Coastal Commission meeting at which time this matter was continued by the Commission until the June hearing in Santa Barbara. Please consider these comments as supplements to our March 31, 1998 letter to you (attached.)

To reiterate our client's position, the proposed LRDP Amendment and Seawater Renewal System is inconsistent with the Coastal Act for the reasons stated in our March 31, 1998 letter. Instead of going through each of the Coastal Act sections that the proposed project and amendment would violate, we refer you to our previous letter.

The purpose of this letter is to address a relatively new proposal by UCSB to remove existing rip rap and an old concrete ramp at Campus Point adjacent to the proposed project site in order to mitigate the proposed project's substantial impacts to shoreline processes and coastal resources.

The proposal by UCSB to remove existing rip rap shoreline protection and the concrete ramp at Campus Point is flawed because the ramp is currently acting as a plug which hinders the down-coast movement of sand. As a result, the ramp has caused sand to accumulate up-coast from Campus Point. This build up of sand resulting from this plug has afforded significant protection to the Lagoon's two other mouths. Elimination of the ramp would allow the accumulated sediment and sand to continue down coast, thereby rendering the lagoon's two other mouths unprotected by the existing sand buffer. As a result of eliminating the existing rip rap and concrete ramp, the Lagoon would be "threatened" by tidal action just as UCSB claims it is now. UCSB would be forced to place rip rap at the other two mouths, just as it is proposing to do now with its currently proposed amendment and project.

California Coastal Commission  
May 20, 1998  
Page 2

Surfrider is opposed to shoreline protective devices such as the one that is proposed by UCSB because they adversely affect coastal access and recreation. UCSB's proposal, including both the rip rap and the pumphouse, also eliminates delineated sandy beach and wetland ESHA, severely impairs the visual attributes of the area, and threatens coastal water quality in the Lagoon in violation of the California Coastal Act. The University has the means available to feasibly implement an alternative that would be consistent with the Act while accomplishing the University's goals. Numerous alternatives exist that have not been proven infeasible (please refer to EDC's March 31, 1998 letter.) Relocation of the pumphouse is one alternative, according to UCSB, that would be more expensive, would require constructing a new dry well into the shale, and would possibly require installing and maintaining submersible pumps in the seawater intake lines. While this may not be the most attractive option for UCSB, it is one of several alternatives that are feasible and consistent with the Coastal Act.

Please deny the proposed amendment to UCSB's LRDP as inconsistent with the Coastal Act, and encourage the University to submit a project that is consistent with the Coastal Act's important provisions for protecting coastal resources.

On behalf of the Surfrider Foundation's Santa Barbara Chapter, thank you for your attention to our comments, and your diligent work to uphold the Coastal Act.

Sincerely,



Brian Trautwein,  
Environmental Analyst  
Environmental Defense Center

cc: Steve Hudson, Coastal Commission Staff Analyst  
Keith Zandona, Santa Barbara Chapter of Surfrider Foundation



March 31, 1998

California Coastal Commission  
 Attention: Steve Hudson  
 89 S. California Street  
 Ventura, CA 93001

RE: UCSB LAGOON SEAWALL; SEAWATER RENEWAL SYSTEM PROJECT;  
 LRDP AMENDMENT 2-97

Honorable Commissioners:

The Environmental Defense Center is a non-profit environmental law firm representing the Santa Barbara Chapter of the Surf Rider Foundation in all matters pertaining to the proposed UCSB Lagoon Seawall, Seawater Renewal System project and LRDP Amendment 2-97. We have reviewed the staff reports and Notice of Impending Development for the subject project and submit the following comments for consideration by the Coastal Commission in anticipation of the April 9, 1998 hearing regarding this issue.

As submitted, it is our conclusion that the proposed LRDP Amendment and the proposed construction of a rip-rap seawall near Campus Point at UCSB is inconsistent with the California Coastal for the reasons described below.

Inhibit Coastal Access

The Coastal Act contains several key provisions for maximizing public access to and along the coastline of this state. Coastal Act Sections 30210, 30211 and 30212 mandate that maximum public access opportunities be provided and that new development not interfere with the public's right to access the beach. The proposed amendment and construction of a rip rap structure on the beach near the UCSB lagoon are inconsistent with these sections of the Act. The rip rap would prevent or inhibit access for the majority of the public to the beach along an approximately 400+ foot section of shoreline where access is currently available to a majority of the public. This section of available access is vital because the shoreline on either side of this site consists of steep bluffs where access is not available.

The proposed rip rap seawall would be substantially higher than the barrier, as noted in the staff report, and this would make it impossible or substantially more difficult to access the sandy beach for most people. The angular nature of the rocks and the crevices that would exist between the rocks would render access difficult and unsafe during normal conditions and impossible during high tide and surf conditions. Additional impacts to public access would result from the extension of the rip rap a significant distance horizontally away from the barrier road onto the sandy beach. This would have the effect of causing people to have to scramble across these dangerous, jumbled, angular rocks to access the sandy beach at locations where currently access is readily available.



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It would also result in a lesser availability of beach for lateral access along the sandy coastline. By extending much further onto the sandy beach than the existing minor barrier protection, the proposed seawall would reduce available beach for beach walkers by 25% to 50%, would crowd beach users, and reduce the amount time during which access along the sandy beach would be available. Documentation of the creative effects of these types of proposed structures is in the Commission's staff reports for this LRDDPA. These structures cause the sand on the seaward side of them to be eroded away, depleting the beach of sand, and as a result, reducing the available hard surface available for coastal / beach access and walking along the beach.

While the proposed LRDDPA includes a new structure near the eastern end of the proposed project site (near the pump house), it is noteworthy that this feature is purely mitigatory, i.e., it would not be needed without the inhibiting effects of the proposed seawall on coastal access at this location. Additionally, this feature of the project, which is specifically the only feature that would be allowed on the bluff face, may result in significant impacts to biological resources, geological stability, and aesthetics. These potential impacts were not adequately assessed in the EIR, but must be mitigated. Furthermore, according to the plans, it appears that the proposed structure and ramp would not extend to the beach during times when sand levels are low, such as after storms, and thus would not be considered a reliable, perennial access point for the public.

#### Inhibits Coastal Recreation

Sections 30210, 30213, and 30220 of the Coastal Act require that the public shall have maximum opportunities to access and recreate in the coastal zone. This project, however, by limiting public access as described above, would also limit recreation. It would eliminate 25% to 50% of the sandy beach available at the project site for recreation, and the public currently uses this site heavily for recreational activities.

Additionally, by modifying the beach geo-morphology, the sea wall would potentially modify the shape, size and formation of waves at this location, a popular surfing spot, especially for beginning surfers. It would also, according to the research done by Commission staff, reduce the amount of sand available at the site, adversely affecting coastal recreational activities. As such, the project would be inconsistent with the Coastal Act Sections 30210, 30220, and 30240(b)'s mandate that coastal recreational opportunities be provided and protected.

It is also important for the Commission to recognize the documented loss of beach sand and the reduction of natural nourishment processes in this region, even since the passage of the Coastal Act. The depletion of this resource has rendered every remaining beach more valuable now.

#### Adversely Affects Aesthetics and Scenic Resources

Section 30251 of the Coastal Act requires protection of the scenic and visual qualities of coastal areas as a "resource of public importance." The proposed sea wall is inconsistent with

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the Coastal Act's requirement for preservation of aesthetic resources because it would eliminate important, visually stunning views of the lagoon area when viewed from the sandy beach at this location. Currently, it is possible to view the striking lagoon environs when standing on the beach looking northwest over the existing barrier road. However, by adding approximately five to six feet to the height of the barrier, these visual resources would be blocked by the proposed sea wall. Additionally, the magnitude of the proposed sea wall would detrimentally impact views of the site from up and down the coast and from in the water, where people frequently recreate, swim, surf, wade and boat. As proposed, the project would be visible from many public viewing locations including Goleta Beach County Park and the Goleta Pier. The proposed wall and expanded pump house would completely dominate the landscape at this location, and thus, both of these elements would be inconsistent with the Coastal Act. They would not be visually compatible with the surrounding area, and would degrade, rather than enhance the visual quality of the area.

#### Impact ESEHA

Section 30240 of the Coastal Act requires that (a) "environmentally sensitive habitat areas shall be protected against any significant disruption of habitat values, and only uses dependent on those resources shall be allowed within those resources." Further, it requires that (b) "development in areas adjacent to ESEHA 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 project is inconsistent with this section of the Coastal Act because the rip rap seawall would be constructed on the sandy beach, a designated ESEHA, would fill a small area of the lagoon wetland, and would be within and adjacent to, and would significantly impact, a park and recreation area.

#### Threatens Water Quality in Coastal Wetlands

The Coastal Act requires that the biological productivity and the quality of coastal waters, lagoons and estuaries be maintained. This proposal, however, threatens both water quality and the biological productivity of coastal waters. The rip rap would encroach into the wetlands, altering both productivity and water quality; and the paved access road would introduce new asphalt leachate (i.e., oil, fuel, etc.) into the shore of the lagoon. Runoff contaminated with asphalt leachate from road surfaces has been identified as a non-point source pollutant that threatens water quality. Therefore, the proposed seawall and paving of the barrier road is inconsistent with Section 30231, and must be deleted from the project and LRDP Amendment.

#### Feasible, Less Damaging Alternatives Exist

Coastal Act Section 30235 allows for the use of a shoreline protective device when necessary to protect existing development and coastal dependent uses only when designed to eliminate or mitigate adverse impacts to the shoreline sand supply. The proposed seawall is not designed to eliminate or mitigate impacts to the beach sand supply. In addition, for the wall

California Coastal Commission  
March 31, 1998  
Page 4

to be considered necessary, no feasible, less damaging alternatives can exist. UCSB has improperly joined the seawall and the pump house. Without one, the other is unnecessary/unfeasible. UCSB must perform an analysis of relocating the pump house, as will ultimately have to be done anyway, to address the necessity of the seawall. In this case, there are a number of viable options to a rip rap seawall for which adequate analyses and evaluations have not occurred. No evidence has been presented to the Commission, and no evidence exists that less damaging alternatives are not feasible. The EIR and submittals to the Commission for this project fail to adequately address reasonable, less damaging alternatives. Alternatives that must be fully investigated by the University include, but are not limited to:

1. Beach Replenishment
2. No Shoreline Protection/ Rebuilding of the Barrier Following Potential Breches
3. Dune Nourishment with Dune Habitat Restoration
4. Dune Nourishment with Underlying Geotube
5. Removal of Concrete Plug on Beach at Campus Point to Restore Sand Flow to Site
6. Relocation of Pump House
7. Removal of the Existing, Artificial Barrier and Restoration of Tidal Flow to Lagoon
8. Relocation of the Marine Sciences Building
9. Reinforcement of Appurtenant Intake and Electrical Lines
10. Dredging of the Lagoon
11. Combinations of the Above

The site currently has vegetation establishing on portions of the barrier. This illustrates that establishing a native dune habitat on the barrier may be feasible. Non native vegetation, such as the plant, present in the substrate of the barrier slope should be removed and replaced with native dune species propagated from naturally-occurring, locally collected seeds and/or cuttings.

Removal of the concrete plug at Campus Point was first suggested to the Environmental Defense Center by University faculty seeking a less damaging alternative to the proposed seawall. This alternative would restore the shoreline sand flow and naturally replenish the sand along the project site, adding protection for the existing barrier. Relocating the pump house would be feasible, and would include placing the wet well elsewhere, rather than on the beach at a time when ocean levels are known to be rising. No detailed economic analyses of these alternatives were done to illustrate their relative cost effectiveness. Moreover, the costs of maintaining the proposed rip rap seawall have not been addressed. Once considered, the costs of maintaining the seawall over the long term would render the proposed project relatively less feasible compared to the less damaging alternative. The University is a very large institution with a large budget. It is feasible for the University to undertake a less damaging alternative, or a combination of less damaging alternatives.

The purported need for the seawall is questionable because the only damage to the existing pump house has been to apartment facilities rather than to the structure itself. Furthermore, the proposed pump house would be almost six times as large as the existing structure on the

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beach, and would be built on 16 grade beam driven piles, causing substantial unnecessary impacts.

The University has a History of Poor Coastal Resource Management at this Location

The University and its contractor have recently been cited by the Department of Fish and Game for illegally dumping asphalt, dirt, construction waste and concrete with rebar at this location, along the existing, small barrier (see attached letter). Surfider and the Environmental Defense Center notified the Department of this illegal dumping. This site is a popular recreational area used extensively by our clients and by the public in general. Aside from the obvious safety issues associated with the placement of this inappropriate material on the beach, the encroachment onto the beach from this illegal dumping affected access, recreation, aesthetics, and possibly water quality and biological resources and exacerbates the proposed project's impacts. Additional environmental review of cumulative impacts from El Niño and this illegal dumping is needed. This history is further grounds for requiring the University to thoroughly investigate alternatives, and must be directed to propose a project consistent with the Coastal Act.

Cumulative Impacts to Beach Resources would be Exacerbated

There is evidence of progressively worsening beach erosion in the cove between the mouth of the Goleta Slough and the proposed project site. Within the cove, willow trees and other patches of vegetation existed along the bluff's toe and along the sandy beach near the bluff until recently. The decrease in beach at this location has occurred since, and can be attributed to, the effects of dams on rivers which prevent sand from reaching the coastal areas and to the effects of other seawalls constructed in our region. Aging seawalls along Ellwood and Isla Vista have contributed to the decline of beaches in this area already. Intensifying the use of such structures, as is proposed, would significantly exacerbate the adverse cumulative effects of the existing structures. In addition, Santa Barbara County recently approved a large seawall for the Del Playa area of Isla Vista. No mitigation of the proposed seawall's impacts to sand supply and beach formation has been proposed by the University. As proposed, mitigation of the project's impacts is not feasible, however alternate project designs would avoid these undesirable effects.

Conclusion

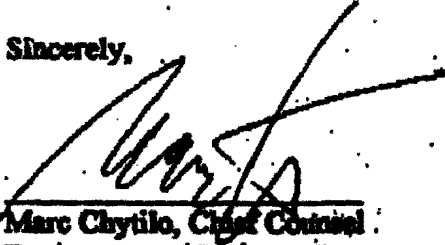
In conclusion, the Surfider Foundation opposes the proposed project because it is inconsistent with numerous sections of the Coastal Act. It would adversely affect access to a popular public beach, interfere substantially with recreation, result in unmitigated impacts to biological resources, fill a small portion of the lagoon, increase non-point source pollution, significantly degrade the visual resources of the site, and block views to, from, and of the beach and lagoon. Furthermore, because of the documented rise in ocean water levels possibly attenuated by global warming, this is a temporary project for which an alternative project that avoids impacts should be substituted. The Commission should require the



**California Coastal Commission**  
**March 31, 1998**  
**Page 6**

**University to analyze alternatives then propose a project that avoids impacts to the beach and the coastal environment consistent with the Coastal Act.**

Sincerely,



**Marc Chytilo, Chief Counsel**  
**Environmental Defense Center**

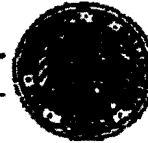
**cc: Steve Hudson, Coastal Commission Staff Analyst**  
**Keith Zandona, President, Surfrider Foundation, Santa Barbara Chapter**  
**Interested Parties**

## UNIVERSITY OF CALIFORNIA, SANTA BARBARA

UCSB

BERKELEY • DAVIS • IRVINE • LOS ANGELES • RIVERSIDE • SAN DIEGO • SAN FRANCISCO

SANTA BARBARA • SANTA CRUZ



Office of the Assistant Chancellor -  
Budget and Planning  
Santa Barbara, CA 93106-2090  
Tel: (805) 893-3971  
Fax: (805) 893-8368

March 24, 1998

Mr. Gary Timm, District Manager  
California Coastal Commission  
89 South California Street, Suite 200  
Ventura, California 93001

Dear Mr. Timm:

I have been informed that the University mistakenly deposited inappropriate construction material on the barrier road and beach. It is my understanding that University officials have been working with the Department of Fish Game to correct this situation. The University is continuing to remove some of the concrete placed along the barrier road during the winter storms, to avoid any possibility of pieces dislodging onto the beach. As you know, we worked with the Department of Fish and Game when emergency repair work was required during the worst of the winter storms. However, continuing to reinforce the barrier road occurred when no storm condition was present. This incident should not have happened, and additional measures are in place to insure that this type of situation does not reoccur.

If you have any questions concerning this matter, please do not hesitate to call me at 893-8541.

Sincerely,

  
Martha J. Levy, Director  
Capital and Physical Planning

cc: Coastal Commissioners  
Acting Director David Gonzales  
Tye Simpson  
Brian Trautwein

**S I E R R A C L U B**

CALIFORNIA / NEVADA / HAWAII



FIELD OFFICE

Steve Hudson  
 Leslie Ewing  
 California Coastal Commission  
 45 Fremont Street  
 San Francisco, California

***VIA FAX***  
 March 20, 1998

Re: Campus Point Seawall  
 UCSB

Dear Staff:

Thank you again for your well prepared staff report and presentation at the Monterey meeting of the Coastal Commission. We continue to be shocked and disappointed in the UCSB Marine Sciences Department for their outrageous proposal to build a gigantic rip-rap rock seawall at Campus Point.

You will be pleased to learn that many organizations and individuals in the Santa Barbara region have only just learned of this proposal and are requesting an opportunity to participate in these proceedings. This weekend the Santa Barbara County Chapter of Surfrider Foundation is sponsoring a forum on the matter which is to coincide with a surf contest where over 200 people are expected.

In speaking with other surfers who grew up in the area, learned to surf at Campus Point and who recreated on the beach long before the Marine Sciences Department constructed their ill-advised research facility on an eroding bluff above the beach, we are all perplexed at the rise of the water level in the lagoon.

Twenty-five years ago there was no such disparity between the ocean level and the lagoon. They were roughly at the same level. No one recalls the dramatic inequality that exists today. We suspect that the lagoon may have subsequently filled up with sediments, and risen as a result. If this is the case, then the obvious alternative to the rip-rock wall is dredging of the lagoon with beach nourishment of Campus Point the result. Such dredging would of course also be more appropriate for "restoration" of the lagoon. We believe you are correct that such nourishment would benefit the entire southern Santa Barbara County.

We assume that an analysis of the lagoon must necessarily include a detailed history of it, including its size and depth prior to the University being constructed. Interestingly, the bluff area adjacent to the point itself does not appear to have eroded significantly at all. This will also need examination. Construction of University buildings along the interior of the lagoon may also have impacted it.

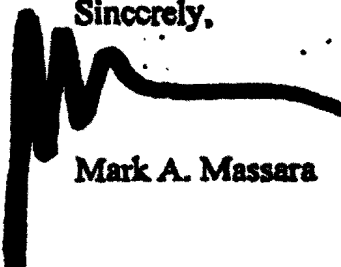
Moreover, the Marine Sciences building itself may be the cause of some of the erosion currently underway in the southern reach of the beach. Moving that inappropriately sited building might be the most advantageous long term strategy to prevent further erosion in the area.

We are also extremely concerned that the University may destroy a precious (and famous) surfing environment at the beach. This surfing resource is priceless and entitled to protection by law pursuant to the Coastal Act. The University should be required to conduct surfing studies and monitoring PRIOR to any construction in order to create baseline data. Future monitoring will also need to be conducted and mitigation obtained should the University's Marine Scientists destroy the surfing resource.

Lastly, there is simply no way that this project should be considered without a cumulative effects analysis with recently approved mile long seawall proposed for Isle Vista Beach. Together these two gigantic seawall structures (perhaps the most extensive seawall structures in the history of California?) would wall off nearly the entire town of Isle Vista, and may have dramatic adverse impacts to surfing, beach quality, marine life, and the quality of life for thousands of residents, students and visitors to the region.

We again thank you for allowing the public the opportunity to scrutinize this important project. We look forward also to reviewing with you the documentation the University produces. Since we do not have a contact at the University, please forward this letter to them and request that they provide us with notice and information regarding their analysis at the earliest possible opportunity.

Sincerely,

A handwritten signature in black ink, appearing to read 'Mark A. Massara', with a long horizontal flourish extending to the right.

Mark A. Massara

Dan Fontaine  
430 Whitman St. Apt. #42  
Goleta, CA 93117

April 12, 1998

RECEIVED

APR 24 1998

CALIFORNIA  
COASTAL COMMISSION  
SOUTH CENTRAL COAST DISTRICT

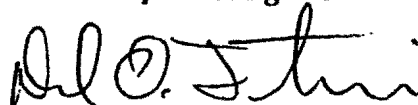
California Coastal Commission  
South Central Coast Area  
89 S. California Street Suite 200  
Ventura, CA 93001  
Regarding: UCSB Rock Revetment  
LRDP Amendment No. 2-97

Commissioners,

Please do not allow the University of California to build a seawall at Goleta Point on the eastern boundary of the campus. I understand and appreciate the need for an expanded seawater renewal system, but the University should not sacrifice the public's beach by using the fastest and cheapest means to achieve its short term agenda. I have several concerns:

- **Beach loss:** The revetment itself will occupy over 10,000 square feet of beach (length of (460') x (25') average width ) and even proponents of the seawall agree that it will accelerate erosion of the remaining beach.
- **Move the pumphouse:** *"the university had looked into alternatives such as moving the pump house up a hill toward the labs. But the ground there was solid rock, she said, and it would be difficult to drill a well to the ocean floor."*<sup>1</sup> That it will be "difficult" is no excuse to sacrifice a beach. Furthermore, "solid rock" sounds like a very safe place for the pumphouse.
- **The UCSB Lagoon:** The University is also concerned that its picturesque lagoon may breach and empty into the ocean, but the lagoon isthmus can always be fortified from the other side. Moreover, the lagoon was artificially created. If it did breach, it would behave like the Goleta or Devereux Sloughs and actually support a greater diversity of plants and animals.
- **Safety:** Under the proposed plan, access will be limited to a single narrow ramp. At high tide and/or in heavy surf conditions people can become trapped against the rock wall. This already occurs and would only get worse.
- **Cumulative effects:** Several seawalls have been built around Isla Vista and others are proposed. The bluffs just beyond the proposed and existing revetments are getting closer and closer to Lagoon Road. It will not be long before the University asks to armor that stretch of coast to protect that road. When all of Isla Vista is enclosed by seawalls what will the cumulative effects be for Goleta Beach and beaches further east? This issue has not been addressed at all.

Thanks for protecting our coast,



Dan Fontaine

<sup>1</sup>Santa Barbara News Press, "Surfers say proposal will take their point." 3/28/98

Kambria Wesch  
6647 Trigo Rd  
Isla Vista, CA 93117

April 12, 1998

California Coastal Commission  
South Central Coast Area  
89 S. California Street Suite 200  
Ventura, CA 93001  
Regarding: UCSB LRDP Amendment No. 2-97

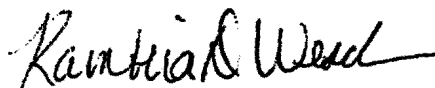
Commissioners,

Please do not allow the University of California to build a seawall at Goleta Point on the eastern boundary of the campus. The University is amending its "Long Range" Development Plan so it can sacrifice the public's beach and use the fastest and cheapest means to achieve its short term agenda. Not only is the seawall a poor solution, it creates several new problems:

**Concerning the beach:** The revetment itself will occupy over 10,000 square feet of beach, and even proponents of the seawall agree that it will accelerate erosion of the remaining beach. Furthermore, the seawall raises public safety issues. Under the proposed plan, access will be limited to a single narrow ramp. At high tide and/or in heavy surf conditions it will be far too easy for people to become trapped against the rock wall.

**Concerning the pumphouse and lagoon:** The university has said it would be too difficult to move the pumphouse off the beach. That it will be "difficult" is no excuse to sacrifice a beach. Furthermore, the University is also concerned that the lagoon may breach and empty into the ocean. First of all, the lagoon isthmus can always be fortified from the other side. Secondly, the lagoon was artificially created. If it did breach, it would behave like the Goleta or Devereux Sloughs and actually support a greater diversity of plants and animals.

Thank you for your time,



Kambria Wesch  
Chairperson,  
Isla Vista Surfrider Foundation

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APR 24 1998

CALIFORNIA  
COASTAL COMMISSION  
SOUTH CENTRAL COAST DISTRICT

# Letters from UCSB Staff

**Staff has received 17 letters from UCSB staff in support of the revetment, attached are 3 sample letters.**

**EXHIBIT 12**

**UCSB LRDPA 2-97**

**Letters from UCSB Staff**

UNIVERSITY OF CALIFORNIA, SANTA BARBARA

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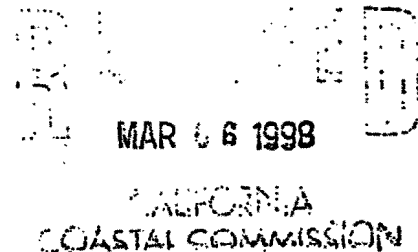
SANTA BARBARA • SANTA CRUZ

DEPARTMENT OF ECOLOGY, EVOLUTION & MARINE BIOLOGY  
PHONE: (805) 893-3511  
FAX: (805) 893-4724

SANTA BARBARA, CALIFORNIA 93106-9610

February 27, 1998

Rusty Areias, Chairman  
California Coastal Commission  
45 Fremont Street, Suite 2000  
San Francisco, Ca 94105



Dear Mr. Areias:

I am a Professor of Marine Biology at the University of California, Santa Barbara. I am deeply concerned that the Coastal Commission does not fully understand the enormous costs to the State of California should the Seawater Renewal Project not go forward as planned. Without the revetment to protect the pumphouse, utilities, road and lagoon our seawater system, the backbone of the extensive marine research and teaching infrastructure at the campus, will be severely jeopardized from periods of high storm activity. The project is before the Coastal Commission because we cannot protect the system in its present form against the kinds of storm activity California is now experiencing regularly. Without this protection, we will not be able to maintain our seawater system and the organisms that rely on it. Given the low impacts of the project (minor loss of only a few feet of beach, no impact on coastal access (access will actually be improved), minimal impact of beach appearance), the enormous costs of not approving this project become especially appalling. What are those costs?

**Costs to the State of California if the project is not Approved.**

1. **Quality of Undergraduate Education and qualifications for jobs:** UCSB presently has 300 Aquatic Biology undergraduate majors, most in the marine area, each taking several laboratory courses dependent upon organisms maintained in the seawater system. Without a reliable seawater system we cannot offer these courses. The educational experience of these students will be severely downgraded. These students will no longer be as qualified for jobs in the state or for graduate and professional training. Many of these students come to UCSB because of the availability of live marine organisms for them to study.



UCSB also has over 2400 undergraduate majors in Biology. The year long Introductory Biology course use marine animals maintained in the seawater system for many of its required laboratories. Without a reliable system these students will not experience the diversity of marine organisms or the various investigations of biological principles which use live marine organisms. They might as well have gone to college in Kansas! UCSB is one of the few Universities in the nation directly on the coast. Our location and the unique educational experience we can provide through our facilities is a tremendous draw for students, especially biology students.

2. **Impact on new Programs:** UCSB just started a new Graduate Program in Marine Science with the blessings of the UC system and the State. Without a reliable seawater system to support graduate student research and training the value of this program and its ability to recruit students will be impacted at considerable loss to the program and to industrial, government, and educational institutions in California that might have hired them.
3. **Costs to Research:** The UCSB research marine enterprise is enormous. Extramural funding to the Marine Science Institute was over \$17 million dollars last year. Much of this research depends heavily on the seawater system. Without a reliable system, we cannot obtain grants. The loss in overhead to the State of California will total millions each year. The costs of the loss of research that might have benefited the people of California cannot even be evaluated!
5. **Loss of quality faculty:** No major Marine institution in the country can survive without a reliable seawater system. Faculty do not take jobs or stay in jobs where they cannot do their work. I myself could not stay here without access to a reliable seawater system. If the Coastal Commission denies this project, many faculty will be forced to go elsewhere. Such a decision would essentially dismantle 30 years of State investment in building the marine program at UCSB. This would not only be a terrible loss of tax payer dollars, it would be totally irresponsible to the State of California.
6. **Loss to public Education:** UCSB has a very sought-after program where thousands of elementary school students from all over the Tri-counties are brought in each year to view our live animals and enjoy our touch tanks. This experience invigorates many young students to go into science. This program would fold without the facilities to maintain marine organisms. Such a loss would be a great disappointment to many K-12educators in our area as it enriches their programs and their students educational experience.

The Seawater Renewal Project is intrinsically unique. The project proposes to protect the specialized marine facilities of a major State educational institution. This is not a seawall. This is not a proposal to protect private property. It is a proposal to protect public property that benefits the people of the State of California in many, many ways. The proposal will improve beach access and have minimal impact on beach size or appearance.

We cannot continue to maintain revetment as we have done in the past because our pump house is most threatened during times of high waves, when access is the most restricted. Present measures are not working. Other options to protect this system are not viable. We cannot relocate the pump house because the geological conditions which support the wet well cannot be replicated without much greater damage to the environment.

I urge the Coastal Commission to consider all of the costs a denial of this project would incur so that you can make a fully informed decision. There is much more at stake here than may appear. I urge you to approve this project.

Sincerely,



Alice Aldredge  
Professor of Marine Biology and Chair of the  
Interdepartmental Graduate Program in Marine  
Science

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BIOLOGICAL SCIENCES ADMINISTRATIVE SERVICES  
PHONE: (805) 893-3511  
FAX: (805) 893-4724

SANTA BARBARA, CALIFORNIA 93106-9610

RECEIVED  
March 2, 1998  
MAR 09 1998

Mr. Rusty Areias, Chairman  
California Coastal Commission  
45 Fremont Street, Suite 2000  
San Francisco, CA 94105

CALIFORNIA  
COASTAL COMMISSION

Dear Mr. Areias:

I am writing to express my enthusiastic support for the Seawater Renewal Project as proposed by the University of California at Santa Barbara. It is my understanding that the Coastal Commission staff will be recommending approval of the Seawater Project, but not the revetment which is a vital component of the entire renewal project. It is imperative that the project be approved by the Commission as proposed by the University. The revetment was designed as part of the project to protect the seawater system pump house and the lagoon.

I have been the manager of resources in the Biological Sciences Department at UCSB for the past 20 years. Part of my responsibilities has involved the maintenance of the existing seawater system. During that time the seawater system intake pipes have been damaged several times by storms and wave action. In each case, the seawater system has become disabled and inoperative for both short and long time periods. In each case, the research and instruction mission of the University has been compromised.

I strongly believe that the revetment will provide adequate protection of the seawater system. The University cannot permit the untimely interruption of the seawater system if it is to maintain its research and teaching responsibilities.

- With regard to teaching. The Biological Sciences has approximately 2300 undergraduate majors. Each major must take specific core courses at the lower division level before progressing to upper division level courses. One of the core courses relies heavily on the seawater system to maintain marine organisms for the laboratory course. Enrollment for this laboratory course averages 800.

- In upper division courses, related to the Aquatic Biology major, about 800 undergraduates enroll in laboratory and field courses that rely on the

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SOUTH CENTRAL COAST

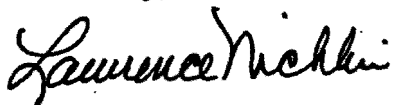
seawater system for maintaining and studying marine organisms and the marine environment.

- The University serves as an important educational experience for elementary school children. The Marine Laboratory and its aquariums are opened to local elementary schools for field trips. Marine aquariums are set-up to introduce young students to the marine environment. The seawater system sustains the marine organisms for these activities. Approximately 5000 elementary students visit the Marine Laboratory annually for this hands-on experience.
- Marine research is an important major activity on the UCSB campus, being located on a coastline where it can take advantage of marine resources. In conducting these Federal and State funded research programs, the seawater system is a vital element. In some cases, these research programs are directly funded by the Coastal Commission. Each of the research programs relies on a reliable and functional seawater system. Any disruption of the seawater system can cause loss of vital marine research organisms, loss of important data, and loss of valuable research time and effort.

The seawater system is a critical element in fulfilling the University's instruction, research and public service functions. Furthermore, protecting the seawater system and maintaining its operation 24 hours a day every day of the year is essential. The seawater system is a utility, similar to electricity or natural gas. It is not a utility that can be turned off periodically for any duration. Consequently, every effort must be made to ensure that it is protected from damage, erosion or other catastrophic interruptions. Installation of the rock revetment will provide that needed protection.

I strongly urge the Commission to approve this project as proposed by the University.

Sincerely,



Lawrence Nicklin  
Manager

UNIVERSITY OF CALIFORNIA, SANTA BARBARA

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MARINE BIOTECHNOLOGY CENTER  
MARINE SCIENCE INSTITUTE  
TEL: 805-893-8982  
FAX: 805-893-7998; or 805-893-8062

SANTA BARBARA, CALIFORNIA 93106-6150

MAR 10 1998

February 28, 1998

COASTAL  
SOUTH CENTRAL COMMISSION

Mr. Rusty Areias, Chairman  
California Coastal Commission  
45 Fremont Street, Suite 2000  
San Francisco, CA 94105-2219

RECEIVED  
MAR 09 1998

CALIFORNIA  
COASTAL COMMISSION

Dear Mr. Areias:

I left my previous faculty position at Harvard Medical School to join the faculty at UCSB because of UCSB's unique seawater system, and its unique capabilities for seawater-dependent research and teaching. My use of this seawater system has produced economic benefits to the State, provided training to California industries and regulatory agencies, and trained more than 1,000 students in seawater-dependent research and industrial and regulatory methodology over the past two decades. Without UCSB's seawater system (unique in its physical capabilities among those at every marine research institution I have seen in the country) none of this would have been possible.

My students, research colleagues and I discovered the natural "signals" that regulate abalone spawning and larval development, and converted these discoveries to simple, reliable methods that increase the economic efficiency and yield of abalone production. These methods are now used world-wide in the commercial production of abalone and many other valuable shellfish. We used our seawater labs at UCSB to train members of California's emerging aquaculture industry in the new methods we developed, and we also trained members of California's municipal, county and State regulatory agencies (including researchers at CF&G) in the use of these methods both for production purposes, and for use in a simplified and highly sensitive test we developed for the detection and quantitation of the effects of pollutants in coastal waters. These new methods of production are now standard operating procedure in the most successful abalone producing aquaculture companies in California, and the pollution assay we developed is widely used by the State's regulatory agencies as one of the most sensitive monitors of coastal pollution.

My colleagues and I now bring more than \$2-million/year to the State in grants from the U.S. Department of Commerce, the National Institutes of Health, the National Science Foundation, the Office of Naval Research, the Army Research Office and major chemical, manufacturing and biotechnology industries, for our research investigating the molecular mechanisms controlling biomineralization in marine organisms. Recognized internationally as pioneering research, these studies are shedding new light on the mechanisms controlling normal human bone development and abnormal mineralization in human disease, and are providing new paths for the environmentally benign synthesis of high-performance composite materials for use in the next generation of computers, communication devices, smart medical implants and biosensors. Students trained in our laboratories in this program - in research based on marine organisms cultivated in the University's seawater system - are finding excellent employment in the State's most advanced silicon, biotechnology and manufacturing companies, where they are leading in the development of new technologies and industries that will maintain California's leadership in technology for the future. Remarkably, their training - and its

**strong economic support - is based on research probing the genes and proteins of abalones and other simple marine animals!**

Several years ago, I worked with members of the California Coastal Commission and our local community to help draft Santa Barbara's original Coastal Development Plan, and was pleased that mariculture, marine research and marine resource teaching were identified as "coastally dependent" activities. The State's investment of \$8-million for the construction of UCSB's Marine Biotechnology Laboratory (with laboratories equipped with thermostatically regulated, fresh flowing seawater as well as the latest in scientific instrumentation), and the State's cumulative investment over the years of more than \$15-million for the construction and renovation of UCSB's Seawater System, affirm the State's recognition of the value of the unique seawater-dependent research and training activities of the kind described above, and affirm the State's commitment to continue these activities. **It is necessary that the State now protect these investments and the research and training activities they were intended to support by physically protecting the Seawater System upon which they are based, with the proposed revetment.**

The environmental impact of the proposed protection will be minimal, since the vulnerable sand berm in question already is flanked on both sides by rip-rap that has become "sanded-in" and of relatively low visibility. There is an environmental benefit from the proposed protection as well, since this will maintain the integrity of the lagoon that is both a scenic and recreational resource enjoyed by the wider Santa Barbara community, and a temporary and permanent home to thousands of migratory and resident waterfowl.

My students, colleagues and I ask that you please approve the proposed Seawater System project in its entirety, including the revetment that is essential for protecting the system.

On behalf of the generations of students who already have benefited from the unique training that UCSB's Seawater System has provided, the generations of future students now scheduled to receive such training, UCSB's research community, and California's many beneficiaries of the research and employment training made possible by this Seawater System, I thank you for your consideration of the campus's request for permission to protect this unique resource.

Sincerely,



Daniel E. Morse  
Professor of Molecular Genetics  
and Biochemistry,

Chairman  
Marine Biotechnology Center