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CALIFORNIA COASTAL COMMISSION

4TH CENTRAL COAST AREA
SOUTH CALIFORNIA ST., SUITE 200
VENTURA, CA 93001
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Staff Report: 1/15/03
Hearing Date: 02/4-7/03
Commission Action:



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STAFF REPORT: REGULAR CALENDAR

APPLICATION NO.: 4-00-246

APPLICANT: Michael Flannery

AGENT: Don Schmitz

PROJECT LOCATION: 33256 Pacific Coast Highway, City of Malibu

PROJECT DESCRIPTION: Remodel an existing 3953 square foot single family residence (includes a 530 sq. ft. garage) and construct a 4,789 square foot addition with a 1,187 sq. ft. attached garage, new septic system, grasscrete driveway, concrete turnaround and parking area, after the-fact approval of a rock revetment and 1,365 cubic yards of grading (all cut). The 1,365 cubic yards of cut material will be exported to a landfill outside the coastal zone.

Lot area	48,872 sq. ft.
Building coverage	5,520 sq. ft.
Pavement coverage	11,280 sq. ft.
Landscape coverage	21,372 sq. ft.
Ht. Above Finished Grade	28 ft.
Parking spaces	4

LOCAL APPROVALS RECEIVED: City of Malibu Planning Department, Approval in Concept, November 14, 2000; City of Malibu Environmental Health, Approval in Concept, October 9, 2000; City of Malibu Geology and Geotechnical Engineering Review, Approval in Concept, November 6, 2000.

SUBSTANTIVE FILE DOCUMENTS: Certified Malibu Local Coastal Program; "Geologic and Geotechnical Engineering Investigation" by Gold Coast Geoservices, Inc., July 26, 2000; Response to Geologic Review Sheet for Planned Addition to the Residence, dated October 13, 2000", by Gold Coast Geoservices, Inc., October 20, 2000; "Engineering Geologic/Geotechnical Analysis of Rock Revetment" by Gold Coast Geoservices, Inc., April 23, 2001; "Engineering Geologic Analysis of Rock Revetment" by Gold Coast Geoservices, Inc., September 24, 2001; "Wave Uprush Study", by

Pacific Engineering Group, April 26, 2001; "Addendum Number 1 Wave Uprush Study for Existing Rock Revetment Conformance", by Pacific Engineering Group, June 17, 2002. Coastal Development Permit P-6-2-75-5442 (Flannery).

Staff Note

Due to Permit Streamlining Act Requirements the Commission must act on this permit application at the February 2003 Commission meeting.

Summary of Staff Recommendation

Staff recommends that the Commission take one vote adopting the following two-part resolution for the proposed project:

Part 1 - to approve the request for the remodel of the exiting residence, construction of a grasscrete driveway; concrete parking and turnaround area and an as-built rock revetment as conditioned below.

Part 2 - to deny the request for the construction of the proposed 4,789 square foot addition with a 1,187 sq. ft. attached garage, 1,365 cubic yards of grading and new septic system.

Staff is recommending approval of the proposed as-built rock revetment to protect the existing structure, remodel of the existing structure, new grasscrete driveway, concrete turnaround and parking area. These portions of the proposed development, as conditioned below, are in conformance with the development policies of the Malibu LCP. Staff is recommending the following special conditions to bring the project into conformance with the Malibu LCP: (1) conformance with the coastal engineering recommendations, (2) assumption of risk erosion control, (3) offer to dedicate lateral access, (4) construction responsibilities and debris removal (5) sign restriction, (6) landscape plan (7) erosion and drainage control plans, (8) deed restriction, (9) condition compliance.

Staff recommends denial of the proposed 4,789 square foot addition with a 1,187 sq. ft. attached garage, 1,365 cubic yards of grading and new septic system because the project does not conform with the bluff setback policies of the Malibu Local Coastal Program (LCP). The total square footage of the proposed residence is 9, 399 square feet. The existing residence is considered a "non-conforming" structure because it does not comply with the bluff setback policies of the Malibu LCP. The LCP specifies that additions that increase the size of the structure by 50 percent or more shall not be authorized unless the entire structure is brought into conformance with the policies and standards of the Malibu LCP. The LCP requires that blufftop development be setback a minimum of 100 feet from the edge of the bluff which may be reduced to 50 feet if the setback ensures the development will not be endangered by erosion for a projected 100 year economic life of the structure plus an added geologic stability factor of 1.5. In this case, the applicant is proposing an addition greater than 50 percent to a non-conforming structure on a bluff and is not proposing to bring the structure or new septic system into conformance with the bluff setback policies of the Malibu LCP. Therefore, staff is recommending denial of the proposed addition and new septic system.

I. STAFF RECOMMENDATION OF APPROVAL AND DENIAL IN PART

Staff recommends that the Commission adopt the following two-part resolution. The motion passes only by affirmative vote of a majority of the Commissioners present.

A. MOTION:

Staff recommends that the Commission adopt the staff recommendation, by adopting the two-part resolution set forth in the staff report.

B. RESOLUTION:

Part 1: Approval with Conditions of a Portion of the Development

The Commission hereby approves a coastal development permit for the portion of the proposed development consisting of a remodel of the existing residence; construction of a grasscrete driveway; concrete parking and turnaround area; and an as-built rock revetment and adopts the findings set forth below on the grounds that the development, as conditioned, will be in conformity with the Malibu Local Coastal Program. Approval of the permit complies with the California Environmental Quality Act because either 1) feasible mitigation measures and/or alternatives have been incorporated to substantially lessen any significant adverse effects of the development on the environment, or 2) there are no further feasible mitigation measures or alternatives that would substantially lessen any significant adverse impacts of the development on the environment.

Part 2: Denial of the Remainder of the Development

The Commission hereby denies a coastal development permit for the portion of the proposed development consisting of a 4,789 square foot addition to an existing single family residence with a 1,187 square foot attached garage and new septic system, on the grounds that the development will not be in conformity with the provisions of Malibu Local Coastal Program Coastal Program. Approval of the permit would not comply with the California Environmental Quality Act because there are feasible mitigation measures or alternatives that would substantially lessen the significant adverse impacts of the development on the environment.

II. Standard Conditions

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

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

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

III. Special Conditions

1. Plans Conforming to Coastal Engineering Consultants' Recommendations

All recommendations contained in the Wave Uprush Study dated April 26, 2002 prepared by Pacific Engineering Group shall be incorporated into all final design and construction of the Rock Revetment. Final plans must be reviewed and approved by the project's consulting coastal engineer. *Prior to issuance of the coastal development permit*, the applicant shall submit, for review and approval by the Executive Director, two sets of plans with evidence of the consultant's review and approval of all project plans.

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

2. Assumption of Risk/Shoreline Protection

By acceptance of this permit, the applicant acknowledges and agrees to the following:

1. The applicant acknowledges and agrees that the site may be subject to hazards from, storm waves, surges, erosion, landslide and flooding.
2. The applicant acknowledges and agrees to assume the risks to the applicant and the property that is the subject of this permit of injury and damage from such hazards in connection with this permitted development.
3. The applicant unconditionally waives any claim of damage or liability against the Commission, its officers, agents, and employees for injury or damage from such hazards.

4. The applicant agrees to indemnify and hold harmless the Commission, its officers, agents, and employees with respect to the Commission's approval of the project against any and all liability, claims, demands, damages, costs (including costs and fees incurred in defense of such claims), expenses, and amounts paid in settlement arising from any injury or damage due to such hazards.
5. No future repair or maintenance, enhancement, reinforcement, or any other activity affecting the shoreline protective device approved pursuant to Coastal Development Permit 4-00-246 shall be undertaken if such activity extends the seaward footprint of the subject shoreline protective device. By acceptance of this permit, the applicant hereby waives, on behalf of itself and all successors and assigns, any rights to such activity that may exist under Public Resources Code section 30235.

3. Offer to Dedicate Lateral Public Access

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 that may exist on the property. Such easement shall be located along the entire width of the property (Assessor's Parcel Nos. 4473-019-020 and 4473-019-021) from the ambulatory mean high tide line landward to the interface of the sand with the seaward face of the rock revetment, as illustrated on Exhibits 9 – 10.

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 and a map 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.

4. Construction Responsibilities and Debris Removal

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

5. Sign Restriction

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

6. Landscaping Plans

Prior to issuance of a coastal development permit, the applicants shall submit two sets of landscaping plans, prepared and stamped by a licensed landscape architect or a qualified resource specialist, for review and approval by the Executive Director. The landscaping shall be reviewed and approved by the geotechnical engineering and geologic consultant to ensure that the plans are in conformance with the consultant's recommendations. Areas disturbed by construction shall be landscaped or revegetated. The plans shall incorporate the following criteria:

A. *Plant Species*

1. Non-invasive ornamental plants and lawn may be permitted in combination with native, drought-tolerant species within the area adjacent to the proposed driveway, parking and turnaround area. Irrigated lawn, turf and ground cover shall be selected from the most drought tolerant species or subspecies, or varieties suited to the Mediterranean climate of the Santa Monica Mountains.

B. *Timing of Landscaping*

1. All areas disturbed by construction shall be stabilized with landscaping at the completion of construction.

7. Erosion Control, Drainage and Polluted Runoff Control Plans

Prior to the Issuance of the Coastal Development Permit, the applicant shall submit for the review and approval of the Executive Director; a) a **Local Storm Water Pollution Prevention (SWPPP) Plan** to control erosion and contain polluted runoff during the construction phase of the project; and b) a **Storm Water Management Plan (SWMP)** for the management of post-construction storm water and polluted runoff. The plans shall be certified by a California Registered Civil Engineer or Licensed Architect and approved by the City's Department of Public Works, and include the information and measures outlined below.

- a) **Local Storm Water Pollution Prevention Plan**, for the construction phase of the project shall include at a minimum the following:
 - Property limits, prior-to-grading contours, and details of terrain and area drainage

- Locations of any buildings or structures on the property where the work is to be performed and the location of any building or structures of adjacent owners that are within 15 ft of the property or that may be affected by the proposed grading operations
 - Locations and cross sections of all proposed temporary and permanent cut-and-fill slopes, retaining structures, buttresses, etc., that will result in an alteration to existing site topography (identify benches, surface/subsurface drainage, etc.)
 - Area (square feet) and volume (cubic yards) of all grading (identify cut, fill, import, export volumes separately), and the locations where sediment will be stockpiled or disposed
 - Elevation of finished contours to be achieved by the grading, proposed drainage channels, and related construction.
 - Details pertaining to the protection of existing vegetation from damage from construction equipment, for example: (a) grading areas should be minimized to protect vegetation; (b) areas with sensitive or endangered species should be demarcated and fenced off; and (c) native trees that are located close to the construction site should be protected by wrapping trunks with protective materials, avoiding placing fill of any type against the base of trunks, and avoiding an increase in soil depth at the feeding zone or drip line of the retained trees.
 - Information on potential flow paths where erosion may occur during construction
 - Proposed erosion and sediment prevention and control BMPs, both structural and non-structural, for implementation during construction, such as:
 - Stabilize disturbed areas with vegetation, mulch, geotextiles, or similar method.
 - Trap sediment on site using fiber rolls, silt fencing, sediment basin, or similar method.
 - Ensure vehicles on site are parked on areas free from mud; monitor site entrance for mud tracked off-site.
 - Prevent blowing dust from exposed soils.
 - Proposed BMPs to provide adequate sanitary and waste disposal facilities and prevent contamination of runoff by construction chemicals and materials, such as:
 - Control the storage, application and disposal of pesticides, petroleum and other construction and chemical materials.
 - Site washout areas more than fifty feet from a storm drain, open ditch or surface water and ensure that runoff flows from such activities do not enter receiving water bodies.
 - Provide sanitary facilities for construction workers.
 - Provide adequate disposal facilities for solid waste produced during construction and recycle where possible.
- b) **Storm Water Management Plan**, for the management of post construction storm water and polluted runoff shall at a minimum include the following:
- Site design and source control BMPs that will be implemented to minimize or prevent post-construction polluted runoff (see 17.5.1 of the Malibu LIP)
 - Drainage improvements (e.g., locations of diversions/conveyances for upstream

runoff)

- Potential flow paths where erosion may occur after construction
- Methods to accommodate onsite percolation, revegetation of disturbed portions of the site, address onsite and/or offsite impacts and construction of any necessary improvements
- Storm drainage improvement measures to mitigate any offsite/downstream negative impacts due the proposed development, including, but not limited to:
 - Mitigating increased runoff rate due to new impervious surfaces through on-site detention such that peak runoff rate after development does not exceed the peak runoff of the site before development for the 100 year clear flow storm event (note; Q/100 is calculated using the Caltrans Nomograph for converting to any frequency, from the Caltrans "Hydraulic Design and Procedures Manual"). The detention basin/facility is to be designed to provide attenuation and released in stages through orifices for 2-year, 10-year and 100-year flow rates, and the required storage volume of the basin/facility is to be based upon 1-inch of rainfall over the proposed impervious surfaces plus 1/2-inch of rainfall over the permeable surfaces. All on-site drainage devices, including pipe, channel, and/or street & gutter, shall be sized to cumulatively convey a 100 year clear flow storm event to the detention facility, or;
 - Demonstrating by submission of hydrology/hydraulic report by a California Registered Civil Engineer that determines entire downstream storm drain conveyance devices (from project site to the ocean outlet) are adequate for 25-year storm event, or;
 - Constructing necessary off-site storm drain improvements to satisfy b. above, or;
 - Other measures accomplishing the goal of mitigating all offsite/downstream impacts

8. Deed Restriction Condition

Prior to the issuance of the coastal development permit, the applicant shall submit to the Executive Director for review and approval documentation demonstrating that the applicant has executed and recorded against the parcel(s) governed by this permit a deed restriction, in a form and content acceptable to the Executive Director: (1) indicating that, pursuant to this permit, the California Coastal Commission has authorized development on the subject property, subject to terms and conditions that restrict the use and enjoyment of that property; and (2) imposing the Special Conditions of this permit as covenants, conditions and restrictions on the use and enjoyment of the Property. The deed restriction shall include a legal description of the entire parcel or parcels governed by this permit. The deed restriction shall also indicate that, in the event of an extinguishment or termination of the deed restriction for any reason, the terms and conditions of this permit shall continue to restrict the use and enjoyment of the subject property so long as either this permit or the development it authorizes, or any part, modification, or amendment thereof, remains in existence on or with respect to the subject property.

9. Condition Compliance

Within 120 days of Commission action on this coastal development permit application, or within such time as the Executive Director may grant for good cause, the applicant shall satisfy all requirements specified in the conditions hereto that the applicant is required to satisfy prior to issuance of this permit. Failure to comply with this requirement may result in the institution of enforcement action under the provisions of Chapter 9 of the Coastal Act.

IV. Findings and Declarations

The Commission hereby finds and declares:

A. Project Description and Background

The applicant is proposing to remodel an existing 3953 square foot single family residence (includes a 530 sq. ft. garage) and construct a new 4,789 square foot addition with a 1,187 sq. ft. attached garage, new septic system, grasscrete driveway, parking area, after the-fact approval of a rock revetment and 1,365 cubic yards of grading (all cut) (Exhibits 2-10). The 1,365 cubic yards of cut material will be exported to a landfill outside the coastal zone. The total square footage for the new residential structure including the new garage is 9,399 square feet.

The subject site consists of two bluff top parcels totaling 2.70 acres located on the seaward side Pacific Coast Highway (PCH) just west of Decker Canyon Road in the City of Malibu (Exhibit 1). Slopes on site gently descend to the south from PCH at a general gradient of 2-4% to a coastal bluff that descends steeply to the beach at a slope of 2-3:1. The site is not visible from PCH due to existing landscaping and fencing fronting the highway.

On August 18, 1975 the South Coast Regional Conservation Commission approved coastal development permit P-6-2-75-5442 for the construction of a 2 1/2 story, 25 foot high single family residence with septic system and attached enclosed handball court on the western lot of the subject site. The handball court was never constructed. The existing residence is located at the top of the coastal bluff and extends over the edge of the bluff onto the face of the bluff. The entire bluff face has been extensively landscaped to the edge of an unpermitted rock revetment. The existing septic tank is located on the bluff face adjacent to the residence and the septic leachfield is located at the base of the bluff just landward of the rock revetment. The rock revetment was constructed in response to erosion of the base of the bluff from storm waves sometime in the late 1970's or early 1980's. The erosion of the bluff threatened to damage the septic system located at the base of the bluff and the existing residence.

There are other unpermitted structures and development on the subject site including the following: (1) a tennis court; (2) storage structure at the base of the bluff adjacent to

the western property line of the western lot of the subject site; (3) a swimming pool adjacent to the existing residence; (4) a pool equipment structure on the bluff face; (5) a patio and barbeque area at the edge of the bluff extending across the western lot; and (6) a stairway down the bluff to the storage structure at the base of the bluff. These developments are not related to the developments of the subject permit application. The disposition of these violations and will be addressed by the Commission's enforcement unit.

On September 13, 2002, the Commission adopted the Malibu Local Coastal Program (LCP). The subject permit application was filed prior to the date the LCP was adopted and therefore remains under the jurisdiction of the Commission. Prior to the adoption of the LCP the standard of review for permit applications in Malibu were the chapter three policies Coastal Act. After the adoption of the LCP the standard of review for permit applications is the LCP.

B. Bluff/Shoreline Development and Hazards

The proposed development is located on a bluff top/ beach property along the Malibu coastline, an area that is generally considered to be subject to an unusually high amount of natural hazards. Geologic hazards common to the Malibu/Santa Monica Mountains area include landslides, erosion, and flooding. In addition, fire is an inherent threat to the indigenous chaparral community of the coastal mountains. Wild fires often denude hillsides in the Santa Monica Mountains of all existing vegetation, thereby contributing to an increased potential for erosion and landslides on property. Coastal bluffs, such as the one located on the subject site, are unique geomorphic features that are characteristically unstable. By nature, coastal bluffs are subject to erosion from sheet flow across the top of the bluff and from wave action at the base of the bluff. In addition, due to their geologic structure and soil composition, these bluffs are susceptible to surficial failure, especially with excessive water infiltration.

The Malibu Local Coastal Program (LCP) contains the following development policies related to hazards and blufftop/shoreline development that are applicable to the proposed development.

Sections 30235 and 30253 of the Coastal Act, which are incorporated as part of the Malibu LCP, state in pertinent part that new development shall:

Section 30235:

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

Section 30253 states in pertinent part::

New development shall:

- (1) Minimize risks to life and property in areas of high geologic, flood, and fire hazard.**
- (2) Assure stability and structural integrity, and neither create nor contribute significantly to erosion, 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.**

In addition, the following LCP policies are applicable in this case:

5.54 Existing, lawfully established structures built prior to the effective date of the Coastal Act that do not conform to the provisions of the LCP may be maintained, and repaired. Except as provided below, additions and improvements to such structures may be permitted provided that such additions or improvements themselves comply with the current policies and standards of the LCP. Substantial additions to non-conforming structures on a blufftop or on the beach are not permitted unless the entire structure is brought into conformance with the policies and standards of the LCP. Demolition and reconstruction that results in the demolition of more than 50 percent of the exterior walls of a non-conforming structure is not permitted unless the entire structure is brought into conformance with the policies and standards of the LCP. Non-conforming uses may not be increased or expanded into additional locations or structures.

13.5 Non-Conforming Use or Structures. (LIP)

- A. This section (13.5) shall apply to the following: (1) any existing and lawfully established or lawfully authorized use of land or to any existing and lawfully established or lawfully authorized buildings and other structures that do not conform to the policies and development standards of the certified LCP, or any subsequent amendments thereto and (2) development that is not exempt from the coastal development permit requirements pursuant to Section 13.4 of the Malibu LIP (Exemptions). Development that occurred after the effective date of the Coastal Act or its predecessor, the Coastal Zone Conservation Act, if applicable, that was not authorized in a coastal development permit or otherwise authorized under the Coastal Act, is not lawfully established or lawfully authorized development, is not subject to the provisions of Section 13.5, but is subject to the provisions of Section 13.3 (F) of the Malibu LIP.**
- B. Non-conforming uses as defined by 13.5(A) of the Malibu LIP shall not be intensified, or expanded into additional locations or structures.**
- C. Non-conforming structures as defined by 13.5(A) of the Malibu LIP may be repaired and maintained if it does not result in enlargement or expansion of the structure. However, demolition and/or reconstruction that results in replacement of more than 50 percent of non-conforming structures, including all demolition and/or reconstruction that was undertaken after certification of the LCP, is not permitted unless such structures are brought into conformance with the policies and standards of the LCP.**
- D. Additions and/or improvements to non-conforming structures may be authorized, provided that the additions and/or improvements themselves comply with the**

current policies and standards of the LCP, except as provided in Section 13.5 (F) of the Malibu LIP.

- E. For non-conforming structures located on a blufftop or on the beach that do not comply with the setbacks required for new development on a blufftop or beach, additions that increase the size of the structure by 50 percent or more, including all additions that were undertaken after certification of the LCP, shall not be authorized unless such structures are brought into conformance with the policies and standards of the LCP.*
 - F. If a nonconforming use or structure as defined by 13.5(A) of the Malibu LIP is damaged or destroyed by natural disaster, replacement shall be subject to provisions of 13.4.6 of the Malibu LIP (Structures Destroyed by Natural Disaster)*
 - G. If any non conforming use as defined by 13.5 (A) of the Malibu LIP is abandoned for a continuous period of not less than 6 months, any subsequent use of such land or the structure in which the use was located shall be in conformity with the regulations specified by the LCP for the district in which such land is located.*
- 3.1** *New development that requires a grading permit or Local SWPPP shall include landscaping and re-vegetation of graded or disturbed areas, consistent with Policy 3.50. Any landscaping that is required to control erosion shall use native or drought-tolerant non-invasive plants to minimize the need for fertilizer, pesticides, herbicides, and excessive irrigation. Where irrigation is necessary, efficient irrigation practices shall be required.*
- 4.2.** *All new development shall be sized, designed and sited to minimize risks to life and property from geologic, flood, and fire hazard.*
- 4.4.** *On ancient landslides, unstable slopes and other geologic hazard areas, new development shall only be permitted where an adequate factor of safety can be provided, consistent with the applicable provisions of Chapter 9 of the certified Local Implementation Plan.*
- 4.5.** *Applications for new development, where applicable, shall include a geologic/soils/geotechnical study that identifies any geologic hazards affecting the proposed project site, any necessary mitigation measures, and contains a statement that the project site is suitable for the proposed development and that the development will be safe from geologic hazard. Such reports shall be signed by a licensed Certified Engineering Geologist (CEG) or Geotechnical Engineer (GE) and subject to review and approval by the City Geologist.*
- 4.10.** *New development shall provide adequate drainage and erosion control facilities that convey site drainage in a non-erosive manner in order to minimize hazards resulting from increased runoff, erosion and other hydrologic impacts to streams.*
- 4.15.** *Existing, lawfully established structures, which do not conform to the provisions of the LCP, may be maintained and/or repaired provided that such repair and maintenance do not increase the extent of nonconformity of the structure. Except as provided below, additions and improvements to such structures may be permitted provided that such additions or improvements comply with the current standards and policies of the LCP and do not increase the extent of nonconformity of the structure. Substantial additions, demolition and reconstruction, that result in demolition and/or replacement of more than 50% of the exterior walls shall not be*

permitted unless such structures are brought into conformance with the policies and standards of the LCP.

- 4.16 All applications for new development on a beach, beachfront or blufftop property shall include a wave uprush and impact report and analysis prepared by a licensed civil engineer with expertise in coastal engineering which addresses and demonstrates the effects of said development in relation to the following:**
- *The profile of the beach;*
 - *Surveyed locations of mean high tide lines acceptable to the State Lands Commission;*
 - *The availability of public access to the beach;*
 - *The area of the project site subject to design wave uprush;*
 - *Foundation design requirements;*
 - *The need for a shoreline protection structure over the life of the project;*
 - *Alternatives for protection of the septic system;*
 - *The long term effects of proposed development on sand supply;*
 - *Future projections in sea level rise; and,*
 - *Project alternatives designed to avoid or minimize impacts to public access.*
- 4.22 Siting and design of new shoreline development and shoreline protective devices shall take into account anticipated future changes in sea level. In particular, an acceleration of the historic rate of sea level rise shall be considered. Development shall be set back a sufficient distance landward and elevated to a sufficient foundation height to eliminate or minimize to the maximum extent feasible hazards associated with anticipated sea level rise over the expected 100 year economic life of the structure.**
- 4.23 New development on a beach or oceanfront bluff shall be sited outside areas subject to hazards (beach or bluff erosion, inundation, wave uprush) at any time during the full projected 100-year economic life of the development. If complete avoidance of hazard areas is not feasible, all new beach or oceanfront bluff development shall be elevated above the base Flood Elevation (as defined by FEMA) and setback as far landward as possible. All development shall be setback a minimum of 10 feet landward of the most landward surveyed mean high tide line. Whichever setback method is most restrictive shall apply. Development plans shall consider hazards currently affecting the property as well as hazards that can be anticipated over the life of the structure.**
- 4.24 All proposed development on a beach or along the shoreline, including a shoreline protection structure, 1) must be reviewed and evaluated in writing by the State Lands Commission and 2) may not be permitted if the State Lands Commission determines that the proposed development is located on public tidelands or would adversely impact tidelands unless State Lands Commission approval is given in writing.**
- 4.26 Development on or near sandy beach or bluffs, including the construction of a shoreline protection device, shall include measures to insure that:**
- *No stockpiling of dirt or construction materials shall occur on the beach;*
 - *All grading shall be properly covered and sandbags and/or ditches shall be used to prevent runoff and siltation;*
 - *Measures to control erosion shall be implemented at the end of each day's work;*

- **No machinery shall be allowed in the intertidal zone at any time to the extent feasible;**
- **All construction debris shall be removed from the beach.**

4.27. All new development located on a blufftop shall be setback from the bluff edge a sufficient distance to ensure that it will not be endangered by erosion for a projected 100 year economic life of the structure plus an added geologic stability factor of 1.5. In no case shall the setback be less than 100 feet which may be reduced to 50 feet if recommended by the City geologist and the 100 year economic life with the geologic safety factor can be met. This requirement shall apply to the principle structure and accessory or ancillary structures such as guesthouses, pools, tennis courts, cabanas, and septic systems etc. Ancillary structures such as decks, patios and walkways that do not require structural foundations may extend into the setback area to a minimum distance of 15 feet from the bluff edge. Ancillary structures shall be removed or relocated landward when threatened by erosion. Slope stability analyses and erosion rate estimates shall be performed by a licensed Certified Engineering Geologist or Geotechnical Engineer.

4.28. In addition to the bluff edge setback requirements all swimming pools shall contain double wall construction with drains and leak detection systems.

4.29 No permanent structures shall be permitted on a bluff face, except for engineered stairways or accessways to provide public beach access. Such structures shall be constructed and designed to not contribute to further erosion of the bluff face and to be visually compatible with the surrounding area to the maximum extent feasible.

4.16 New development shall minimize risks to life and property from fire hazard through:

- **Assessing site-specific characteristics such as topography, slope, vegetation type, wind patterns etc.;**
- **Siting and designing development to avoid hazardous locations;**
- **Incorporation of fuel modification and brush clearance techniques in accordance with applicable fire safety requirements and carried out in a manner which reduces impacts to environmentally sensitive habitat to the maximum feasible extent;**
- **Use of appropriate building materials and design features to insure the minimum amount of required fuel modification;**
- **Use of fire-retardant, native plant species in landscaping.**

4.37 Shoreline and bluff protection structures shall not be permitted to protect new development, except when necessary to protect a new septic system and there is no feasible alternative that would allow residential development on the parcel. Septic systems shall be located as far landward as feasible. Shoreline and bluff protection structures may be permitted to protect existing structures that were legally constructed prior to the effective date of the Coastal Act, or that were permitted prior to certification of the LCP provided that the CDP did not contain a waiver of the right to a future shoreline or bluff protection structure and only when it can be demonstrated that said existing structures are at risk from identified hazards, that the proposed protective device is the least environmentally damaging alternative and is designed to eliminate or mitigate adverse impacts to local shoreline sand supply. Alternatives analysis shall include the relocation of existing development landward as well as the removal of portions of existing development. "Existing development" for purposes of this policy shall consist only of a principle structure, e.g. residential dwelling, required garage, or second residential unit, and shall not include accessory

or ancillary structures such as decks, patios, pools, tennis courts, cabanas, stairs, landscaping etc.

- 4.38 No shoreline protection structure shall be permitted for the sole purpose of protecting an ancillary or accessory structure. Such accessory structures shall be removed if it is determined that the structure is in danger from erosion, flooding or wave uprush or if the bluff edge encroaches to within 10 feet of the structure as a result of erosion, landslide or other form of bluff collapse. Accessory structures including, but not limited to, cabanas, patios, pools, stairs, landscaping features, and similar design elements shall be constructed and designed to be removed or relocated in the event of threat from erosion, bluff failure or wave hazards.
- 4.39 All shoreline protection structures shall be sited as far landward as feasible regardless of the location of protective devices on adjacent lots. In no circumstance shall a shoreline protection structure be permitted to be located further seaward than a stringline drawn between the nearest adjacent corners of protection structures on adjacent lots. A stringline shall be utilized only when such development is found to be infill and when it is demonstrated that locating the shoreline protection structure further landward is not feasible.
- 4.40 Where it is determined to be necessary to provide shoreline protection for an existing residential structure built at sand level a "vertical" seawall shall be the preferred means of protection. Rock revetments may be permitted to protect existing structures where they can be constructed entirely underneath raised foundations or where they are determined to be the preferred alternative.
- 4.42. As a condition of approval of development on a beach or shoreline which is subject to wave action, erosion, flooding, landslides, or other hazards associated with development on a beach or bluff, the property owner shall be required to execute and record a deed restriction which acknowledges and assumes said risks and waives any future claims of damage or liability against the permitting agency and agrees to indemnify the permitting agency against any liability, claims, damages or expenses arising from any injury or damage due to such hazards.
- 4.43 As a condition of approval of a shoreline protection structure, or repairs or additions to a shoreline protection structure, the property owner shall be required to acknowledge, by the recordation of a deed restriction, that no future repair or maintenance, enhancement, reinforcement, or any other activity affecting the shoreline protection structure which extends the seaward footprint of the subject structure shall be undertaken and that he/she expressly waives any right to such activities that may exist under Coastal Act Section 30235. The restrictions shall also acknowledge that the intended purpose of the subject structure is solely to protect existing structures located on the site, in their present condition and location, including the septic disposal system and that any future development on the subject site landward of the subject shoreline protection structure including changes to the foundation, major remodels, relocation or upgrade of the septic disposal system, or demolition and construction of a new structure shall be subject to a requirement that a new coastal development permit be obtained for the shoreline protection structure unless the City determines that such activities are minor in nature or otherwise do not affect the need for a shoreline protection structure.
- 4.49. Applications for new development, which require fuel modification, shall include a fuel modification plan for the project, prepared by a landscape architect or resource specialist that incorporates measures to minimize removal of native vegetation and to minimize impacts to ESHA, while providing for fire safety, consistent with the

requirements of the applicable fire safety regulations. Such plans shall be reviewed and approved by the Forestry Division.

6.29 *Cut and fill slopes and other areas disturbed by construction activities shall be landscaped or revegetated at the completion of grading. Landscape plans shall provide that:*

- *Plantings shall be of native, drought-tolerant plant species, and blend with the existing natural vegetation and natural habitats on the site, except as noted below.*
- *Invasive plant species that tend to supplant native species and natural habitats shall be prohibited.*
- *Non-invasive ornamental plants and lawn may be permitted in combination with native, drought-tolerant species within the irrigated zone(s) required for fuel modification nearest approved residential structures.*
- *Lawn shall not be located on any geologically sensitive area such as coastal blufftop.*
- *Landscaping or revegetation shall provide 90 percent coverage within five years. Landscaping or revegetation that is located within any required fuel modification thinning zone (Zone C, if required by the Los Angeles County Fire Department) shall provide 60 percent coverage within five years.*

Blufftop Development

The Malibu LCP policies require that new development minimize risk to life and property in areas of high geologic, flood and fire hazard and assure stability, structural integrity or in any way require the construction of protective devices that would substantially alter natural landforms along bluffs and cliffs. In addition, LCP requires that revetments, seawalls and cliff retaining walls shall be permitted when required to protect existing structures in danger from erosion when designed to eliminate or mitigate adverse impacts on local shoreline sand supply. Coastal bluffs are unique geomorphic features that are characteristically unstable. By nature, coastal bluffs are subject to erosion from sheet flow runoff from the top of the bluff and from wave action at the base of the bluff. The Commission has typically prohibited development directly on a bluff and has required that new development be set back from the edge of coastal bluffs. In addition, the Malibu LCP requires that development be setback from the bluff edge a sufficient distance to ensure that it will not be endangered by erosion for a projected 100 year economic life of the structure plus an added geologic stability factor of 1.5. The LCP further specifies that in no case shall the setback be less than 100 feet which may be reduced to 50 feet if recommended by the City Geologist and the 100 year economic life with the geologic safety factor can be met.

In this case the existing residence and septic system were in danger of damage from the erosion of the base of the bluff from wave action. As a result of this erosion the applicant constructed a rock revetment at the base of the bluff sometime in the late 1970s or early 1980's. The revetment was constructed without the benefit of a coastal development. The existing residence and septic system were approved on the bluff face at a time when there was a larger back beach area at the base of the bluff and when shoreline erosional processes were not as well understood as they are today.

Subsequent to the construction of the residence storm waves eroded the back beach area and threatened to undermine the septic system and destabilize the bluff where the residence is located. This situation clearly illustrates why adequate blufftop setbacks are necessary to insure the stability and safety of blufftop development and to ensure shoreline protective works will not be necessary to protect new blufftop development.

The Malibu LCP specifically prohibits substantial additions to non-conforming structures located on a blufftop. Malibu LUP policy 5.54 states in pertinent part that:

...Substantial additions to non-conforming structures on a blufftop or on the beach are not permitted unless the entire structure is brought into conformance with the policies and standards of the LCP...

In addition, Malibu LIP policy 13.5 (E) states:

"For non-conforming structures located on a blufftop or on the beach that do not comply with the setbacks required for new development on a blufftop or beach, additions that increase the size of the structure by 50 percent or more, including all additions that were undertaken after certification of the LCP, shall not be authorized unless such structures are brought into conformance with the policies and standards of the LCP.

In this case, the existing residential structure and septic system are considered to be a "non-conforming" because these structures do not comply with the LCP bluff setback requirements. The existing residence is located on the upper portion of the bluff face and the septic system is located on the face and at the base of the bluff. Policy 13.5 of the Malibu LIP requires that additions that increase the size of the structure by 50 percent or more shall not be authorized unless the entire structure is brought into conformance with the policies and standards of the LCP. For blufftop development Malibu LIP Policy 10.4(D) requires a minimum 100 foot development setback from the edge of the bluff which may be reduced to 50 feet if the setback ensures the development will not be endangered by erosion for a projected 100 year economic life of the structure plus an added geologic stability factor of 1.5.

The existing residential structure totals 3,953 sq. ft. including the attached garage. The proposed 5,446 sq. ft. addition (including the attached garage) will result in residential structure of 9,399 square feet. The proposed addition exceeds the 50 percent limitation on additions to non-conforming structures on a bluff top parcels as specified in the LCP. The maximum square footage that could be added to the existing non-conforming structure and not have to comply with the bluff setback policies of the LCP is 1,977 square feet including any attached garage space. In addition, the applicant is proposing to replace the existing septic tank located on the bluff face with a new septic tank in approximately the same location and utilize an existing leachfield located at the base of the bluff. The proposed upgrade to the septic system is considered a new septic system and therefore is required to comply with the development setbacks noted

above. In this case, in order to comply with the required bluff setback requirements the existing structure and septic system would have to be moved landward of the bluff face a minimum of 50 feet. However, given the existing structure is built into the bluff face it is not likely the existing structure could be moved. Therefore, in order to construct a residence of the size proposed the existing structure would have to be demolished and a new structure would have to be constructed landward consistent with the required bluff setbacks in the Malibu LCP. In addition, the proposed septic system would have to be relocated to comply with the required bluff setback requirements.

The applicant asserts that the proposed addition is in conformance with the LCP bluff setback policies. The applicant argues that the residence is completely landward of the existing residence and will not result in any adverse impacts to public access views or other coastal resources (Exhibit 11). In addition, the applicant maintains that there are no feasible alternatives to the proposed development that would avoid or substantially lessen impacts on public access and other resources because the proposed development is an addition to an existing residence, designed entirely landward of the existing residence.

The intent behind the "non-conforming" structure policies of the Malibu LCP is that as these non-conforming structures are either demolished and rebuilt or substantial additions are proposed for these structures (exceeding 50%) the structures are to be brought into conformance with the bluff setback and shoreline development policies of the LCP to eliminate or minimize adverse impacts to shoreline processes, bluff stability and sensitive shoreline and bluff habitats. In the long term, as properties are redeveloped in Malibu, non-conforming development would be removed from the shoreline and/or bluffs in Malibu and restored to a more natural condition. The elimination of these structures on the beach and bluffs in Malibu will eliminate the adverse impacts associated with these structures on shoreline processes, public access, bluff stability and shoreline and bluff habitats. In this case, if the residential structure and septic system were relocated to a more landward location there would be no need for a shoreline protective structure. The shoreline protective structure could be removed and the bluff restored to a more natural condition.

In this case, there are feasible alternative locations for additional residential footage on the site or smaller structural additions to the existing residential structure that would be consistent with the LCP and would not require the entire residence to be brought in to conformance with the LCP. For example, the applicant could propose an addition that is less than 50 percent of the existing square footage of the existing structure and relocate a new septic system landward of the bluff edge in conformance with the LCP setback requirements. Furthermore, the applicant could propose a detached residential structure and garage on the property in compliance with the Malibu LCP blufftop setback requirements. The LCP permits a detached second residential unit up to 900 square feet in size. In addition, another feasible alternative would be the demolition of the existing residence and construction of a new residence and septic system that is setback from the bluff edge in compliance with the bluff setback and other policies of

the Malibu LCP. Therefore, the Commission finds there are feasible alternatives in this case that would be consistent with the Malibu LCP.

The Commission finds that based on the findings cited above the proposed residential addition and new septic system are not consistent with the blufftop setback policies of the Malibu LCP.

The applicant is also proposing a new 20 foot wide "grasscrete" access driveway and concrete turnaround area on the landward side of the residence. Grasscrete is a permeable driveway design constructed on of base of concrete cells or a plastic geogrid material that is permeable and grass will grow between the spaces in the cells. The proposed driveway and turnaround area are setback approximately 50 feet from the edge of the bluff which is approximately located at the 62 foot topographic contour. The proposed driveway does not require any grading and according to the applicants geotechnical engineer indicates the driveway will not result in any adverse impacts to site stability. Therefore, the proposed driveway, turnaround and parking area are in conformance with the bluff setback policies of the Malibu LCP.

Shoreline Protective Structure

The proposed project includes approval of an as-built 203 ft. long, 17 ft. high, 30 foot wide rock revetment. The revetment ties into a recently approved and constructed rock revetment downcoast (CDP 4-01-176) and an older wood bulkhead/rock revetment upcoast. As previously stated the rock revetment was constructed in the late 1970's or early 1980's in response to storm wave erosion of the bluff which threatened to damage the septic system and undermine the residential structure. The as-built revetment was constructed as far landward against the base of the bluff as feasible.

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

1. Site Shoreline Characteristics

The proposed project site is located in the western portion of the City of Malibu, Los Angeles County. The beaches of western Malibu from the Ventura County line to Point Lechuza are characterized as a relatively narrow beach backed by a high bluff. This particular beach has some residential beachfront development and bluff top residential development. The Malibu/Los Angeles County Coastline Reconnaissance Study by the United States Army Corp of Engineers, dated April 1994, indicates that this section of beach is stable to slowly eroding. The applicant's consulting coastal engineer cites studies conducted by Moffat and Nichol Engineers indicating the subject beach was a stable to slightly accreting beach (0.0 ft./yr. To +2.0 ft./yr.) from 1938 to 1988. The consulting coastal engineer characterizes this beach an oscillating beach with a seasonal foreshore slope movement that can be as much as 80 feet. The consulting engineer states that:

The profiles and mean high tide lines conclude that the subject beach is presently a stable beach that oscillates seasonally between sandy summer profiles and winter profiles, with additional but temporary periodic storm scouring of the beach profile during extratropical storm events that are coincidental with high winter tides.

The sources of sediment for beaches backed by coastal bluffs, such as project site, are the eroding bluffs themselves, as well as eroded material from inland areas carried to the beach by small coastal streams. Narrow beaches backed by coastal bluffs experience seasonal and interannual changes similar to other sandy beach, however, unlike wide sandy beaches, bluff backed beaches do not have ample beach material to maintain a dry sandy beach during periods of high wave energy. As such, narrow bluff backed beaches often scour down to bedrock during winter months.

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

Many studies performed on both equilibrium and eroding beaches have concluded that loss of beach occurs on both types of beaches where a shoreline protective device exists. Based on the available evidence discussed in the previous section which concludes that this beach is a stable to eroding beach, the Commission finds that the subject beach is defined as a narrow beach experiencing a seasonal scour and rebuilding and that construction of a revetment on the beach results in a loss of sandy beach area and changes in the beach response to coastal forces. In order to determine the specific impacts of the proposed revetment on the shoreline the location of the proposed protective device in relation to the expected wave uprush, as calculated by the location of the mean high tide line and beach profile, must be analyzed.

a. Mean High Tide Line

The Coastal Engineering Report prepared by Pacific Engineering Group dated April 26, 2001 represents that the most landward known measurement of the ambulatory mean high tide line on the project site was located approximately 588 ft. seaward of the PCH right-of way line. A winter mean high tide line measured in November of 1999 was located 593 feet seaward of Pacific Coast Highway. The seaward most extension of the as-built revetment is located 520 ft. seaward of the PCH right-of-way line (approximately 68 ft. landward of most landward known mean high tide line). Based on the submitted information, the proposed revetment will be located landward of the most landward measured mean high tide line. However, this mean high tide line has not been verified by the State Lands Commission and the measurement represents only one yearly measurement which does not provide adequate information for a definitive determination of the current location of the mean high tide line at the site. The location of the mean high tide line at the site is ambulatory in nature and the as-built revetment, at times, will be subject to wave run-up.

b. Wave Uprush

Although the proposed revetment is located landward of the most landward measured mean high tide line, the Coastal Engineering Study prepared by Pacific Engineering Group, dated 4/26/01 indicates that the maximum wave uprush at the subject site will occur 466 feet seaward of Pacific Coast highway at elevation +18 feet mean sea level (MSL). The maximum wave uprush line assuming there is no revetment is located approximately 40 feet behind the face of the of the as-built revetment. The maximum wave uprush line with the as-built revetment occurs on the face of the revetment at elevation +13 MSL. The existing leach field for the existing septic system is located directly landward of the as-built rock revetment.

The Malibu LCP authorizes shoreline protective works to protect existing primary structures where it can be demonstrated that said existing structure is at risk from identified hazards, that the proposed protective structure is the least environmentally damaging alternative and is designed to mitigate adverse impacts to local sand supply. The applicant's consulting coastal engineer submitted an addendum to the Wave Uprush Study, dated June 17, 2002, in which he analyzed the risk of erosion of the bluff and potential damage to the to the existing residence and the existing septic system assuming there is no revetment. The engineer states:

Wave uprush during design storm wave events superimposed on a 10 year projected sea level rise due to global warming effects as required by the commission, would reach a location on the existing slope 40 feet landward of the face of the existing rock revetment. Such a wave uprush extent would erode the toe of the existing Terrace slope as projected on sheet BP1. Storm wave uprush would erode the terrace deposits that rest on the Topanga Formation Bedrock. Erosion of the Terrace deposits would be much greater than the erosion of the bedrock. Erosion of the toe of the terrace deposits to the wave uprush limit would

destabilize the terrace deposit portion of the slope leading to likely slope failure of the terrace deposits up-slope of the up-rush limit to a location that would "daylight" under the existing residence. This analysis was performed using a phi-angle of approximately 35 degrees (terrace material) from the terrace/bedrock contact exposed by wave action at the toe of the slope. Structural failure and possible collapse of the southern portion of the residence and the existing septic system would result. The net effect would be that slope movement of the terrace deposits would produce foundation failure of the residence, septic system failure at the tank, and also would likely cause a partial failure of the residence on the adjacent property at 33246 Pacific Coast Highway (Gerber). The slope failure produced would not simply stop at the east property line of the Flannery property. Slope failure on the Flannery property would likely continue on to the Gerber property under what has been referred to as the Gerber Mid-Way House at 33246 Pacific Coast Highway.

In addition, in two addendum letters to the Geologic and Geotechnical Engineering Report, dated 4/23/02 and 9/24/01 the applicants geologist, Gold Coast Geoservices, Inc. states:

The slope along the south side of the property has experienced excessive erosion and wave damage resulting from wave run-up during winter storms. The rock revetment at the toe of the slope serves to create necessary slope protection from storm wave run-up erosion, and also protects the existing septic leach field septic system that is located behind the revetment. The rock revetment is considered by this office to be a necessary protective measure to protect the hillside, the septic system, and the existing residence from future storm wave run-up.

Without a shoreline protective work the base of the bluff will be subject to erosion from wave action and will destabilize the residence and damage the existing septic system. In addition, the revetment is located as far landward as is feasible against the base of the bluff and it does tie into a recently permitted revetment to the east and an existing wood bulkhead/rock protective structure to the west.

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

3. Effects of the Shoreline Protective Device on the Beach

One of the main functions of a seawall or revetment is protection of the upland area – of the land or structures landward of the protection work. While they are often effective

in protecting the landward development, they do nothing to protect the beach seaward of the seawall and often can have adverse effects on the nearby beach area. Dr. Douglas Inman, renowned authority on Southern California beaches concludes that, "the likely detrimental effect of the seawall on the beach can usually be determined in advance by competent analysis." Dr. Inman further explains the importance of the seawall's design and location as it relates to predicting the degree of erosion that will be caused by the shoreline protection device. He states:

Seawalls usually caused accelerated erosion of the beaches fronting them and an increase in the transport rate of sand along them. While natural sand beaches respond to wave forces by changing their configuration into a form that dissipates the energy of the waves forming them, seawalls are rigid and fixed, and at best can only be designed for a single wave condition. Thus, seawalls introduce a disequilibrium that usually results in the reflection of wave energy and increased erosion seaward of the wall. The degree of erosion caused by the seawall is mostly a function of its reflectivity, which depends upon its design and location.¹

In past permit actions, the Commission has found that one of the most critical factors controlling the impact of a shoreline protective device on the beach is its position on the beach profile relative to the surf zone. All other things being equal, the further seaward the wall or revetment is, the more often and more vigorously waves interact with it. The best place for a seawall or revetment, if one is necessary, is at the back of the beach where it provides protection against the largest of storms. By contrast, a seawall constructed too near to the mean high tide line may constantly create problems related to frontal and end scour, as well as upcoast sand impoundment.

Ninety-four experts in the field of coastal geology signed the following succinct statement of the adverse effects of shoreline protective devices:

These structures are fixed in space and represent considerable effort and expense to construct and maintain. They are designed for as long a life as possible and hence are not easily moved or replaced. They become permanent fixtures in our coastal scenery but their performance is poor in protecting community and municipalities from beach retreat and destruction. Even more damaging is the fact that these shoreline defense structures frequently enhance erosion by reducing beach width, steepening offshore gradients, and increasing wave heights. As a result, they seriously degrade the environment and eventually help to destroy the areas they were designed to protect.²

The above 1981 statement signed by 94 respected coastal geologists indicates that sandy beach areas available for public use can be harmed through the introduction of

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

2 Ibid

seawalls. Thus, in evaluating an individual project, the Commission assumes that the principles reflected in that statement are applicable. To do otherwise would be inconsistent with the Commission's responsibilities under the Coastal Act to protect the public's interest in shoreline resources and to protect the public's access along the ocean and to the water.

The proposed project involves a shoreline structure that, as a result of wave interaction with the structure, will seasonally affect the configuration of the shoreline and the beach profile, which will have an adverse impact on the shoreline. Even though the precise impact of a structure on the beach is a persistent subject of debate within the discipline of coastal engineering, and particularly between coastal engineers and marine geologists, it is generally agreed that a shoreline protective device will affect the configuration of the shoreline and beach profile whether it is a vertical seawall or a rock revetment. In the case of a revetment wave refraction is reduced due to voids and surface roughness of the rocks but a revetment occupies more of the beach than a vertical wall. However, it has been well documented by coastal engineers and coastal geologists that shoreline protective devices or shoreline structures in the form of either a rock revetment or vertical seawall will adversely impact the shoreline as a result of beach scour, end scour (the beach areas at the end of the seawall), the retention of potential beach material behind the wall, the fixing of the back beach, and the interruption of longshore processes. In order to evaluate these potential impacts relative to the proposed structure, its design and location on the subject beach will be analyzed, and each of the identified effects on the beach will be evaluated below.

The impacts of shoreline protective structures are important relative to beach use for several reasons. The first reason involves public access. The subject property is located approximately ½ mile west of El Pescador State Beach and ½ mile east of Nicolas Canyon County Beach. This beach is accessible from these public beaches at low tides. Even minimal scouring in front of the revetment will translate into a loss of beach sand available through erosion than would otherwise occur under a normal winter season if the beach were unaltered. The second impact relates to the potential turbulent ocean condition that may be created. Scour at the face of a revetment will result in greater interaction with the wall and, thus, make the ocean along this beach more turbulent than it would be normally be along an unarmored beach area. Thus, the Commission has required that shoreline protection devices be located as far landward as possible, in order to reduce adverse effects from scour and erosion. In the case of this project, the Commission notes that the proposed revetment will be located as far landward as feasible in order to minimize adverse effects from scour and erosion.

a. **Beach Scour**

Scour is the removal of beach material from the base of a cliff, seawall or revetment due to wave action. The scouring of beaches caused by seawalls is a frequently-observed occurrence. When waves impact on a hard surface such as a coastal bluff, rock revetment, or vertical seawall, some of the energy from the wave will be absorbed,

but much of it will be reflected back seaward. This reflected wave energy in combination with the incoming wave energy, will disturb the material at the base of the seawall and cause erosion to occur in front and down coast of the hard structure. This phenomenon has been recognized for many years and the literature acknowledges that seawalls do affect the supply of beach sand.

The Coastal Engineering Study by Pacific Engineering group dated 4/26/01 indicates that the proposed seawall will be subject to wave action. In past permit actions, the Commission has found that shoreline protective devices which are subject to wave action tend to exacerbate or increase beach scour. This phenomenon has been recognized for many years. A 1976 report by the State Department of Boating and Waterways found that:

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.³

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.⁴

As stated previously, the beach at this location is slowly eroding to stable with seasonal oscillation. The applicant's coastal engineering consultant has indicated that the proposed revetment will be located seaward of the wave uprush and that seasonal foreshore slope movement can be as much as 80 ft. Therefore, the proposed revetment will be routinely acted upon by waves during storm conditions and the winter season. A seasonal eroded beach condition can be expected to occur with greater frequency due to the placement of the revetment on the subject site. Additionally, factors such as an increase in storm frequency or an increase in sea level rise will subject the proposed revetment to greater wave attack and exaggerate the seasonally eroded beach condition. With an increase in seasonal erosion, the subject beach will experience accelerated scour and also accrete at a slower rate. Therefore, the Commission finds that the proposed revetment, over time, will result in potential adverse effects to beach sand supply resulting in increased seasonal erosion of the beach and longer recovery periods.

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

⁴ Coastal Sediments '87.

b. End Effects

End scour effects involve changes to the beach profile adjacent to the shoreline protective device at either end. One of the more common end effects comes from the reflection of waves off of the shoreline protective device in such a way that they add to the wave energy which is impacting the unprotected coastal areas on either end. In addition, literature on coastal engineering repeatedly warns that unprotected properties adjacent to any shoreline protective device may experience increased erosion. Although it is difficult to quantify the exact loss of material due to end effects, as measurement of such losses on a parcel specific basis is rarely undertaken, Gerald G. Kuhn of the Scripps Institution of Oceanography concludes that erosion on properties adjacent to a rock seawall is intensified when wave runup is high.⁵

An extensive literature search on the interaction of seawalls and beaches was performed by Nicholas Kraus in which he found that seawalls will have effects on narrow beaches or beaches eroded by storm activity. His research indicated that the form of the erosional response to storms that occurs on beaches without seawalls that are adjacent to beaches with seawalls is manifested as more localized toe scour and end effects of flanking and impoundment at the seawall.⁶ Dr. Kraus' key conclusions were that seawalls could be accountable for retention of sediment, increased local erosion and increased end erosion. Kraus states:

At the present time, three mechanisms can be firmly identified by which seawalls may contribute to erosion at the coast. The most obvious is retention of sediment behind the wall which would otherwise be released to the littoral system. The second mechanism, which could increase local erosion on downdrift beaches, is for the updrift side of the wall to act as a groin and impound sand. This effect appears to be primarily theoretical rather than actualized in the field, as a wall would probably fail if isolated in the surf zone. The third mechanism is flanking i.e. increased local erosion at the ends of walls.

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

Results to date indicate that erosion at the ends of seawalls increases as the structure length increases. It was observed in both the experimental results and the field data of Walton and Sensabaugh (1978) that the depth of excess erosion is approximately 10% of the seawall length. The laboratory data also revealed that the

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

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

along-coast length of excess erosion at each end of the structure is approximately 70% of the structure length.⁷

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.⁸ This effect appears to extend for a distance of about 6/10 the length of the seawall and represents both a spatial and temporal loss of beach width directly attributable to seawall construction. These end effects would be expected only when the bulkhead was exposed to wave attack and, under equilibrium or accreting beach conditions, this scour will likely disappear eventually during post-storm recovery. End effect erosion may be minimized by locating a proposed shoreline protection device as landward as possible in order to reduce the frequency that the seawall is subject to wave action. In the case of this project, the proposed seawall will be located as landward as feasible in order to minimize adverse effects to shoreline sand supply from end effects.

c. Seawalls Fix the Location of the Backshore

It is generally agreed that where a beach is eroding, the erection of a seawall or revetment will eventually define the boundary between the sea and the upland. This result can be best explained as follows: on an eroding shoreline fronted by a beach, a beach will be present as long as some sand is supplied to the shoreline. As erosion proceeds the entire profile of the beach retreats. This process is halted, however, when the retreating shoreline reaches a shoreline protective structure. While the shoreline on either side of the shoreline protective structure continues to retreat, shoreline retreat in front of the seawall stops. Eventually, the shoreline in front of the shoreline protective structure protrudes into the water with the mean high tide line fixed at the base of the structure. In the case of an eroding shoreline this represents the loss of a beach as a direct result of the seawall.

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

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

8 "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.

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.⁹

Dr. Everts further concludes that armoring in the form of a shoreline protection device interrupts the natural process of beach retreat during a storm event and that, "a beach with a fixed landward boundary is not maintained on a recessional coast because the beach can no longer retreat."

The Commission has observed this phenomenon up and down California's coast where a shoreline protective device 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. Although this may occur slowly, the Commission concludes that it is the inevitable effect of constructing a seawall on an eroding beach. In such areas, even as erosion proceeds, a beach would be present in the absence of a seawall. As described previously, the subject beach oscillates seasonally and therefore, the effects of the proposed revetment could potentially have adverse impacts as the beach erodes further landward and the protective device prevents beach retreat and sand replenishment.

d. Retention of Potential Beach Material

A shoreline protective device's retention of potential beach material inherently impacts shoreline processes. One of the main functions of a seawall or revetment is upland stabilization -- to keep the upland sediments from being carried to the beach by wave action and bluff retreat. In the case of the subject beach the back of the beach is fixed at the base of the bluff by revetments and seawalls to protect residences and septic systems at the base of the bluff or on the bluff face. One of the main sources of sediment for beaches are the bluffs themselves, as well as the material that has eroded from inland sources and is carried to the beach by coastal streams. The National Academy of Sciences found that retention of material behind a shoreline protective device may be linked to increased loss of material in front of the wall. The net effect is documented in "Responding to Changes in Sea Level, Engineering Implications" which provides :

⁹ Letter Report dated March 14, 1994 to Coastal Commission staff member and engineer Lesley Ewing from Dr. Craig Everts, Moffatt and Nichol Engineers.

A common result of sea wall and bulkhead placement along the open coastline is the loss of the beach fronting the structure. This phenomenon, however, is not well understood. It appears that during a storm the volume of sand eroded at the base of a sea wall is nearly equivalent to the volume of upland erosion prevented by the sea wall. Thus, the offshore profile has a certain "demand" for sand and this is "satisfied" by erosion of the upland on a natural beach or as close as possible to the natural area of erosion on an armored shoreline...¹⁰

As explained, the revetment is necessary to protect the residence from being undermined by erosion of the bluff from wave action. However, the result of this protection is a loss of sediment on the sandy beach area that fronts the revetment. 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 revetment will have greater exposure to wave attack.

4. Sea Level Rise

Sea level has been rising slightly for many years. In the Santa Monica Bay area, the historic rate of sea level rise has been 1.8 mm/yr. or about 7 inches per century¹¹. Sea level rise is expected to increase by 8 to 12 inches in the 21st century.¹² There is a growing body of evidence that there has been a slight increase in global temperature and that an accelerated rate of sea level rise can be expected to accompany this increase in temperature. Mean water level affects shoreline erosion in several ways and an increase in the average sea level will exacerbate shoreline erosion.

On the California coast the effect of a rise in sea level will be the landward migration of the intersection of the ocean with the shore. On a relatively flat beach, with a slope of 40:1, every inch of sea level rise will result in a 40-inch landward movement of the ocean/beach interface. For fixed structures on the shoreline, such as single family residences, pilings, or seawalls, an increase in sea level will increase the extent and frequency of wave action and future inundation of the structure. More of the structure will be inundated or underwater than are inundated now and the portions of the structure that are now underwater part of the time will be underwater more frequently.

Accompanying this rise in sea level will be increased wave heights and wave energy. Along much of the California coast, ocean bottom depth controls nearshore wave heights, with bigger waves occurring in deeper water. Since wave energy increases with the square of the wave height, a small increase in wave height can cause a significant increase in wave energy and wave damage. So, combined with a physical

¹⁰ National Academy of Sciences, Responding to Changes in Sea Level: Engineering Implications, National Academy Press, Washington D.C., 1987, page 74.

¹¹ Lyles, S.D., L.E. Hickman and H.A. Debaugh (1988) Sea Level Variations for the United States 1855 – 1986. Rockville, MD: National Ocean Service.

¹² Field et. al., Union of Concerned Scientists and the Ecological Society of America (November 1999) Confronting Climate Change in California, www.ucsusa.org.

increase in water elevation, a small rise in sea level can expose previously protected back shore development to both inundation and wave attack, and those areas that are already exposed to wave attack will be exposed to more frequent wave attack with higher wave forces.

A second concern with global warming and sea level rise is that climatic changes could cause changes to storm patterns and wave climate for the entire coast. As water elevations change, the transformation of waves from deep water will be altered and points of energy convergence and divergence could shift. The new locations of energy convergence would become the new erosion "hot spots" while the divergence points may experience accretion or stability. It is highly likely that portions of the coast will experience more frequent storms and the historic "100-year storm" may occur every 10 to 25 years. For most of California the 1982/83 El Niño event has been considered the "100-year storm." Certain areas may be exposed to storms comparable to the 1982/83 El Niño storms every few decades. In an attempt to ensure stability under such conditions, the Commission has required that all new shoreline development be designed to withstand either a 100-year storm event, or a storm event comparable to the 1982/83 El Niño.

Therefore, if new development along the shoreline is to be found consistent with the Coastal Act, the most landward location must be explored to minimize wave attack with higher wave forces as the level of the sea rises over time. Shoreline protective devices must also be located as far landward as feasible to protect public access along the beach as discussed further below. In the case of this project, the proposed development will be located as landward as feasible and has been designed to withstand a storm event equivalent to the 1982-83 or 1988 storm event.

As discussed in detail above, adverse impacts on the beach caused by shoreline protective devices can be minimized by locating the protective structure as landward as possible, which reduces the frequency with which the structure is subject to wave action and, in turn, reduces scouring and erosion of the beach. The proposed revetment is located as far landward as possible. The applicant's coastal engineer addressed whether the as-built revetment could be moved further landward:

Given the characteristics (height and angle) of the existing slope, rebuilding the rock revetment landward would require the need to import additional filter rock, B-rock, and capstone. The re-built revetment would be higher and wider than the existing revetment. Such a rebuilt revetment would need to be higher to retain a higher slope, hence the need for more rock. It is the opinion of this office that the rock revetment as currently exists is at its optimal location.

Staff has also explored with the applicant's coastal engineer the alternative of a vertical seawall located at the base of the bluff. Although a vertical wall occupies less beach area than a revetment a vertical wall located against the base of the bluff on this beach

would have to be designed at a greater design height than a revetment to prevent overtopping of waves. This would create a very visible structure that would be more visual obtrusive than a revetment. In addition, in this case the proposed revetment is designed to be slightly notched into the base of the bluff which minimize encroachment onto the beach. Furthermore, the revetment transitions onto the bluff at a 2:1 angel which creates a more "natural" transition at the base of the bluff. Furthermore, this beach is currently oscillates seasonally and accumulates a significant amount of sand on the backshore in the late spring thru fall. The toe of the revetment is at the base scour level of the beach and will only be exposed only under the most severe storm or scour events. The majority of the revetment is buried under the sand a majority of the year. This revetment has been in place for approximately 20 years and during the period between late spring thru fall the majority of the revetment is usually buried. Finally, the other advantage to a revetment in this case is the Commission recently approved a revetment downcoast (4-00-176) and the proposed revetment can be more effectively integrated or tied into this revetment and the bulkhead/rock shoreline protective structure located upcoast. Therefore, in this case the Commission finds that the proposed revetment is the preferred shoreline protection alternative.

However, the Commission further notes that any future improvements to the proposed revetment that might result in the seaward extension of the shoreline protective device would increase the frequency with which the revetment is subject to wave action, and would result in increased beach erosion and adverse effects to shoreline sand supply and public access. In addition, Malibu LCP policy 4.43 requires that as a condition of approval for a shoreline protective device, the property owner shall be required to acknowledge, by recordation of a deed restriction, that no future repairs or maintenance, enhancement, or reinforcement, or any other activity affecting the shoreline protection structure which extends the seaward footprint of the subject structure shall be undertaken and that he/she expressly waives any such right to such activities that may exist under Coastal Act Section 30235. Therefore, to ensure that the proposed project does not result in new future adverse effects to the sandy beach and public access, **Special Condition 2** prohibits any future repair or maintenance, enhancement, reinforcement, or any other activity affecting the shoreline protective device approved pursuant to this permit if such activity extends the seaward footprint of the subject shoreline protective device.

The proposed shoreline protective device will be located as far landward as possible, thereby minimizing adverse impacts on the beach and public beach use than if the revetment were located further seaward. However, the Commission also notes that even though the proposed revetment will be located as landward as feasible, the seawall will be located in the wave uprush zone and therefore routinely subject to wave action during storm conditions and the winter season. Also, as detailed in the preceding discussion, the seasonal eroded beach condition can be expected to occur more frequently due to construction of the seawall on the site, an increase in storm frequency or an increase in sea level rise. An increased occurrence in seasonal erosion of the subject beach will exacerbate beach scour and erosion thereby altering the natural beach slope and reducing the amount of physical and transitory beach area available

for public use. Thus, though the location of the proposed seawall will minimize adverse impacts on the subject beach, the new seawall will nonetheless result in adverse impacts on the beach which are also expected to increase in severity in the future.

The Malibu LCP requires in Policy 2.64 that an offer to dedicate (OTD) an easement for lateral access shall be required for all new oceanfronting development causing or contributing adverse public access impacts. In addition, in past permit actions, the Commission has required that new development on a beach, including the construction of new shoreline protective devices, provide for lateral public access along the beach in order to mitigate adverse effects to public access from increased beach erosion and loss of beach area. As described previously, construction of the new revetment the site will alter the beach profile of this beach and will result in an individual and cumulative (in concert with other shoreline protective devices on the beach) loss of sand supply on the beach. The Commission finds, therefore, that a lateral public access easement located along the beach at the subject site will ensure public access to beach area existing seaward of the proposed revetment, and will thus mitigate for the loss of public beach area caused by construction of a new revetment on the site. As such, **Special Condition 3** requires the applicant to dedicate a lateral public access easement along the entire southern portion of the lot, as measured from the intersection of the sand of the sand with the seaward face of the revetment, prior to issuance of the coastal development permit. The intersection of the sand with the face of the revetment is ambulatory as the sand profile changes seasonally. The lateral public access easement accurately describes the ambulatory nature of the easement's width in relation to the mean high tide line and will be consistent with other lateral access easements which have been recorded on properties on this beach and the Malibu area.

Hazards

The Malibu LCP requires that new development be sited and designed to minimize risks to life and property from geologic, flood, and fire hazard. In addition, the LCP requires a geologic/soils/geotechnical study that identifies any geologic hazards affecting the proposed project site, any necessary mitigation measures, and contains a statement that the project site is suitable for the proposed development and that the development will be safe from geologic hazard.

The proposed project includes an after the fact request to approve a rock revetment. The applicant has submitted a Wave Uprush Study, dated April 26, 2001 and an addendum report, dated 6/17/02 that indicate the proposed revetment is necessary to protect the existing residential structure and septic system on the site. The report also include a number of recommendations related to stability of the shoreline protective structure. To ensure that the recommendations of the coastal engineer are incorporated into the revetment plans, **Special Condition No. 1** requires the applicant to submit project plans certified by the consulting coastal engineer as conforming to all recommendations outlined in his report, as well as any new or additional

recommendations by the consulting coastal to ensure structural stability of the revetment. Any substantial changes to the proposed development approved by the Commission which may be recommended by the consultants shall require an amendment to the permit or a new coastal permit.

In addition, the Commission notes that the Wave Uprush Study by the applicant's coastal engineer includes the following statement:

The owner should realize that there will always be certain risks associated with building or living on the beach and assume such risks. Further, the Engineer makes no warranty or guarantee that the structures outlined in this report will survive natural forces from any and all storm conditions. ...

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

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

The El Nino storms recorded in 1982-1983 caused high tides of over 7 feet, which were combined with storm waves of up to 15 feet. These storms caused over \$12.8 million to structures in Los Angeles County, many located in Malibu. The severity of the 1982-1983 El Nino storm events are often used to illustrate the extreme storm event potential of the California, and in particular, Malibu coast. The 1998 El Nino storms also resulted in widespread damage to residences, public facilities and infrastructure along the Malibu Coast.

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

the potential cost to the public, as well as the individual's right to use the subject property.

The Commission finds that due to the possibility of storm waves, surges, erosion, landslide, and flooding, the applicant shall assume these risks as conditions of approval. Because this risk of harm cannot be completely eliminated, the Commission requires the applicant to waive any claim of liability against the Commission for damage to life or property that may occur as a result of the permitted development. In addition, the Malibu LCP specifically requires that land owners of bluff and beachfront properties subject to wave action and erosion shall be required to execute and record a deed restriction which acknowledges and assumes said risks and waives any future claims of damage or liability against the permitting agency and agrees to indemnify the permitting agency against any liability, claims, damages or expenses arising from any injury or damage due to such hazards. The applicant's assumption of risk, as required by **Special Condition No. 2**, 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.

It should be noted that an assumption of risk restriction for hazardous geologic conditions and danger from wildfire is commonly required for new development throughout the greater Malibu/Santa Monica Mountains region in areas where there exist potentially hazardous geologic conditions, or where previous geologic activity has occurred either directly upon or adjacent to the site in question. The Commission has required such restrictions for other development throughout the Malibu/Santa Monica Mountains region.

The Commission also finds that the minimization of site erosion will add to the stability of the site. In addition, the Malibu LCP requires that graded and disturbed areas be revegetated to minimize erosion. Therefore, in order to ensure the stability and geotechnical safety of the site, **Special Condition No. 6** requires that all proposed disturbed areas on subject site are stabilized with native or non-invasive ornamental vegetation.

The project will increase the amount of impervious coverage on-site which may increase both the quantity and velocity of stormwater runoff. If not controlled and conveyed off-site in a non-erosive manner, this runoff may result in increased erosion, affect site stability, and impact downslope water quality. The applicant's geologic / geotechnical consultant has recommended that site drainage be collected and distributed in a non-erosive manner. In addition, the Malibu LCP policy 4.10 requires that "new development shall provide adequate drainage and erosion control facilities that convey site drainage in a non-erosive manner in order to minimize hazards resulting from increased runoff, erosion and other hydrologic impacts to streams". Therefore, to ensure that drainage is conveyed off site in a non-erosive manner, the Commission finds that it is necessary to require the applicant, as required by **Special Condition No. 7**, to submit drainage and polluted runoff management plans for the construction and post-construction

phases of development that are prepared by the consulting engineer. To ensure that the project's drainage structures will not contribute to further destabilization of the project site or surrounding area and that the project's drainage structures shall be repaired should the structures fail in the future, **Special Condition No. 7** also requires that the applicant agree to be responsible for any repairs or restoration of eroded areas should the drainage structures fail or result in erosion.

Finally, **Special Condition No. 8** requires the applicant to record a deed restriction that imposes the terms and conditions of this permit as restrictions on use and enjoyment of the property and provides any prospective purchaser of the site with recorded notice that the restrictions are imposed on the subject property.

Therefore, for the reasons discussed above, the Commission finds that the proposed project, as conditioned, is consistent with the applicable policies of the Malibu LCP.

Conclusion

The Malibu LCP requires that for non-conforming structures located on a blufftop that do not comply with the setbacks required for new development on a blufftop, additions that increase the size of the structure by 50 percent or more, including all additions that were undertaken after certification of the LCP, shall not be authorized unless such structures are brought into conformance with the policies and standards of the LCP. For blufftop development Malibu LUP Policy 4.27 requires a minimum 100 foot development setback from the edge of the bluff which may be reduced to 50 feet if the setback ensures the development will not be endangered by erosion for a projected 100 year economic life of the structure plus an added geologic stability factor of 1.5. The existing residential structure totals 3,953 sq. ft. including the attached garage. The proposed 5,446 sq. ft. addition (including the attached garage) will result in residential structure of 9,399 square feet. The proposed addition exceeds the 50 percent limitation on additions to non-conforming structures on a bluff top parcels as specified in the LCP. Therefore, the Commission finds that the proposed addition and new septic does not comply with the bluff setback policies of the Malibu LCP.

The Malibu LCP authorizes construction of a shoreline protective device only when: (1) (for new development) such development is consistent with the Commission's treatment of "infill development," and (2) the shoreline protective device is required to protect a septic system (no feasible alternatives exist), and (3) the shoreline protective device is located as landward as possible in order to minimize any adverse effects to shoreline sand supply and public access.

The Commission notes that the proposed rock revetment is necessary to protect existing development on the subject site. In addition, the proposed revetment has been sited as far landward against the base of the bluff as is feasible. Furthermore, as discussed above, a rock is the preferred alternative in this case given the physical characteristics of this beach. However, the Commission further finds that any future improvements to the proposed seawall that might result in the seaward extension of the

shoreline protective device would result in increased adverse effects to shoreline sand supply and public access. Therefore, to ensure that the proposed project does not result in new future adverse effects on the beach and to public access, **Special Condition 2** requires the applicant to record a deed restriction that would prohibit any future repair or maintenance, enhancement, reinforcement, or any other activity affecting the shoreline protective device approved if the activity extends the seaward footprint of the subject shoreline protective device.

In addition, the Malibu LCP requires that new development on a beach causing or contributing adverse public access impacts, including the construction of shoreline protection devices, provide for lateral public access along the beach in order to mitigate adverse effects on public access from increased beach erosion and loss of beach area available for public use. The Commission finds that construction of the revetment will result in adverse impacts on beach availability and public beach access for the reasons set forth above, and the proposed project will be consistent with the public access policies of the Coastal Act only if conditioned to mitigate the adverse impacts of the seawall on public beach use. As such, **Special Condition 3** requires the applicant to dedicate a lateral public access easement along the entire southern portion of the lot, as measured from the intersection of the sand with the seaward face of the revetment to the ambulatory mean high tide line, prior to the issuance of the coastal development permit. The lateral public access easement accurately describes the ambulatory nature of the easement's width in relation to the mean high tide line and will be consistent with other lateral access easements which have been recorded on properties along this beach.

The proposed revetment is located in an area subject to hazards from wave action and erosion and therefore the Commission finds it is necessary to require the applicant to assume the risk of such development on the beach as required by **Special Condition 2**. Finally, in order to ensure the proposed development does not result in erosion from the construction of the driveway and parking area which could destabilize the site or result in adverse impacts to coastal waters the Commission finds it is necessary to require the applicant submit a landscape plan and drainage plan, as required in **Special Conditions 7 and 8**.

For the reasons set forth above, the Commission finds that the proposed rock revetment, grasscrete driveway, and parking and turnaround area, as conditioned, is consistent with shoreline development and public access policies of the Malibu LCP.

C. Public Access

The Malibu Local Coastal Program (LCP) contains the following development policies related to public access to the shoreline.

Sections 30210, 30211, 30212(a), and 30220 of the Coastal Act, which are incorporated as part of the Malibu LCP, state in pertinent part that new development shall:

Section 30210 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 states:

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

Section 30212(a) provides that in new shoreline development projects, public access from the nearest public roadway 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.

In addition, the following LCP policies are applicable in this case:

- 2.63** *Consistent with the policies below, maximum public access from the nearest public roadway to the shoreline and along the shoreline shall be provided in new development. Exceptions may occur only 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. Such access can be lateral and/or vertical. Lateral access is defined as an accessway that provides for public access and use along the shoreline. Vertical access is defined as an accessway which extends to the shoreline, or perpendicular to the shoreline in order to provide access from the first public road to the shoreline.*
- 2.64** *An Offer to Dedicate (OTD) an easement for lateral public access shall be required for all new oceanfronting development causing or contributing to adverse public access impacts. Such easement shall extend from the mean high tide line landward to a point fixed at the most seaward extent of development i.e. intersection of sand with toe of revetment, vertical face of seawall, dripline of deck, or toe of bluff.*
- 2.73** *Maximum public access shall be provided in a manner which minimizes conflicts with adjacent uses.*

2.81 No signs shall be posted on a beachfront property or on public beach unless authorized by a coastal development permit. Signs which purport to identify the boundary between State tidelands and private property or which indicate that public access to State tidelands or public lateral access easement areas is restricted shall not be permitted.

Coastal Act sections 30210 and 30211, as incorporated in the Malibu LCP, reference mandate that maximum public access and recreational opportunities be provided, including use of dry sand and rocky coastal beaches, and that development not interfere with the public's right to access the coast. Likewise, section 30212 of the Coastal Act, as incorporated in the Malibu LCP, requires that adequate public access to the sea be provided except where it would be inconsistent with public safety, military security needs, protection of fragile coastal resources and agriculture, or where adequate access exists nearby.

All projects requiring a coastal development permit must be reviewed for compliance with the public access and recreation provisions of the Malibu LCP. Based on these policies the Commission has required public access to and along the shoreline in new development and has required design changes in other projects on the coast to reduce interference with access to and along the shoreline.

The major access issue in this permit application is the potential adverse impacts of the proposed shoreline protection device on coastal processes, shoreline sand supply, and public access in contradiction of Malibu LCP public access policies. The proposed project site is located ½ mile west of El Pescador State Beach and ½ mile east of Nicholas County Beach. The beach fronting the site accessible from these public beaches at low tides.

The State owns tidelands, which are those lands located seaward of 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 relative 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 in which the profile changes as a result of wave action, the location at which the elevation of the mean high tide line intersects the shore is subject to change. The result is that the mean high tide line (and therefore the boundary) is an "ambulatory" or moving line that moves seaward through the process known as accretion and landward through the process known as erosion.

Consequently, the position of the mean high tide line fluctuates seasonally as high wave energy (usually but not necessarily) in the winter months causes the mean high tide line to move landward through erosion, and as milder wave conditions (generally associated with the summer) cause the mean high tide line to move seaward through accretion. In addition to ordinary seasonal changes, the location of the mean high tide line is affected by long term changes such as sea level rise and diminution of sand supply.

The Commission must consider a project's direct and indirect effect on public tidelands. To protect public tidelands when beachfront development is proposed, the Commission must consider (1) whether the development or some portion of it will encroach on public tidelands (i.e., will the development be located below the mean high tide line as it may exist at some point throughout the year) and (2) if not located on tidelands, whether the development will indirectly affect tidelands by causing physical impacts to tidelands. In the case of the proposed revetment, the State Lands Commission presently does not assert a claim that the project intrudes onto sovereign lands. However, structures currently located above the mean high tide line may have an adverse effect on shoreline processes as wave energy reflected by those structures contributes to erosion and steepening of the shore profile, and ultimately to the extent and availability of tidelands. That is why the Commission also must consider whether the project will have indirect effects on public ownership and public use of shorelands. As discussed in detail in Section B. Shoreline Protective Devices, there is substantial evidence indicating that the proposed revetment will be subject to wave action which will result in adverse impacts on the shoreline processes and sand supply that maintain the beach at the subject site. Therefore the proposed revetment will have both an individual and, combined with the existing shoreline protective devices, cumulative adverse impact on public use of tidelands.

Public use rights of the beach 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 shoreline structures are of concern.

The proposed project involves construction of a 203 ft. long rock revetment that will have a number of adverse effects on the dynamic shoreline and the public's beach ownership interests. As described in detail above, the proposed shoreline protective device will individually and cumulatively affect public access by causing accelerated and increased erosion on the adjacent public beach. Adverse impacts resulting from shoreline protective devices may not become clear until such devices are constructed

individually along a shoreline and they eventually affect the profile of an entire beach. Changes in the shoreline profile, particularly changes in the slope of the profile, caused by increased beach scour, erosion and a reduced beach width, alters usable beach 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 physical area of public property available for public beach use. Additionally, through the progressive loss of sand caused by increased scour and erosion, shore material is no longer available to nourish the beach and seasonal beach accretion occurs at a much slower rate. As the natural process of beach accretion slows the beach fails to establish a sufficient beach width, which normally functions as a buffer area absorbing wave energy. The lack of an effective beach width can allow such high wave energy on the shoreline that beach material may be further eroded by wave action and lost far offshore where it is no longer available to nourish the beach. The effect of this on public access along the beach is again a loss of beach area between the mean high water line and the actual water. Furthermore, if not sited landward in a location that insures that the seawall is only acted upon during severe storm events, the seawall will experience frequent wave interaction and cause accelerated beach scour during the winter season when there is less beach area to dissipate wave energy.

Shoreline protective devices also directly interfere with public access to tidelands by impeding the ambulatory nature of the mean high tide line (the boundary between public and private lands) during high tide and severe storm events, and potentially throughout the entire winter season. The impact of a shoreline protective device on public access is most evident on a narrow and eroding beach where wave run-up and the mean high tide line are more frequently observed in an extreme landward position during storm events and the winter season. As the shoreline retreats landward due to the natural process of erosion, the boundary between public and private land also retreats landward. Construction of rock revetments and seawalls to protect private property fixes a boundary on the beach and prevents any current or future migration of the shoreline and mean high tide line landward. As the landward location of the high water mark is fixed by the presence of a shoreline protective device the low water mark continues to retreat landward, thus fixing a point on the shoreline where both tide lines intersect the beach, thereby eliminating the distance between the high water mark and low water mark and in effect eliminating accessible tidelands. As the distance between the high water mark and low water mark becomes obsolete the seawall effectively eliminates lateral access opportunities along the beach as the entire area below the fixed high tide line is inundated. Eventually the tide line migrates inland to point at which tidelands are no longer effectively usable during portions of the year. The ultimate result of a fixed shoreline and tide line, which would normally migrate and retreat landward while maintaining a passable distance between the high water mark and low water mark overtime, is a reallocation of tideland ownership from the public to the private property owner.

As described in detail in the proceeding sections, though the proposed revetment is located so as to minimize adverse impacts on shoreline processes and public access,

the Commission finds that the proposed seawall will result in an adverse impact on shoreline processes and existing rights to access tidelands. The Commission further finds that the adverse impacts on existing rights to access public tidelands can not be eliminated, and therefore, the Commission requires mitigation for the loss public access opportunities to tidelands at the site. In addition, the Malibu LCP policy 2.64 requires an offer to dedicate a lateral access easement for all new oceanfronting development causing or contributing adverse public access impacts. As such, **Special Condition 3** requires the applicant to provide a lateral public access easement along the entire length of the southern portion of the lot, as measured from the interface of the sand with the seaward face of the revetment to the ambulatory mean high tide line. The lateral public access easement accurately describes the ambulatory nature of the easement's width in relation to the mean high tide line and will be consistent with other lateral access easements which have been required by the Commission in past permit actions. Implementation of **Special Condition 3** will afford the public additional rights to access the beach at the subject site above the mean high tide line, but within the easement parameters as described in the language of **Special Condition 3**, to mitigate for the loss of the public's right to access tidelands during portions of the year.

The Commission must also consider whether a project affects any public right to use shorelands that exist independently of the public's ownership of tidelands. In addition to a new development's effects on tidelands and on public rights 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.

In the case of the proposed project, the State Lands Commission presently does not assert claims that the project would extend into an area that is subject to the public trust easement in navigable waters. Additionally, the extent of historic public use of the subject beach has not been established, therefore, staff currently has no substantiating evidence that the public has use rights acquired under the doctrine of implied dedication. It should be noted, however, that this stretch of beach has some degree of historic public use by both members of the public who do not live in the area, as well as local residents. The public readily has access to this section of beach via the State and County beaches located $\frac{1}{2}$ mile to the west and $\frac{1}{2}$ mile to the east. Other lateral access easements also exist along this section of shoreline.

The beaches of Malibu are extensively used by both local and non-local visitors. Most planning and demographic studies indicate that attendance of recreational sites in Southern California 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 public access rights by assuring that any proposed shoreline development does not interfere with those rights. In the case of the proposed project, there is a potential for the permanent loss of sandy beach used by the public as a result of a change in the beach profile, or steepening of the beach, from scour effects and erosion caused by construction of the revetment at the site.

In past permit actions, the Commission has required that new shoreline protection devices be located as landward as possible to reduce the identified adverse impacts to shoreline processes, sand supply and public access described above. In the case of this project, the new revetment will be located as far landward as possible thus reducing the impacts of the wall. However, this section of beach is a stable beach that oscillates as much a 80 feet seasonally and the revetment will be subject to inevitable seasonal wave action. Therefore, despite the most landward feasible setback of the proposed revetment, adverse impacts on coastal resources and public access along the subject beach will nevertheless be caused by the proposed revetment.

In addition to the adverse impacts of the proposed seawall which can not be totally avoided given it's location in an area subject to wave action, any future improvements to the proposed seawall that might result in the seaward extension of the shoreline protection device, thereby subjecting the wall to increased wave action, would result in increased adverse effects to coastal processes, shoreline sand supply and public beach access. Therefore, to ensure that the proposed project does not result in new future adverse effects on public access, **Special Condition 2** requires the applicant to record a deed restriction that would prohibit any future repair or maintenance, enhancement, reinforcement, or any other activity affecting the shoreline protective device if such activity extends the seaward footprint of the subject shoreline protective device.

Finally, in past permit actions, the Commission has required that development on a beach, including the construction of shoreline protection devices, provide for lateral public access along the beach in order to mitigate the adverse effects of the protective device resulting in loss of beach area available for public use. The Commission finds that construction of the revetment will result in adverse impacts on public beach access for the reasons discussed above, and the proposed project will be consistent with the public access policies of the Coastal Act only if the project is conditioned to mitigate the unavoidable adverse impacts of the seawall on beach area available for public use. As such, **Special Condition 3** requires the applicant to provide a lateral public access easement along the entire southern portion of the lot, as measured from the intersection of the sand with the seaward face of the revetment to the ambulatory mean high tideline. The lateral public access easement accurately describes the ambulatory nature of the easement's width in relation to the mean high tide line and will be consistent with other lateral access easements which have been recorded on properties along this beach and the Malibu area.

Many homes and properties in Malibu post signage which indicates that at least a portion of the beach is "private". A majority of the signs indicate that the subject beach is private property up to the mean high tide line, which the signs then define a certain distance from the structure to the sea. No legal verification of the accuracy of the signs is available. Chronic unauthorized postings of signs illegally attempting to limit, or erroneously noticing restrictions on, public access have occurred on many beachfront private properties in the Malibu area. These signs have an adverse effect on the ability of the public to access public trust lands as well as existing lateral access easements. In addition, Policy 2.81 of the Malibu LCP prohibits signs on beachfront properties unless authorized by a coastal development permit. The Commission has determined, therefore, that to ensure that applicants clearly understand that such postings are not permitted without a separate coastal development permit, it is necessary to impose **Special Condition 5** to ensure that similar signs are not posted on or near the proposed project site. The Commission finds that when implemented, **Special Condition 5** will protect the public's right of access to the sandy beach below the mean high tide line, as well as access to several lateral access easements recorded along the beach.

For the reasons discussed above, the Commission finds that as conditioned, the proposed project is consistent with the Public Access Policies of the Malibu LCP.

D. WATER QUALITY

The Malibu LCP provides for the protection of water quality. The policies require that new development protects, and where feasible, enhances and restores wetlands, streams, and groundwater recharge areas. The policies promote the elimination of pollutant discharge, including nonpoint source pollution, into the City's waters through new construction and development regulation, including site planning, environmental review and mitigation, and project and permit conditions of approval. Additionally, the policies require the implementation of Best Management Practices to limit water quality impacts from existing development.,

Section 30251 of the Coastal Act, which is incorporated as a policy of the Malibu LCP, states that:

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

In addition, the following water quality LCP policies are applicable in this case:

3.119 New development shall be sited and designed to protect water quality and minimize impacts to coastal waters by incorporating measures designed to ensure the following:

- **Protecting areas that provide important water quality benefits, areas necessary to maintain riparian and aquatic biota and/or that are susceptible to erosion and sediment loss.**
- **Limiting increases of impervious surfaces.**
- **Limiting land disturbance activities such as clearing and grading, and cut-and-fill to reduce erosion and sediment loss.**
- **Limiting disturbance of natural drainage features and vegetation.**

3.120 New development shall not result in the degradation of the water quality of groundwater basins or coastal surface waters including the ocean, coastal streams, or wetlands. Urban runoff pollutants shall not be discharged or deposited such that they adversely impact groundwater, the ocean, coastal streams, or wetlands, consistent with the requirements of the Los Angeles Regional Quality Control Board's municipal stormwater permit and the California Ocean Plan.

3.121 Development must be designed to minimize, to the maximum extent feasible, the introduction of pollutants of concern¹³ that may result in significant impacts from site runoff from impervious areas. To meet the requirement to minimize "pollutants of concern," new development shall incorporate a Best Management Practice (BMP) or a combination of BMPs best suited to reduce pollutant loading to the maximum extent feasible.

3.99 Post-development peak stormwater runoff discharge rates shall not exceed the estimated pre-development rate. Dry weather runoff from new development must not exceed the pre-development baseline flow rate to receiving water bodies.

3.100 New development shall be sited and designed to minimize impacts to water quality from increased runoff volumes and nonpoint source pollution. All new development shall meet the requirements of the Los Angeles Regional Water Quality Control Board (RWQCB) in its the Standard Urban Storm Water Mitigation Plan For Los Angeles County And Cities In Los Angeles County (March 2000) (LA SUSMP) or subsequent versions of this plan.

3.102 Post-construction structural BMPs (or suites of BMPs) should be designed to treat, infiltrate, or filter the amount of stormwater runoff produced by all storms up to and including the 85th percentile, 24-hour storm event for volume-based BMPs and/or the 85th percentile, 1-hour storm event (with an appropriate safety factor, i.e. 2 or greater) for flow-based BMPs. This standard shall be consistent with the most recent Los Angeles Regional Water Quality Control Board municipal stormwater permit for the Malibu region or the most recent California Coastal Commission Plan for Controlling Polluted Runoff, whichever is more stringent.

3.110 New development shall include construction phase erosion control and polluted runoff control plans. These plans shall specify BMPs that will be implemented to minimize erosion and sedimentation, provide adequate sanitary and waste disposal

¹³ Pollutants of concern are defined in the Standard Urban Storm Water Mitigation Plan For Los Angeles County And Cities In Los Angeles County as consisting " of any pollutants that exhibit one or more of the following characteristics: current loadings or historic deposits of the pollutant are impacting the beneficial uses of a receiving water , elevated levels of the pollutant are found in sediments of a receiving water and/or have the potential to bioaccumulate in organisms therein, or the detectable inputs of the pollutant are at a concentrations or loads considered potentially toxic to humans and/or flora or fauna".

facilities and prevent contamination of runoff by construction chemicals and materials.

- 3.111 New development shall include post-development phase drainage and polluted runoff control plans. These plans shall specify site design, source control and treatment control BMPs that will be implemented to minimize post-construction polluted runoff, and shall include the monitoring and maintenance plans for these BMPs.
- 3.115 Permits for new development shall be conditioned to require ongoing maintenance where maintenance is necessary for effective operation of required BMPs. Verification of maintenance shall include the permittee's signed statement accepting responsibility for all structural and treatment control BMP maintenance until such time as the property is transferred and another party takes responsibility.
- 3.116 The City, property owners, or homeowners associations, as applicable, shall be required to maintain any drainage device to insure it functions as designed and intended. All structural BMPs shall be inspected, cleaned, and repaired when necessary prior to September 30th of each year. Owners of these devices will be responsible for insuring that they continue to function properly and additional inspections should occur after storms as needed throughout the rainy season. Repairs, modifications, or installation of additional BMPs, as needed, should be carried out prior to the next rainy season.
- 3.118 Some BMPs for reducing the impacts of non-point source pollution may not be appropriate for development on steep slopes, on sites with low permeability soil conditions, or areas where saturated soils can lead to geologic instability. New development in these areas should incorporate BMPs that do not increase the degree of geologic instability.
- 3.119 New development that requires a grading permit or Local SWPPP shall include landscaping and re-vegetation of graded or disturbed areas, consistent with Policy 3.50. Any landscaping that is required to control erosion shall use native or drought-tolerant non-invasive plants to minimize the need for fertilizer, pesticides, herbicides, and excessive irrigation. Where irrigation is necessary, efficient irrigation practices shall be required.
- 3.120 New development shall protect the absorption, purifying, and retentive functions of natural systems that exist on the site. Where feasible, drainage plans shall be designed to complement and utilize existing drainage patterns and systems, conveying drainage from the developed area of the site in a non-erosive manner. Disturbed or degraded natural drainage systems shall be restored, where feasible, except where there are geologic or public safety concerns.
- 3.125 Development involving onsite wastewater discharges shall be consistent with the rules and regulations of the L.A. Regional Water Quality Control Board, including Waste Discharge Requirements, revised waivers and other regulations that apply.
- 3.126 Wastewater discharges shall minimize adverse impacts to the biological productivity and quality of coastal streams, wetlands, estuaries, and the ocean. On-site treatment systems (OSTSs) shall be sited, designed, installed, operated, and maintained to avoid contributing nutrients and pathogens to groundwater and/or surface waters.

- 3.127 OSTs shall be sited away from areas that have poorly or excessively drained soils, shallow water tables or high seasonal water tables that are within floodplains or where effluent cannot be adequately treated before it reaches streams or the ocean.
- 3.128 New development shall be sited and designed to provide an area for a backup soil absorption field in the event of failure of the first field.
- 3.129 Soils should not be compacted in the soil absorption field areas during construction. No vehicles should be parked over the soil absorption field or driven over the inlet and outlet pipes to the septic tank.
- 3.130 Subsurface sewage effluent dispersal fields shall be designed, sited, installed, operated, and maintained in soils having acceptable absorption characteristics determined either by percolation testing, or by soils analysis, or by both. No subsurface sewage effluent disposal fields shall be allowed beneath nonporous paving or surface covering.
- 3.131 New development shall include the installation of low-flow plumbing fixtures, including but not limited to flow-restricted showers and ultra-low flush toilets, and should avoid the use of garbage disposals to minimize hydraulic and/or organic overloading of the OSTs.
- 3.132 New development may include a separate greywater dispersal system where approved by the Building Safety Department.
- 3.133 New development shall include protective setbacks from surface waters, wetlands and floodplains for conventional or alternative OSTs, as well as separation distances between OST system components, building components, property lines, and groundwater. Under no conditions shall the bottom of the effluent dispersal system be within five feet of groundwater.
- 3.134 The construction of private sewage treatment systems shall be permitted only in full compliance with the building and plumbing codes and the requirements of the LA RWQCB. A coastal development permit shall not be approved unless the private sewage treatment system for the project is sized and designed to serve the proposed development and will not result in adverse individual or cumulative impacts to water quality for the life of the project.
- 3.138 Applications for new development relying on an OST shall include a soils analysis and or percolation test report. Soils analysis shall be conducted by a California Registered Geotechnical Engineer or a California Registered Civil Engineer in the environmental/geotechnical field and the results expressed in United States Department of Agriculture classification terminology. Percolation tests shall be conducted by a California Registered Geologist, a California registered Geotechnical Engineer, a California Registered Civil Engineer, or a California Registered Environmental Health Specialist. The OST shall be designed, sited, installed, operated, and maintained in full compliance with the building and plumbing codes and the requirements of the LA RWQCB.
- 3.141 Applications for a coastal development permit for OST installation and expansion, where groundwater, nearby surface drainages and slope stability are likely to be adversely impacted as a result of the projected effluent input to the subsurface, shall include a study prepared by a California Certified Engineering Geologist or Registered Geotechnical Engineer that analyzes the cumulative impact of the proposed OST on groundwater level, quality of nearby surface drainages, and slope

stability. Where it is shown that the OSTs will negatively impact groundwater, nearby surface waters, or slope stability, the OSTs shall not be allowed.

As mentioned above, the proposed addition to the residence and septic are not consistent with the bluff setback requirements of the LCP and therefore are not approved. However, the proposed grasscrete driveway, parking and turnaround area are consistent with the bluff setback requirements of the LCP. However, the proposed concrete parking area and turnaround will result in an increase of impervious surface on site, which in turn decreases the infiltrative function and capacity of existing permeable land on project sites. The Commission notes that this reduction in permeable surface leads to an increase in the volume and velocity of stormwater runoff that can be expected to leave the site. The cumulative effect of increased impervious surface is that the peak stream discharge is increased and the peak occurs much sooner after precipitation events. Changes in the stream flow result in modification to stream morphology. Additionally, grading, excavations and disturbance of the site from construction activities and runoff from impervious surfaces can result in increased erosion of disturbed soils and in sedimentation of nearby coastal stream and waters.

In addition, pollutants commonly found in runoff associated with new development include petroleum hydrocarbons including oil and grease from vehicles; heavy metals; synthetic organic chemicals including paint and household cleaners; soap and dirt from washing vehicles; dirt and vegetation from yard maintenance; litter and organic matter; fertilizers, herbicides, and pesticides from household gardening or more intensive agricultural land use; nutrients from wastewater discharge, animal waste and crop residue; and bacteria and pathogens from wastewater discharge and animal waste.. The discharge of these pollutants to coastal waters can cause cumulative impacts such as: eutrophication and anoxic conditions resulting in fish kills and diseases and the alteration of aquatic habitat including adverse changes to species composition and size; excess nutrients causing algae blooms and sedimentation increasing turbidity, which both reduce the penetration of sunlight needed by aquatic vegetation which provides food and cover for aquatic species; disruptions to the reproductive cycle of aquatic species; acute and sublethal toxicity in marine organisms leading to adverse changes in reproduction and feeding behavior; and human diseases such as hepatitis and dysentery. These impacts reduce the biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes and reduce optimum populations of marine organisms and have adverse impacts on human health.

The LCP water quality policies cited above are designed to protect water quality and prevent pollution of surface, ground, and ocean waters. The Malibu LCP requires the preparation of a Storm Water Management Plan (SWMP) for all projects that require a coastal development permit or a Water Quality Mitigation Plan (WQMP) for new residential developments that involve one acre or more of disturbance or redevelopment projects that result in the creation or addition or replacement of 5,000 sq. ft. or more of impervious surface. A SWMP illustrates how the project will use appropriate site design and source control best management practices (BMPs) to minimize or prevent adverse effects of the project on water quality. A WQMP requires treatment control (or structural) BMPs, in addition to site design and source control

BMPs that are required for a SWMP, to minimize or prevent the discharge of polluted runoff from a project site. In this case, the new area of impervious surface is less than 5,000 square feet and therefore requires a SWMP as specified by the Malibu LCP. Therefore, the Commission finds that it is necessary to require the preparation of a SWMP for the subject site, as specified in **Special Condition No. 7**.

Furthermore, erosion control and storm water pollution prevention measures implemented during construction will serve to minimize the potential for adverse impacts to water quality resulting from runoff during construction. The Malibu LCP requires that a Local Storm Water Pollution Prevention Plan (SWPPP) be prepared for all development that requires a Coastal Development Permit and a grading or building permit, and it shall apply to the construction phase of the project. The SWPPP includes measures and BMPs to prevent erosion, sedimentation and pollution of surface and ocean waters from construction and grading activities. In this case, the proposed project does involve grading and construction that requires grading and building permits. Therefore, pursuant to the Malibu LCP and to ensure the proposed development does not adversely impact water quality or coastal resources during the construction phase of the project, the Commission finds it necessary to require the applicant to submit a Local SWPPP for the subject site, consistent with the requirements specified in **Special Condition No. 7**.

The Commission finds that based on the above findings the proposed grasscrete driveway, and concrete parking and turnaround area, as conditioned, will not result in adverse impacts to water quality and is consistent with the Malibu LCP.

E. Violation

Unpermitted development has taken place prior to submission of this permit application including the construction of a rock revetment. The subject permit application addresses the unpermitted development, as well as the new development proposed in the subject application. In order to ensure that the matter of unpermitted development is resolved in a timely manner, **Special Condition 9** requires that the applicant satisfy all conditions of this permit which are prerequisite to the issuance of this permit within 120 days of Commission action, or within such additional time as the Executive Director may grant for good cause.

Consideration of this application by the Commission has been based solely upon the Chapter 3 policies of the Coastal Act. Review of this permit does not constitute a waiver of any legal action with regard to the alleged violation nor does it constitute an admission as to the legality of any development undertaken on the subject site without a coastal permit.

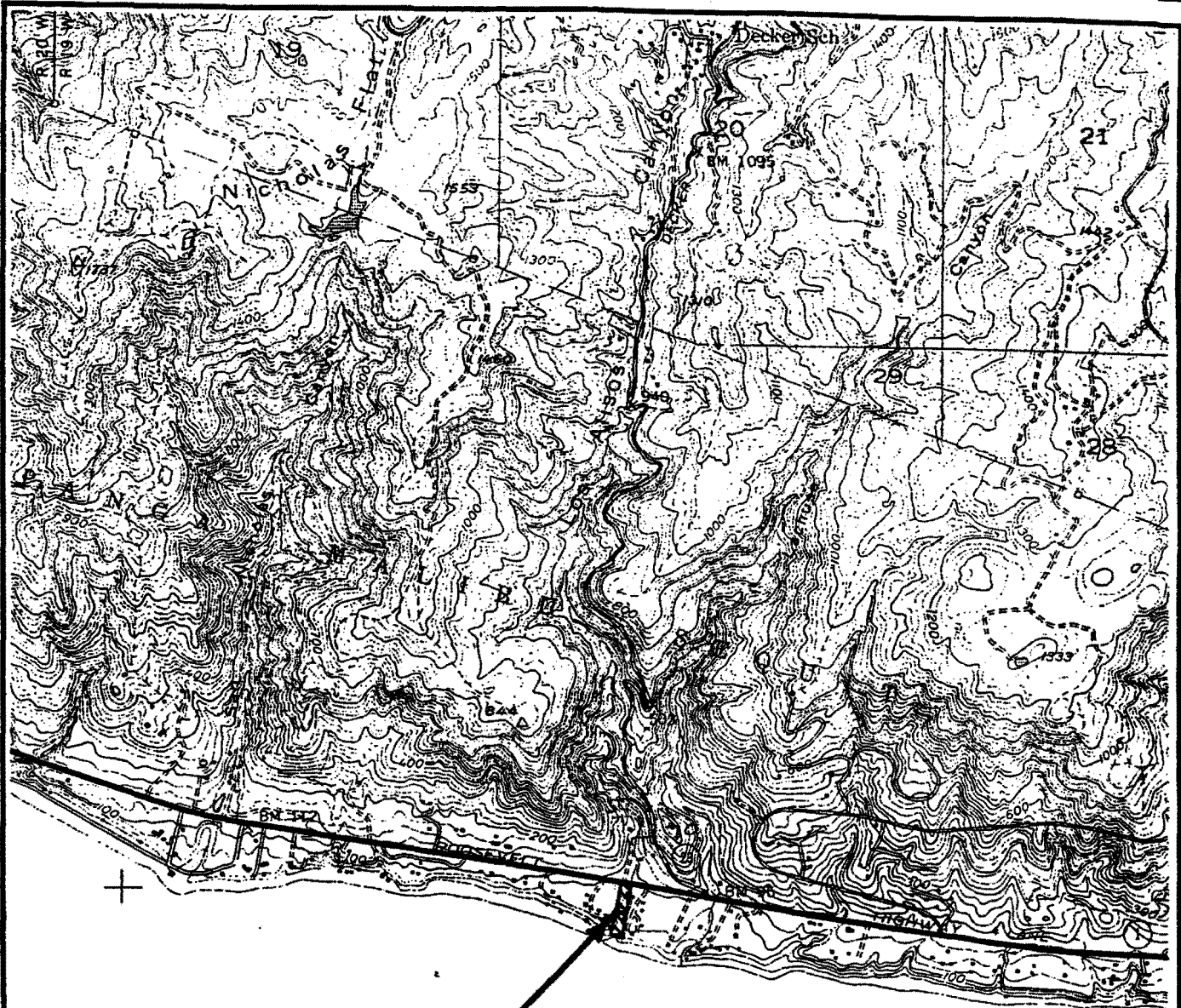
F. California Environmental Quality Act

Section 13096(a) of the Commission's administrative regulations requires Commission approval of a Coastal Development Permit application to be supported by a finding

showing the application, as conditioned by any conditions of approval, to be consistent with any applicable requirements of the California Environmentally Quality Act (CEQA). Section 21080.5(d)(2)(A) of CEQA prohibits a proposed development from being approved if there are feasible alternatives or feasible mitigation measures available, which would substantially lessen any significant adverse effect that the activity may have on the environment.

The Commission finds that the portion of the project consisting of an 4,789 square foot addition to an existing 3953 square foot single family residence (includes a 530 sq. ft. garage), a 1,187 sq. ft. attached garage, new septic system and 1,365 cubic yards of grading (all cut) would result in significant adverse effects on the environment within the meaning of the California Environmental Quality Act of 1970 and that there are feasible alternatives that would not have significant impacts on the environment. Therefore, the portion of the proposed project that includes the addition of 4,789 square foot addition to an existing 3,953 square foot addition, a 1,187 sq. ft. attached garage, new septic system and 1.365 cubic yards of grading (all cut) is determined to be inconsistent with CEQA and the Malibu LCP.

In addition, the Commission finds also finds, that the portion of the proposed project including the remodel of the existing residence, construction of a grasscrete driveway, concrete turnaround area and parking area will not have significant adverse effects on the environment, within the meaning of the California Environmental Quality Act of 1970. Therefore, the remodel of the residence; and development of a grasscrete driveway, concrete turnaround area and rock revetment, as conditioned, has been adequately mitigated and is determined to be consistent with CEQA and the policies of the Coastal Act.



SITE

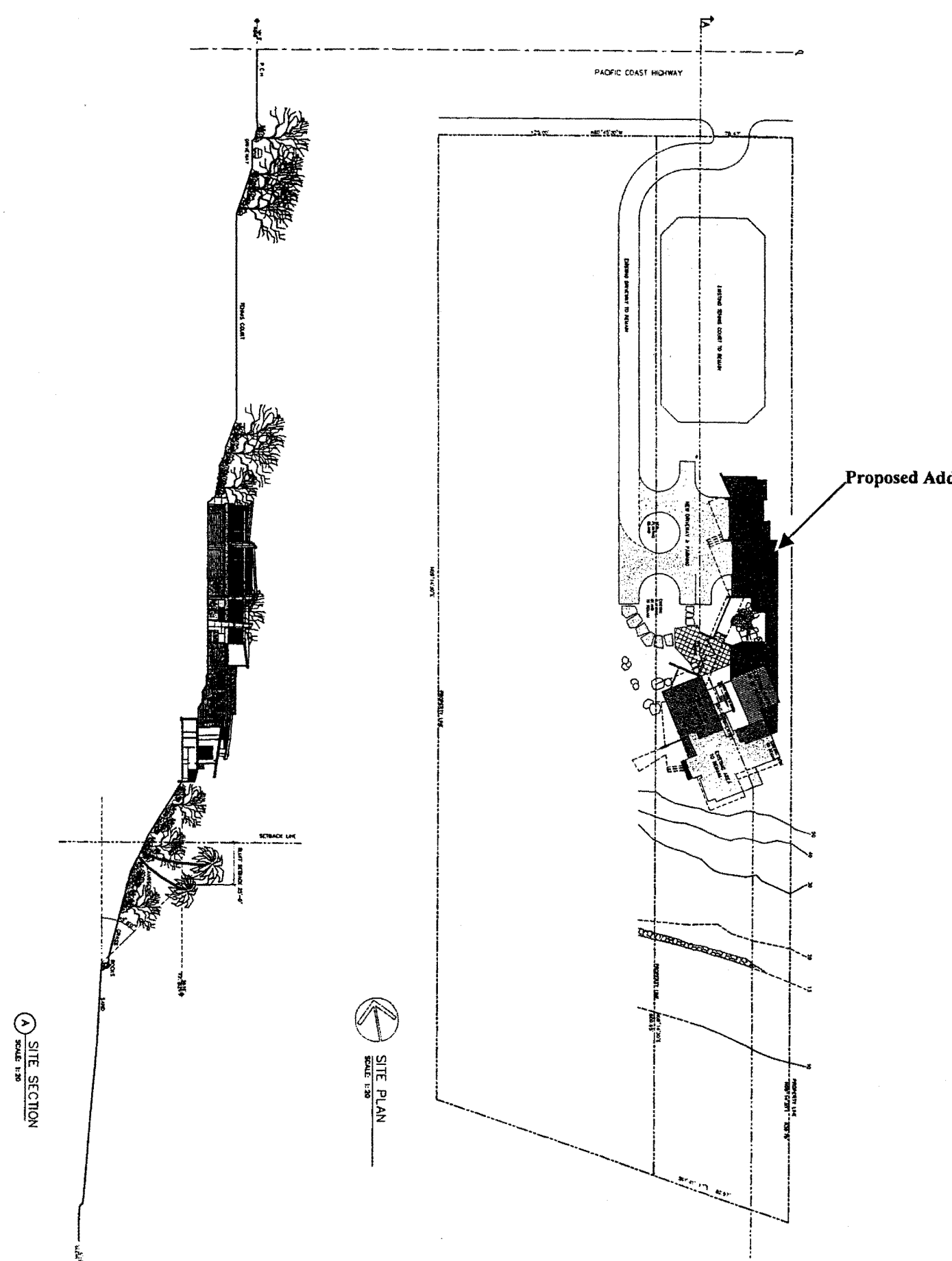
BASE MAP: USGC 7.5 Minute, TRIUNFO PASS Quadrangle.



**GOLD
COAST
GEOSERVICES, INC.**

SITE LOCATION MAP
33256 PACIFIC COAST HWY, MALIBU

Exhibit 1
CDP 4-00-246
Location Map



Ⓐ SITE SECTION
SCALE 1:30

Ⓐ SITE PLAN
SCALE 1:30

PROJECT NO.	
DATE	
DESIGNED BY	
DRAWN BY	
CHECKED BY	
DATE	
SCALE	
PROJECT NO.	
DATE	
DESIGNED BY	
DRAWN BY	
CHECKED BY	
DATE	

MR. MIKE FLANNERY RESIDENCE
33256 PACIFIC COAST HIGHWAY MALIBU, CA.

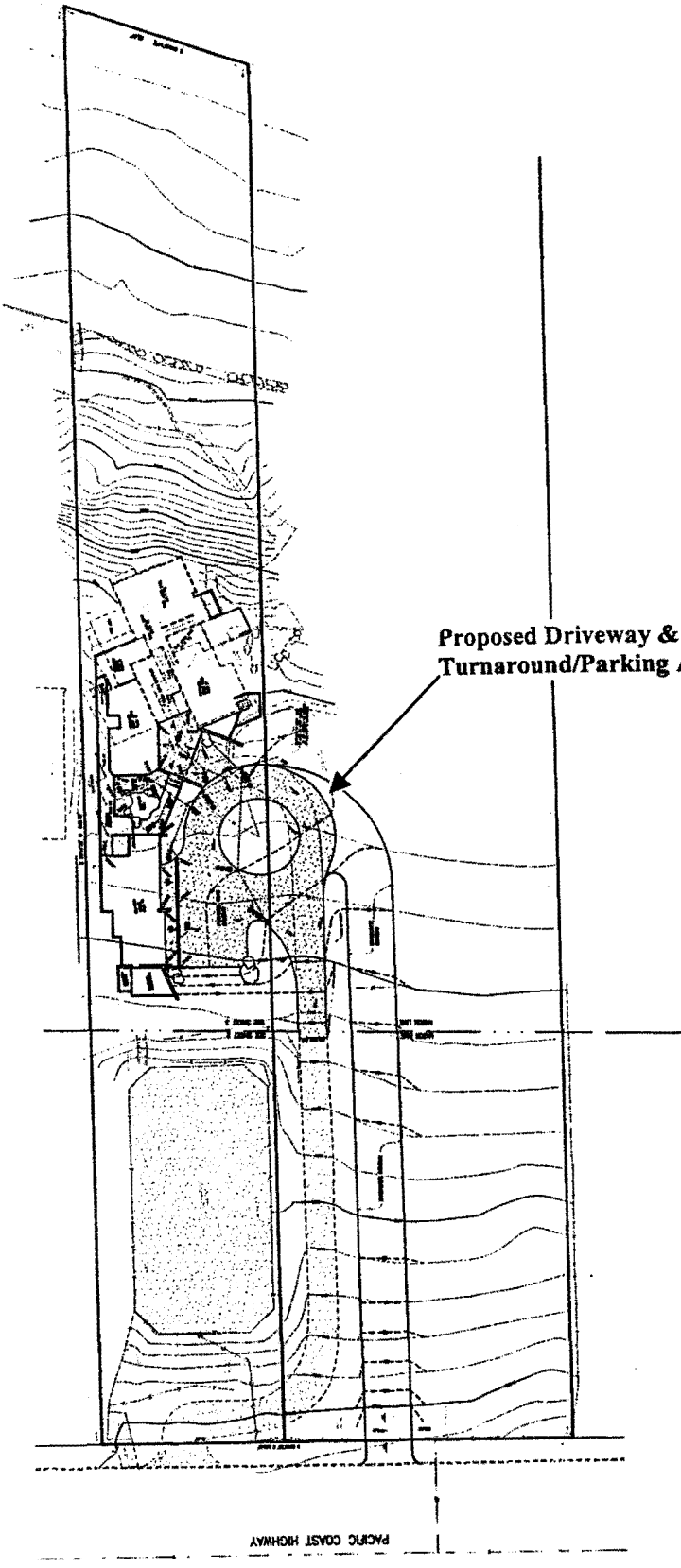
HA	Exhibit 2
	CDP 4-00-246
	Site Plan

CALIFORNIA CIVIL
 DESIGN GROUP
 2229 BOWEN ROAD, SUITE 202
 WESTLAKE VILLAGE, CALIF. 91391
 (805) 276-8222 FAX (805) 276-0272

MIKE FLANNERY
 33266 PACIFIC COAST HIGHWAY
 MALIBU, CALIFORNIA 90326

GRADING PLAN
 MR. MIKE FLANNERY RESIDENCE
 33266 PACIFIC COAST HIGHWAY
 MALIBU, CALIFORNIA

SHEET NO. 5
 DATE: 10/20/05



**Proposed Driveway &
 Turnaround/Parking Area**

- SIZE AS SHOWN ON MAP
 4" BENCH MARK
 4" CATCH BASIN NO. 10
 4" CATCH BASIN NO. 15
 4" CATCH BASIN NO. 20
 4" CATCH BASIN NO. 25
 4" CATCH BASIN NO. 30
 4" CATCH BASIN NO. 35
 4" CATCH BASIN NO. 40
 4" CATCH BASIN NO. 45
 4" CATCH BASIN NO. 50
 4" CATCH BASIN NO. 55
 4" CATCH BASIN NO. 60
 4" CATCH BASIN NO. 65
 4" CATCH BASIN NO. 70
 4" CATCH BASIN NO. 75
 4" CATCH BASIN NO. 80
 4" CATCH BASIN NO. 85
 4" CATCH BASIN NO. 90
 4" CATCH BASIN NO. 95
 4" CATCH BASIN NO. 100

- LEGEND**
 CUT
 FILL
 TELEPHONE BOX
 TOP OF CURB
 TOP OF WALL
 TOP OF GRAVE
 TOP OF DRIVE
 FRESH SURFACE
 FLOW LINE
 GRADE BREAK
 PIPE POINT
 HIGH POINT
 CATCH BASIN
 BALDING
 EXISTING
 EASTING
 EASTING CONTOUR
 FINISHED GRADE CONTOUR
 PRIORITY LINE
 CUT/FILL LINE
 DIVULGENT LINE
 LIMITS OF GRADING
 GRADE BREAK
 ROSE LINE
 CENTRELINE
 FLOW LINE



Exhibit 3
CDP 4-00-246
**Site Plan Illustrating New
 Driveway, Turnaround and
 Parking Area**

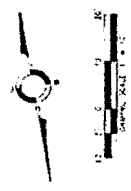
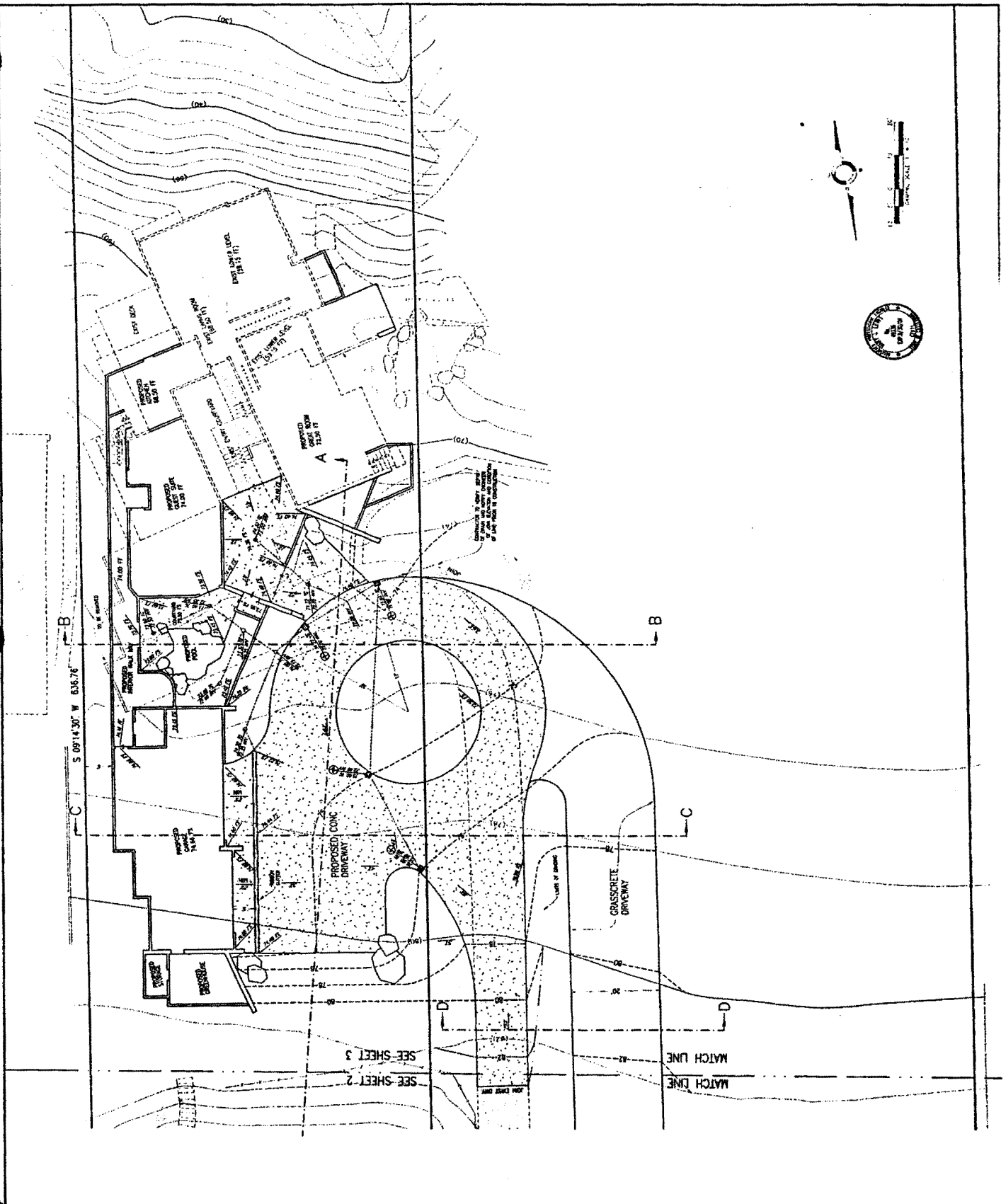
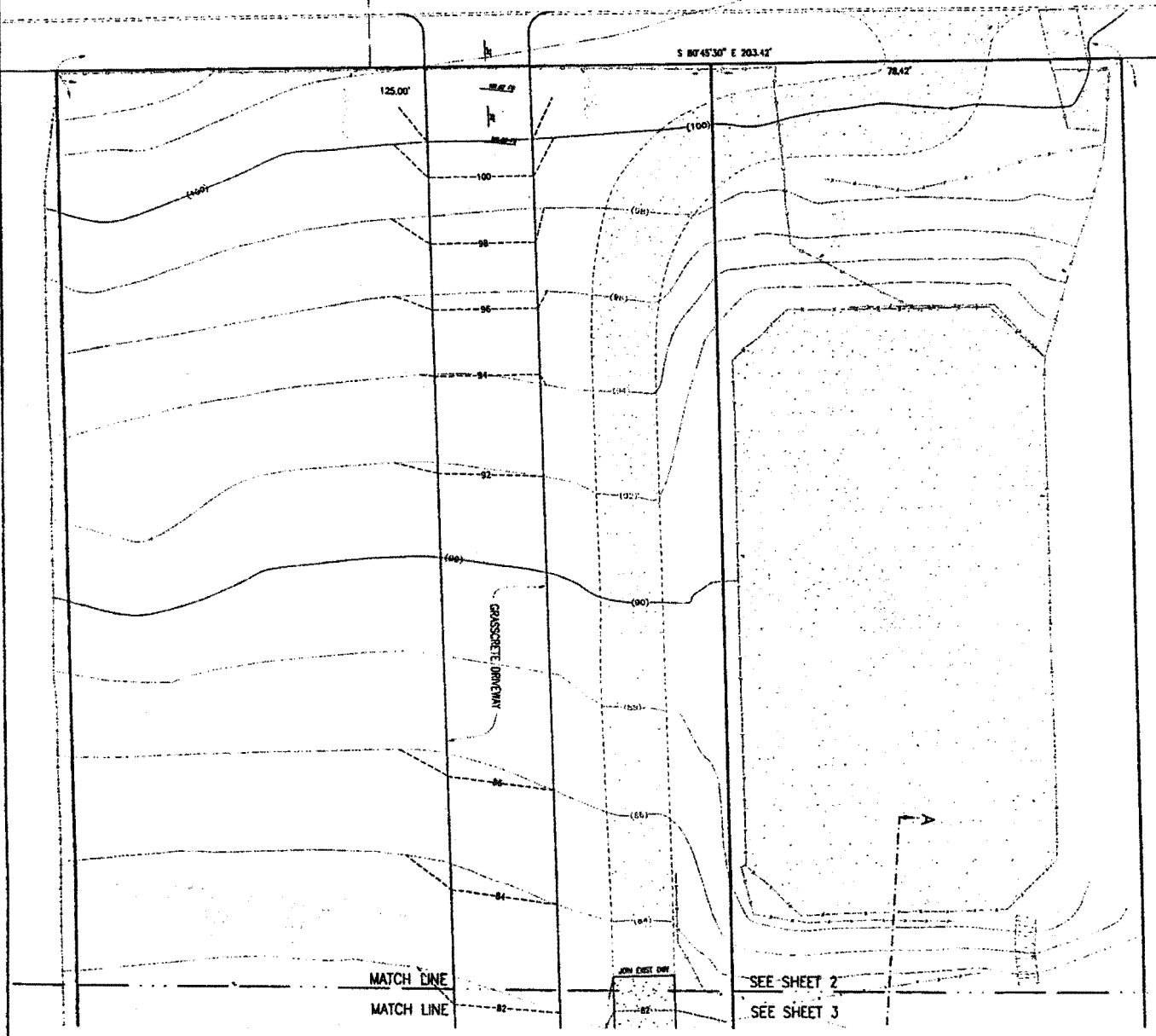


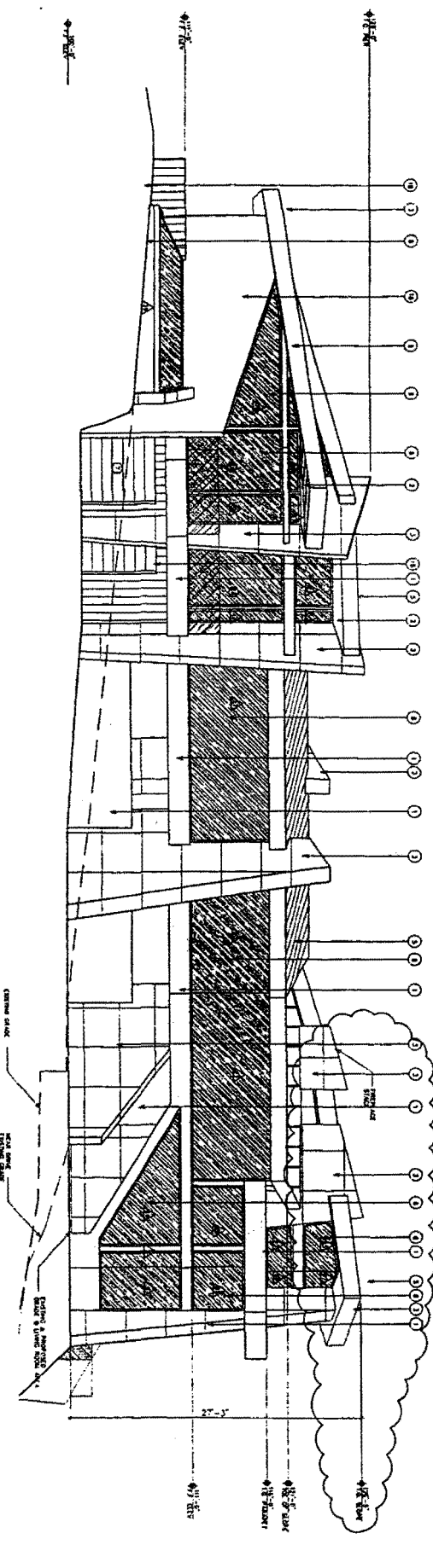
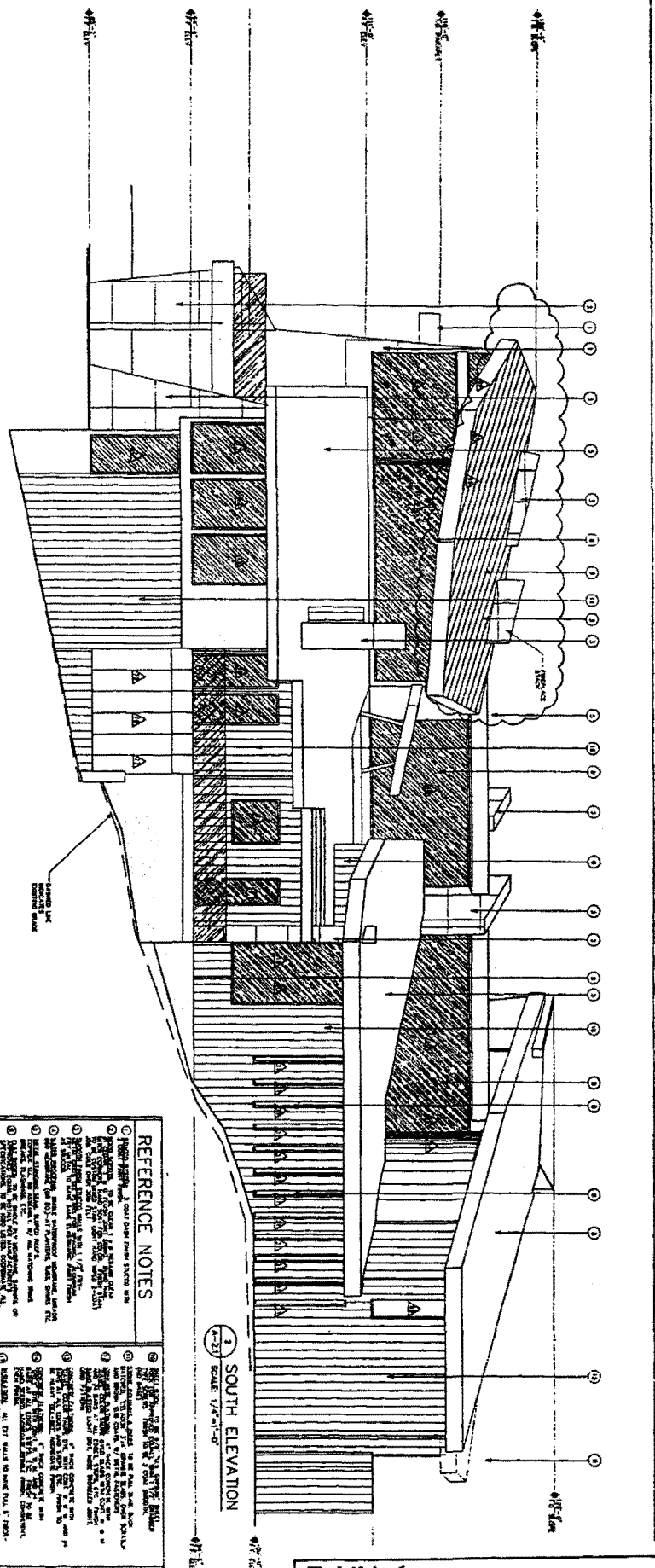
Exhibit 4
CDP 4-00-246
Enlarged Site Plan

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PACIFIC COAST HIGHWAY





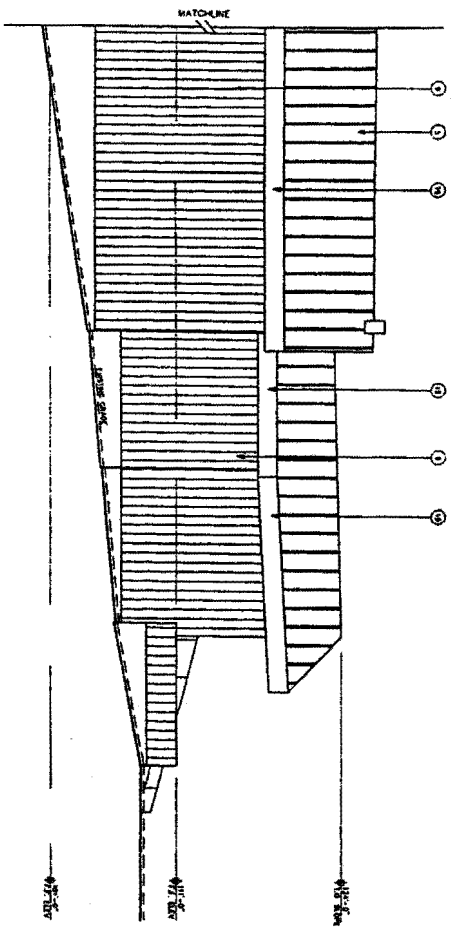
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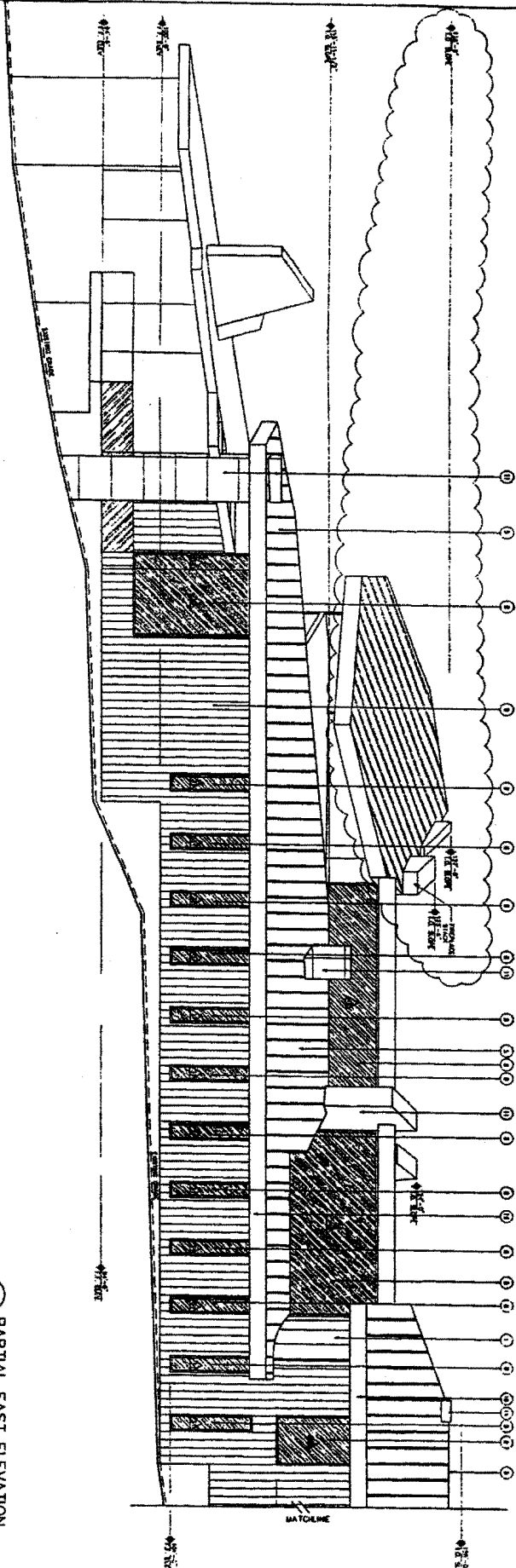
Exhibit 6
CDP 4-00-246
North and South Elevations of Residence

MR. MIKE FLANNERY RESIDENCE
 33256 PACIFIC COAST HIGHWAY MALIBU, CA.

A-2.1



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



2 PARTIAL EAST ELEVATION
SCALE 1/4"=1'-0"

REFERENCE NOTES

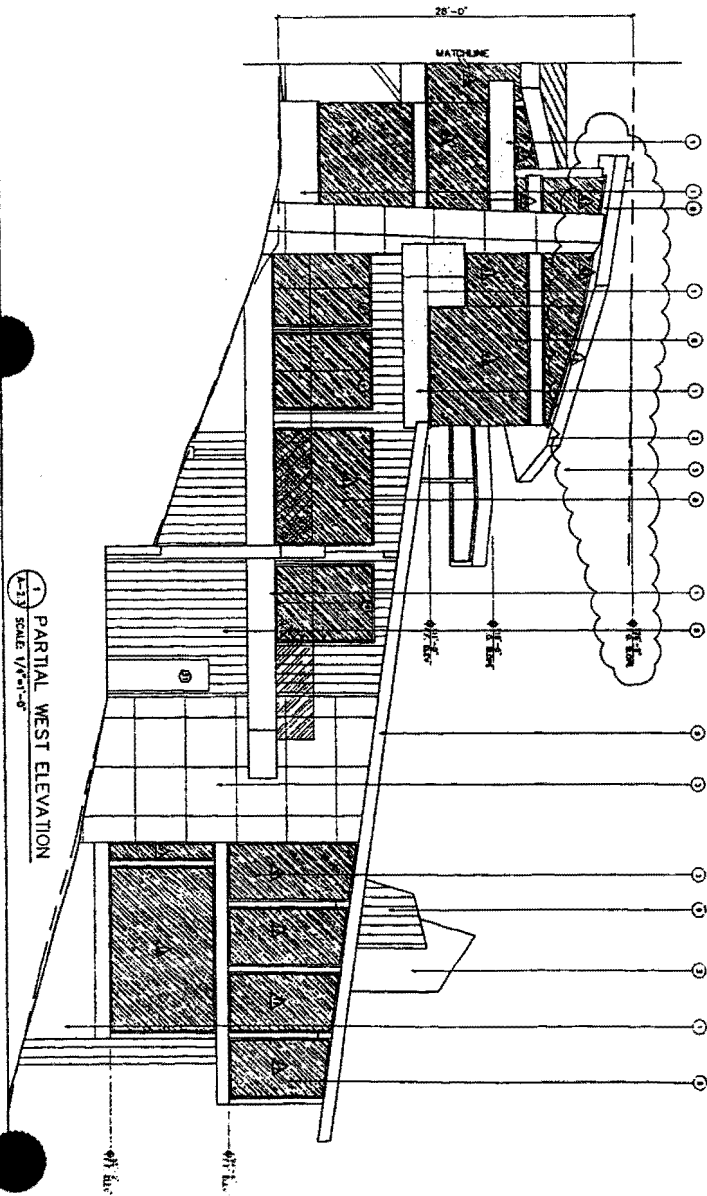
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MR. MIKE FLANNERY RESIDENCE
33256 PACIFIC COAST HIGHWAY MALIBU, CA.

Exhibit 7
CDP 4-00-246
East Elevation of Residence

A-222

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



2 PARTIAL WEST ELEVATION
SCALE 1/4"=1'-0"

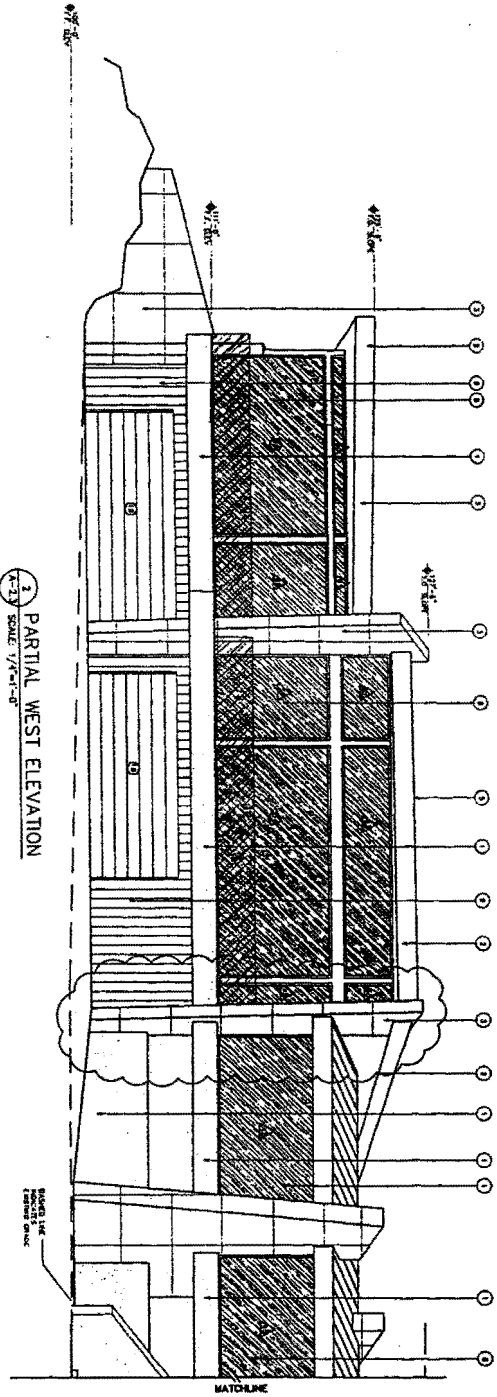


Exhibit 8

CDP 4-00-246

West Elevation of Residence

MR. MIKE FLANNERY RESIDENCE
33256 PACIFIC COAST HIGHWAY MALIBU, CA.

H/

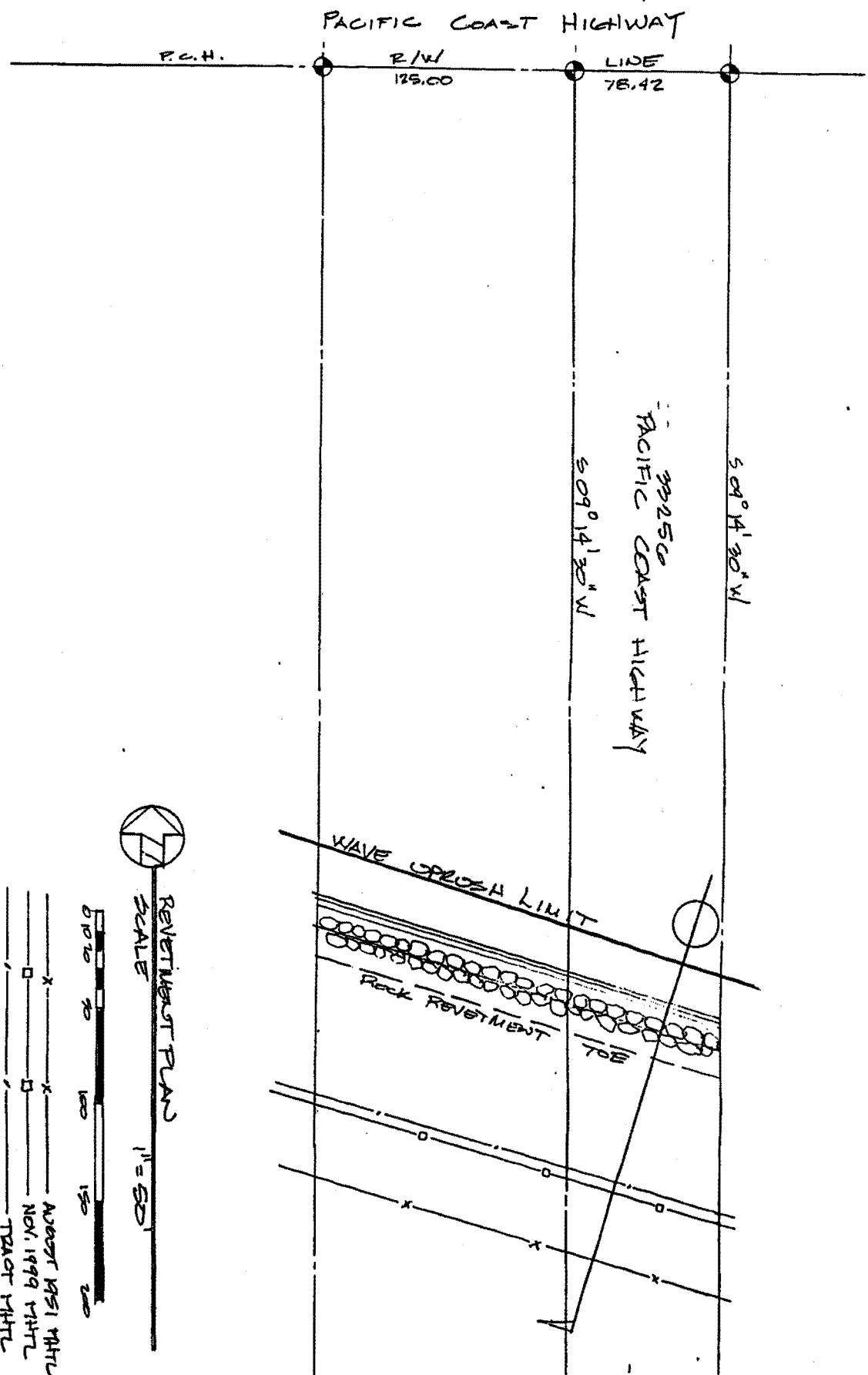
A-2.3

DATE: 11/11/11
REVISION: 1/20
PROJECT: 11-246
SCALE: 1/4"=1'-0"
DATE: 11/11/11
REVISION: 1/20
PROJECT: 11-246
SCALE: 1/4"=1'-0"

MR. MICHAEL FLANNERY
 33250 PACIFIC COAST HIGHWAY
 MALIBU, CA. 90265

WAVE CROSSLIMIT AND MEAN HIGH TIDE PLANS
 33250 PACIFIC COAST HIGHWAY
 MALIBU, CA. 90265

PACIFIC ENGINEERING GROUP
 CONSULTING ENGINEERS
 24372 VANOWEN STREET, SUITE 100
 WEST HILLS, CA 91307
 818.277.8990



REVELMENT PLAN
 SCALE 1" = 50'

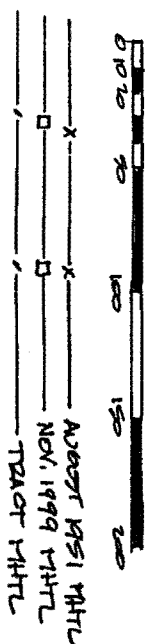
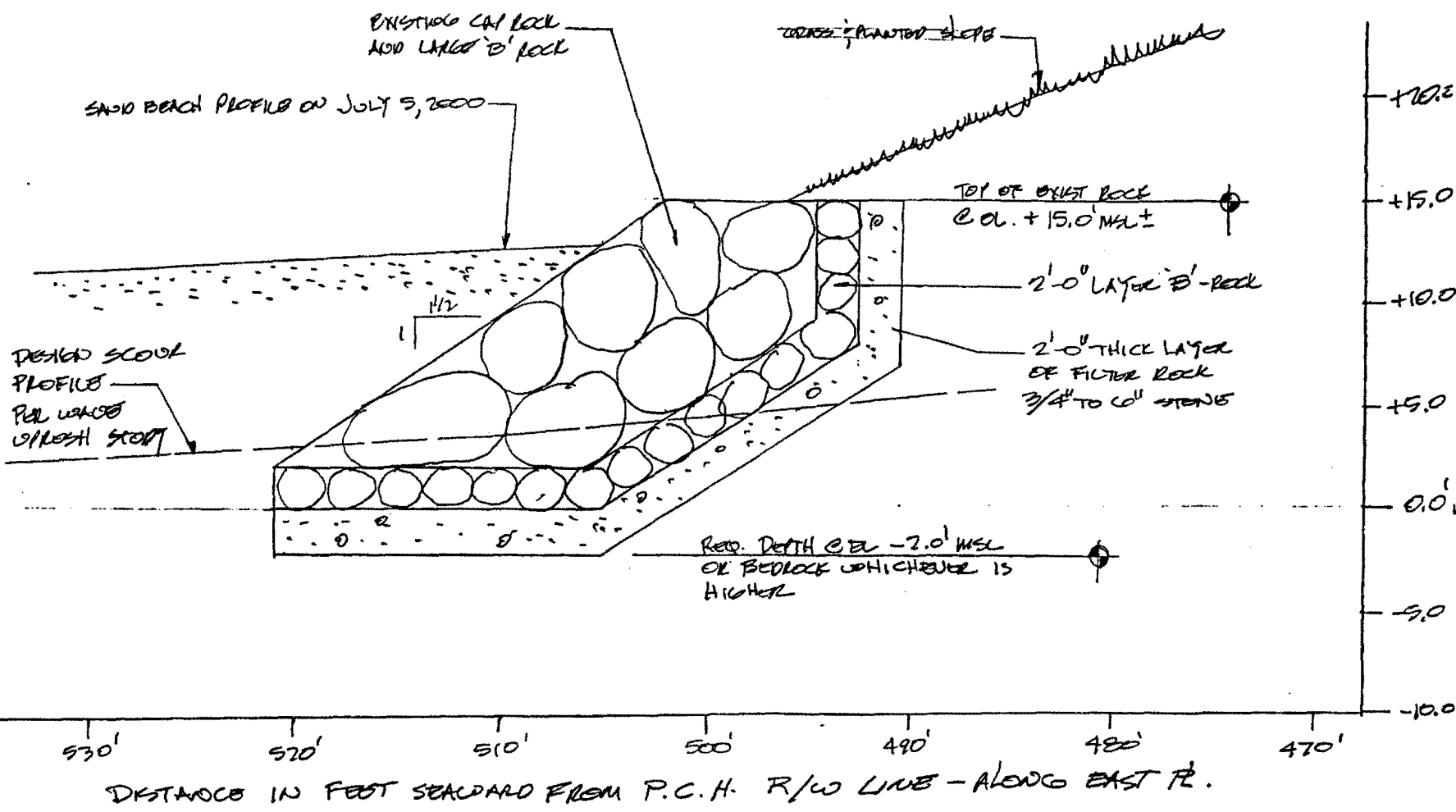


Exhibit 9
 CDP 4-00-246
 Revetment Plan View

Exhibit 10

CDP 4-00-246

Retevment Cross Section



MR. MICHAEL FLANNERY
 33256 PACIFIC COAST HIGHWAY
 MALIBU, CA. 90265

ROCK RETEVMENT SECTION
 33256 PACIFIC COAST HIGHWAY
 MALIBU, CA. 90265..

PACIFIC ENGINEERING GROUP
 CONSULTING ENGINEERS
 24372 VANOWEN STREET, SUITE 104
 WEST HILLS, CA 91307
 818.227.9898



RECEIVED

JAN 16 2003

CALIFORNIA
COASTAL COMMISSION
SOUTH CENTRAL COAST DISTRICT

January 16, 2003

CALIFORNIA COASTAL COMMISSION
SOUTH CENTRAL COAST AREA
89 SOUTH CALIFORNIA ST. SUITE 200
VENTURA, CA 93001

VIA Fax and E-Mail

Attention: Jack Ainsworth

RE: File No. 4-00-246, 33256 Pacific Coast Highway, Malibu, (*Flannery*)

Dear Jack:

We have evaluated the Malibu Local Coastal Program (LCP) policies and concluded that the project as proposed conforms to the intent and language of relevant policies. The proposed addition itself conforms to the current policies and standards of the LCP (13.5 D), and does not create any further encroachment or impacts within the blufftop setback (13.5 E).

With respect to existing and lawfully authorized structures that are now no longer in conformance with the LCP, as adopted in September 2002, Section 13.5 provides in relevant part as follows:

- D. Additions and/or improvements to non-conforming structures may be authorized, provided that the additions and/or improvements themselves comply with the current policies and standards of the LCP, except as provided in Section 13.5 (F) of the Malibu LIP.
- E. For non-conforming structures located on a blufftop or on the beach that do not comply with the setbacks required for new development on a blufftop or beach, additions that increase the size of the structure by 50 percent or more, including all additions that were undertaken after certification of the LCP, shall not be authorized unless such structures are brought into conformance with the policies and standards of the LCP.

The proposed project only incorporates an addition landward of the existing structure previously approved by the California Coastal Commission. There are no potential impacts to the blufftop, which 13.5 (E) is designed to mitigate by limiting further development on the blufftop. Furthermore, the proposed landward addition will not be

Exhibit 11
CDP 4-00-246
Letter from Applicants Agent

endangered by erosion, and is sized, sited and designed to minimize impacts to the beach, blufftop and coastal resources.

Of greater note, the proposed development will have no significant impacts on public access, views, or other resources. In addition, there are no alternatives to the proposed development that would avoid or substantially lessen impacts on public access and other resources because the proposed development is an addition to an existing residence, designed entirely landward of the existing residence. The intent of 13.5 (E) is clearly to prevent further excessive development within blufftop setback. Thus, the project as proposed conforms to the intent and language of 13.5(E) as the addition is landward of the existing structure and complies with the setback requirement.

The proposed development clearly comports with the plain language of Section 13.5 D. The proposed addition itself complies the current policies and standards of the LCP. The proposed structure is not endanger of erosion

The proposed development is also consistent in relation to the height, size, development area, and setbacks of surrounding development. In fact, the house to the west is on a small lot located entirely on the beach. There are four parcels immediately west of the subject property depicting the same scenario. The adjacent parcel to east also has been recently approved for a structure much exceeding the scope of the proposed project. The development permitted on the adjacent parcel cascades over the bluff edge, and down the bluff, on to the beach.

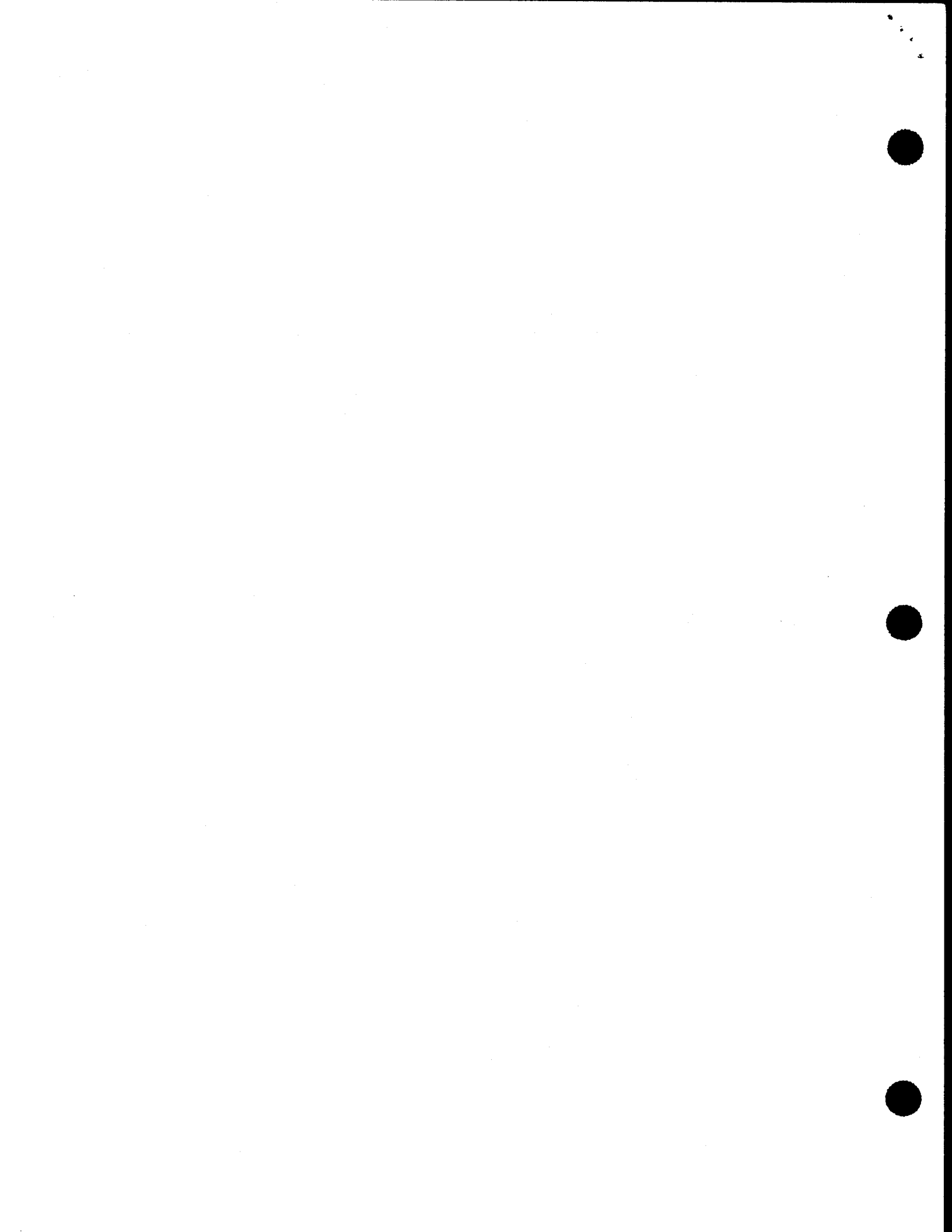
Based on the foregoing we respectfully request that staff reconsider their position and make a recommendation of approval. Thank you for your time and consideration regarding this matter, and please do not hesitate to contact us should you have any questions or comments.

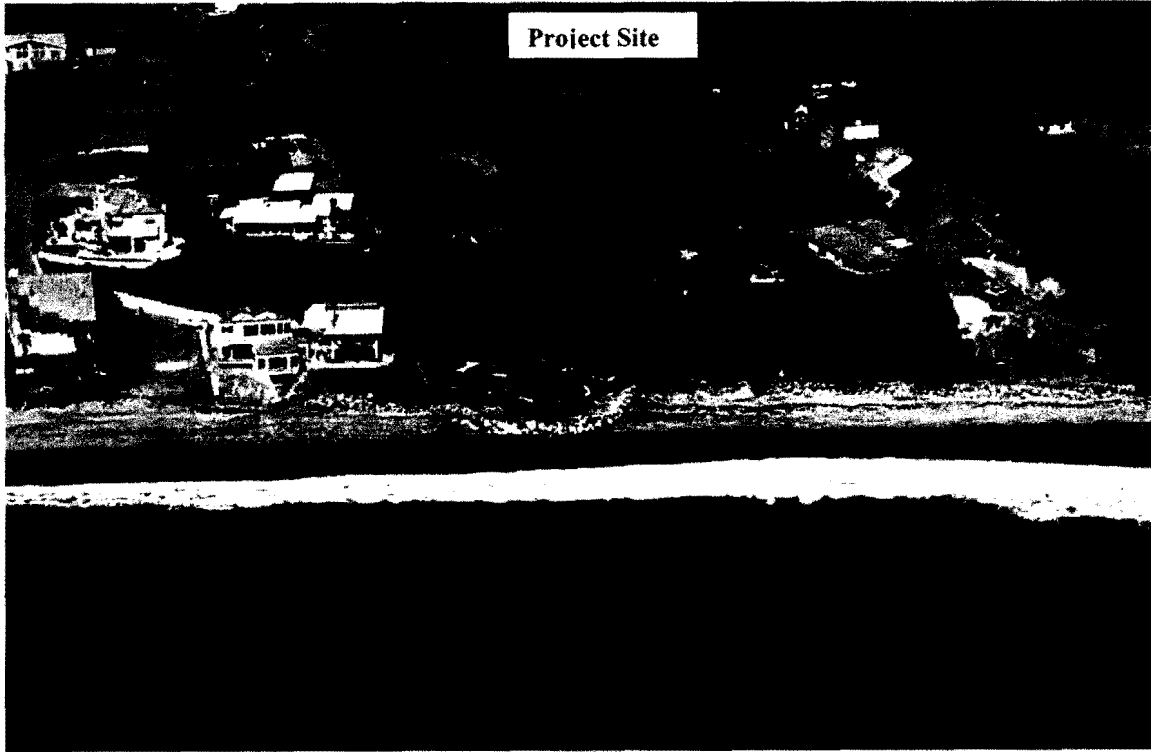
Sincerely,
SCHMITZ & ASSOCIATES, INC.


Stephanie Dreckmann
Managing Associate

XC Michael Flannery

EXHIBIT 11 (CONT)





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Flannery 4-00-246

Exhibit 12
4-00-246
Aerial Photograph

