

## CALIFORNIA COASTAL COMMISSION

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 Commission Action:

**STAFF REPORT: REGULAR CALENDAR**

**APPLICATION NO.:** 4-99-086

**APPLICANT:** Jeff Greene, Millenium Holdings

**AGENT:** Steve Potter

**PROJECT LOCATION:** 31360 Broad Beach Road, Malibu, Los Angeles County.

**PROJECT DESCRIPTION:** Construct 4,420 sq. ft., 2 story, 28 ft. high above existing grade single family residence, including attached 2 car garage, swimming pool, septic disposal system, and timber bulkhead and return wall. Demolish and remove an existing, approximately 60 sq. ft., 1 story storage shed.

<b>Lot area:</b>	10,919 sq. ft.
<b>Building coverage:</b>	4,420 sq. ft.
<b>Pavement coverage:</b>	1,353 sq. ft.
<b>Landscape coverage:</b>	2,147 sq. ft.
<b>Parking spaces:</b>	2 covered, 2 open

**LOCAL APPROVALS RECEIVED:** City of Malibu planning approval-in-concept for proposed residence, dated April 7, 1999; City of Malibu planning approval-in-concept for proposed bulkhead, dated June 11, 1999; City of Malibu Environmental Health approval of septic disposal system, dated March 11, 1999.

**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 June 15, 1999. Documents prepared by applicant's consultants: (1) June 8, 1999: David C. Weiss, Structural Engineer, "Response to Coastal Engineering Issues Raised in Coastal Commission Review Dated 4/27/99," (2) May 13, 1999: GeoConcepts, Inc., "Addendum Report No. 3, 31360 Broad Beach Road," (Response to Coastal Commission Review Letter dated April 28, 1999), (3) March 4, 1999: David C. Weiss, Structural Engineer, "Addendum to Coastal Engineering Report for 31360 Broad Beach Road," (4) January 7, 1999: GeoConcepts, Inc., "Private Sewage Disposal System," (5) November 16, 1998: GeoConcepts, Inc., "Addendum Report No. 1, 31360 Broad Beach Road," (6) August 27, 1998: GeoConcepts, Inc., "Limited Geologic and Soils Engineering Investigation, 31360 Broad Beach Road," (7) December 21, 1998:

GeoConcepts, Inc., 1998, "Addendum No. 2, 31360 Broad Beach Road" (Response to City of Malibu geology review letter dated December 11, 1998).

### **SUMMARY OF STAFF RECOMMENDATION**

Staff recommends approval of the proposed project with nine (9) Special Conditions to address: Revised Plans (septic system, bulkhead & return wall, swimming pool, deck & beach stairs), Offer to Dedicate Lateral Public Access Easement, Assumption of Risk, Construction Responsibilities and Debris Removal, Geology, Sign Restriction, and Shoreline Protective Device: Future Restrictions.

The subject site is an infill project located on a developed area of Broad Beach. A severe storm in February of 1998 destroyed a 1950s-vintage single family residence that had previously stood on the site. There was not a shoreline protective device in place on the site at the time of the storm. A seawall on the adjacent, upcoast property had been approved by the Commission and constructed in 1996. The then-landowner of the subject site elected not to participate in the processing of coastal development permits that occurred in 1994 relative to the seawall which protects 4 contiguous parcels immediately upcoast of the subject site. Those permits required the removal of a significant rock revetment placed seaward of the subject parcels without the benefit of coastal development permits as a condition of approval for the seawall.

Staff has determined that alternatives exist to: (1) redesign the proposed swimming pool and deck to place it on an elevated caisson and beam support structure, (2) pull the proposed beach stairs back to a location within the deck stringline, (3) Utilize the more contemporary--and more effective--septic disposal technology that requires less leachfield area and obviates the need to reserve (and protect with a bulkhead) the future septic expansion area required for the older, more conventional style of septic disposal system proposed by the applicant. These changes, which are incorporated into the recommended Special Conditions, allow the landward relocation of the leachfield by approximately 30 feet further than presently proposed and the relocation of the proposed bulkhead to an area at least halfway under the proposed residence, and a minimum of approximately 55 feet further landward than presently proposed.

If the project is revised in accord with the recommended special conditions, the shoreline impacts of this infill development project would not be significant.

### **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 term or 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. Revised Plans**

Prior to the issuance of the coastal development permit, the applicant shall submit, for the review and approval of the Executive Director, revised project plans which show that:

- (a) **Septic system:** The proposed septic system has been replaced with a bottomless sand filter system located in the same area as the proposed septic tank shown on Exhibit 13b and the new leachfield location has been relocated as far landward as feasible but not less than fifteen (15) feet further landward than the location shown on Exhibit 13a; and
- (b) **Bulkhead:** The proposed bulkhead is relocated to a location not more than five (5) feet seaward of the landwardmost extent of the revised septic leachfield required pursuant to subparagraph 1(a) of this special condition, and an adequate return wall is included in the revised plan to protect the western boundary of the proposed project. Further, the engineering geologist and the coastal engineer must verify to the satisfaction of the Executive Director that the revised bulkhead design is adequate to protect the proposed, revised septic disposal system; and
- (c) **Swimming pool, deck and stairs:** The proposed deck and swimming pool has been redesigned to a caisson and grade beam foundation at a design height consistent with the recommended design elevations (+16.75 Mean Sea Level) cited in the Wave Uprush Study prepared by David Weiss dated October 20, 1998. The bottom of the swimming pool shell shall not be lower than the recommended design height for the structural slab and grade beams for the proposed deck. The proposed stairway to the beach shall be revised in accordance with the revised plan for the swimming pool to ensure that the proposed stairway does not extend further seaward than the deck stringline. Further, the engineering geologist and the coastal engineer shall review and approve the revised swimming pool and deck plans to ensure that the plans and designs are consistent with their recommendations.

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

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 the dripline of the approved decks as illustrated on the revised site plan prepared pursuant to Special Condition 1 above, and approved by the Executive Director.

The document shall contain the following language:

(a) Privacy Buffer

The area ten (10) feet seaward from the dripline of the approved decks as illustrated on the revised final project plans prepared pursuant to Special Condition 1 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 and the easement area. This deed restriction shall not be removed or changed without a Coastal Commission-approved amendment to this coastal development permit unless the Executive Director determines that no amendment is required.

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

- A. By acceptance of this permit, the applicant acknowledges and agrees (i) that the site may be subject to hazards from landsliding, storm waves, erosion, flooding, or wildfire; (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 Coastal Commission-approved amendment to this coastal development permit.

#### **4. Construction Responsibilities & 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. Geology**

All recommendations contained in the "Coastal Engineering Report and Wave Uprush Study" by Dave Weiss, Coastal Engineer, dated October 20, 1998, "Limited Geologic and Soils Engineering Investigation," prepared by GeoConcepts, Inc., dated August 27, 1998; "Addendum No. 1, 31360 Broad Beach Rd.," prepared by GeoConcepts, Inc., dated November 16, 1998; Addendum No. 2, 31360 Broad Beach Rd.," prepared by GeoConcepts, Inc., dated December 21, 1998; Addendum No. 3, 31360 Broad Beach Rd.," dated May 13, 1999, and "Private Sewage Disposal System," dated January 7, 1999, prepared by GeoConcepts, Inc., dated November 16, 1998, shall be incorporated into all final plans, designs and construction practices including recommendations concerning drainage, foundations, shoreline protective devices, and septic system, and all plans must be reviewed and approved by the coastal engineering and geotechnical consultants prior to the issuance of this coastal development permit. Prior to issuance of the coastal development permit, the applicant shall submit evidence to the Executive Director's satisfaction of the consultants' review and approval of all final design and construction plans.

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

#### **6. Sign Restriction**

No signs shall be posted on the property subject to this permit, or on the beach seaward of the property, which (a) explicitly or implicitly indicate that the portion of the

beach on Assessor's Parcel Number 4470-016-015, located seaward of the residence or timber bulkhead permitted in this application 4-99-086 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*." In order to effectuate the above prohibitions, the permittee/landowner is required to submit the proposed content of any sign to the Executive Director for review and approval prior to the posting of any proposed signs.

#### **7. Seawall Installation: Future Limitations**

Prior to the issuance of Coastal Development Permit 4-99-086, the applicant as landowner shall execute and record a deed restriction, in a form and content acceptable to the Executive Director, which states that no future repair or maintenance, enhancement, reinforcement, or any other activity affecting the shoreline protective device approved pursuant to this permit shall be undertaken if such activity extends the seaward footprint of the subject shoreline protective device. The deed restriction shall include a legal description of the applicant's entire parcel and the following exhibits, including both full-sized and 8-1/2 by 11-inch reductions, prepared to the satisfaction of the Executive Director: (a) a site plan mapping to scale the applicant's parcel in accordance with the legal description, including the development approved pursuant to this permit and (b) a cross section view of item (a). Both Exhibits shall identify and map the exact distance between the seawardmost component of the shoreline protective device and a fixed, baseline monument or landmark landward of the subject device found acceptable by the Executive Director. 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 Coastal Commission approved amendment to this coastal development permit.

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

The Commission hereby finds and declares:

##### **A. Background and Project Location**

The applicant proposes to construct a 4,420 sq. ft., 2 story, 28 ft. high above existing grade single family residence, including attached 2 car garage, swimming pool, septic disposal system, timber bulkhead and return wall, and has included an offer to dedicate a lateral public access easement, on a beachfront lot. An existing, approximately 60 sq. ft., 1 story storage shed will be demolished and removed. The proposed site is an infill project on a developed portion of Broad Beach, within the City of Malibu. (See Exhibits 1-4).

A previous residence on the subject site was destroyed by wave attack during a severe storm event in February, 1998. The present applicant proposes to construct a home on caissons, and to construct a timber bulkhead in line with the bulkhead that protects the

adjacent, upcoast parcel (31364 Broad Beach Road) located immediately west of the subject site. That bulkhead traverses and protects four contiguous parcels including the lot adjacent lot to applicant's site, at 31364 Broad Beach Road.<sup>1</sup> The primary purpose of the specific location presently proposed for the seawall is to facilitate the placement of the swimming pool shown in Exhibit 8. The applicant acknowledges that the seawall can be relocated landward if alternative septic system configurations and locations are used. The applicant has expressed a willingness to elevate the swimming pool and deck on a caisson and grade beam foundation and to relocate the septic system (and install a bottomless sand filter septic system in lieu of the older style of septic system proposed) to reduce the seaward extent of the seawall. These revisions would locate the seawall under the residence and approximately 30 feet further landward than presently proposed, while providing adequate protection of the proposed septic disposal system.

Coastal Development Permit application no. 4-98-302 (Moorman) is also pending before the Commission and is scheduled on the Commission's Tuesday, September 14, 1999 agenda. That permit request proposes to construct a 25 ft. long, 4.5 ft. high extension onto an existing 4 ft. long return wall on the parcel boundary shared with the subject parcel. The bulkhead proposed by the applicant would be located further landward than the landwardmost extent of the adjacent (extended) return wall if the bulkhead proposed by the applicant is constructed in accordance with the requirements for revised plans set forth in Special Condition 1.

The coastal engineer has determined that no bulkhead would be required if the entire septic disposal system were relocated to within approximately 75-80 of 80 feet seaward of Broad Beach Road. The applicant's consulting engineer and geologist, however, have identified other constraints that argue against the relocation of the proposed septic disposal system sufficiently to eliminate the bulkhead. The consultants have determined that the depth and characteristics of the fill material placed within the portion of the requisite 80 foot setback available for the proposed project at the time the access road to the site from Broad Beach Road was graded, and the relatively high elevation of groundwater beneath the subject parcel (see Exhibit 14), combine to render the area landward of the seaward edge of the proposed garage (see Exhibit 8) unsuitable for the placement of the septic leachfield. Upon the request of Commission staff, the consulting geologist has determined that the bulkhead could be relocated a minimum of approximately 55 feet landward if the swimming pool were redesigned to be supported by a caisson and grade beam foundation and the alternative septic disposal system used in lieu of the conventional system proposed in the application.

The applicant's agent, Steve Potter, notified Commission staff on 8/31/99 that upon request Larry Young, Environmental Health officer for the City of Malibu, confirmed that

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<sup>1</sup> The Moorman lot, located at 31364 Broad Beach Road, is also the subject of pending CDP application no. 4-98-302 (Moorman), scheduled for Commission hearing on Tuesday, September 14, 1999, for a 25 ft. long, landward extension of the existing 4 ft. long return wall approved by the Commission in 1994 and constructed in 1996.



the alternative bottomless sand filter septic disposal system is suitable for use on the subject site and that the necessary size of the leachfield would be 525 sq. ft. Mr. Young also confirmed, according to Mr. Potter, that the alternative system would not require that an additional area be reserved for future leachfield use, thereby reducing the area subject to protection by the proposed bulkhead. As the result, the septic disposal system can be relocated landward from the seawardmost beams of the garage foundation (shown on Exhibit 8) as follows: 5 feet of setback from the garage beams for construction clearance, an additional 17.5 feet for the length of the leachfield (width would be 30 feet), and an additional 5 feet of setback required by the City of Malibu between the edge of a leachfield and the seawall protecting it. Thus, the total setback of the bulkhead is approximately 27.5 feet from the seawardmost beams of the garage foundation, resulting in a total landward relocation of the bulkhead of approximately 55 feet.

#### **B. Shoreline Processes and Seaward Encroachment**

Section 30235 of the Coastal Act states that:

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) states that:

(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 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.

Finally, Section 30253 states in pertinent part that:

New development shall:

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

Past Commission review of shoreline residential projects in Malibu has shown that such development results in potential individual and cumulative adverse effects upon coastal processes, shoreline sand supply, and public access. Shoreline development, if not properly designed to minimize such adverse effects, may result in encroachment on lands subject to the public trust (thus physically excluding the public); interference with the natural shoreline processes necessary to maintain publicly-owned tidelands and other public beach areas; overcrowding or congestion of such tideland or beach areas; and visual or psychological interference with the public's access to and the ability to use public tideland areas. The Commission finds it necessary to analyze the proposed project in relation to the characteristics of the shoreline, location of the development on the beach, and wave action to determine what adverse effects upon coastal resources will result from the proposed project.

### **Site Shoreline Characteristics**

The proposed project site is located on Broad Beach, a 1.3 mile long section of the coast which is heavily developed with single family homes and is located between Lechuza Point to the west and Zuma County Beach to the east. The project site is located on the western section of Broad Beach, somewhat downcoast from Lechuza Point. The eastern and central portions of Broad Beach are characterized by low-crested protective sand dunes situated behind a relatively wide beach. However, the westernmost portion of Broad Beach, where the project site is located, is subject to substantially different coastal processes than the other parts of Broad Beach and is characterized by a narrower beach lacking a protective dune field. The unique nature of the western portion of Broad Beach is in part due to its location immediately southeast of Lechuza Point which acts as a barrier to littoral transport of beach material. In regards to a shoreline protection device project at 31368, 31376, 31372, 31350 and 31364 Broad Beach Road (the latter address is immediately upcoast of the proposed project), in which the Commission approved the construction of a vertical bulkhead across all five lots (four contiguous and one two parcels downcoast from the other four), Noble Consultants concluded in a Coastal Engineering Analysis Letter dated 9/15/94, prepared for CDP application 4-97-160 (Danson) previously approved by the Commission:

It is believed that the indented shoreline configuration immediately east (downcoast) of Lechuza Point temporarily disrupts the normal mode of alongshore transport. A "shadow zone" is formed where a greater proportion of sand moves alongshore but further offshore. As the sediment is transported further downcoast, it progressively moves closer to the beach until it reaches a point of "reattachment" where the normal mode of alongshore transport reoccurs. A localized debit of sand would result within this shoreline section. Therefore, based upon the impact of the Lechuza Point on the localized coastal processes, the...properties... are located within the shadow zone caused by the disruption of Lechuza Point...episodic shoreline losses accumulate when severe storms erode the applicants' unprotected dunes which are not likely to fully recover from the natural coastal processes.

The "shadow zone" created by the interaction of Lechuza Point upon the alongshore littoral transport extends approximately 1500 ft. east from Lechuza Point to where the closest public access way is located. The project site is located within this shadow zone. Due to the shadow effect, the well developed protective dunes which characterize Broad Beach east of the shadow zone are unable to form within the project area.

Moreover, 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 the western portion of Broad Beach, development at the base of the bluff area has demonstrably altered the natural process of shoreline nourishment which would expose the back of the bluff to frequent wave attack as the beach erodes.

David Weiss, the applicant's coastal engineering consultant, has concluded in previous documents submitted to the Commission that the bluffs backing similar sites along Broad Beach are not a source of beach sand. The Commission notes, however, that in a natural setting, wave attack does lead to the eventual erosion and retreat of the lower portions of a bluff, which in turn results in the landward movement of the beach's location and the subsequent establishment of a new beach area. In the case of the project site, the back of the beach has been previously fixed in place by Broad Beach Road and the access road used by the applicant to enter and exit the parcel, and by the use of shoreline protective devices. Therefore, the natural contributions of beach material from the eroding bluffs have been terminated by previous human interference with the natural shoreline processes that would naturally nourish Broad Beach. Taken together with the shadow effect of Lechuza Point, these factors render Broad Beach an eroding beach, contrary to the coastal engineer's interpretation that Broad Beach is an oscillating beach.

In addition, the Malibu/Los Angeles County Coastline Reconnaissance Study of the Malibu/Los Angeles County coastline by the United States Army Corps of Engineers dated April 1994 concludes that although Broad Beach has experienced periods of beach recession and recovery and despite the fact that this scenario is expected to continue in a state of relative equilibrium into the future, the western or upcoast portion of Broad Beach is an exception, and remains far more vulnerable to erosion losses than the other areas of Broad Beach--possibly due to the effect of Lechuza Point. In addition, observation by Commission staff since 1992 indicates that this particular section of Broad Beach is eroding at a substantial rate. No evidence to the contrary has been submitted or discovered by staff investigation.

Stringline

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

In the case of coastal development permit application no. 4-99-086, the swimming pool designed as proposed and the proposed private staircase to the beach exceed the applicable stringline setbacks and would result in seaward encroachment of residential development on Broad Beach. Staff notes that the applicant and the applicant's consultants have identified potential project revisions that would redesign and relocate these structures sufficiently to achieve the necessary setbacks from the stringlines. Special Condition 1 in part sets forth these requirements. If the stairway, deck, and swimming pool designs are revised in accordance with Special Condition 1, these aspects of the proposed project will be consistent with the stringline analytical standards set by the Commission over years of reviewing infill beach development in Malibu.

In addition, the proposed septic system and bulkhead, while not specifically a portion of the stringline analysis, are, as discussed elsewhere in this report, subject to the redesign and relocation of these structures further landward where feasible to achieve a similar goal—that is, reducing the seaward encroachment of new development. As discussed in the background section (Section A), the applicant's consultants have determined, upon the request of Commission staff, that the proposed septic disposal system may be replaced by a more contemporary technology known as the bottomless sand filter design. Among the advantages of the new design are superior leachate treatment capacity, reduced leachfield requirements, and the elimination of the need to additionally identify (and protect with shoreline protective devices) future leachfield locations. Thus, implementation of the new design facilitates the landward relocation of the proposed bulkhead approximately 55 feet and allows the bulkhead to be placed unobtrusively below the proposed residence, at approximately the mid-point of the floor area. Therefore, the Commission finds that the redesign and relocation of the proposed septic disposal system, and the relocation of the proposed bulkhead, as required by Special Condition 1, will ensure that the proposed project does not result in the seaward encroachment of development on Broad Beach and will serve to minimize the adverse effects on coastal resources that might otherwise have been caused.

#### **Wave Uprush and Mean High Tide Line**

The Wave Uprush Study prepared by David Weiss dated October 20, 1998 indicates that the ambulatory mean high tide line was located approximately 200 feet seaward of the Broad Beach Road centerline during his observations in July, 1998. The seaward most extension of the proposed development, which is the face of the proposed seawall, would be located approximately 190 feet seaward of the centerline of Broad Beach Road. Based on this information, the Commission notes that the proposed development would be located landward of the mean high tide line measured by the applicant's consultant in July, 1998. The Commission notes that as revised by Special Condition 1, moreover, the proposed bulkhead will be relocated to an area well beneath the house and approximately 55 feet further landward than presently proposed. The required revisions further ensure that under normal conditions, the proposed bulkhead will not extend onto public tidelands.

Although the proposed structure will be located landward of the mean high tide line, the Wave Uprush Study indicates that the maximum wave uprush at the subject site will occur approximately 75 feet seaward of the centerline of Broad Beach Road. Therefore, the wave uprush limit will extend as far as 65-70 feet landward under the proposed structure. Thus, as the septic system leachfield required pursuant to Special Condition 1 will be located approximately 50 feet landward of the seaward edge of the proposed structure, a shoreline protective device will be needed to protect the septic disposal system.

Upon the request of the Commission staff, the applicant's consulting geologist has evaluated the proposed revised location of the updated septic system required pursuant to Special Condition 1, conferred with the Larry Young, director of the City of Malibu's Environmental Health Department, and concluded that the redesigned septic system will be adequately protected by a relocated bulkhead as required by Special Condition 1.

Despite the landward relocation of the proposed bulkhead, however, the Commission notes that the project, both as proposed and as revised by Special Condition 1, will still result in adverse effects upon coastal processes and shoreline sand supply. In addition, the Commission notes, as discussed previously, that the proposed beach stairway, deck, and swimming pool as presently designed, will function as a unified seawall. Special Condition 1, therefore, requires the redesign of these features to relocate the stairway landward of the deck stringline, and to elevate the proposed deck and swimming pool by means of a caisson and grade beam foundation at a design height consistent with the recommended design elevations (+16.75 Mean Sea Level) cited in the Wave Uprush Study prepared by David Weiss dated October 20, 1998. The bottom of the swimming pool shall not be lower than the recommended design height for the structural slab and grade beams for the proposed deck. The proposed stairway to the beach shall be revised in accordance with the revised plan for the swimming pool to ensure that the proposed stairway does not extend further seaward than the deck stringline.

In addition, to ensure that the redesigned structures are consistent with the

recommendations of the consulting geotechnical experts (engineer and geologist) and the consulting coastal engineer, the Commission finds it necessary to impose Special Condition 5. Special Condition 5 requires the consultants to review the final project plans and designs and certify that their recommendations referenced in the following documents have been adequately incorporated into the final project: (1) June 8, 1999: David C. Weiss, Structural Engineer, "Response to Coastal Engineering Issues Raised in Coastal Commission Review Dated 4/27/99," (2) May 13, 1999: GeoConcepts, Inc., "Addendum Report No. 3, 31360 Broad Beach Road," (Response to Coastal Commission Review Letter dated April 28, 1999), (3) March 4, 1999: David C. Weiss, Structural Engineer, "Addendum to Coastal Engineering Report for 31360 Broad Beach Road," (4) January 7, 1999: GeoConcepts, Inc., "Private Sewage Disposal System," (5) November 16, 1998: GeoConcepts, Inc., "Addendum Report No. 1, 31360 Broad Beach Road," (6) August 27, 1998: GeoConcepts, Inc., "Limited Geologic and Soils Engineering Investigation, 31360 Broad Beach Road," (7) December 21, 1998: GeoConcepts, Inc., 1998, "Addendum No. 2, 31360 Broad Beach Road" (Response to City of Malibu geology review letter dated December 11, 1998).

As part of the review required by Special Condition 5, therefore, the GeoConcepts engineer and geologist and the coastal engineer shall review and approve the revised swimming pool, stairway, deck, bulkhead, and septic disposal system plans to ensure that their recommendations have been adequately and fully incorporated. As noted in Special Condition 5, the final plans approved by the consultants shall be in substantial conformance with the plans approved by the Commission, subject to the specific revisions called for herein and in Special Condition 1. Any substantial changes to the proposed development beyond those changes specifically called for by the Commission itself, which may be recommended by the consultants, shall require an amendment to the permit or a new coastal permit.

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

As described above, the proposed timber bulkhead, as revised by Special Condition 1, would be constructed beneath the proposed residence five feet seaward of the revised septic disposal system (bottomless sand filter) required by Special Condition 1. Owing to the geology of the site, the septic system cannot be relocated any further landward. The specific constraints are discussed in Section A of this report, and include the presence of a significant amount of fill material unsuitable to accept discharged septic effluent, and significant engineering and construction obstacles to conducting the extensive excavation necessary to install the septic system adjacent to the access road. As such, the bulkhead, in the revised location, is needed to protect the septic system, and as redesigned in accordance with Special Condition 1 would be the most landward location that is feasible. Nonetheless, the proposed bulkhead would be located within the wave uprush zone and as the result of wave interaction, would still have the potential to adversely impact the configuration of the shoreline and the beach profile.

Although the precise impact of a structure on a specific increment of beach is the subject of a persistent 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 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 on Broad Beach, each of the identified effects will be evaluated below.

### **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 and revetments 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 is absorbed, but much of the energy is 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 such shoreline protective devices do affect the supply of beach sand. The wave uprush study prepared by the applicants' coastal engineer notes that the maximum wave uprush applicable to the subject site, absent a seawall or other shoreline protective device, extends to within approximately 75 feet seaward of the centerline of Broad Beach Road. Therefore, the wave uprush limit will extend as far as 65-70 feet landward under the proposed structure.

The Commission notes that the proposed timber bulkhead is 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 that are subject to wave action tend to exacerbate or increase beach erosion. The following quotation summarizes a generally accepted opinion within the discipline of coastal engineering 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.<sup>2</sup>**

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<sup>2</sup> Saving the American Beach: A Position Paper by Concerned Coastal Geologists (March 1981, Skidaway Institute of Oceanography), pg. 4.

The above 1981 statement signed by 94 coastal geologists indicates that sandy beach areas available for public use can be harmed through the introduction of shoreline protective devices. 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 shoreline protective devices 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.<sup>3</sup>**

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

**Armoring can cause localized additional storm scour, both in front of and at the ends of the armoring...Under normal wave and tide conditions, armoring can contribute to the downdrift deficit of sediment through decreasing the supply on an eroding coast and interruption of supply if the armoring projects into the active littoral zone.<sup>4</sup>**

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

**Seawalls inhibit erosion that naturally occurs and sustains the beach. The two most important aspects of beach behavior are changes in width and changes in the position of the beach. On narrow, natural beaches, the retreat of the back beach, and hence the beach itself, is the most important element in sustaining the width of the beach over a long time period. Narrow beaches, typical of most of the California coast, do not provide enough sacrificial sand during storms to provide protection against scour caused by breaking waves at the back beach line. This is the reason the back boundary of our beaches retreats during storms.<sup>5</sup>**

Dr. Everts further concludes that armoring in the form of a seawall or revetment

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<sup>3</sup> State Department of Boating and Waterways (formerly called Navigation and Ocean Development), Shore Protection in California (1976), page 30.

<sup>4</sup> Coastal Sediments '87.

<sup>5</sup> Letter Report dated March 14, 1994 to Coastal Commission staff civil engineer Lesley Ewing from Dr. Craig Everts, Moffatt and Nichol Engineers.



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.<sup>6</sup>**

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, the western portion of Broad Beach is a relatively narrow, receding beach. The applicants' coastal engineering consultant has indicated that the bulkhead will be acted upon by waves during high tide and storm conditions, albeit these events are expected to be rare. 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 80 feet west or upcoast of an existing vertical public accessway. If the beach scours at the base of the bulkhead, even minimal scouring in front of the timber bulkhead will translate into a loss of beach sand available (i.e., erosion) at a more accelerated rate than would otherwise occur under a normal winter season if the beach were unaltered. The second impact relates to the potentially turbulent ocean conditions. Scour at the face of a bulkhead will result in greater interaction with the bulkhead and thus make the ocean along Broad 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 acknowledges that the proposed project can be revised to relocate the septic system landward, raise the pool on caissons, etc., and therefore the bulkhead can also be relocated landward as required by Special Condition 1.

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

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<sup>6</sup> *ibid.*

sand supply and public access. To ensure that any potential adverse effects of the proposed revetment are mitigated to the maximum extent feasible, the applicants have proposed to offer a dedication for a lateral public access easement along the beach. Special Condition 2 has been included to implement the applicants' 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 timber bulkhead and is consistent with the applicable Coastal Act sections and with past Commission action. Public access is discussed in more detail below.

### **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.<sup>7</sup> 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**

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<sup>7</sup> "Effects of Seawalls on the Beach", published in the Journal of Coastal Research, Special Issue #4, 1988.

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 fail 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.<sup>8</sup>

A more comprehensive study was performed over several years by Gary Griggs, which concluded that beach profiles at the end of a seawall are further landward than natural profiles.<sup>9</sup> This effect appears to extend for a distance of about 6/10 the length of the seawall and represents both a spatial and temporal loss of beach 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 as relocated by Special Condition 1, will be located as landward as feasible to protect the proposed septic system.

The proposed bulkhead would tie into the existing bulkhead immediately upcoast (west of) the subject site. The relocated bulkhead (Special Condition 1) however, would be set back significantly from the adjacent seawall. The adjacent neighbor has an application pending before the Commission to construct a 25 ft. landward extension of the return wall on the boundary shared by the present applicant. The face of the applicant's revised bulkhead will, however, be set back even further than the extended return wall proposed by Moorman for the adjacent property (CDP application no. 4-98-302, Moorman) approximately 5 ft. landward of the concrete bulkhead approved on the property immediately upcoast of the project site. The relocation of the bulkhead landward pursuant to Special Condition 1, together with the significantly reduced

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<sup>8</sup> "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.

<sup>9</sup> "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.

degree of wave contact thereby anticipated for the revised bulkhead, reduces the potential for severe end effects from the proposed bulkhead on the downcoast parcel.

### **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 revetment prevents upland sediments from being carried to the beach by wave action and bluff retreat. In the case of Broad Beach, which is located in the Santa Monica Littoral Cell, the back of the beach is fixed at Broad Beach Road. 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...<sup>10</sup>**

As explained, the bulkhead revised in accordance with Special Condition 1 would protect the applicant's septic system from wave damage yet move the bulkhead as far landward as feasible. However, the result of this protection, particularly on the relatively narrow western portion of Broad Beach, is a loss of sediment on the sandy beach area that fronts the seawall. Furthermore, as explained previously, this loss of sediment from the active beach leads to a lower beach profile, seaward of the protective device, where the bulkhead 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 applicants propose to dedicate a new public lateral access easement along the beach. Special Condition 2 has therefore 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.

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

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<sup>10</sup> "Responding to Changes in Sea Level: Engineering Implications," National Academy of Sciences, National Academy Press, Washington, D.C., 1987 (at page 74).

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

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

### **Infill Development**

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

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

occasional undeveloped lot or two which can be expected to be developed in a similar fashion. By nature of this description, an "infill development" situation can occur only in instances where roads and other services are already existing and available within the developed community or stretch of beach. Typically, the term "infill development" would not be applied to a large or long stretch of undeveloped beach (i.e. several lots or a large lot which is not similar in size and character to developed lots in the community or areas which do not contain existing roads and infrastructure).

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

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

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

The Commission recognized that the infilling of residential development between existing structures would not result in significant adverse impacts to coastal resources within these existing developed shoreline areas. The Commission also acknowledged that the gaps these vacant parcels created between protective devices focused wave energy between these structures resulting in erosion of the vacant property between the structures and potentially endangering infrastructure along Pacific Coast Highway or adjacent frontage roads and endangering adjacent structures. Faced with the prospect of denying beach front residential development with protective devices due to

inconsistency with section 30235 of the Coastal Act, the Commission has approved "infill" development through permit actions on beach front development in Malibu. The Commission has found that infilling these gaps would prevent this type of focused shoreline erosion and would not significantly further impact shoreline processes or adversely impact other coastal resources given the prevailing development pattern along these sections of the Malibu coast, so long as shoreline protective devices are designed and located as far landward as possible to avoid or minimize impacts to access and shoreline processes.

The Commission notes that the area surrounding the subject site is characterized as a substantially developed beach. In the case of the proposed development, the construction of a single-family residence with a wooden bulkhead and septic system can clearly be considered as infill development within an existing developed area. Moreover, the subject site contained a single family residence until it was destroyed by wave attack in 1998.

### **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 timber bulkhead, and return wall, 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, bulkheads, and other construction that would alter natural shoreline processes shall be permitted when those structures are necessary to serve coastal-dependent uses or to protect existing structures or to protect public beaches in danger from erosion and when they are designed to eliminate or mitigate adverse impacts on local shoreline sand supply. In addition to the consideration of Section 30235, the Commission has approved new development on the beach where such development is consistent with the Commission's treatment of "infill development" as described above in detail. In the case of this project, the proposed timber bulkhead is necessary to protect the septic system which would serve the proposed residence. The bulkhead as relocated in accordance with Special Condition 1 will be located at the most landward location feasible. In addition, the proposed project meets the Commission's interpretation of infill development, as defined in past permit decisions. As designed, the proposed project would minimize adverse impacts on shoreline sand supply.

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 bulkhead as revised by Special Condition 1, will be located at the most landward location feasible.

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 that may be caused by the subject proposal, the applicant has offered 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.

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 is considered to be infill development. In addition, as conditioned the project minimizes adverse impacts resulting from the construction of the proposed timber bulkhead by ensuring that the structure is located as far 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 pertinent part that:

New development shall:

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

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



The applicant has submitted a series of reports prepared by the consulting coastal engineer and the consulting engineering geologist and project geologist. These include: (1) June 8, 1999: David C. Weiss, Structural Engineer, "Response to Coastal Engineering Issues Raised in Coastal Commission Review Dated 4/27/99," (2) May 13, 1999: GeoConcepts, Inc., "Addendum Report No. 3, 31360 Broad Beach Road," (Response to Coastal Commission Review Letter dated April 28, 1999), (3) March 4, 1999: David C. Weiss, Structural Engineer, "Addendum to Coastal Engineering Report for 31360 Broad Beach Road," (4) January 7, 1999: GeoConcepts, Inc., "Private Sewage Disposal System," (5) November 16, 1998: GeoConcepts, Inc., "Addendum Report No. 1, 31360 Broad Beach Road," (6) August 27, 1998: GeoConcepts, Inc., "Limited Geologic and Soils Engineering Investigation, 31360 Broad Beach Road," and (7) December 21, 1998: GeoConcepts, Inc., 1998, "Addendum No. 2, 31360 Broad Beach Road" (Response to City of Malibu geology review letter dated December 11, 1998).

The consulting geologist and engineer provide numerous recommendations concerning foundations and drainage, retaining walls, sewage disposal, construction, and other measures. The consultants conclude 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.

Finally, as discussed above, the applicant has submitted a Wave Uprush Study, dated October 20, 1998, prepared by David Weiss, which addresses site conditions and design considerations. The consultant determined that the maximum wave uprush at the subject site would extend to approximately 75-80 feet seaward of the centerline of Broad Beach Road. The consultant makes recommendations regarding the foundations of the residence and the location of the septic system.

Based on the recommendations of the consulting geologist, geotechnical engineer, and coastal engineer, the Commission finds that the proposed development will minimize risks from geologic hazards, consistent with Section 30253 of the Coastal Act so long as the consultants' recommendations are incorporated into the project plans. Therefore, the Commission finds it necessary to require the applicant to submit project plans that have been certified in writing by the consultants as conforming to their recommendations. This is included as Special Condition 5.

However, the Commission notes that the proposed development is located on a beachfront lot in the City of Malibu. The Malibu coast has historically been subject to substantial damage as the result of storm and flood occurrences--most recently, and perhaps most dramatically, during the past 1997-1998 El Nino severe winter storm season.

The subject site is clearly susceptible to flooding and/or wave damage from storm waves, storm surges and high tides. Past occurrences have caused property damage resulting in public costs through emergency responses and low-interest, publicly

subsidized reconstruction loans in the millions of dollars in Malibu area alone from last year's storms.

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

The El Nino storms recorded in 1982-1983 caused high tides of over 7 feet, which were combined with storm waves of up to 15 feet. These storms caused over \$12.8 million to structures in Los Angeles County, many located in Malibu. The severity of the 1982-1983 El Nino storm events are often used to illustrate the extreme storm event potential of the California, and in particular, Malibu coast. The 1998 El Nino storms also resulted in widespread damage to residences, public facilities and infrastructure along the Malibu Coast. Most particularly, the previously existing, 1950s-vintage single family residence on the subject lot, was destroyed by wave attack during a severe storm during February, 1998.

Thus, ample evidence exists that all beachfront development in the Malibu area is subject to an unusually high degree of risk due to storm waves and surges, high surf conditions, erosion, and flooding. The Coastal Act recognizes that development, such as the proposed residence, even as designed and constructed to incorporate all recommendations of the consulting coastal engineer, may still involve the taking of some risk. When development in areas of identified hazards is proposed, the Commission considers the hazard associated with the project site and the potential cost to the public, as well as the individual's right to use the subject property.

Finally, due to the fact that the proposed project is located in an area subject to an extraordinary potential for damage or destruction from wild fire, the Commission will only approve the project if the applicant also agrees to indemnify the Commission from any liability associated with such risks.

The Commission finds that due to the possibility of liquefaction, storm waves, surges, erosion, flooding, and threat from wildfire, the applicant shall assume these risks as conditions of approval. Because this risk of harm cannot be completely avoided, eliminated, or fully mitigated, the Commission 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, as required by Special Condition 3, when executed and recorded on the property deed, will show that the applicant is aware of and appreciates the nature of the hazards which exist on the site, and that may adversely affect the stability or safety of the proposed development.

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 finds, for the reasons set forth above, that the proposed development, as conditioned to conform to geologic and engineering recommendations, to assume the risk of development, and to minimize impacts from construction debris, 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.

Section 30210 of the Coastal Act 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.

Section 30211 of the Coastal Act 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.

Section 30212 (a) of the Coastal Act 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.

Section 30220 of the Coastal Act states that:

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 bulkhead would be constructed on the sandy beach at the edge of the proposed residence as shown on Exhibits 7a and 14. As stated previously, the proposed project is located on Broad Beach, approximately 80 feet west (upcoast) of the nearest public vertical coastal accessway. Further, there are several existing and potential lateral public access easements across several lots near the project site.

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

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.

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 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 June 15, 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 applicants seek Commission approval of a new beachfront residence with a timber bulkhead. As discussed elsewhere in the Commission's findings, there is substantial evidence that this project will result in some indirect impacts on tidelands because the new proposed revetment is located in an area that is subject to wave attack and the effects of wave energy. The applicant has offered a lateral public access easement, however, to mitigate any adverse effects on coastal access or recreation that the subject revetment 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 subject bulkhead, as revised by Special Condition 1, is located as landward as possible in relation to the revised septic system required by Special Condition 1, there is still evidence that the timber 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 revised bulkhead pursuant to Special Condition 1 is located as far landward as feasible, as discussed in greater detail above. In addition, to ensure that no future changes or improvements to the subject bulkhead result in seaward expansion of the bulkhead, the Commission finds it necessary to impose Special Condition 7, which requires the applicant to record a deed restriction acknowledging that no future seaward expansion of the subject bulkhead will be authorized. If implemented, Special Condition 7 ensures that the adverse impacts of the subject shoreline protective device, considered herein by the Commission at present specifically in light of the fact that the bulkhead constructed pursuant to the requirements of Special Condition 1 will be located as far landward as possible, are not compounded in the future by a seaward expansion of the bulkhead

that undercuts the mitigation of the bulkhead's adverse effects on the shoreline achieved by ensuring that the bulkhead is constructed as far landward as possible.

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 revetment may have on public access. Because the applicant has proposed, as part of the project, an offer to dedicate a new lateral access easement along the width 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 applicants' 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, particularly in the area of Broad Beach. These signs have a chilling effect on the legitimate, protected access of the public to public trust lands. The Commission has determined, therefore, that to ensure that such postings are clearly understood by the applicants 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 or near the proposed revetment or existing apartment structures. The Commission finds that if implemented, Special Condition 6 will help to protect the public's right of access to the sandy beach below the MHTL.

In addition, the Commission notes that as revised by Special Condition 1, the proposed bulkhead would be located beneath the proposed structure. The proposed residence and decks would extend no further seaward than existing development on either side as defined by a stringline connecting adjacent development. As such, the Commission finds that the project, as conditioned, 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. Septic System.**

The proposed development includes the installation of an on-site septic system to provide sewage disposal. The Commission recognizes that the potential build-out of



lots in the Santa Monica Mountains, 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, and minimizing alteration of natural streams.

In addition, the Malibu/Santa Monica Mountains Land Use Plan, which the Commission has relied upon for guidance in past decisions, contains the following policies concerning sewage disposal:

P217 Wastewater management operations within the Malibu Coastal Zone shall not degrade streams or adjacent coastal waters or cause or aggravate public health problems.

The proposed development includes the installation of a new on-site septic system to serve the proposed residence. The applicant has submitted evidence of the City of Malibu Environmental Health Department's in-concept approval of the proposed septic system. In this case, however, the City determined that the applicant could install the conventional septic disposal system because the project is, from the City's perspective, a disaster rebuild. The project does not qualify as a disaster rebuild from the Commission perspective, however, and therefore there is no "grandfathered" entitlement to use a lesser standard of equipment than what is presently available to protect coastal resources. There is substantial evidence to indicate that the newer technology offered by bottomless sand filter designs provides superior septic effluent treatment as compared to the older septic disposal systems. This advantage alone provides additional protection to coastal waters than that offered by the older style of septic disposal systems, by reducing the potential for effluent contamination to percolate into the underlying groundwater or otherwise enter the marine environment.

In addition, the applicant's consulting geologist concurs that the construction of a bottomless sand filtration system is feasible on the subject lot. The City of Malibu's Environmental Health Department officer, Larry Young, has also confirmed via the applicant's agent that such a system could be approved for use on the subject site.

Therefore, the Commission finds it necessary to require, pursuant to Special Condition 1, that the applicant submit revised plans to incorporate the revised, updated septic system proposal, and to submit a revised approval-in-concept for such revised system from the City of Malibu Department of Environmental Health prior to the issuance of the coastal development permit. The City of Malibu minimum health code standards for septic systems have been found protective of coastal resources and take into consideration the percolation capacity of soils along the coastline, depth to

groundwater, etc. The Commission finds that as conditioned, therefore, the project is consistent with Section 30231 of the Coastal Act.

#### **F. Local Coastal Program**

Section 30604 of the Coastal Act states that:

(a) Prior to certification of the local coastal program, a coastal development permit shall be issued if the issuing agency, or the commission on appeal, finds that the proposed development is in conformity with 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 applicants. As conditioned, the proposed development will not create adverse impacts and is found to be consistent with the applicable policies contained in Chapter 3. Therefore, the Commission finds that approval of the proposed development, as conditioned, will not prejudice the City's ability to prepare a Local Coastal Program for Malibu which is also consistent with the policies of Chapter 3 of the Coastal Act as required by Section 30604 (a).

#### **G. CEQA**

Section 13096(a) of the Commission's administrative regulations requires Commission approval of 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.

MKH-Ventura/4-99-086 Greene/RC Sept. 99

DETAIL

SEE 625 MAP

ZIP

626

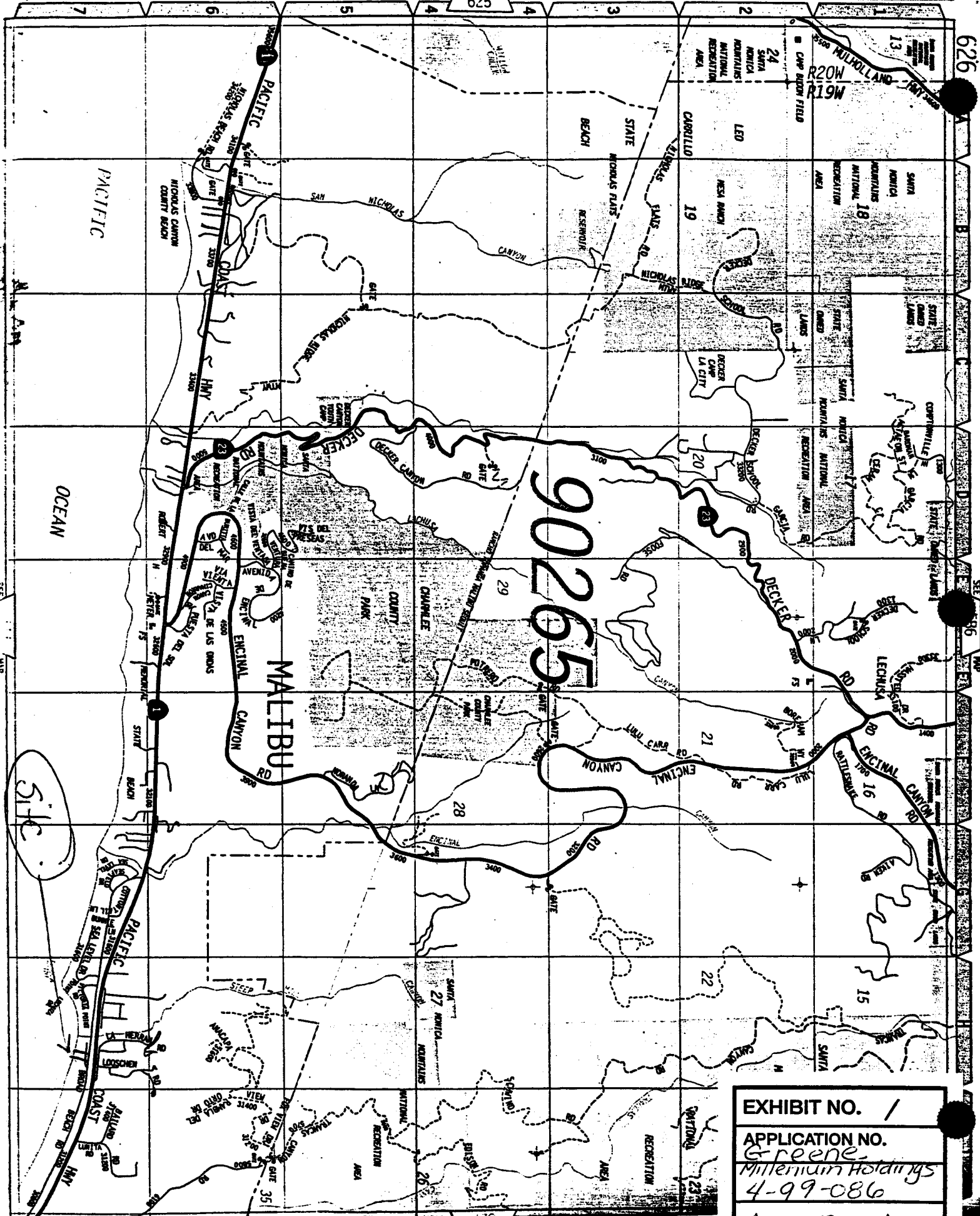
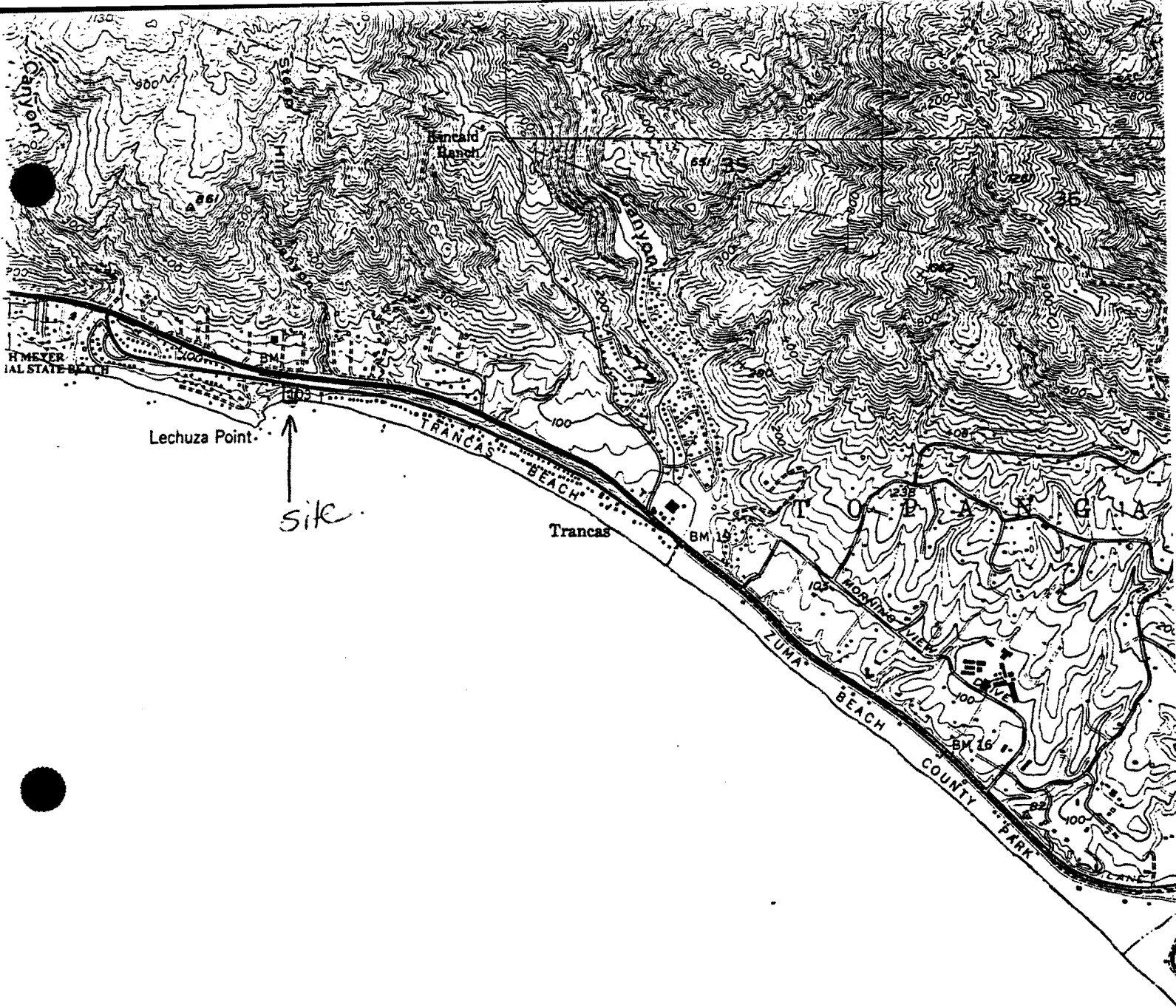


EXHIBIT NO. /
APPLICATION NO. <i>Greene</i>
<i>Millennium Holdings</i>
<i>4-99-086</i>
Area Map 1



P A C I F I C

Source: Site highlighted by  
Applicant as provided  
in submittal for CDP 4-99-086

328

329 4 030 000 FEET (7)

330

50'

ed by the United States Geological Survey in  
ation with California Department of Water

USGS, NOS/NOAA and Los Angeles County

from aerial photographs taken 1947. Field checked 1950

erican Datum of 1927 (NAD 27). Projection:  
Coordinate System, zone 7 (Lambert Conformal Conic)

ot ticks: California Coordinate System, zones 7 and 5  
-meter Universal Transverse Mercator ticks, zone 11

erican Datum of 1983 (NAD 83)

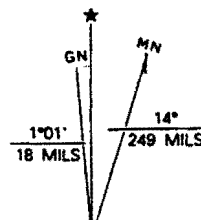


EXHIBIT NO. 2

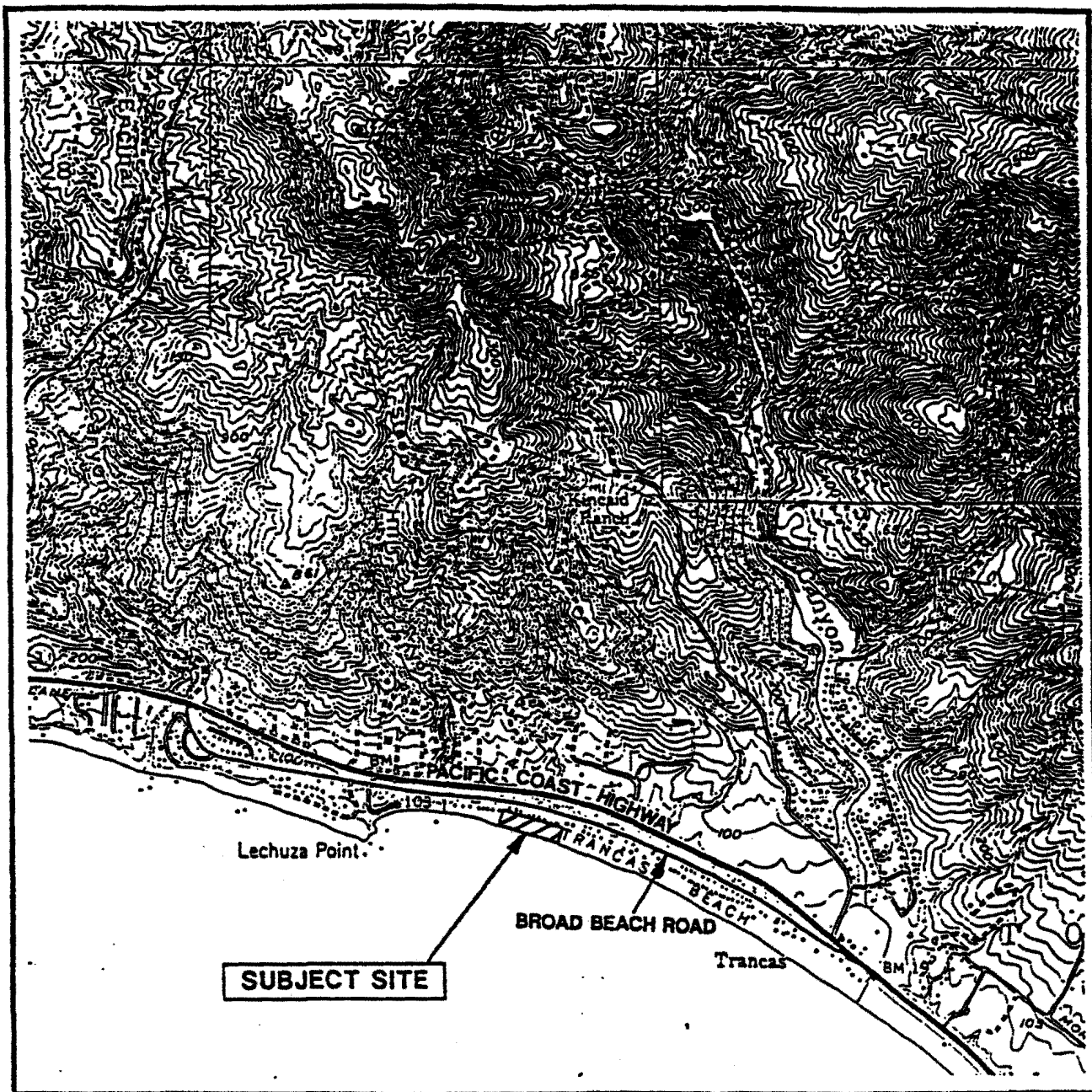
APPLICATION NO.

Greene-Millennium Holdings

4-99-086

Area Map 2

SHORELINE SURVEY



0 2000 4000  
SCALE FEET

### SITE LOCATION MAP

BASE MAP: U.S.G.S. 7.5 MINUTE POINT DUME QUADRANGLE, 1950, (PHOTO REVISED 1967)

31350 TO 31376  
BROAD BEACH ROAD  
MALIBU, CALIFORNIA

Project No. 3940620-02

Date 11/11/94

EXHIBIT NO. 2a

APPLICATION NO.  
Greene-Millenniumtbl

4-99-086

Area Map 3

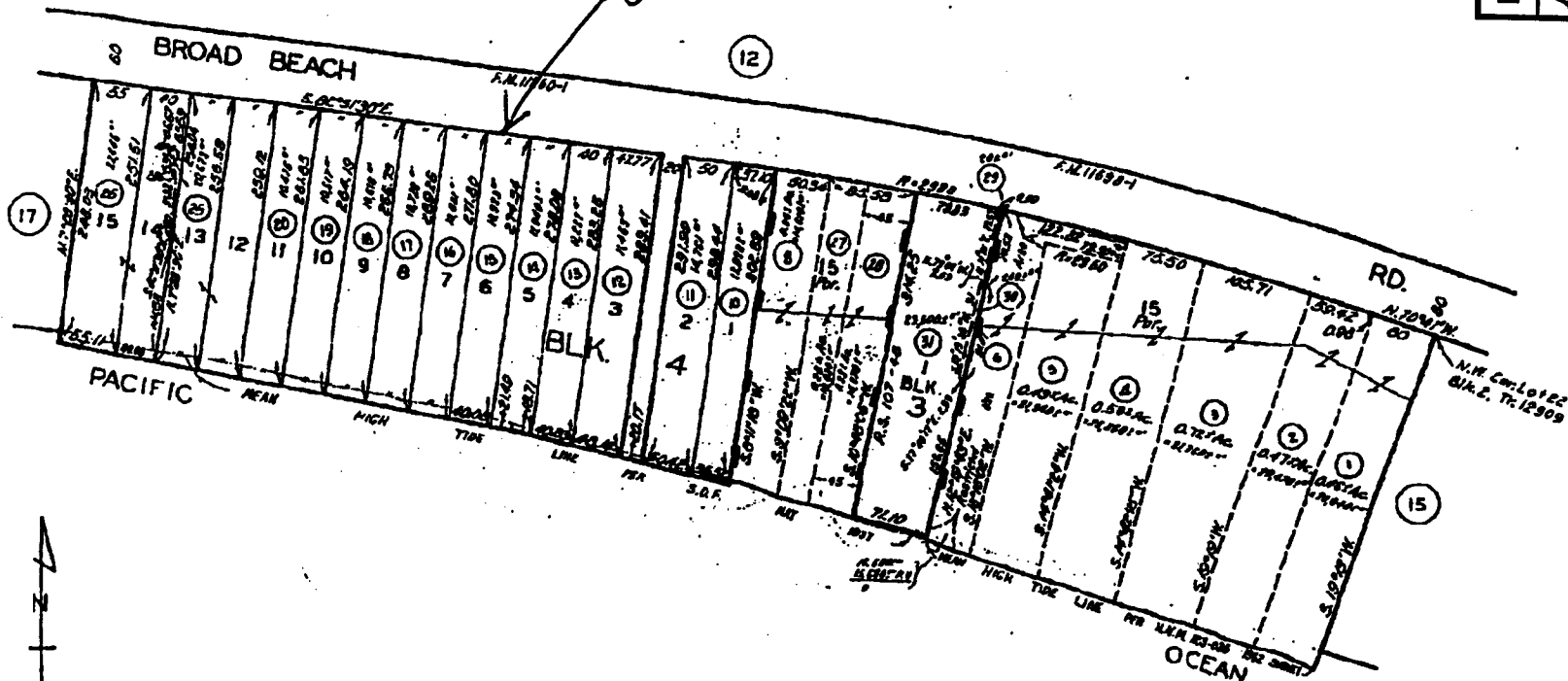
Source: Figure 1, Leighton & Assoc. 11/11/94  
from file for COP 4-98-302 (Moorman)

4470 16

SCALE 1" = 100'

1992

*Greene Site*



TRACT NO. 12909

M.B. 263 - 37 - 38

LAND OF MATTHEW KELLER IN THE  
RANCHO TOPANGA MALIBU SEQUIT

R.F. 534

CODE  
0853

FOR PREV. ASSMT. SEE: 4470-16

ASSESSOR'S MAP  
COUNTY OF LOS ANGELES, CALIF.

EXHIBIT NO. 3

APPLICATION NO.

Greene-Millennium Holdings

4-99-086

Parcel Map 1

# BROAD BEACH

F.M. 11250-1

PACIFIC

MEAN

HIGH

TIDE

LINE

PER

S.O.F.

MAY

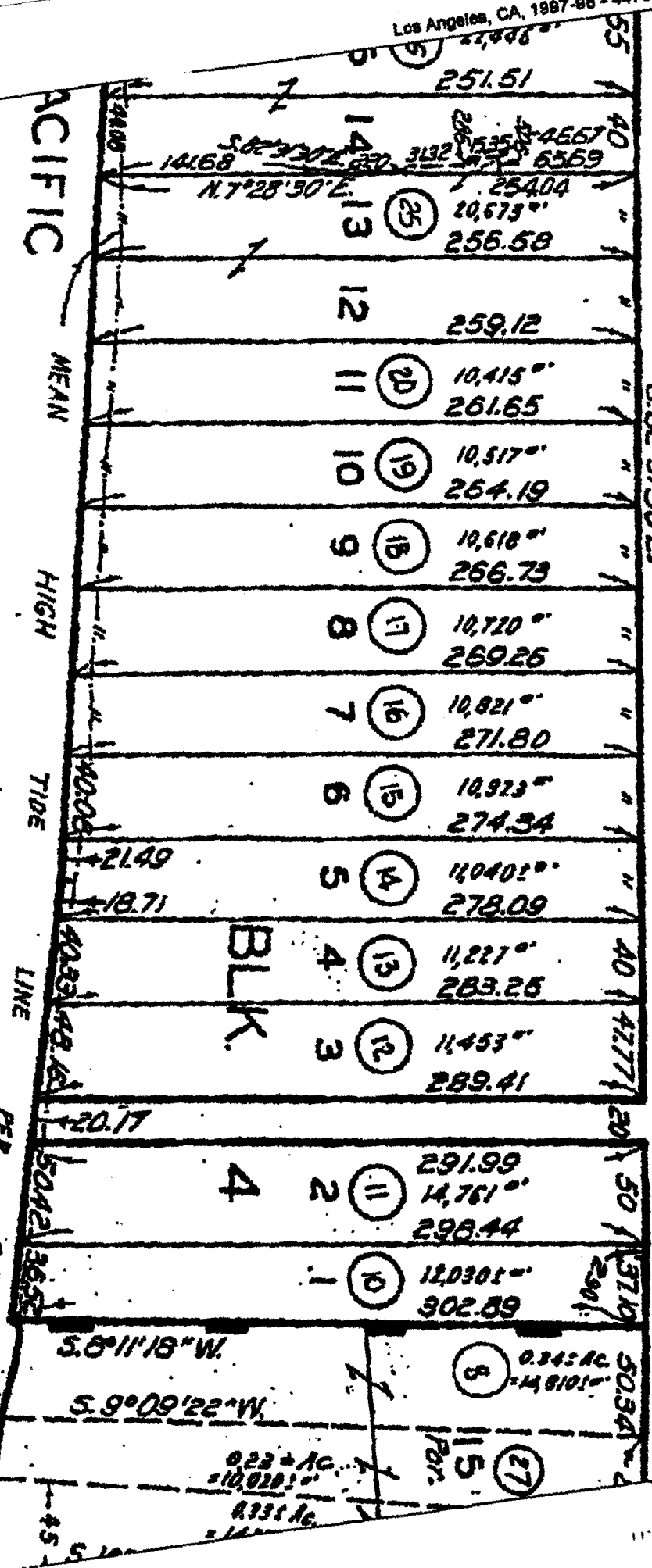
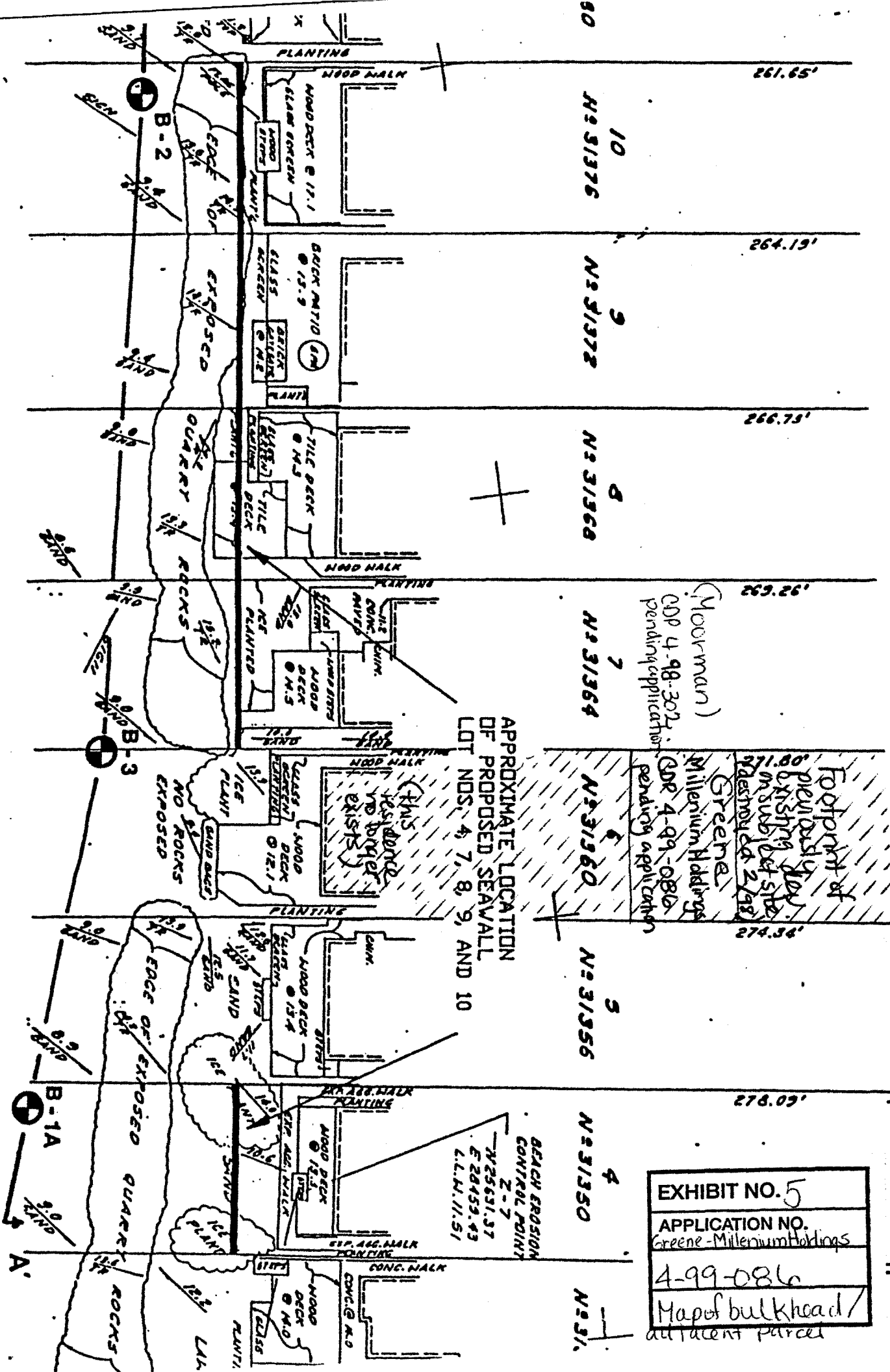


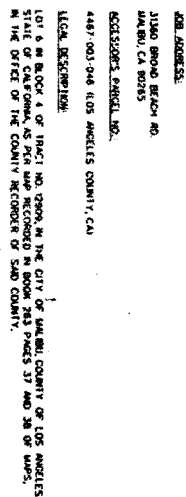
EXHIBIT NO. 4  
 APPLICATION NO. Greene-Millerum 46  
 4-99-0860  
 Parcel Map 2



# BORING LOCATION MAP



JUN 16 1999  
CALIFORNIA  
COASTAL COMMISSION  
SOUTH CENTRAL COAST DISTRICT



MILLENNIUM HOLL  
2116 WISHIRE BLV  
SUITE 250  
SANTA MONICA, CA  
90403

### PARTIAL TOPOGRAPHIC SURVEY



**LMD & ALL SOLVENTS**  
DISTILLATES • RECYCLED OILS • ALKA BLEND  
DEWATERED • POLYMER BLENDS  
SEVEN PACIFIC COAST HUB  
SALES AND  
SERVICES. CALL 800-655

05/28/94  
1 OF 1

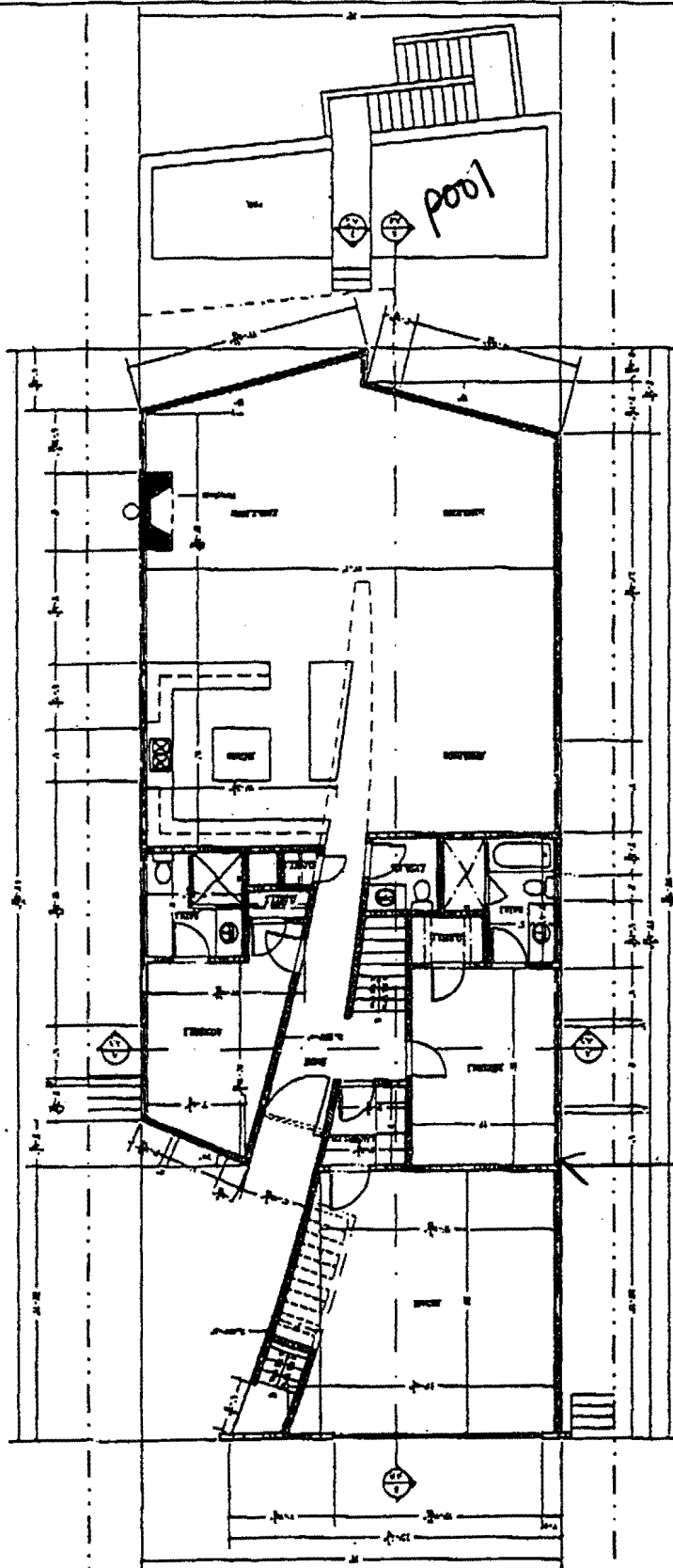
APPLICATION NO.  
Greene-Millennium Holdings

4-99-086

Existing Site







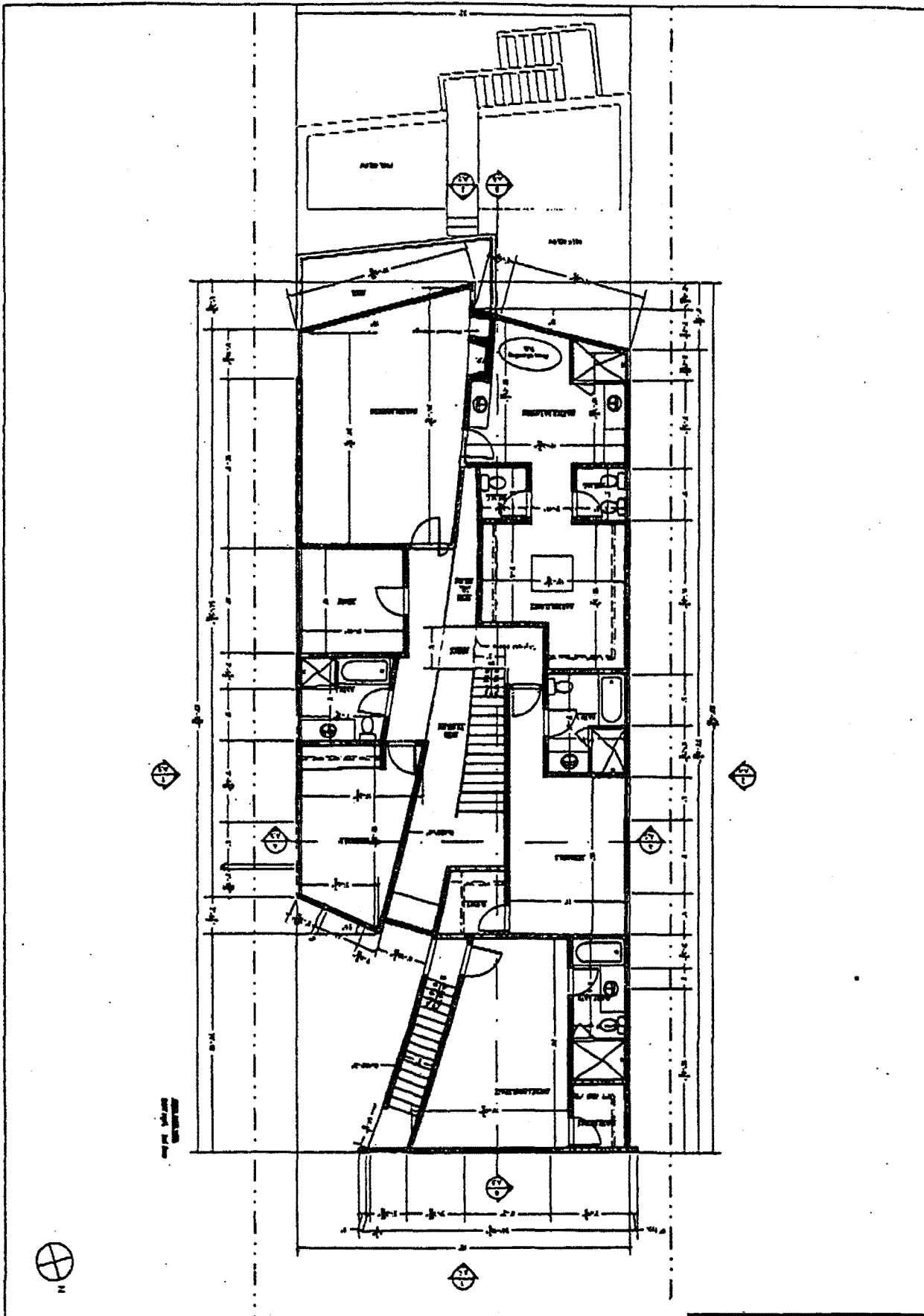
maximum  
landward  
relocation  
& leachfields  
per Geol Concepts, Inc.  
8/30/99.

6.10.99  
NOT TO SCALE

A.2	FIRST FLOOR PLAN	DERECTIONS STUDIO 310.589.3093	GREENE RESIDENCE 31360 Broad Beach Road Malibu, CA 90265

EXHIBIT NO. 8
APPLICATION NO. Greene-Millennium Holdings
4-99-086
First Floor Plan

FROM



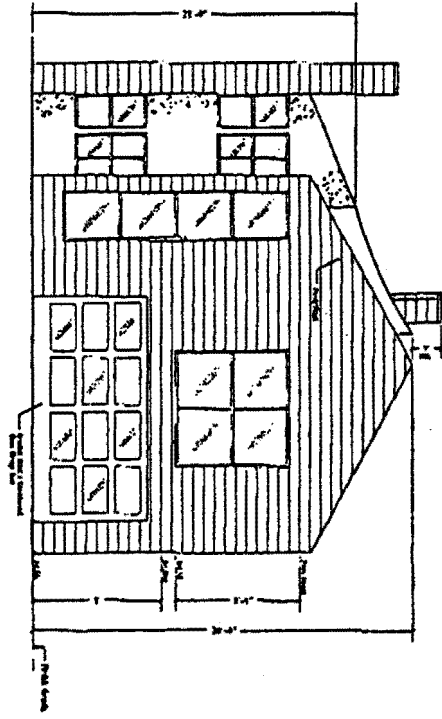
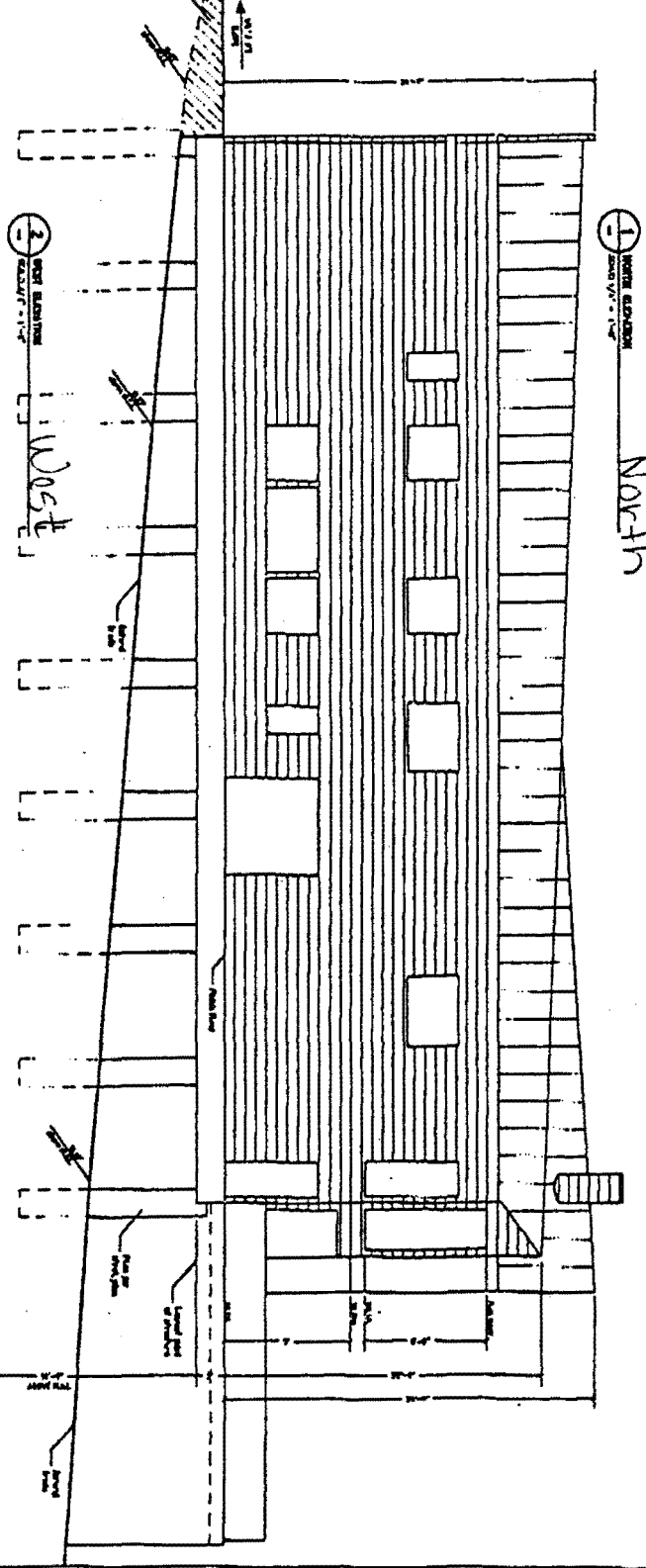
A.3  
 SECOND FLOOR PLAN  
 DATE: 10/10/99  
 DRAWN BY: [illegible]  
 CHECKED BY: [illegible]

DIRECTIONS  
 STUDIO  
 310.589.3093

GREENE RESID  
 31360 Broad Beach Ros  
 Malibu, CA 90265

EXHIBIT NO. 9  
 APPLICATION NO.  
 Greene-Millennium Holdings  
 4-99-086  
 Second Floor Plan

6.10.99  
 NOT TO SCALE



6.10.99  
NOT

EXTERIOR ELEVATIONS
West
North
South
East

DERECTIONS  
STUDIO  
310.589.5093

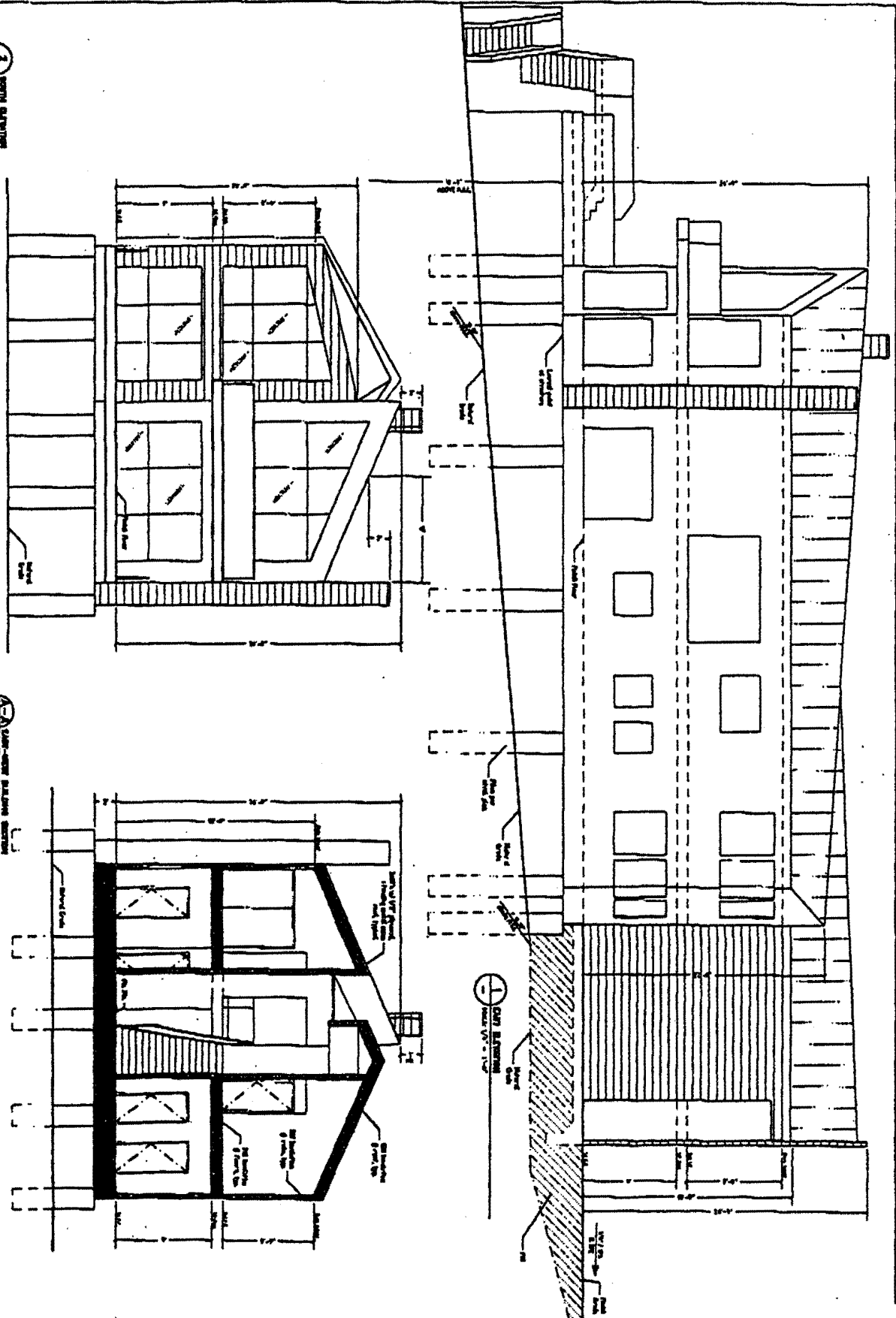
GREENE RESIDENCE  
31360 Broad Beach Road  
Malibu, CA 90265

EXHIBIT NO. 10
APPLICATION NO. Greene-Millenniumtldgs
4-99-086
Exterior Elevation

8-03-8

1 NORTH ELEVATION  
Scale 1/8" = 1'-0"

2 EAST ELEVATION  
Scale 1/8" = 1'-0"



A.5	
DATE	10/11/99
BY	10/11/99
REV	10/11/99
APP	10/11/99
CHK	10/11/99
DES	10/11/99
DRN	10/11/99
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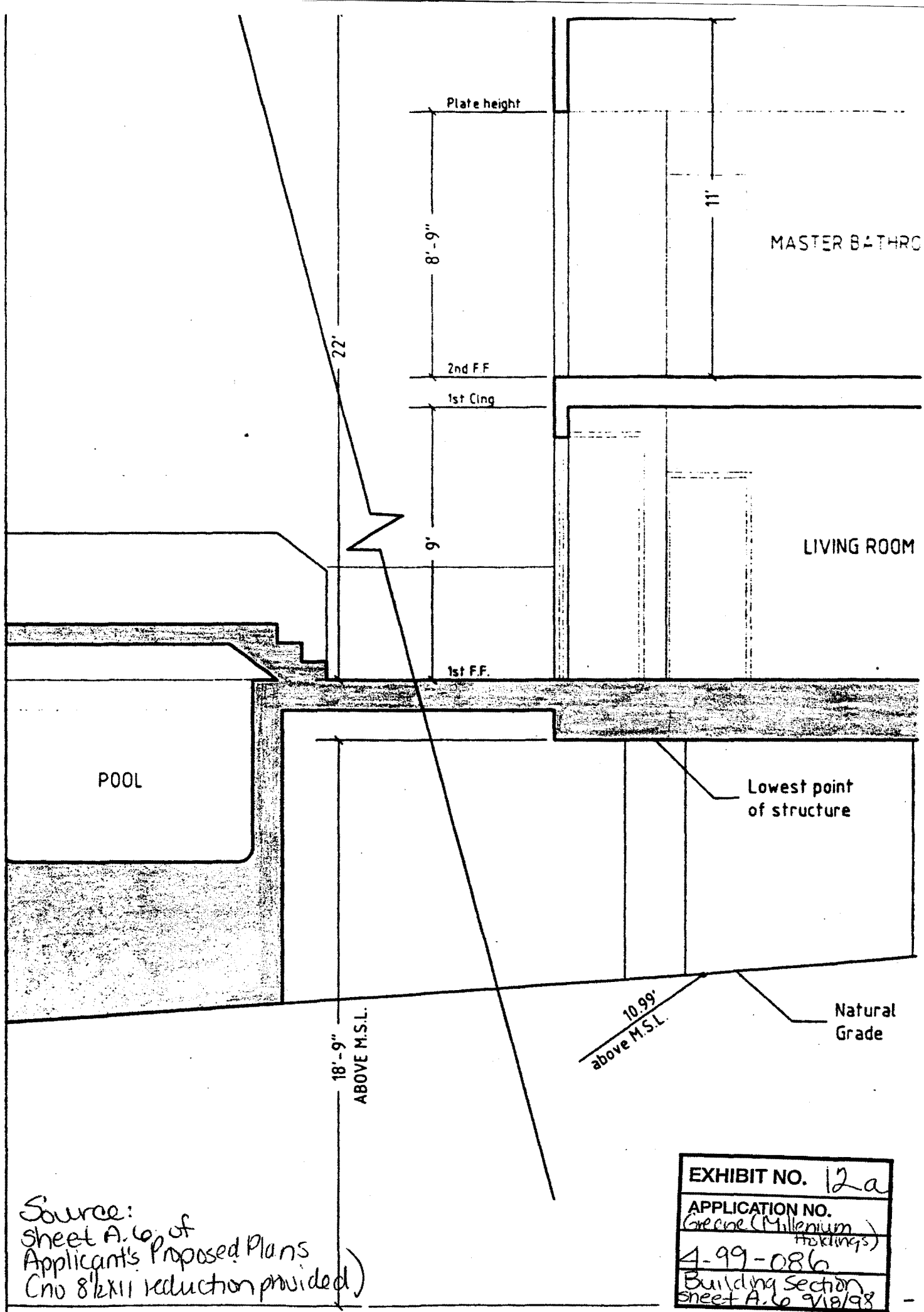
DERECTIONS  
STUDIO  
310.589.5093

GREENE RESIDEN  
31360 Broad Beach Road  
Malibu, CA 90265

EXHIBIT NO. 11
APPLICATION NO. Greene-Hullerum bldings
4-99-086
Exterior Elevations

6.10.99





Source:  
Sheet A.6 of  
Applicant's Proposed Plans  
(No 8 1/2 x 11 reduction provided)

EXHIBIT NO. 12a
APPLICATION NO. Greene (Millennium Holdings)
4-99-086
Building Section Sheet A.6 9/18/98

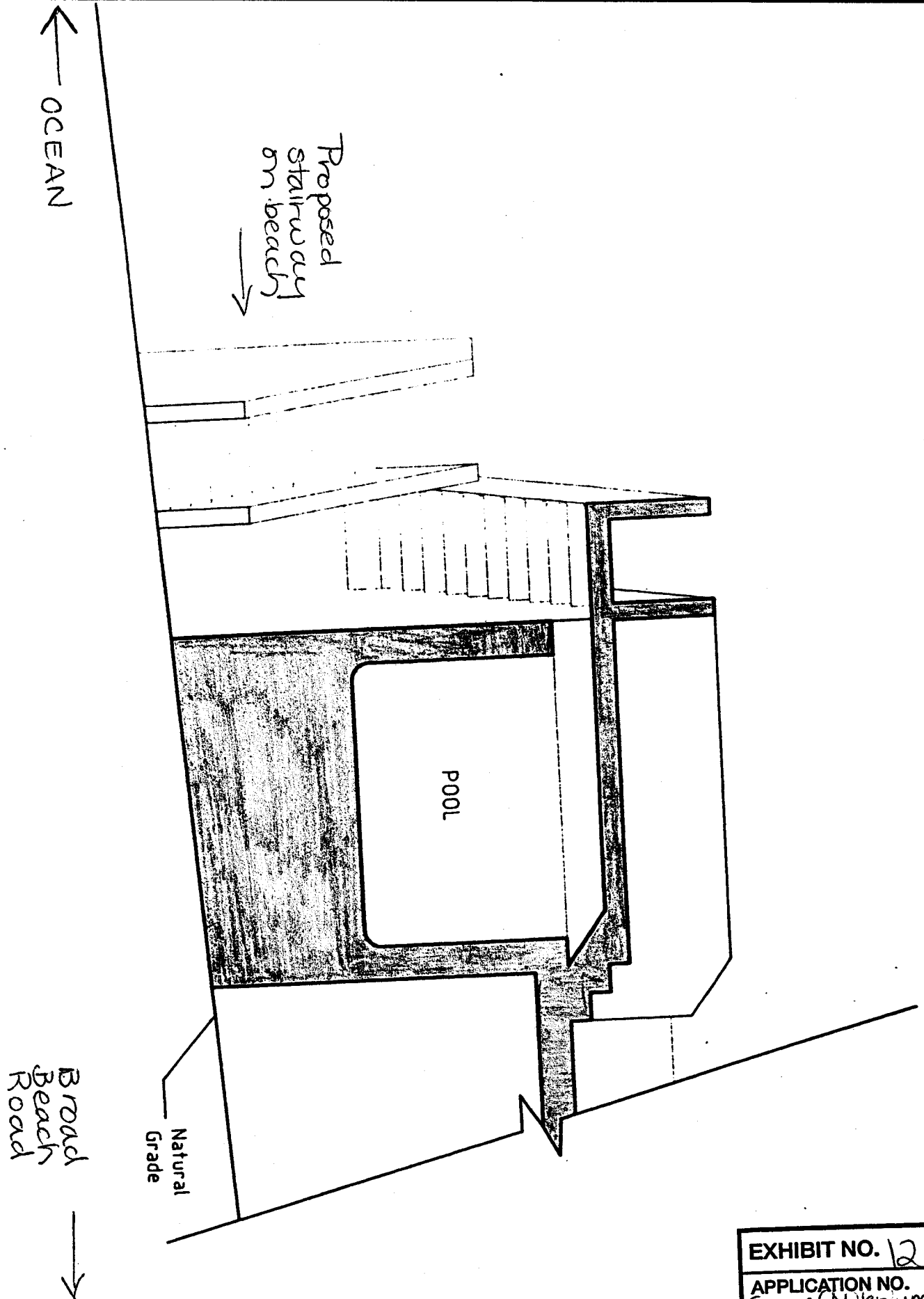


EXHIBIT NO. 12 b
APPLICATION NO. Greene (Millenium Holdings)
4-99-086
Building Section Sheet A-6 9/18/98

Source:  
Sheet A. 6 of  
Applicant's Proposed  
Plans (no reduction provided)

31360 BROAD BEACH RD.  
MALIBU, CA 90265

S.F.D.:	6 Bedroom (N)
SEPTIC TANK:	1500 Gallon (N)
ACTIVE:	1 - 15' X 30' Drainfield with 2' Extra Rock (N)
FUTURE:	100%
PERC RATE:	Sand Category

EXHIBIT NO. 13a
APPLICATION NO. Greene (Millennium)
4-99-086
septic system

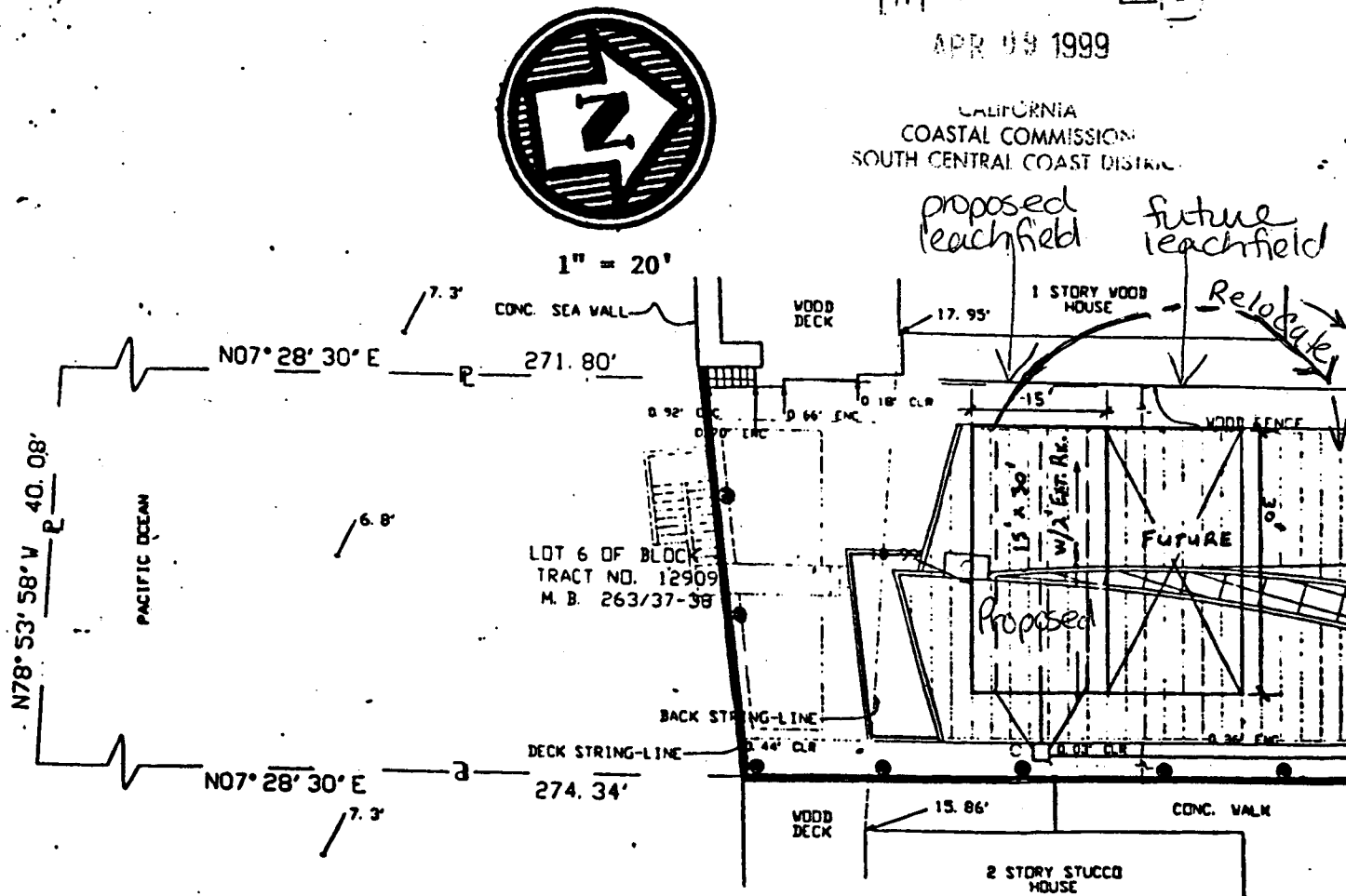
CITY OF MALIBU ENVIRONMENTAL HEALTH
IN-CONCEPT APPROVAL
SIGNATURE MAR 11 1999 L Young
FINAL APPROVAL IS REQUIRED PRIOR TO THE ISSUANCE OF ANY CONSTRUCTION PERMITS.

Continues of  
Exhibit 131

RECEIVED

APR 09 1999

CALIFORNIA  
COASTAL COMMISSION  
SOUTH CENTRAL COAST DISTRICT



## Septic System

3. This approval is valid for one year or until City of Malibu Uniform Plumbing Code and/or Administrative Policy changes render it noncomplying.

Continues on  
Exhibit 13a

