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STATE OF CALIFORNIA—THE RESOURCES AGENCY PETE WILSON, *Governor*

CALIFORNIA COASTAL COMMISSION
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Commission Action:	

STAFF REPORT: REGULAR CALENDAR

APPLICATION NO.: 4-98-013

APPLICANT: Gary and Denise **Johnson &** Steve and Linda **Wasserman**

PROJECT LOCATION: 20016 Pacific Coast Highway, Malibu (Los Angeles County)

PROJECT DESCRIPTION: Request for an emergency permit follow-up approval for the construction of a 51 ft. long (44 ft. long w/one 7 ft. return wall) by 17 ft. high bulkhead wall and concrete pile foundation system beneath a duplex residential structure, 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 lower deck to the mean high tide line.

Lot area:	3,290	sq. ft.
Building coverage:	1,608	sq. ft.
Pavement coverage:	200	sq. ft.
Landscape coverage:	0	sq. ft.
Parking spaces:	0	
Ht abv ext grade:	17 ft. M.S.L. Datum	

LOCAL APPROVALS RECEIVED: City of Malibu: Planning Department, Approval in Concept, 1/15/98; Geology and Geotechnical, Approved "in-concept", 12/30/97; State Lands Commission, Encroachment Review, 12/12/98.

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

SUMMARY OF STAFF RECOMMENDATION:

Staff recommends approval of the project with two special conditions of approval relating to: *offer to dedicate lateral public access* and *assumption of risk.* On February 27, 1998, an emergency permit was issued to construct a 51 ft. long (44 ft. length with a 7 foot return wall) by 16.5 ft. high bulkhead wall and concrete pile foundation system, in order to protect the duplex structure at 20016 Pacific Coast Highway (PCH). The bulkhead is located underneath the existing structure. To date, the applicant has completed the installation of the concrete caissons, installed steel support cross beams and disconnected the wooden

piers. This project presents three Coastal Act issues related to the construction of a shoreline protection device; natural hazards & geologic stability; and public access.

The subject site is located on Big Rock beach, a narrow, heavily developed stretch of the coast. Most of the developments are single family residences, the majority of which include shoreline protection devices. Big Rock beach is part of the Santa Monica littoral cell and its beach erosion pattern is characterized as a oscillating, or equilibrium beach.

The subject project is located 34' seaward of PCH and 40-48 feet landward of the Mean High Tide Line (MHTL). The subject bulkhead will be affected by wave action during storm and/or high tide events, according the to a July 31, 1997 wave uprush study. According to this study, the maximum wave uprush would reach PCH if not diverted by a shoreline protection device.

Consequently, the bulkhead will create adverse scour effects seaward of the structure and end effects on the east end of the structure, where the return wall ties-into the existing gunite seawall. The result of these impacts will be increased sand erosion and a commensurate degree of lost lateral public access on the beach. Thus, a public access dedication is required to ensure the impact of this sand erosion and loss of public access is minimized as required by Sections 30235 and 30211.

Section 30235 of the Coastal Act allows for the construction of protective devices only if the device serves to protect coastal dependant uses, to protect an existing structure, or protect public beaches from erosion. In this case, the project is neither a coastal dependent use, nor necessary to protect a public beach. However, the subject bulkhead does protect an existing residential structure and PCH.

Coastal Act issues relating to natural hazards & geologic stability, under Section 30253 are raised by the project. The subject bulkhead will be subjected to storm, wave and flood hazards, given the location of the bulkhead, 40 – 48 ft. landward from the MHTL, and the extent of the projected maximum wave uprush up to PCH. Despite the structural integrity of the subject bulkhead and caisson foundation, the project nevertheless is located in an area of identified storm, wave and flood hazards, presents a level of risk which the applicant must assume.

In addition, the subject site is located across PCH from the Big Rock landslide. Further, the deeper underlying geology of the project site is subject to creep and may include more significant problems related to the Big Rock landslide, accordingly to the consulting geologist. Therefore, similar to the storm, wave and flood hazards, the geology of the site presents an identified geologic hazard, that the applicant must assume.

Finally, the project raises public access and recreational opportunity issues under Sections 30210, 30211, 30212 and 30220 of the Coastal Act. A vertical public access exists approximately 135 ft. to the east of the project. Construction of the bulkhead, however, will have an adverse impact on the public's lateral beach access across the southern end of the parcel, given the effects of sand erosion, as noted.

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 conformance with the public access and public recreation policies of Chapter 3 of the Coastal Act, and will not have any significant adverse effects 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. 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 existing lower deck as illustrated on the site plan prepared by KCE Matrix Engineering and dated March, 1998 (Exhibit 3). The document shall contain the following language:

(a) Privacy Buffer
The area ten (10) feet seaward from the dripline of the existing lower deck as illustrated on the site plan prepared by KCE Matrix Engineering and dated March, 1998, (Exhibit 3), 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 recording document shall include legal descriptions of both the applicant's entire parcel(s) and the easement area. The document shall be recorded free of prior liens and any other encumbrances 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.

2. 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 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 officers, agents and employees 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.

IV. Findings and Declarations

The Commission hereby finds and declares:

A. Project Description

The applicant is requesting an emergency permit follow-up approval for the construction of a 51 ft. long (44 ft. long with one 7 ft. return wall) by 17 ft. high bulkhead wall and concrete pile foundation system to support and protect the residential duplex structure above and the septic system located just landward of an existing, substandard gunite seawall. The concrete pile system is comprised of seven (7), 24.5" diameter piles, which extend down into the bedrock. Four piles have been constructed directly behind the bulkhead and under the deck, and three piles have been constructed through the residence and 23 ft. landward of the other line of piles, in order to support the house. No changes are proposed for the habitable space.

In addition, the project includes the applicant's proposal to dedicate a new lateral public access easement over the southern portion of the lot as measured ten feet seaward of the existing lower deck dripline to the mean high tide line.

The existing gunite seawall is curvilinear in shape, extending furthest seaward and to the south on the western property line. The gunite wall begins on the adjacent property upcoast and to the west, for approximately three feet, before it crosses the subject property. The wall then bends landward before straightening out midway across the subject property. The wall then crosses the property line to the east and extends across the adjacent lot, providing shoreline protection for the adjacent structure.

On the eastern portion of the wall, two thirds the way down the face, the gunite extends seaward approximately five feet and acts in part as a footing for the wall. Underneath and behind the gunite seawall are large boulders that are part of or integrated with the gunite wall. There were also nine (9) original wooden pilings, three of which were located seaward of the gunite wall, all of which have now been removed.

The proposed bulkhead wall is shaped like an "L" in order to tie-into the gunite wall on the adjacent property. The subject bulkhead begins on the western end of the property, at which point the seawall extends furthest seaward. The bulkhead is tied-into the wall at the west end by a concrete pile that extends further seaward approximately 2.5 ft. The 2.5 ft diameter of the concrete caissons accounts for the difference between the subject bulkhead and the existing wall, as the caissons are located landward of the bulkhead to maximize support of the bulkhead.

The bulkhead then continues straight along the south elevation for approximately 44 ft., at which point there is a 7 ft. return wall that ties-back into the gunite wall. The applicant will backfill the space between the gunite wall and the subject bulkhead with sand, gravel and a drainage pipe according to the engineered specifications of the emergency permit.

The existing septic system, comprised of a septic tank and seepage pit, is located approximately 2 ft. landward of the gunite wall and will remain in its present location. According to Larry Young, City of Malibu Environmental Health Officer, current building code standards require a 5 ft. minimum buffer between a septic system and a retaining wall in order to ensure a limited amount of lateral effluent movement, should the bottom fail. Thus, the buffer distance between the existing septic system and the back of the subject bulkhead will be extended to the five foot minimum to meet plumbing code requirements. (see Exhibit 3)

The subject bulkhead extends beyond the existing gunite wall 7 ft. at its furthest seaward distance, on the eastern end, at the point of the return wall. However, given the footing of the existing gunite wall and additional rock rip-rap extending an additional five feet seaward, the subject vertical bulkhead actually extends 2.5 ft. seaward at its furthest point seaward beyond the existing gunite wall. The gunite wall, according to the consulting geologist, appears to have been placed directly on the large boulders that serve as rip-rap. (see Exhibit 4)

The adjoining property to the west has, in addition to the three foot length of gunite wall as noted, a bulkhead supported by concrete pilings which is approximately 11 ft. further seaward than the subject bulkhead. The structure down coast and to the east is supported by a series of concrete pilings which are approximately 6 ft. seaward of the subject bulkhead. This property also utilizes an extenuation of the existing gunite seawall for shoreline protection. (see Exhibit 3)

The project is located at 20016 Pacific Coast Highway, in the Big Rock section of Malibu, between Las Tunas State Beach and Las Flores Beach. The subject parcel is just south of the mapped Big Rock landslide. The subject residence and stairway occupies almost the entire width of the lot.

B. Background

On January 15, 1998 the applicant submitted a request for an emergency permit to construct a bulkhead wall and concrete pile foundation system to support and protect the duplex structure at 20016 Pacific Coast Highway. The applicant's structural engineer, KCE Matrix, provided a letter dated February 19, 1998 that stated:

> ***"Please be informed of the following facts as they pertain to the structural safety of the above referenced residence:***
>
> 1. ***The protective bulkhead wall, foundations and wood pile system of the existing residence have been severely damaged due to the 1994 Northridge Earthquake.***
>
> 2. ***The continuous wave action and beach scouring caused by the recent "El Nino" storms have exacerbated the original earthquake related damages and have further undermined the existing foundation system and caused additional, southerly, out of plane deflections of the existing wood pile system and building walls thus increasing the risk of total building loss.***

It is therefore our professional opinion that if emergency repairs are not undertaken immediately additional structural damages will occur which will cause the collapse of the building or the need of its total replacement."

Commission staff visited the site and found both duplex units to be vacant. The high tides and storm surf had in fact scoured below the series of wooden pilings located seaward of the gunite seawall, as well as under the footing of the seaward most point of the gunite wall, thus exposing the underlying rip-rap. Cracks in the concrete gunite wall were also visible. Staff contacted the City Engineer at the City of Malibu, who had visited the site, and confirmed that the existing structure was threatened with collapse. Further discussions between staff and the applicant's structural engineer revealed that the supporting piles behind the gunite wall had also been undermined by the storm surf and were in a damaged state.

Commission staff concluded that the subject property was indeed threatened with eminent collapse due to the weakened state of the foundation system. On February 27, 1998, an emergency permit was issued to construct a 51 ft. long (44 ft. length with a 7 foot return wall) by 16.5 ft. high bulkhead wall and concrete pile foundation system to supplement the existing concrete wall, rip-rap and wood pilings. The proposed work did not include any expansion or remodeling of habitable space.

The emergency permit included eight special conditions of approval related to acceptance of permit conditions; limits of work; time limit to complete work; submittal of regular permit application; hold harmless agreement; outside agency permit requirements; shoreline construction requirements; backfill source requirement (see Exhibit 7).

C. Shoreline Protective Devices

As stated previously, the project involves the construction of a 44 ft. long caisson supported wood bulkhead with a 7 ft. long return wall on the eastern end. The subject bulkhead is located 34 ft. seaward of the northern property line abutting Pacific Coast Highway and approximately 40-48 ft. landward of the mean high tide lines surveyed in 1928, 1961, 1969 and 1997. The bulkhead is located entirely beneath the proposed structure. An existing concrete gunite seawall is located approximately 7 ft. landward of the subject bulkhead, and includes a five foot concrete and rock footing which extends an additional five feet seaward. Thus, the subject vertical bulkhead extends an additional 2.5 ft seaward of the existing gunite wall, to accommodate the diameter of the concrete caissons.

The applicant proposes to leave the existing gunite seawall, and rip-rap in place, as well as the engineered rock and gravel backfill to be placed between the wall and the bulkhead. The applicant has also indicated that there are engineered shoreline protection devices located on both of the adjacent lots and that the subject bulkhead ties-into these devices.[1] The subject bulkhead essentially "splits-the-difference" between the bulkhead to

[1] Shoreline Protective Device is also referred to in the findings as seawall or bulkhead.

the west, which is located 11 ft. further seaward, and the face of the gunite seawall to the east, which is located 7 ft. further landward than the subject bulkhead.

However, if the footing and the rip-rap for the gunite seawall to the east extends five feet seaward, as does the subject gunite wall, the subject bulkhead would only be 2.5 ft. further seaward than the gunite wall located to the east from the gunite wall (which is not possible to determine since the subsurface structures are covered by sand).

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 Big Rock Beach shoreline. Second, the staff report analyzes the dynamics of the Big Rock 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 Big Rock 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.***

The subject residence, septic system, gunite wall and rip-rap are existing structures which pre-date the Coastal Act. The specific purpose of the subject bulkhead wall and concrete pier foundation system is to support and protect the existing residential structure and septic system. In addition, given that the wave uprush study indicates that the maximum wave uprush for this portion of Big Rock beach runs up landward to Pacific Coast Highway, the subject bulkhead is also protecting Pacific Coast Highway.

The applicant's engineer's February 1998 letter and the City Engineer of the City of Malibu both indicated that the residence was threatened by the damaged wall and pile system, and staff confirmed the scouring at the site. Thus, the bulkhead may be permitted under Section 30235 to protect these existing structures if designed to eliminate or mitigate effects on local shoreline sand supply.

To assist in the determination of whether a project is consistent with sections 30235, and 30253 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, provide 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 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

Big Rock Beach is a narrow section of the coast which has been heavily developed with single family homes and is located between Las Tunas State Beach to the east and Las Flores Beach to the west. Many of the existing residences along Big Rock Beach employ bulkheads or other forms of shoreline protection to protect septic system leach field systems. Much of this existing development is exposed to recurring damage because of the absence of a sufficiently wide protective beach.[2]

2. Beach Erosion Pattern

Having defined Big Rock 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 erosion pattern is the key factor in determining the impact of the bulkhead 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 July 31, 1997, indicates that the eastern edge of Big Rock Beach is an oscillating beach with a seasonal foreshore slope movement that can be as much as 60 feet as indicated by the profile surveys. In addition, the Shoreline Constraints Study by Moffatt and Nichol, Engineers dated June 30,

[2] Army Corps of Engineers, Los Angeles District, Reconnaissance Study of the Malibu Coast. 1994.

1992 also indicates that the subject beach is a stable to slightly accreting beach. 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 potential 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 subject bulkhead is not located near or seaward of the documented positions of the Mean High Tide Line (MHTL). The proposed 44 ft. long wooden bulkhead with concrete caissons will be located entirely beneath the proposed structure and will be located 34 ft. from the property line abutting Pacific Coast Highway. Although the ambulatory MHTL can vary greatly along this portion of Big Rock Beach, the applicant's coastal engineering consultant has indicated that, based on four different surveys between 1928 and 1997, the MHTL will be located approximately 40-48 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 8).

b. Wave Uprush

The Wave Uprush Study by Pacific Engineering Group dated July 31, 1997, indicates that the maximum wave uprush at the subject site will be approximately at the Pacific Coast Highway right-of-way line if the property was not protected with a bulkhead. This data indicates that inundation of the beach fronting the proposed bulkhead 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.[3]

In past permit actions, the Commission has found that one of the most critical factors controlling the impact of a bulkhead 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 bulkhead, if one is necessary, is at the back of the beach where it provides protection against the largest of storms. By contrast, a bulkhead 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 subject bulkhead, at its approved 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 Big Rock 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 bulkhead on the beach based on the above information which identified the specific structural design, the location of the structure, and the shoreline geomorphology.

4. Effects of the Shoreline Protective Device on the Beach

The proposed 44 ft. long wooden bulkhead with concrete caissons will be constructed on the sandy beach approximately 34 ft. seaward of the Pacific Coast Highway property line. Staff notes that the existing gunite wall, rip-rap and footing is located approximately 2.5 ft. landward of the subject bulkhead. As such, the subject bulkhead will potentially result in a greater degree of adverse impacts to sand supply and public access than the existing shoreline protective device.

Even though the precise impact of a structure on the beach is a persistent subject of debate within the discipline of coastal engineering, 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 longshore processes. In order to evaluate these potential impacts relative to the proposed structure and its location on Big Rock Beach, each of the identified effects will be evaluated below.

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3 Letter dated 25 February 1991 to Coastal Commission staff member and engineer Lesley Ewing from Dr. Douglas Inman.

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 July 31, 1997 states:

> ***During episodes of high tides and high waves, wave uprush extends to the top of the sloping gunite then runs down the face upon retreat of uprush to the ocean. It is during this run down that wave uprush scours the beach at the base of the wall deeper than if the wall was vertical. It is anticipated that uprush run down on the structure could scour the beach at the toe of the existing structure an additional 2 ft. below the beach level when compared to the level in front of a vertical wall."***

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."[4] 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.[5]***

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

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

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

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 the beach in that the downward forces of water, created by the waves striking the wall rapidly remove sand from the beach.***[6]

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.***[7]

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.***[8]

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

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6 State Department of Boating and Waterways (formerly called Navigation and Ocean Development), Shore Protection in California (1976), page 30.

7 Coastal Sediments '87.

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

above, has resulted in preventing the bluffs' contribution of sand to the beaches, resulting in narrowing.

As set forth in earlier discussion, Big Rock 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 60 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 anticipates that the subject 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. In addition, the Commission notes that the subject bulkhead is located approximately 2.5 ft. further seaward than the existing gunite wall and rip-rap and therefore is subject to more frequent wave interaction. As such, the subject bulkhead will potentially result in a greater amount of 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 135 feet to the west of an existing vertical public accessway. If the beach scours at the base of the bulkhead, even minimal scouring in front of the 44 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 Big Rock 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 applicant has constructed the subject bulkhead 2.5 ft. feet further seaward than the existing gunite wall in order to maintain the structural integrity of the existing structure while allowing access for the drilling equipment and adequate protection for the septic system. The applicant's engineer, KCE Matrix, has provided a statement to this effect, in an update letter dated September 28, 1998:

> ***To replace the damaged bulkhead with a new bulkhead at the same location, to withstand wave uprush forces, will require drilling and casting sizeable friction piles; some, fifty (50) feet long. To drill for these piles that practically fall within the middle third of the residence plan outline, will require tearing down the roof, second and first floor structures completely. A minimum of four (4) friction piles are needed to resist the wave uprush forces. To drill and cast-in-place four (4) such piles, would necessitate removal of the existing structure which defeats the entire purpose of emergency shoring and repairs of the distressed structure.***

> ***...By moving the new bulkhead (2.5 feet) seaward, the only portions of the structure required tearing (down) were the balconies at each level and approximately a plan foot of the residence façade facing seaward. Thus, the great majority of the structure is maintained for repair, retrofit and remodel. Moving the bulkhead (2.5 feet) seaward allows the drilling machine, which is massive in size, to approach the residence with minimum clearances, for worker and structure safety, without jeopardizing the entire structure and the adjacent structure.***
>
> ***...By removing the existing gunite seawall, the septic sewage system will be subject to serious danger under its own weight, from wave uprush forces during construction activities, and from construction demolition activities, thus exposing the beach and environment to sewage discharge.***

Therefore, the applicant has located the subject bulkhead as landward as feasible given the need to allow for the construction of the caisson piles without destroying the existing residential structure or compromising the structural integrity of the septic system. The applicants construction of a vertical bulkhead 2.5 ft. seaward of the sloping gunite seawall and underlying rip-rap, according to the coastal engineer, will reduce the scour effects at the base of the existing gunite seawall wall by as much as 2 ft and minimize any possible adverse effects to public access. Nevertheless, the subject bulkhead will create an increased amount of sand erosion and a commensurate loss of public access.

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 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 One (1)* has been included in order to implement the applicant's proposal of an offer to dedicate a lateral public access easement.

Therefore, as conditioned, the project will minimize the adverse impacts from beach scour 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.[9]

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 end effects of flanking and impoundment at the seawall.[10] 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.[11]***

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.[12] 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 26 ft. to 31 ft. (6/10 of 44 ft. = 26 ft. or 70% of 44 ft. = 31 ft.). These end

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

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

11 "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.

12 "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.

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 July 31, 1997, 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 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 subject bulkhead will be located as landward as feasible in order to allow for the construction of the concrete caissons without destroying the residential structure or compromising the integrity of the septic system. In addition, given the curvilinear shape and location of the gunite wall there is no need for a return wall on the western end of the bulkhead. On the eastern end, the return wall will tie-into the easternmost gunite seawall, thus minimizing any amount of erosion as a result of the end effects.

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 Big Rock 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...[13]

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 One (1)* 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.

Conclusion

Coastal Act sections 30235, and 30253 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 44 ft. long wooden bulkhead and concrete pile foundation system, it must find the project consistent with the Chapter 3 policies of the Coastal Act and 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.

The purpose of the subject project is to protect an existing structure threatened by destruction from high tides and storm surf, as documented by the project engineer, the City of Malibu and Commission staff. The construction of the project will result in the erosion of sand supply, although this impact has been minimized as far as feasible by locating the bulkhead as landward as possible.

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

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

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.[14]

In the case of this project, the subject bulkhead is located 2.5 ft. further seaward than the existing gunite wall and underlying rip-rap. The subject location was expressly chosen in order to avoid destroying the existing residential duplex during the construction of the concrete cast-in-place caissons, and in order to protect the structural integrity of the existing septic system. The 2.5 ft diameter of the concrete caissons account for the distance between the subject bulkhead and the existing wall and rip-rap. Thus, the bulkhead is located as far landward as feasible in light of the particular site constraints.

Nevertheless, scour effects from the bulkhead may adversely impact the beach profile on a seasonal basis. 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 One (1)* has been included in order to implement the applicant's offer to dedicate a new lateral public access easement.

The proposed project will minimize adverse impacts on the shoreline and, as conditioned above, is consistent with the applicable Coastal Act sections and with past Commission action. Therefore, the Commission finds that the proposed project, as conditioned, is consistent with Sections 30235, and 30253 of the Coastal Act.

D. 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

[14] Coastal Development Permit 4-97-071 (Schaeffer)

hazards and geologic stability. For example, Policy 147 states 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 subject project and project site against the area's known hazards. The subject project involves the construction of a vertical bulkhead along a developed stretch of Big Rock Beach. 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. 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).***[15]

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[15] "Assessment of 1982-83 Winter Storms Damage Malibu Coastline", by Frank Denison and Hugh Robertson, in California Geology, September 1985.

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 is requesting an emergency permit follow-up approval for the construction of a 51 ft. long (44 ft. long w/one 7 ft. return wall) by 17 ft. high bulkhead wall and concrete pile foundation system to support and protect the residential duplex structure above and the septic system directly landward. The concrete pile system is comprised of seven (7), 24.5" diameter piles, which extend down into the bedrock. Four piles have been constructed directly behind the bulkhead and under the deck, and three piles have been constructed through the residence and 23 ft. landward of the other line of piles. No changes are proposed for the habitable space.

During the winter season, the proposed bulkhead will be subject to the wave attack, flooding, and erosion hazards that in the past have caused significant damage to development along the Malibu coastal zone and the beach area in the vicinity of the subject property. According to the Wave Uprush Study, prepared by Pacific Engineering for the subject site and dated 7/31/97, the maximum wave uprush point would extend as far landward as Pacific Coast Highway. The Coastal Act recognizes that new development, such as the construction of the proposed bulkhead on a beach, may involve the taking of some risk and requires the Commission to establish the appropriate degree of risk acceptable for the proposed development and 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 July 31, 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 possibility of risks due to 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 Two (2)* 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. Site Geologic Stability

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)***[16]

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.***[17]

The applicant has submitted a Soils Engineering Geologic Investigation prepared by GeoSystems dated March 26, 1997. According to this report, the eastern portion of the Big Rock Mesa landslide is located on the slope north of the site, across Pacific Coast Highway and, the southern limits of the slide in the area are undetermined at present. Further, the lateral movement of the existing timber piles appears to be a result of down slope movement of the underlying soils on the slope, the cause of which is uncertain. The report states:

> ***This lateral, down slope movement of the soils on the underlying slope may be the result of down hill creep within the soil, a small scale localized landslide, or a large scale landsliding (i.e. Big Rock Mesa landslide) all of which may have been caused or accelerated by the January 17, 1994, Northridge earthquake.***

The subject concrete cast-in-place caissons have been installed to support the existing foundation structure and subject bulkhead. However, these improvements are not designed to stabilize the site. According to the geotechnical engineer, stabilization of the site with respect to the Big Rock landslide was beyond the scope of the investigation, and was beyond the scope of the subject repair. The report however does indicate that the

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[16] Living with the California Coast, Griggs and Savoy

[17] "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.

project site is suitable for the subject bulkhead and foundation support. The report concludes that:

> ***Based on the findings of our investigation, the site is considered to be suitable from a soils and engineering-geologic sandpoint for construction of the proposed remedial foundation repair provided the recommendations included herein are followed and integrated into the building plans. The proposed replacement foundation system is remedial in scope intended to improve existing site conditions. It is not intended to completely stabilize the site nor is it intended as a complete repair of the complex geologic problems at the site.***

Nevertheless, given the proximity of the mapped portions of the Big Rock landslide across Pacific Coast Highway and the limited geologic findings regarding the nature of the material underlying the structure, there remains a level of risk. Therefore, the Commission can only approve the project if the applicant assumes the liability from the associated risks of further developing this site. This responsibility is carried out through the recordation of a deed restriction, as noted in *Special Condition Two (2).* The assumption of risk deed restriction, when recorded against the property will show that the applicant is aware of and appreciates the nature of the hazards which exist on the site and which may adversely affect the stability or safety of the proposed development.

The Commission notes that the subject 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.

E. 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 issues in this permit application are 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 30210 and 30211. As constructed, this project extends out onto a sandy beach area approximately 34 ft. seaward from the property line abutting Pacific Coast Highway and would be located approximately 40-48 ft. landward of the mean high tide line. All of the development is located under the residence. As stated in the preceding section, the project site is located on Big Rock Beach approximately 135 ft. to the west of an existing public vertical accessway.

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 ensures 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. In this case, the improvements are located under the existing residential duplex and do not directly interfere with access.

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 as here, 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.

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 8). The applicant has presented evidence that the project is located 40-48 feet from the Mean High Tide Line, as indicated by the plotted surveys from 1928, 1961, 1969 and 1997. The Coastal Commission currently has no independent evidence that the Mean High Tide Line has moved landward into the project area.

Even structures located landward of 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. Thus, the Commission also must consider whether a project will have indirect impacts on public ownership and public use of shore lands.

The applicant has designed, under an emergency permit, a wooded bulkhead supported by cast-in-place concrete caissons which extends 2.5 ft. further seaward than the previous gunite wall/rip-rap shoreline protection device. 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 subject bulkhead is located in an area that is subject to wave attack and wave energy. As such, the Commission notes that the construction of this new more seaward bulkhead will result in impacts to sand supply and public access.

The Commission Also Must Consider Whether a Project Affects Any Public Right to Use Shore lands 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 the underlying land on which the public use takes place. Generally, there are three additional types of public uses identified as: (1) the public's recreational rights in navigable waters guaranteed to the public under the California Constitution and state common law; (2) any rights that the public might have acquired under the doctrine of implied dedication based on continuous public use over a five-year period; and (3) any additional rights that the public might have acquired through public purchase or offers to dedicate.

Rights of use as the public walks the wet or dry sandy beach below the mean high tide plane move 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 or by conveyance. The Commission notes, however, that the subject bulkhead will result in adverse individual and cumulative effects on sand supply, beach profile, and ultimately, public access as a result of localized beach scour, retention of beach material and interruption of the longshore 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 from the presence of the structure on the 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 designed the subject bulkhead as landward as feasible in a manner that avoids the destruction of the existing structure through the location of the caissons and provides adequate buffer space and protection for the existing septic system.

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 subject development would cause on the shoreline processes and public access, further 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 lower deck to the Mean High Tide Line. 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 additional analysis of the potential adverse effects to public access resulting from the proposed project. As such, *Special Condition One (1)* 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 subject bulkhead, which is exposed to wave action, may be adversely impacting the beach profile on a seasonal basis. As such, the subject bulkhead, will result in adverse impacts to sand supply and public access. However, the Commission also notes that the subject 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's offer to dedicate a public lateral access easement along the southern portion of the property further mitigates 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.

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.

APPENDIX

SUBSTANTIVE FILE DOCUMENTS

Structural Engineering Report, KCE Matrix, 12/12/96.

Structural Engineering Addendum, KCE Matrix, 9/28/98.

Soils Engineering Geologic Investigation, Geosystems, 3/26/97.

Wave Uprush Study, Pacific Engineering, 7/31/97.

Wave Uprush Study Addendum, Pacific Engineering, 4/29/98.

Wave Uprush Study Addendum, Pacific Engineering, 9/22/98.

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

Certified Malibu/Santa Monica Mountains Land Use Plan, County of Los Angeles, 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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Denison, Frank and Hugh Robertson. "Assessment of 1982-83 Winter Storms Damage to Malibu Coastline". California Geology. September 1985.

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

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Johnson. "The Significance of Seasonal Beach Changes in Tidal Boundaries". Shore and Beach. (Vol. 39, No. 1). April 1971.

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.

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

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.

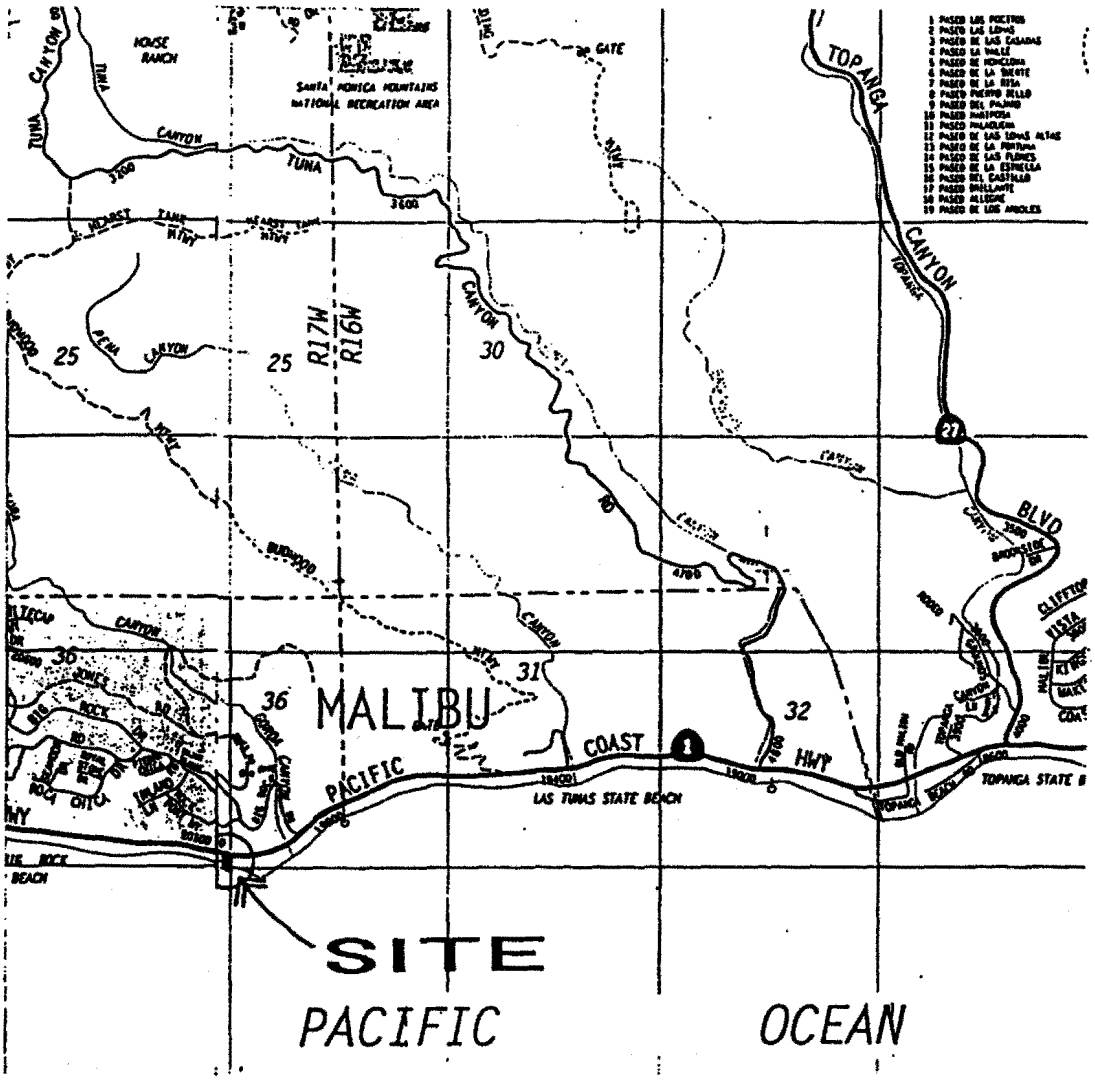
LETTERS and MEMOS

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); 4-98-158 (O'Connor); CDP 4-98-013-g (Johnson).



VICINITY MAP

(20016 PACIFIC COAST HIGHWAY)

EXHIBIT NO. 1
APPLICATION NO.
4-98-013 (JOHNSON)
VICINITY MAP

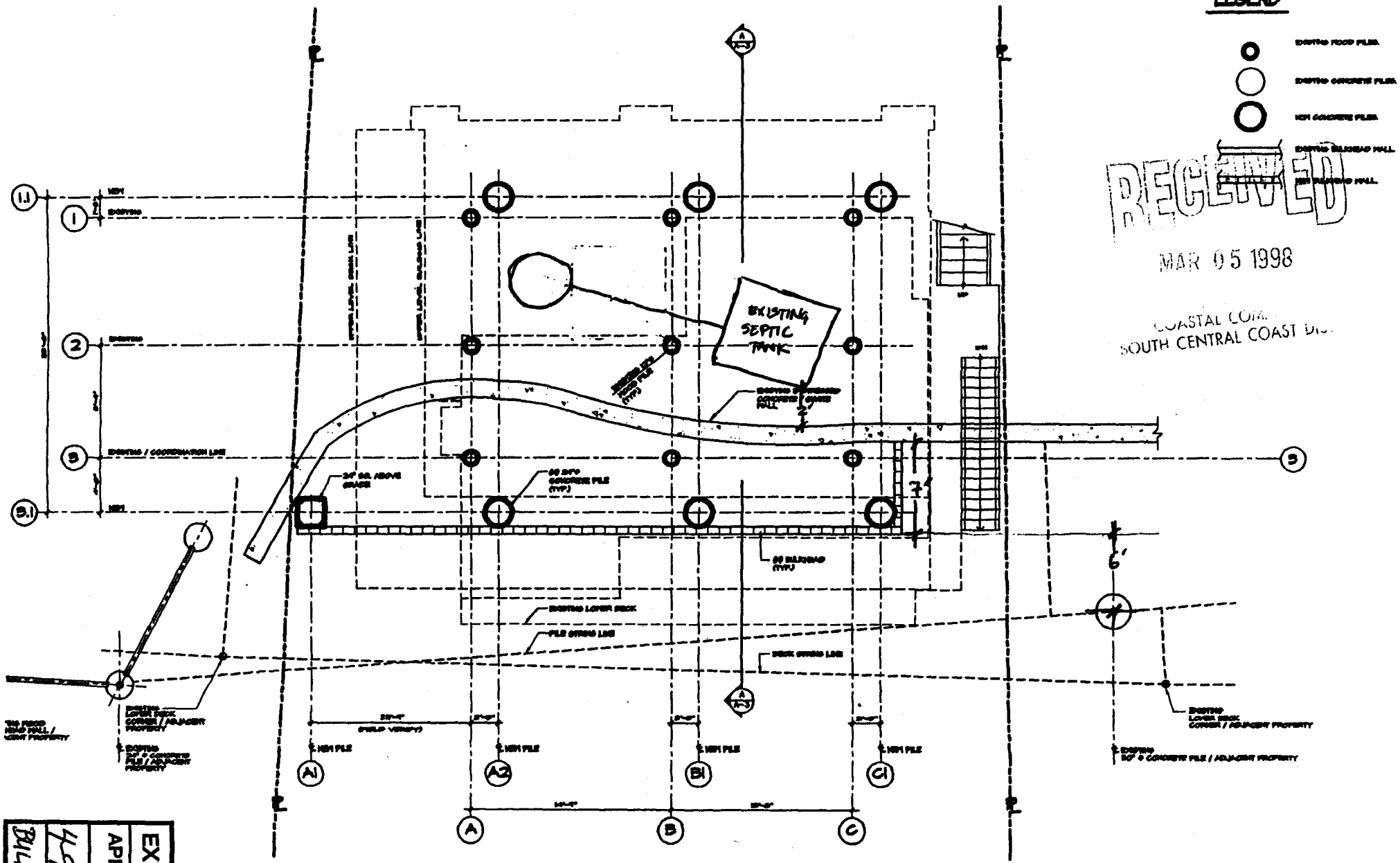
KCE MATRIX Civil & Structural Engineers 1440 N. GLENOAKS BLVD. SUITE 102 GLENDALE, CALIF. 91201 TEL. (818)500-0202 TAX(818)500-8500	SITE PLAN	30016 PACIFIC COAST HWY MALIBU, CALIF.	A-1

EXHIBIT NO. 2

APPLICATION NO.

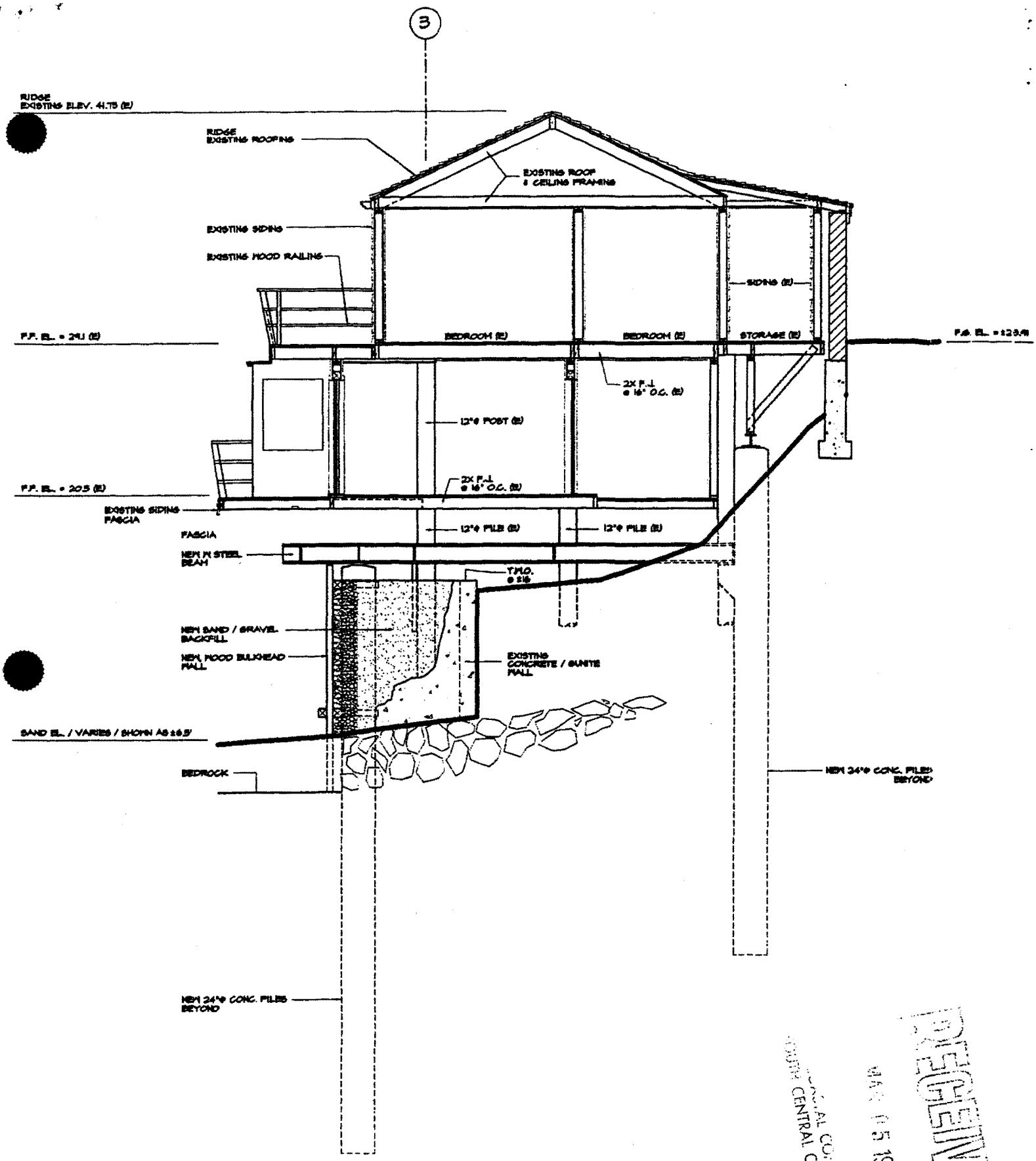
4-98-013 (JOHNSON)

SITE PLAN



RECEIVED
MAR 05 1998
COASTAL COM.
SOUTH CENTRAL COAST DIS.

EXHIBIT NO. 3
APPLICATION NO.
4-98-013 (JOHNSON)
BULKHEAD/FOUNDATION



SECTION A-A

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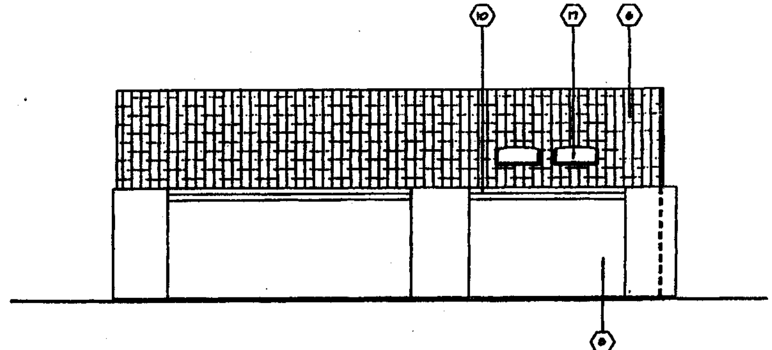
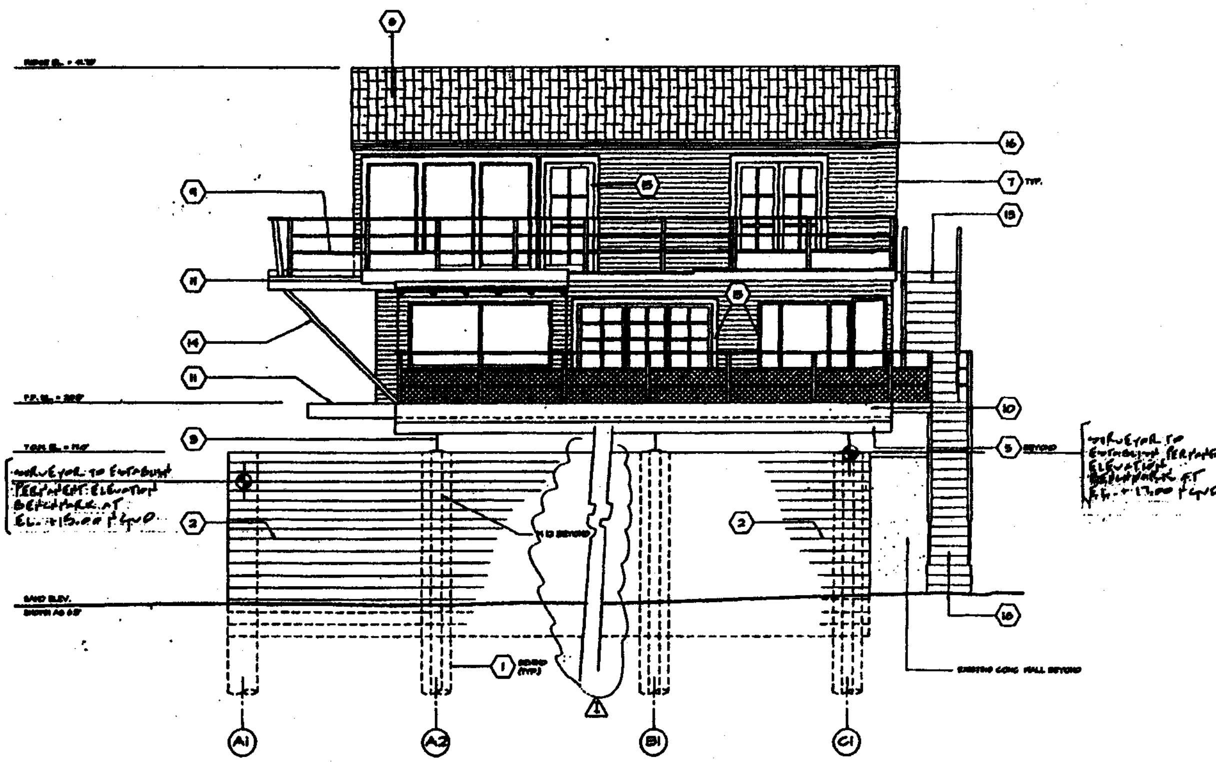
EXHIBIT NO. 4
APPLICATION NO.
4-98-013 (JOHNSON)
SECTION

LEGEND

NOTE:



NORTH ELEVATION
(PACIFIC COAST HWY)



SOUTH ELEVATION
(BEACH FRONT)

KCE MATRIX Civil & Structural Engineers
1648 N. GLENOAKS BLVD. SUITE 102
GLENDALE, CALIF. 91201
TEL.(818)500-0595 FAX(818)500-8580

ELEVATIONS

20016 PACIFIC COAST HWY
MALIBU, CALIF.

DATE : MARCH 1998
SCALE : 1/4"=1'-0"
DRAWN : REZA

A-6

EXHIBIT NO. 5
APPLICATION NO.
4-98-013 (JOHNSON)
N/S ELEVATIONS

KCE MATRIX civil & structural Engineers 1646 N. GLENOAKS BLVD. SUITE 102 GLENDALE, CALIF. 91201 TEL.(818)500-0888 FAX(818)500-0880	ELEVATIONS	2001 PACIFIC COAST HWY MALIBU, CALIF.	A-1

EAST ELEVATION

WEST ELEVATION

RECEIVED
MAR 05 1998
CALIFORNIA COASTAL COMM.
SOUTH CENTRAL COAST DISTRICT

LEGEND

EXHIBIT NO. 6
APPLICATION NO.
4-98-013 (JOHNSON)
E & W ELEVATIONS

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

EMERGENCY PERMIT

February 27, 1998

Permit No.: **4-98-013-G**

Applicant: **Gary Johnson**

Project Location: **20016 Pacific Coast Highway, Malibu (Los Angeles County) (APN 4450-002-53)**

Work Proposed: **Construct 51 foot long and 16.5 foot high bulkhead wall and concrete pile foundation system to supplement existing concrete wall and wood pilings (see attached plan). Proposed work does not include any expansion or remodeling of habitable space.**

This letter constitutes approval of the emergency work you or your representative has requested to be done at the location listed above. I understand from your information and our site inspection that an unexpected occurrence in the form of high tides and storm surf requires immediate action to prevent or mitigate loss or damage to life, health, property or essential public services. 14 Cal. Admin. Code Section 13009. The Executive Director hereby finds that:

(a) An emergency exists which requires action more quickly than permitted by the procedures for administrative or ordinary permits and the development can and will be completed within 60 days unless otherwise specified by the terms of the permit;

(b) Public comment on the proposed emergency action has been reviewed if time allows; and

(c) As conditioned the work proposed would be consistent with the requirements of the California Coastal Act of 1976.

The work is hereby approved, subject to the conditions listed on the reverse.

Very Truly Yours,

Peter M. Douglas
Executive Director

for By: Gary Timm
Title: District Manager

EXHIBIT NO. 7
APPLICATION NO.
4-98-013 (JOHNSON)
EMERGENCY PERMIT

CONDITIONS OF APPROVAL:

1. The enclosed form must be signed by the property owner and returned to our office within 15 days.

2. Only that work specifically described above and for the specific property listed above is authorized. Any additional work requires separate authorization from the Executive Director.

3. The work authorized by this permit must be completed within 60 days of the date of this permit.

4. Within 60 days of the date of this permit, the permittee shall apply for a regular coastal development permit to have the emergency work be considered permanent. If no such application is received, the emergency work shall be removed in its entirety within 150 days of the date of this permit unless waived by the Director.

5. In exercising this permit the applicant agrees to hold the California Coastal Commission harmless from any liabilities for damage to public or private properties or personal injury that may result from the project.

6. This permit does not obviate the need to obtain necessary authorizations and/or permits from other agencies.

7. The applicant shall ensure the project contractor: (a) not store any construction/demolition materials or waste where it may be subject to wave erosion and dispersion; (b) not allow any machinery in the intertidal zone at any time; and (c) remove promptly from the beach any and all debris that results from the construction/demolition activities

8. All backfill materials shall be imported from an off-site source and in no case shall material from the sandy beach area be used for any construction activity.

IMPORTANT

Condition #4 indicates that the emergency work is considered to be temporary work done in an emergency situation. If the property owner wishes to have the emergency work become a permanent development, a coastal permit must be obtained. A regular permit would be subject to all of the provisions of the California Coastal Act and may be conditioned accordingly. These conditions may include provisions for public access (such as an offer to dedicate an easement) and/or a requirement that a deed restriction be placed on the property assuming liability for damages incurred from storm waves.

If you have any questions about the provisions of this emergency permit, please call the Commission Area office.

Enclosures: 1) Acceptance Form; 2) Regular Permit Application Form
cc: Local Planning Department

STATE OF CALIFORNIA — PETE WILSON, *Governor*

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

ROBERT C. HIGHT, *Executive Officer*
(916) 574-1800 FAX (916) 574-18
California Relay Service From TDD Phone 800-735-29
from Voice Phone 800-735-2929

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

December 12, 1997

File Ref: SD 97-1 7

Vahe Bedrosian
KCE Matrix
1648 W. Glenoaks Blvd., Suite 102
Glendale CA 91201

Dear Mr. Bedrosian:

SUBJECT: Coastal Development Project Review for Structural Repairs and Bulkhead Wall Construction at 20016 Pacific Coast Highway, Malibu

This is in response to your request on behalf of your client, Gary Johnson, 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 make structural repairs to the existing foundation and construct a new wooden bulkhead to protect an existing two-story single family residence at 20016 Pacific Coast Highway in Malibu. The existing foundation and concrete bulkhead have deteriorated and the repairs are necessary to protect the integrity of the residence. New concrete pilings will be placed to support the residence. A wooden bulkhead will be constructed just seaward of the pilings and sand and gravel will be used as backfill between the new bulkhead and the existing deteriorated one. According to the plans you have submitted (Site Plan dated August 19, 1997 and Section Plan dated August 27, 1997), the new bulkhead will be located underneath the residence. The residence immediately to the west is protected by an existing bulkhead. This is a well-developed stretch of beach with numerous residences 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 determinatio would be ↗

EXHIBIT NO. 8
APPLICATION NO.
4-98-013 (JOHNSON)
SLC ENCROACHMENT RA

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 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,

Robert L. Lynch, Acting Chief
Division of Land Management

cc: Jack Ainsworth, CCC/San Buenaventura
Art Bashmakian, City of Malibu