

STATE OF CALIFORNIA -- THE RESOURCES AGENCY

CALIFORNIA COASTAL COMMISSION

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9/13/01 11/1/01 3/12/02 K. Kemmler 11/16/01

STAFF REPORT: REGULAR CALENDAR

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APPLICATION NO.: 4-01-100

APPLICANT: Red, White & Blue Pictures

AGENT: Susan McCabe

PROJECT LOCATION: 22258 Pacific Coast Highway, Malibu (Los Angeles County)

PROJECT DESCRIPTION: Proposal to demolish an existing single family residence including decks, fencing, paved areas and bulkhead; construct a new 24 ft. high, 1,175 sq. ft single family residence with 400 sq. ft. attached garage, driveway and parking court, bulkhead and return wall, swimming pool, wood deck and stairs, 6 ft. high stucco privacy wall, three 6 ft. high wrought iron gates; install an secondary treatment septic system; and perform approximately 200 cu. yds. grading (100 cu. yds. excavation and 100 cu. yds. fill). The proposal also includes an offer to dedicate lateral access easement over the southern beachfront portion of the site as measured from the deck dripline to the ambulatory mean high tide line and the construction of a five foot wide public concrete sidewalk between Pacific Coast Highway and the proposed development.

Lot area	9,160 sq. ft.
Building coverage	1,050 sq. ft.
Pavement coverage	2,118 sq. ft.
Landscape coverage	476 sq. ft.
Height Above Finished Grade	24 ft.
Parking spaces	4

LOCAL APPROVALS RECEIVED: City of Malibu Planning Department, Approval in Concept, March 15, 2000; City of Malibu Environmental Health, Approval in Concept, March 8, 2000; City of Malibu Biological Review, Approval, February 8, 2000.

SUBSTANTIVE FILE DOCUMENTS: "Wave Uprush Study Addendum," Pacific Engineering Group, August 28, 2001; "Geotechnical Engineering Report," RJR Engineering Group, Inc., September 23, 1998; "Addendum Letter #1," RJR Engineering Group, Inc., December 31, 1998; "Geotechnical Update Letter," RJR Engineering Group, Inc., July 23, 2001.

Summary of Staff Recommendation

Staff recommends *approval* of the proposed project with **thirteen (13) special conditions** regarding (1) geologic, geotechnical, and coastal engineering recommendations, (2) drainage and polluted runoff, (3) landscaping and erosion control, (4) assumption of risk, (5) offer to dedicate lateral public access, (6) public view corridor, (7) removal of existing bulkhead, (8) limited term for shoreline protective structure, (9) construction of sidewalk, (10) pool maintenance, (11) construction responsibilities, (12) sign restriction, and (13) revised plans.

I. Staff Recommendation

MOTION: I move that the Commission approve Coastal Development Permit No. 4-01-100 pursuant to the staff recommendation.

Staff Recommendation of Approval:

Staff recommends a **YES** vote. Passage of this motion will result in approval of the permit as conditioned and adoption of the following resolution and findings. The motion passes only by affirmative vote of a majority of the Commissioners present.

Resolution to Approve the Permit:

The Commission hereby approves a coastal development permit for the proposed development and adopts the findings set forth below on grounds that the development as conditioned will be in conformity with the policies of Chapter 3 of the Coastal Act and 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. Approval of the permit complies with the California Environmental Quality Act because either 1) feasible mitigation measures and/or alternatives have been incorporated to substantially lessen any significant adverse effects of the development on the environment, or 2) there are no further feasible mitigation measures or alternatives that would substantially lessen any significant adverse impacts of the development on the environment.

II. Standard Conditions

- 1. Notice of Receipt and Acknowledgment. The permit is not valid and development shall not commence until a copy of the permit, signed by the permittee or authorized agent, acknowledging receipt of the permit and acceptance of the terms and conditions, is returned to the Commission office.
- 2. Expiration. If development has not commenced, the permit will expire two years from the date on which the Commission voted on the application. Development shall be pursued in a diligent manner and completed in a reasonable period of time. Application for extension of the permit must be made prior to the expiration date.

- **3. Interpretation.** Any questions of intent or interpretation of any term or condition will be resolved by the Executive Director or the Commission.
- **4. Assignment.** The permit may be assigned to any qualified person, provided assignee files with the Commission an affidavit accepting all terms and conditions of the permit.
- 5. Terms and Conditions Run with the Land. These terms and conditions shall be perpetual, and it is the intention of the Commission and the permittee to bind all future owners and possessors of the subject property to the terms and conditions.

III. Special Conditions

1. Plans Conforming to Geologic, Geotechnical, and Coastal Engineering Recommendations

All recommendations contained in the Wave Uprush Study Addendum dated August 28, 2001 prepared by Pacific Engineering Group and the Geotechnical Engineering Report dated September 23, 1998 prepared by RJR Engineering Group, Inc. shall be incorporated into all final design and construction including *foundations*, *grading*, *sewage disposal* and *drainage*. Final plans must be reviewed and approved by the consultants. *Prior to issuance of the coastal development permit*, the applicant shall submit, for review and approval by the Executive Director, two sets of plans with evidence of the consultants' review and approval of all project plans.

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

2. Drainage and Polluted Runoff Control Plans

Prior to the Issuance of the Coastal Development Permit, the applicants shall submit to the Executive Director for review and written approval, two sets of final drainage and runoff control plans, including supporting calculations. The plan shall be prepared by a licensed engineer and shall incorporate structural and non-structural Best Management Practices (BMPs) designed to control the volume, velocity and pollutant load of stormwater leaving the developed site. The plan shall be reviewed and approved by the consulting geotechnical engineer and geologist to ensure the plan is in conformance with consultant's recommendations. In addition to the specifications above, the plan shall be in substantial conformance with the following requirements:

- (a) Selected BMPs (or suites of BMPs) shall be designed to treat or filter stormwater from each runoff event, up to and including the 85th percentile, 24-hour runoff event for volume-based BMPs, and/or the 85th percentile, 1-hour runoff event, with an appropriate safety factor, for flow-based BMPs.
- (b) Runoff shall be conveyed off site in a non-erosive manner.

- (c) Energy dissipating measures shall be installed at the terminus of outflow drains.
- (d) The plan shall include provisions for maintaining the drainage system, including structural BMPs, in a functional condition throughout the life of the approved development. Such maintenance shall include the following: (1) BMPs shall be inspected, cleaned and repaired when necessary prior to the onset of the storm season, no later than September 30th each year and (2) should any of the project's surface or subsurface drainage/filtration structures or other BMPs fail or result in increased erosion, the applicant/landowner or successor-in-interest shall be responsible for any necessary repairs to the drainage/filtration system or BMPs and restoration of the eroded area. Should repairs or restoration become necessary, prior to the commencement of such repair or restoration work, the applicant shall submit a repair and restoration plan to the Executive Director to determine if an amendment or new coastal development permit is required to authorize such work.

3. Landscaping and Erosion Control Plans

Prior to issuance of a coastal development permit, the applicant shall submit a landscaping plan, prepared by a licensed landscape architect or a qualified resource specialist, for review and approval by the Executive Director. The plans shall identify the species, extent, and location of all plant materials and shall incorporate the following criteria:

- (a) The portion of the subject site that is not sandy beach (or subject to wave action) located within the public view corridor and the portion of the site between the proposed residence and Pacific Coast Highway shall be planted within sixty (60) days of receipt of the certificate of occupancy for the residence. Any portion of the site that is subject to wave action shall be maintained as sandy beach area. To minimize the need for irrigation, all landscaping shall consist primarily of native/drought resistant plants as listed by the California Native Plant Society, Santa Monica Mountains Chapter, in their document entitled Recommended List of Plants for Landscaping in the Santa Monica Mountains, dated February 5, 1996. Such planting shall be adequate to provide 90 percent coverage within two (2) years, and this requirement shall apply to all disturbed soils. Invasive, non-indigenous plan species that tend to supplant native species shall not be used.
- (b) Plantings will be maintained in good growing condition throughout the life of the project and, whenever necessary, shall be replaced with new plant materials to ensure continued compliance with applicable landscape requirements.
- (c) Vegetation within the public view corridor, as consistent with Special Condition No. Six
 (6), shall be limited to low-lying vegetation of no more than two feet in height.

4. Assumption of Risk/Shoreline Protection

- A. By acceptance of this permit, the applicant acknowledges and agrees to the following:
 - 1) The applicant acknowledges and agrees that the site may be subject to hazards from liquefaction, storm waves, surges, erosion, landslide, flooding, and wildfire.

- 2) The applicant acknowledges and agrees to assume the risks to the applicant and the property that is the subject of this permit of injury and damage from such hazards in connection with this permitted development.
- 3) The applicant unconditionally waives any claim of damage or liability against the Commission, its officers, agents, and employees for injury or damage from such hazards.
- 4) The applicant agrees to indemnify and hold harmless the Commission, its officers, agents, and employees with respect to the Commission's approval of the project against any and all liability, claims, demands, damages, costs (including costs and fees incurred in defense of such claims), expenses, and amounts paid in settlement arising from any injury or damage due to such hazards.
- 5) No future repair or maintenance, enhancement, reinforcement, or any other activity affecting the shoreline protective device approved pursuant to Coastal Development Permit 4-01-100, as shown on revised plan pursuant to Special Condition No. Thirteen, shall be undertaken if such activity extends the seaward footprint of the subject shoreline protective device. By acceptance of this permit, the applicant hereby waives, on behalf of itself and all successors and assigns, any rights to such activity that may exist under Public Resources Code section 30235.
- B. Prior to issuance of the coastal development permit, the applicant shall execute and record a deed restriction, in a form and content acceptable to the Executive Director incorporating all of the above terms of this condition. The deed restriction shall include a legal description of the applicant's entire parcel and an exhibit showing the location of the shoreline protective device approved by this permit. The deed restriction 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 Commission amendment to this coastal development permit.

5. Offer to Dedicate Lateral Public Access

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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 (Assessor's Parcel Number 4451-006-012) from the ambulatory mean high tide line landward to the approved deck dripline.

The document shall be recorded free of prior liens that the Executive Director determines may affect the interest being conveyed, and free of any other encumbrances that may affect said interest. The offer shall run with the land in favor of the People of the State of California, binding all successors and assignees, and shall be irrevocable for a period of 21 years, such period running from the date of recording. The recording document shall include legal

descriptions of both the applicant's entire parcel and the easement area. This deed restriction shall not be removed or changed without a Coastal Commission-approved amendment to this coastal development permit unless the Executive Director determines that no amendment is required.

6. Public View Corridor

- A. By acceptance of this coastal development permit, the applicant agrees, on behalf of itself and its successors and assigns that:
 - 1) No less than 20 percent of the lineal frontage of the project site shall be maintained as a public view corridor from Pacific Coast Highway to the Pacific Ocean.
 - 2) No structures, vegetation, or obstacles which result in an obstruction of public views of the Pacific Ocean from Pacific Coast Highway shall be permitted within the public view corridor as shown on Exhibit 3.
 - 3) Fencing within the public view corridor shall be limited to visually permeable designs and materials, such as wrought iron or non-tinted glass materials. Fencing shall be limited to no more than six feet in height. All bars, beams, or other non-visually permeable materials used in the construction of the proposed fence shall be no more than one inch in thickness/width and shall be placed no less than 12 inches apart in distance. Alternative designs may be allowed only if the Executive Director determines that such designs are consistent with the intent of this condition and serve to minimize adverse effects to public views.
 - 4) Vegetation within the public view corridor, as consistent with **Special Condition No. Three (3)**, shall be limited to low-lying vegetation of no more than two feet in height.
- B. Prior to issuance of the coastal development permit, the applicant shall record a deed restriction setting forth the above restriction. 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.

7. Removal of Existing Bulkhead

The applicant shall remove the existing bulkhead located on the subject site prior to the construction of the proposed residence.

8. Limited Term for Shoreline Protective Structure Deed Restriction

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 that:

A. The applicant acknowledges that the purpose of the shoreline protective device authorized by this permit is solely to protect the septic system on site and that no shoreline protective device is required to protect the residence authorized by this permit. If the proposed septic system is replaced or abandoned for any reason (including the installation of a new sewer system along Pacific Coast Highway) then a new coastal development permit for the shoreline protective device authorized by Coastal Development Permit 4-01-100 shall be required. If a new coastal development permit for the shoreline protective device is not obtained in the event of replacement or abandonment of the septic system, then the shoreline protective device shall require a coastal development permit or other authorization under the Coastal Act.

B. 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.

9. Construction of Sidewalk

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Prior to issuance of a coastal development permit, the applicant shall submit, for the review and approval of the Executive Director, evidence of all necessary approvals from the California Department of Transportation for the proposed modifications to the existing sidewalk, or evidence that such approvals are not required. In order to implement the applicant's proposal to construct a five foot wide public sidewalk between the proposed development and Pacific Coast Highway, the applicant agrees to construct the five foot wide sidewalk between Pacific Coast Highway and the proposed development shown on the proposed project plans no later than 60 days after the issuance of the certificate of occupancy. No encroachments, such as planters, vegetation, or other structures or obstacles, that would affect the public's ability to use the entire sidewalk area shall be constructed or placed.

10. Pool Drainage and Maintenance

Prior to the issuance of the Coastal Development Permit, the applicant shall submit, for review and approval of the Executive Director, a written plan to mitigate the potential for leakage and discharge from the proposed swimming pool. The plan shall at a minimum: 1) identify a nonchlorine based system, such as an ozone treatment system or other similar cleansing system to be used, 2) provide a separate water meter for the pool to allow monitoring of water levels for the pool, 3) identify the materials, such as plastic linings or specially treated concrete to be used to waterproof the underside of the pool to prevent leakage, and information regarding past success rates of these materials, and 4) identify methods to control pool drainage and to control infiltration and run-off resulting from pool drainage and maintenance activities. The permittee shall undertake development and maintenance in compliance with the mitigation plan approved by the Executive Director. No changes shall be made to the plan unless they are approved by the Executive Director.

11. Construction Responsibilities and Debris Removal

The applicant shall, by accepting this permit, agree: a) that no stockpiling of dirt or construction materials shall occur on the beach; b) that all grading shall be properly covered and sand bags and/or ditches shall be used to prevent runoff and siltation; and, c) that measures to control erosion must be implemented at the end of each day's work. In addition, no machinery will be

allowed in the intertidal zone at any time. The permittee shall remove from the beach area any and all debris that result from the construction period.

12. Sign Restriction

No signs shall be posted on the property subject to this permit unless they are authorized by a coastal development permit or an amendment to this coastal development permit.

13. Revised Plans

Prior to issuance of the coastal development permit, the applicant shall submit, for the review and approval of the Executive Director, revised project plans prepared by a registered engineer and architect, which show:

- (a) The lowest surface of the deck, pool shell, and any other structures seaward of the residence at no lower than elevation +17.3 mean sea level, which is the maximum breaking wave elevation at the site as delineated in the Wave Uprush Study Addendum dated August 28, 2001 prepared by Pacific Engineering Group.
- (b) The plan view of the bulkhead and return wall in relation to the property boundaries, septic system, and wave uprush limit line and cross-sections of the bulkhead and return wall.

IV. Findings and Declarations

The Commission hereby finds and declares:

A. Project Description and Background

The applicant is proposing to demolish an existing single family residence including decks, fencing, paved areas and bulkhead; construct a new 24 ft. high, 1,175 sq. ft single family residence with 400 sq. ft. attached garage, driveway and parking court, bulkhead and return wall, swimming pool, wood deck and stairs, 6 ft. high stucco privacy wall, three 6 ft. high wrought iron gates; install an secondary treatment septic system; and perform approximately 200 cu. yds. grading (100 cu. yds. excavation and 100 cu. yds. fill) (Exhibits 3-9). In addition, the project also includes an offer to dedicate a lateral public access easement over the southern beachfront portion of the site as measured from the deck dripline to the ambulatory mean high tide line and the construction of a five foot wide public sidewalk located between Pacific Coast Highway and the proposed development.

The project site is located on a rectangular beachfront parcel of land encompassing approximately 9,160 square feet on Carbon Beach between Pacific Coast Highway and the Pacific Ocean (Exhibits 1 & 2). The area surrounding the project site is characterized as a built-out portion of Malibu consisting of residential development. The subject site is currently developed with an existing 2,033 sq. ft. single family residence. In addition, there is an existing bulkhead across the subject parcel.

The proposed project includes the demolition of all existing development on the subject site, including the bulkhead, and the construction of a new smaller residence. Further, the proposed development will be constructed entirely on a caisson/grade beam foundation. Although no

shoreline protective devices are necessary to protect the proposed single family residence, a new bulkhead is necessary to protect the secondary treatment septic system on the project site. The secondary treatment septic system will be located in the most landward position feasible, as will the protective bulkhead. The proposed return wall along the eastern property line is necessary to protect the septic system as the neighboring property to the east does not provide continuous protection, and thus a return wall extending from the east end of the bulkhead landward to five feet seaward of Pacific Coast Highway is necessary to protect the septic system from wave uprush and beach scour around the end of the bulkhead.

In addition, the applicant has submitted evidence of review of the proposed project by the California State Lands Commission (CSLC) dated January 26, 2000, which indicates that the CSLC presently asserts no claims that the project is located on public tidelands. The CSLC does, however, reserve the right to any future assertion of state ownership or public rights should circumstances change (Exhibits 10a and b).

B. Shoreline Processes, Shoreline Protective Devices, and Seaward Encroachment

The proposed project includes the construction of a 46 foot long bulkhead and a 19 foot long return wall with a maximum height of approximately nine and a half feet. The proposed bulkhead will be located approximately 24 feet seaward of the Pacific Coast Highway right-of-way/property line. The proposed bulkhead will be located entirely beneath the proposed structure, at least 75 feet landward of the deck dripline.

Past Commission review of shoreline residential projects in Malibu has shown that such development results in potential individual and cumulative adverse effects to coastal processes, shoreline sand supply, and public access. Shoreline development, if not properly designed to minimize such adverse effects, may result in encroachment on lands subject to the public trust (thus physically excluding the public), interference with the natural shoreline processes necessary to maintain publicly-owned tidelands and other public beach areas, overcrowding or congestion of such tideland or beach areas, and visual or psychological interference with the public's access to and the ability to use public tideland areas.

As described in the discussion below, there is evidence that the proposed development along this section of Carbon Beach will require a shoreline protective device and that such development has the potential to adversely impact 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 that new development shall:

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

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

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

To accurately determine what adverse effects to coastal processes may result from the proposed project, it is necessary to analyze the proposed project in relation to characteristics of the project site shoreline, location of the development on the beach, and wave action.

Site Shoreline Characteristics

The proposed project site is located on Carbon Beach in the City of Malibu. Carbon Beach is characterized as a relatively narrow beach that has been developed with numerous single family residences located to the east and west of the subject site. The Malibu/Los Angeles County Coastline Reconnaissance Study by the United States Army Corp of Engineers, dated April 1994, indicates that residential development on Carbon Beach is exposed to recurring storm damage because of the absence of a sufficiently wide protective beach. The applicant's coastal engineering consultant has indicated that Carbon Beach is an oscillating (equilibrium) beach that experiences seasonal erosion and recovery. The "Wave Uprush Study Addendum" by Pacific Engineering Group, dated August 28, 2001, further indicates that the width of the beach changes seasonally and that the subject beach experiences a seasonal foreshore slope movement (oscillation) by as much as 80 feet.

Stringline

As a means of controlling seaward encroachment of residential structures on a beach to ensure maximum public access and minimize wave hazards, as well as minimize adverse effects to coastal processes, shoreline sand supply, and public views, the Commission has, in past permit actions, developed the "stringline" policy. As applied to beachfront development, the stringline limits the seaward extension of a structure to a line drawn between the nearest corners of adjacent structures and limits decks to a similar line drawn between the nearest corners of the adjacent decks. The Commission has applied this policy to numerous past permits involving infill on sandy beaches and has found it to be an effective policy tool in preventing further encroachments onto sandy beaches.

The structural stringline for the proposed residence has been correctly drawn from the appropriate corners of the neighboring structures located immediately to the west (upcoast) and

east (downcoast) of the project site. The proposed development will be located landward of the appropriate stringlines, including the deck stringline, and will not result in the seaward encroachment of residential development on Carbon Beach (Exhibit 3). As such, the Commission finds that the proposed project will not result in the seaward encroachment of development on Carbon Beach and will serve to minimize adverse effects to coastal processes.

Location of Proposed Shoreline Protective Device in Relation to the Mean High Tide Line & Wave Action

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

1. Mean High Tide Line

The "Wave Uprush Study Addendum," prepared by Pacific Engineering Group, dated August 28, 2001 represents that based on a list of historical mean high tide lines, the most landward known measurement of the ambulatory mean high tide line on the project site was approximately 151 feet seaward of the Pacific Coast Highway right-of-way line, in October of 1928. The seaward most extension of the proposed development (the dripline of the proposed deck) will be located approximately 100 feet seaward of the Pacific Coast Highway right-of-way line and approximately 51 feet landward of the October 1928 mean high tide line. Based on the submitted information, the Commission notes that the proposed development will be located landward of the October 1928 mean high tide line. However, this mean high tide line measurement represents only one measurement and does not provide adequate information for a definitive determination of the location of the mean high tide line at this site. Furthermore, the location of the mean high tide line at this site is ambulatory in nature.

2. Wave Uprush

Although the proposed structure will be located landward of the October 1928 mean high tide line, the "Wave Uprush Study Addendum," prepared by Pacific Engineering Group, dated August 28, 2001 indicates that the maximum wave uprush at the subject site will occur approximately five feet landward of the Pacific Coast Highway right-of-way line (landward of the proposed residence). This wave uprush analysis was based on the "use of +0.75 foot storm surge and a sealevel rise of +0.75 feet (100-year projection) resulting in a still water line (SWL) at the elevation of +7.5Ft. MLLW datum." The applicant's engineering consultant has indicated that although the proposed residence will be constructed seaward of the maximum wave uprush limit, the residence will be constructed on a concrete slab foundation supported by cast in place concrete friction piles and reinforced concrete grade beams and will not require any form of shoreline protection to ensure structural stability.

The Wave Uprush Study Addendum by Pacific Engineering Group dated August 28, 2001 states that the entire residence, including garage, decks, stairs, and pool must be supported on a cast-in-place concrete friction pile and grade beam foundation and that the bottom of the residence should be no lower than elevation +17.5 ft. MSL. The Commission notes, however, that although the proposed project plans indicate that the bottom of the structural slab for the residence will be located at elevation +17.5 ft. MSL, consistent with the recommendations within

the Wave Uprush Study Addendum, the bottom of the structural slab for the deck and pool shell to be incorporated into the design of the proposed deck will only be located at elevation +17 ft. MSL and +9 ft. MSL, respectively. The applicant's coastal engineer has not adequately justified the recommended elevations of the proposed deck and pool shell which are below the maximum expected wave height at the site (+17.3 MSL). As those proposed structures are located seaward of the proposed residence (recommended to be higher than elevation +17.5 MSL) and at an elevation well below the maximum expected wave height, they would possibly be subject to wave action and result in additional scour and erosional effects on the beach as wave energy is reflected off of the low-lying structures.

Therefore, in order to ensure that adverse effects to coastal processes and shoreline sand supply are minimized and to ensure structural stability, **Special Condition No. Thirteen (13)** specifically requires the applicant to submit revised project plans which show that the bottom of the deck and pool shell will be constructed no lower than elevation +17.3 ft. MSL, as consistent with the maximum expected wave height at the site as delineated in the Wave Uprush Study Addendum.

In addition, the proposed project includes the installation of a new secondary treatment septic system, which uses a MicroFast secondary treatment tank. The Commission notes that the proposed septic system is located as landward as feasible. However, the seaward extent of the septic system and leachfield (located within the first 20 feet seaward of the Pacific Coast Highway right-of-way line) will still be located within the wave uprush zone and will require a shoreline protection device to ensure the stability of the system. The Commission notes that the maximum wave uprush limit line is located only five feet seaward of the Pacific Coast Highway right-of-way line/property line and that, therefore, it is not possible to construct any type of septic system that would not be subject to periodic wave action without the construction of some form of shoreline protection. Therefore, the Commission notes that the proposed bulkhead is necessary to protect the proposed septic system and leachfield from wave uprush and erosion.

Based on the above discussion, the Commission finds that the proposed bulkhead is required to protect the septic system for the proposed residential development. The Commission further finds that the proposed bulkhead, which will be located as far landward as feasible, will be subject to wave action during storm and high tide events. Therefore, the following discussion is intended to evaluate the impacts of the proposed timber bulkhead on the beach, based on the above information which identified the specific structural design, location of the structure, and shoreline geomorphology.

Effects of Shoreline Protective Device on Beach

It is important to accurately calculate the potential of wave runup and wave energy that the shoreline protection device will be subjected to. Dr. Douglas Inman, renowned authority on Southern California beaches finds 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 a 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.¹

In past permit actions, the Commission has found that one of the most critical factors controlling the impact of a shoreline protection device on the beach is its position on the beach profile relative to the surf zone. Generally, the further seaward that a shoreline protective device is located, the more frequently and more vigorously waves will interact with it. If a shoreline protective device is in fact necessary, the best location for it is at the back of the beach, where it may provide protection from the most severe storms. In contrast, a shoreline protective device constructed too close to the mean high tide line may constantly create problems related to frontal and end scour erosion, as well as upcoast sand impoundment.

Although the precise impacts of a structure located on the beach are a continual subject of debate within the discipline of coastal engineering, particularly between coastal engineers and marine geologists, it is generally agreed that a shoreline protective device will affect the configuration of the shoreline and beach profile, whether it is a vertical bulkhead or a rock revetment seawall. The main difference between a vertical bulkhead and rock revetment seawall is their relative physical encroachment onto the beach. It has been well documented by coastal engineers and coastal geologists that shoreline protective devices and 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), retention of potential beach material behind the wall, fixing of the back beach, and interruption of alongshore processes. In order to evaluate these potential impacts relative to the proposed structure and its location on Carbon Beach, each of the identified effects will be evaluated below.

1. 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 as a result of seawalls is a frequently observed occurrence. When waves impact 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 conjunction with 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 on the subject acknowledges that seawalls affect the supply of beach sand.

The "Wave Uprush Study Addendum," prepared by Pacific Engineering Group, dated August 28, 2001 indicates that the proposed bulkhead will be located seaward of the maximum wave uprush limit and will, therefore, periodically be subject to wave action. In past permit actions, the Commission has found that shoreline protective devices that 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: "Seawalls usually cause accelerated erosion of the beaches fronting them and an increase in the transport rate of sand along them."² In addition, experts in the field of coastal geology, who view beach processes

¹ Letter from Dr. Douglas Inman to California Coastal Commission staff member and senior engineer, Lesley Ewing, February 25, 1991.

^{2 &}quot;Saving the American Beach: A Position Paper by Concerned Coastal Geologists," Skidaway Institute of Oceanography, March 1981, page 4.

from the perspective of geologic time, signed the following succinct statement regarding 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.³

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

The impact of seawalls as they relate to sand removal on the sandy beaches is further documented by the State of California, Department of Boating and Waterways, which stated:

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.⁴

Finally, Robert G. Dean underscored this observation more recently in 1987 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.⁵

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 of the beach itself. He concludes:

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

^{3 &}quot;Saving the American Beach: A Position Paper by Concerned Coastal Geologists," Skidaway Institute of Oceanography, March 1981, page 4.

^{4 &}quot;Shore Protection in California," State Department of Boating and Waterways (formerly Navigation and Ocean Development), 1976, page 30.

^{5 &}quot;Coastal Sediment Processes: Toward Engineering Solutions," Robert G. Dean, 1987.

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.⁶

Dr. Everts further asserts that armoring in the form of a shoreline protection device 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 the California coast, where shoreline protection devices have successfully halted the retreat of the shoreline, 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 beaches in the City of Encinitas, in San Diego County, construction of vertical seawalls along the base of the bluffs to protect existing residential development at the top of the bluffs has resulted in preventing the bluffs' contribution of sand to the beaches. This has resulted in a narrowing of those beaches.

As set forth previously, the subject site is located on Carbon Beach, a narrow, oscillating (equilibrium) beach that experiences seasonal erosion and recovery. The applicant's coastal engineering consultant has indicated that the proposed bulkhead and return wall will be acted upon by waves during storm conditions. The applicant's consultant has also indicated that seasonal foreshore slope movement can be as much as 80 feet. In addition, if a seasonal eroded beach condition occurs with greater frequency due to the placement of a bulkhead and return wall 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 a loss of beach occurs on both types of beaches where a shoreline protective device exists. Therefore, the Commission notes that the proposed bulkhead, over time, will result in potential adverse effects to the beach sand supply, resulting in increased seasonal erosion of the beach, and longer recovery periods.

In addition, the impacts of potential beach scour are important relative to beach use for two primary reasons. The first reason involves public access. The proposed project is located approximately 2,850 feet east (downcoast) of the nearest open public vertical coastal accessway and only approximately 1,250 feet to the east (downcoast) and 850 feet to the west (upcoast) of two vertical accessways, which have been offered for dedication by the landowners for public use, but have not been accepted or opened up for public use. If the beach scours at the base of the bulkhead, even minimal scouring in front of the 46 foot long bulkhead or along the 19 foot long return wall will translate into a loss of beach sand available through erosion than would otherwise occur under a normal winter season if the beach were unaltered. The second impact relates to the potential turbulent ocean condition that may be created. Scour at the face of a seawall will result in greater interaction with the wall and, thus, make the ocean along Carbon Beach more turbulent than it would be normally be along an unarmored beach Thus, the Commission has ordinarily required that shoreline protection devices be area. located as far landward as possible, in order to reduce adverse effects from scour and erosion. In the case of this project, the Commission notes that the proposed bulkhead will be located as far landward as feasible in order to provide protection for the proposed septic system, which

⁶ Letter Report from Dr. Craig Everts, Moffatt and Nichol Engineers, to California Coastal Commission staff member and senior engineer, Lesley Ewing, March 14, 1994.

has also been located as far landward as feasible, in order to minimize adverse effects from scour and erosion.

As discussed above, the Commission notes that the new bulkhead and septic system will be located as far landward as possible. However, the Commission further notes that the purpose of the shoreline protective device authorized by this permit is solely to protect the septic system on site and that no shoreline protective device is required to protect the residence authorized by this permit. If the septic system approved under this permit to protect the septic system might no longer be necessary and the adverse impacts of the shoreline protective device on public access could be eliminated through its removal or by locating the shoreline protective device further landward. Additionally, any future improvements to the proposed seawall that might result in the seaward extension of the shoreline protection device would result in increased adverse effects to shoreline sand supply and public access.

Therefore, to ensure that the proposed project does not result in new future adverse effects to shoreline sand supply and public access and that future impacts are reduced or eliminated, **Special Condition No. Eight (8)** requires the applicant to record a deed restriction which provides that a new coastal development permit for the shoreline protective device authorized this permit shall be required if the proposed septic system is replaced or abandoned for any reason, including the installation of a new sewer system along Pacific Coast Highway, and that if a new coastal development permit for the shoreline protective device is not obtained in the event of replacement or abandonment of the septic system, then the shoreline protective device authorized by this permit shall be removed. **Special Condition No. Four (4)** also prohibits any future repair or maintenance, enhancement, reinforcement, or any other activity affecting the shoreline protective device approved pursuant to this permit, if such activity extends the seaward footprint of the subject shoreline protective device. This will prevent adverse impacts to shoreline processes from seaward extensions of the bulkhead.

In addition, in past permit actions, the Commission has required that new development on a beach, including the construction of new single family residences or shoreline protection devices, provide for lateral public access along the beach in order to mitigate adverse effects to public access from increased beach erosion. In this case, the Commission notes that the applicant is proposing to dedicate a lateral public access easement that would provide for public access along the entire beach under all tidal conditions, as measured seaward from the approved deck dripline. The Commission notes that the lateral public access easement, which the applicant has offered to dedicate as part of this project, will be consistent with other lateral public access easements that have been recorded on properties along Carbon Beach and in the Malibu area.

In order to conclude with absolute certainty what adverse effects would result from the proposed project in relation to shoreline processes, a historical shoreline analysis based on site specific studies would be necessary. Although this level of analysis has not been submitted by the applicant, the Commission notes that because the applicant has proposed, as part of the project, an offer to dedicate a lateral public access easement along the entire southern portion of the lot, as measured from the deck dripline to the ambulatory mean high tide line, it has not been necessary for Commission staff to engage in an extensive analysis as to whether the imposition of an offer to dedicate would be required here absent the applicant's proposal. As such, **Special Condition No. Five (5)** is required in order to ensure that the applicant's offer to dedicate a lateral public access easement is transmitted prior to the issuance of the coastal development permit.

2. 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. 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 Institute of Oceanography, it is concluded that erosion on properties adjacent to a rock seawall is intensified when wave runup is high.⁷

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 which are adjacent to beaches with seawalls is manifested as more localized toe scour, with end effects of flanking and impoundment at the seawall.⁸ 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. <u>The third mechanism is flanking i.e.</u> 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.⁹

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.¹⁰ This effect appears to extend for a distance of about six-tenths of the length of the

^{7 &}quot;Coastal Erosion along Oceanside Littoral Cell, San Diego County, California," Gerald G. Kuhn, Scripps Institute of Oceanography, 1981.

^{8 &}quot;Effects of Seawalls on the Beach," Nicholas Kraus, Ph.D., Journal of Coastal Research, Special Issue #4, 1988.

^{9 &}quot;Laboratory and Field Investigations of the Impact of Shoreline Stabilization Structures on Adjacent Properties," W. G. McDougal, M. A. Sturtevant, and P. D. Komar, <u>Coastal Sediments</u>, 1987.

^{10 &}quot;The Interaction of Seawalls and Beaches: Seven Years of Field Monitoring, Monterey Bay, California," G. Griggs, J. Tait, and W. Corona, <u>Shore and Beach</u>, Vol. 62, No. 3, July 1994.

seawall and represents both a spatial and temporal loss of beach width directly attributable to seawall construction. These end effects would be expected only when the bulkhead was exposed to wave attack. Under equilibrium or accreting beach conditions, this scour will likely eventually disappear during post-storm recovery. The Commission notes that end effect erosion may be minimized by locating a proposed shoreline protection device as far landward as possible in order to reduce the frequency that the seawall is subject to wave action. In the case of this project, the Commission notes that the proposed timber bulkhead will be located as far landward as feasible in order to minimize adverse effects to shoreline sand supply from end effects.

3. 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, protecting upland sediments from being carried to the beach by wave action, and prevention of bluff retreat. In the case of Carbon Beach, which is located in the Santa Monica Cell, the back of the beach is fixed at Pacific Coast Highway. One of the main sources of sediment for beaches are the bluffs themselves, as well as the material that has eroded from inland sources and is carried to the beach by coastal streams. The National Academy of Sciences found that retention of material behind a shoreline protective device may be linked to increased loss of material in front of that device. 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...¹¹

As explained, the proposed bulkhead and return wall will protect the secondary treatment septic system 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 new development on a beach, including the construction of new single family residences or shoreline protection devices, provide for lateral public access along the beach in order to mitigate adverse effects to public access from increased beach erosion. The applicant is proposing to dedicate a lateral public access easement which would provide for public access along the entire beach under all tidal conditions as measured seaward from the approved deck dripline to the mean high tide line. The Commission notes that the lateral public access easement which the applicant has offered to dedicate as part of this project will be consistent with other lateral public access easements which have been recorded on properties along Carbon Beach and in the Malibu area.

^{11 &}quot;Responding to Changes in Sea Level: Engineering Implications," National Academy of Sciences, National Academy Press, Washington D.C., 1987, page 74.

As stated previously, in order to conclude with absolute certainty what adverse effects would result from the proposed project in relation to shoreline processes, a historical shoreline analysis based on site specific studies would be necessary. Although this level of analysis has not been submitted by the applicant, the Commission notes that because the applicant has proposed as part of the project an offer to dedicate a lateral public access easement along the entire southern portion of the lot, as measured from the deck dripline, it has not been necessary for Commission staff to engage in an extensive analysis as to whether the imposition of an offer to dedicate would be required here absent the applicant's proposal. As such, **Special Condition Five (5)** has been required in order to ensure that the applicant's offer to dedicate a lateral public access easement is transmitted prior to the issuance of the coastal development permit.

Past Commission Actions on Residential Shoreline Development

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

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

Infill development

The Commission has previously permitted a number of new residential developments with protective devices on the Malibu coast, but only when that development was considered infill development. The developed portions of the Malibu coastline include a number of vacant parcels between existing structures. Typically, there are no more than one or two vacant lots between existing structures.

The term "infill development," as applied by the Commission in past permit decisions, refers to a situation where the construction of a single family residence (and in limited situations a duplex) on a vacant lot or the demolition of an existing single family residence and construction of a new single family residence is proposed in an existing geographically definable residential

community which is already largely developed or built out with similar structures. When applied to beachfront development, this situation typically is applied to an existing linear community of beachfront residences where the majority of lots are developed with single family residences and relatively few vacant lots exist. In other words, within the linear stretch of developed beachfront lots, there is an occasional undeveloped lot or two that one may expect to be developed in a similar fashion. By nature of this description, an infill development situation can occur only in instances where roads and other services are already existing and available within the developed community or stretch of beach. Typically, the term infill development would not be applied to a large or long stretch of undeveloped lots in the community or areas which do not contain existing roads and infrastructure).

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

In infill development situations only, as described above, the Commission has found in past permit actions in Malibu that, if it is consistent with Section 30253 of the Coastal Act, seawalls, revetments, or other types of shoreline protective devices can be permitted to protect existing structures or new structures which constitute infill development and when designed and engineered to eliminate or mitigate adverse impacts on the shoreline. The Commission has also found, in past permit actions in Malibu, that in beach areas largely committed to residential development having shoreline protective devices, the construction of shoreline protective devices should tie into adjacent seawalls where appropriate or possible.

The Commission recognized that the infilling of residential development between existing structures would not result in significant adverse effects to coastal resources within these existing developed shoreline areas. The Commission has approved infill development through permit actions on beachfront lots in Malibu. The Commission has found that infilling these gaps would not cause significant further impacts on shoreline processes or adverse impacts on other coastal resources given the prevailing development pattern along these sections of the Malibu coast.

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

Conclusion

In past permit actions, the Commission has approved the construction of shoreline protection devices in conjunction with new development only when: (1) such development is consistent with the Commission's treatment of infill development, and (2) the shoreline protection device is required to protect a septic system (no feasible alternatives exist), and (3) the shoreline protection device is located as far landward as possible in order to minimize any adverse effects to shoreline sand supply and public access.

The Commission notes that the proposed project constitutes infill development as previously defined in the preceding sections. In addition, the applicant's engineering consultant has indicated that although the proposed residence will be constructed on a cast-in-place pile and grade beam foundation and will not require a shoreline protection device to ensure stability, a bulkhead and return wall will be required to protect the proposed septic system. The Commission notes that the proposed secondary treatment septic system has been designed to minimize both the size and seaward extent of the system. However, the seaward extent of the septic system and leachfield, located approximately 20 feet seaward of the Pacific Coast Highway right-of-way line, will still be located within the wave uprush limit and will require a shoreline protection device to ensure the stability of the system. Further, the Commission notes that since only five feet of the subject site will be located landward of the maximum wave uprush limit, it is, therefore, not possible to construct any type of septic system that would not be subject to periodic wave action without the construction of some form of shoreline protection. Therefore, the Commission notes that the proposed bulkhead and return wall are necessary to protect the proposed septic system and leachfield from wave uprush and erosion as stated in the Wave Uprush Study Addendum. The applicant, however, has provided conceptual plans for the proposed bulkhead only. Special Condition No. Thirteen (13) requires the applicant to submit engineered plans showing the bulkhead and return wall with cross sections to ensure that the protective structure is adequate to protect the proposed septic system per the coastal engineering consultant's recommendations.

As discussed above, the Commission notes that the new bulkhead and septic system will be located as far landward as possible. However, the Commission further notes that the purpose of the bulkhead and return wall authorized by this permit is solely to protect the septic system on the subject site and that no shoreline protective device is required to protect the residence authorized by this permit. However, if the septic system approved under this permit to protect the septic system might no longer be necessary and the adverse impacts of the shoreline protective device on public access could be eliminated through its removal or by locating it further landward. Additionally, any future improvements to the proposed seawall that might result in the seaward extension of the shoreline protection device would result in increased adverse effects to shoreline sand supply and public access.

Therefore, to ensure that the proposed project does not result in new future adverse effects on shoreline sand supply and public access and that future impacts are reduced or eliminated, **Special Condition No. Eight (8)** requires the applicant to record a deed restriction which provides that a new coastal development permit for the shoreline protective device authorized this permit shall be required if the proposed septic system is replaced or abandoned for any reason, including the installation of a new sewer system along Pacific Coast Highway, and that if a new coastal development permit for the shoreline protective device is not obtained in the event of replacement or abandonment of the septic system, then the shoreline protective device authorized by this permit shall be removed. Likewise, **Special Condition No. Four (4)** prohibits any future repair or maintenance, enhancement, reinforcement, or any other activity affecting the shoreline protective device approved pursuant to this permit, if such activity extends the seaward footprint of the subject shoreline protective device.

In past permit actions, the Commission has required that new development on a beach, including the construction of new single family residences or shoreline protection devices, provide for lateral public access along the beach in order to mitigate adverse effects to public access from increased beach erosion. As stated previously, in this case, the applicant is

proposing to dedicate a lateral public access easement, which would provide for public access along the entire beach under all tidal conditions as measured seaward from the deck dripline. The Commission notes that the lateral public access easement that the applicant has offered to dedicate as part of this project will be consistent with other lateral public access easements which have been recorded on properties along Carbon Beach and in the Malibu area.

In order to conclude with absolute certainty what adverse effects would result from the proposed project in relation to shoreline, a historical shoreline analysis based on site specific studies would be necessary. Although this level of analysis has not been submitted by the applicant, the Commission notes that because the applicant has proposed as part of the project an offer to dedicate a lateral public access easement along the entire southern portion of the lot, as measured from the deck dripline to the mean high tide line, it has not been necessary for Commission staff to engage in an extensive analysis as to whether the imposition of an offer to dedicate would be required here absent the applicant's proposal. As such, **Special Condition No. Five (5)** has been required in order to ensure that the applicant's offer to dedicate a lateral public access easement is transmitted prior to the issuance of the coastal development permit.

As discussed previously, the proposed project includes the removal of the existing wooden bulkhead located on the subject site. The Commission notes that removal of the existing bulkhead, as proposed, will serve to minimize adverse effects to shoreline sand supply and coastal processes. Therefore, in addition, in order to ensure that the existing bulkhead is removed as proposed by the applicant in a timely manner, **Special Condition No. Seven (7)** requires the applicant to remove the existing bulkhead prior to the construction of the proposed residence.

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

C. Hazards and Geologic Stability

Section 30253 of the Coastal Act states, in pertinent part, that 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 proposed development is located in the Santa Monica Mountains, an area that is generally considered to be subject to an unusually high amount of natural hazards. Geologic hazards common to the Santa Monica Mountains include landslides, erosion, and flooding. In addition, fire is an inherent threat to the indigenous chaparral community of the coastal mountains. Even beachfront properties have been subject to wildfires. Finally, beachfront sites are subject to flooding and erosion from storm waves.

The applicant has submitted the following documents: "Wave Uprush Study Addendum," Pacific Engineering Group, August 28, 2001; "Geotechnical Engineering Report," RJR Engineering Group, Inc., September 23, 1998; "Addendum Letter #1," RJR Engineering Group, Inc.,

December 31, 1998; "Geotechnical Update Letter," RJR Engineering Group, Inc., July 23, 2001. These reports include a number of geotechnical and engineering recommendations to ensure the stability and geotechnical safety of the site. The consultants have determined that the proposed development will serve to ensure geologic and structural stability on the subject site. The Geotechnical Engineering Report prepared by RJR Engineering Group, Inc. dated September 23, 1998 concludes:

Based upon our review of the site and the available data the proposed improvements are feasible from a geologic and geotechnical standpoint, and should be free of landslides, slumping and excess settlement as described in this report, assuming the recommendations presented in this report are implemented during the design and construction of the project. In addition, the stability of the site and surrounding areas will not be adversely affected by a proposed residence. ...based upon our analysis and proposed design.

To ensure that the recommendations of the geotechnical and coastal engineering consultants have been incorporated into all proposed development, **Special Condition No. One (1)** requires the applicant to submit project plans certified by both the consulting geotechnical and geologic engineer and the coastal engineering consultants as conforming to all recommendations to ensure structural and site stability. The final plans approved by the consultants shall be in substantial conformance with the plans approved by the Commission. Any substantial changes to the proposed development approved by the Commission which may be recommended by the consultants shall require an amendment to the permit or a new coastal permit.

As discussed above, the Commission notes that the applicant's engineering consultants have indicated that the proposed development will serve to ensure relative geologic and structural stability on the subject site. In their Addendum Letter #1 dated December 31, 1998 prepared by RJR Engineering Group, Inc., however, it is stated that a large landslide complex exists in the canyon to the north of Pacific Coast Highway, which could potentially result in debris and mud flows to the subject site. In that report, RJR Engineering Group, Inc., states, "In our judgement, the only potential nuisance would be mud deposited on the subject property and against the residence." As a result, the Commission notes that there remains some inherent risk in building on sites located adjacent to or downslope from an identified landslide.

Further, the proposed development is located on a beachfront lot in the City of Malibu and will be subject to some inherent potential hazards. The Commission notes that the Malibu coast has historically been subject to substantial damage as the result of storm and flood occurrences--most recently, and perhaps most dramatically, during the 1998 severe El Nino winter storm season. The subject site is clearly susceptible to flooding and/or wave damage from storm waves, storm surges and high tides. Past occurrences have caused property damage resulting in public costs through emergency responses and low-interest, publicly-subsidized reconstruction loans in the millions of dollars in Malibu area alone from last year's storms.

In the winter of 1977-1978, storm waves, storm-triggered mudslides and landslides caused extensive damage along the Malibu coast. According to the National Research Council, damage to Malibu beaches, seawalls, and other structures during that season caused damages of as much as almost \$5 million to private property alone.

The El Nino storms recorded in 1982-1983 caused high tides of over 7 feet, which were combined with storm waves of up to 15 feet. These storms caused over \$12.8 million to

structures in Los Angeles County, many located in Malibu. The severity of the 1982-1983 El Nino storm events are often used to illustrate the extreme storm event potential of the California, and in particular, Malibu coast. The 1998 El Nino storms also resulted in widespread damage to residences, public facilities and infrastructure along the Malibu Coast.

Thus, ample evidence exists that all beachfront development in the Malibu area is subject to an unusually high degree of risk due to storm waves and surges, high surf conditions, erosion, and flooding. The proposed development will continue to be subject to the high degree of risk posed by the hazards of oceanfront development in the future. The Coastal Act recognizes that development, even as designed and constructed to incorporate all recommendations of the consulting coastal engineer, may still involve the taking of some 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 the subject property.

The Commission finds that due to the possibility of liquefaction, storm waves, surges, erosion, landslide, flooding, and wildfire, the applicant shall assume these risks as conditions of approval. Because this risk of harm cannot be completely eliminated, the Commission requires the applicant to waive any claim of liability against the Commission for damage to life or property that may occur as a result of the permitted development. The applicant's assumption of risk, as required by **Special Condition No. Four (4)**, when executed and recorded on the property deed, will show that the applicant is aware of and appreciates the nature of the hazards which exist on the site, and that may adversely affect the stability or safety of the proposed development.

In addition, the Commission notes that the proposed development includes the demolition an existing residence and a bulkhead and the construction of a new residence on a caisson/grade beam foundation. The Commission further notes that construction/demolition activity on a sandy beach, such as the proposed project, will result in the potential generation of debris and or presence of equipment and materials that could be subject to tidal action. The presence of construction equipment, building materials, and excavated materials on the subject site could pose hazards to beachgoers or swimmers if construction site materials were discharged into the marine environment or left inappropriately/unsafely exposed on the project site. In addition, such discharge to the marine environment would result in adverse effects to offshore habitat from increased turbidity caused by erosion and siltation of coastal waters. To ensure adverse effects to the marine environment are minimized, **Special Condition No. Eleven (11)**, requires the applicant to ensure that stockpiling of dirt or materials shall not occur on the beach, that no machinery will be allowed in the intertidal zone at any time, all debris resulting from the construction period is promptly removed from the sandy beach area, and that sand bags and/or ditches shall be used to prevent runoff and siltation.

Therefore, the Commission finds, for the reasons set forth above, that the proposed development, as conditioned, is consistent with Section 30253 of the Coastal Act.

D. Public Access and Recreation

The Coastal Act mandates the provision of maximum public access and recreational opportunities along the coast. The Coastal Act contains several policies that 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.

Coastal Act Section 30211 states:

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

Coastal Act Section 30212(a) provides that in new shoreline development projects, access to the shoreline and along the coast shall be provided except in specified circumstances, when:

- (1) it is inconsistent with public safety, military security needs, or the protection of fragile coastal resources.
- (2) adequate access exists nearby, or,
- (3) agriculture would be adversely affected. Dedicated access shall not be required to be opened to public use until a public agency or private association agrees to accept responsibility for maintenance and liability of the accessway.

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 use.

Sections 30210 and 30211 of the Coastal Act 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.

All projects requiring a coastal development permit must be reviewed for compliance with the public access and recreation provisions of Chapter 3 of the Coastal Act. Based on the access, recreation and development sections of the Coastal Act, the Commission has required public access to and along the shoreline in new development projects and has required design changes in other projects to reduce interference with access to and along the shoreline.

The major access issue in this permit application is the occupation of sandy beach area by a structure and potential effects on shoreline sand supply and public access in contradiction of Coastal Act policies 30211 and 30221. As stated previously, no shoreline protective device is required, or proposed, to protect the proposed residence. The proposed project is located on Carbon Beach, approximately 2,850 feet east (downcoast) of the nearest open public vertical

coastal accessway and only approximately 1,250 feet to the east (downcoast) and 850 feet to the west (upcoast) of two vertical accessways which have been offered for dedication by the landowners for public use. Further, there are several existing and potential lateral public access easements across several lots near the project site.

The State of California owns tidelands, which are those lands located seaward 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 relation to the ordinary high water mark. In California, where the shoreline has not been affected by fill or artificial accretion, the ordinary high water mark of tidelands is determined by locating the existing "mean high tide line." The mean high tide line is the intersection of the elevation of mean high tide with the shore profile. Where the shore is composed of 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 effect on public tidelands. 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 the case of the proposed project, the State Lands Commission presently does not assert a claim that the project intrudes onto sovereign lands (Exhibits 10a and b).

Even structures located above the mean high tide line, however, may have an adverse effect on shoreline processes as wave energy reflected by those structures contributes to erosion and steepening of the shore profile, and ultimately to the extent and availability of tidelands. That is why the Commission also must consider whether a project will have indirect effects on public ownership and public use of shorelands. The applicants seek Commission approval of a new beachfront residence supported on friction pile foundation. As previously discussed in detail,

although the proposed project will not include the construction of a shoreline protection device to protect the residence, the direct occupation of sandy area by the proposed residence, will result in potential adverse effects to public access along the sandy beach.

The Commission notes that a shoreline protective device is proposed as a part of this project to protect the proposed septic system. The Commission further notes that interference by a shoreline protective device has a number of adverse 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 reduced beach 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 of public property available for The second effect on access is through a progressive loss of sand as shore public use. 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 is 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 eventually affect the profile of a public beach. Fourth, if not sited landward in a location that insures that the revetment 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' 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 past permit actions, the Commission has required new shoreline protection devices to be located as far landward as possible in order to reduce adverse effects on sand supply and public access from the development. In the case of this project, the Commission notes that the new bulkhead and septic system will be located as far landward as possible. However, the Commission further notes that any future improvements to the proposed bulkhead that might result in the seaward extension of the shoreline protection device would result in increased adverse effects to shoreline sand supply and public access. Therefore, to ensure that the proposed project does not result in new future adverse effects to public access, **Special Condition No. Four (4)** requires the applicant to record a deed restriction that would prohibit any future repair or maintenance, enhancement, reinforcement, or any other activity affecting the shoreline protective device approved pursuant to this permit if such activity extends the seaward footprint of the subject shoreline protective device.

Likewise, the Commission further notes that the purpose of the shoreline protective device authorized by this permit is solely to protect the septic system on the subject site and that no shoreline protective device is required to protect the residence authorized by this permit. If the septic system approved under this permit were replaced or abandoned, then the bulkhead approved under this permit to protect the septic system might no longer be necessary and the adverse impacts of the shoreline protective device on public access could be eliminated through its removal or by locating it further landward. As a result, **Special Condition No. Eight (8)** requires the applicant to record a deed restriction which provides that a new coastal development permit for the shoreline protective device authorized this permit shall be required if the proposed septic system is replaced or abandoned for any reason (including the installation of a new sewer system along Pacific Coast Highway) and that if a new coastal development permit for the shoreline protective device is not obtained in the event of replacement or abandonment of the septic system, then the shoreline protective device authorized by this permit shall be removed.

The Commission notes that removal of the existing bulkhead, as proposed, will serve to minimize adverse effects to shoreline sand supply and coastal processes. Therefore, in addition, in order to ensure that the existing bulkhead is removed as proposed by the applicant in a timely manner, **Special Condition No. Seven (7)** requires the applicant to remove the existing bulkhead prior to the construction of the proposed residence.

Furthermore, the Commission must also consider whether a project affects any public right to use shorelands that exist independently of the public's ownership of tidelands. In addition to a new development's effects on tidelands and on public rights which are 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 the ownership underlying the land on which the public use takes place. Generally, there are three additional types of public uses, which are identified as: (1) the public's recreational rights in navigable waters guaranteed to the public under the California Constitution and State common law, (2) any rights that the public might have acquired under the doctrine of implied dedication based on continuous public use over a five year period, and (3) any additional rights that the public might have acquired through public purchase or offers to dedicate.

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

The beaches of Malibu are extensively used by visitors of both local and regional origin and most planning studies indicate that attendance of recreational sites will continue to increase significantly in the future. The public has a right to use the shoreline under the public trust doctrine, the California Constitution, and State 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, steepening from potential scour effects, and presence of a residential structure out over the sandy beach do exist.

In past permit actions, the Commission has required that all new development on a beach, including the construction of new single family residences or shoreline protection devices, provide for lateral public access along the beach in order to mitigate adverse effects to public access from increased beach erosion. The applicant is proposing to dedicate a lateral public access easement which would provide for public access along the entire beach under all tidal conditions as measured seaward from the deck dripline to the mean high tide line. The Commission notes that the lateral public access easement that the applicant has offered to dedicate as part of this project will be consistent with other lateral public access easements that have been recorded on properties along Carbon Beach and in the Malibu area.

In order to conclude with absolute certainty what adverse effects would result from the proposed project in relation to shoreline, a historical shoreline analysis based on site-specific studies would be necessary. Although the applicant has not submitted this level of analysis, the Commission notes that because the applicant has proposed as part of the project an offer to dedicate a lateral public access easement along the entire southern portion of the lots, as measured from the deck dripline, it has not been necessary for Commission staff to engage in an extensive analysis as to the adequacy of the original easement or whether the imposition of an offer to dedicate would be required here absent the applicant's proposal. As such, **Special Condition No. Five (5)** has been required in order to ensure that the applicant's offer to dedicate a lateral public access easement is transmitted prior to the issuance of the coastal development permit.

In addition, the Commission notes that chronic unauthorized postings of signs illegally attempting to limit, or erroneously noticing restrictions on, public access have occurred on beachfront private properties in the Malibu area. These signs have an adverse effect on the ability of the public to access public trust lands. The Commission has determined, therefore, that to ensure that the applicants clearly understand that such postings are not permitted without a separate coastal development permit, it is necessary to impose **Special Condition No. Twelve (12)** to ensure that similar signs are not posted on or near the proposed project site and that a coastal development permit or amendment to this coastal development permit shall be required prior to the posting of signs on the subject property. The Commission finds that if implemented, Special Condition No. Twelve (12) will protect the public's right of access to the sandy beach below the mean high tide line.

The proposed project includes construction of a five foot wide public sidewalk between Pacific Coast Highway and the residence as part of the proposed project. The Commission notes that members of the public must utilize the shoulder areas of Pacific Coast Highway in order to reach many public vertical beach accessways. In past permit actions, the Commission has found that new residential development, fences, walls, and landscaping, in addition to use of the road shoulder for residential parking, results in potential adverse effects to public beach access when such development is located along the shoulder of Pacific Coast Highway in a manner which precludes a pedestrian's ability to utilize the road shoulder where no sidewalk is located. In the case of the proposed project, the applicant is proposing the construction of a public sidewalk between the residence and Pacific Coast Highway to mitigate any adverse effects to public access from the proposed development. As such, Special Condition No. Nine (9) has been required in order to ensure that the applicant's offer to reconstruct the existing five foot wide public sidewalk between the proposed development and Pacific Coast Highway is implemented. All proposed sidewalk improvements will be located within the Pacific Coast Highway easement and are subject to review and approval by the California Department of Transportation. Therefore, Special Condition No. Nine (9) also requires the applicant to submit, for the review and approval of the Executive Director, evidence of all necessary approvals from the California Department of Transportation for the proposed modifications to the existing sidewalk, or evidence that such approvals are not required.

For all of these reasons, therefore, the Commission finds that as conditioned, the proposed project is consistent with Sections 30210, 30211, 30212, and 30220 of the Coastal Act.

E. Water Quality

The Commission recognizes that new development in the Santa Monica Mountains has the potential to adversely impact coastal water quality through the removal of native vegetation, increase of impervious surfaces, increase of runoff, erosion, and sedimentation, introduction of pollutants such as petroleum, cleaning products, pesticides, and other pollutant sources, as well as effluent from septic systems. Section 30231 of the Coastal Act states:

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

As described above, the proposed project includes the demolition an existing single family residence and a 46 foot long bulkhead; construction of a new 24 ft. high, 1,175 sq. ft single family residence with 400 sq. ft. attached garage, driveway and parking court, bulkhead and return wall, swimming pool, wood deck and stairs, 6 ft. high stucco privacy wall, three 6 ft. high wrought iron gates; installation of a new secondary treatment septic system; and performance of approximately 200 cu. yds. grading (100 cu. yds. excavation and 100 cu. yds. fill). The site is considered a beachfront development, as is located between Pacific Coast Highway and the Pacific Ocean on Carbon Beach, with a sandy beach area that is susceptible to erosion.

The proposed development may result in an increase in impervious surface, which in turn may decrease the infiltrative function and capacity of existing permeable land on site. The reduction in permeable space therefore leads to an increase in the volume and velocity of stormwater runoff that can be expected to leave the site. Further, pollutants commonly found in runoff associated with residential use include petroleum hydrocarbons such as oil and grease from vehicles, heavy metals, synthetic organic chemicals such as paint and household cleaners, soap and dirt from the washing of vehicles, dirt and vegetation from yard maintenance, litter, fertilizers, herbicides, pesticides, and bacteria and pathogens from animal waste. The discharge of these pollutants into coastal waters can cause cumulative impacts such as eutrophication and anoxic conditions resulting in fish kills and diseases and the alteration of aquatic habitat, including adverse changes to species composition and size; excess nutrients causing algae blooms and sedimentation increasing turbidity which both reduce the penetration of sunlight needed by aquatic vegetation which provide food and cover for aquatic species; disruptions to the reproductive cycle of aquatic species; and acute and sublethal toxicity in marine organisms, leading to adverse changes in reproduction and feeding behavior. These impacts reduce the biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes; reduce optimum populations of marine organisms; and have adverse impacts on human health.

Therefore, in order to find the proposed development consistent with the water and marine resource policies of the Coastal Act, the Commission finds it necessary to require the incorporation of Best Management Practices (BMPs) designed to control the volume, velocity, and pollutant load of stormwater leaving the developed site. Critical to the successful function of post-construction structural BMPs in removing pollutants in stormwater to the Maximum Extent Practicable (MEP), is the application of appropriate design standards for sizing BMPs. The majority of runoff is generated from small storms because most storms are small. Additionally, storm water runoff typically conveys a disproportionate amount of pollutants in the

initial period that runoff is generated during a storm event. Designing BMPs for the small, more frequent storms, rather than for the large infrequent storms, results in improved BMP performance at lower cost.

The Commission finds that sizing post-construction structural BMPs to accommodate (filter or treat) the runoff from the 85th percentile storm runoff event, in this case, is equivalent to sizing BMPs based on the point of diminishing returns (i.e., the BMP capacity beyond which, insignificant increases in pollutants removal (and hence water quality protection) will occur, relative to the additional costs. Therefore, the Commission requires the selected post-construction structural BMPs to be sized based on design criteria specified in **Special Condition No. Two (2)**, and finds this will ensure the proposed development will be designed to minimize adverse impacts to coastal resources, in a manner consistent with the water and marine policies of the Coastal Act.

As stated previously, the proposed project includes a swimming pool. There is the potential for swimming pools to have deleterious effects on aquatic habitat if not properly maintained and drained. In addition, chlorine and other chemicals are commonly added to pools and spas to maintain water clarity, quality, and pH levels. Further, both leakage and periodic maintenance of the proposed pool, if not monitored and/or conducted in a controlled manner, may result in excess runoff and erosion potentially causing instability of the site and adjacent properties and may result in the transport of chemicals, such as chlorine, into coastal waters, adversely impacting intertidal and marine habitats. In order to minimize potential adverse impacts from the proposed swimming pool, the Commission requires the applicant to submit a pool drainage and maintenance plan, as detailed in Special Condition No. Ten (10). The pool shall be maintained with a non-chlorine based system, such as an ozone treatment system or other similar cleansing system. The plan shall include a separate water meter for the pool and spa, which will serve to monitor water levels of the pool and identify leakage. The plan shall also include a description of the materials to be utilized to prevent leakage of the pool and spa shell and shall identify methods to control infiltration and run-off from periodic pool and spa drainage and requiar maintenance activities. The Commission finds that, as conditioned to minimize potential impacts of the proposed pool and spa, the project is consistent with Sections 30230, 30231, and 30240 of the Coastal Act.

Finally, the proposed development includes the installation of a new septic system that includes a 1,500 gallon MicroFast treatment tank, a 1,500 gallon dosing tank, and a leachfield to serve the residence that will be located no further than 19 feet seaward of the Pacific Coast Highway right-of-way line. The proposed secondary treatment septic system will provide for secondary treatment of the sewage effluent. Further, as proposed, the septic system will be located as landward as possible. The applicants' geologic and environmental health consultants performed percolation tests and evaluated the proposed septic system. The report concludes that the site is suitable for the septic system and there would be no adverse impact to the site or surrounding areas from the use of a septic system. Finally, the City of Malibu Environmental Health Department has given in-concept approval of the proposed septic system, determining that the system meets the requirements of the plumbing code. The Commission has found that conformance with the provisions of the plumbing code is protective of resources.

Therefore, the Commission finds that the proposed project, as conditioned to incorporate and maintain a drainage and polluted runoff control plan, is consistent with Section 30231 of the Coastal Act.

F. Visual Resources

Section 30251 of the Coastal Act states that:

The scenic and visual qualities of coastal areas shall be considered and protected as a resource of public importance. Permitted development shall be sited and designed to protect views to and along the ocean and scenic coastal areas, to minimize the alteration of natural land forms, to be visually compatible with the character of surrounding areas, and, where feasible, to restore and enhance visual quality in visually degraded areas. New development in highly scenic areas such as those designated in the California Coastline Preservation and Recreation Plan prepared by the Department of Parks and Recreation and by local government shall be subordinated to the character of its setting.

Section 30251 of the Coastal Act requires that visual qualities of coastal areas shall be considered and protected, landform alteration shall be minimized, and where feasible, degraded areas shall be enhanced and restored.

The project site is located on Carbon Beach, a built-out area of Malibu primarily consisting of residential development. The Commission notes that the visual quality of the Carbon Beach area in relation to public views from Pacific Coast Highway have been significantly degraded from past residential development. Pacific Coast Highway is a major coastal access route, not only utilized by local residents, but also heavily used by tourists and visitors to access several public beaches located in the surrounding area which are only accessible from Pacific Coast Public views of the beach and water from Pacific Coast Highway have been Highway. substantially reduced, or completely blocked, in many areas by the construction of single family residences, privacy walls, fencing, landscaping, and other residential related development between Pacific Coast Highway and the ocean. Specifically, the Commission notes that when residential structures are located immediately adjacent to each other, or when large individual residential structures are constructed across several contiguous lots, such development creates a wall-like effect when viewed from Pacific Coast Highway. This type of development limits the public's ability to view the coast or ocean to only those few parcels that have not yet been The Commission notes that the construction of large individual residential developed. structures, or large residential projects including one or more structures, extending across multiple beachfront parcels, similar to the proposed project, is becoming increasingly common in the Malibu area and that several applications for similar development have recently been approved. As such, the Commission notes that such development, when viewed on a regional basis, will result in potential cumulative adverse effects to public views and to the visual quality of coastal areas.

Currently, the residential development on site blocks public views of the coastline from Pacific Coast Highway. In this case, the proposed project will involve the demolition of all existing development on the subject parcel, including an approximately 2,033 sq. ft. residence. Following this demolition, the applicant is proposing the construction of a new residential structure with an attached garage. As stated above, Coastal Act Section 30251 requires that new development be sited and designed to protect views to and along the ocean and scenic coastal areas and, where feasible, to restore and enhance visual quality in visually degraded areas. The Commission notes that the construction of new smaller residential development provides for the opportunity to enhance public views, where such views have been significantly degraded by past development, through the creation and maintenance of public view corridors, consistent with Section 30251 of the Coastal Act. In addition, In past permit actions, the

Commission has found that new residential development, such as the proposed project, should reserve 20 percent of the linear frontage of the lot as visually open area to provide and maintain adequate public coastal views. Further, in past permit actions, in order to protect public views of the ocean from public viewing areas and to enhance visual quality along the coast, the Commission has required that new residential development, such as that proposed, be designed to provide for a public view corridor of no less than 20 percent of the width of the lineal frontage of the subject site to provide for views of the beach and ocean from Pacific Coast Highway, as seen in CDP 4-99-155 (loki), CDP 4-00-015 (Gallin), CDP 4-00-057 (Morton), and CDP 4-00-176 (Ann Walker Trust).

In the case of the proposed project, the Commission notes that the subject site is 46 feet in width and that a public view corridor of no less than 20 percent of the width of the site's lineal frontage would be 9.2 feet in width. Consistent with the provision a public view corridor no less than 20 percent of the lineal frontage of the subject site, the proposed project plans provide for a five foot wide public view corridor on the eastern portion of the subject site and a five foot wide public view corridor on the western portion of the subject site (Exhibit 3). Moreover, the five foot wide view corridor on the western portion of the subject lot will be adjacent to a 16 foot wide view corridor on the eastern portion of the adjacent lot to the subject property, thus creating in effect, a continuous 21 foot wide view corridor in that location.

To ensure that public coastal views will be protected, **Special Condition No. Six (6)** requires the applicant to execute and record a deed restriction that provides that no less than 20 percent of the lineal frontage of the project site shall be maintained as a public view corridor. Development within the public view corridor shall be limited to fencing of visually permeable designs and materials, such as wrought iron or non-tinted glass materials. In addition, the Commission also notes that the proposed site plan indicates that an iron gate will be constructed within each public view corridor. The Commission notes that certain types of visually permeable fencing, including certain types of glass walls, may be allowed within a public view corridor if such structures do not interfere with public views of the beach and ocean from Pacific Coast Highway. In addition, **Special Condition No. Three (3)**, as consistent with **Special Condition No. Six (6)**, has been required to ensure that the applicant submit a landscape plan which limits vegetation within the public view corridor to low-lying vegetation of no more than two feet in height in order to preserve public coastal views.

Therefore, the Commission finds that the proposed project, as conditioned above, is consistent with Section 30251 of the Coastal Act.

G. Local Coastal Program

Section 30604(a) of the Coastal Act states:

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 project will not create adverse impacts and is found to be consistent with the applicable policies contained in Chapter 3 of the Coastal Act. 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 consistent with the policies of Chapter 3 of the Coastal Act as required by §30604(a).

H. California Environmental Quality Act

Section 13096(a) of the Commission's administrative regulations requires Commission approval of a 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 Environmentally 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 that the activity may have on the environment.

The Commission finds that, the proposed project, as conditioned, will not have any 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.









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App. No. 4-01-100 West Elevation



STATE OF CALIFORNIA

GRAY DAVIS, Governor*

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



PAUL D. THAYER, Executive Officer California Relay Service From TDD Phone 1-800-735-2922 from Voice Phone 1-800-735-2929

File Ref: SD 99-12-20.3

Contact Phone: (916) 574-1892 Contact FAX: (916) 574-1925

January 26, 2000

Wayne T. Chevalier Project Manager Barsocchini & Associates 3502 Coast View Drive Malibu CA 90265

Dear Mr. Chevalier:

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

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

Your client proposes to demolish an existing single family residence/deck and construct a new single family residence with a deck and swimming pool at 22258 Pacific Coast Highway in the Carbon Beach area of Malibu. The foundation will consist of grade beams and caissons. The bottom of the swimming pool will be sited above the wave uprush elevation as required by the California Coastal Commission. Pursuant to our verbal discussions, no bulkhead is proposed. Based on the December 3, 1999 plans you have submitted, the proposed residence appears to be in conformance with the string lines established by the residences/decks on either side. This is a welldeveloped 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. Development of information sufficient to make such a determination would be expensive and time-consuming. We do not think such an expenditure of time, effort and money is warranted in this situation, given the limited resources of this agency and the circumstances set forth above. This conclusion

> Exhibit No. 10a App. No. 4-01-100 State Lands Commission Letter Page 1

SUBJECT: Coastal Development Project Review for Demolition of Existing Single Family Residence and Construction of a New Residence at 22258 Pacific Coast Highway, Malibu

Wayne T. Chevalier

is based on the 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, Chie **Division of Land Management**

cc: Craig Ewing, City of Malibu

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