

CALIFORNIA COASTAL COMMISSION

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STAFF REPORT: REGULAR CALENDAR

APPLICATION NO.: 4-98-085

APPLICANT: Harris Family Trust

AGENT: Jaime Harnish

PROJECT LOCATION: 25002 Malibu Road, Malibu, Los Angeles County

PROJECT DESCRIPTION: Construct a 48 ft. long, 12 ft. high timber bulkhead (approx. 1 ft. high above summer sand level) and two approximately 35 ft. long return walls, including an offer to dedicate lateral public access, on a beachfront lot.

LOCAL APPROVALS RECEIVED: City of Malibu: Planning Approval-In-Concept, dated November 2, 1998, Environmental Health Department Septic Approval, dated September 17, 1998, and Preliminary Geology Approval, dated April 13, 1998, Geology and Geotechnical Engineering Review Sheet, dated July 8, 1998.

SUBSTANTIVE FILE DOCUMENTS: Certified Malibu/Santa Monica Mountains Land Use Plan; U.S. Army Corps of Engineers, Los Angeles District, Reconnaissance Study of the Malibu Coast; California State Lands Commission letter of evaluation, dated January 5, 1999; Coastal Development Permit 4-98-085-G (Harris); Wave Uprush Study for 25002 Malibu Road, prepared by John W. Starlin and Associates, dated March 15, 1998; Timber Bulkhead Alternatives Analysis, prepared by David C. Weiss, Structural Engineer & Associates, dated January 21, 1999; Letter regarding status of wood pilings/foundation, dated March 26, 1998, prepared by Richard L. Brown, Structural Engineer; Limited Soils Engineering Investigation, dated June 9, 1998, prepared by GeoConcepts, Inc.

SUMMARY OF STAFF RECOMMENDATION

Staff recommends approval of the proposed project with Special Conditions regarding: Assumption of Risk, Offer to Dedicate Lateral Public Access, Geologic Recommendations, Construction Responsibilities and Debris Removal, Provisional Term for Shoreline Protective Structure: Deed Restriction, and Sign Restriction. The proposed timber bulkhead and return walls would protect an existing, older residence that is supported by substandard, aging timber foundations and an older septic system that cannot be relocated unless renovations of the existing single family residence are undertaken in the future. The shoreline protective structure is proposed for an eroding beach. The applicant has offered to dedicate a lateral public access easement as part of the project proposal.

STAFF RECOMMENDATION:

The staff recommends that the Commission adopt the following resolution:

I. Approval with Conditions

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

II. Standard Conditions

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

7. **Terms and Conditions Run with the Land.** These terms and conditions shall be perpetual, and it is the intention of the Commission and the permittee to bind all future owners and possessors of the subject property to the terms and conditions.

III. **Special Conditions**

1. **Assumption of Risk, Waiver of Liability, and Indemnity**

- A. By acceptance of this permit, the applicant acknowledges and agrees (i) that the site may be subject to hazards from storm waves, erosion, or flooding; (ii) 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; (iii) to unconditionally waive any claim of damage or liability against the Commission, its officers, agents, and employees for injury or damage from such hazards; and (iv) to indemnify and hold harmless the Commission, its officers, agents, and employees with respect to the Commission's approval of the project against any and all liability, claims, demands, damages, costs (including costs and fees incurred in defense of such claims), expenses, and amounts paid in settlement arising from any injury or damage due to such hazards.
- 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. 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.

2. **Offer to Dedicate Lateral Public Access**

In order to implement the applicant's proposal of an offer to dedicate an easement for lateral public access and passive recreational use along the shoreline as part of this project, the applicant agrees to complete the following prior to issuance of the permit: the landowner shall execute and record a document, in a form and content acceptable to the Executive Director, irrevocably offering to dedicate to a public agency or private association approved by the Executive Director an easement for lateral public access and passive recreational use along the shoreline. The document shall provide that the offer of dedication shall not be used or construed to allow anyone, prior to acceptance of the offer, to interfere with any rights of public access acquired through use which may exist on the property. Such easement shall be located along the entire width of the property from the mean high tide line landward to 10 feet seaward of the bulkhead shown in Exhibit 7.

The document shall contain the following language:

(a) Privacy Buffer

The area ten (10) feet seaward from the dripline of the proposed deck as illustrated on Exhibit 7 shall be identified as a privacy buffer. The privacy buffer shall be applicable only if and when it is located landward of the mean high tide line and shall be restricted to pass and repass only, and shall be available only when no other dry beach areas are available for lateral public access. The privacy buffer does not affect public access should the mean high tide line move within the buffer area.

(b) Passive Recreational Use

The remaining area shall be available for passive recreational use.

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

3. Geology

All recommendations contained in the Wave Uprush Study for 25002 Malibu Road, prepared by John W. Starlin and Associates, dated March 15, 1998 and the Limited Soils Engineering Investigation, dated June 9, 1998, prepared by GeoConcepts, Inc., shall be incorporated into all final project plans and designs and shall be implemented during construction, and all plans must be reviewed and approved by the geotechnical and coastal engineering consultants prior to commencement of construction. Prior to the issuance of the coastal development permit, the applicant shall submit evidence to the Executive Director's satisfaction that the geotechnical and coastal engineering consultants have reviewed and approved all final project plans and designs and construction procedures as incorporating their recommendations, and have so indicated by stamping and signing all relevant final plans and drawings.

The final plans approved by the consultants shall be in substantial conformance with the plans approved by the Commission. 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 development permit. The Executive Director shall determine whether any changes to the plans approved by the Commission constitute a "substantial change."

4. Construction Responsibilities and Debris Removal

No stockpiling of construction materials or storage of equipment shall occur on the beach and no machinery will be allowed in the intertidal zone at any time. The permittee shall immediately remove from the beach area any and all debris that results from the construction activities.

5. Provisional Term for Shoreline Protective Structure: Deed Restriction

A. Coastal Development Permit No. 4-98-085, in full or in part, authorizes the construction of the shoreline protective device generally depicted in Exhibit 7. By acceptance of this permit, the applicant acknowledges that the purpose of the subject shoreline protective device is solely to protect the existing structures located on site, in their present condition, including the septic disposal system, as generally depicted in Exhibit 7. If any of the activities listed below are undertaken, a new coastal permit for the shoreline protective device authorized by Coastal Development Permit 4-98-085 shall be required unless the Executive Director determines that a new permit is unnecessary because such modifications are so minor in nature that they do not affect the need for the shoreline protective device. The applicant or successor-in-interest shall contact the Executive Director if such activities are contemplated so that a determination as to the necessity of obtaining a new permit can be made.

1. Changes to the foundation of any structure on the subject site located landward of the subject shoreline protective structure authorized herein, such as repairs or replacement of support piles or caissons;
2. Upgrade, relocation or abandonment of the septic disposal system;
3. Remodel of the primary structure or residence on the subject site involving the demolition of more than 50 percent of exterior walls or an addition to the primary structure or residence resulting in an increase of more than 10 percent of structural size;
4. New development on the subject parcel;
5. Relocation and/or complete removal of any or all of the structures shown in Exhibit 7.

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, reflecting the above restrictions on development of the subject parcel. The deed restriction shall include both a legal description of the applicant's entire parcel, and an Exhibit drawn to scale depicting the existing development as of May 22, 1999 proposed for protection by the subject shoreline protective device, and the shoreline protective device itself. 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 an amendment to this coastal development permit approved by the Coastal Commission.

6. Sign Restrictions

No signs shall be posted on the property subject to this permit (and/or on immediately adjacent properties) which (a) explicitly or implicitly indicate that the portion of the beach on Assessor's Parcel Number (APN) 4458-13-35 located seaward of the bulkhead approved by Coastal Development Permit 4-98-085 is private or (b) contain similar messages that attempt to prohibit public use of this portion of the beach. In no instance shall signs be posted which read "*Private Beach*" or "*Private Property*." To effectuate the above prohibitions, the permittee is required to submit to the Executive Director for review and approval prior to posting the content of any proposed signs.

IV. Findings and Declarations

The Commission hereby finds and declares:

A. Project Description and Background

The applicant proposes to construct a 48 ft. long, 12 ft. high timber bulkhead and two approximately 35 ft. long return walls on a beachfront lot at 25002 Malibu Road, in the City of Malibu. The applicant has offered, as part of the pending proposal, to dedicate a lateral easement for public access. The site contains a single family residence constructed in approximately 1969. The 7,840 sq. ft. rectangular lot descends southward with approximately 20 feet of total topographic relief toward the ocean. Nearby lots are generally built out with single family residences.

The proposed project is located on Puerco Beach, a section of coastline characterized by a narrow, sandy, rock and cobble beach. Vertical public access to the Puerco Beach area is available at 24500 Malibu Road, approximately 600 feet to the east of the subject site.

The applicant applied for and received an emergency coastal development permit (4-98-085-G, Harris) to construct the proposed bulkhead last spring, in the wake of winter storm wave attack that severely eroded the beach adjacent to the applicant's parcel and threatened to expose the existing septic system shown on Exhibit 7. Storm wave threats subsided, however, and the bulkhead was not constructed in anticipation of obtaining permanent development authorizations instead, according to the applicant's agent. The applicant's agent also states that the existing residence is supported by aging timber pilings that have suffered termite damage in the past. This method of construction is common in beachfront homes of similar vintage, whereas concrete support pilings are generally used in contemporary construction. It is likely that the timbers must be upgraded or replaced in the future.

In addition, the applicant's septic disposal system is located seaward of the residence, as shown in Exhibit 7. The proposed bulkhead will be located five (5) feet seaward of the septic drainfield. The septic system, although driving the seaward extent to which the bulkhead must be sited, is not proposed to be relocated at this time. The applicant has demonstrated that there is no alternative location available presently for relocation of the septic system. A major remodel of the aging residence, however, which may be warranted in the future due to the archaic timber support structure noted previously, could present an opportunity to relocate the septic system at such time. Moreover, the septic system itself may require upgrade in the future. For that matter, a sewer system may be installed by the City at some point in the future, obviating the need for a septic disposal system entirely.

For these reasons, and as discussed in more detail below, the Commission in authorizing the present project proposal specifically addresses the possible removal or relocation landward of the subject shoreline protective structure in the future.

There is not presently an approved seawall on either property adjacent to the proposed site. A staff visit to the site determined, however, that an unauthorized seawall, described by the adjacent landowner's agent (Moheb Gorgy, agent, Anthony Danza, landowner, 25000 Malibu Road) as a "privacy wall" has been constructed below the dripline of the adjacent residence east of the proposed site, approximately two feet landward of the applicant's proposed seawall. The adjacent landowner had previously applied for a determination that the proposal was exempt from the requirement of applying for a coastal development permit and termed the unengineered seawall a "privacy wall." The agent has conceded that the wall was constructed in approximately August of 1998. The Commission staff is currently seeking to resolve the matter of the unprompted development administratively and anticipates the submittal of an application for a coastal development permit for the seawall in the near future.

The parcel located two sites eastward of the applicant's parcel (one lot east of the Danza parcel containing the unengineered seawall (Exhibit 3) was the subject of Coastal Development Permit 4-98-171 (Frumkes) for an after-the-fact approval of a rip rap revetment placed during the 1997-1998 El Nino storms to protect an existing septic system and pile system for a beachfront residence at 24958 Malibu Road. The Commission approved the revetment on February 4, 1999.

These examples of the efforts of homeowners to armor the shoreline in this area of the Malibu coastline lend additional support to the conclusion that Puerco Beach is an eroding beach, as discussed in the next section.

B. Shoreline Protective Devices

The applicant proposes to construct a 48 ft. long, 12 ft. high timber bulkhead¹ and two approximately 35 ft. long return walls. The proposed bulkhead will be located approximately 90 feet seaward of the northern property line abutting Malibu Road and approximately 156 feet landward of the mean high tide line, depending on tidal conditions. The proposed bulkhead will be located beneath the proposed structure, and will protect the existing septic system and aging timber support pilings. The bulkhead will be approximately one foot higher than the summer sand elevation.

After identifying the applicable Coastal Act sections upon which the Commission relies as the standard of review of the proposed project, and the certified Malibu/Santa Monica Mountains Land Use Plan (LUP) policies upon which the Commission has relied as guidance in past permit decisions, the discussion of the impacts of the shoreline protective device will proceed in the following manner:

First, the staff report describes the physical characteristics of the Puerco Beach shoreline; second the report analyzes the dynamics of the Puerco Beach shoreline; and third, the report analyzes the location of the proposed shoreline protective device in relation to wave action. Finally, the report evaluates whether the proposed shoreline protective device is warranted, weighing the available evidence in light of the Coastal Act requirements and the past guidance of the LUP policies, and whether the proposed bulkhead will adversely impact the shoreline sand supply and shoreline processes.

Section 30235 of the Coastal Act states:

Section 30235.

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

Section 30250.

(a) 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

¹ The terms "bulkhead," "seawall," and "shoreline protective device" are used interchangeably in this report.

significant adverse effects, either individually or cumulatively, on coastal resources. In addition, land divisions, other than leases for agricultural uses, outside existing developed areas shall be permitted only where 50 percent of the usable parcels in the area have been developed and the created parcels would be no smaller than the average size of surrounding parcels.

Section 30253.

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.

Malibu/Santa Monica Mountains Land Use Plan (LUP)

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

1. Proposed Project and Site Shoreline Characteristics

The City of Malibu includes a narrow strip of coast that is some 27 miles long, backed inland of Pacific Coast Highway and frontage streets by the Santa Monica Mountains. The applicant's proposed project is located on Puerco Beach, a narrow sandy beach backed by bluffs inland of Malibu Road. The Puerco Beach area is heavily developed, and the parcels near the applicant's site are small and characteristically developed with single family residences. The applicant's residence was built in approximately 1969.

The applicant's residence sustained significant damage as the result of the 1997-1998 El Nino storm waves. The waves generated by heavy surf conditions attacked the

beach profile at grade with the existing septic system--located beneath the structure--and the exposed, seaward wooden support pilings. Portions of the septic system were exposed and the pilings were weakened. The applicant subsequently sought and obtained an emergency permit for a timber bulkhead and rock revetment. The storm conditions subsided by then, and consequently the structures were not built. Thus, the emergency permit lapsed and the present proposal only seeks approval for the timber bulkhead and return walls to ensure that adequate protection for the pilings and septic system is in place to provide future protection against wave attack and beach erosion.

Puerco Beach is an Eroding Beach

Having defined Puerco Beach as a narrow, heavily developed beach, the next step is to consider the overall trend of sand supply on the beach. Evaluating whether or not a pattern of beach erosion exists is the key factor in determining the impact of the proposed seawall on the shoreline. Generally, beaches fit into one of three profile categories: 1) eroding; 2) equilibrium, or 3) accreting.

Puerco Beach has been identified as an eroding beach. The U.S. Army Corps of Engineers, Los Angeles District, identifies Puerco Beach as trending from stable to slowly eroding (Reconnaissance Study of the Malibu Coast, 1994). An earlier study, titled Shoreline Constraints Study, by Moffatt and Nichols (June 30, 1992) determined that Puerco Beach is retreating at a rate of one-fourth to three-fourths of a foot per year, and provides confirmation of the Army Corp analysis that the beach shows evidence of a long term erosional trend.

The applicant has submitted a letter dated March 26, 1998, prepared by the original structural engineers for the existing residence on the subject site, Reiss, Brown, Ekmekji, Civil and Structural Engineers. The letter states that the foundation of the structure consists of wood piles driven to bedrock, and that the bedrock at the time of construction (c.1969) was located 12 feet below the sand level at that time.; The letter further states that Richard L. Brown, structural engineer for the firm, inspected the site again on February 12, 1998 and determined that the sand level was then located at approximately 8 to 9 feet below the bottom of the pile caps, leaving only 3 to 4 feet of the pile embedded in sand. Thus, the original structural engineer for the project verified that the beach has lost at least 8 feet of sand from the typical sand elevations on that portion of the beach recorded thirty years previously.

Therefore, based on the preponderance of evidence of these studies, considered in conjunction with site-specific evidence of beach erosion, the Commission concludes that the site proposed for placement of a seawall is located on an eroding beach.

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

The Commission notes that loss of beach is widely understood to occur when shoreline

protective devices are placed on equilibrium or eroding beaches. To determine what the impacts of the proposed bulkhead on the shoreline are likely to be, the location of the proposed protective device in relationship to the expected wave runup as calculated by the Mean High Tide Line (MHTL) must be analyzed.

a. Mean High Tide Line

The applicant has submitted data which the applicant believes indicate that the proposed bulkhead is not located near or seaward of the documented positions of the MHTL (see Exhibit 7). In addition, the applicant has submitted a letter from the State Lands Commission (SLC) dated January 5, 1999 indicating that the SLC does not, at this time, assert a claim that the project would encroach onto public lands.

b. Wave Uprush

The Wave Uprush Study prepared by John W. Starlin and Associates, dated March 15, 1998, referenced above, indicates that the maximum wave uprush at the subject site extends all the way to Malibu Road, landward of the existing single family residence. This data indicates that inundation of the beach fronting the proposed bulkhead will occur during high tide and low beach profile conditions in the winter.

It is important to accurately calculate the potential of wave runup and wave energy to which the seawall will be subject. Dr. Douglas Inman, a widely recognized authority on Southern California shoreline processes, states that²:

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.

In past permit actions, the Commission has found that one of the most critical factors controlling the impact of a seawall on the beach is its position on the beach profile relative to the surf zone. All other things being equal, the further seaward the wall is, the more often and more vigorously waves interact with it. The best place for a seawall, if one is necessary, is at the back of the beach where it provides protection against the largest of storms. By contrast, a seawall situated too close to the MHTL is likely to cause constant interference with normal shoreline processes, resulting in frontal and end scour of the beach adjacent to and seaward of the wall, in addition to upcoast sand impoundment.

² Letter from Dr. Inman to Coastal Commission staff civil engineer Lesley Ewing dated February 25, 1991.

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

c. Effects of the Shoreline Protective Device on the Beach

The proposed 48 ft. long wooden bulkhead will be constructed on the sandy beach approximately five feet seaward of the outer extent of existing development on the subject site—the minimum distance necessary to protect the existing septic disposal system without compromising the clearance standards from septic systems imposed by the City's Environmental Health Department. Although the precise impact of a structure on the beach is a persistent subject of debate within the discipline of coastal engineering, and particularly between coastal engineers and marine geologists, it is generally agreed that a shoreline protective device will affect the configuration of the shoreline and beach profile. Adverse impacts upon the shoreline may accrue as the result of beach scour, end scour (undermining of the beach areas at the ends of the seawall), the retention of potential beach material behind the wall, the fixing of the back beach and the interruption of alongshore processes. To evaluate these potential impacts relative to the proposed structure and its location at Puerco 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 caused by 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 combination with the incoming wave energy, will disturb the material at the base of the seawall and cause erosion to occur in front and down coast of the hard structure. This phenomenon has been recognized for many years and the literature acknowledges that seawalls do affect the supply of beach sand. The Wave Uprush Study prepared by the applicant's coastal engineer notes that the maximum wave uprush applicable to the subject site, absent a seawall or other shoreline protective device, goes to Malibu Road.

The Commission notes that the proposed bulkhead will be located seaward of the maximum wave uprush and will therefore be periodically acted upon by wave action. In past permit actions, the Commission has found that shoreline protective devices which

are subject to wave action tend to exacerbate or increase beach erosion. The following quotation summarizes a generally accepted opinion within the discipline of coastal engineering that:

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

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

While seawalls may protect the upland, they do not hold or protect the beach which is the greatest asset of shorefront property. In some cases, the seawall may be detrimental to the beach in that the downward forces of water, created by the waves striking the wall rapidly remove sand from the beach.⁴

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

Armoring can cause localized additional storm scour, both in front of and at the ends of the armoring...Under normal wave and tide conditions, armoring can contribute to the downdrift deficit of sediment through decreasing the supply on an eroding coast and interruption of supply if the armoring projects into the active littoral zone.⁵

³ Saving the American Beach: A Position Paper by Concerned Coastal Geologists (March 1981, Skidaway Institute of Oceanography), pg. 4.

⁴ State Department of Boating and Waterways (formerly called Navigation and Ocean Development), Shore Protection in California (1976), page 30.

⁵ Coastal Sediments '87.

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

Seawalls inhibit erosion that naturally occurs and sustains the beach. The two most important aspects of beach behavior are changes in width and changes in the position of the beach. On narrow, natural beaches, the retreat of the back beach, and hence the beach itself, is the most important element in sustaining the width of the beach over a long time period. Narrow beaches, typical of most of the California coast, do not provide enough sacrificial sand during storms to provide protection against scour caused by breaking waves at the back beach line. This is the reason the back boundary of our beaches retreats during storms.⁶

Dr. Everts further concludes that armoring in the form of a seawall or revetment interrupts the natural process of beach retreat during a storm event and that:

...a beach with a fixed landward boundary is not maintained on a recessional coast because the beach can no longer retreat.⁷

The Commission has observed this phenomenon up and down California's coast where a seawall has successfully halted the retreat of the shoreline, but only at the cost of usurping the beach. For example, at La Conchita Beach in Ventura County, placement of a rock revetment to protect an existing roadway has caused narrowing of the existing beach. Likewise, at City of Encinitas beaches in San Diego County, construction of vertical seawalls along the base of the bluffs to protect existing residential development above, has resulted in preventing the bluffs' contribution of sand to the beaches, resulting in narrowing.

As set forth in earlier discussion, Puerco Beach is a narrow, receding beach. The applicant's coastal engineering consultant has indicated that the bulkhead will be acted upon by waves during storm conditions. If a seasonal eroded beach condition occurs with greater frequency due to the placement of a bulkhead on the subject site, then the subject beach would also—at a minimum—accrete at a slower rate. The Commission notes that many studies performed on both eroding and oscillating beaches have concluded that loss of beach occurs on both types of beaches where a shoreline protective device exists. Therefore, the Commission notes that the proposed bulkhead, over time, will result in potential adverse impacts to the beach sand supply resulting in increased seasonal erosion of the beach and longer recovery periods.

The impacts of potential beach scour are important relative to beach use for two reasons. The first reason involves public access. The subject property is located approximately 600 feet west of a vertical public access available at 24500 Malibu Road.

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

⁷ *ibid.*

If the beach scours at the base of the bulkhead, even minimal scouring in front of the 48 ft. long bulkhead will translate into a loss of beach sand available (i.e., erosion) at an accelerated rate than would otherwise occur under a normal winter season if the beach were unaltered. The second impact relates to the potential turbulent ocean condition. Scour at the face of a seawall will result in greater interaction with the wall and thus, make the ocean along Puerco Beach more turbulent than it would be along an unarmored beach area.

Thus, the Commission has ordinarily required that shoreline protection devices be located as far landward as possible to reduce adverse impacts from scour and erosion. The applicant has provided evidence, and Commission staff has confirmed via a site visit to the subject location, that the proposed bulkhead cannot be relocated further landward than is presently proposed because the septic system is subject to wave attack as presently situated and because there is no feasible on site alternative location for the existing septic disposal system, the Commission finds that the applicant has sited the proposed bulkhead as landward as possible.

In past permit actions, the Commission has also required a lateral public access easement for new shoreline protection devices to mitigate adverse impacts to beach sand supply and public access. To ensure that any potential adverse effects of the proposed seawall are mitigated to the maximum extent feasible, the applicant has proposed to offer a dedication for a lateral public access easement along the beach. Special Condition 2 has been included to implement the applicant's proposal of an offer to dedicate a new lateral public access easement. Therefore, as conditioned, the project will minimize the adverse impacts resulting from construction of the new bulkhead and is consistent with the applicable Coastal Act sections and with past Commission action. Public access is discussed in more detail below.

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

In addition, the Commission notes that the literature on coastal engineering repeatedly warns that unprotected properties adjacent to any shoreline protective device may

experience increased erosion. Field observations have validated this concern. Although it is difficult to quantify the exact loss of material due to end effects, Gerald G. Kuhn of the Scripps Institute of Oceanography concludes in a paper entitled, "Coastal Erosion along Oceanside Littoral Cell, San Diego County, California," (1981) that erosion on properties adjacent to a rock seawall is intensified when wave runup is high.

An extensive literature search on the interaction of seawalls and beaches was performed by Nicholas Kraus in which he found that seawalls have the same effects on narrow beaches or beaches eroded by storm activity as Dr. Kuhn observed in relation to rock seawalls. Dr Kraus' research indicated that the form of the erosional response to storms that occurs on beaches without seawalls that are adjacent to beaches with seawalls is manifested as more localized toe scour and end effects of flanking and impoundment at the seawall.⁸ Dr. Kraus' concluded that seawalls were a likely cause of retained sediment, increased local erosion and increased end erosion. Dr. 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 would 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 fall if isolated in the surf zone. The third method is flanking, i.e., increased local erosion at the ends of walls. (underline added for emphasis)

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

⁸ "Effects of Seawalls on the Beach", published in the Journal of Coastal Research, Special Issue #4, 1988.

⁹ "Laboratory and Field Investigations of the Impact of Shoreline Stabilization Structures on Adjacent Properties" by W.G. McDougal, MA Sturtevant, and P.D. Komar in Coastal Sediments '87.

profiles.¹⁰ This effect appears to extend for a distance of about 6/10 the length of the seawall and represents both a spatial and temporal loss of beach directly attributable to seawall construction.

The Commission notes that end effect erosion may be further minimized by locating a proposed shoreline protection device as landward as possible to reduce the frequency with which the seawall is subject to wave action. In the case of the proposed project, and as noted previously, the proposed bulkhead will be located as landward as feasible to protect the existing septic system. The applicant has demonstrated that no feasible alternative to the present location of the septic system exists at this time and therefore the seawall cannot be located further landward than the location shown on Exhibit 7. As such, the proposed bulkhead is designed to minimize erosional end effects along both the western and eastern ends of the wall.

(3) Retention of Potential Beach Material

A shoreline protective device's retention of potential beach material impacts shoreline processes simply by depriving beaches of nutrients that would normally be fed into the littoral cell and deposited on beaches through the actions of normal shoreline processes. A bulkhead functions to keep upland sediments from being carried to the beach by wave action and bluff retreat. In the case of Puerco Beach, which is located in the Santa Monica Littoral 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 protective device may be linked to increased loss of material in front of the wall. The net effect is documented in "Responding to Changes in Sea Level, Engineering Implications" which provides:

A common result of sea wall and bulkhead placement along the open coastline is the loss of 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 bulkhead will protect the applicant's property from continued loss of sediment. However, the result of his 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

¹⁰ "the Interaction of Seawalls and Beaches: Seven Years of Field Monitoring, Monterey Bay, California" by G. Griggs, J. Tait, and W. Corona, in *Shore and Beach*, Vol. 62, No. 3, July 1994.

¹¹ "Responding to Changes in Sea Level: Engineering Implications," National Academy of Sciences, National Academy Press, Washington, D.C., 1987 (at page 74).

profile, seaward of the protective device, where the seawall will have greater exposure to wave attack.

In past permit actions, the Commission has required a lateral public access easement for new shoreline protection devices to mitigate adverse impacts to beach sand supply and public access. In the case of this project, to mitigate any possible adverse effects upon public access along the beach, the applicant proposes to dedicate a new public lateral access easement along the beach. Special Condition 2 has been included to implement the applicant's offer to dedicate a new lateral public access easement. Therefore, as conditioned, the project will minimize the adverse impacts resulting from construction of the bulkhead and is consistent with the applicable Coastal Act sections and with past Commission action.

d. Past Commission Actions on Residential Shoreline Development

Many portions of the Malibu coastline, including Puerco Beach, are intensely developed with single family residences. Such development, and the shoreline protective devices installed to protect the residences prevent or greatly impair access to the coast, obstruct public views to and of the beach and water from Pacific Coast Highway and other scenic viewing areas, 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 in 1972 and the 1976 Coastal Act. As previously stated, section 30235 of the Coastal Act allows for the construction of shoreline protective devices only if the device in question serves to protect a coastal dependent use or to protect existing structures of public beaches in danger from erosion. The construction of protective devices to protect new residential development is generally not allowed under this Coastal Act section. The majority of the residential development described above required some type of shoreline protective device to be developed. Therefore, it is safe to assume under this policy and the other resource protection policies of the Coastal Act that this type of development along Malibu's coastline would either not have been approved or would be developed in a much different configuration or design than it is today.

(1) Infill Development; Seaward Encroachment

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

with protective structures provided those protective structures tie into adjacent protective structures.

The term "infill development," as applied by the Commission in past permit decisions, refers to a situation where construction of a single family residence (and/or in limited situations a duplex) on a vacant lot or the demolition of an existing single family residence and construction of a new single family residence is proposed in an existing geographically definable residential community which is developed or built out with similar structures. When applied to beachfront development, this situation typically is applied to an existing linear community of beach-fronting residences where the majority of lots are developed with SFRs and relatively few vacant lots exist. In other words, within the linear stretch of developed beachfront lots, there is an occasional undeveloped lot or two which can be expected to be developed in a similar fashion. By nature of this description, an "infill development" situation can occur only in instances where roads and other services are already existing and available within the developed community or stretch of beach.

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

In infill development situations only, as described above, the Commission has found in past permit actions in Malibu pursuant to Section 30235 of the Coastal Act, that seawalls, revetments, and other types of shoreline protective devices can be permitted to protect existing structures or new structures which constitute infill development and when designed and engineered to eliminate or mitigate adverse impacts on the shoreline (certified Malibu LUP Policies 166 and 167). The Commission has also found, in past permit actions in Malibu, that in beach areas largely committed to residential development having shoreline protective devices, the construction of shoreline protective devices should tie into adjacent seawalls where appropriate or possible (Malibu LUP Policy 251).

To the maximum extent feasible, protective structures are required to tie into adjacent protective structures. Depending on past development that has occurred on developed beaches, requiring seawalls to form one contiguous line is not always possible. In addition, many of the protective devices that were constructed on these beaches were built under emergency situations where it is difficult to place the seawall under an existing structure (for example, CDP 4-98-171, Frumkes, two lots east, or downcoast). And, as previously noted, an unpermitted seawall was constructed on the adjacent downcoast lot, that is setback approximately two feet landward from the footprint of the applicant's proposed seawall.

Although the Commission has found that infilling gaps in existing development would prevent focused shoreline erosion, the Commission notes that the area surrounding the subject site is a substantially developed beach albeit without seawalls (permitted) on the adjoining parcels at the present time. In the case of the proposed seawall, no feasible alternative to relocate the proposed seawall further landward is available at the present time, and therefore the construction of the proposed wall will encroach approximately five feet further seaward than the present footprint of development on the subject site without constituting infill development in relation to seawalls on adjacent properties.

The Commission notes, however, that the existing single family residence and septic system are aging structures, and that the applicant's agent has verified that the residence was constructed, as was typical of beachfront development several decades ago, on timber support pilings. Concrete is the material of choice in contemporary construction. Termite damage and wear and tear take a toll on the timber pilings and a significant renovation of the foundation of the existing residence may necessary, as acknowledged by the applicant's agent, at some point in the future. Should this or other remodeling project arise on the subject site, the opportunity to relocate the aging septic disposal system to the landward side of the residence may arise. Under such circumstances, the presently proposed seawall, in its proposed location, may no longer be necessary, or a landward relocation of the shoreline protective device may be possible.

Special Condition 5 acknowledges that such circumstances may arise in the future, and that mitigation of adverse effects of the presently proposed shoreline protective device may then be achieved by removing or relocating such device. Moreover, under such circumstances, the adverse effects of the shoreline protective device on shoreline processes and sand supply as discussed previously, would no longer be justified in light of new alternatives for removing or relocating the structure that may be posed by the changed circumstances. Therefore, the Commission finds that the imposition of Special Condition 5 is necessary to ensure that the authorization of the construction of such structure under Coastal Development Permit 4-98-085 terminates should changes to the existing structures it is designed to protect become necessary or possible in the future. Under such circumstances, the landowner/permittee at the time must either abandon and remove the bulkhead and return walls in concert with the other changes proposed on site or apply for, and obtain, a new Commission approval of the subject shoreline protective device. Thus, the Commission finds that as conditioned by Special Condition 5, the proposed development is consistent with Section 30235 of the Coastal Act.

e. Conclusion

Coastal Act sections 30235, 30253 and 30250(a) set forth the Commission's mandate relative to permitting shoreline protective devices and beachfront development. In

order for the Commission to permit the proposed project, which includes a 48 ft. long wooden bulkhead and return walls at each end, it must find the project consistent with the Chapter 3 policies of the Coastal Act.

Coastal Act section 30235, cited above, states that shoreline protective devices such as revetments and other construction that would alter natural shoreline processes shall be permitted when those structures are necessary to serve coastal-dependent uses or to protect existing structures or to protect public beaches in danger from erosion and when they are designed to eliminate or mitigate adverse impacts on local shoreline sand supply. In the case of this project, the applicant is proposing lateral public access and Special Condition 5 ensures that should the seawall no longer be necessary in the future (if for example, the existing residence and or septic system were substantially remodeled or removed), the present approval for the seawall would terminate and the structure would either be removed or relocated, based on the Commission's consideration at that time.

Coastal Act section 30253, (also cited above) mandates that new development neither create nor contribute significantly to erosion, or contribute to destruction of the site or surrounding area or in any way require the construction of protective devices that would substantially alter natural landforms along bluffs or cliffs. In past permit actions, the Commission has required that new shoreline protection devices be located as landward as possible to reduce adverse impacts to sand supply and public access resulting from the development. In the case of this project, the applicant has demonstrated that although the proposed seawall does not tie to existing seawalls on adjacent properties (there are no approved seawalls or bulkheads on the adjacent parcels, as noted previously), the proposed structure is located as far landward as possible under the present circumstances and that the structure is necessary to protect the existing residence and septic system from further wave attack in the future.

Further, in past permit actions, the Commission has also required a lateral public access easement for new shoreline protection devices to mitigate adverse impacts to beach sand supply and public access. In the case of this project to mitigate any possible adverse impacts to public access along the beach, the applicant has proposed to dedicate a new public lateral access easement along the beach. Special Condition 2 has been included to implement to applicant's offer to dedicate a new lateral public access easement.

Section 30250(a) of the Coastal Act states, in part, that new development not adversely affect, either individually or cumulatively, coastal resources. As explained in the preceding section regarding past Commission action on residential development, the proposed project is located on a fully developed stretch of beach and would be considered infill development. In addition, the project minimizes adverse impacts resulting from the construction of the proposed bulkhead by ensuring that the structure is located as landward as possible and by including an offer to dedicate lateral public access in the project description. 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

Coastal Act Section 30253 states in part:

Section 30253

New development shall:

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

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

Storm, Wave and Flood Hazard

The Malibu coast has been subject to substantial damage as a result of storm and flood occurrences, geological failures and firestorms. The proposed project site is subject to flooding and/or wave damage from storm waves and storm surge conditions. Past occurrences have resulted in public costs (through low-interest loans for home repairs and/or rebuilding after disasters) in the millions of dollars in the Malibu area alone.

Along the Malibu coast, significant damage has also occurred to coastal areas from high waves, storm surge and high tides. In the winter of 1977-78, storms triggered numerous mudslides and landslides and caused significant damage along the coast. The "El Nino" storms in 1982-83 caused additional damage to the Malibu coast, when high tides over 7 feet combined with surf between 6 and 15 feet. These storms caused over \$12 million in damage. The El Nino storms of 1987-88, 1991-92, and 1997-1998

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

The applicant proposes to construct a 48 ft. long, 14 ft. high (1 ft. above summer sand elevation) bulkhead with return walls at each end. The proposed bulkhead will be subject to wave attack, flooding, and erosion hazards that in the past have caused significant damage to development along the California coast, including the Malibu coastal zone and the beach area nearby the subject property. The Coastal Act recognizes that new development, such as the construction of the proposed bulkhead and single family residence on a beach, may involve the taking of some risk. Coastal Act policies require the Commission to establish the appropriate degree of risk acceptable for the proposed development and to determine who should assume the risk. When development in areas of identified hazards is proposed, the Commission considers the hazard associated with the project site and the potential cost to the public, as well as the individual's right to use his property. IN addition, the previously referenced Wave Uprush Study performed by the applicant's consulting coastal engineer states affirms that there will always be certain risks associated with living on the beach.

Therefore, the Commission finds that due to the unforeseen possibility of wave attack, erosion, and flooding, the applicant shall assume these risks as a condition of approval. Because this risk of harm cannot be completely eliminated, Special Condition 1 requires the applicant to waive any claim of liability against the Commission for damage to life or property which may occur as a result of the permitted development. The applicant's assumption of risk, when executed and recorded on the pro0perty deed, will also show that the applicant is aware of and appreciated the nature of the hazards which exist on the site, and which may adversely affect the stability or safety of the proposed development.

In addition, Section 30253 of the Coastal Act requires that new development minimize risk to life and property in areas of high geologic, flood and fire hazard, and assure stability and structural integrity. Beachfront development raises issues relative to a site's geologic stability. As noted previously, the Malibu shoreline has experienced coastal damage regularly from geologic instability induced by winter rains and heavy surf conditions.

The applicant has submitted a Limited Soils Engineering Investigation, dated June 9, 1998, prepared by GeoConcepts, Inc., which states that the project site will not be affected by geologic hazards. The report concludes that:

It is the finding of this corporation, based upon the subsurface data, that the proposed project will be safe from landslide, settlement or slippage and will not adversely affect adjacent property, provided this corporation's recommendations and those of the Los Angeles County Code are followed and maintained.

Further, the Wave Uprush Study prepared on March 15, 1998 by John W. Starlin & Associates makes specific recommendations about the design standards and placement of the proposed bulkhead, and suggests further review of the complete building plans by a coastal engineer upon completion of the plans.

As set forth in Section 30253 of the Coastal Act, new development shall assure structural integrity and neither create nor contribute significantly to erosion, geologic instability, or destruction of the site or surrounding area. The Commission finds that the development is consistent with Section 30253 of the Coastal Act so long as the geotechnical consultant's and the coastal and structural engineering consultant's recommendations are incorporated into project plans. Therefore, Special Condition 3 requires the applicant to submit final project plans and designs that have been certified in writing by the geologic, geotechnical and coastal engineering consultants as conforming to their recommendations.

The proposed development, with its excavation and construction staging on the sandy beach and the possible generation of debris and or presence of equipment and materials that could be subject to tidal action 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 could result in disturbance through increased turbidity caused by erosion and siltation of coastal waters. To ensure that effects to the marine environment are minimized and that the construction phase of the proposed project poses no hazards, Special Condition 4, Construction Responsibilities and Debris Removal 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, and that all debris resulting from the construction period is promptly removed from the beach and seawall area.

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

D. Public Access.

The Coastal Act mandates the provision of maximum public access and recreational opportunities along the coast. The Coastal Act contains several policies which address the issues of public access and recreation along the coast.

Coastal Act Section 30210, which states that:

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 which states that:

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, where:

- (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.

Coastal Act Section 30220 states:

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

Finally, 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 subordinate to the character of its setting.

Coastal Act sections 30210 and 30211 mandate that maximum public access and recreational opportunities be provided and that development not interfere with the public's right to access the coast. Likewise, section 30212 of the Coastal Act requires that adequate public access to the sea be provided to allow use of dry sand and rocky coastal beaches.

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 proposed the seawall would extend approximately five feet further onto the sandy beach than the footprint of the existing single family residence. As stated previously, the proposed project is located on Puerco Beach, approximately 600 feet west of the nearest public vertical coastal accessway. All projects requiring a coastal development permit must be reviewed for compliance with the public access and recreation provisions of Chapter 3 of the Coastal Act. Based on the access, recreation and development sections of the Coastal Act, the Commission has required public access to and along the shoreline in new development projects and has required design changes in other projects to reduce interference with access to and along the shoreline.

As noted above, interference by a bulkhead has a number of effects on the dynamic shoreline system and the public's beach ownership interests. First, changes in the shoreline profile, particularly changes in the slope of the profile which results from reduced beach berm width, alter the usable area under public ownership. A beach that rests either temporarily or permanently at a steeper angle than under natural conditions will have less horizontal distance between the mean low water and mean high water lines. This reduces the actual area in which the public can pass on their own property. The second effect on access is through a progressive loss of sand as shore material is not available to nourish the bar. The lack of an effective bar can allow such high wave energy on the shoreline that materials may be lost far offshore where it is no longer available to nourish the beach. The effect of this on the public are again a loss of area between the mean high water line and the actual water. Third, shoreline protective devices such as revetments and bulkheads cumulatively affect public access by causing accelerated and increased erosion on adjacent public beaches. This effect may not become clear until such devices are constructed individually along a shoreline and they eventually affect the profile of a public beach. Fourth, if not sited landward in a location that insures that the seawall is only acted upon during severe storm events, beach scour during the winter season will be accelerated because there is less beach area to dissipate the wave' energy. Finally, revetments and bulkheads interfere directly with public access by their occupation of beach area that will not only be unavailable during high tide and severe storm events but also potentially throughout the winter season.

Due to the aforementioned adverse impacts of shoreline protective structures on public access, the proposed shoreline protection device must be judged against the public access and recreation policies of the State Constitution, Sections 30210, 30220, and

30211 of the Coastal Act. Along the California coast, the line between land and ocean is complex and constantly moving.

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

Where development is proposed that may impair public use and ownership of tidelands, the Commission must consider where the development will be located in relation to tidelands. The legal boundary between public tidelands and private uplands is 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.¹²

The Commission must consider a project's direct and indirect impact 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

¹² The legal location of the tidelands boundary was the subject of litigation involving the Coastal Commission, the State Lands Commission and an owner of private uplands. (See *Lechuza Villas West v. California Coastal Commission*, __ Cal. App. 4th __, 97 Daily Journal D. A. R. 15277 (Dec. 19, 1997).

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.

To avoid approving development that will encroach on public tidelands during any time of the year, the Commission, usually relying on information supplied by the State Lands Commission, will look to whether the project is located landward of the most landward known location of the mean high tide line. In this case, the State Lands Commission presently does not assert a claim that the project intrudes onto sovereign lands (SLC letter dated January 5, 1999).

Even structures located above the mean high tide line, however, may have an impact on shoreline processes as wave energy reflected by those structures contributes to erosion and steepening of the shore profile, and ultimately to the extent and availability of tidelands. That is why the Commission also must consider whether a project will have indirect impacts on public ownership and public use of shorelands. The applicant is proposing to remove the existing bulkhead and rocks and construct a new bulkhead. As discussed elsewhere in the Commission's findings (see Section IVB Shoreline Protective Devices), there is substantial evidence that this project will result in some indirect impacts on tidelands because the new proposed bulkhead is located in an area that is subject to wave attack and wave energy. The applicant has offered a lateral public access easement, however, to mitigate any adverse effects on coastal access or recreation that the proposed bulkhead may have.

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

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

In this case, no evidence has been presented in connection with this application that the public may have acquired rights of use under the doctrine of implied dedication.

Although the Commission notes that the new proposed bulkhead is located as landward as possible in relation to the existing septic system and residence the bulkhead is designed to protect, there is still evidence that the bulkhead will be subject to wave uprush which may result in some potential adverse individual and cumulative impacts on sand supply, beach profile, and ultimately, public access as a result of localized beach scour, retention of beach material and interruption of the alongshore and onshore sand transport process.

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

In past permit actions, the Commission has required that new shoreline protective devices be located as landward as possible to reduce adverse impacts to the sand supply and public access resulting from development. In the case of the proposed project, the applicant has demonstrated that the proposed bulkhead is located as landward as feasible to protect the existing septic system for which there is presently no feasible alternative location.

As noted previously, however, the existing septic system is aging, and the existing residence is over 30 years old. The structural support system is based on timber pilings which have deteriorated and have suffered termite damage intermittently over the years, according to the applicant's agent. While the building is structurally sound at present, and the applicant has no pending plans to undertake remodeling or renovation of the residence, the age and condition of the structure indicate that such plans are possible at some point in the future. In addition, a successor in interest to the present owner may even demolish the existing residence and rebuild on the site.

If proposed, such changes (among others outlined in Special Condition 5) would raise the possibility that the development footprint, including the septic system, could be moved landward, potentially obviating the need for the presently proposed bulkhead, or at a minimum, offering the potential to relocate the bulkhead landward and thereby to mitigate the bulkhead's adverse effects upon public access to the sandy beach. Special Condition 5, as noted previously, ensures that future activities on the subject site or changes to the structures landward of the proposed bulkhead noted in the condition would require the applicant to seek a new permit from the Commission for the seawall considered under the present coastal development permit application.

Special Condition 5 would not require that all potential development on the subject site trigger the need to obtain a new permit for the seawall. In the case of the applicant's site, there is very little available space landward of the existing residence. If this were not so, however, and a proposal was submitted for an accessory structure entirely landward of an existing residence, the Executive Director would likely determine that such a change did not affect the need for the seawall and would not require the applicant to seek a new approval for the seawall from the Commission. On the other hand, if the City of Malibu installed a sewer system and the old septic disposal system driving the location of the proposed bulkhead became obsolete, the provisions of Special Condition 5 would generally require that the applicant obtain a new coastal development permit for the continued retention of the subject shoreline protective device.

In addition, in past permit actions, the Commission has also required a lateral public access easement for new shoreline protection devices to mitigate adverse impacts to beach sand supply and public access. In the case of this project, to conclude with absolute certainty what impacts the proposed development would cause on the shoreline processes and public access, a historical shoreline analysis based on site-specific studies would be necessary. Although this level of analysis has not been submitted by the applicant, the applicant has proposed to offer a dedication of a public lateral access easement along the beach to mitigate any possible adverse impacts the proposed bulkhead may have on public access. The applicants offer proposes the easement as measured 10 feet from the dripline of the deck to the MHTL. The 10 ft. privacy buffer will be available for public use when no other dry areas of the beach are available for public access. Because the applicant has proposed, as part of the project, an offer to dedicate a new lateral access easement along the southern section of the lot, it has not been necessary for Commission staff to engage in an extensive analysis of the potential adverse effects to public access resulting from the proposed project. As such, Special Condition 2 has been included to implement the applicant's offer to dedicate a new lateral public access easement prior to the issuance of the coastal development permit.

The Commission further 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 a chilling effect on the legitimate, protected access of the public to public trust lands. Commission staff noted on a site visit to the subject parcel in April, 1999 that the owner of the parcel immediately east of (downcoast) of the applicant's parcel had (as previously noted) not only erected an unauthorized seawall below the deck of the existing single family residence, but had also prominently posted a sign indicating that the beach was private up to 80 feet out from the residence. The site visit by staff confirmed that 80 feet from the house would have placed the MHTL out in the intertidal zone, thereby demonstrating that the sign posting was not only unauthorized development, it also contained inaccurate language that could be interpreted by potential coastal visitors otherwise unfamiliar with coastal regulations and public trust doctrine to indicate that

no access to the sandy beach was available under any tidal conditions. The Commission has determined, therefore, that to ensure that such postings are clearly understood by the applicant to be off limits until or unless a coastal development permit is obtained for such signage, it is necessary to impose Special Condition 6 to ensure that similar signs are not posted on the seaward side of the proposed bulkhead. The Commission finds that if implemented, Special Condition 6 will protect the public's right of access to the sandy beach below the MHTL.

In addition, the Commission notes that as proposed, the bulkhead will be almost invisible during the summer beach season and would not extend more than one foot above the summer sand elevation. In addition, the timber bulkhead will be a natural weathered timber facing that blends with the color of the sand and as such will not significantly affect public views of the coast from the sandy beach.

For all of these reasons, therefore, the Commission finds that as conditioned, the proposed project is consistent with Sections 30210, 30211, 30212, 30220, and 30251 of the Coastal Act.

E. Local Coastal Program

Section 30604 of the Coastal Act states that:

Section 30604

(a) Prior to certification of the local coastal program, a coastal development permit shall be issued if the issuing agency, or the commission on appeal, finds that the proposed development is in conformity with Chapter 3 (commencing with Section 30200) and that the permitted development will not prejudice the ability of the local government to prepare a local coastal program that is in conformity with Chapter 3 (commencing with Section 30200). A denial of a coastal development permit on grounds it would prejudice the ability of the local government to prepare a local coastal program that is in conformity with Chapter 3 (commencing with Section 30200) shall be accompanied by a specific finding which sets forth the basis for that conclusion.

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

ability to prepare a Local Coastal Program for Malibu which is also consistent with the policies of Chapter 3 of the Coastal Act as required by Section 30604 (a).

F. CEQA

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, to be consistent with any applicable requirements of the California Environmental Quality Act (CEQA). Section 21080.5(d)(2)(A) of CEQA prohibits a proposed development from being approved if there are feasible alternatives or feasible mitigation measures available which would substantially lessen any significant adverse effect which the activity would 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 consistent with CEQA and the policies of the Coastal Act.

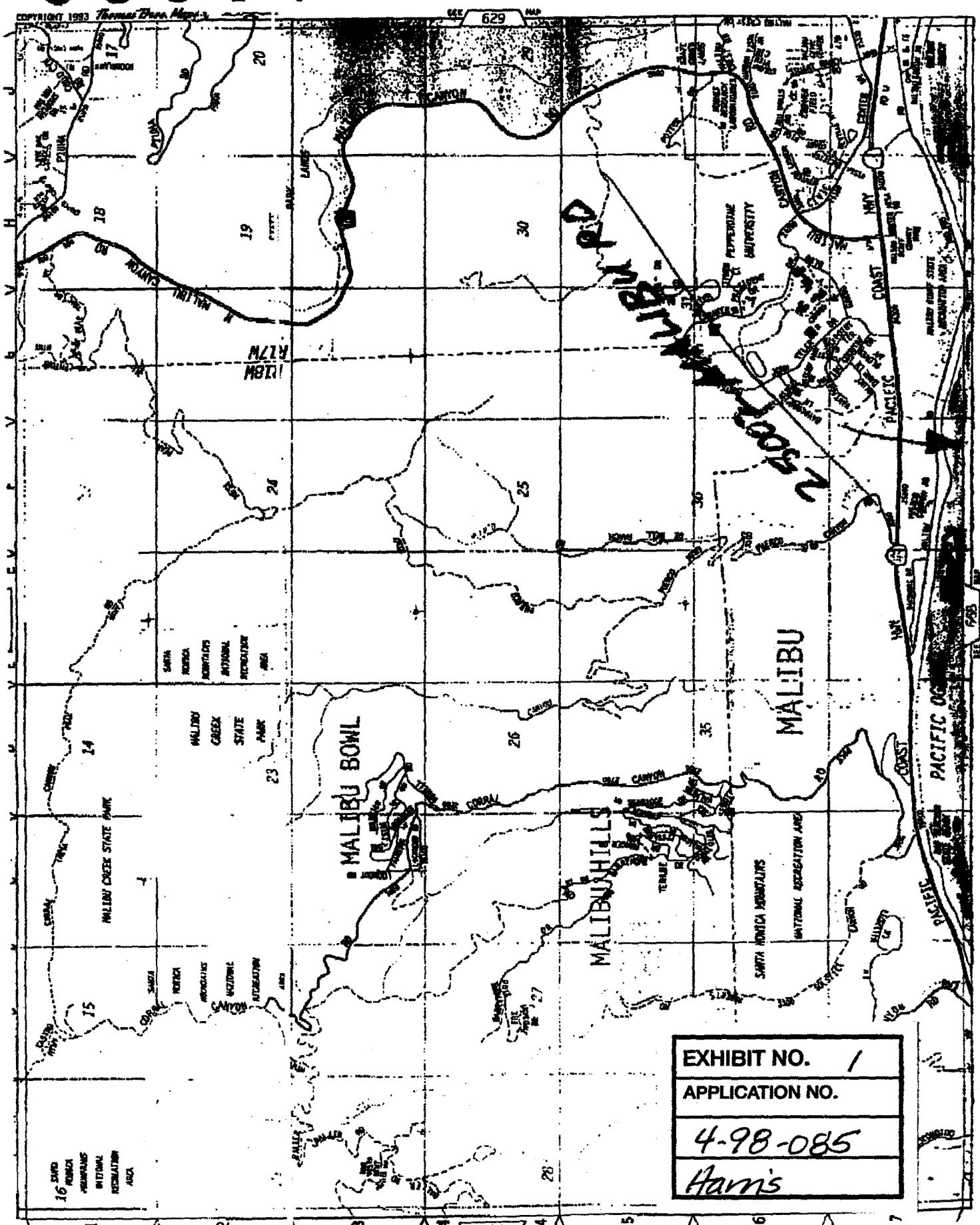
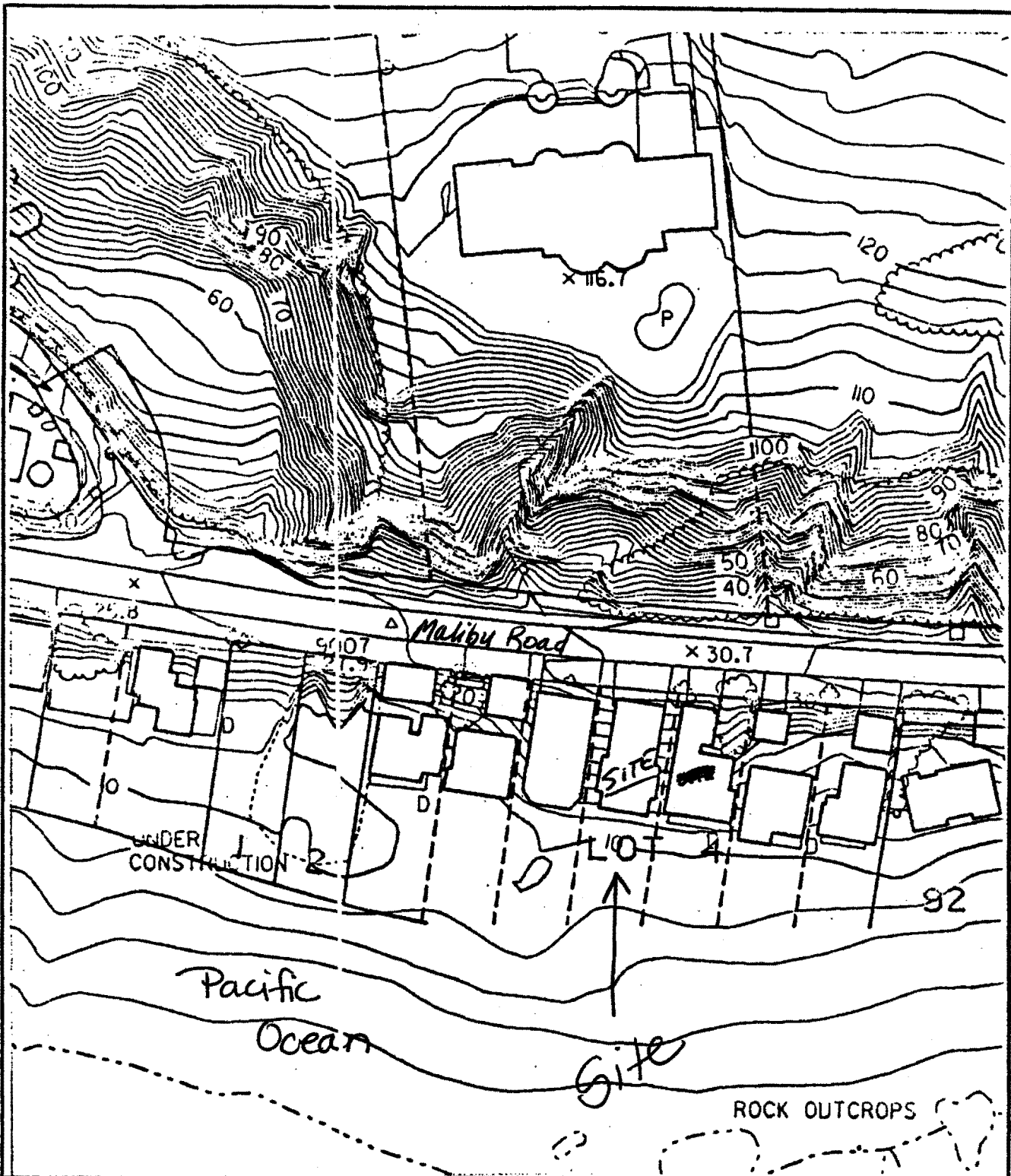


EXHIBIT NO.	1
APPLICATION NO.	4-98-085
	Harris

LOCATION



Reference: James Montgomery Maps, No.: 41

Project No.: 1557

Project 25002 Malibu Road

Address: Malibu, California

EXHIBIT NO. 2
APPLICATION NO.

4-98-085

Harris

GeoConcepts, Inc.

4458

13

SCALE 1" = 100'

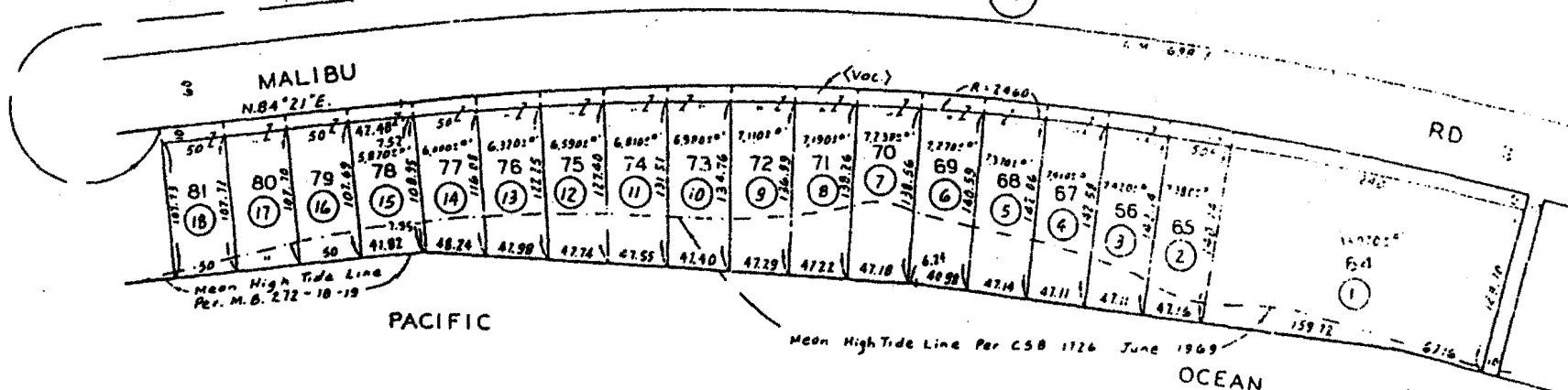
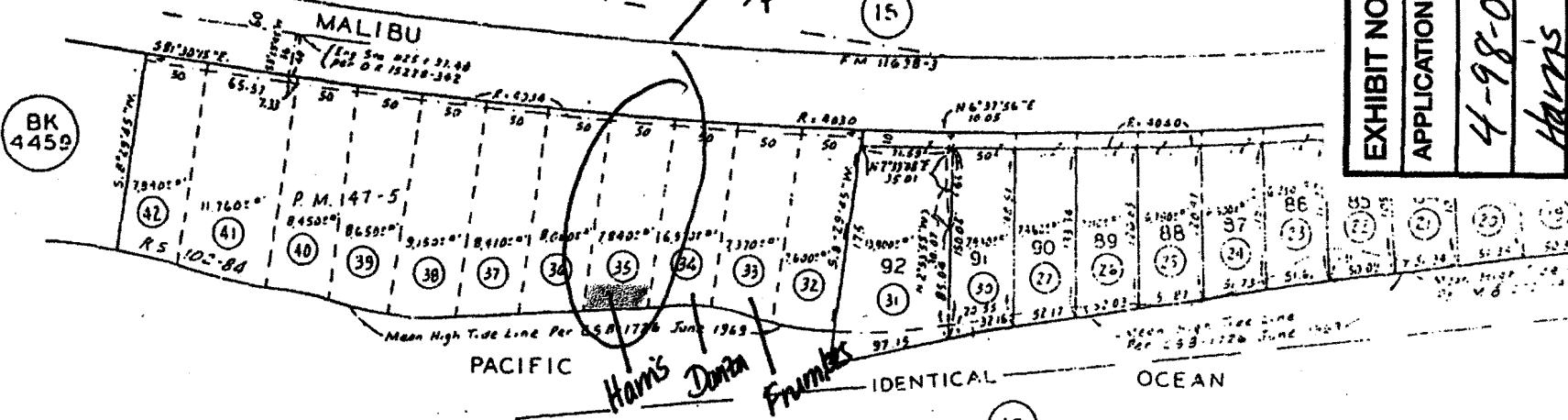
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TRA 10665

PUERCO CANYON RD.

subject parcel

EXHIBIT NO. 3
APPLICATION NO. 4-98-085
Harris



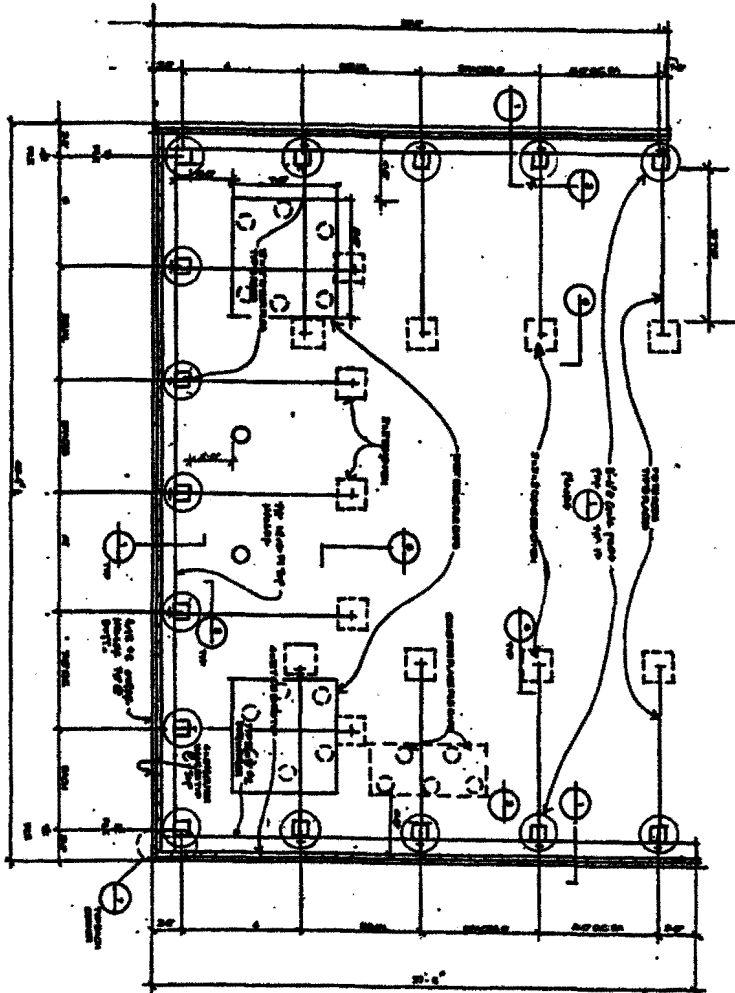
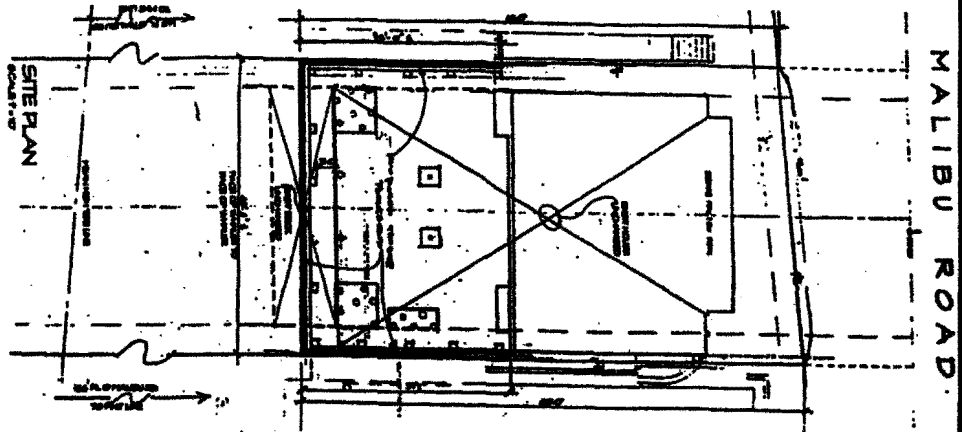
LAND OF MATTHEW KELLER IN THE RANCHO
 TOPANGA MALIBU SEQUIT R.F. 534
 TRACT NO. 13157 M.B. 272-18-19

RECEIVED
 OCT 09 1992

CALIFORNIA
 COASTAL COMMISSION
 SOUTH CENTRAL COAST DISTRICT

FOR PREV. ASSM'T SEE:
 50-13114

AS
 COUNTY OF



TIMBER BLU-HEAD PLAN

RECEIVED

JAN 29 1999

COSTAL COMMUNITY DISTRICT
SOUTH CENTRAL COAST DISTRICT

4-98-085

EXHIBIT NO. 4
APPLICATION NO.
4-98-085
Harris

1. The applicant shall submit a complete set of plans for the proposed elevator, including but not limited to, the following:

- a. A detailed floor plan showing the location of the elevator shaft and the location of the elevator car.
- b. A detailed cross-section of the elevator shaft showing the location of the elevator car and the location of the elevator hoistway.
- c. A detailed plan of the elevator car showing the location of the elevator car and the location of the elevator hoistway.
- d. A detailed plan of the elevator hoistway showing the location of the elevator hoistway and the location of the elevator car.
- e. A detailed plan of the elevator landing showing the location of the elevator landing and the location of the elevator car.
- f. A detailed plan of the elevator shaft showing the location of the elevator shaft and the location of the elevator car.
- g. A detailed plan of the elevator hoistway showing the location of the elevator hoistway and the location of the elevator car.
- h. A detailed plan of the elevator landing showing the location of the elevator landing and the location of the elevator car.
- i. A detailed plan of the elevator shaft showing the location of the elevator shaft and the location of the elevator car.
- j. A detailed plan of the elevator hoistway showing the location of the elevator hoistway and the location of the elevator car.
- k. A detailed plan of the elevator landing showing the location of the elevator landing and the location of the elevator car.
- l. A detailed plan of the elevator shaft showing the location of the elevator shaft and the location of the elevator car.
- m. A detailed plan of the elevator hoistway showing the location of the elevator hoistway and the location of the elevator car.
- n. A detailed plan of the elevator landing showing the location of the elevator landing and the location of the elevator car.
- o. A detailed plan of the elevator shaft showing the location of the elevator shaft and the location of the elevator car.
- p. A detailed plan of the elevator hoistway showing the location of the elevator hoistway and the location of the elevator car.
- q. A detailed plan of the elevator landing showing the location of the elevator landing and the location of the elevator car.
- r. A detailed plan of the elevator shaft showing the location of the elevator shaft and the location of the elevator car.
- s. A detailed plan of the elevator hoistway showing the location of the elevator hoistway and the location of the elevator car.
- t. A detailed plan of the elevator landing showing the location of the elevator landing and the location of the elevator car.
- u. A detailed plan of the elevator shaft showing the location of the elevator shaft and the location of the elevator car.
- v. A detailed plan of the elevator hoistway showing the location of the elevator hoistway and the location of the elevator car.
- w. A detailed plan of the elevator landing showing the location of the elevator landing and the location of the elevator car.
- x. A detailed plan of the elevator shaft showing the location of the elevator shaft and the location of the elevator car.
- y. A detailed plan of the elevator hoistway showing the location of the elevator hoistway and the location of the elevator car.
- z. A detailed plan of the elevator landing showing the location of the elevator landing and the location of the elevator car.

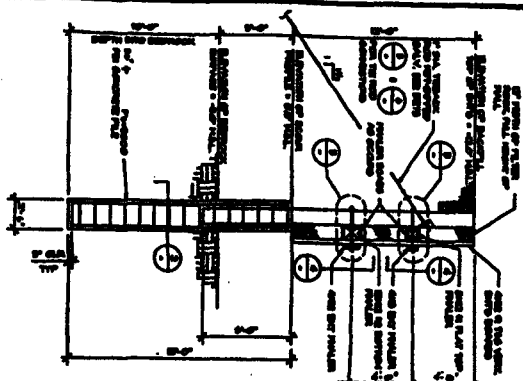


EXHIBIT NO. 5
 APPLICATION NO.
 4-98-085
 Harris

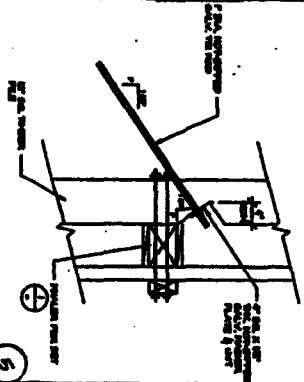
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ELEVATOR
 2000 MALEBU RD
 MALEBU CA

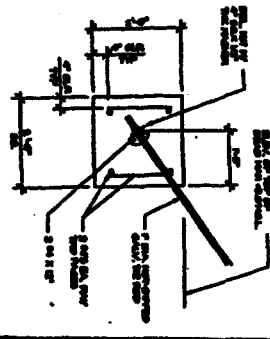
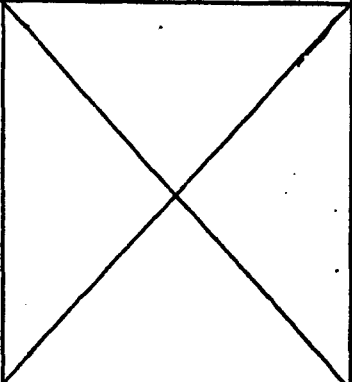
R.S. WARE CO
 2475 PCH
 MALEBU CALIFORNIA



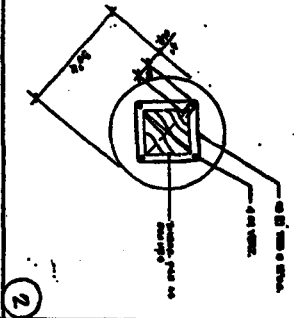
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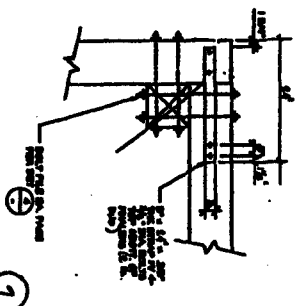
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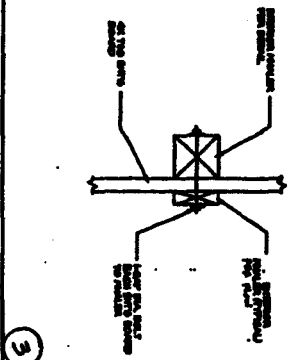
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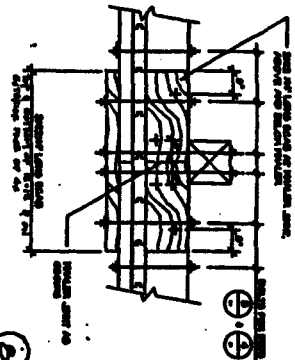
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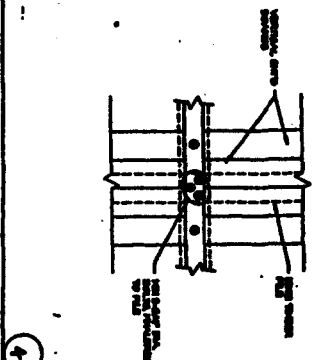
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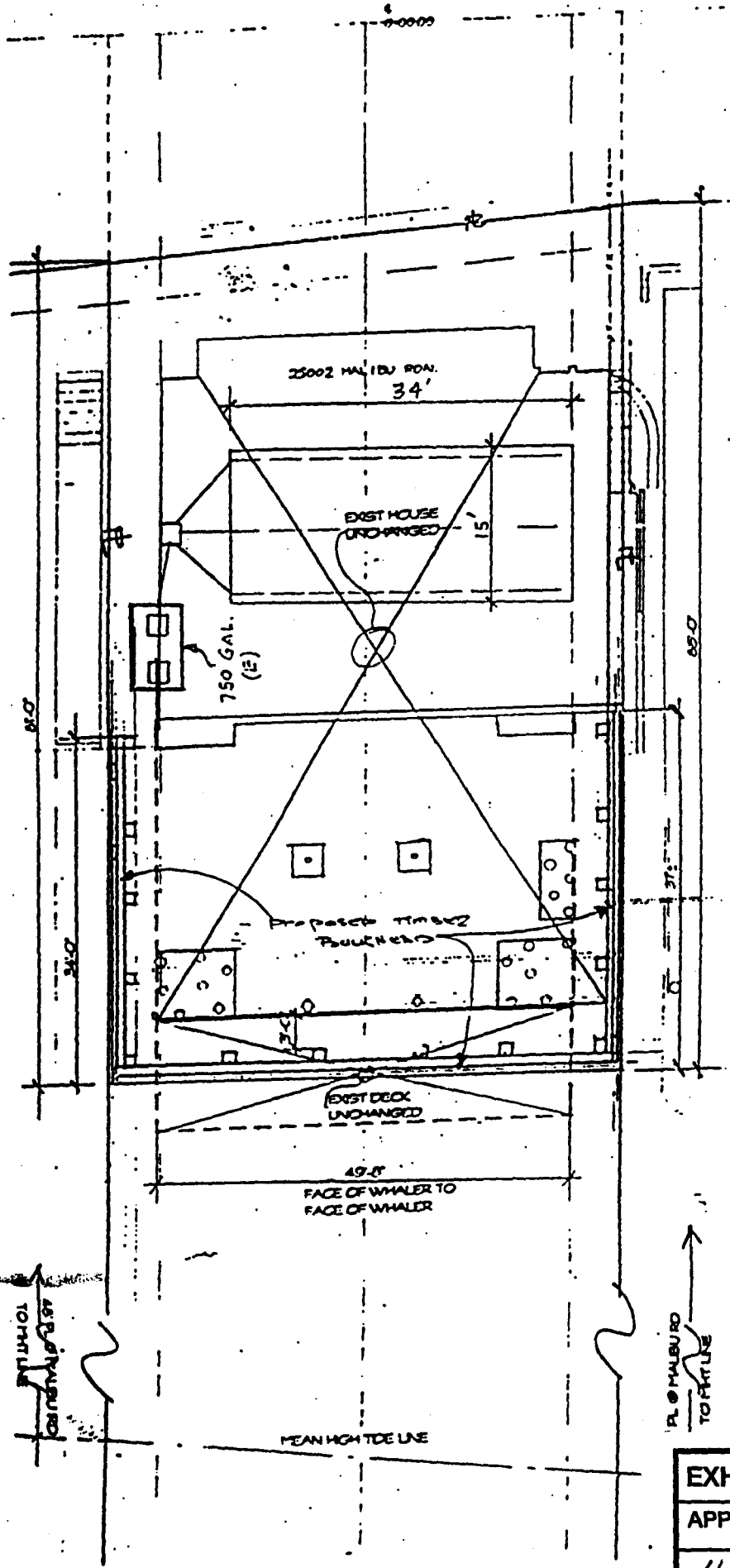
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4

EXHIBIT NO. 6
 APPLICATION NO.
 4-98-085
 Harris

MALIBU ROAD



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MAY 14 1999

CALIFORNIA
COASTAL COMMISSION
SOUTH CENTRAL COAST DISTRICT

Malibu
California

EXHIBIT NO. 7
APPLICATION NO.
4-98-085
Harris

Harris 25002 Malibu Rd. 4-98-085

