

## CALIFORNIA COASTAL COMMISSION

SOUTH CENTRAL COAST AREA  
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Commission Action:



## STAFF REPORT: REGULAR CALENDAR

**APPLICATION NO.:** 4-98-158

**APPLICANT:** David O'Connor

**AGENTS:** Lewin Wertheimer  
Marny Randall

**PROJECT LOCATION:** 22208 Pacific Coast Highway, City of Malibu; Los Angeles County

**PROJECT DESCRIPTION:** Demolition of an existing two story single family residence, removal of an unengineered wood bulkhead with additional rock protection, and construction of a new 4,500 sq. ft., 28 ft. high, two-story single family residence, a new septic system, a new 60 ft. long wood bulkhead with 4 ft. long return walls, and an offer to dedicate a lateral public access easement over the southern portion of the lot as measured 10 ft. seaward from the dripline of the proposed deck to the mean high tide line.

Lot area:	10,890 sq. ft.
Building coverage:	2,485 sq. ft.
Pavement coverage:	2,619 sq. ft.
Landscape coverage:	217 sq. ft.
Parking spaces:	4
Ht abv ext grade:	28 ft.

**LOCAL APPROVALS RECEIVED:** City of Malibu Approval in Concept; City of Malibu Environmental Health Department Approval in Concept.

**SUBSTANTIVE FILE DOCUMENTS:** Shown on *Appendix A*

## SUMMARY OF STAFF RECOMMENDATION:

Staff recommends approval of the proposed project with six (6) special conditions as outlined below and on pages 4-5 of the staff report. The applicant is proposing the demolition of an existing 3,000 sq. ft. two-story single family residence, removal of an unengineered wood bulkhead with additional rock protection, and construction of a new 4,500 sq. ft., 28 ft. high, two-story single family residence, a new septic system, and a new

60 ft. long wood bulkhead (Exhibit 3). In addition, the project includes the proposal to dedicate a new lateral public access easement over the southern portion of the lot as measured ten feet seaward of the proposed deck dripline to the mean high tide line.

The project site has been previously developed with a single family residence and is located on the seaward side of Pacific Coast Highway in the heavily developed Carbon Beach area of Malibu. A vertical public accessway is located approximately 525 to the west of the proposed project site. An existing unengineered bulkhead with additional rock protection, constructed prior to the Coastal Act and the California Coastal Zone Management Act of 1972, is located on the project site approximately 35 ft. seaward of the property line abutting Pacific Coast Highway. In order to provide adequate protection for the new septic system, the applicant proposes to remove the existing unengineered bulkhead and rocks and construct a new bulkhead with concrete caissons seven feet further landward (approximately 28 ft. seaward of the property line abutting Pacific Coast Highway).

In past permit actions, the Commission has required that new shoreline protection devices, be located as landward as possible in order to reduce adverse effects to beach sand supply and public access resulting from the development. Staff notes that the proposed new bulkhead and septic system have been designed to be located as landward as possible. Staff further notes that the existing bulkhead is located further seaward and is subject to more frequent wave uprush than the proposed bulkhead. As such, the new proposed bulkhead will result in fewer adverse impacts to sand supply and public access than the existing shoreline protective device. In order to minimize potential adverse effects to beach sand supply and public access, the applicant has proposed to remove the existing unengineered bulkhead and rocks. Special Condition Three (3) has been required to ensure that the existing unengineered bulkhead and rocks will be removed prior to the construction of the new proposed bulkhead. Further, in past permit actions for shoreline protection devices, the Commission has also required a lateral public access easement to mitigate any adverse effects to beach sand supply and public access resulting from the protective structures. Special Condition Four (4) has been included in order to implement the applicant's offer to dedicate a new lateral public access easement included as part of the project description.

Due to the unforeseen possibility of wave attack, erosion, flooding, and wildfire inherent to development along the Malibu coast, Special Conditions Five (5) and Six (6) require the applicant to acknowledge the potential hazards on the project site and waive any claim of liability against the Commission for damage to life or property which may occur. In order to minimize hazards, Special Condition Two (2) requires that the recommendations of the geologic, geotechnical, and coastal engineering consultants are incorporated into the project plans. Further, to ensure that adverse effects to the marine environment are minimized from the proposed development, Special Condition One (1) requires the applicant to agree : a) that no stockpiling of dirt shall occur on the beach; b) that all grading shall be properly covered, sand-bagged, and ditched to prevent runoff and siltation; and, c) that measures to control erosion must be implemented at the end of each day's work. The applicant is also responsible to ensure that no machinery will be allowed in the intertidal zone at any time and that all debris resulting from the construction period is removed from the beach and seawall area.

## **STAFF RECOMMENDATION:**

The staff recommends that the Commission adopt the following resolution:

### **I. Approval with Conditions.**

The Commission hereby grants, subject to the conditions below, a permit for the proposed development on the grounds that the development, as conditioned, will be in conformity with the provisions of Chapter 3 of the California Coastal Act of 1976, will not prejudice the ability of the local government having jurisdiction over the area to prepare a Local Coastal Program conforming to the provisions of Chapter 3 of the Coastal Act, is located between the sea and the first public road nearest the shoreline and is in conformance with the public access and public recreation policies of Chapter 3 of the Coastal Act, and will not have any significant adverse impacts on the environment within the meaning of the California Environmental Quality Act.

### **II. Standard Conditions.**

1. **Notice of Receipt and Acknowledgment.** The permit is not valid and development shall not commence until a copy of the permit, signed by the permittee or authorized agent, acknowledging receipt of the permit and acceptance of the terms and conditions, is returned to the Commission office.
2. **Expiration.** If development has not commenced, the permit will expire two years from the date on which the Commission voted on the application. Development shall be pursued in a diligent manner and completed in a reasonable period of time. Application for extension of the permit must be made prior to the expiration date.
3. **Compliance.** All development must occur in strict compliance with the proposal as set forth below. Any deviation from the approved plans must be reviewed and approved by the staff and may require Commission approval.
4. **Interpretation.** Any questions of intent or interpretation of any condition will be resolved by the Executive Director or the Commission.
5. **Inspections.** The Commission staff shall be allowed to inspect the site and the development during construction, subject to 24-hour advance notice.
6. **Assignment.** The permit may be assigned to any qualified person, provided assignee files with the Commission an affidavit accepting all terms and conditions of the permit.
7. **Terms and Conditions Run with the Land.** These terms and conditions shall be perpetual, and it is the intention of the Commission and the permittee to bind all future owners and possessors of the subject property to the terms and conditions.

### **III. Special Conditions.**

#### **1. Construction Responsibilities and Debris Removal**

The applicant shall, by accepting this permit, agree: a) that no stockpiling of dirt shall occur on the beach; b) that all grading shall be properly covered, sand-bagged, and ditched to prevent runoff and siltation; and, c) that measures to control erosion must be implemented at the end of each day's work. In addition, no machinery will be allowed in the intertidal zone at any time. The permittee shall remove from the beach and seawall area any and all debris that result from the construction period.

#### **2. Geology**

All recommendations contained in the Wave Uprush Study by Pacific Engineering Group dated 2/2/98; the Preliminary Engineering Geologic Investigation Report by Pacific Geology dated 2/9/98; the Supplemental Engineering Geologic Report by Pacific Geology dated 4/10/98; the Geotechnical Engineering Investigation by Coastline Geotechnical Consultants dated 2/17/98; and the Geologic Response Report by Coastline Geotechnical Consultants dated 4/13/98 shall be incorporated into all final design and construction including recommendations concerning drainage, septic system, retaining walls and all plans must be reviewed and approved by the consultants prior to commencement of development. Prior to issuance of the coastal development permit, the applicant shall submit evidence to the Executive Director of the consultants' review and approval of all final design and construction plans.

The final plans approved by the consultant shall be in substantial conformance with the plans approved by the Commission relative to construction, grading and drainage. Any substantial changes in the proposed development approved by the Commission which may be required by the consultant shall require an amendment to the permit or a new coastal permit.

#### **3. Removal of Existing Unengineered Bulkhead**

The applicant shall remove the existing unengineered bulkhead with rocks, as shown on the site plan prepared by Lewin Wertheimer and dated June 26, 1998, from the project site prior to the construction of the new proposed bulkhead.

#### **4. Offer to Dedicate Lateral Public Access**

In order to implement the applicant's proposal of an offer to dedicate an easement for lateral public access and passive recreational use along the shoreline as part of this project, the applicant agrees to complete the following prior to issuance of the permit: the landowner shall execute and record a document, in a form and content acceptable to the Executive Director, irrevocably offering to dedicate to a public agency or private association approved by the Executive Director an easement for lateral public access and passive recreational use along the shoreline. The document shall provide that the offer of dedication shall not be used or construed to allow anyone, prior to acceptance of the offer, to interfere with any rights of public access acquired through use which may exist on the property. Such easement shall be located along the entire width of the property from the mean high tide line landward to 10 ft. seaward of the dripline of the proposed deck as illustrated on the site plan prepared by Lewin Wertheimer and dated June 26, 1998. The document shall contain the following language:

(a) Privacy Buffer

The area ten (10) feet seaward from the dripline of the proposed deck as illustrated on the site plan prepared by Lewin Wertheimer and dated June 26, 1998, shall be identified as a privacy buffer. The privacy buffer shall be applicable only if and when it is located landward of the mean high tide line and shall be restricted to pass and repass only, and shall be available only when no other dry beach areas are available for lateral public access. The privacy buffer does not affect public access should the mean high tide line move within the buffer area.

(b) The remaining area shall be available for passive recreational use.

The document shall be recorded free of prior liens which the Executive Director determines may affect the interest being conveyed, and free of any other encumbrances which may affect said interest. The offer shall run with the land in favor of the People of the State of California, binding all successors and assignees, and shall be irrevocable for a period of 21 years, such period running from the date of recording. The recording document shall include legal descriptions of both the applicant's entire parcel(s) and the easement area.

**5. Applicant's Assumption of Risk**

Prior to the issuance of the coastal development permit, the applicant as landowner shall execute and record a deed restriction, in a form and content acceptable to the Executive Director, which shall provide: (a) that the applicant understands that the site may be subject to extraordinary hazard from storm waves, erosion or flooding and the applicant assumes the risks from such hazards; and (b) that the applicant unconditionally waives any claim of liability against the Commission and agrees to indemnify and hold harmless the Commission and its advisors relative to the Commission's approval of the project for any damage due to natural hazards. The document shall run with the land, binding all successors and assigns, and shall be recorded free of prior liens that the Executive Director determines may affect the enforceability of the restriction. This deed restriction shall not be removed or changed without a Coastal Commission-approved amendment to this coastal development permit unless the Executive Director determines that no amendment is required.

**6. Wild Fire Waiver of Liability**

Prior to the issuance of the coastal development permit, the applicant shall submit a signed document which shall indemnify and hold harmless the California Coastal Commission, its officers, agents and employees against any and all claims, demands, damages, costs, expenses, of liability arising out of the acquisition, design, construction, operations, maintenance, existence, or failure of the permitted project in an area where an extraordinary potential for damage or destruction from wild fire exists as an inherent risk to life and property.

#### **IV. Findings and Declarations.**

The Commission hereby finds and declares:

##### **A. Project Description and Background**

The applicant is proposing the demolition of an existing 3,000 sq. ft. two-story single family residence, removal of an unengineered wood bulkhead with additional rock protection, and construction of a new 4,500 sq. ft., 28 ft. high, two-story single family residence, a new septic system, and a new 60 ft. long wood bulkhead. In addition, the project includes the proposal to dedicate a new lateral public access easement over the southern portion of the lot as measured ten feet seaward of the proposed deck dripline to the mean high tide line. The subject site has been previously developed with a single family residence and is located on the seaward side of Pacific Coast Highway in the heavily developed Carbon Beach area of Malibu. A vertical public accessway is located approximately 525 ft. to the west of the proposed project site.

The project site has been the subject of past Commission action. Coastal Development Permit 5-88-1077 was issued in 1989 to combine the two existing residences at 22208 and 22214 Pacific Coast Highway into one single family residence; however, this project was never carried out and the existing residences on each lot remain separate.

Although the proposed new deck will extend approximately 3 ft. further seaward than the existing deck, the proposed new single family residence will be constructed approximately 6 ft. further landward than the existing structure in order to comply with stringline requirements. Both the proposed deck and residence will be located landward of the stringline as drawn from the corners of the neighboring adjacent structures. An existing unengineered wood bulkhead with additional rock protection, constructed prior to the Coastal Act and the California Coastal Zone Management Act of 1972, is located on the project site approximately 35 ft. seaward of the property line abutting Pacific Coast Highway. In order to provide adequate protection for the new septic system, the applicant proposes to remove the existing unengineered bulkhead and rocks and construct a new bulkhead with concrete caissons 7 ft. further landward (approximately 28 ft. seaward of the property line abutting Pacific Coast Highway).

##### **B. Shoreline Protective Devices**

As stated previously, the project involves the construction of a 60 ft. long caisson supported wood bulkhead with four ft. long return walls. The proposed bulkhead will be located 28 ft. seaward of the northern property line abutting Pacific Coast Highway and approximately 118-160 ft. landward of the mean high tide line depending on tidal conditions. The proposed bulkhead will be located entirely beneath the proposed structure. ~~An existing unengineered bulkhead with additional rock protection is located~~ approximately seven feet seaward of the proposed new bulkhead. The applicant

proposes to remove the existing unengineered bulkhead and rocks as part of the proposed project. The applicant has also indicated that there are no engineered shoreline protection devices located on either of the adjacent lots and that the proposed bulkhead will stand alone.<sup>1</sup>

After identifying the applicable Coastal Act sections and LUP policies, the discussion of the impacts of the shoreline protective device will proceed in the following manner. First, the staff report describes the physical characteristics of the Carbon Beach shoreline. Second, the staff report analyzes the dynamics of the Carbon Beach shoreline. Third, the staff report analyzes the location of the proposed shoreline protective device in relation to wave action. Finally, the staff report analyzes whether the proposed shoreline protective device will adversely impact shoreline sand supply and the shoreline processes.

As described in the discussion below, there is evidence that this development along this section of Carbon Beach will require a shoreline protective device and that such development has the potential to impact the natural shoreline processes. Therefore, it is necessary to review the proposed project for its consistency with Sections 30235, 30250(a) and 30253 of the Coastal Act and with past Commission action.

Section 30235 of the Coastal Act states:

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

Section 30253 of the Coastal Act states:

*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 30250(a) of the Coastal Act states, in part:

*New residential, commercial, or industrial development, except as otherwise provided in this division, shall be located within, contiguous with, or in close proximity to, existing developed areas able to accommodate it or, where such areas are not able to accommodate it, in other areas with adequate public services and where it will not have significant adverse effects, either individually or cumulatively, on coastal resources.*

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<sup>1</sup> Shoreline Protective Device is also referred to in the findings as seawall or bulkhead.

Although the bulkhead is proposed to protect a new septic system, it would also serve to protect Pacific Coast Highway which is an existing structure. The proposed project includes the construction of a new residential structure which does not constitute a coastal-dependent use, as defined in section 30101 of the Coastal Act.<sup>2</sup> The proposed project site, however, is currently developed with an existing residence, septic system, and an unengineered wood bulkhead with additional rock protection. The project itself involves the demolition of the existing single family residence, septic system, and bulkhead and the reconstruction of a new single family residence, septic system, and bulkhead; therefore, the proposed new bulkhead is not to protect an existing structure.

To assist in the determination of whether a project is consistent with sections 30235, 30253 and 30250(a) of the Coastal Act, the Commission has, in past Malibu coastal development permit actions, looked to the certified Malibu/Santa Monica Mountains Land Use Plan (LUP) for guidance. The Malibu LUP has been found to be consistent with the Coastal Act and provides specific standards for development along the Malibu coast. For example, policies 166 and 167 provide, in concert with Coastal Act section 30235, that revetments, seawalls, cliff retaining walls and other shoreline protective devices be permitted only when required to serve coastal-dependent uses, to protect existing structures or new structures which constitute infill development<sup>3</sup> and only when such structures are designed and engineered to eliminate or mitigate the adverse impacts on the shoreline and sand supply. In addition, Policy 153 indicates that development of sites that are exposed to potentially heavy tidal and wave action shall require that development be set back a minimum of 10 ft. landward from the mean high tide line.

### **1. Site Shoreline Characteristics**

Carbon Beach is a section of the coast which has been heavily developed with single family homes and is located between Malibu Lagoon State Beach to the west and La Costa Beach to the east. Many of the existing residences along Carbon Beach employ seawalls or other forms of shoreline protection to protect septic system leach field systems. Much of this existing development is exposed to recurring damages because of the absence of a sufficiently wide protective beach.<sup>4</sup>

### **2. Beach Erosion Pattern**

Having defined Carbon Beach as a narrow, heavily developed beach, the next step is to determine the overall erosion pattern of the beach. Determination of the overall beach

<sup>2</sup>"Coastal-dependent development or use" means any development or use which requires a site on, or adjacent to, the sea to be able to function at all. (Coastal Act Section 30101)

<sup>3</sup> The term "infill development" will be discussed in greater detail in section IV.B5., Past Commission Actions on Residential Shoreline Development.

<sup>4</sup> Army Corps of Engineers, Los Angeles District, Reconnaissance Study of the Malibu Coast. 1994.



erosion pattern is the key factor in determining the impact of the seawall on the shoreline. In general, beaches fit into one of three categories: 1) eroding; 2) equilibrium; or 3) accreting. The persistent analytical problem in dealing with shore processes in California is distinguishing long-term trends in shoreline change from the normal seasonal variation.

The Wave Uprush Study by Pacific Engineering Group dated February 2, 1998, indicates that Carbon Beach is an oscillating beach with a seasonal foreshore slope movement that can be as much as 80 feet as indicated by the profile surveys. In addition, the Shoreline Constraints Study by Moffatt and Nichol, Engineers dated June 30, 1992 also indicates that the subject beach is in relative equilibrium. Based on the above information, the Commission concludes that the subject site is located on an oscillating (or equilibrium) beach subject to a wide range of foreshore movement.

### **3. Location of the Proposed Shoreline Protective Device in Relation to the Mean High Tide Line and Wave Action**

The Commission notes that many studies performed on both equilibrium and eroding beaches have concluded that loss of beach occurs on both types of beaches where a shoreline protective device exists. In order to determine the impacts of the proposed bulkhead on the shoreline, the location of the proposed protective device in relationship to the expected wave runup as calculated by the location of the Mean High Tide Line must be analyzed.

#### **a. Mean High Tide Line**

The applicant has submitted data which indicates that the proposed bulkhead is not located near or seaward of the documented positions of the Mean High Tide Line (MHTL). The proposed 60 ft. long wooden bulkhead with concrete caissons will be located entirely beneath the proposed structure and will be located 28 ft. from the property line abutting Pacific Coast Highway. Although the ambulatory MHTL can vary greatly along this portion of Carbon Beach, the applicant's coastal engineering consultant has indicated that, based on six different surveys between 1928 and 1997, the MHTL will be located approximately 118-160 ft. seaward of the proposed bulkhead. The applicant has submitted a letter from the State Lands Commission (SLC) which indicates that the SLC does not, at this time, make any claim that the project encroaches onto public lands (Exhibit 6).

b. Wave Uprush

The Wave Uprush Study by Pacific Engineering Group dated February 2, 1998, indicates that the maximum wave uprush at the subject site will occur approximately 24 ft. seaward of the Pacific Coast Highway property line. This data indicates that inundation of the beach fronting the proposed bulkhead (located 28 ft. seaward of the Pacific Coast Highway property line) will occur during high tide and low beach profile conditions in the winter. What remains unclear is the frequency at which the inundation will occur.

It is important to accurately calculate the potential of wave runup and wave energy to which the seawall will be subject. Dr. Douglas Inman, renowned authority on Southern California beaches concludes that, "the likely detrimental effect of the seawall on the beach can usually be determined in advance by competent analysis." Dr. Inman further explains the importance of the seawall's design and location as it relates to predicting the degree of erosion that will be caused by the shoreline protection device. He states:

*While natural sand beaches respond to wave forces by changing their configuration into a form that dissipates the energy of the waves forming them, seawalls are rigid and fixed, and at best can only be designed for a single wave condition. Thus, seawalls introduce a disequilibrium that usually results in the reflection of wave energy and increased erosion seaward of the wall. The degree of erosion caused by the seawall is mostly a function of its reflectivity, which depends upon its design and location.<sup>5</sup>*

In past permit actions, the Commission has found that one of the most critical factors controlling the impact of a seawall on the beach is its position on the beach profile relative to the surf zone. All other things being equal, the further seaward the wall is, the more often and more vigorously waves interact with it. The best place for a seawall, if one is necessary, is at the back of the beach where it provides protection against the largest of storms. By contrast, a seawall built out too close to the MHTL may constantly create problems related to frontal and end scour, as well as upcoast sand impoundment.

Based on the above discussion, the Commission finds that the proposed bulkhead, at its proposed location, has the potential to encroach into an area of the beach that is currently subject to wave action during storm and high tide events. As previously discussed, the Commission finds that Carbon Beach is a narrow oscillating beach and that the proposed bulkhead, at times, will be subject to wave action during storm and/or high tide events. Therefore, the following discussion is intended to evaluate the impacts of the proposed seawall on the beach based on the above information which identified the specific structural design, the location of the structure, and the shoreline geomorphology.

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<sup>5</sup> Letter dated 25 February 1991 to Coastal Commission staff member and engineer Lesley Ewing from Dr. Douglas Inman.

#### **4. Effects of the Shoreline Protective Device on the Beach**

The proposed 60 ft. long wooden bulkhead with concrete caissons will be constructed on the sandy beach approximately 28 ft. seaward of the Pacific Coast Highway property line. Staff notes that the existing bulkhead with additional rock protection is located approximately 7 ft. further seaward and is subject to more frequent wave interaction than the proposed new bulkhead. As such, the proposed new bulkhead, in conjunction with the removal of the existing bulkhead and rocks, will result in fewer adverse impacts to sand supply and public access than the existing shoreline protective device. However, the proposed bulkhead, as a result of wave interaction, will still have the potential to adversely impact the configuration of the shoreline and the beach profile.

Even though the precise impact of a structure on the beach is a persistent subject of debate within the discipline of coastal engineering, and particularly between coastal engineers and marine geologists, it is generally agreed that a shoreline protective device will affect the configuration of the shoreline and beach profile whether it is a vertical bulkhead or a rock revetment. The main difference between a vertical bulkhead and rock revetment seawall is their physical encroachment onto the beach. However, it has been well documented by coastal engineers and coastal geologists that shoreline protective devices or shoreline structures in the form of either a rock revetment or vertical bulkhead will adversely impact the shoreline as a result of beach scour, end scour (the beach areas at the end of the seawall), the retention of potential beach material behind the wall, the fixing of the back beach and the interruption of alongshore processes. In order to evaluate these potential impacts relative to the proposed structure and its location on Carbon Beach, each of the identified effects will be evaluated below.

##### **a. Beach Scour**

Scour is the removal of beach material from the base of a cliff, seawall or revetment due to wave action. The scouring of beaches caused by seawalls is a frequently-observed occurrence. When waves impact on a hard surface such as a coastal bluff, rock revetment, or vertical bulkhead, some of the energy from the wave will be absorbed, but much of it will be reflected back seaward. This reflected wave energy in combination with the incoming wave energy, will disturb the material at the base of the seawall and cause erosion to occur in front and down coast of the hard structure. This phenomenon has been recognized for many years and the literature acknowledges that seawalls do affect the supply of beach sand. The Wave Uprush Study by Pacific Engineering Group dated February 2, 1998, states

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*The subject bulkhead would not be exposed to wave uprush from non-storm wave run-up during high tides, and the bulkhead would not have any effect on coastal processes*

***during non-storm wave conditions non-storm wave conditions during winter profiles...The proposed timber bulkhead and residence pile foundation will have a negligible effect on littoral transport and beach sedimentation.***

However, the Commission notes that the proposed bulkhead will be located seaward of the maximum wave uprush and will be periodically acted upon by wave action. In past permit actions, the Commission has found that shoreline protective devices which are subject to wave action tend to exacerbate or increase beach erosion. The following quotation summarizes 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>6</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:

***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>7</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.E. 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***

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

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

*the beach in that the downward forces of water, created by the waves striking the wall rapidly remove sand from the beach.<sup>8</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>9</sup>*

Dr. Craig Everts found that on narrow beaches where the shoreline is not armored, the most important element of sustaining the beach width over a long period of time is the retreat of the back beach and the beach itself. He concludes that:

*Seawalls inhibit erosion that naturally occurs and sustains the beach. The two most important aspects of beach behavior are changes in width and changes in the position of the beach. On narrow, natural beaches, the retreat of the back beach, and hence the beach itself, is the most important element in sustaining the width of the beach over a long time period. Narrow beaches, typical of most of the California coast, do not provide enough sacrificial sand during storms to provide protection against scour caused by breaking waves at the back beach line. This is the reason the back boundary of our beaches retreats during storms.<sup>10</sup>*

Dr. Everts further concludes that armoring in the form of a seawall or revetment interrupts the natural process of beach retreat during a storm event and that, "a beach with a fixed landward boundary is not maintained on a recessional coast because the beach can no longer retreat."

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 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.

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<sup>8</sup> State Department of Boating and Waterways (formerly called Navigation and Ocean Development), Shore Protection in California (1976), page 30.

<sup>9</sup> Coastal Sediments '87.

<sup>10</sup> Letter Report dated March 14, 1994 to Coastal Commission staff member and engineer Lesley Ewing from Dr. Craig Everts, Moffatt and Nichol Engineers.

As set forth in earlier discussion, Carbon Beach is a narrow oscillating beach. The applicant's coastal engineering consultant has indicated that the bulkhead will be acted upon by waves during storm conditions. The applicant's consultant has also indicated that seasonal foreshore slope movement can be as much as 80 ft. In addition, if a seasonal eroded beach condition occurs with greater frequency due to the placement of a bulkhead on the subject site, then the subject beach would also accrete at a slower rate. The Commission notes that many studies performed on both oscillating and eroding beaches have concluded that loss of beach occurs on both types of beaches where a shoreline protective device exists. Therefore, the Commission notes that the proposed bulkhead, over time, will result in potential adverse impacts to the beach sand supply resulting in increased seasonal erosion of the beach and longer recovery periods. However, the Commission also notes that an existing bulkhead with additional rock protection is located approximately 7 ft. further seaward and is subject to more frequent wave interaction than the proposed new bulkhead. As such, the proposed new bulkhead, in conjunction with the removal of the existing bulkhead and rocks, will result in fewer adverse impacts to sand supply and public access than the existing shoreline protective device.

The impacts of potential beach scour is important relative to beach use for two reasons. The first reason involves public access. The subject property is located approximately 525 feet to the east of an existing vertical public accessway. If the beach scours at the base of the bulkhead, even minimal scouring in front of the 60 ft. long bulkhead will translate into a loss of beach sand available (i. e. erosion) at an accelerated rate than would otherwise occur under a normal winter season if the beach were unaltered. The second impact relates to the potential turbulent ocean condition. Scour at the face of a seawall will result in greater interaction with the wall and thus, make the ocean along Carbon Beach more turbulent than it would along an unarmored beach area.

Thus, the Commission has ordinarily required that shoreline protection devices, be located as landward as possible in order to reduce adverse impacts from scour and erosion. In the case of this project, the Commission notes that the applicant has located the proposed bulkhead as landward as feasible in order to provide protection for the proposed septic system, which has also been located as landward as feasible. However, the existing unengineered bulkhead with rocks, which is located seaward of the proposed bulkhead location, is not located as landward as possible. In order to minimize any impacts from scour and erosion, the applicant has proposed to remove the existing unengineered bulkhead with rocks. Special Condition Three (3) has been required to ensure that the existing unengineered bulkhead and rocks will be removed prior to the construction of the new proposed bulkhead.

In addition, in past permit actions, the Commission has also required a lateral public access easement for new shoreline protection devices to mitigate adverse impacts to beach sand supply and public access. In this case, the applicant is proposing to

remove the existing bulkhead with rocks and construct a new bulkhead as far landward as is feasible which will reduce the scour effects associated with this protective structure and minimize any possible adverse effects to public access. In order to further ensure that any potential adverse effects are mitigated to the maximum extent feasible, the applicant has proposed to offer a dedication for a lateral public access easement along the beach. Special Condition Four (4) has been included in order to implement the applicant's proposal of an offer to dedicate a new lateral public access easement. Therefore, as conditioned, the project will minimize the adverse impacts resulting from construction of the new bulkhead and is consistent with the applicable Coastal Act sections and with past Commission action. Public access will be discussed in further detail below.

**b. End Effects**

End scour effects involve the changes to the beach profile adjacent to the shoreline protection device at either end. One of the more common end effects comes from the reflection of waves off of the shoreline protection device in such a way that they add to the wave energy which is impacting the unprotected coastal areas on either end. Coastal engineers have compared the end effects impacts between revetments and bulkheads. In the case of a revetment, the many angles and small surfaces of the revetment material reflect wave energy in a number of directions, effectively absorbing much of the incoming wave rather than reflecting it. Because of the way revetments modify incoming wave energy, there is often less problem with end effects or overtopping than that which occurs with a vertical bulkhead. In the case of a vertical bulkhead, return walls are typically constructed in concert with seawall, and, thus, wave energy is also directed to the return walls causing end erosion effects.

In addition, the Commission notes that the literature on coastal engineering repeatedly warns that unprotected properties adjacent to any shoreline protective device may experience increased erosion. Field observations have verified this concern. Although it is difficult to quantify the exact loss of material due to end effects, in a paper written by Gerald G. Kuhn of the Scripps Institution of Oceanography, it is concluded that erosion on properties adjacent to a rock seawall is intensified when wave runup is high.<sup>11</sup>

An extensive literature search on the interaction of seawalls and beaches was performed by Nicholas Kraus in which he found that seawalls will have effects on narrow beaches or beaches eroded by storm activity. His research indicated that the form of the erosional response to storms that occurs on beaches without seawalls that are adjacent to beaches with seawalls is manifested as more localized toe scour and

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<sup>11</sup> Paper by Gerald G. Kuhn of the Scripps Institution of Oceanography entitled "Coastal Erosion along Oceanside Littoral Cell, San Diego County, California" (1981).

end effects of flanking and impoundment at the seawall.<sup>12</sup> Dr. Kraus' key conclusions were that seawalls could be accountable for retention of sediment, increased local erosion and increased end erosion. Kraus states:

*At the present time, three mechanisms can be firmly identified by which seawalls may contribute to erosion at the coast. The most obvious is retention of sediment behind the wall which would otherwise be released to the littoral system. The second mechanism, which could increase local erosion on downdrift beaches, is for the updrift side of the wall to act as a groin and impound sand. This effect appears to be primarily theoretical rather than actualized in the field, as a wall would probably fail if isolated in the surf zone. The third mechanism is flanking i.e. increased local erosion at the ends of walls.*

In addition, preliminary results of researchers investigating the length of shoreline affected by heightened erosion adjacent to seawalls concluded that:

*Results to date indicate that erosion at the ends of seawalls increases as the structure length increases. It was observed in both the experimental results and the field data of Walton and Sensabaugh (1978) that the depth of excess erosion is approximately 10% of the seawall length. The laboratory data also revealed that the along-coast length of excess erosion at each end of the structure is approximately 70% of the structure length.<sup>13</sup>*

A more comprehensive study was performed over several years by Gary Griggs which concluded that beach profiles at the end of a seawall are further landward than natural profiles.<sup>14</sup> This effect appears to extend for a distance of about 6/10 the length of the seawall and represents both a spatial and temporal loss of beach width directly attributable to seawall construction. In the case of this project, the scour effects could be as great as 36 ft. to 42 ft. (6/10 of 60 ft. = 36 ft. or 70% of 60 ft. = 42 ft.). These end effects would be expected only when the seawall was exposed to wave attack and, under equilibrium or accreting beach conditions, this scour will likely disappear eventually during post-storm recovery.

In regard to any adverse impacts to adjacent structures resulting from the proposed bulkhead, the Wave Uprush Study by Pacific Engineering Group dated February 2, 1998, states:

*It is anticipated that there will be a negligible amount of additional localized scour at the ends of the bulkhead during severe winter storm and high wave conditions, however the*

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12 "Effects of Seawalls on the Beach", published in the Journal of Coastal Research, Special Issue #4, 1988.

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

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



*resultant impacts the adjacent properties associated with storm damage from the proposed timber bulkhead are considered negligible and insignificant.*

The Commission notes that end effect erosion may be further minimized by locating a proposed shoreline protection device as landward as possible in order to reduce the frequency that the seawall is subject to wave action. In the case of this project, the proposed bulkhead will be located as landward as feasible in order to protect the proposed septic system, which will also be located as landward as feasible. However, the existing unengineered bulkhead with rocks, which is located seaward of the proposed bulkhead location, is not located as landward as possible and would be subject to more frequent wave action than the proposed new bulkhead. In order to minimize any impacts from scour and erosion, the applicant has proposed to remove the existing unengineered bulkhead with rocks. Special Condition Three (3) has been required to ensure that the existing unengineered bulkhead with rocks will be removed prior to the construction of the new proposed bulkhead. As such, the proposed bulkhead is designed to minimize erosional end effects along both the western and eastern ends of the wall. Therefore, the proposed project, as conditioned, is consistent with the applicable Coastal Act sections and with past Commission action.

**c. Retention of Potential Beach Material**

A shoreline protective device's retention of potential beach material inherently impacts shoreline processes. One of the main functions of a bulkhead or revetment is upland stabilization -- to keep the upland sediments from being carried to the beach by wave action and bluff retreat. In the case of Carbon Beach, which is located in the Santa Monica Cell, the back of the beach is fixed at Pacific Coast Highway. One of the main sources of sediment for beaches are the bluffs themselves, as well as the material that has eroded from inland sources and is carried to the beach by coastal streams. The National Academy of Sciences found that retention of material behind a shoreline protective device may be linked to increased loss of material in front of the wall. The net effect is documented in "Responding to Changes in Sea Level, Engineering Implications" which provides :

*A common result of sea wall and bulkhead placement along the open coastline is the loss of the beach fronting the structure. This phenomenon, however, is not well understood. It appears that during a storm the volume of sand eroded at the base of a sea wall is nearly equivalent to the volume of upland erosion prevented by the sea wall. Thus, the offshore profile has a certain "demand" for sand and this is "satisfied" by erosion of the upland on a natural beach or as close as possible to the natural area of erosion on an armored shoreline...<sup>15</sup>*

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15 National Academy of Sciences, Responding to Changes in Sea Level: Engineering Implications, National Academy Press, Washington D.C., 1987, page 74.

As explained, the bulkhead will protect Pacific Coast Highway from continued loss of sediment. However, the result of this protection, particularly on a narrow beach, is a loss of sediment on the sandy beach area that fronts the seawall. Furthermore, as explained previously, this loss of sediment from the active beach leads to a lower beach profile, seaward of the protective device, where the seawall will have greater exposure to wave attack.

In past permit actions, the Commission has required a lateral public access easement for new shoreline protection devices to mitigate adverse impacts to beach sand supply and public access. In the case of this project, in order to mitigate any possible adverse impacts to public access along the beach, the applicant has proposed to dedicate a new public lateral access easement along the beach. Special Condition Four (4) has been included in order to implement the applicant's offer to dedicate a new lateral public access easement. Therefore, as conditioned, the project will minimize the adverse impacts resulting from construction of the bulkhead and is consistent with the applicable Coastal Act sections and with past Commission action.

#### **5. Past Commission Actions on Residential Shoreline Development**

Many portions of the Malibu coastline are intensely developed with single family residences. The eastern portion of the Malibu coastline, including Las Tunas, Big Rock, La Costa and Carbon beaches, form an almost solid wall of residential development along a five mile stretch of the shoreline. This residential development extends over the sandy and rocky beach in many areas and most of the residences have shoreline protective devices such as rock revetments and concrete or timber seawalls. This residential development and their associated protective devices prevent access to the coast, obscure the views to the beach and water from Pacific Coast Highway, interrupt shoreline processes and impact the fragile biological resources in these areas.

Given Malibu's close proximity to the Los Angeles metropolitan area it is understandable why the Malibu coastline has experienced such intensive development of its coastline over the past 50 years. The vast majority of this development took place prior to the passage of Proposition 20 which established the Coastal Commission and the 1976 Coastal Act. As previously stated, Section 30235 of the Coastal Act allows for the construction of protective devices only if the device serves to protect coastal dependent uses, or to protect existing structures or public beaches in danger from erosion. The construction of protective devices to protect new residential development is generally not allowed under this Coastal Act section. The majority of the residential development described above required some type of shoreline protective device in order to be developed. Therefore, it is safe to assume under this policy and the other resource protection policies of the Coastal Act that this type of development along Malibu's coastline would either not have been approved or would be developed in a much different configuration or design than it is today.

a. **Infill Development**

The Commission has previously permitted a number of new residential developments with protective devices on the Malibu coast, but only when that development was considered "infill" development. The developed portions of the Malibu coastline include a number of vacant parcels between existing structures. Typically, there are no more than one to two vacant lots between existing structures. Infill development can be characterized as the placement of one to two residential structures on one to two lots with protective structures provided those protective structures tie into adjacent protective structures.

The term "infill development," as applied by the Commission in past permit decisions, refers to a situation where construction of a single-family residence (and/or in limited situations a duplex) on a vacant lot or the demolition of an existing single-family residence (SFR) and construction of a new single-family residence is proposed in an existing geographically definable residential community which is largely developed or built out with similar structures. When applied to beachfront development, this situation typically is applied to an existing linear community of beach-fronting residences where the majority of lots are developed with SFRs and relatively few vacant lots exist. In other words, within the linear stretch of developed beachfront lots, there is an occasional undeveloped lot or two which can be expected to be developed in a similar fashion. By nature of this description, an "infill development" situation can occur only in instances where roads and other services are already existing and available within the developed community or stretch of beach. Typically, the term "infill development" would not be applied to a large or long stretch of undeveloped beach (i.e. several lots or a large lot which is not similar in size and character to developed lots in the community or areas which do not contain existing roads and infrastructure).

Another characteristic of largely developed beachfront communities is that many, but not all, existing SFRs have some form of shoreline protective device. In Malibu, all beachfront homes utilize a septic system which, when determined to be subject to wave uprush by a coastal engineer, are required to have a shoreline protective device to protect the system. This requirement of assessing wave uprush applies to all new development, extensive remodels, and/or reconstruction, as well as any changes to an existing septic system or when a new septic system is required or proposed.

In "infill development" situations only, as described above, the Commission has found in past permit actions in Malibu pursuant to Section 30235 of the Coastal Act, that seawalls, revetments, or other types of shoreline protective devices can be permitted to protect existing structures or new structures which constitute infill development and when designed and engineered to eliminate or mitigate adverse impacts on the shoreline (certified Malibu LUP Policies 166 and 167). The Commission has also found, in past permit actions in Malibu, that in beach areas largely committed to residential development having shoreline protective devices, the construction of shoreline

protective devices should tie into adjacent seawalls where appropriate or possible (Malibu LUP Policy 251).

To the maximum extent feasible, protective structures are required to tie into adjacent protective structures. Depending on past development that has occurred on developed beaches, requiring seawalls to form one contiguous line is not always possible. In addition, many of the protective devices that were constructed on these beaches were built under emergency situations where it is difficult to place the seawall under an existing structure. Therefore, the majority of the developed beaches along the eastern end of Malibu, such as Carbon, Las Tunas, Las Flores, and La Costa Beaches consist of a patchwork of protective devices ranging from wooden bulkheads, rock revetments, shotcrete or gunite walls, or a combination of a bulkhead with a revetment. Thus, the seawalls do not always tie into adjacent structures at every location on a developed beach.

The Commission recognized that the infilling of residential development between existing structures would not result in significant adverse impacts to coastal resources within these existing developed shoreline areas. The Commission also acknowledged that the gaps these vacant parcels created between protective devices focused wave energy between these structures resulting in erosion of the vacant property between the structures and potentially endangering infrastructure along Pacific Coast Highway or adjacent frontage roads and endangering adjacent structures. Faced with the prospect of denying beach front residential development with protective devices due to inconsistency with section 30235 of the Coastal Act, the Commission has approved "infill" development through permit actions on beach front development in Malibu. The Commission found that infilling these gaps would prevent this type of focused shoreline erosion and would not significantly further impact shoreline processes or adversely impact other coastal resources given the prevailing development pattern along these sections of the Malibu coast.

The Commission notes that the area surrounding the subject site is characterized as a substantially developed beach. In the case of the proposed development, one single family residence with a wooden bulkhead and septic system can clearly be considered as infill development within an existing developed area.

**b. Seaward Encroachment**

In 1981 the Commission adopted the "District Interpretive Guidelines" for Malibu/Santa Monica Mountains area of the coastal zone. These guidelines established specific standards and criteria for shoreline development along the Malibu Coast. The guidelines included the "stringline" policy for the siting of infill development:

*In a developed area where new construction is generally infilling and is otherwise consistent with Coastal Act policies, no part of a proposed new structure, including decks and bulkheads, should be built further onto a beach than a line drawn between the nearest adjacent corner of the adjacent structures. Enclosed living space in the new unit should not extend farther seaward than a second line drawn between the*

*most seaward portions of the nearest corner of the enclosed living space of the adjacent structure.*

In 1986 the Commission certified the Los Angeles County Malibu/Santa Monica Mountains Land Use Plan which also contains specific policies addressing infill shoreline development:

*Policy 153 ...In a developed area where new construction is generally considered infilling and is otherwise consistent with LCP policies the proposed new structure may extend to the stringline of the existing structures on each side.*

*Policy 166 ...Revetments and seawalls shall be permitted when required to serve coastal dependent uses or to protect existing structures or new structures which constitute infill development.*

The intent of the stringline policies was to limit infill development to only existing developed shoreline areas and limit the encroachment of new structures out onto the beach. In past permit actions in Malibu the Commission has typically limited infill development to the construction of one to two structures on one to two vacant parcels between existing structures.

In the case of the proposed project, the Commission notes that all proposed development will be located landward of the appropriate stringlines as drawn from the corners of the adjacent structures and decks. Therefore, the Commission finds that the proposed development, relative to seaward encroachment, is consistent with the relevant sections of the Coastal Act.

## **6. Conclusion**

Coastal Act sections 30235, 30253 and 30250(a) set forth the Commission's mandate relative to permitting shoreline protective devices and beachfront development. In order for the Commission to permit the proposed project, which includes a 60 ft. long wooden bulkhead, it must find the project consistent with the Chapter 3 policies of the Coastal Act. Therefore, the proposed project must be evaluated against each of these applicable Coastal Act sections.

Coastal Act section 30235, which is cited above, 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. In addition to the consideration of Section 30235, the Commission has approved new development on the beaches where such development is consistent with the Commission's treatment of "infill development" as described above in detail. In the case of this project, the applicant is proposing lateral access and the removal of an existing unengineered bulkhead with rocks located approximately seven feet further seaward than the location of the proposed bulkhead. In addition, the project meets the Commission's interpretation of infill development as

defined in past permit decisions. As conditioned, the project will be designed to mitigate adverse impacts on shoreline sand supply.

Coastal Act section 30253, (also cited above) mandates that new development shall neither create nor contribute significantly to erosion, or contribute to 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. The statute further specifies that new development shall minimize risks to property in areas of hazard. In past permit actions, the Commission has required that new shoreline protection devices, be located as landward as possible in order to reduce adverse impacts to sand supply and public access resulting from the development.<sup>16</sup>

In the case of this project, the new deck is proposed to be located approximately 3 ft. further seaward of the existing deck, but landward of the stringline. In addition, staff notes that the new bulkhead and septic system will be located as landward as possible. However, the existing unengineered bulkhead with rocks, which is located approximately 7 ft. seaward of the proposed bulkhead location and subject to wave action, is not located as landward as possible and may be adversely impacting the beach profile on a seasonal basis. The applicant is proposing to remove the existing bulkhead and rocks and construct a new bulkhead, located approximately 7 ft. further landward than the existing bulkhead. Staff notes that the construction of the proposed new bulkhead, in conjunction with the removal of the existing bulkhead and rocks, will result in fewer adverse impacts to sand supply and public access than the existing shoreline protective device. Special Condition Three (3) has been required to ensure that the existing unengineered wood bulkhead and rocks will be removed prior to the construction of the new proposed bulkhead.

Further, in past permit actions, the Commission has also required a lateral public access easement for new shoreline protection devices to mitigate adverse impacts to beach sand supply and public access. In the case of this project, in order to mitigate any possible adverse impacts to public access along the beach, the applicant has proposed to dedicate a new public lateral access easement along the beach. Special Condition Four (4) has been included in order to implement the applicant's offer to dedicate a new lateral public access easement.

Section 30250(a) of the Coastal Act states, in part, that new development not adversely affect, either individually or cumulatively, coastal resources. As explained in the preceding section regarding past Commission action on residential development and seaward encroachment, the proposed project is located on a developed stretch of beach and is considered infill. In addition, the project will minimize adverse impacts resulting from construction of the proposed bulkhead and is consistent with the applicable Coastal Act sections and with past Commission action. Therefore, the

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<sup>16</sup> Coastal Development Permit 4-97-071 (Schaeffer)

Commission finds that the proposed project, as conditioned, is consistent with Sections 30235, 30250, and 30253 of the Coastal Act.

### **C. Hazards and Geologic Stability**

Coastal Act Section 30253 states in part:

New development shall:

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

Section 30253 of the Coastal Act mandates that new development provide for geologic stability and integrity and minimize risks to life and property in areas of high geologic, flood, and fire hazard. In addition to section 30253 of the Coastal Act, the certified Malibu/Santa Monica Mountains LUP contains several policies and standards regarding hazards and geologic stability. For example, Policy 147 suggests that development be evaluated for impacts on and from geologic hazards. Policy 153 suggests that no development should be sited less than 10 ft. landward of the mean high tide line. These policies have been certified as consistent with the Coastal Act and used as guidance by the Commission in numerous past permit actions in evaluating a project's consistency with section 30253 of the Coastal Act.

#### **a. Storm, Wave and Flood Hazard**

The Malibu coast has been subject to substantial damage as a result of storm and flood occurrences, geological failures and firestorms. Therefore, it is necessary to review the proposed project and project site against the area's known hazards. The proposed project involves the construction of a new rock revetment along a developed stretch of Broadbeach.

The project site is susceptible to flooding and/or wave damage from storm waves and storm surge conditions. Past occurrences have resulted in public costs (through low-interest loans) in the millions of dollars in the Malibu area alone.

Along the Malibu coast, significant damage has also occurred to coastal areas from high waves, storm surge and high tides. In the winter of 1977-78, storms triggered numerous mudslides and landslides and caused significant damage along the coast.

The southerly and southwesterly facing beaches in the Malibu area were especially hard hit by waves passing through the open windows between offshore islands during the 1978 and 1980 storms. These waves broke against beaches, seawalls, and other

structures, causing damages of between \$2.8 and \$4.75 million to private property alone. The amount of erosion resulting from a storm depends on the overall climatic conditions and varies widely from storm to storm. Protection from this erosion depends largely on the funds available to construct various protective structures that can withstand high-energy waves.<sup>17</sup>

The "El Nino" storms in 1982-83 caused additional damage to the Malibu coast, when high tides of over 7 feet were combined with surf between 6 and 15 feet. These storms caused over \$12.8 million in damage to structures in Los Angeles county, many located in Malibu. Due to the severity of the 1982-83 storm events, they have often been cited as an illustrative example of an extreme storm event and used as design criteria for shoreline protective structures. Damage to the Malibu coastline was documented in an article in California Geology. This article states that:

*In general, the storms greatly affected the character of the Malibu coastline. Once quiet, wide, sandy beaches were stripped of their sand and high surf pounded residential developments .... The severe scour, between 8 to 12 feet, was greater than past scour as reported by "old timers" in the area. Sewage disposal systems which rely on the sand cover for effluent filtration were damaged or destroyed creating a health hazard along the coast. Flotsam, including pilings and timbers from damaged piers and homes, battered coastal improvements increasing the destruction. Bulkhead failures occurred when sand backfill was lost due to scour exceeding the depth of the bulkhead sheeting, or scour extending beyond the return walls (side walls of the bulkhead which are extended toward the shore from the front wall of the bulkhead).<sup>18</sup>*

Storms in 1987-88, 1991-92, and 1997-1998 did not cause the far-reaching devastation of the 1982-83 storms, however, they too were very damaging in localized areas and could have been significantly worse except that the peak storm surge coincided with a low tide rather than a high tide.

The applicant proposes to construct a new 4,500 sq. ft., 28 ft. high, two-story single family residence, a new septic system, and a new 60 ft. long wood bulkhead with concrete caissons. The proposed bulkhead is not necessary to protect the single family residence which will be constructed on caissons, but will be necessary to provide adequate protection for the septic system. Currently, the site is developed with a 3,000 sq. ft., two-story single family residence that is built on caissons with only an unengineered wood bulkhead with rocks for protection. Given that the size of the residence is increasing, the capacity of the current septic system is not adequate and is not in compliance with current plumbing code requirements. Therefore, the applicant is proposing to replace existing the septic system and construct an engineered bulkhead to protect the system. Staff notes that the new septic system and bulkhead have been designed to be located as landward as possible. Experience from historic storm events in Malibu indicates that this protection is essential to the long-term viability of the leachfield.

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<sup>17</sup> "Coastal Winter Storm Damage, Malibu, Los Angeles County, Winter 1977-78", part of the National Research Council proceedings, George Armstrong.

<sup>18</sup> "Assessment of 1982-83 Winter Storms Damage Malibu Coastline", by Frank Denison and Hugh Robertson, in California Geology, September 1985.



During the winter season, the proposed bulkhead will be subject to wave attack, flooding, and erosion hazards that in the past have caused significant damage to development along the California coast, including the Malibu coastal zone and the beach area nearby the subject property. The Coastal Act recognizes that new development, such as the construction of the proposed bulkhead and single family residence on a beach, may involve the taking of some risk. Coastal Act policies require the Commission to establish the appropriate degree of risk acceptable for the proposed development and to determine who should assume the risk. When development in areas of identified hazards is proposed, the Commission considers the hazard associated with the project site and the potential cost to the public, as well as the individual's right to use his property. In addition, the Wave Uprush study by Pacific Engineering Group dated February 2, 1998, states that "the owner should realize that there will always be certain risks associated with living on the beach."

Therefore, the Commission finds that due to the unforeseen possibility of wave attack, erosion, and flooding, the applicant shall assume these risks as a condition of approval. Because this risk of harm cannot be completely eliminated, Special Condition Five (5) requires the applicant to waive any claim of liability against the Commission for damage to life or property which may occur as a result of the permitted development. The applicant's assumption of risk, when executed and recorded on the property deed, will also show that the applicant is aware of and appreciated the nature of the hazards which exist on the site, and which may adversely affect the stability or safety of the proposed development.

**b. Fire Hazard/Site Geologic Stability**

The proposed development is located in the Santa Monica Mountains, an area which is generally considered to be subject to an unusually high amount of natural hazards. Geologic hazards common to the Santa Monica Mountains include landslides, erosion, and flooding. In addition, fire is an inherent threat to the indigenous chaparral community of the coastal mountains. Wild fires often denude hillsides in the Santa Monica Mountains of all existing vegetation, thereby contributing to an increased potential for erosion and landslides on property.

Due to the fact that the proposed project is located in an area subject to an extraordinary potential for damage or destruction from wild fire, the Commission will only approve the project if the applicant assumes liability from the associated risks. Through the waiver of liability, the applicant acknowledges and appreciates the nature of the fire hazard which exists on the site and which may affect the safety of the proposed development, as incorporated by Special Condition Six (6).

In addition, Section 30253 of the Coastal Act requires that new development minimize risk to life and property in areas of high geologic, flood and fire hazard, and assure stability and structural integrity. Beachfront development raise issues relative to a site's geologic stability. The Malibu shoreline has experienced coastal damage regularly from

geologic instability induced by winter rains and heavy surf conditions. For instance, in *Living with the California Coast*, Griggs and Savoy discuss development at the seaward base of a cliff on the Malibu coastline and note that:

*As the amount of land along the immediate shoreline was consumed by subsequent housing, however, more and more structures were built on pilings in potentially dangerous locations at the base of crumbling bluffs...Over the past 60 years, therefore, the pattern of beach erosion has grown in significance until many houses formerly built at the rear of broad backshores now find themselves stranded high above eroding foreshores. the waves periodically pummeling the underlying bluffs that connect the houses to the highway. The management problems facing this coast can only increase with time, as society as a whole has to pay the penalty for unwise, uncoordinated, and irrational developments of the past." (emphasis added)<sup>19</sup>*

These problems associated with geologic instability are particularly serious in older subdivisions. Developments at the base of natural slopes within older subdivisions suffered severe damage in the 1977-78 winter storms, where a series of intense rainstorms triggered numerous mudslides and landslides. Within the City of Los Angeles alone, losses to public and private property were estimated to be \$100 million. Slosson and Krohn stated that:

*Damage from debris flows and mudflows appears to be increasing in magnitude and is caused, in part, by the increased construction of homes at the base of natural slopes or partial natural slopes associated with older subdivisions. Most severely hit appear to be those sites or lots that were a part of pre-1963 or even pre-1952 subdivisions but were not built upon until recent years....The potential for mudflow and debris flow hazard is easily recognized, but few consultants will acknowledge evidence unless required by code.<sup>20</sup>*

The applicant has submitted a Preliminary Engineering Geologic Investigation Report prepared by Pacific Geology dated February 9, 1998, which states that the project site will not be affected by geologic hazards. The report further concludes that:

*construction of a single family residence is feasible from a geologic standpoint...Providing the recommendations contained in this report, in addition to those of the Geotechnical Engineer are followed, the residence will be safe from landslide hazard, settlement and slippage. In addition, the proposed construction will not adversely affect off-site properties from a geological standpoint.*

In addition, the Wave Uprush Study by Pacific Engineering dated February 2, 1998, states that:

*Using this study's design constraints, the expected usable life for both the residence and the bulkhead is in excess of 30 years (normally the economic life of such a structure).*

As set forth in Section 30253 of the Coastal Act new development shall assure structural integrity and neither create nor contribute significantly to erosion, geologic

<sup>19</sup> *Living with the California Coast*, Griggs and Savoy

<sup>20</sup> "Southern California Landslides of 1978 and 1980" by James Slosson and James Krohn, in *Storms, Floods and Debris Flows in Southern California and Arizona 1978 and 1980*, Proceedings of a Symposium by the National Research Council.

instability, or destruction of the site or surrounding area. The Commission finds that the development is consistent with Section 30253 of the Coastal Act so long as the geologic, geotechnical, and coastal engineering consultants' recommendations are incorporated into project plans. Therefore, Special Condition Two (2) requires the applicant to submit project plans that have been certified in writing by the geologic, geotechnical, and coastal engineering consultants as conforming to their recommendations.

The proposed development, with its excavation of terrace deposits, debris, and beach level construction activity, would result in disturbance of the marine environment and increased turbidity through erosion and siltation. Furthermore, this construction activity, if not properly mitigated, would add to an increase of pollution in the Santa Monica Bay. To ensure that effects to the marine environment are minimized from the proposed development, Special Condition One (1) requires the applicant to agree : a) that no stockpiling of dirt shall occur on the beach; b) that all grading shall be properly covered, sand-bagged, and ditched to prevent runoff and siltation; and, c) that measures to control erosion must be implemented at the end of each day's work. The applicant is also responsible to ensure that no machinery will be allowed in the intertidal zone at any time and that all debris resulting from the construction period is removed from the beach and seawall area.

The Commission notes that the proposed project is designed to minimize risks to life and property and assure stability and structural integrity. Therefore, the Commission finds that as conditioned, the proposed development is consistent with sections 30253 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.

Section 30210 of the Coastal Act states:

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

Section 30211 of the Coastal Act 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.*

Section 30212 of the Coastal Act 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...*

Section 30220 of the Coastal Act states:

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

Coastal Act sections 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, section 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. Section 30220 of the Coastal Act requires coastal areas suited for coastal recreational activities, that cannot be provided at inland water areas, be protected.

The major access issue in this permit application is the occupation of sandy beach area by a structure and potential effects to shoreline sand supply and public access in contradiction of Coastal Act policies 30211 and 30221. As proposed, this project would extend out onto a sandy beach area approximately 95 ft. seaward (including deck area) from the property line abutting Pacific Coast Highway and would be located approximately 52-94 ft. landward of the mean high tide line depending upon tidal conditions. As stated in the preceding section, the project site is located on Carbon Beach approximately 525 ft. to the east of an existing public vertical accessway. All projects requiring a coastal development permit must be reviewed for compliance with the public access and recreation provisions of Chapter 3 of the Coastal Act. Based on the access, recreation and development sections of the Coastal Act, the Commission has required public access to and along the shoreline in new development projects and has required design changes in other projects to reduce interference with access to and along the shoreline.

As noted above, interference by a bulkhead has a number of effects on the dynamic shoreline system and the public's beach ownership interests. First, changes in the shoreline profile, particularly changes in the slope of the profile which results from a reduced beach berm width, alter the usable area under public ownership. A beach that rests either temporarily or permanently at a steeper angle than under natural conditions will have less horizontal distance between the mean low water and mean high water lines. This reduces the actual area in which the public can pass on their own property. The second effect on access is through a progressive loss of sand as shore material is not available to nourish the bar. The lack of an effective bar can allow such high wave energy on the shoreline that materials may be lost far offshore where it is no longer available to nourish the beach. The effect of this on the public are again a loss of area between the mean high water line and the actual water. Third, shoreline protective

devices such as revetments and bulkheads cumulatively affect public access by causing accelerated and increased erosion on adjacent public beaches. This effect may not become clear until such devices are constructed individually along a shoreline and they reach a public beach. Fourth, if not sited landward in a location that insures that the seawall is only acted upon during severe storm events, beach scour during the winter season will be accelerated because there is less beach area to dissipate the wave's energy. Finally, revetments and bulkheads interfere directly with public access by their occupation of beach area that will not only be unavailable during high tide and severe storm events but also potentially throughout the winter season.

Due to the aforementioned adverse impacts of shoreline protective structures on public access, the proposed shoreline protection device must be judged against the public access and recreation policies of the State Constitution, Sections 30210, 30220, and 30211 of the Coastal Act. Along the California coast, the line between land and ocean is complex and constantly moving.

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

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

Consequently, the position of the mean high tide line fluctuates seasonally as high wave energy (usually but not necessarily) in the winter months causes the mean high tide line to move landward through erosion, and as milder wave conditions (generally associated with the summer) cause the mean high tide line to move seaward through accretion. In addition to ordinary seasonal changes, the location of the mean high tide

line is affected by long term changes such as sea level rise and diminution of sand supply.<sup>21</sup>

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

In order to avoid approving development that will encroach on public tidelands during any time of the year, the Commission, usually relying on information supplied by the State Lands Commission, will look to whether the project is located landward of the most landward known location of the mean high tide line. In this case, the State Lands Commission presently does not assert a claim that the project intrudes onto sovereign lands (Exhibit 6). The Coastal Commission itself currently has no independent evidence that the Mean High Tide Line has ever moved landward into the project area.

Even structures located above the mean high tide line, however, may have an impact on shoreline processes as wave energy reflected by those structures contributes to erosion and steepening of the shore profile, and ultimately to the extent and availability of tidelands. That is why the Commission also must consider whether a project will have indirect impacts on public ownership and public use of shorelands. The applicant is proposing to remove the existing bulkhead and rocks and construct a new bulkhead. As discussed elsewhere in the Commission's findings (see Section IVB Shoreline Protective Devices), there is substantial evidence that this project will result in some indirect impacts on tidelands because the new proposed bulkhead is located in an area that is subject to wave attack and wave energy. However, the Commission notes that the existing bulkhead is exposed to more frequent wave action and would result in greater potential adverse impacts to beach sand supply and public access than the proposed new bulkhead which is located approximately 7 ft. further landward. As such, the Commission notes that the construction of the new more landward bulkhead, in conjunction with the removal of the existing bulkhead and rocks, will result in fewer adverse impacts to sand supply and public access than the existing shoreline protective device.

The Commission Also Must Consider Whether a Project Affects Any Public Right to Use Shorelands That Exists Independently of the Public's Ownership of Tidelands. In addition to a development proposal's impact on tidelands and on public rights protected by the common law public trust doctrine, the Commission must consider whether the project will affect a public right to use beachfront property, independent of who owns

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<sup>21</sup> The legal location of the tidelands boundary was the subject of litigation involving the Coastal Commission, the State Lands Commission and an owner of private uplands. (See *Lechuza Villas West v. California Coastal Commission*, \_\_ Cal. App. 4th \_\_, 97 Daily Journal D.A.R. 15277 (Dec. 19, 1997).

the underlying land on which the public use takes place. Generally, there are three additional types of public uses identified as: (1) the public's recreational rights in navigable waters guaranteed to the public under the California Constitution and state common law;<sup>22</sup> (2) any rights that the public might have acquired under the doctrine of implied dedication based on continuous public use over a five-year period; and (3) any additional rights that the public might have acquired through public purchase or offers to dedicate.

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

In this case, no evidence has been presented in connection with this application that the public may have acquired rights of use under the doctrine of implied dedication. Although the Commission notes that the new proposed bulkhead will result in fewer adverse effects to sand supply and public access than the existing bulkhead located further seaward; there is evidence that the new bulkhead will still be subject to wave uprush which may result in some potential adverse individual and cumulative impacts on sand supply, beach profile, and ultimately, public access as a result of localized beach scour, retention of beach material and interruption of the alongshore and onshore sand transport process.

The beaches of Malibu are extensively used by visitors of both local and regional origin and most planning studies indicated that attendance of recreational sites will continue to significantly increase over the coming years. The public has a right to use the shoreline under the public trust doctrine, the California Constitution and California common law. The Commission must protect those public rights by assuring that any proposed shoreline development does not interfere with or will only minimally interfere with those rights. In the case of the proposed project, the potential for the permanent loss of sandy beach as a result of the change in the beach profile or steepening from potential scour effects, as well as the presence of a residential structure out over sandy beach does exist.

In past permit actions, the Commission has required that new shoreline protective devices, be located as landward as possible in order to reduce adverse impacts to the sand supply and public access resulting from the development. In the case of this project, staff notes that the applicant has located the proposed bulkhead as landward as feasible in order to provide protection for the proposed septic system, which has also been designed to be located as landward as feasible. However, the existing unengineered bulkhead with rocks, which is located approximately 7 ft. seaward of the proposed bulkhead location and subject to wave action, is not located as landward as possible and may be adversely impacting the beach profile on a seasonal basis. The

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<sup>22</sup> The existence and extent of this right was recently litigated in the *Lechuza Villas West* case.

applicant is proposing to remove the existing bulkhead and rocks and construct a new bulkhead, located approximately 7 ft. further landward than the existing bulkhead, which will reduce sand scour and adverse impacts to the beach profile and public access relative to the alternative of maintaining existing bulkhead. Special Condition Three (3) has been required to ensure that the existing unengineered wood bulkhead and rocks will be removed prior to the construction of the new proposed bulkhead.

In addition, in past permit actions, the Commission has also required a lateral public access easement for new shoreline protection devices to mitigate adverse impacts to beach sand supply and public access. In the case of this project, in order to conclude with absolute certainty what impacts the proposed development would cause on the shoreline processes and public access, a historical shoreline analysis based on site-specific studies would be necessary. Although this level of analysis has not been submitted by the applicant, in order to mitigate any possible adverse impacts to public access, the applicant has proposed to offer a dedication for a public lateral access easement along the beach as measured 10 ft. from the dripline of the deck to the MHTL. The 10 ft. privacy buffer will be available for public use when no other dry areas of the beach are available for public access. Because the applicant has proposed, as part of the project, an offer to dedicate a new lateral access easement along the southern section of the lot, it has not been necessary for Commission staff to engage in an extensive analysis of the potential adverse effects to public access resulting from the proposed project. As such, Special Condition Four (4) has been included in order to implement the applicant's offer to dedicate a new lateral public access easement prior to the issuance of the coastal development permit.

The Commission notes that the existing bulkhead with additional rock protection, which is exposed to wave action, may be adversely impacting the beach profile on a seasonal basis. However, the applicant is proposing to remove the existing bulkhead and rocks and construct a new bulkhead, located approximately 7 ft. further landward than the existing bulkhead. As such, the proposed new bulkhead, in conjunction with the removal of the existing bulkhead and rocks, will result in fewer adverse impacts to sand supply and public access than the existing shoreline protective device. The Commission further notes that the proposed bulkhead is located as landward as feasible and that the proposed project is designed to minimize potential adverse effects to public access. In addition, the applicant has included an offer to dedicate a public lateral access easement along the southern portion of the property in order to further mitigate any adverse effects to public access resulting from the proposed development. Therefore, the Commission finds that the proposed project, as conditioned, is consistent with Sections 30210, 30211, 30212 and 30220 of the Coastal Act.



## **E. Septic System**

The Commission recognizes that the potential build-out of lots in Malibu, and the resultant installation of septic systems, may contribute to adverse health effects and geologic hazards in the local area.

Section 30231 of the Coastal Act states that:

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

The applicant proposes to replace the existing septic system with a new septic system which includes a 1,500 gallon septic tank and a leachfield which will be located as landward as possible. The proposed 60 ft. long bulkhead, which includes return walls, will therefore protect the proposed septic system from wave run-up. As proposed, the bulkhead will be located 28 ft. seaward of the Pacific Coast Highway right-of-way. The location of the bulkhead is dependent upon the size and location of the septic system. In order to reduce the size of the required leachfield for the proposed septic system and subsequently allow for the construction of the bulkhead as landward as possible, the applicant proposes to install a bottomless sand filter septic system which is designed to produce treated effluent with reduced levels of organics, biochemical oxygen demand (BOD) and total suspended solids (TSS) while occupying only 50 percent of the area required for a conventional septic system and leachfield.

The applicant has submitted approval from the City of Malibu Environmental Health Department stating that the proposed septic system is in conformance with the minimum requirements of the City of Malibu Uniform Plumbing Code. The City of Malibu's minimum health code standards for septic systems have been found protective of coastal resources and take into consideration the percolation capacity of soils along the coastline, the depth to groundwater, etc. Therefore, the Commission finds that the proposed project is consistent with Section 30231 of the Coastal Act.

## **F. Local Coastal Program**

Section 30604 of the Coastal Act states that:

*a) Prior to certification of the local coastal program, a coastal development permit shall be issued if the issuing agency, or the commission on appeal, finds that the proposed development is in conformity with the provisions of Chapter 3 (commencing with Section 30200) of this division and that the permitted development will not prejudice the ability of*

*the local government to prepare a local program that is in conformity with the provisions of Chapter 3 (commencing with Section 30200).*

Section 30604(a) of the Coastal Act provides that the Commission shall issue a Coastal Permit only if the project will not prejudice the ability of the local government having jurisdiction to prepare a Local Coastal Program which conforms with Chapter 3 policies of the Coastal Act. The preceding sections provide findings that the proposed project will be in conformity with the provisions of Chapter 3 if certain conditions are incorporated into the project and accepted by the applicant. As conditioned, the proposed development will not create adverse impacts and is found to be consistent with the applicable policies contained in Chapter 3. Therefore, the Commission finds that approval of the proposed development, as conditioned, will not prejudice the City's ability to prepare a Local Coastal Program for Malibu which is also consistent with the policies of Chapter 3 of the Coastal Act as required by Section 30604(a).

## **G. CEQA**

Section 13096(a) of the Commission's administrative regulations requires Commission approval of Coastal Development Permit application to be supported by a finding showing the application, as conditioned by any conditions of approval, to be consistent with any applicable requirements of the California Environmental Quality Act (CEQA). Section 21080.5(d)(2)(A) of CEQA prohibits a proposed development from being approved if there are feasible alternatives or feasible mitigation measures available which would substantially lessen any significant adverse effect which the activity may have on the environment.

The Commission finds that, the proposed project, as conditioned will not have significant adverse effects on the environment, within the meaning of the California Environmental Quality Act of 1970. Therefore, the proposed project, as conditioned, has been adequately mitigated and is determined to be consistent with CEQA and the policies of the Coastal Act.

**SMH-VNT**

File SMHp298-158

## APPENDIX

### **SUBSTANTIVE FILE DOCUMENTS**

Wave Uprush Study by Pacific Engineering Group, Inc., dated 2/2/98.

Preliminary Engineering Geologic Investigation Report by Pacific Geology, dated 2/9/98.

Supplemental Engineering Geologic Report by Pacific Geology, dated 4/10/98.

Geotechnical Engineering Investigation by Coastline Geotechnical Consultants, dated 2/17/98.

Geologic Response Report by Coastline Geotechnical Consultants, dated 4/13/98.

Malibu/Santa Monica Mountains District Interpretive Guidelines. Coastal Commission. 1981.

Certified Malibu/Santa Monica Mountains Land Use Plan. County of Los Angeles, dated 12/11/86.

Adopted City of Malibu General Plan. November 1995.

City of Malibu. Article IX Interim Zoning Ordinance. 1993.

### **STUDIES AND PUBLICATIONS**

U.S. Army Corps of Engineers. Los Angeles District. Reconnaissance Study of the Malibu Coast. 1994

Chrisiansen, Herman. "Economic Profiling of Beach Fills" in Coastal Sediments '77. 1977.

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Kraus, Nicholas. "Effects of Seawalls on the Beach". Journal of Coastal Research. Special Issue # 4, 1988.

Kuhn, Gerald G. Coastal Erosion along Oceanside Littoral Cell, San Diego, California. 1981

Maloney & Ausness. "The Use and Legal Significance of the Mean High Water Line Coastal Boundary Mapping". 53 No. Carolina L. Rev. 185 (1974).

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.

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Shepard, Beach Cycles in Southern California, Beach Erosion Board Technical Memorandum No. 20 (U.S. Army Corps of Engineers, 1950).

State of California. State Department of Boating and Waterways (formerly Navigation and Ocean Development). Shore Protection in California. 1976.

Tait, J.F and G.B. Griggs. "Beach Response to the Presence of a Seawall: A Comparison of Field Observations". Shore and Beach. Vol. 58, No. 2, pp 11-28. 1990.

## LETTERS and MEMOS

Letter to Lesley Ewing from Douglas Inman, Ph.D., February 25, 1991.

Letter to Lesley Ewing from Dr. Craig Everts of Moffatt and Nichol Engineers, March 14, 1994.

## COASTAL PERMIT APPLICATIONS

Staff Report Lechuza Villas West 2/4/97 (Lechuza Villas West); 4-94-200 (Dussman); 4-97-071 (Schaeffer).

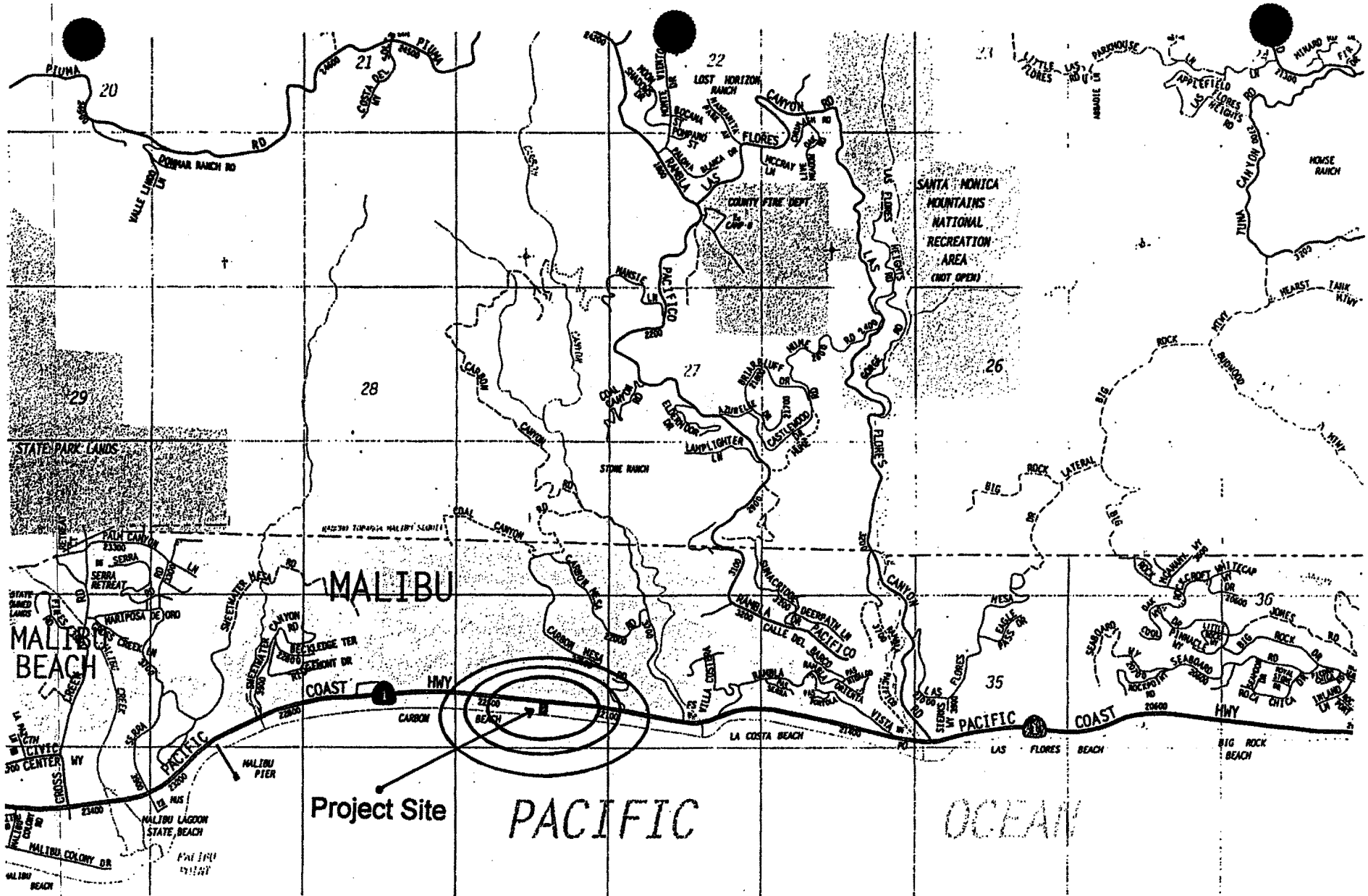
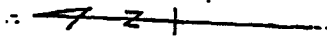


Exhibit No. 1: (4-98-158) Location Map

4451 6  
SCALE 1" = 100'



BK 4452

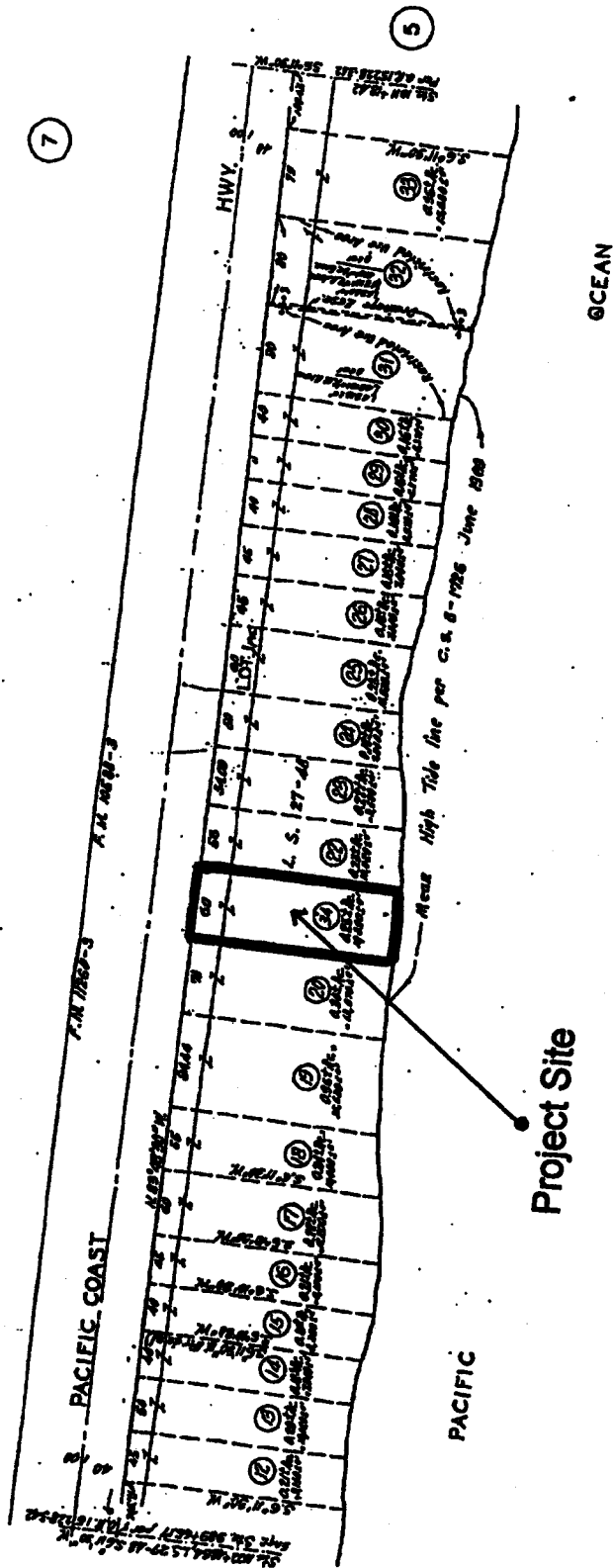


Exhibit No. 2: (4-98-158) Parcel Map









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) 574-1892  
Contact FAX: (916) 574-1925  
E-Mail Address: smithj@slc.ca.gov.

June 9, 1998

RECEIVED

File Ref: SD 98-05-21.7

JUN 11 1998

Marny Randall  
909 Euclid Street, #6  
Santa Monica, CA 90403

CALIFORNIA  
COASTAL COMMISSION  
SOUTH CENTRAL COAST DISTRICT

Dear Ms. Randall:

SUBJECT: Coastal Development Project Review for Demolition of Existing  
Single Family Residence and Construction of New Single Family  
Residence at 22208 Pacific Coast Highway, Malibu

This is in response to your request on behalf of your client, David O'Connor, for a determination by the California State Lands Commission (CSLC) whether it asserts a sovereign title interest in the property that the subject project will occupy and whether it asserts that the project will intrude into an area that is subject to the public easement in navigable waters.

The facts pertaining to your client's project, as we understand them, are these:

Your client proposes to demolish an existing single family residence/deck and construct a new single family residence/deck at 22208 Pacific Coast Highway in Malibu. Your client also proposes the construction of a bulkhead, well underneath the residence, to protect the new septic system. From the plans you submitted dated May 7, 1998, it appears that the proposed residence/deck will be in conformance with the string lines established by the residences/decks on either side. This is a well developed stretch of beach with numerous residences/decks both up and down coast.

We do not at this time have sufficient information to determine whether this project will intrude upon state sovereign lands or interfere with other public rights. Development of information sufficient to make such a determination would be expensive and time-consuming. We do not think such an expenditure of time, effort and money is warranted in this situation, given the limited resources of this agency and the circumstances set forth above. This conclusion is based on the size and location of the property, the character and history of the adjacent development, and the minimal potential benefit to the public, even if such an inquiry were to reveal the basis for the assertion of public claims and those claims were to be pursued to an ultimate resolution.

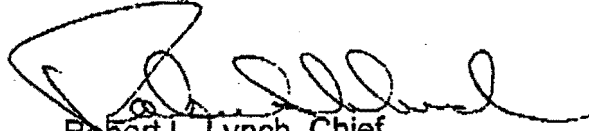
June 9, 1998

in the state's favor through litigation or otherwise.

Accordingly, the CSLC presently asserts no claims that the project intrudes onto sovereign lands or that it would lie in an area that is subject to the public easement in navigable waters. This conclusion is without prejudice to any future assertion of state ownership or public rights, should circumstances change, or should additional information come to our attention.

If you have any questions, please contact Jane E. Smith, Public Land Management Specialist, at (916) 574-1892.

Sincerely,

A handwritten signature in dark ink, appearing to read 'Robert L. Lynch', written over a horizontal line.

Robert L. Lynch, Chief  
Division of Land Management

cc: Art Bashmakian, City of Malibu

