

CALIFORNIA COASTAL COMMISSION

SOUTH CENTRAL COAST AREA
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Hearing Date: 4/9/98
Commission Action:

STAFF REPORT: REGULAR CALENDAR

Th 10c

APPLICATION NO.: 4-97-171

APPLICANT: Daniel Sweeney AGENT: Blake Shelters, Architect

PROJECT LOCATION: 25144 Malibu Road, City of Malibu, Los Angeles County

PROJECT DESCRIPTION: Partial demolition, remodel, and construction of a 2,512 sq. ft. addition to an existing 2,057 sq. ft. single family residence to create a two story, 4,569 sq. ft., single family residence with a two car 618 sq. ft. garage; construct first floor deck of 1,083 sq. ft. and second floor deck of 182 sq. ft.; install six new caissons to support seaward addition; replace and reconstruct in same location an existing 28 foot long wooden bulkhead and two existing 22 foot long return walls and install five new pilings to protect new sewage disposal system.

Lot area:	9,765 sq. ft. (0.224 acres)
Building coverage:	2,892 sq. ft.
Pavement coverage:	320 sq. ft.
Landscape coverage:	695 sq. ft.
Parking spaces:	2 spaces
Ht abv fin grade:	27.32 ft.

SUMMARY OF STAFF RECOMMENDATION:

Staff is recommending approval, subject to conditions, for the proposed remodeled and enlarged two story single family home, garage, and decks. The first and second floor addition will bring the residence and decks seaward to a location within the stringline of adjoining properties. The project site, located on Puerco Beach, was initially developed with single family homes between 1924 and the late 1940's. The subject site includes a one story residence and bulkhead constructed in the 1950's. The bulkhead protects the septic system, located within the front yard, and Malibu Road from wave erosion hazards.

Staff is recommending approval of the proposed project subject to the following special conditions which would bring the project into conformance with the

Coastal Act: 1) applicant's assumption of risk; 2) plans conforming to geology and engineering report recommendations; and 3) construction responsibilities and debris removal.

STAFF NOTE:

The applicant proposes to remove an existing wooden bulkhead and two return walls and replace it with a new bulkhead and two return walls in the same location and same design. Five new wood pilings will be installed on the inland side of the bulkhead to secure it into bedrock. As a result, the proposed project will not create any increased adverse impacts to public access or shoreline processes.

LOCAL APPROVALS RECEIVED: City of Malibu Planning Department Approval in Concept, dated 3/25/97; City of Malibu Environmental Health Department Approval in Concept, dated March 17, 1997; City of Malibu Geology and Geotechnical Engineering Review, Approved in Concept, dated 1/10/97.

SUBSTANTIVE FILE DOCUMENTS: Appendix A

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 first public road nearest the shoreline and is in conformance with the public access and public recreation policies of Chapter 3 of the Coastal Act, and will not have any significant adverse impacts on the environment within the meaning of the California Environmental Quality Act.

II. Standard Conditions

1. Notice of Receipt and Acknowledgment. The permit is not valid and development shall not commence until a copy of the permit, signed by the permittee or authorized agent, acknowledging receipt of the permit and acceptance of the terms and conditions, is returned to the Commission office.
2. Expiration. If development has not commenced, the permit will expire two years from the date on which the Commission voted on the application. Development shall be

pursued in a diligent manner and completed in a reasonable period of time. Application for extension of the permit must be made prior to the expiration date.

3. Compliance. All development must occur in strict compliance with the proposal as set forth below. Any deviation from the approved plans must be reviewed and approved by the staff and may require Commission approval.

4. Interpretation. Any questions of intent or interpretation of any condition will be resolved by the Executive Director or the Commission.

5. Inspections. The Commission staff shall be allowed to inspect the site and the development during construction, subject to 24-hour advance notice.

6. Assignment. The permit may be assigned to any qualified person, provided assignee files with the Commission an affidavit accepting all terms and conditions of the permit.

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

III. Special Conditions

1. Applicant's Assumption of Risk.

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

2. Plans Conforming to Geology and Engineering Report Recommendations

All recommendations contained in the Wave Uprush Study and three Updates by Pacific Engineering Group dated June 20, 1996 through February 26, 1998 and in the Geotechnical and Geologic Engineering Investigation and Report, prepared by Ralph Stone and Company, Inc. dated March 13, 1996 shall be incorporated into all final design and construction plans including friction pile foundations, lateral design, retaining walls, slabs on grade, grading, drainage

control, septic disposal, minimum finished floor elevation, timber and concrete pile foundation which must be reviewed and approved by the consultants prior to commencement of development. Prior to issuance of the coastal development permit, the applicant shall submit evidence to the Executive Director of the consultant's review and approval of all final design and construction plans.

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

3. Construction Responsibilities and Debris Removal

The applicant shall, by accepting this permit, agree and ensure that the project contractor: a) not stockpile dirt on the beach; b) properly cover and sand-bag all stockpiling beyond the beach to prevent runoff and siltation; c) not store any construction materials or waste where it may be subject to wave erosion and dispersion; d) remove promptly from the beach any and all debris that results from construction materials; e) implement measures to control erosion at the end of each day's work; and f) not allow any mechanized equipment in the intertidal zone at any time.

IV. Findings and Declarations.

A. Project Description and Location

The project site is located at 25144 Malibu Road, Malibu on a 9,765 sq. ft. lot along Puerco Beach seaward of Malibu Road. (*Exhibits 1 and 2*) The applicant is proposing to partially demolish the residence, remodel the garage, and construct a 2,512 sq. ft. addition to an existing 2,920 sq. ft. single family residence to create a two story 4,569 sq. ft. single family residence with an existing two car 618 sq. ft. garage. The applicant also proposes to construct a first floor deck of 1,083 sq. ft. and add a second floor deck of 182 sq. ft. on the seaward side of the residence and install six new concrete caissons to support the seaward addition all located within the stringline. (*Exhibits 3-11*) An existing 28 foot long wooden bulkhead with two existing 22 foot long return walls is proposed to be replaced in the same location with a new 28 foot long wooden bulkhead and two new 22 foot long return walls and the installation of an additional five new pilings to protect a new sewage disposal system to replace the existing septic system located within a small front yard area. The new septic system consists of a septic tank, a seepage pit, and a future seepage pit. The existing bulkhead protects the eastern and landward portion of the property where the existing septic system and Malibu Road is located. A limited and minimal amount of excavation is proposed to replace the bulkhead and return walls, install new pilings and caissons, and install the new sewage system

(Exhibits 12 and 13). The existing house and bulkhead were constructed in the 1950's. Vertical public access to Puerco Beach is located about 200 ft. east of the subject site at 25100 Malibu Road.

The Los Angeles County Malibu Land Use Plan has designated the site as Residential IV A which allows 6-8 dwelling units per acre. The residence is therefore, considered conforming to the Land Use Plan.

B. Shoreline Protective Devices

The applicant proposes to replace a 28 ft. long, wooden bulkhead with two return walls 22 feet long with a new 28 foot long wooden bulkhead and two 22 foot long return walls in the same location. The existing bulkhead is proposed to be replaced with a new one because the existing bulkhead is of questionable structural integrity and inadequate to protect the septic system. The seaward extent of the bulkhead will continue to be approximately 29 feet seaward from the Malibu Road right-of-way. The bulkhead is located beneath the landward wall of the residence. The bulkhead is necessary to protect the proposed replacement of the septic system located within a small front yard area according to Pacific Engineering Group, the applicant's consulting civil engineer. The bulkhead extends only along the eastern half of the property; it does not extend along the western half of the property beneath the garage.

After identifying the applicable Coastal Act sections and the Los Angeles County Land Use Plan (LUP) policies, the discussion of the impacts of the shoreline protective device (bulkhead) will proceed in the following manner. First, the staff report describes the physical characteristics of the Puerco Beach shoreline. Second, the staff report analyzes the dynamics of the Puerco Beach shoreline. Third, the staff report analyzes the location of the proposed shoreline protective device¹ in relation to wave action. Finally, the staff report analyzes whether the proposed replacement of a shoreline protective device will adversely impact shoreline sand supply and shoreline processes.

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

Section 30235 of the Coastal Act states:

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

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

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) of the Coastal Act states (in part):

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

Coastal Act Section 30235 provides for two tests applicable to this project. The first test is whether or not the shoreline protective device is needed to protect either coastal dependent uses, existing structures, or public beaches in danger of erosion; the second test is whether or not the device is designed to eliminate or mitigate adverse impacts on shoreline sand supply.

The subject property is currently developed with a residence, septic system and bulkhead wall protecting the septic system and supporting Malibu Road. The project involves the partial demolition of an existing single family residence, the remodeling of the remainder of the residence, and the construction of an addition, which in effect, doubles the size of the existing residence. The proposed replacement bulkhead will adequately protect existing structures which include a septic system and Malibu Road. The applicant proposes to replace the septic system with a new septic tank, seepage pit, and future seepage pit in the same front yard. The proposed replacement bulkhead is needed to protect and will continue to protect the existing yard area where the existing and proposed septic tank and seepage pits are located as well as Malibu Road. Therefore, the Commission finds that the proposed project meets the first test of Coastal Act Section 30235. The second test of Section 30235 will be discussed below.

The applicant initially proposed to retain the existing wooden bulkhead, however, the applicant's consulting engineer believed the bulkhead was of questionable structural integrity. The engineer recommended that a small engineered rock revetment be placed seaward of the bulkhead to reinforce the bulkhead and prevent damage to the septic system should the bulkhead fail in a storm. Staff requested the applicant to consider alternatives to retaining the bulkhead including, but not limited to, replacing the bulkhead with a similar one, and placing a small rock revetment seaward of the existing bulkhead. Another alternative examined included moving the bulkhead landward and lengthening the bulkhead across the entire width of the subject property in an effort to spread out the septic system components linearly across the property. However, this alternative is not feasible as the western portion of the property includes an existing garage and driveway. Because the alternative of retaining the bulkhead and adding a rock revetment would create a seaward encroachment, staff

suggested the applicant consider a revision of the project to simply remove and replace the bulkhead and return walls in the same location. Another advantage of this alternative is that the existing yard area on the eastern portion of the property provides the minimum area needed for the proposed new septic tank and seepage pits. Therefore, the proposed replacement of the existing wall is the preferred alternative.

Regarding Section 30250, the new development proposed in this project consists of the residential addition, six new caissons and five new bulkhead pilings. Because an existing residence already exists on site and surrounding properties are already developed, the new development will be located within an existing developed area able to accommodate it.

In addition, to assist in the determination of whether a project is consistent with Sections 30235 and 30250(a) of the Coastal Act, the Commission has, in past Malibu coastal development permit actions, looked to the certified Malibu/Santa Monica Mountains Land Use Plan (LUP) for guidance. The Malibu LUP has been found to be consistent with the Coastal Act and provides specific standards for development along the Malibu coast. For example, policies 166 and 167 provide, in concert with Coastal Act section 30235, that revetments, seawalls, cliff retaining walls and other shoreline protective devices be permitted only when required to serve coastal-dependent uses, to protect existing structures or new structures which constitute infill development² and only when such structures are designed and engineered to eliminate or mitigate the adverse impacts on the shoreline and sand supply.

1. Proposed Project and Site Shoreline

The City of Malibu contains a 27 mile long narrow strip of coast that is backed by the steep Santa Monica Mountains. Unlike most of the California coast, the shoreline in Malibu runs from east to west and forms south-facing beaches. Puerco Beach is located approximately 3 miles west of Malibu Creek and is backed by coastal bluffs on the landward side of Malibu Road.

Puerco Beach is located within the Dume Littoral Subcell, which geographically extends from approximately Point Dume to Redondo Beach. The Dume Subcell is part of the larger Santa Monica Littoral Cell. The fluvial sediment from Malibu Creek and Topanga Canyon Creek is the major contributing sediment source in this Subcell. Given that Puerco Beach is upcoast from Malibu Creek and Topanga Canyon Creek, sediment to this beach is predominately derived from the upcoast Zuma Littoral Subcell, in which approximately 90% of the sediment continues downcoast bypassing the Dume Canyon Submarine Canyon. In contrast to the Dume Littoral Subcell, where the major sediment source is the

² The term "infill development" will be discussed in greater detail in below section titled, Past Coastal Commission Action.

large streams referenced above, 60% of the sediment from Zuma Cell's net total sediment is derived from beach/bluff erosion and only 40% is derived from the local streams.³

The main sources of sediment for bluff backed beaches are the bluffs themselves, as well as the material that has eroded from inland sources and is carried to the beach by small coastal streams. While beaches seaward of coastal bluffs follow similar seasonal and semiannual changes as other sandy beaches, they differ from a wide beach in that a narrow, bluff backed beach does not have enough material to maintain a dry sandy beach area during periods of high wave energy. Thus, unlike a wide sandy beach, a narrow, bluff backed beach may be scoured down to bedrock during the winter months. In the case of Puerco Beach, a road was constructed at the base of the bluff area in the 1920s and has thus altered the natural process of shoreline nourishment in which beaches such as Puerco would expose the back of the bluff to frequent wave attack as the beach erodes. In a natural setting, this wave attack leads to eventual erosion and retreat of the lower portions of the bluff. The dynamic of bluff erosion and retreat results in landward movement of the beach's location and, in turn, eroded bluff material provides beach nourishment material to establish a new beach area. In the case of Puerco Beach, the back of the beach has been fixed in part by Malibu Road and in part by shoreline protective devices that have been constructed on the beach to protect single family residences.

2. Puerco Beach Is an Eroding Beach

Having defined Puerco Beach as a narrow, bluff-backed beach, the next step is to determine the overall erosion pattern of the beach. Determining the overall beach erosion pattern is one of the key factors in determining the impact of the seawall on the shoreline. In general, beaches fit into one of three categories: 1) eroding; 2) equilibrium; or 3) accreting. The persistent analytical problem in dealing with shore processes in California is distinguishing long-term trends in shoreline change from the normal, seasonal variation.

Two studies regarding long-term trends in shoreline processes were reviewed. First, a U.S. Army Corps of Engineers 1994 Reconnaissance Report regarding the Malibu/Los Angeles County coastline, concludes that Puerco Beach to Amarillo Beach is a narrow beach backed, by a high bluff and frontage road. The Army Corps forecasts stable to slow erosion for this 2.1 mile beach area.⁴ Second, a report prepared for the City of Malibu by Moffatt and Nichol, Engineers dated June 30, 1992 was reviewed. This report concludes that this specific section of Puerco Beach is retreating over the 1938 - 1988 time period; however, the estimated rate of erosion is about 0.5 feet per year.

³ Army Corps of Engineers, Los Angeles District, Reconnaissance Study of the Malibu Coast. 1994.

⁴ This is based on estimated average vertical and horizontal scour prepared with the assistance of the numerical computer program model "SBEACH".

The applicant produced a report with three update letters that discussed the proposed project relative to wave uprush and the shoreline processes: Wave Uprush Study by Pacific Engineering Group, dated June 20, 1996; Existing Timber Bulkhead by Pacific Engineering Group, dated November 6, 1997; Timber Bulkhead Design by Pacific Engineering Group, dated 2-1-98; and Wave Uprush Study Update by Pacific Engineering Group, dated February 26, 1998.

Pacific Engineering Group identified wave uprush calculations, design waves, analyzed possible storm wave damage to existing and proposed structures, and provided recommendations for protection along Puerco Beach. Pacific Engineering Group concludes that Puerco Beach is an oscillating beach. The report identifies the average mean high tide line location (September 18, 1995) on the subject site as between 128.54 ft. and 131.82 ft. seaward from the landward property line along Malibu Road. This analysis is not persuasive since there is conflicting data identified above. Additionally, the applicant's consultant provided no significant analysis or study in support of the conclusive statement that this was an oscillating beach. The applicant's consultant, for instance, failed to reference past studies noted above regarding the erosional characteristics of Southern California beaches.

Staff reviewed the proposed project against the above cited shoreline data. In contradiction to the Pacific Engineering Group report, the studies performed by the U. S. Army Corp of Engineers, indicate that Puerco Beach is a stable to eroding beach. More specifically, the Moffatt & Nichol report identifies in detail this subject beach location as eroding about 0.5 feet per year. Therefore, the Commission finds that Puerco Beach is an eroding beach, not an equilibrium beach.

3. Location of the Proposed Shoreline Protective Device in Relation to Wave Action

The other key factor in determining the impact of the bulkhead on the shoreline is the location of the proposed protective device in relationship to the expected wave runup. The existing 28 ft. long vertical bulkhead extends along the seaward side of the existing yard area. The existing bulkhead is located on the eastern half of the property below the residence along its landward wall. Return walls lead back to the road 22 feet along the western and eastern sides of the existing yard area. In effect, the bulkhead is located beneath the landward front wall of the residence to the east of the garage. The applicant proposes to replace this bulkhead with a bulkhead of similar design in the same location. The profile data, cited in detail below, shows that the position of the proposed bulkhead and support piles do not intrude on the historical areas of wave run-up and beach sediment transport. The data also shows that the bulkhead is not located near documented positions of the Mean High Tide Line (MHTL).

It is important to accurately calculate the potential for wave runup and wave energy affecting the bulkhead in the future. Dr. Douglas Inman, renowned authority on Southern California beaches concludes that, "The likely detrimental effect of the seawall on the beach can usually be determined in advance by

competent analysis." Dr. Inman further explains the importance of the seawall's design and location as it relates to predicting the degree of erosion that will be caused by the seawall. He states:

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

Pacific Engineering Group, the applicant's consultant states in their June 20, 1996 report, that they "performed an investigation of historical shoreline conditions as surveyed by the County of Los Angeles between 1961 and 1974, and by the California State Lands Commission during 1961 to establish the design beach profile for the subject site." This investigation was used to assess the potential shoreline profile during normal and extreme storm conditions and make bulkhead design recommendations. As noted in the Wave Uprush Report, prepared by the Pacific Engineering Group on two beach profiles (submitted parcel survey with mean high tide line dated September 18, 1995) two wave designs were used to determine the location of where waves would break and the most landward extent of the wave uprush. According to both wave design scenarios, the waves would break seaward of the design shoreline, however, wave uprush would extend 7 and 22 feet seaward from the Malibu Road right-of-way, which would be landward of the proposed location of the bulkhead at 29 feet seaward of Malibu Road.

Given that there is strong evidence that Puerco Beach is subject to long-term erosional trends, the frequency of wave exposure on the bulkhead will increase as the beach width decreases with time. Furthermore the bulkhead in its proposed location will over time be subject to wave action during a typical storm event. This condition will only be exacerbated in the future given the documented long term erosional trends, however, it is not feasible to move the bulkhead landward, as noted above, due to the location of the existing garage and driveway.

The Commission finds that the following are basic premises for siting coastal structures on sandy beaches:

- 1) The most important factor affecting the potential impact of a bulkhead on the beach is whether there is long-term shoreline retreat. (Note: The site specific survey data from Moffatt & Nichol, Engineers spanning the 1938-1988 time frame indicates that the subject site on Puerco Beach is suffering long-term shoreline retreat which averages about 0.5 feet per year). Such retreat is a function of sediment supply and/or relative sea

5 Letter dated 25 February 1991 to Lesley Ewing, Coastal Commission staff from Dr. Douglas Inman.

level change. Where long-term retreat is taking place, and this process cannot be mitigated, then the beaches in front of bulkheads in these locations will eventually disappear.⁶

2) One of the most critical factors controlling the impact of a bulkhead on the beach is its position on the beach profile relative to the surf zone. All other things being equal, the further seaward the bulkhead is located, the more often and more vigorously waves interact with it. The best place for a bulkhead, if one is necessary, is at the back of the beach where it provides protection against the largest of storms. By contrast, a bulkhead built out to or close to the mean high water line may constantly create problems related to frontal and end scour, as well as upcoast sand impoundment.

Based on the above discussion and facts concerning Puerco Beach, the Commission finds that the proposed wooden bulkhead at its proposed location will be at the back of the beach and as far landward as feasible. The proposed bulkhead minimizes encroachment on the beach and is a replacement of the existing bulkhead in the same location. As a result of the location, the Commission finds that wave runup against the bulkhead wall will be minimized. However, the Commission finds that Puerco Beach is a narrow beach subject to an erosional trend. Therefore, the following discussion is intended to evaluate the impacts of the proposed bulkhead on the beach based on the above information which identified the specific structure design, the location of the structure, and the shoreline geomorphology.

4. Effects of the Shoreline Protective Device on the Beach

The proposed replacement of the 28 ft. long wooden bulkhead will be constructed on the sandy beach approximately 29 ft. seaward of Malibu Road. An engineered bulkhead is typically built along straight sand beaches or low coastal bluffs where fill will be placed landward of the bulkhead with roads and other development constructed on the fill. Therefore, the structure functions as both a retaining structure and as protection from wave attack and wave runup.

The proposed project involves a shoreline structure that, as a result of wave interaction, has the potential to affect the configuration of the shoreline and the beach profile and may have an adverse impact on the shoreline. Even though the precise impact of a shoreline structure on the beach is a persistent subject of debate within the discipline of coastal engineering, and particularly between coastal engineers and marine geologists, it is generally agreed that a shoreline protective device will affect the configuration of the shoreline and beach profile whether it is a vertical bulkhead or a rock revetment. The main difference between a vertical bulkhead and rock revetment seawall is their physical encroachment onto the beach. However, it has been well documented by coastal engineers and coastal geologists that shoreline protective devices or

⁶ Tait, J.F. and G.B. Griggs, "Beach Response to the Presence of a Seawall: A Comparison of Field Observations," Shore and Beach, 1990, Vol. 58, No. 2, pp 11-28.

shoreline structures in the form of either a rock revetment or vertical bulkhead will adversely impact the shoreline as a result of beach scour, end scour (the beach areas at the end of the seawall), retain potential beach material behind the wall, fix the back beach, and interrupt longshore processes. In order to evaluate these potential impacts relative to the proposed structure and its location on Puerco Beach, each of the identified effects will be evaluated below.

a. Beach Scour

Scour is the removal of beach material from the base of a cliff, seawall or revetment due to wave action. The scouring of beaches caused by seawalls is a frequently-observed occurrence. When waves impact on a hard surface such as a coastal bluff, rock revetment or vertical bulkhead, some of the energy from the wave will be absorbed, but much of it will be reflected back seaward. This reflected wave energy in combination with the incoming wave energy, will disturb the material at the base of the seawall and cause erosion to occur in front and down coast of the hard structure. This phenomenon has been recognized for many years and the literature acknowledges that seawalls have some effect on the supply of sand. The following quotation summarizes a generally accepted opinion within the discipline of coastal engineering that,

Seawalls usually cause accelerated erosion of the beaches fronting them and an increase in the transport rate of sand along them.⁷

As set forth in earlier discussion, Puerco Beach is eroding and, therefore, the effects of the proposed bulkhead could have potential adverse impacts as the beach erodes further landward and as the protective device becomes a dominant component of the shoreline system. Although beach scour is a likely result of the placement of bulkheads in an area subject to wave runup, it is important to point out that the proposed bulkhead is simply the replacement of an existing bulkhead with a bulkhead of similar design in the same location. It is important to point out that the bulkhead is now and is proposed to be located as far inland as possible due to the location of the existing garage and driveway. The bulkhead is located beneath the landward wall of the residence. It is also important to note that because the proposed bulkhead is a replacement of the existing bulkhead in the same location and is of a similar design, it will not result in any additional scour impacts on the beach over and above the existing bulkhead. Therefore, the Commission finds that replacement of the existing bulkhead at the landward edge of the beach will minimize the beach scour effects of the bulkhead and ensure the project will not result in any significant adverse impacts on the shoreline. Therefore, the proposed project, as conditioned, is consistent with the applicable Coastal Act Sections and with past Commission action.

b. End Effects

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

End effects involve the changes to the beach profile adjacent to the bulkhead or seawall at either end. One of the more common end effects comes from the reflection of waves off of the bulkhead 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 the bulkhead, wave energy is reflected back and to the ends which can cause erosion at the upcoast and downcoast ends of the bulkhead. In the case of a vertical bulkhead, return walls are typically constructed, and, thus, wave energy is also directed to the return walls causing end erosion effects.

The literature on coastal engineering repeatedly warns that unprotected properties adjacent to the seawall may experience increased erosion. Field observations have verified this concern.⁸ Although it is difficult to quantify the exact loss of material due to end effects, in a paper written by Gerald G. Kuhn of the Scripps Institution of Oceanography, he concludes that erosion on properties adjacent to a rock seawall is intensified when wave runup is high.

With respect to the subject site, the bulkhead includes two return walls about 22 feet long extending landward nearly to Malibu Road. On the adjacent property downcoast a retaining wall and large rock protects their septic tank. The proposed bulkhead replacement does not extend west to the adjacent western property. The bulkhead only protects the eastern portion of the subject property where the yard and septic system are located. Erosion on the western portion of the subject property adjacent to the bulkhead appears to be negligible even after the February 1998 storms, based upon a staff site visits before the winter storm season on October 17, 1997 and after the winter storms on February 28, 1998. For these reasons, the Commission finds that the bulkhead will not create adverse impacts at either end of the bulkhead. Thus, the proposed bulkhead replacement meets the second test of Coastal Act Section 30235.

Again, it is important to note that the proposed bulkhead is a replacement of the existing bulkhead in the same location which will not result in any additional scour impacts at the ends of the bulkhead on the beach or on adjacent properties over and above the existing bulkhead. Therefore, the Commission finds that the proposed replacement of the existing bulkhead and two return walls, as conditioned, is consistent with the applicable Coastal Act sections and with past Commission action.

5. Conclusion

In conclusion, the Commission finds that the proposed replacement of the 28 ft. long wooden bulkhead is designed to protect existing structures, and will not have any additional or increased adverse impacts on the shoreline processes over the existing bulkhead. The proposed project will minimize beach scour and as located and designed will not result in additional adverse impacts to the

⁸ Paper by Gerald G. Kuhn of the Scripps Institution of Oceanography entitled "Coastal Erosion along Oceanside Littoral Cell, San Diego County, California" (1981).

shoreline. The proposed bulkhead is a replacement of the existing bulkhead with a bulkhead of similar design in the same location which will not result in any additional scour impacts on the beach in front of the bulkhead or at the ends of the bulkhead on the beach or on adjacent properties over and above the existing bulkhead. The proposed replacement of the bulkhead in the same location as the existing bulkhead is the preferred alternative relative to the issues discussed above and will eliminate any further seaward encroachment on the beach.

In addition, the Commission finds that the proposed residence and additions of new development are located within an existing developed area able to accommodate it and are considered infill development. Therefore, the Commission finds that, only as conditioned, is the proposed project consistent with the applicable Chapter 3 policies of the Coastal Act.

D. Public Access.

One of the basic mandates of the Coastal Act is to maximize public access and recreational opportunities along the coast. The Coastal Act has several policies which address the issues of public access and recreation along the coast.

Section 30210 of the Coastal Act states:

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

Section 30211 of the Coastal Act states:

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

Section 30212 of the Coastal Act states (in part):

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

...

(2) adequate access exists nearby...

Section 30220 of the Coastal Act states:

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

1. Public Access

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 public access to the sea be provided, except where adequate access exists nearby. Section 30211 provides that development not interfere with the public's right of access to the sea including the use of dry sand and rocky coastal beaches. Section 30220 of the Coastal Act requires coastal areas suited for coastal recreational activities, that cannot be provided at inland water areas, be protected.

All beachfront projects requiring a Coastal Development Permit must be reviewed for compliance with the public access provisions of Chapter 3 of the Coastal Act. The Commission has required public access to and along the shoreline in new development projects and has required design changes in other projects to reduce interference with access to and along the shoreline. The major access issue in such permits is the occupation of sand area by a structure, in contradiction of Coastal Act policies 30210, 30211, and 30212. However, a conclusion that access may be mandated does not end the Commission's inquiry. As noted, Section 30210 imposes a duty on the Commission to administer the public access policies of the Coastal Act in a manner that is "consistent with ... the need to protect ... rights of private property owners..." The need to carefully review the potential impacts of a project when considering imposition of public access conditions was emphasized by the U.S. Supreme Court's decision in the case of Nollan vs. California Coastal Commission. In that case, the court ruled that the Commission may legitimately require a lateral access easement where the proposed development has either individual or cumulative impacts which substantially impede the achievement of the State's legitimate interest in protecting access and where there is a connection, or nexus, between the impacts on access caused by the development and the easement the Commission is requiring to mitigate these impacts.

The Commission's experience in reviewing shoreline residential projects in Malibu indicates that individual and cumulative impacts on access from such projects can include among others, encroachment on lands subject to the public trust, thus, physically excluding the public; interference with natural shoreline processes which are necessary to maintain publicly-owned tidelands and other beach areas; overcrowding or congestion of such tideland or beach areas; and visual or psychological interference with the public's ability to use beach access and cause adverse impacts on public access.

As proposed, this project would extend out onto a sandy beach area approximately 50 ft. (including deck area) and about 80 feet from the landward property line at Malibu Road. The construction of the additions to the first floor and the new second floor, the six new supporting caissons and five new pilings

for the bulkhead, does constitute new development under the Coastal Act. The replacement of the existing bulkhead and the remodel of the existing residence does not constitute new development.

Due to the above adverse impacts of shoreline protective structures on public access, the proposed bulkhead must be judged against the public access and recreation policies of the State Constitution, Sections 30210, 30211, 30212, and 30220 of the Coastal Act. Along the California coast, the line between land and ocean is complex and constantly moving. This dynamic environment has introduced uncertainty into questions about the location of public and private ownership as well as rights of public use. It is generally accepted that the dividing line between public tidelands and private uplands, or the tidal boundary, in California is the mean high tide line (MHTL), essentially the same as the ordinary high water mark or line. What is not well-settled as a legal matter is how that line translates into an on-the ground location.

The courts have not fully resolved the question of the extent to which the location of the tidal boundary in California changes as the profile of the shoreline changes. Where there has not been a judicial declaration of a reasonable definite boundary based upon evidence in a specific case, or where the upland owner has not entered into an agreement with the state fixing the boundary, uncertainty remains.

Nevertheless, despite this legal uncertainty, as a practical matter the actual dividing line between sea and land moves constantly, and this gives rise to issues involving protection of public rights based on use, rather than ownership. These use rights arise 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.

The beaches of Malibu are extensively used by visitors of both local and regional origin and most planning studies indicated that attendance of recreational sites will continue to significantly increase over the coming years. While the Commission cannot determine if prescriptive rights exist on the subject property, it must protect those potential public rights by assuring that any proposed shoreline development does not interfere with or will only minimally interfere with those rights. Presently, this shoreline remains open and can be used by the public for access and general recreational activities.

Regarding vertical public access from Malibu Road to the beach, the project site is located about 200 feet east of a vertical public accessway (owned and operated by the County of Los Angeles since the 1960's) that has historically been used by the public to access Amarillo, Puerco and Malibu Beaches. Additionally, there are approximately four other vertical accessways that lead

from Malibu Road to Puerco and Amarillo Beaches downcoast. Therefore, vertical access to the beach exists nearby.

Regarding lateral public access and state tidelands ownership, the State Lands Commission, in a letter dated February 5, 1997, reviewed the proposed project and existing wooden bulkhead. The State Lands Commission staff noted that they do not have sufficient information to determine whether the project intrudes upon state sovereign lands and accordingly asserted no claims. The applicant's engineer, in the Wave Uprush Study and bulkhead design plan, has identified the Mean High Tide Line as of September 18, 1995 to be located between 128.54 feet and 131.82 feet seaward of the Malibu Road right-of-way. The proposed residence and deck is located as far seaward as about 80 feet from Malibu Road. Assuming this line is accurate, beyond the residence and deck, there is about 50 feet of beach until the Mean High Tide Line is reached. According to the Commission's access records, there are no existing offers to dedicate public access easements recorded on the applicant's property.

As stated in the section below, the applicant has submitted a Geotechnical and Geologic Engineering Report which states that the project will not adversely affect adjacent properties provided that the recommendations are followed.

The analysis cited in the preceding section regarding shoreline protective devices indicates that the replacement of the existing bulkhead will have minimal impact on the shoreline processes and public access. The analysis further indicates that there is a strong possibility that the shoreline is eroding and that the bulkhead will be subject to wave uprush and may over time, impact the shoreline. However, since the bulkhead is located at the farthest landward location at the base of the bluff leading to Malibu Road beneath the landward wall of the residence, there will be no impacts on public access. Further, because the proposed bulkhead is a replacement of an existing bulkhead in the same location, and is sited as far back on the beach as feasible, the Commission finds that there will be no new or additional beach scour or end impacts on the beach which would affect lateral access along the beach. Therefore, there is no basis to require a condition to establish a lateral access easement across the applicant's property.

2. Stringline Review

Section 30251 of the Coastal Act states:

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.

Through Coastal Act Sections 30210, 30211, 30251 and 30253 noted above and in other sections of this report, the Commission has developed the "stringline" policy to control the seaward extent of buildout in past permit actions. As applied to beachfront development, the stringline limits extension of a structure to a line drawn between the nearest corners of adjacent structures and limits decks to a similar line drawn between the nearest corners of adjacent structures and decks.

The Commission has applied this policy to numerous past permits involving infill on sandy beaches and has found it to be an effective policy tool in preventing further encroachments onto sandy beaches. In addition, the Commission has found that restricting new development to building and deck stringlines is an effective means of controlling seaward encroachment to ensure maximum public access as required by Sections 30210 and 30211 and to protect public views and scenic quality of the shoreline as required by Section 30251 of the Coastal Act.

The applicant has submitted a plan with a stringline connecting the existing residences on either side of the project site. The plan indicates that the existing first and second floors and seaward deck structures are located behind the stringline with the adjacent buildings. Therefore, the Commission finds that the proposed project does conform to this setback. As proposed, the additions to this project will not extend new development further seaward than adjacent development, minimizing potential impacts to public access opportunities, public views and the scenic quality along the sandy beach. Further, the applicant does not propose any new shoreline protective device, beyond replacing the existing wooden bulkhead and return walls in the same location, which could interfere with coastal processes.

And lastly, the Commission reviews the publicly accessible locations along adjacent public roads and the sandy beach where the proposed development is visible to assess visual impacts to the public. The Commission examines the building site and the size of the building. The existing residence and solid wall along Malibu Road already blocks public views from the highway to the beach and ocean. Although the proposed second floor addition and remodel may be visible from the public sandy beach, the existing one story residence already blocks inland views from the beach. Moreover, the more scenic inland views of the Santa Monica Mountains as viewed from the water are well above the proposed development as viewed from locations further offshore and at low tide. Thus, the proposed addition and remodel will not adversely affect existing public views.

Therefore, the Commission finds that the proposed project, as conditioned, will have no individual or cumulative impacts on public access on the sandy beach seaward of the residence or public views to and along the coast, and is thus, consistent with Sections 30210, 30211, 30212, and 30220 of the Coastal Act.

E. Hazards and Geologic Stability

Coastal Act Section 30253 states (in part):

New development shall:

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

Section 30253 of the Coastal Act mandates that new development provide for geologic stability and integrity and minimize risks to life and property in areas of high geologic, flood, and fire hazard. In addition to section 30253 of the Coastal Act, the certified Malibu/Santa Monica Mountains LUP includes several policies and standards regarding hazards and geologic stability. 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. For example, Policy 147 suggests that development be evaluated for impacts on and from geologic hazards.

1. Storm, Wave and Flood Hazard

The Malibu coast has been subject to substantial damage as a result of storm and flood occurrences, geological failures and firestorms. Therefore, it is necessary to review the proposed project and project site against the area's known hazards. The proposed project involves the demolition, remodel and addition to an existing residence on a lot located on a developed stretch of Puerco Beach.

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

Damage to the Malibu coastline was well documented in the paper presented at the National Research Council, which stated that:

The southerly and southwesterly facing beaches in the Malibu area were especially hard hit by waves passing through the open windows between offshore islands during the 1978 and 1980 storms. These waves broke against beaches, seawalls, and other structures, causing damages of between \$2.8 and \$4.75 million to private property alone. The amount of erosion resulting from a storm depends on the overall climatic conditions and varies widely from storm to storm. Protection from this erosion depends largely on the funds available to construct various protective structures that can withstand high-energy waves.⁹

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

In general, the storms greatly affected the character of the Malibu coastline. Once quiet, wide, sandy beaches were stripped of their sand and high surf pounded residential developments The severe scour, between 8 to 12 feet, was greater than past scour as reported by "old timers" in the area. Sewage disposal systems which rely on the sand cover for effluent filtration were damaged or destroyed creating a health hazard along the coast. Flotsam, including pilings and timbers from damaged piers and homes, battered coastal improvements increasing the destruction. Bulkhead failures occurred when sand backfill was lost due to scour exceeding the depth of the bulkhead sheeting, or scour extending beyond the return walls (side walls of the bulkhead which are extended toward the shore from the front wall of the bulkhead).¹⁰

Other observations that were noted included the fact that the storm's damage patterns were often inconsistent. Adjacent properties suffered different degrees of damage sometimes unrelated to the method or age of construction. The degree of damage was often related to past damage history and the nature of past emergency repairs. Upcoast (west) of Puerco Beach, walls at Zuma Beach and the parking lots were damaged by wave uprush and scour. Debris was deposited onto the margin of Pacific Coast Highway (*Exhibit 2*).

⁹ "Coastal Winter Storm Damage, Malibu, Los Angeles County, Winter 1977-78", part of the National Research Council proceedings, George Armstrong.

¹⁰ "Assessment of 1982-83 Winter Storms Damage Malibu Coastline", by Frank Denison and Hugh Robertson, in California Geology, September 1985.

Storms in 1987-88 and 1991-92 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 1998 El Nino Storms have damaged a number of residences and public facilities and infrastructure in Malibu and is currently being assessed.

As proposed, the residence would be an elevated structure on new caissons and existing pilings with a ground floor elevation of 20.58 feet above Mean Sea Level. The residence will be built above the minimum floor elevation of 20 feet Mean Sea Level, as recommended by the Wave Uprush Report, to protect the structure from storm waves and storm surge. Malibu Road, the septic system and front yard are intended to be protected from storm events by the proposed replacement wooden bulkhead and return walls. Presently the site is developed with a one level single family residence that is built on pilings and has a wooden bulkhead protecting the septic system in the front yard and Malibu Road. Given that the size of the residence is increasing, the capacity of the current septic system is not adequate to comply with current plumbing code requirements. Therefore, the applicant is proposing to replace the septic system and replace the bulkhead in the same location. Experience from historic storm events in Malibu indicates that this protection is essential to the long-term viability of both the septic system and the road.

The applicant's submittal includes a Geotechnical and Geologic Engineering Investigation and Report For Proposed Additions prepared by Ralph Stone and Company, Inc. dated March 13, 1996, and a Wave Uprush Study with three letter updates prepared by Pacific Engineering Group, dated June 20, 1996 through February 26, 1998. The Geotechnical and Geological Engineering Report concludes:

It is the opinion of the undersigned, based upon data obtained as outlined in this geotechnical and engineering report, that if constructed in accordance with our recommendations and the recommendations of the other project consultants, and properly maintained the proposed structures will be safe against hazard from landslide, damaging settlement, or slippage, and that the proposed building or grading construction will have no adverse effect on the geotechnical stability of property outside the building site.

The Wave Uprush Study Update by Pacific Engineering Group dated February 26, 1998 concludes that:

The design parameters of the referenced timber bulkhead and wave uprush study are consistent with the 1983 winter storm conditions. The referenced bulkhead is designed to withstand storms similar to the 1983 winter storms.

During the winter season, the proposed bulkhead will continue to extend into an area exposed to wave uprush, 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 development, such as the proposed replacement wooden bulkhead, 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.

The Commission finds that due to the unforeseen possibility of liquefaction, storm waves, erosion, and flooding, the applicant shall assume these risks as a condition of approval. Because this risk of harm cannot be completely eliminated, the Commission is requiring the applicant to waive any claim of liability on the part of the Commission for damage to life or property which may occur as a result of the permitted development. The applicant's assumption of risk, as required by condition number one (1), when executed and recorded on the property deed, will 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.

2. Site Geologic Stability

Beachfront development and development at the base of a coastal bluff raise issues relative to a site's geologic stability. As stated previously, Malibu Road, which abuts the subject property, is at the base of a coastal bluff. Malibu Road was the original route of State Highway 1, but the right-of-way was relocated further inland as a result of historical erosion and bluff sloughing problems.

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

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

unwise, uncoordinated, and irrational developments of the past. (emphasis added)¹¹

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

Damage from debris flows and mudflows appears to be increasing in magnitude and is caused, in part, by the increased construction of homes at the base of natural slopes or partial natural slopes associated with older subdivisions. Most severely hit appear to be those sites or lots that were a part of pre-1963 or even pre-1952 subdivisions but were not built upon until recent years. ... The potential for mudflow and debris flow hazard is easily recognized, but few consultants will acknowledge evidence unless required by code.¹²

As stated previously, the applicant submitted a Geotechnical and Geologic Engineering Investigation and Report For Proposed Additions prepared by Ralph Stone and Company, Inc. dated March 13, 1996. The report states that the project site will not be affected by hazards. The report further concludes that the proposed project, "... will be safe against hazard from landslide, damaging settlement or slippage and that the proposed building or grading construction will have no adverse effect on the geotechnical stability of property outside of the building site." In addition, the applicant has submitted a Geology and Geotechnical Engineering Review Sheet from the City of Malibu dated 1/10/97 which approves in concept the proposed project in the planning stage.

As set forth in Section 30253 of the Coastal Act, new development shall assure structural integrity 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 geologic and engineering consultant's recommendations are incorporated into project plans. Therefore, the Commission finds it necessary to require the applicant to submit project plans that have been certified in writing by the consulting Engineering Geologist and Coastal Engineer as conforming to their recommendations as required by condition number two (2).

Lastly, as noted above, the project involves some demolition and construction on a beachfront lot subject to tidal influence. The proposed development, with its

¹¹ Living with the California Coast, Griggs and Savoy

¹² "Southern California Landslides of 1978 and 1980" by James Slosson and James Krohn, in Storms, Floods and Debris Flows in Southern California and Arizona 1978 and 1980, Proceedings of a Symposium by the National Research Council.

excavation of terrace deposits, debris, and with beach level construction activity, may result in disturbance of the offshore kelp beds through erosion and siltation. Construction equipment, materials and demolition debris could pose a significant hazard if used or stored where subject to wave contact or situated in a manner that creates a hazard for beach users. To minimize impacts to the beach, the applicant proposes to construct the new caissons and pilings with the use of construction equipment located on Malibu Road and not on the beach. Furthermore, this construction activity, if not properly mitigated, would add to an increase of pollution in the Santa Monica Bay.

To avoid this possibility, the Commission finds that it is necessary to require the applicant to agree and ensure that the project contractor: a) not stockpile dirt on the beach; b) that all stockpiling beyond the beach shall be properly covered and sand-bagged to prevent runoff and siltation; c) not store any construction materials or waste where it may be subject to wave erosion and dispersion; d) remove promptly from the beach any and all debris that results from construction materials; e) that measures to control erosion must be implemented at the end of each day's work; and, f) not allow any mechanized equipment in the intertidal zone at any time. Condition number three (3) addresses this issue. This condition will also ensure that the construction of the proposed project will minimize risks to life and property in this public beach area which is subject to wave hazards.

Therefore, the Commission finds that the proposed development, as conditioned, is consistent with section 30253 of the Coastal Act.

G. Septic System

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

Section 30231 of the Coastal Act states that:

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

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

New residential, ... development, ... shall be located within, ... existing developed areas able to accommodate it ... and where it will not have significant adverse effects, either individually or cumulatively, on coastal resources.

As described in the preceding project description section, the existing septic system will be replaced with a new septic system which includes a 1,200 gallon septic tank, and two seepage pits located landward of the residential structure within the front yard. The installation of a private sewage disposal system was reviewed by the consulting geologist, Ralph Stone and Company, Inc., and found not to create or cause adverse conditions to the site or adjacent properties due to the favorable nature of the earth materials with respect to percolation rates. A percolation test was performed on the subject property which indicated the percolation rate meets Uniform Plumbing Code requirements for a two to four bedroom residence and is sufficient to serve the proposed single family residence. The applicant has submitted a conceptual approval for the sewage disposal system from the City of Malibu Department of Environmental Health, based on a two to four bedroom single family residence. This approval indicates that the sewage disposal system for the project in this application complies with all minimum requirements of the Uniform Plumbing Code.

The Commission has found in past permit actions that compliance with the health and safety codes will minimize any potential for waste water discharge that could adversely impact coastal waters. In addition, the proposed 28 ft. long replacement bulkhead, which includes return walls, will protect the proposed septic system from wave run-up. As reviewed by the City and as set forth in the geotechnical analysis of the septic system, the proposed project will not adversely impact the biological productivity and quality of the coastal waters. Therefore, the Commission finds that the proposed project is consistent with Sections 30231 and 30250 of the Coastal Act.

H. Local Coastal Program

Section 30604 of the Coastal Act states that:

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

Section 30604(a) of the Coastal Act provides that the Commission shall issue a Coastal Permit only if the project will not prejudice the ability of the local government having jurisdiction to prepare a Local Coastal Program which conforms with Chapter 3 policies of the Coastal Act. The preceding sections provide findings that the proposed project will be in conformity with the provisions

of Chapter 3 if certain conditions are incorporated into the project and accepted by the applicant. As conditioned, the proposed development will not create adverse impacts and is found to be consistent with the applicable policies contained in Chapter 3. Therefore, the Commission finds that approval of the proposed development, as conditioned, will not prejudice the City's ability to prepare a Local Coastal Program for Malibu which is also consistent with the policies of Chapter 3 of the Coastal Act as required by Section 30604(a).

I. CEQA

The Coastal Commission's permit process has been designated as the functional equivalent of CEQA. Section 13096(a) of the Commission's administrative regulations requires Commission approval of Coastal Development Permit applications to be supported by a finding showing the application, as conditioned by any conditions of approval, to be consistent with any applicable requirements of the California Environmental Quality Act (CEQA). Section 21080.5(d)(2)(i) 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 impact which the activity may have on the environment.

The Commission finds that, the proposed project, as conditioned, will not have significant adverse effects on the environment, within the meaning of the California Environmental Quality Act of 1970. Therefore, the Commission finds that the proposed project, as conditioned to mitigate the identified impacts, is consistent with the requirements of CEQA and the policies of the Coastal Act.

APPENDIX A

SUBSTANTIVE FILE DOCUMENTS

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

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

Adopted City of Malibu General Plan. November 1995

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

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

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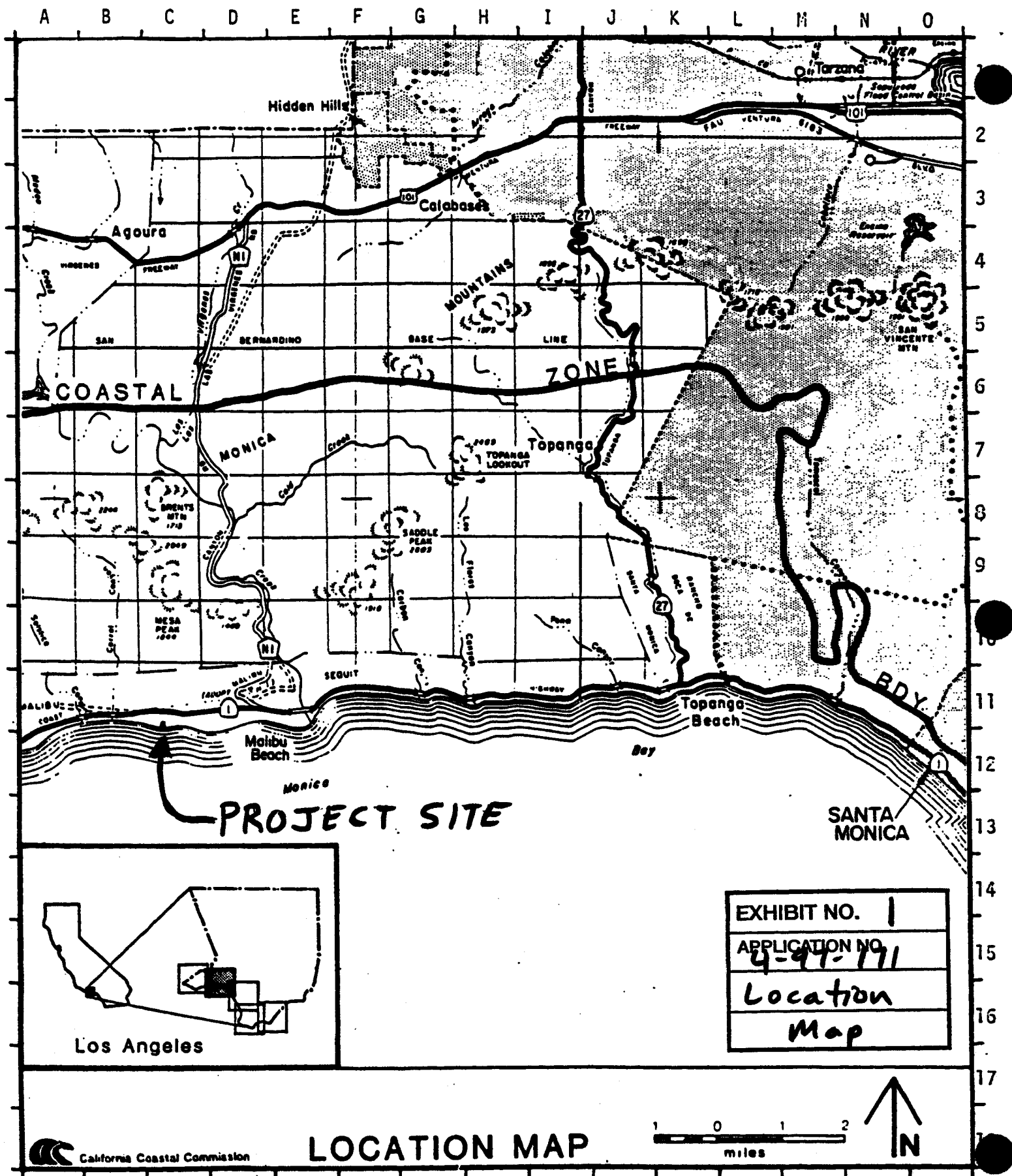


EXHIBIT NO. 1
APPLICATION NO. 4-97-171
Location Map

LOCATION MAP

16 SANTA MONICA MOUNTAINS NATIONAL RECREATION AREA

22

GATE

23

SANTA MONICA MOUNTAINS NATIONAL RECREATION AREA

13

18

20

MALIBU BOWL

26

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29

DEL NIDO

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PROJECT SITE

SANTA MONICA MOUNTAINS

NATIONAL RECREATION AREA

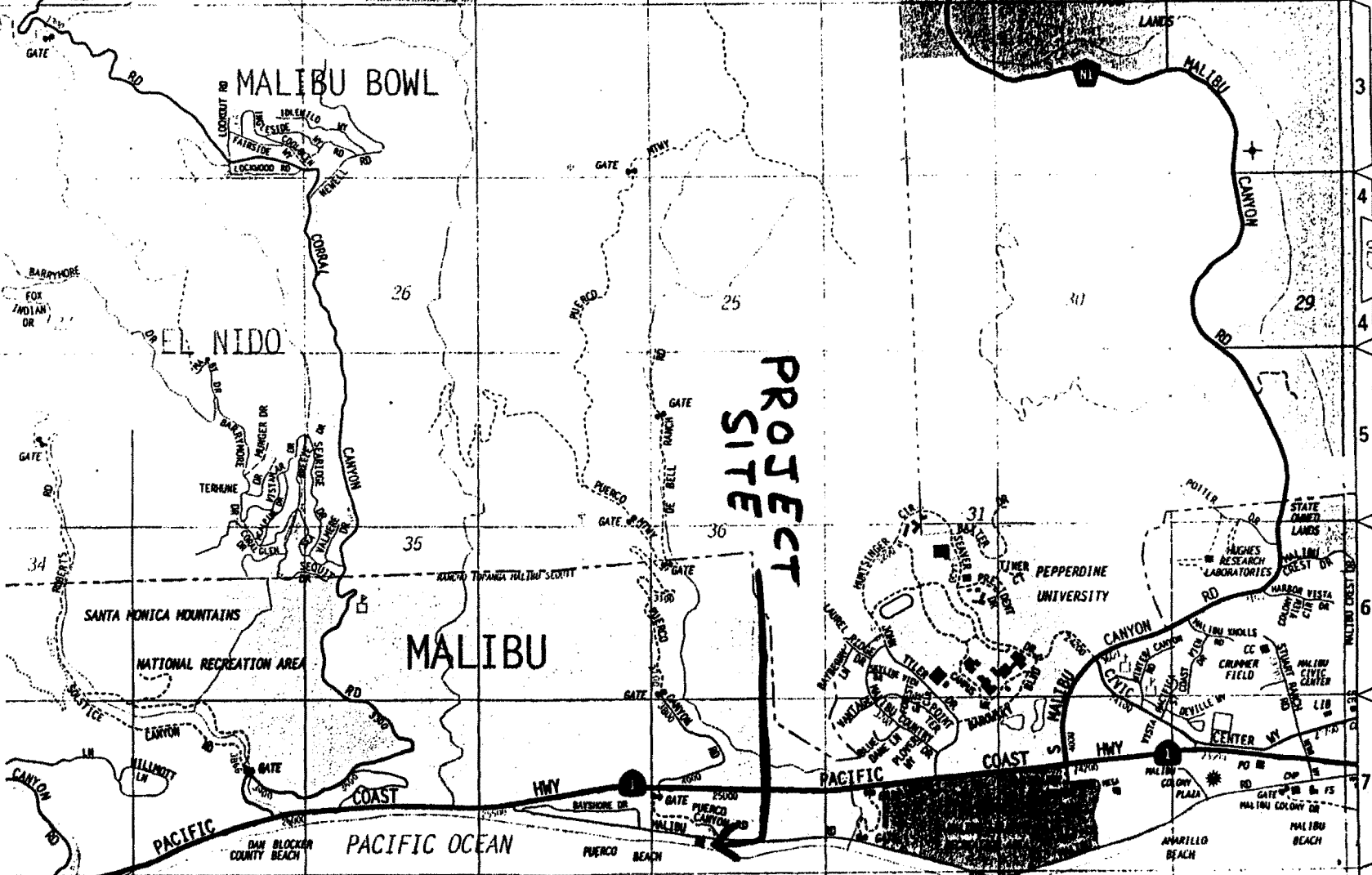
MALIBU

PACIFIC

COAST

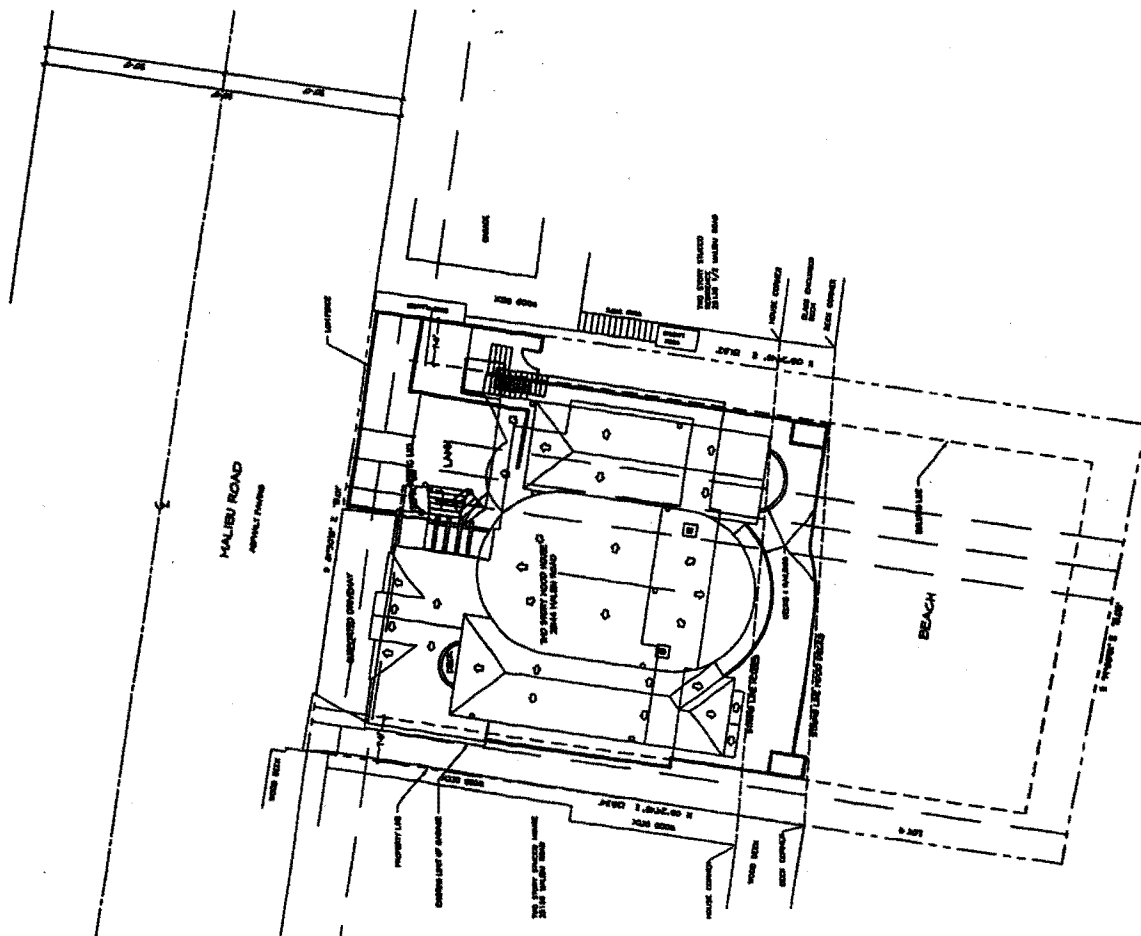
PACIFIC OCEAN

EXHIBIT NO. 2
APPLICATION NO. 1
4-99-771
Project Site



CONSULTANTS	
ARCHITECTS	BLAKE NELSON ASS. 1000 W. 10TH AVE. DENVER, CO 80202 Tel: 333-7200 ext. 200
CIVIL/ENR.	CH2M HILL 1900 W. 10TH AVE. DENVER, CO 80202
STRUCTURAL ENGINEERS	JOHN HANCOCK 1700 W. 10TH AVE., RM. 207 DENVER, CO 80202
CONSULT.	JOHN HANCOCK 1700 W. 10TH AVE. DENVER, CO 80202
CONSULT. ENGINEER	PEOPLES ENGINEERING GROUP 1700 W. 10TH AVE., RM. 207 DENVER, CO 80202
CONSULT.	PEOPLES ENGINEERING GROUP 1700 W. 10TH AVE., RM. 207 DENVER, CO 80202

LEGEND OF LINES
PROPERTY LINE
SET BACK LINE
EASEMENT LINE
E OF RIGHT



A SITE PLAN
2000.1.1.00

EXHIBIT NO. 5
APPLICATION NO. 4-97-171
Site Plan

**BLAKE
SHELTERS
ARCHITECT**

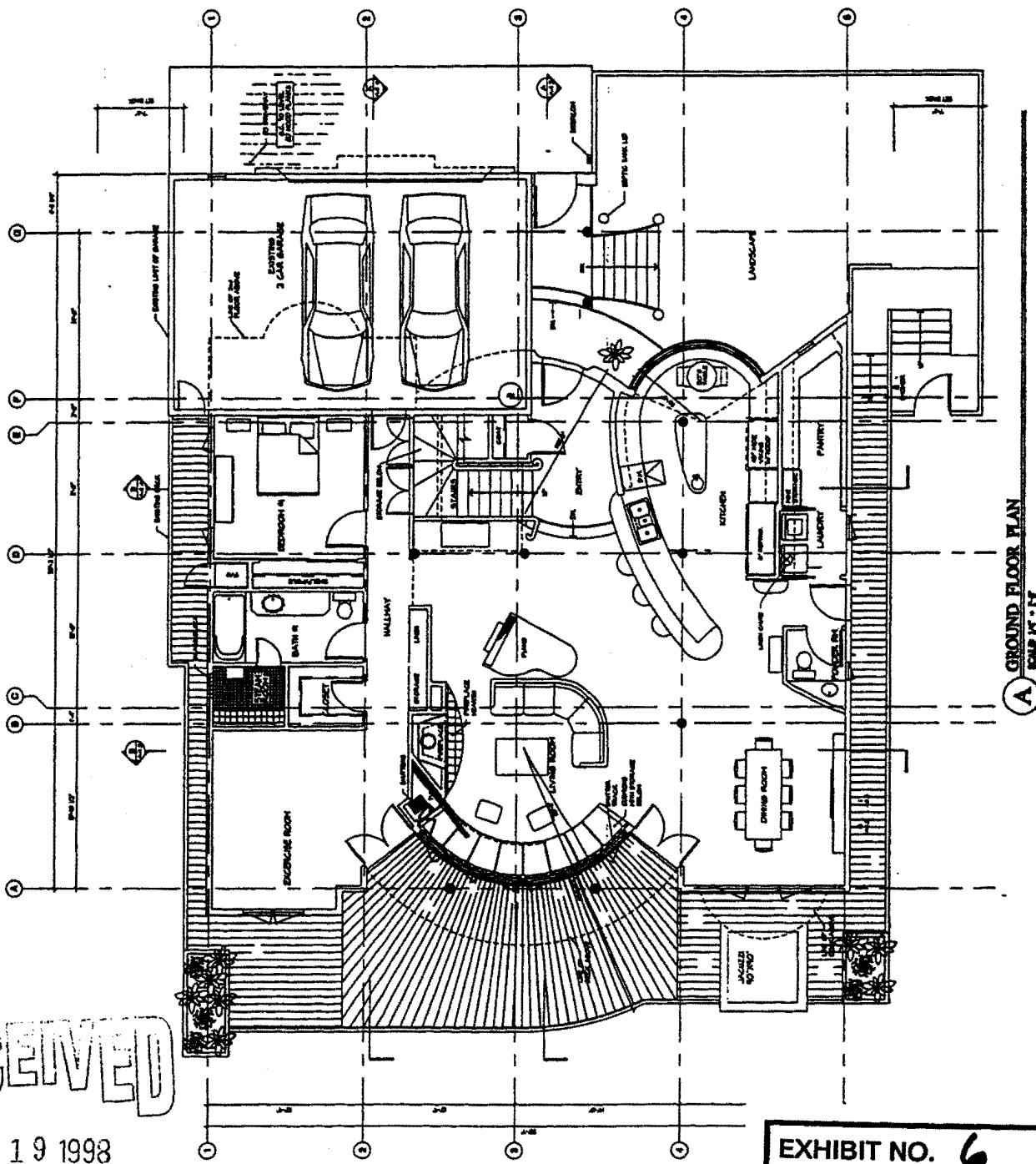
ARCHITECTURE + ENGINEERING
1000 West Broadway, Suite 100
San Francisco, CA 94111
Tel: 415.398.1111
Fax: 415.398.1112

D.B. SWEENEY RESIDENCE
2544 MALIBU ROAD, MALIBU, CA 90265

DATE: 10/1/97
DRAWN BY: J. SWEENEY
CHECKED BY: J. SWEENEY
SCALE: 1/8" = 1'-0"

D.B. SWEENEY RESIDENCE

A2.1
GROUND FLOOR PLAN



RECEIVED

FEB 19 1998

EXHIBIT NO. 6
APPLICATION NO. 4-97-171
First Floor
Plan

**BLAKE
SHELTERS
ARCHITECT**
ARCHITECTS

ARCHITECTURE + ENGINEERING
2514 MALIBU ROAD, MALIBU, CA 91255
TEL: (310) 316-1111 FAX: (310) 316-1112
WWW.BSA-ARCHITECTS.COM

D.B. SWEENEY RESIDENCE

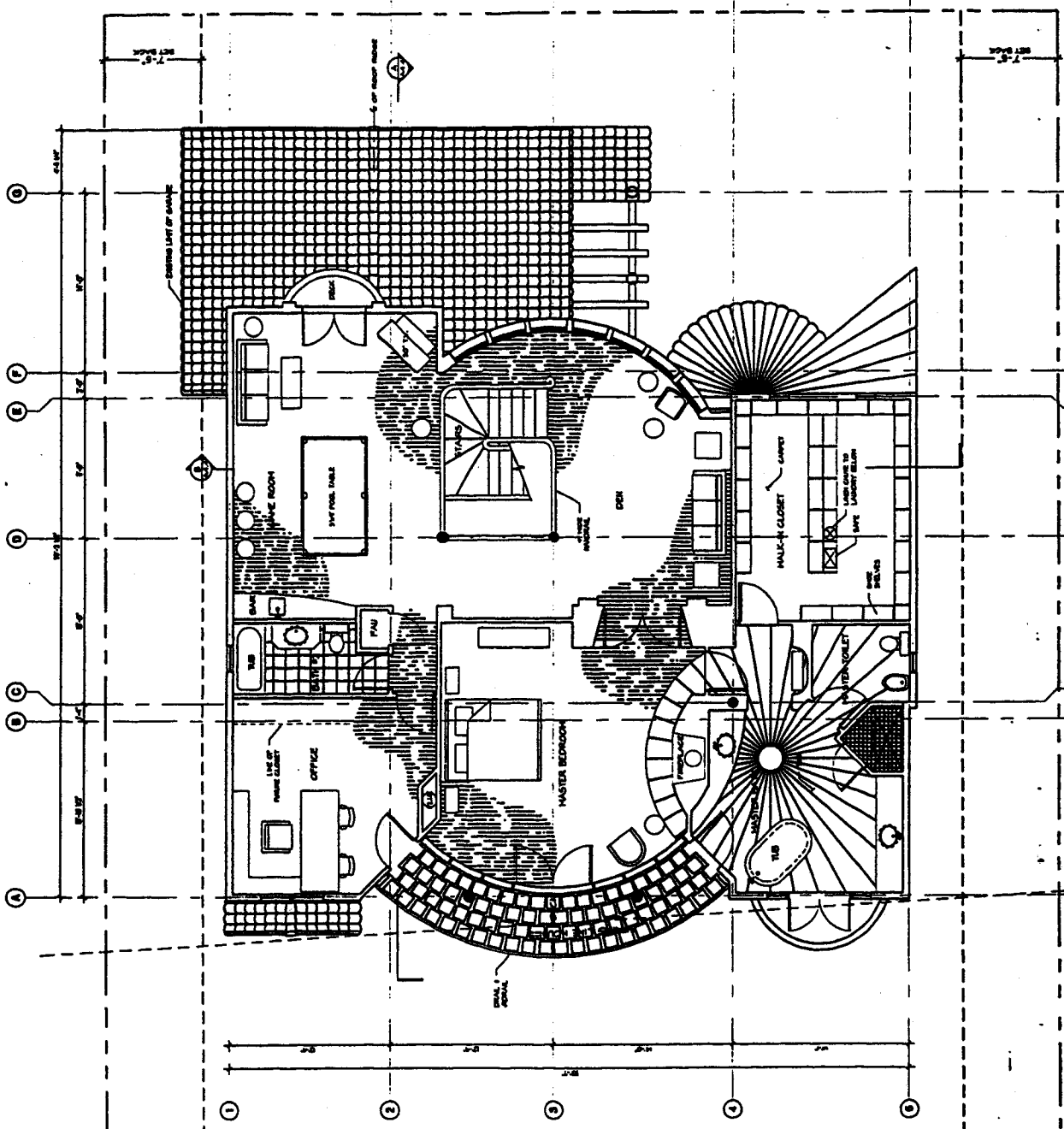
2514 MALIBU ROAD, MALIBU, CA 91255

BLAKE SHELTERS ARCHITECT
PLANNING DEPARTMENT
A2.2

D.B. SWEENEY RESIDENCE

A2.2

UPPER FLOOR PLAN



B UPPER FLOOR PLAN
SCALE 1/4" = 1'-0"

EXHIBIT NO. 7
APPLICATION NO. 4-97-141
Second Floor Plan

**BLAKE
SHELTERS
ARCHITECT**
A. L. SHELTER, L. SHELTER

ARCHITECTURE & ENGINEERING
2544 Santa Monica Blvd., Suite 202
Santa Monica, CA 90404
Tel: (310) 311-1111
Fax: (310) 311-1112

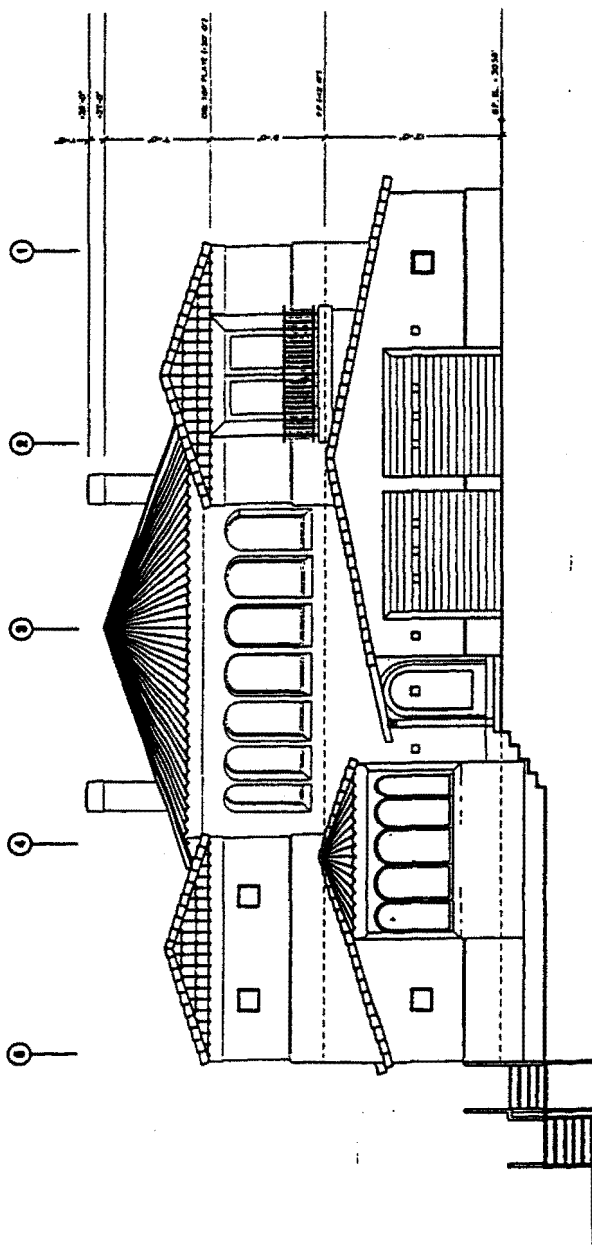
D.B. SWEENEY RESIDENCE
2544 MALIBU ROAD, MALIBU, CA 90265

REVISIONS DATE
PLANNING DEPARTMENT 0.00 10

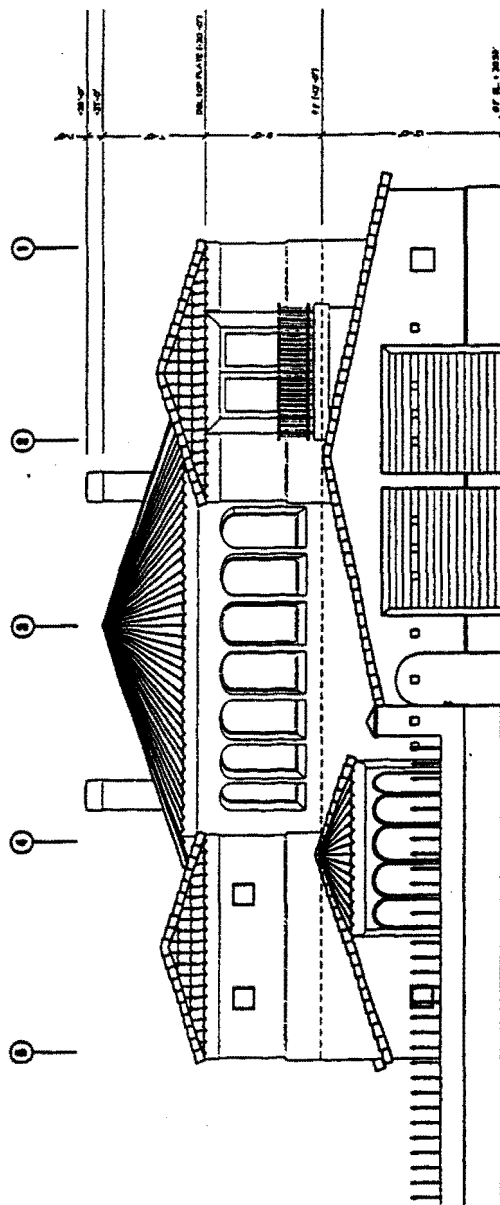
D.B. SWEENEY RESIDENCE

A4.1

EXTERIOR ELEVATIONS



A NORTH ELEVATION AT FRONT YARD
SCALE 1/4" = 1'-0"



B NORTH ELEVATION AT STREET
SCALE 1/4" = 1'-0"

EXHIBIT NO. 8

APPLICATION NO.
4-97-171

North Elevations

**BLAKE
SHELTERS
ARCHITECT**
ARCHITECTS & ENGINEERS

ARCHITECTURE + ENGINEERING
2544 MALIBU ROAD, MALIBU, CA 90263
TEL: 310-581-1234
FAX: 310-581-1235
WWW.BSAE.COM

D.B. SWEENEY RESIDENCE

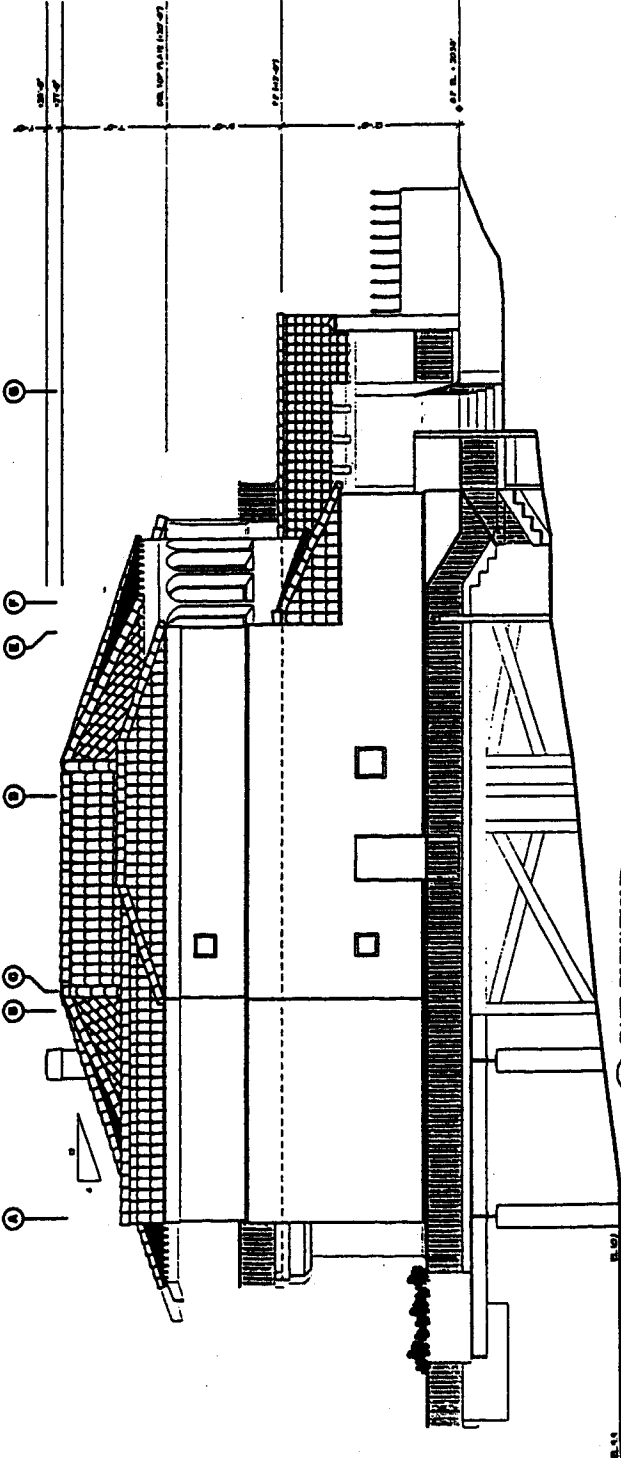
2544 MALIBU ROAD, MALIBU, CA 90263

DATE: 10/10/01
PROJECT: DB SWEENEY RESIDENCE
SHEET: 01 OF 01

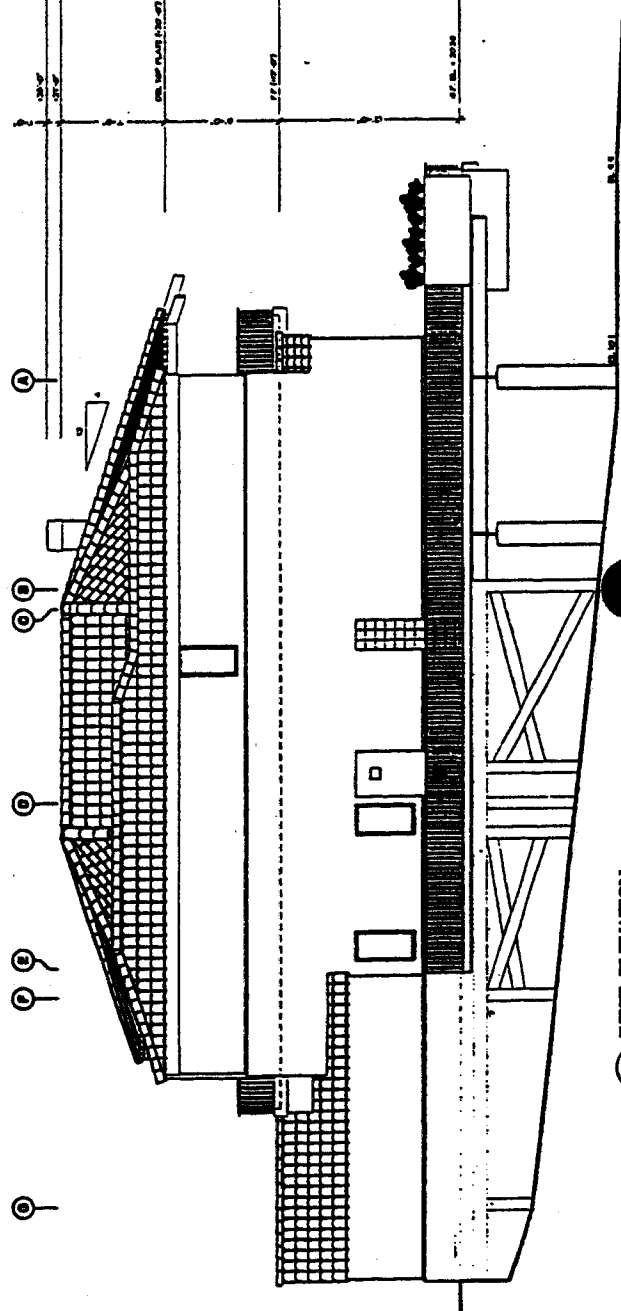
DB SWEENEY RESIDENCE

A4.2

INTERIOR ELEVATIONS



A EAST ELEVATION
SCALE 1/4" = 1'-0"



B WEST ELEVATION
SCALE 1/4" = 1'-0"

EXHIBIT NO. 9
APPLICATION NO. 4-94-191
E.&W.
Elevations

**BLAKE
SHULTERS
ARCHITECT**

ARCHITECTURE + ENGINEERING

1000 Park Meadows, Suite 100
Boulder, Colorado 80501
303.440.1000 Fax 303.440.1001
www.blakeshulters.com

D.B. SWEENEY RESIDENCE

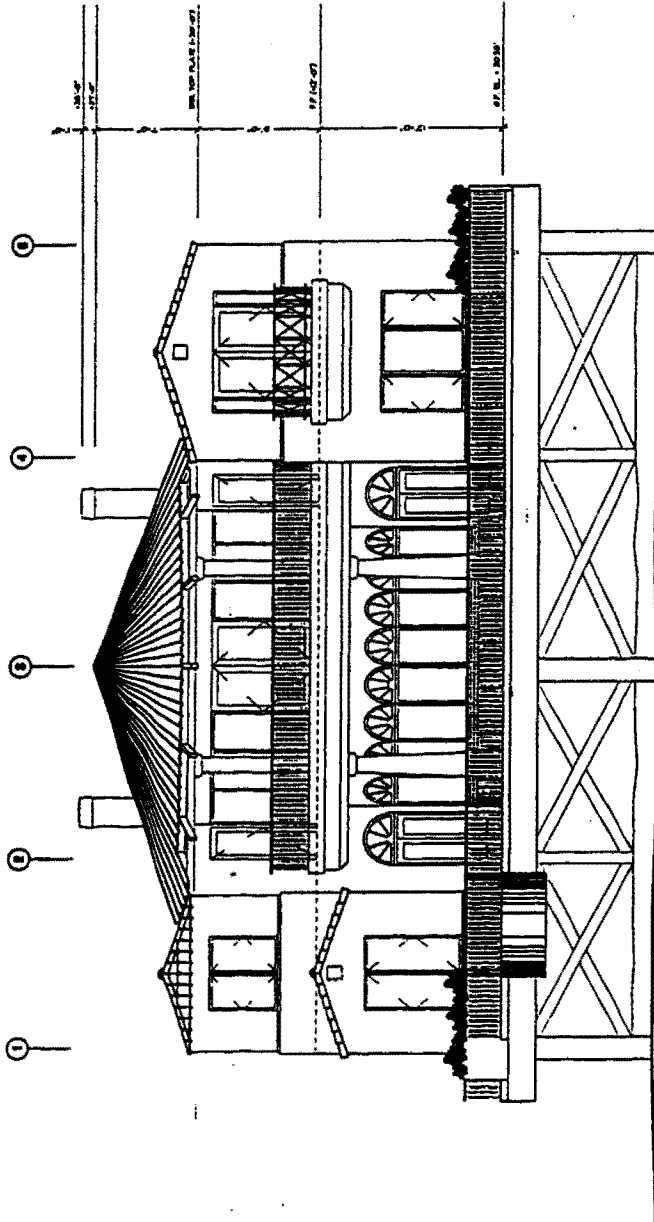
2344 MALIBU ROAD, MALIBU, CA 91255

DATE: 4/28/10
DRAWN BY: J. SWEENEY

D.B. SWEENEY RESIDENCE

A4.3

EXTERIOR ELEVATIONS



A SOUTH ELEVATION
SOUTH OF - 14

EXHIBIT NO. 10

APPLICATION NO. 4-97-171

South

Elevation

**BLAKE
SHELTERS
ARCHITECT**

ARCHITECTURE + ENGINEERING
2544 MALIBU ROAD, MALIBU, CA 90265
TEL: 310-316-1100 FAX: 310-316-1101
WWW.BSA-ARCHITECTS.COM

D.B. SWEENEY RESIDENCE

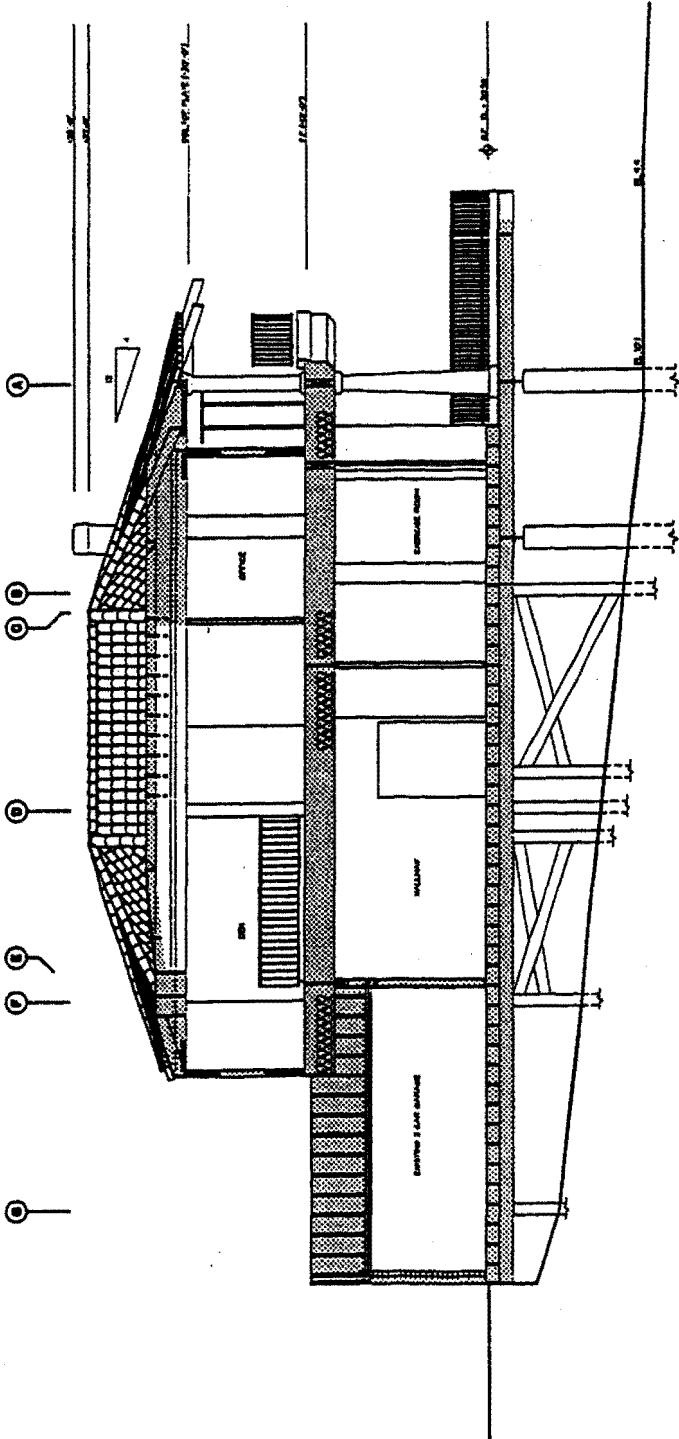
2544 MALIBU ROAD, MALIBU, CA 90265

DATE: 11/11/11
DRAWN BY: J. SWEENEY

D.B. SWEENEY RESIDENCE

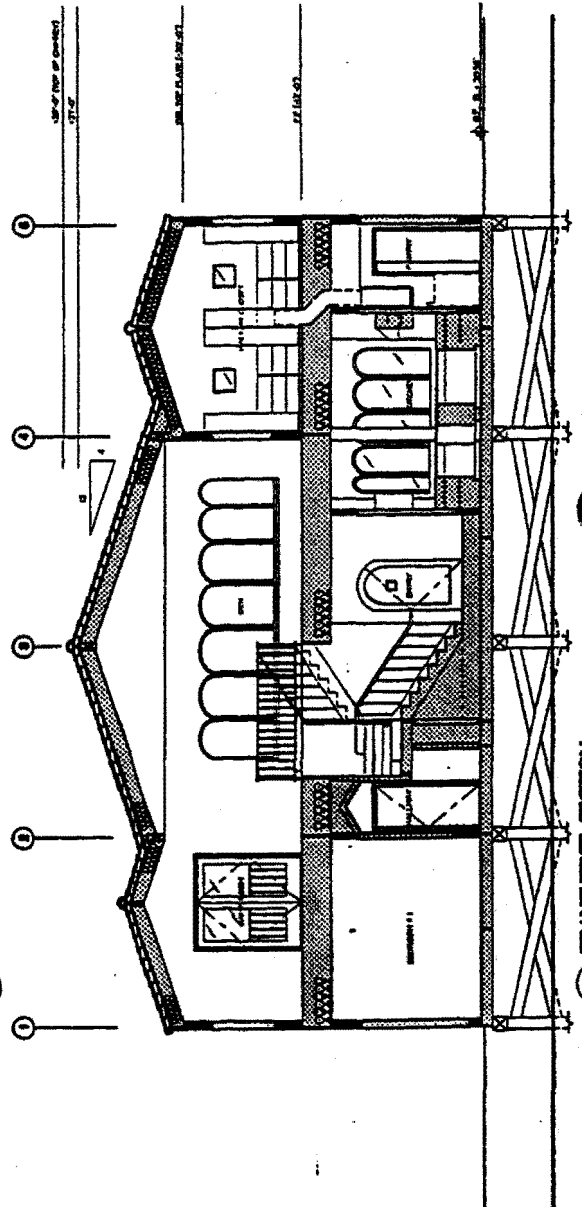
A4.4

SECTIONS



A LONGITUDINAL SECTION

14' WIDE



B TRANSVERSE SECTION

14' WIDE

EXHIBIT NO. 11

APPLICATION NO.

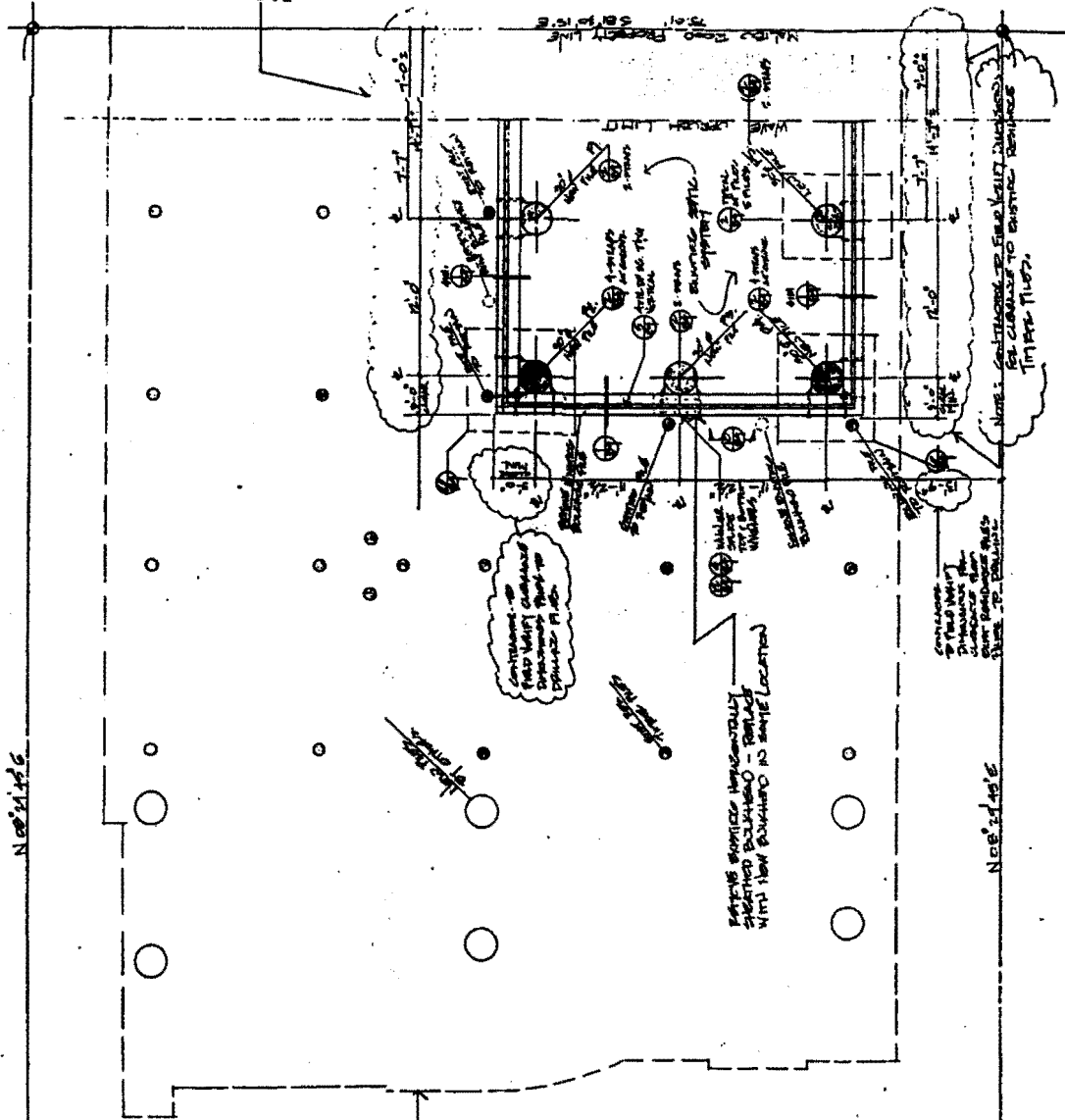
4-97-191

Sections

BULKHEAD SITE PLAN
 25144 MALIBU ROAD
 MALIBU, CALIFORNIA 90265

NE 1/4 1/4 6

NE 1/4 1/4 6



NE 1/4 1/4 6

NE 1/4 1/4 6



NEW TIDE POOL BULKHEAD PLAN
 1/4" = 1'-0"

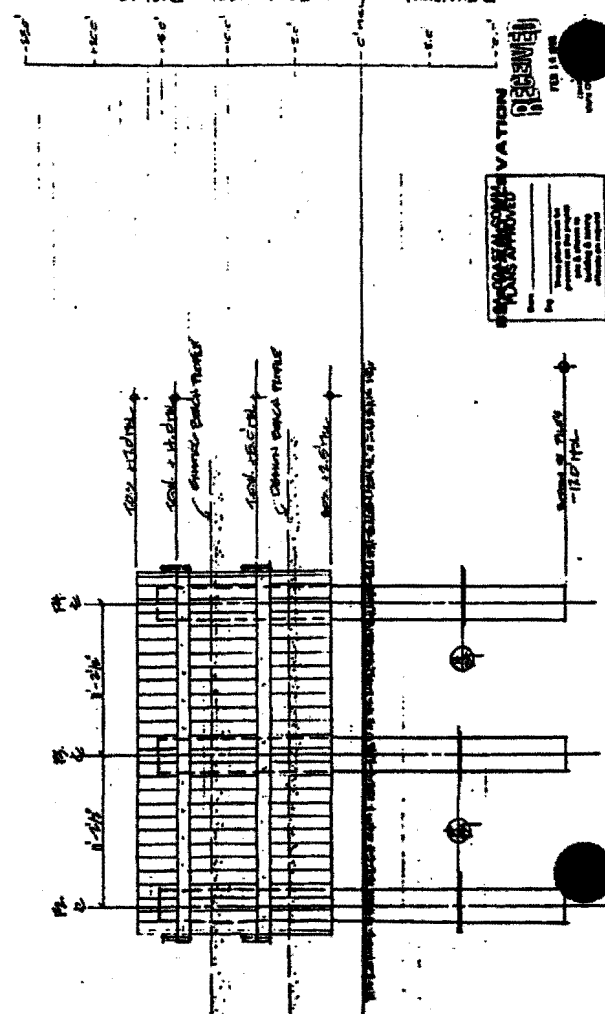
CONTRACTOR TO HAVE PRE-CONSTRUCTION MEETING WITH ENGINEER PRIOR TO CONSTRUCTION. NOTIFY ALL IN-ADJACENT PROPERTY OWNERS AND NEIGHBORS.

EXHIBIT NO. 12
APPLICATION NO. 4-99-191
Bulk head Plan

NE 1/4 1/4 6

CA COASTAL COMM. PLANS APPROVED

1/3 11 1998



Bulkhead Elevations