RECORD PACKET COPY

CALIFORNIA COASTAL COMMISSION

South Coast Area Office
200 Oceangate, 10th Floor
Long Beach, CA 90802-4302
(562) 590-5071

Tu 14g

Filed: December 30, 1997
49th Day: February 17, 1998
180th Day: June 28, 1998
Staff: John T. Auyong
Staff Report: March 19, 1998
Hearing Date: **April 7-10, 1998**
Commission Action:

STAFF REPORT: REGULAR CALENDAR

APPLICATION NO.: **5-97-371**

APPLICANT: Jim Conrad

PROJECT LOCATION: 23, 25, 27, 29, and 31 Bay Drive, Three Arch Bay, City of Laguna Beach, County of Orange

PROJECT DESCRIPTION: Rebuild a failed slope. Construct a shoring wall across five lots to stabilize Bay Drive. The shoring and slope repair includes the installation of shoring piles, shotcrete, overexcavation and recompaction of slide debris (44,000 cubic yards of grading), a buried crib wall near the toe of the slope, and installation of drainage devices. No homes are proposed to be constructed as part of this project. Merge three of the five lots into two (resulting in a new total of 4 lots).

Site area (all lots): 40,000 square feet

LOCAL APPROVALS RECEIVED: City of Laguna Beach Approval-in-Concept; City of Laguna Beach Lot Line Adjustment 97-07

SUBSTANTIVE FILE DOCUMENTS: See Appendix A

SUMMARY OF STAFF RECOMMENDATION - ISSUES TO BE RESOLVED:

Staff recommends approval of the proposed project with special conditions for: 1) an assumption-of-risk deed restriction, 2) conformance with geotechnical recommendations, 3) the use of drought-tolerant landscaping, 4) prohibition on the placement of construction materials and equipment on the beach, and 5) disposal of construction debris. There is opposition to the proposed project (see letters of opposition attached). It is not known if the opponents have since changed their position. The primary issues raised by the opposition are: 1) whether the proposed slope stabilization is adequate to support the future rebuilding of homes on the subject site, and 2) whether the Commission should review the proposed slope repair in conjunction with homes that

will be proposed to be built on the site (not all of which have been submitted to the Commission) rather than review the proposed slope repair project independently of the future homes.

STAFF RECOMMENDATION:

The staff recommends that the Commission adopt the following resolution:

I. APPROVAL WITH CONDITIONS.

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

II. STANDARD CONDITIONS.

1. **Notice of Receipt and Acknowledgment**. The permit is not valid and development shall not commence until a copy of the permit, signed by the permittee or authorized agent, acknowledging receipt of the permit and acceptance of the terms and conditions, is returned to the Commission office.

2. **Expiration**. If development has not commenced, the permit will expire two years from the date this permit is reported to the Commission. Development shall be pursued in a diligent manner and completed in a reasonable period of time. Application for extension of the permit must be made prior to the expiration date.

3. **Compliance**. All development must occur in strict compliance with the proposal as set forth in the application for permit, subject to any special conditions set forth below. Any deviation from the approved plans must be reviewed and approved by the staff and may require Commission approval.

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

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

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

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

III. SPECIAL CONDITIONS.

1. **Assumption-of-Risk**. PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the applicant and all landowners shall execute and record a deed restriction, in a form and content acceptable to the Executive Director, which shall provide: (a) that the applicant and all landowners understand that the entire site may be subject to extraordinary hazards from landslides/slope failure and the applicant assumes the liability from such hazards; and (b) that the applicant and all landowners unconditionally waive any claim of liability on the part of the Commission and agree to indemnify and hold harmless the Commission, its officers, agents, and employees relative to the Commission's approval of the project for any damage due to the natural hazards. The document shall run with the land, binding all successors and assigns, and shall be recorded free of prior liens that the Executive Director determines may affect the enforceability of the restriction. This deed restriction shall not be removed or changed without a Coastal Commission-approved amendment to this coastal development permit unless the Executive Director determines that no amendment is required.

2. **Geotechnical Recommendations**. PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the applicant shall submit, for the review and approval of the Executive Director, final revised plans for the proposed development on all lots on the subject site. These plans shall include the signed statement of the geotechnical consultant certifying that these plans incorporate the recommendations contained in both; 1) the "Preliminary Geotechnical Investigation", Proposed Four Lot Residential Development, Lots 26, 27, 28, and 29 of Tract 970, Three Arch Bay, South Laguna Beach, California, dated April 11, 1997, prepared for James Conrad by Hetherington Engineering, Inc. (Job No. 1800.2), and 2) the "Supplemental Geotechnical Investigation", Proposed Residential Development, Lots 26, 27, 28, 29, and 30 of Tract 970, Three Arch Bay, South Laguna Beach, California, dated January 26, 1998, prepared for James Conrad by Hetherington Engineering, Inc. (Project No. 1800.3). The approved development shall be constructed in accordance with the final revised plans as approved by the Executive Director. Any deviations from said plans shall require a Coastal Commission-approved amendment to this permit, or written concurrence from the Executive Director that the deviation is not substantial and therefore a permit amendment is not needed.

3. **Landscaping**. PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the applicant shall submit, for the review and approval of the Executive Director, revised landscaping plans. The revised landscaping plans shall: 1) be consistent with the preliminary

landscaping plans dated September 12, 1997 prepared by Lawson's Landscape Services, 2) be prepared by a licensed landscaped architect, and 3) incorporate the following criteria: (a) Planting shall be of drought tolerant plants (native, non-invasive drought tolerant plants are preferred); (b) Only temporary irrigation to help establish the landscaping shall be allowed; and (c) The plantings established shall provide 90% cover in 90 days.

4. **Staging and Storage of Construction Materials and Equipment**. Construction material and equipment shall not be staged or stored on the beach. Any accidental spills of construction equipment fluids shall be immediately contained on-site and disposed of in an environmentally safe manner as soon as possible.

5. **Disposal of Landslide and Construction Debris.** PRIOR TO THE ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the applicant shall identify in writing, for the review and approval of the Executive Director, the location of the disposal site of the exported excavated soil resulting from the proposed project. Disposal shall occur at the approved disposal site.

IV. FINDINGS AND DECLARATIONS

A. Detailed Project Description and Location

The applicant is proposing to repair a failed slope located on five beachfront lots in Three Arch Bay in the City of Laguna Beach. The lot numbers for the legal descriptions and the site addresses correspond as follows:

Lot Number (Tract 970)	Corresponding Street Address
26	23 Bay Drive
27	25 Bay Drive
28	27 Bay Drive
29	29 Bay Drive
30	31 Bay Drive

Part of the proposal includes the construction of a shoring wall to stabilize Bay Drive and adjacent homes. The shoring includes the installation of shoring piles and shotcrete. The "U" shaped shoring wall running along Bay Drive and part way down the two side property lines, would be reinforced by fifty-one 42 inch diameter caissons. The caissons would extend to a depth of about ten feet above sea level, with the tallest caissons being about 70 feet tall. Only the top five feet of the shoring wall would be above ground. The remainder would be buried. A 1-1/2 foot diameter multistrand anchor would hold the shoring wall in place. The proposed slope repair also involves overexcavation and recompaction of slide debris (22,000 cubic yards of cut and 22,000 cubic yards of fill for 44,000 cubic yards of total grading).

The top of the subject site is approximately 90 feet above sea level. The existing landslide debris, about twenty-two thousand (22,000) cubic yards, will be excavated. Approximately six thousand (6,000) cubic yards of the excavated landslide debris will be removed from the site because it is unsuitable for recompaction due to high levels of moisture and organic material. The 6,000 cubic yards of exported material will be replaced with a like amount of imported material. The imported material and the remaining 16,000 cubic yards of non-exported excavated material will be recompacted on-site to restore the slope to a similar pre-slide profile. The underlying slope will be benched. The benches will extend from side property line to side property line on the subject site. Ten 3 foot vertical by 10 foot horizontal benches would be constructed. At the foot of the proposed repaired slope, an approximately 30 foot horizontal by 6 foot vertical bench would be installed, seaward of a proposed buried crib wall. The proposed buried crib wall would be located approximately 20 feet landward of the toe of the slope.

The applicant also proposes to install drainage devices, including two six foot wide, 12 inch deep "V" reinforced concrete drainage ditches. The proposed ditches would extend from side property line to side property line on the subject site. One ditch would roughly follow the 40 foot elevation contour line, and the other would roughly follow the 70 foot elevation contour line. The 70 foot contour line ditch would have one drain outletting into a pipe which also collects from the 40 foot contour line ditch. The 40 foot contour line would have 4 drains, including the one from the 70 foot contour line ditch. All four drains would outlet via 12 inch diameter corrugated steel pipes at the beach. Overflow drains and rip-rap (up to 4 feet in diameter) to serve as energy dissipators would be installed at each outlet. Another terrace drain would be installed immediately adjacent to the top of the proposed shoring wall an would also drain to the beach. A subdrain system consisting of a drain for each bench is also proposed.

Houses previously existed on the subject site but were destroyed by landslides or demolished due to extensive damage from landslides. No homes are proposed as part of the proposed application, although the applicant indicates that at some point in the near future proposals to rebuild homes on the subject site will be submitted to the Commission. Coastal development permit applications 5-98-020 (Conrad) and 5-98-064 (Barnes) have been received for proposed homes at 23 and 25 Bay Drive. Because it is not known how many homes will be rebuilt nor when they will be rebuilt, the applicant has instead gotten the other landowners of the lots on the subject site to agree to proceed with the slope repair independent of the proposed homes, so that the slope repair is not held up by uncertainty regarding plans for the homes.

The subject site is zoned for Village Low Density residential use, which allows a density of 3-7 dwelling units per acre. The applicant is also proposing to merge three of the existing lots into two. The three lots to be merged are Lots 28, 29 and 30. The 27 Bay Drive address would be eliminated as a result of the proposed lot merger. As a result, there would be a new total of four single-family residential lots on the site.

B. Chapter 3 Policy Analysis

1. Geologic Hazards

Section 30253 of the Coastal Act states, in relevant part:

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

The proposed project involves the repair of a landslide on five residential blufftop lots. Three of the lots will be merged into two for a new total of four lots. The subject site is currently vacant, although homes previously existed on the lots. The existing homes were destroyed by landslides or demolished because of landslide damage. Although the proposed project only consists of slope repair, it is anticipated that homes will be rebuilt on the subject site in the near future. The geotechnical report prepared for the proposed project thus also addresses the feasibility of constructing homes on the subject site. The geotechnical report submitted is the "Preliminary Geotechnical Investigation", Proposed Four Lot Residential Development, Lots 26, 27, 28, and 29 of Tract 970, Three Arch Bay, South Laguna Beach, California, dated April 11, 1997, prepared for James Conrad by Hetherington Engineering, Inc. (Job No. 1800.2).

The geotechnical report indicates that the subject site has slid several times in the past; in 1952, 1973, 1980, and the late 1980's/early 1990's. The report indicates that the slides coincided with periods of active rainfall, and that groundwater seepage at the site is a problem. The Three Arch Bay Association in 1992 placed tiebacks, caissons, and shotcrete to protect the slope immediately bounded by Bay Drive, according to the report. The report indicates, however, that the slope still shows signs of movement in some areas. The applicant indicates that other alternatives to the slope repair, including crib block, buttress walls located at the sand line, soil nailing, and chemical grouting were considered. The proposed alternative was selected in part because it is a fairly common method that has been effective in attaining long-term stability.

The proposed slope repair does not have to be evaluated in conjunction with replacement homes. The proposed repair needs to be carried out in a manner which meets the minimum factor of safety regardless of what types of homes, if any, are built. The geotechnical consultant has determined the proposed project to be feasible from a geotechnical standpoint. The proposed project is

beneficial since it reduces slide potential and stabilizes Bay Drive and the adjacent residences. If the proposed slope repair were tied into the design of specifically proposed homes, but those homes are not built and subsequently different home designs are prepared, then the slope repair would have to be further modified to meet the new designs. So long as the proposed slope repair meets the minimum factor of safety, it is better to have the slope repair dictate the type of homes which can be built, rather than the other way around.

The applicant considered other geotechnical alternatives including soil nailing, buttress fills without a shoring wall, chemical grouting and a seawall at the toe of the slope. The primary goal of the proposed project is to recreate the slope in approximately the same landform that previously existed prior to the landslide and to return it to its previous use as residential sites as well as to stabilize the road (Bay Drive) at the top of the bluff. Due to the landslide, Bay Drive, and adjacent properties seaward of Bay Drive to the east and west of the subject site, have lost lateral structural support.

While the rejected alternatives may provide site stability, they do not all provide for the proper drainage of the site. Thus, the alternatives which did not provide for proper drainage were rejected. Although the rejected soil nailing alternative would allow for the installation of necessary drainage improvements, this alternative would not achieve an acceptable level of safety without similar excavation and recompaction (landform alteration) and a shoring wall similar to what is being proposed under the proposed project. Further, the applicant could not obtain local government approval for a seawall located at the toe of the bluff.

The proposed project is an acceptable method to achieve long-term stability of the site, adjacent road, and adjacent properties. Drainage will be collected on-site to minimize off-site adverse impacts from erosion. The repaired bluff will mimic the original bluff profile and tie in to the slope profile of the adjacent properties in a manner that does not result in significant differences at that interface between the subject site and adjacent properties. The geotechnical consultant has indicated that the proposed project would not result in adverse impacts to adjacent off-site properties. (See Exhibit K)

The geotechnical report indicates that the proposed development is feasible from a geotechnical standpoint. The geotechnical report contains recommendations that, if incorporated into the proposed project design, would assure stability and structural integrity. The recommendations include: 1) removal of the active landslide debris and reconstruction as compacted fill, 2) installation of subdrains (as proposed), and 3) construction of the slope at a 2:1 (horizontal to vertical) ratio to assure gross and surficial stability. Therefore, as a condition of approval, the Commission finds that it is necessary to require the applicant to submit final revised plans which include a signed statement of the geotechnical consultant indicating that the final plans incorporate the geotechnical recommendations.

However, because landsliding has occurred several times on the subject site, the Commission also finds that, as a condition of approval, the applicant and all landowners of the subject site must record an assumption-of-risk deed restriction to inform the applicant and all current and future owners of the subject site that the site is subject to hazards from landslides. This is especially important since homes will likely be rebuilt on the subject site. In addition, because groundwater levels have contributed to the landslide episodes on the subject site, the Commission finds that it is necessary to minimize irrigation on the site and require drought-tolerant landscaping. Minimizing irrigation and use of drought-tolerant landscaping would lessen the amount of water added to the groundwater supply.

Therefore, as conditioned for the incorporation of geotechnical recommendations, recordation of an assumption-of-risk deed restriction, and the use of drought-tolerant landscaping, the Commission finds that the proposed project would be consistent with Section 30253 of the Coastal Act.

2. Shoreline Protective Devices

Section 30235 of the Coastal Act states, in relevant part:

> *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.*

The subject site is on a beach. The subject beach is a deep pocket beach approximately 1,400 feet long flanked by headlands that project seaward from either end of the crescent shaped beach by about 800 feet. The proposed project involves the construction of a buried crib wall and a shoring wall that will reduce or limit bluff retreat, thus reducing the amount of bluff material for natural beach replenishment. (See Exhibit C) The firm of Noble Consultants prepared a coastal engineering assessment (dated March 6, 1998) of the subject site, local and subregional shoreline processes of the Laguna Beach Mini Cells littoral system. The littoral system consists of the bluffs, rocky shoreline, and cove beaches that start at the north at the Corona del Mar bluffs (just south of the Newport Harbor entrance) to Dana Point Harbor at the south adjacent to the Dana Point Headlands promontory.

The assessment acknowledges that the proposed buried crib wall and larger shoring wall will deprive the littoral cell of upper terrace deposit sediments that would otherwise enter the littoral system through seacliff retreat and slope sloughing processes. Seacliff erosion in the area is episodic and occurs sporadically rather than continuously, during times of heavy storm events coupled with high tides. On an average annual basis, the assessment estimates the rate of seacliff retreat in the area to be approximately 0.1 to 0.2 feet per year. The assessment notes that the

presence of dense vegetation at the toe of the bluffs in Three Arch Bay implies that wave activity which would wash away the vegetation doesn't often reach the bluff toe, thus implying that bluff erosion from wave activity is also low.

However, the assessment also concludes that the estimated annual average volume contributed to the sediment supply of the beach from seacliff retreat in Three Arch Bay is less than two hundred (200) cubic yards per year. The assessment indicates that the major source of sand in the area is the approximately twelve thousand (12,000) cubic yards of sediment which comes down nearby Aliso Creek every year. In addition, the assessment concludes that alongshore transport of sand in the Laguna Beach Mini Cells littoral system for the most part bypasses the subject beach. The shoreline processes of the subject beach are more dominated by cross shore sand exchanges. In essence, the sand supply of the subject beach is relatively stable. The sand moves offshore and then back onshore in response to sea conditions which change with the seasons. Thus, permanent loss of sand from the subject beach to the offshore littoral drift is minimal. The assessment concludes that the two hundred (200) foot stretch of bluff which would contribute less bluff material to the beach as a result of the proposed project would likely impact less than 0.2 percent of the overall alongshore subregional sand transport volume. Until such time as the beach and slope seaward of the proposed buried crib wall completely erode away, causing the buried wall to be exposed to wave action, the proposed crib wall would not affect the process of slope material being added to the beach sand supply.

The proposed shoring wall and buried crib wall are necessary to stabilize and protect Bay Drive and adjacent homes in danger from landslide activity caused by heavy rains and groundwater levels, rather than primarily being for protection against erosion caused by wave activity. While the proposed project would limit seacliff retreat on the subject site, seacliff retreat on the subject site contributes an insignificant amount of material to the local beach. Currently, the local beach itself only nominally contributes to the subregional sand supply. Therefore, the specific nature of the subject beach and the local and subregional shoreline processes are such that the reduction in on-site bluff material for natural sand replenishment, which would result from the proposed project, does not constitute an adverse impact on local shoreline sand supply. Thus, the Commission finds that the proposed project is consistent with Section 30253 of the Coastal Act.

3. Marine Resources/Water Quality

Section 30230 of the Coastal Act states:

> *Marine resources shall be maintained, enhanced, and where feasible, restored. Special protection shall be given to areas and species of special biological or economic significance. Uses of the marine environment shall be carried out in a manner that will sustain the biological productivity of coastal waters and that will maintain healthy populations of all species of*

marine organisms adequate for long-term commercial, recreational, scientific, and educational purposes.

Section 30231 of the Coastal Act states:

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

The proposed project consists of the construction of a system of subdrains and surface v-ditches which would collect runoff and groundwater. The drains would direct the collected water to the beach through four outlets. Energy dissipators are proposed at each outlet to control the speed of discharged water and minimize erosion on the beach. The proposed drainage system would collect water which already seeps onto the beach from the subject site and inland areas. The California Regional Water Quality Control Board, San Diego Region ("RWQCB"), sent the applicant a letter indicating that they have no objection to the construction of the proposed drainage system. (See Exhibit D) An off-site drainage system to the east of the site also discharges onto the beach.

The applicant has indicated that no construction equipment or supplies will be placed upon the sandy beach. (See Exhibit L, Page 4) The applicant has indicated that a flat pad will be graded approximately midway on the slope for temporary storage of equipment and materials to be used in the construction of the proposed shoring wall. The applicant has indicated that contractors will be briefed as to minimizing the occurrence of and containing spills of petroleum and other toxic fluids. A health risk to marine life and swimmers would be created if toxic substances were to get on the beach and leak into the ocean. In addition, staging or storing construction equipment and material on the beach would take up beach area needed for grunion spawning, thus resulting in adverse impacts on the grunion.

Therefore, to minimize adverse impacts to marine resources and water quality, the Commission finds that it is necessary to require a condition which prohibits the staging or storing of construction equipment or materials on the beach and to minimize and control spillage of toxic substances. Further, the Commission finds that the construction debris must be disposed of outside the coastal zone, or at an approved site in the coastal zone, to minimize adverse impacts on marine resources. As conditioned, the proposed project would be consistent with Section 30231 of the Coastal Act.

4. Public Access

Section 30212 of the Coastal Act states, in relevant part:

> *(a) Public access from the nearest public roadway to the shoreline and along the coast shall be provided in new development projects except where:*
>
> *(2) adequate access exists nearby . . .*

The subject site is a beachfront site located between the nearest public roadway and the shoreline in the private community of Three Arch Bay. The toe of the proposed repair slope contains an easement, between 46 to 57 feet wide, for access and recreation purposes solely for the residents of the private Three Arch Bay community. The beach is a cove beach separated from public beaches by rocky headlands. Thus, the beach is not readily accessible from nearby public beaches. A December 10, 1997 survey of the mean high tide line indicates that the mean high tide line is anywhere from approximately 275 feet to 365 feet from Bay Drive. The seaward most extent of the proposed project would be only 220 to 250 feet seaward of Bay Drive.

In addition, the California State Lands Commission ("CSLC") has written the applicant regarding the issue of encroachment of the proposed development onto state lands. (see Exhibit H) The CSLC is not asserting any claim at this time that the proposed development intrudes onto state lands. However, the CSLC indicates that the decision not to assert a claim at this time does not prejudice any future assertion of state ownership or public rights. The CSLC has acknowledged the presence of the above mentioned private recreation easement on the beach. Thus, the proposed project would not extend seaward of the mean high tide line onto sovereign land.

The subject site is in a private community. The proposed development would not result in direct adverse impacts, either individually or cumulatively, on physical vertical or lateral public access, or on sovereign lands seaward of the mean high tide line. Vertical public access and public recreation opportunities are provided at nearby Salt Creek County Beach Park a mile to the southeast. Therefore, the Commission finds that no public access is necessary with the proposed development. Thus, the Commission finds that the proposed development would be consistent with Section 30212 of the Coastal Act.

5. Visual Quality

Section 30251 of the Coastal Act states:

> *The scenic and visual qualities of coastal areas shall be considered and protected as a resource of public importance. Permitted development shall be sited and designed to protect views to and along the ocean and scenic coastal areas, to minimize the alteration of natural land forms, to be visually compatible with the*

character of surrounding areas, and, where feasible, to restore and enhance visual quality in visually degraded areas. New development in highly scenic areas such as those designated in the California Coastline Preservation and Recreation Plan prepared by the Department of Parks and Recreation and by local government shall be subordinate to the character of its setting.

The proposed project is to repair a failed slope. The proposed slope repair involves the installation of a shoring wall and caissons. Only the uppermost five feet of the wall would extend above ground. A crib wall near the base of the slope is also proposed, but it would be entirely underground. Therefore, the proposed wall would not be visible for the most part. Further, if homes are rebuilt on the subject site, then most of the proposed slope repair would be obscured by the homes. In addition, the proposed project is located in a private community. Therefore, the proposed project would not block any public views to the shoreline. Public views along the coast from public trust land seaward of the mean high tide line would be similar to the views which currently exist since the bluffs are altered and developed with homes which step down the bluff face. Further, since the private beach is flanked on either side by rocky headlands which extend several hundred feet into the ocean, it would be difficult for the public to access the part of the beach seaward of the mean high tide line in order to view the bluffs. The proposed development would also remove weedy, non-native vegetation which has grown on the site, creating an unattractive sight. Also, reconstructing the bluff as proposed would hide the exposed underside of Bay Drive. Thus, the Commission finds that the proposed project would be consistent with Section 30251 of the Coastal Act.

C. Local Coastal Program

The City of Laguna Beach local coastal program ("LCP") is effectively certified. However, several locked-gate beachfront communities are deferred, including Three Arch Bay. The subject site is located in Three Arch Bay. Therefore, the standard of review for the proposed project is conformity with the Chapter 3 policies of the Coastal Act and not the certified LCP. Section 30604(a) provides that a coastal development permit should not be approved for development which is inconsistent with Chapter 3 of the Coastal Act and which would prejudice the ability of the local government to prepare an LCP consistent with Chapter 3.

The proposed project has been conditioned to be consistent with the geologic hazards, shoreline protection devices, and marine resources policies of Chapter 3 of the Coastal Act. Therefore, the Commission finds that the proposed project would not prejudice the ability of the City of Laguna Beach to prepare an LCP for the Three Arch Bay community, the location of the subject site , that is consistent with the Chapter 3 policies of the Coastal Act.

D. California Environmental Quality Act

Section 13096 of Title 14 of the California Code of Regulations requires Commission approval of Coastal Development Permits to be supported by a finding showing the permit, as conditioned, to be consistent with any applicable requirements of the California Environmental Quality Act (CEQA). Section 21080.5(d)(2)(A) of CEQA prohibits a proposed development from being approved if there are feasible alternatives or feasible mitigation measures available which would substantially lessen any significant adverse effect which the activity may have on the environment.

The applicant considered other geotechnical alternatives including soil nailing, buttress fills without a shoring wall, chemical grouting and a seawall at the toe of the slope. The primary goal of the proposed project is to recreate the slope in approximately the same landform that previously existed prior to the landslide and to return it to its previous use as residential sites as well as to stabilize the road (Bay Drive) at the top of the bluff. Due to the landslide, Bay Drive, and adjacent properties seaward of Bay Drive to the east and west of the subject site, have lost lateral structural support.

While the rejected alternatives may provide site stability, they do not all provide for the proper drainage of the site and thus were rejected. Although the rejected soil nailing alternative would allow for the installation of necessary drainage improvements, this alternative would not achieve an acceptable level of safety without similar excavation and recompaction (landform alteration) and a shoring wall similar to what is being proposed under the proposed project. Further, the applicant could not obtain local government approval for a seawall located at the toe of the bluff.

The chosen alternative will not have significant adverse effects on the environment. The proposed project is an acceptable method to achieve long-term stability of the site, adjacent road, and adjacent properties. The proposed project would have no adverse impacts on the stability of adjacent properties. Further, the proposed development is located in an urban area. Development previously existed on the subject site. All infrastructure necessary to serve the site exist in the area.

The proposed project has been conditioned in order to be found consistent with the development policies regarding hazards, shoreline protection devices, and marine resources of Chapter Three of the Coastal Act. To assure structural stability and to minimize risks to life and property from geologic hazards, feasible mitigation measures requiring: 1) an assumption-of-risk deed restriction, 2) conformance with geotechnical recommendations, 3) landscaping requirements, 4) prohibiting the staging and storing of construction equipment and materials on the beach, and 5) identifying the disposal site; will minimize all significant adverse environmental effects.

As conditioned, there are no feasible alternatives or feasible mitigation measures available which would substantially lessen any significant adverse effect which the activity may have on the

environment. Therefore, the Commission finds that the proposed project, as conditioned, can be found consistent with the requirements of the Coastal Act to conform to CEQA.

9629F:jta

APPENDIX A
SUBSTANTIVE FILE DOCUMENTS

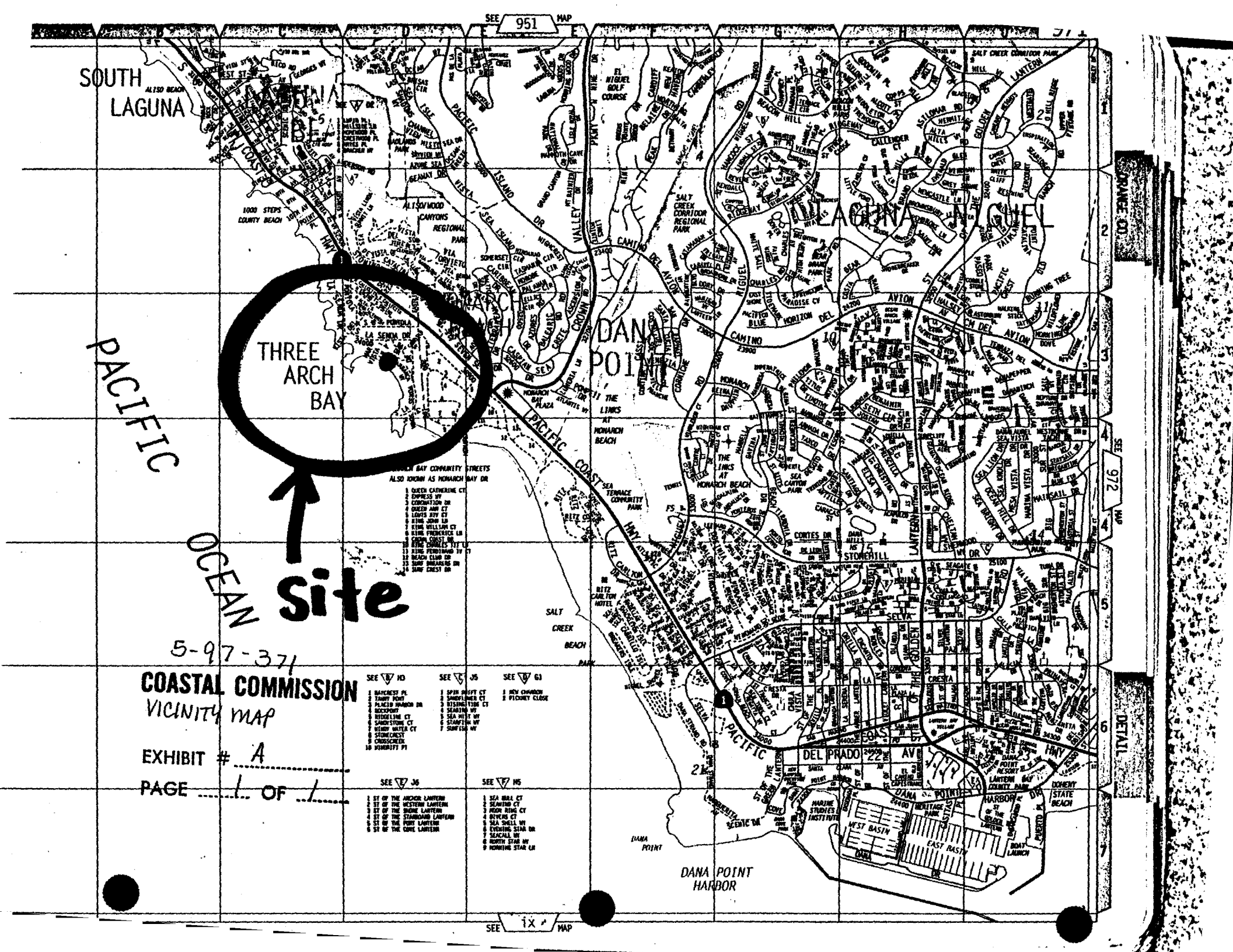
1) "Preliminary Geotechnical Investigation", Proposed Four Lot Residential Development, Lots 26, 27, 28, and 29 of Tract 970, Three Arch Bay, South Laguna Beach, California, dated April 11, 1997, prepared for James Conrad by Hetherington Engineering, Inc. (Job No. 1800.2)

2) "Supplemental Geotechnical Investigation", Proposed Residential Development, Lots 26, 27, 28, 29, and 30 of Tract 970, Three Arch Bay, South Laguna Beach, California, dated January 26, 1998, prepared for James Conrad by Hetherington Engineering, Inc. (Project No. 1800.3)

3) Letter from Noble Consultants dated March 6, 1998 to James Conrad (#823-01)

4) December 17, 1997 letter from the California Regional Water Quality Control Board - San Diego Region to James Conrad

5) January 14, 1998 letter from the California State Lands Commission to James Conrad (File Ref: SD 97-12-15.4).



5-97-371

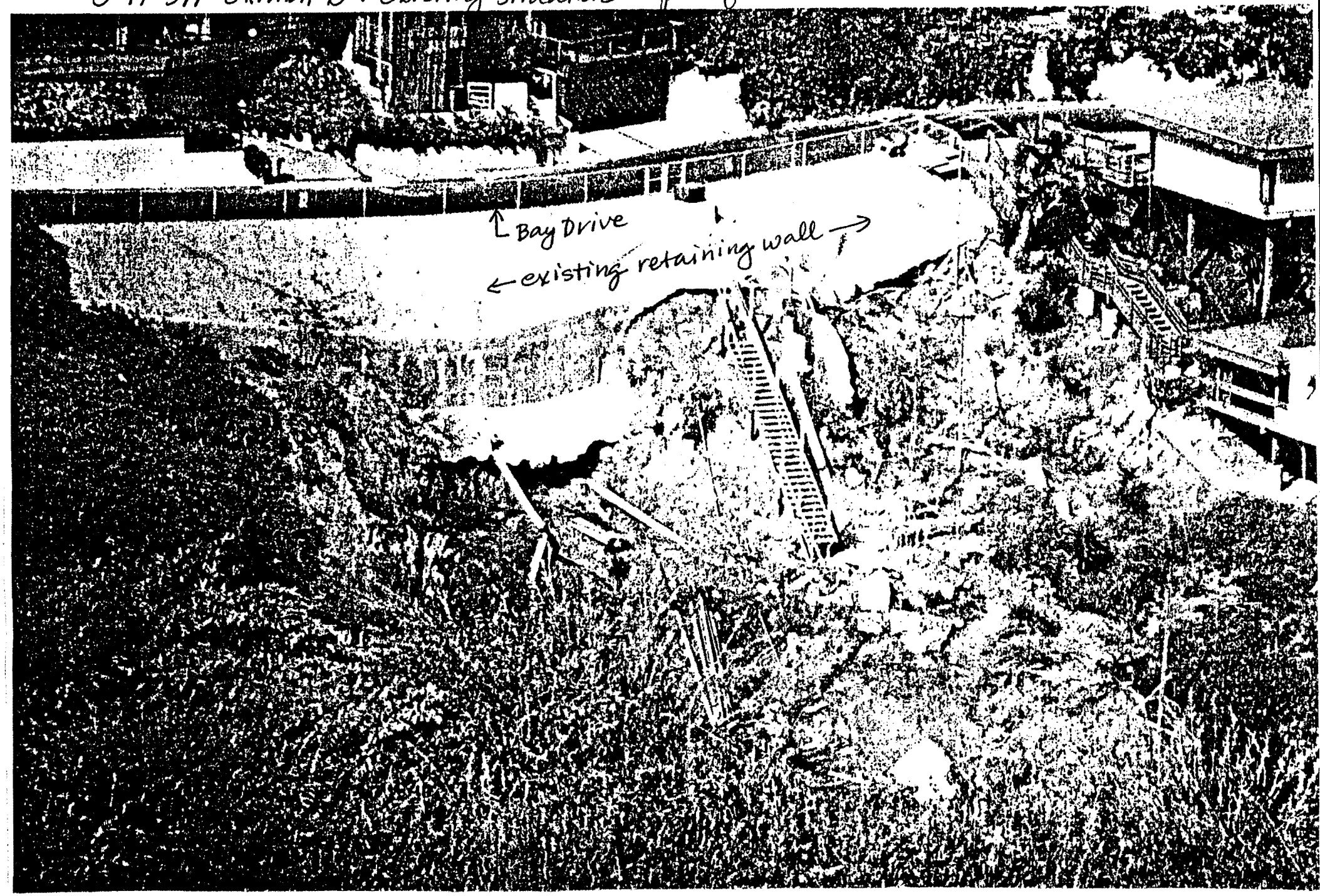
COASTAL COMMISSION

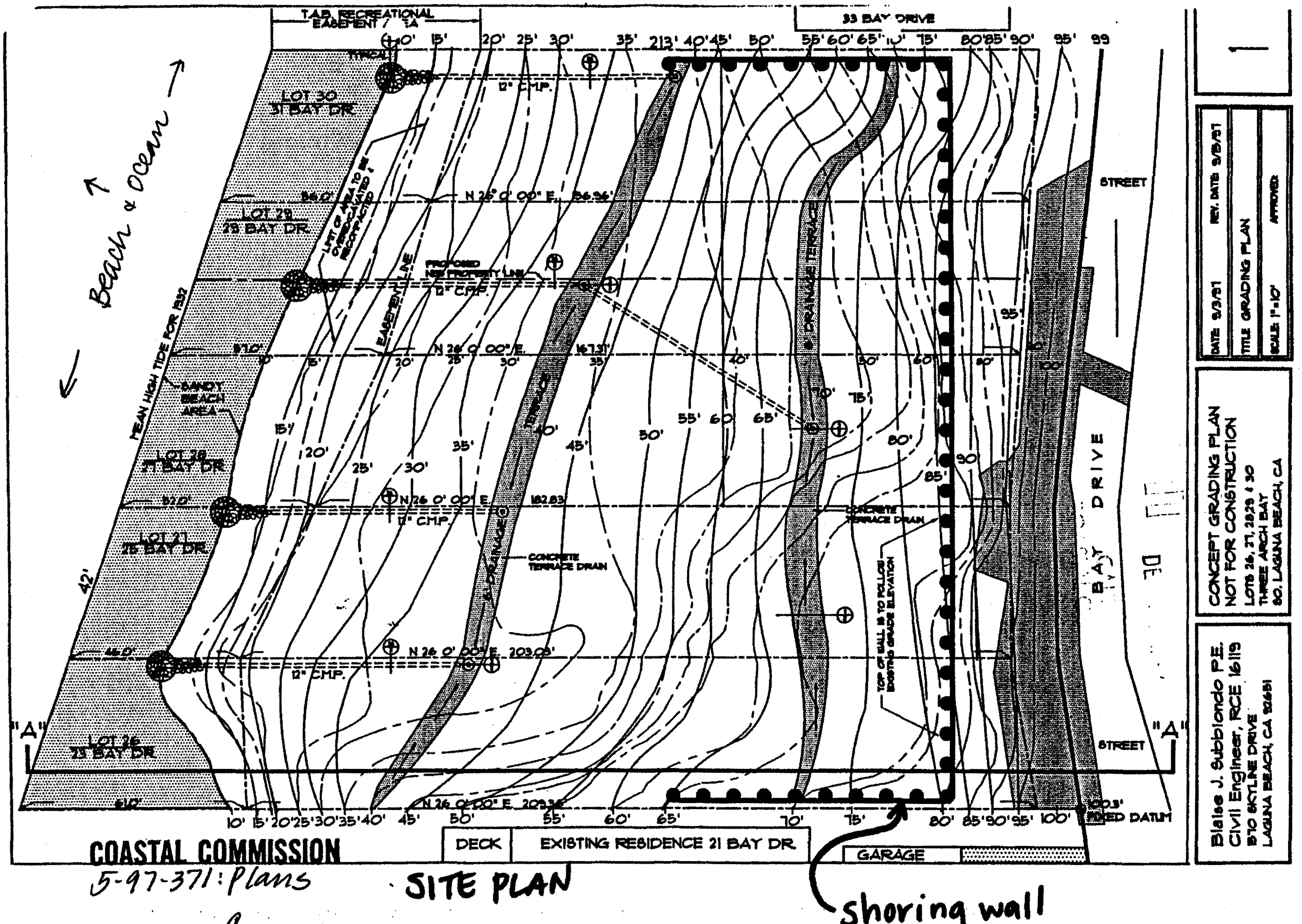
VICINITY MAP

EXHIBIT # A

PAGE 1 OF 1

5-97-371 Exhibit B : existing situation - p. 1 of 1



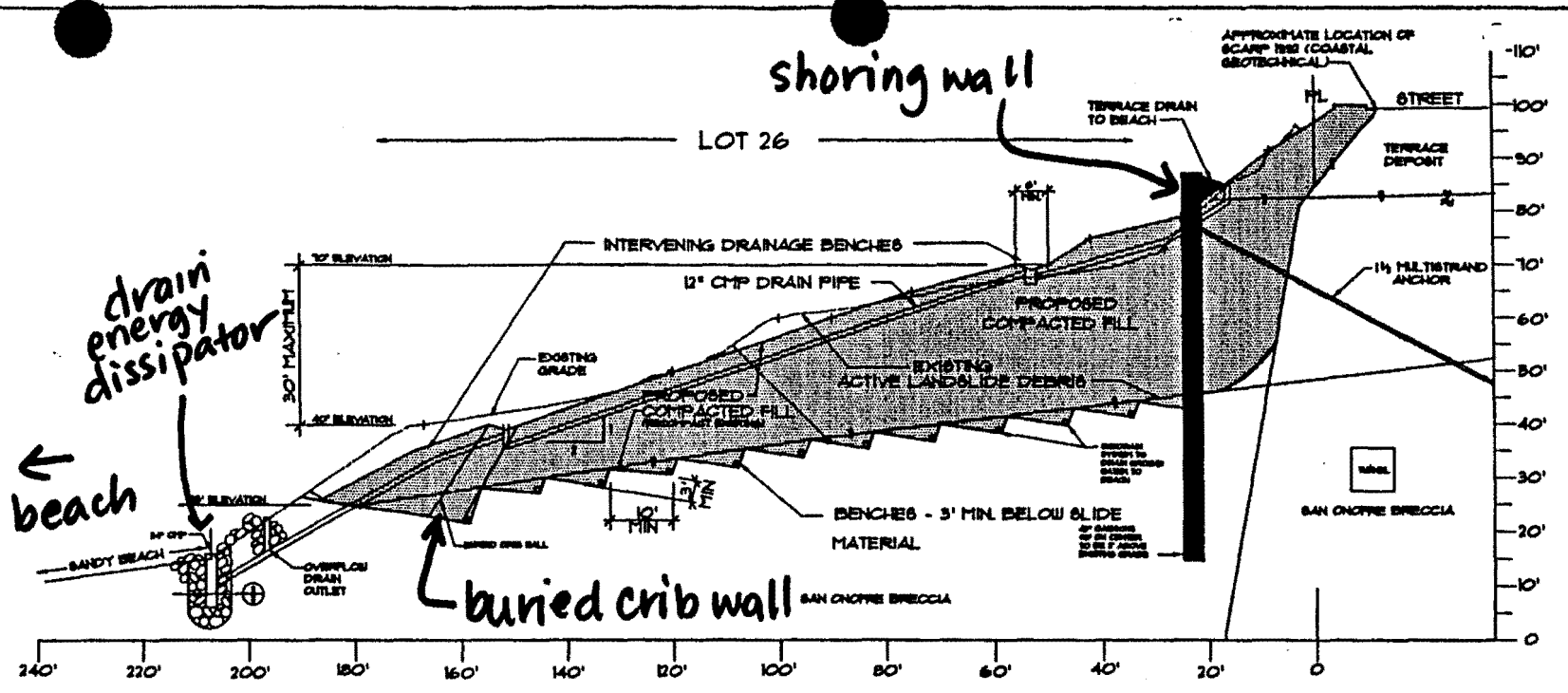


COASTAL COMMISSION

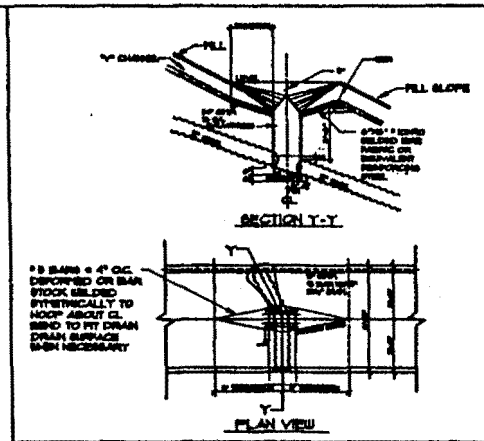
5-97-371: Plans

EXHIBIT # C

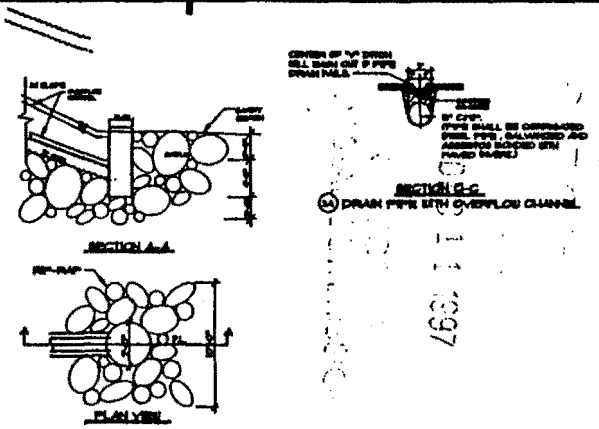
PAGE 1 OF 2



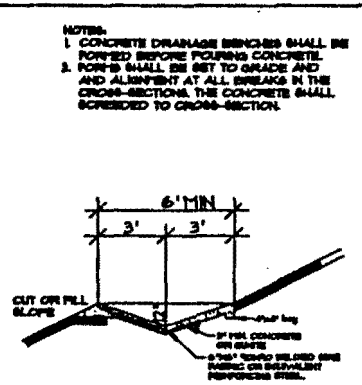
SECTION "A" - "A" profile SCALE: 1"=10'



③ INLET STRUCTURE



② OUTLET STRUCTURE SCALE: 1"=5'-0"



① INTERCEPTOR TERRACE

2

DATE: 9/3/97	REV. DATE: 9/15/97	
TITLE: SECTION A & DETAILS		
SCALE: VARIES	APPROVED:	

CONCEPT GRADING PLAN
NOT FOR CONSTRUCTION
LOTS 26, 27, 2829 & 30
THREE ARCH BAY
30, LAGUNA BEACH, CA

Blaise J. Subbiondo P.E.
Civil Engineer, RCE 16119
1570 SKYLINE DRIVE
LAGUNA BEACH, CA 92651

COASTAL COMMISSION
5-97-371 : Plans

EXHIBIT # C
PAGE 2 OF 2

Cal/EPA

San Diego Regional Water Quality Control Board

9771 Clairemont Mesa Blvd, Suite "A" San Diego, CA 92124-1324 (619) 467-2952 FAX (619) 571-6972

December 17, 1997

Mr. James Conrad
1590 S. Coast Hwy., Suite 17
Laguna Beach, California 92651

Dear Mr. Conrad:

PROPOSED DRAINAGE SYSTEM

By letter dated December 16, 1997 you submitted plans for constructing a passive drainage system on your property in South Laguna Bay. We understand that the purpose of the drainage system is to divert ground water around a proposed shoring wall on the site to the adjacent beach. We further understand that the proposed drainage system will not result in a significant change to the current discharge of ground water to the beach.

Based upon this understanding, we have no objection to the construction of the proposed drainage system. If you have any questions or need further information, please call Mr. Bob Morris of my staff at (619) 467-2962.

Respectfully,

JOHN H. ROBERTUS
Executive Officer

RWM

JOHN H. ROBERTUS
Executive Officer

RWM

5-97-371

COASTAL COMMISSION
Water Quality Control Board Comments

EXHIBIT # D

PAGE 1 OF 1

ORIGINAL IN MAIL
COPY BY FAX: 562/590-5084

January 8, 1998

Mr. John Auyong
CALIFORNIA COASTAL COMMISSION
200 Oceangate, Suite 1000
Long Beach, CA 90802
Ph.: 562/590-5071

5-97-371
COASTAL COMMISSION
Opposition Letters
EXHIBIT # E
PAGE 1 OF 5

REFERENCE: APPLICATION #5-97-371
SHORING WALL & GRADING
BAY DRIVE, LAGUNA BEACH

Dear Mr. Auyong:

We are the owners of 22 Bay Drive located directly across the street from this project. Our main concerns with this project are personal safety, the security of ours and neighboring properties, preservation of neighborhood character and environmental issues. This site is an active landslide and all three houses formerly located on these lots have slid away. We urge the Commission to take extra precautions on this dangerous site to assure that lateral support and safety is achieved.

We have specific concerns with the project as proposed:

1. **Safety and Excessive House Size.** We do not believe the design proposed with a vertical shoring wall will be strong enough to provide required support for the road and houses above. The design straddles the shoring wall with tiebacks under the road to the edge of neighboring properties. If these new houses slide, as all on these sites have done in the past, we fear the road and existing houses across the street will also slide endangering property and public safety. Most homes in the area are sized in the 2,000 to 3,000 SF range. The applicant is proposing much larger houses that we believe are incompatible with the neighborhood and geologically unsafe.

2. **Intrudes on Beach.** The landslides that have occurred on this site have deposited debris and soil on the sandy beach access area right of way of these lots. The applicant plans to re-compact this debris and leave it on the beach right of way. We believe the full beach right of way should be restored. On a high tide condition it is not possible to walk past these lots on the sand. This reduces enjoyment of the beach and can be a serious safety hazard allowing only one means of exit from this beach area.

3. **Drainage Deposit on Beach.** There is a great deal of groundwater seeping through these lots. They are planning to collect this and deposit it at the edge of the sandy beach area. We are concerned that this will create stagnant water, odors and erosion problems.

4. **Stringline Violation.** The caissons shown and the homes being proposed extend much closer to the ocean than we believe should be allowed.

   We have enclosed a topographic survey showing the original location of the house at 23 Bay Drive. If you extend a line between this house and 33 Bay Drive a modified stringline close to the street is established. The applicant is proposing houses on these lots beyond this line and much closer to the ocean.

5. **No Greenbelt Provided.** This is a development which builds out five lots with four houses. The houses are located with minimum sideyard setbacks. We believe a development of this magnitude should provide greenbelt areas between the houses.

6. **View Obstruction.** These houses with their narrow setbacks eliminate neighboring and community views of the ocean from above. The project proposes the only five level homes in this area and dramatically changes the appearance from the beach and ocean.

7. **Environmental Issues.** We believe a project of this magnitude should be thoroughly examined considering all environmental issues.

8. **Evaluate as a Development.** The applicant is bringing this project forward as individual houses. This is really a development of five lots and should be evaluated considering its total effect. We believe a reasonable feasible alternative method of development could be employed utilizing a private driveway to lower the houses and minimize the effect on neighboring and community views.

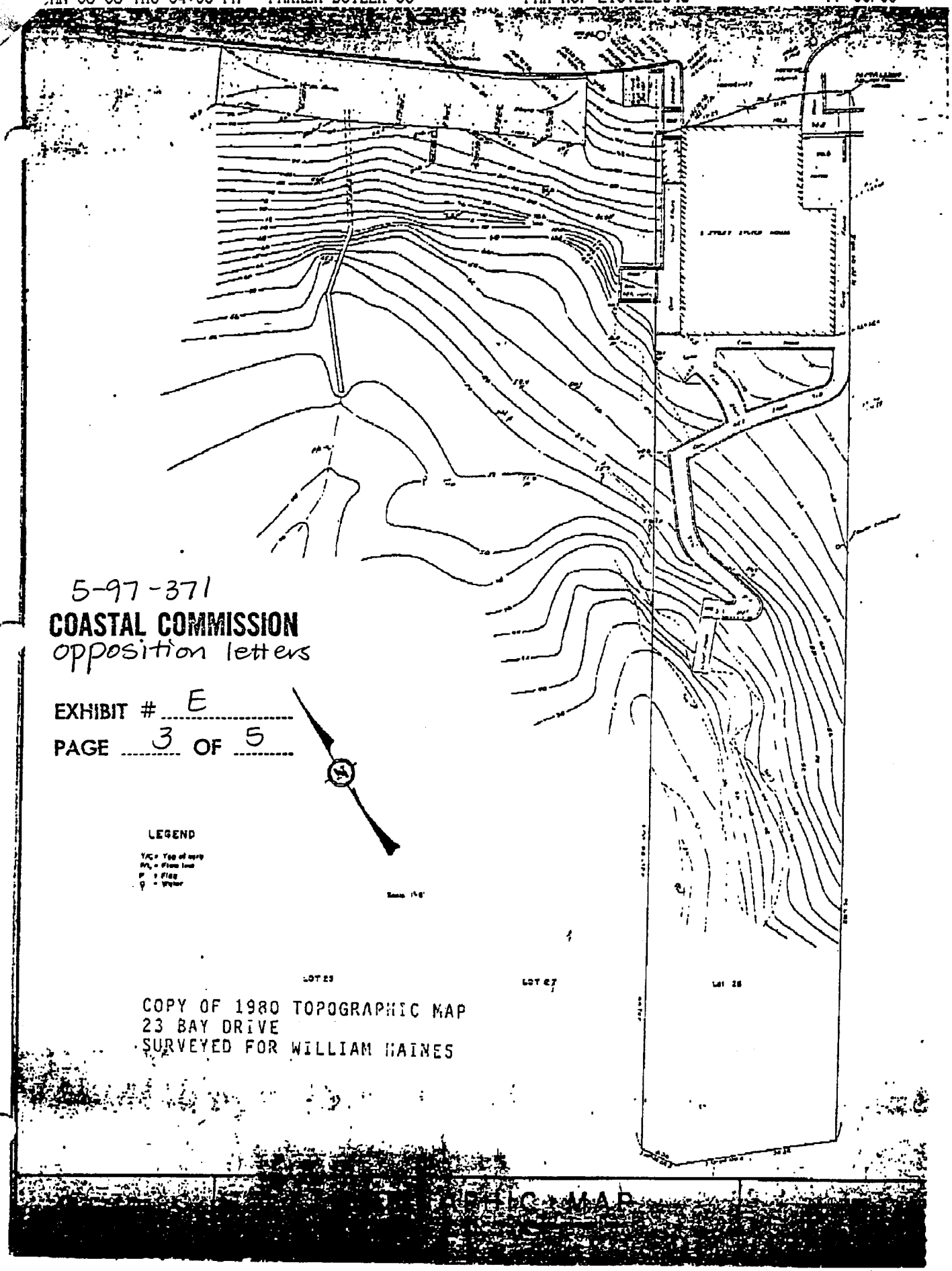
Thank you very much for considering our concerns.

Sid & Lesley Danenhauer
22 Bay Drive
Laguna Beach, CA 92672
Work Phone: 213/727-9800

Enclosure: 1980 Topographic Map
23 Bay Drive

5-97-371
COASTAL COMMISSION
opposition letters

EXHIBIT # E
PAGE 2 OF 5



5-97-371
COASTAL COMMISSION
opposition letters

EXHIBIT # E
PAGE 3 OF 5

LEGEND

COPY OF 1980 TOPOGRAPHIC MAP
23 BAY DRIVE
SURVEYED FOR WILLIAM HAINES

Mr. and Mrs. Donald A. Norberg
86 S. La Senda
Three Arch Bay
Laguna Beach, CA 92677

January 9, 1998

via fax: 562 590 5084
Original by mail

Mr. John Auyong
CALIFORNIA COASTAL COMMISSION
200 Oceangate Suite 1000
Long Beach, CA 90802

Reference: Application # 5-97-371
Shoring Wall, Bay Drive, Laguna Beach

Dear Mr. Auyong:

We are property owners near the location of the proposed wall. This letter is to bring to your attention four issues which concern us about the project:

Piecemeal Approach vs. An Integrated Whole. The wall as proposed is a cooperative effort among owners of five individual lots. As a strategy to prevent Three Arch Bay and the City of Laguna Beach from reviewing this project as a development, these five projects (the wall and four homes) have been carefully managed through the design review process one at a time. When concerned neighbors, who, among other things, do not want their beach to end up looking like a condominium development, asked to review these projects together, the common architect (and owner/developer of one of the lots) said he can't control a client's building schedule. The fact of the matter is, he has said privately they need to build all of them together to achieve economies of scale on this difficult to access construction site. Moreover, all of the design review approvals have been requested within a few months of one another, and, of course, the individual owners found a way to collectively cooperate on building this common wall. The Coastal Commission will be requested in the next few months to individually approve the four single family residences which will abut this wall. Why not review all five projects together to save everyone's time, especially yours?

Alternative Approach. Late in the design review process, after consulting with the Laguna Beach City Staff concerning feasibility, a number of concerned neighbors asked the common architect to consider dropping a private driveway into all the homes in the project, similar to the driveway that serves the homes at 31331 and 31341 Pacific Coast Highway, about one mile away. Understandably at this late date, not wanting to go back to the drawing board, the architect objected. Because of the late timing, this approach was never given a fair hearing (and was never reviewed at all by the Three Arch Bay design review board). Nevertheless, the advantages it bring to the project are significant: (1) Safety. Residences will not back up to a slope subject to landslide; a buffer is created by the width of the driveway. (2) View Equity: The white water view of the neighbors will

still be lost, but much more ocean view is preserved; (3) The "Tunnel Effect" created by four garages on a street so narrow it meets no city codes will be eliminated; (4)Access: If repairs ever need to be made to the wall and caissons being built on an active landslide, the driveway approach will give access to make repairs as opposed to digging up the street to find and fix a problem. (5) Construction Access is substantially improved. (6) Potential Beach Access. If this alternative is implemented, it is most likely that a number of private individuals would have a keen interest in purchasing one or more of these lots for the benefit of Three Arch Bay, ultimately giving the community appropriate access to its beach. This private driveway is the very best alternative to a difficult design problem. It would resolve issues with most, if not all, of the concerned neighbors. By this letter we respectfully ask the Coastal Commission to seriously review this alternative. A design sketch of this approach, commissioned by the neighbors, is being forwarded to you under separate cover.

Liability. Several years ago our next door neighbor at 84 S. La Senda requested Coastal Commission approval of a blufftop swimming pool. As a condition for approval, the Commission required the following Deed Restriction: *The applicant understands that this site may be subject to extraordinary hazard from landslide; and applicant hereby waives any future claims against the California Coastal Commission or it's successors in interest for damage from such hazards.* A copy of the Commission's entire Deed Restriction document is, of course, in your file. We request a similar deed restriction for this wall and on these lots in order to prevent a future liability for the Commission, The City of Laguna Beach, and The Three Arch Bay Association.

Design of the wall itself. As property owners in the private community of Three Arch Bay, we have a right and an obligation to be overly concerned about any project built on an active landslide within our borders. Throughout the design review process, whenever someone asked about the technical aspects of this project (geology, soils engineering, design engineering, stress calculations, hydrology, or whatever), we were told in no uncertain terms that these subjects were to be considered later by the engineering staff at the City of Laguna Beach and the Coastal Commission. Some of us insisted that the Three Arch Bay Association employ an engineering consultant for this project. This was accomplished. Nevertheless, to date, none of this data has been made readily available for review by members of this community who ultimately must pay the bill if anything goes wrong.

By this letter, we respectfully request the opportunity to review all of the plans and engineering data on file with the Coastal Commission prior to this project being approved by the Commission Staff. As discussed with you on Thursday, January 8, 1998, we will call you next week to set a mutually convenient time for a meeting regarding the issues outlined above.

Thank you for addressing our concerns.

Very truly yours,

5-97-371
COASTAL COMMISSION
Opposition letters
EXHIBIT # E
PAGE 5 OF 5

FROM THE STUDIO OF

WYLAND

5-97-371
Exhibit
F
1.101
Support letter

WYLAND STUDIOS
509 SOUTH
COAST HIGHWAY
LAGUNA BEACH, CALIFORNIA
92651

TEL 714.497.4081
FAX 714.497.7852

January 15, 1998

California Coastal Commission
200 Oceangate, Suite 1000
Long Beach, CA 90802-4302

Re: Shoring wall for Bay Drive, South Laguna Beach, California

Aloha Commissioners:

I would like to ask for your support for the Bay Drive shoring wall as proposed by Mr. Jim Conrad. I worked with Mr. Conrad on a similar project for my new Studio/Gallery in downtown Laguna Beach. In my project we successfully installed a shoring wall on an oceanfront parcel of land and Mr. Conrad was both the Architect and the General Contractor. During both the design and construction phases, I was particularly impressed with Mr. Conrad's sensitivity to the many environmental issues.

I have seen the proposal that is up for your review. I am not an engineer so I could not comment about the structural issues, however, I understand that a thorough Geotechnical review has been undertaken and I am confident that with Mr. Conrad at the helm of such a project, it will be done to the highest standards.

Once again, I urge you to give your support for this proposal.

Best fishes,
WYLAND

5-97-371
Exhibit 6
Lot line Adjustment
p. 1 of 2

November 14, 1997

Charles & Valorie Griswold
19737 Live Oak Canyon Road
Trabuco, CA 92679

Re: Lot Line Adjustment No. 97-07

Dear Mr. and Mrs. Griswold:

At a regularly scheduled meeting of the City Council of the City of Laguna Beach held November 4, 1997, action was taken approving your application for Lot Line Adjustment No. 97-07 for property located at 27 & 31 Bay Drive. In order to finalize this process, the **original** copy of the document must be recorded by you with the Orange County Recorder. Please come in to the Department of Community Development at City Hall as soon as possible to pick up the **original** document for recording. The Lot Line Adjustment approval will automatically expire 90 days from the date of the City Council action if it has not been recorded.

For your information, the address of the Orange County Recorder is 630 N. Broadway, Finance Building #100, Santa Ana, and the telephone number is 834-2500.

If you have any questions regarding this matter, please call our Community Development Department at (714) 497-0712.

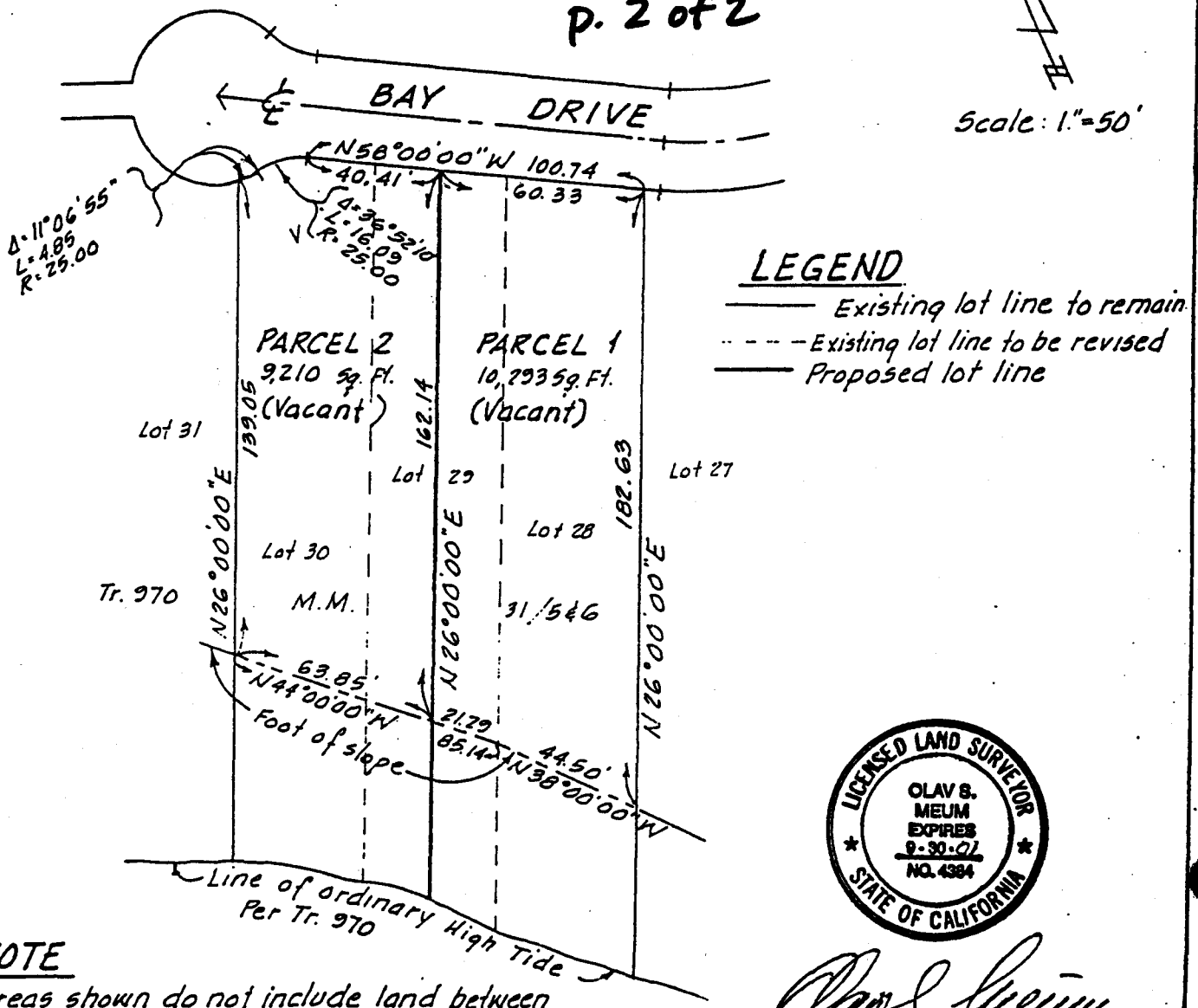
Sincerely,

Chris Kreymann
Principal Planner

EXHIBIT B
LOT LINE ADJUSTMENT NO. LL -
(MAP)

OWNERS	EXISTING PARCLES AP NUMBER	PROPOSED PARCELS REFERENCE NUMBER
Charles & Valorie Griswold	056-180-44 & 47	Parcel 1
Timothy & Deborah McMullen	056-180-58	Parcel 2

5-97-371
Exhibit G
p. 2 of 2



LICENSED LAND SURVEYOR
OLAV S. MEUM
EXPIRES 9-30-01
NO. 4384
STATE OF CALIFORNIA

NOTE

Areas shown do not include land between "Foot of slope" and "Line of ordinary high tide"

Olav S. Meum

Olav S. Meum LS 4384

STATE OF CALIFORNIA — PETE WILSON, *Governor*

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

ROBERT C. HIGHT, *Executive Officer*
(916) 574-1800 FAX **(916) 574-1810**
California Relay Service From TDD Phone **1-800-735-2922**
from Voice Phone **1-800-735-2929**

Contact Phone: (916) 574-1892
Contact FAX: (916) 574-1925
E-Mail Address: smithj@slc.ca.gov

January 14, 1998

5-97-371

File Ref: SD 97-12-15.4

COASTAL COMMISSION
State Lands Comm. Letter
EXHIBIT # H
PAGE 1 OF 2

James Conrad, Architect
1590 S. Coast Hwy. Suite 17
Laguna Beach CA 92651

Dear Mr. Conrad:

SUBJECT: Coastal Development Project Review for Proposed Retaining Wall and Grading, Three Arch Bay, Laguna Beach

This is in response to your request for a determination by the California State Lands Commission (CSLC) whether it asserts a sovereign title interest in the property that the subject project will occupy and whether it asserts that the project will intrude into an area that is subject to the public easement in navigable waters.

The facts pertaining to the project, as we understand them, are these:

You propose to construct a retaining wall, fill and regrade an existing slope, and construct a subdrain system in the bluff adjacent to Lots 26, 27, 28, 29 and 30 of Tract 970, M.M. 31-5, Orange County, adjacent to Three Arch Bay, also referred to as 23, 25, 27, 29 and 31 Bay Drive in Laguna Beach. The work is needed to protect the bluff top road and reestablish the bluff due to the effects of a landslide. These lots run some 200' parallel to the ocean and are presently undeveloped. There are existing residences on the lots both up and down coast. Based on the Concept Grading Plan dated September 3, 1997 and revised September 11, 1997, the retaining wall will be located between the 50' and 85' contour and the subdrain system will terminate at the 10' contour. The plan identifies an existing recreation easement. This easement is more specifically described in the title report as a 1932 recorded easement, dedicated and conveyed to the record owners of each and every lot in Tract 970 and 971, and/or their successors in interest, as being "... an easement over that portions of Lot 25 and Lots 27 to 32, both inclusive, of said Tract 970, between the foot of the slope and the line of ordinary high tide of the Pacific Ocean as shown on ..., for ingress and regress over and across, conduct of lawful sports upon, and for the free use and enjoyment of the record owners of each and every of said lots".

As to that portion of the project involving the proposed retaining wall, it does not

appear that it will occupy sovereign lands or intrude into an area that is subject to the public easement in navigable waters.

The subdrain system will involve the underground placement of four 12" Corrugated Metal Pipes which will drain into four eight-foot diameter outlet structures surrounded by rip rap. The outlet structures appear to terminate at or about the 10' elevation. We do not at this time have sufficient information to determine whether this portion of the project will intrude upon state sovereign lands or interfere with other public rights. Development of information sufficient to make such a determination would be expensive and time-consuming. We do not think such an expenditure of time, effort and money is warranted in this situation, given the limited resources of this agency and the circumstances set forth above. This conclusion is based on the size and location of the property, the character and history of the adjacent development, and the minimal potential benefit to the public, even if such an inquiry were to reveal the basis for the assertion of public claims and those claims were to be pursued to an ultimate resolution in the state's favor through litigation or otherwise.

Accordingly, the CSLC presently asserts no claims that the subdrain system intrudes onto sovereign lands or that it would lie in an area that is subject to the public easement in navigable waters. This conclusion is without prejudice to any future assertion of state ownership or public rights, should circumstances change, or should additional information come to our attention.

If you have any questions, please contact Jane E. Smith, Public Land Management Specialist, at (916) 574-1892.

Sincerely,

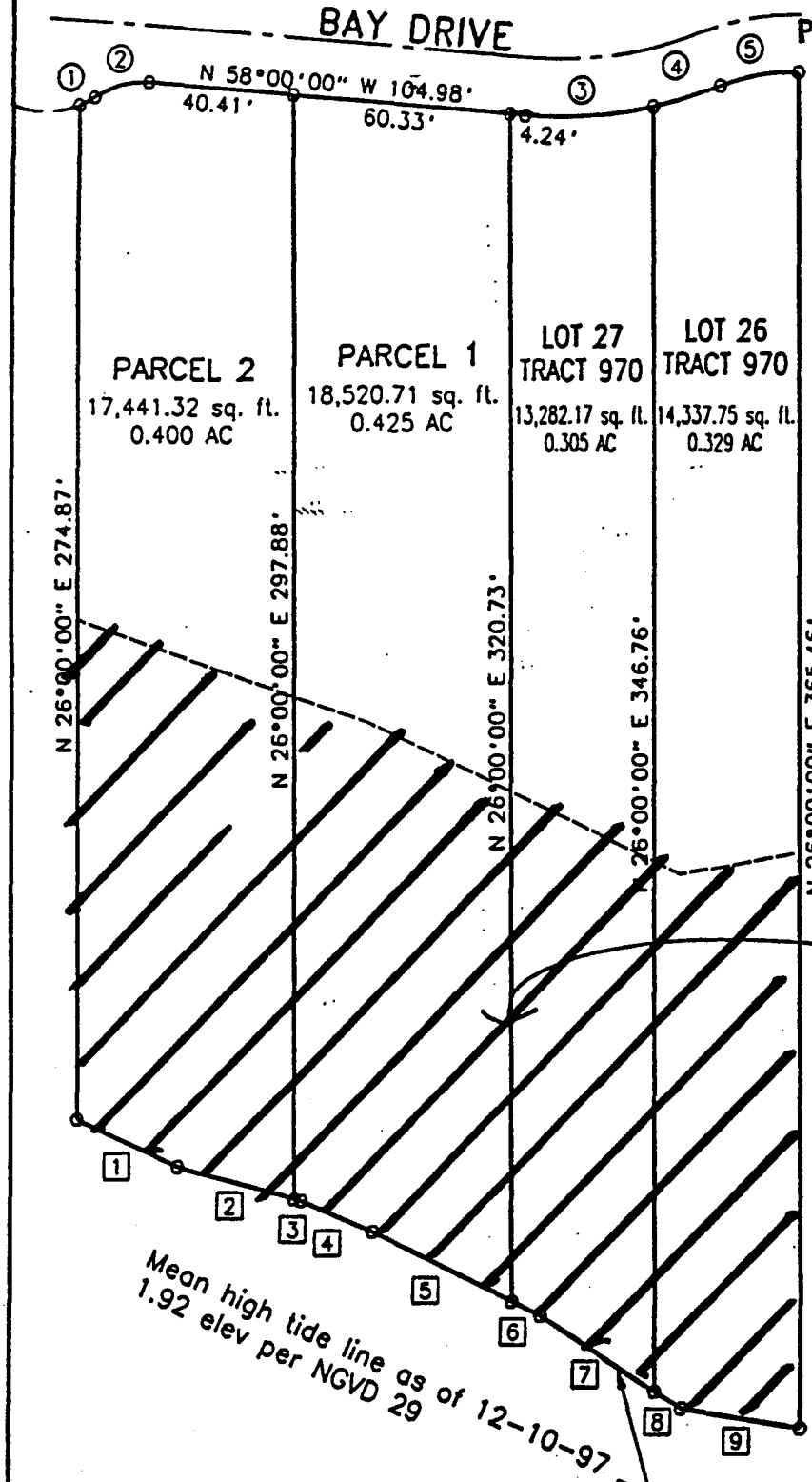
Robert L. Lynch, Chief
Division of Land Management

5-97-371
COASTAL COMMISSION
State Lands Comm. letter
EXHIBIT # H
PAGE 2 OF 2

TOAL ENGINEERING
139 AVENIDA NAVARRO
SAN CLEMENTE, CALIFORNIA 92672
(714) 492-8586
FAX (714) 498-8625

JOB 8397
SHEET NO. ____ OF ____
CALCULATED BY MSF DATE 12-11-97
CHECKED BY ____ DATE ____
SCALE 1"=50'

5-97-371
COASTAL COMMISSION
current mean high tide line survey
EXHIBIT # I
PAGE 1 OF 1



SCALE: 1"=50'

LINE TABLE

LINE	BEARING	DISTANCE
1	N 39°11'48" W	30.84
2	N 48°35'40" W	33.20
3	N 48°35'40" W	2.00
4	N 39°49'20" W	21.54
5	N 36°43'33" W	43.22
6	N 36°43'33" W	9.14
7	N 30°44'18" W	38.09
8	N 30°44'18" W	8.89
9	N 53°46'19" W	3.10

CURVE TABLE

ARC	DELTA	RADIUS	LENGTH
1	11°06'55"	25.00	4.85
2	36°52'10"	25.00	16.09
3	16°27'36"	125.00	35.91
4	8°50'24"	125.00	19.29
5	22°38'13"	55.00	21.73

RECREATIONAL EASEMENT AREA

LICENSED LAND SURVEYOR
OLAV S. MEUM
EXPIRES 9-30-01
NO. 4384
STATE OF CALIFORNIA

Olav S. Meum LS 4384

NOBLE
CONSULTANTS, INC.

5-97-371
COASTAL COMMISSION
Coastal engineers assessment
EXHIBIT # J
PAGE 1 OF 5

RECEIVED
MAR 11 1998
CALIFORNIA
COASTAL COMMISSION

March 6, 1998

823-01

James Conrad
James Conrad,Architect
1590 South Coast Highway, Suite 17
Laguna Beach, CA 92651

RE: Coastal Engineering Assessment
Coastal Development Permit Application 5-97-371
Shoring Wall and Bluff Repair at 23-31 Bay Drive, Laguna Beach, CA

Dear Mr. Conrad:

This letter summarizes our coastal engineering assessment of the above referenced development. Our scope of services has been limited to review of the relevant coastal processes of the Three Arch Bay, and providing responses to information requested by the California Coastal Commission. Letters from the Commission staff dated January 24 and 31, 1998 have asked the following coastal engineering related questions:

1. What is the controlling sand supply and shoreline processes within Three Arch Bay?

2. What is the potential for shoreline erosion and the necessity for shoreline protection devices?

3. What is the potential impact of seepage drainage on the beach?

Our response to these questions presented in this letter is based on a limited study effort consisting of a site visit to observe existing beach conditions, literature review, and assessment of potential project impacts based upon our professional judgement.

Controlling Sand Supply and Shoreline Processes

The project site is located at the southern end of the littoral physiographic unit known as the Laguna Beach Mini Littoral Cells of Orange County. This stretch of coastline which extends from the Newport Harbor entrance to Dana Point Harbor is characterized as one of projecting headlands, deep and shallow intervening bays with sandy beaches, and seacliffs. Three Arch Bay is a deep pocket beach approximately 1,400 feet long flanked by headlands that project seaward from either end of the crescent shaped beach by about 800 feet. As is the much of the Laguna coast, the shoreline within Three Arch Bay is urbanized with development and infrastructure close to the edge of the seacliff.

☐ 359 BEL MARIN KEYS, SUITE 9 NOVATO, CA 94949-5637 415/884-0727 FAX 415/884-0735
☑ 2201 DUPONT DRIVE, SUITE 620 IRVINE, CA 92715-1515 714/752-1530 FAX 714/752-8381

Because Three Arch Bay is a deep pocket beach, it is believed that the controlling coastal processes tend to be less influenced by alongshore sand transport and more dominated by cross shore sand exchanges that are related to short term storm driven episodes or longer lasting seasonal fluctuations. Studies which include the Laguna shoreline have been conducted by the US Army Corps of Engineers and the County of Orange under the auspices of the Coast of California Storm and Tidal Waves Study (CCSTWS.) Review of available documents indicates the following:

a) The Three Arch Bay shoreline has been stable between 1934 and 1981 with a peak width noted in 1959. Average beach widths have been observed to range from 69 to 130 feet between 1992 and 1994.

b) Alongshore transport past Three Arch Bay is estimated to be on the order of 10,000 to 20,000 cubic yards per year. Sand that passes by the area does not appear to be collecting within the embayment's beach as it apparently did between 1927 and 1987. It is speculated that the local nearshore profile has adjusted over time to a condition that is now conducive for transport to occur further offshore past the headlands.

In summary, existing studies have indicated that the alongshore sediment transport dynamics is not well understood within the Laguna Mini Cells primarily because of the lack of long term data. However, at Three Arch Bay, the deep pocket beach planform suggests that only a fraction of the net littoral transport that passes by the shore segment reaches the area, if at all, and permanent losses from the local beach to the offshore littoral currents may be minimal. Accordingly, we believe that the beach will respond more to changes in wave climate and tide which means that sand will likely move periodically inshore and offshore in response to prevailing northwesterly swell, local sea conditions, and occurrences of the more distant southern hemisphere swell. The fact that the deeply recessed pocket beach appears to have been relatively stable over time, indicates that permanent losses to the offshore probably does not occur to any significance.

Potential for Shoreline Erosion and the Necessity for Shoreline Protection Devices

Shoreline erosion processes along the entire Laguna coastline are dominated by a combination of seacliff retreat influenced by marine processes and slope failure and sloughing due to subaerial causes. Seacliff retreat rates have been estimated by Everts (1997) using geomorphic model methods, and analytical results predict average annual recessions ranging from 0.1 to 0.2 feet per year.

In reality, seacliff erosion within Three Arch Bay, as elsewhere along the south Orange County coast, is episodic and occurs sporadically in response to periods when beaches are depleted, storm swell occurrence is more intense and frequent, and the more severe storm related events arrive coincident with high tides. This El Niño winter is a good example of the more extreme conditions needed to produce erosional sequences. Reconnaissance of all beaches throughout the Laguna Mini Cell littoral reach indicates that they are severely depleted of sand which renders the adjacent seacliff toes

vulnerable to wave attack. Over time, this marine erosion processes leads to destabilization of the seacliff toe, and when combined with subaerial slope sloughing, causes the net seacliff recession that is observed. Although the quantitative estimates of seacliff recession given by Everts should be used with caution, they nevertheless provide an indication of the order of magnitude of the process within the locality. The proposed development at Lots 23 to 31 Bay Drive will be set back from the backshore by approximately 80 feet. This implies that structures will be well over 100 years away from seacliff retreat encroachment. The densely vegetated bluff toes within Three Arch Bay imply that seacliff erosion is low. However, given the special circumstances of the reactivated landslide, more conservative toe protection strategies are warranted and have been proposed to protect Bay Drive.

Landslide repairs at seacliffs nearly always entail a two part plan of action: stabilization of the soil mass itself using conventional geotechncial methods and erosion protection of the bottom soil block that provides the necessary lateral restraint to the upper reconstructed slope wedge. An extreme example of this principal is the history of the Portuguese Bend landslide and proposed toe buttress repairs at the Palos Verdes Peninsula. In this case, wave erosion of the base of the slide area has been a major factor in loss of slope stability and continued movement of the upper soil mass (U.S. Army, 1990.)

Protection of the slide toe at Three Arch Bay is similarly considered to be a mandatory requirement to repair the slope and prevent catastrophic loss of the Bay Drive right-of-way and existing structures behind the access roadway. Recent landslide activity and slope failures at the site have necessitated shoring of over steepened slopes at the street edge. Continued slope movement toward the beach has prompted a design remedy to stabilize the existing structures and infrastructure. Repairs consist of excavation of landslide debris material, construction of a tied-back retaining wall, placement and recompaction of suitable backfill, and measures to protect the slope toe from marine erosion (Subbiondo, 1997.)

In the long term, measures to protect the toe have been proposed and will be necessary to preserve the integrity of the repaired slope. The current proposal consists of a buried toe buttress wall. Over time, this structure will likely daylight as the slow process of marine erosion progresses inland. Alternatively, toe walls setback from the beach may be constructed to simulate natural rock features in a manner similar to those constructed elsewhere along the Laguna Beach shoreline. To preserve aesthetics, the structural wall stems of the toe walls are clad with a simulated rock finish constructed of integrally colored sculptured shotcrete that is textured by hand to simulate the local rock outcrop strata. The methodology has also been applied to bluff repairs and stabilization measures of over steepened and failed seacliffs in San Clemente and Encinitas.

Armoring of the shoreline will deprive the littoral cell of upper terrace deposit sediments that would otherwise enter the littoral system through seacliff retreat and slope sloughing processes. However, the overall impact may be insignificant. Estimates of sediment supply to the littoral system from Three Arch Bay seacliff retreat has been estimated to annually average a volume of less than 200 cubic yards per year. This translates to about one percent of the total net alongshore transport rate

past the shore segment. Thus, permanently armoring the seacliff within the slide repair section (about 200 feet) implies that in the long term less than 0.2 percent of the alongshore transport volume may be impacted. In our opinion, this number is too small to be considered as being accurate given the limited state of knowledge of the local shoreline processes. Consequently, the potential for adverse impact on the littoral system by armoring the landslide toe must be interpreted as one of non-significance. This conclusion may be further put in perspective by considering the volume of sediment delivery from the nearby Aliso Creek. This fluvial sand contributor (estimated to discharge an annual average volume of 12,000 cubic yards per year) is the dominant source of coarse sand to the south Orange County beaches.

Potential Impact of Seepage Drainage on the Beach

The proposed slide repair includes four gravel drain outlets at the base of the slope which are intended as the terminus points of the groundwater collection system necessary to prevent adverse build up of subsurface water pressures or slope runoff. The drains are approximately 10 feet in diameter and will extend about fourteen feet below sand level. Groundwater seepage throughout the Laguna Beach coastline is common and naturally occurring. In our opinion, the proposed groundwater outlet structures will not adversely impact the local beach. It is anticipated that seepage rates will be low flows. Consequently it is expected that the porous cross sections of the storm drain outlets will allow for natural percolation to occur within the beach sands for most of the time. During and immediately after winter seasons having above normal rainfall totals, it is conceivable that seepage discharges may daylight to the surface at times. In such instances minor rilling of the beach could occur. However, since the entire sand lense within Three Arch Bay can be and often is mobilized by wave action, we believe that any groundwater influences to the beach will be insignificant by comparison.

This concludes our reponse to the Coastal Commission's request for information. Please contact us should you need clarification to the items discussed in this letter or if you have have any questions concerning our professional opinions that have been expressed.

Yours very truly,

NOBLE CONSULANTS, INC.

Jon T. Moore
Senior Engineer

JTM:jm
Attch: Bibliography

Bibliography

California Coastal Commission, January 24, 1998. Letter to James Conrad, Coastal development permit application 5-97-371; shoring wall and bluff repair at 23-31 Bay Drive, City of Laguna Beach.

California Coastal Commission, January 31, 1998. Letter to James Conrad, Coastal development permit application 5-97-371; shoring wall and bluff repair at 23-31 Bay Drive, City of Laguna Beach; Additional questions.

Everts Coastal, June 1997. (Unpublished report) Sediment Budget Analysis: Dana Point to Newport Bay, California.

Hetherington Engineering, Inc., January 26, 1998. "Supplemental Geotechnical Investigation" Proposed Residential Development Lots 26, 27, 28, and 30 of Tract 970 Three Arch Bay South Laguna Beach, California.

Hetherington Engineering, Inc., January 26, 1998. "Supplemental Geotechnical Investigation" Proposed Residential Development Lots 26, 27, 28, 29, and 30 of Tract 970 Three Arch Bay South Laguna Beach, California. (Appendix C).

U.S. Army Corps of Engineers Los Angeles District, June 1990. Rancho Palos Verdes/Rolling Hills Los Angeles County, California. Reconnaissance Study, Final Report.

U.S. Army Corps of Engineers Los Angeles District, April 1993. Existing State of Orange County Coast Final Report. (CCSTWS Report 93-1).

U.S. Army Corps of Engineers Los Angeles District, November 1995. Seacliff Erosion and its Sediment Contributions, Dana Point to the San Gabriel River, Final Report. (CCSTWS Report 95-1).

U.S. Army Corps of Engineers Los Angeles District, January 1996. Nearshore Hydrodynamic Factors and Wave Study of the Orange County Coast, Final Report. (CCSTWS Report 96-3).

U.S. Army Corps of Engineers Los Angeles District, January 1996. Coastal Sediment Budget Summary Orange County, California, Final Report. (Report 96-2).

Subbiondo, Blaise J., P.E., September 3, 1997. Concept Grading Plan For Lots 26, 27, 28, 29 & 30, Three Arch Bay, South Laguna Beach, California.

HETHERINGTON ENGINEERING, INC.

SOIL & FOUNDATION ENGINEERING • ENGINEERING GEOLOGY • HYDROGEOLOGY

March 18, 1998
Project No. 1800.3
Log No. 4448

California Coastal Commission
South Coast Area Office
200 Oceangate, 10th Floor
Long Beach, CA 90802-4302

FAX (562) 590-5084

Attention: Mr. John Auyong

Re: OFF-SITE IMPACTS
Lots 26, 27, 28, 29 and 30; Tract 970, Laguna Beach, California

Dear Mr. Auyong:

The development (restoration including the proposed shoring wall and recompaction of landslide debris/reconstruction of the slope) of the site at Lots 26, 27, 28, 29 and 30, Tract 970, (23-31 Bay Drive) in Laguna Beach, California, as proposed under coastal development permit application 5-97-371 will not adversely affect adjacent off-site properties from a geotechnical standpoint assuming appropriate design and construction. With regard to surface drainage considerations, again assuming appropriate design and construction, we have no reason to believe that the proposed project will adversely affect adjacent properties from a drainage standpoint. Surface drainage considerations should, however, be addressed by the Civil Engineer.

Sincerely,

HETHERINGTON ENGINEERING, INC.

Mark D. Hetherington
Civil Engineer 50488
Geotechnical Engineer 397
(expires 3/31/00)

REGISTERED PROFESSIONAL ENGINEER
MARK D. HETHERINGTON
No. 397
Exp. Date _____
GEO TECHNICAL
STATE OF CALIFORNIA

5-97-371
COASTAL COMMISSION
geologists letter
EXHIBIT # K
PAGE 1 OF 1

James Conrad, Architect

Telephone (714) 497-0200
Fax (714) 497-0288

January 29, 1998

Mr. John T. Auyong
Staff Analyst
200 Oceangate, Suite 1000
Long Beach, CA 90802-4303

RE: Coastal Development Permit application 5-97-371. The Bay Drive Improvement.

Dear Mr. Auyong,

I am in receipt of your letter dated 1-24-98. I will respond to the items that I can immediately. The items that are to be answered by others will follow.

1. Public Access

Please see the attached survey that depicts the recreational easement area. With regard to the State Lands Commission, I have received a response. Please see the attached response from the State Lands Commission. My understanding of their response is that they are not interested in looking further into the matter.

2. Geology Coastal Processes

a. Geotechnical Engineer's response to follow.

b. Coastal Engineer's response to follow.

c. Geotechnical Engineer's response to follow.

The Coastal Commission approved the Wyland Studio / Gallery located at 509 S. Coast Highway, Laguna Beach. This project included a one hundred fifty foot long X thirty foot high shoring wall. The wall was located along the south property line. The reason for the installation of the shoring wall was to enable the excavation contractor to remove the landslide debris which was located on the site. The landslide debris was removed because of the recommendation of the geologist. The building was then built upon a caisson grade beam foundation system. The shoring wall system employed on this project is very similar to the system that we have proposed. The wall was constructed of a series of caissons with a shotcrete wall spanning between the caissons.

d. Geotechnical Engineer's response to follow.

While it is highly unlikely that the homes planned on the lots will not be built subsequent to the installation of the shoring wall, I have considered this possibility. In such a case, the slope will be graded to approximate the existing grades. The proposed slope will not have a uniform appearance. The intention is that the slope will undulate in a natural way. The photograph with the proposed home superimposed on it actually does include the proposed bluff restoration. The area between the home and the sandy beach is a representation of what I envision for the restored bluff face. We are of the same mind in that we both want the restored bluff face to look as natural as possible. The landscape designer specified only native bluff landscape material. We also plan to incorporate some boulders in the bluff face that we will retain from the regarding operation.

e. The proposed slope will blend with the existing topography on each side of the site. If you look at the proposed grades on the plan submitted, you will see that the topography lines match at the edges of the site.

f. It is my opinion that the shoring wall should be installed as soon as possible. Your recollection is correct in that the applicants are unwilling to proceed with the shoring wall until at least one home has received a CDP. We are confident that my home will have a CDP granted. In fact the application has already been made. I am hopeful that the application for both the shoring wall and my residence could be heard at the March meeting. If this is the case, the second part of your question will not be relevant. To answer your question, however, about what the applicants would do to stabilize the slope if no houses are approved, I would have say that we have not considered this possibility. It does not seem possible for this to happen given the previous approvals by the T.A.B. Association, the City of Laguna Beach, and the broad community support for the project.

g. Leighton & Associates response to follow

Zeiser Kling's response to follow

I will encourage the consultants to get their responses to you as soon as possible. Thank you for your help with this application. If you need anything further please give me a call.

5-97-371
COASTAL COMMISSION

Respectfully Submitted,

EXHIBIT # L
PAGE 2 OF 4

James Conrad, Architect
Owner of 23 Bay Drive. (lot 26)

1590 S. Coast Hwy. Suite 17 Laguna Beach CA 92651

James Conrad, Architect

Telephone (714) 497-0200
Fax (714) 497-0288

February 2, 1998

Mr. John T. Auyong
Staff Analyst
200 Oceangate, Suite 1000
Long Beach, CA 90802-4303

RE: Coastal Development Permit application 5-97-371. The Bay Drive Improvement.

Dear Mr. Auyong,

I am in receipt of your letter dated 1-31-98. I will respond to the items that I can immediately. The items that are to be answered by others will follow.

1. Public Access

No further information requested.

2. Geology Coastal Processes

a. Sand Supply

Coastal Engineer to comment.

b. Grading Volumes / Plans

You are correct in that there will be approximately 22,000 cu. yds. of soil that is to be reworked. This is an approximation because we do not know the exact contour of the slide plane that we must penetrate. We have a pretty good idea what depth the slide plane is based upon the borings that have been done. It is with this information that we came up with the volume, 22,000 cu yds.

The amount of import and export is assumed to be equal. The reason for export is that we assume that approximately 30% of the material will be unsuitable for recompaction. This is due to the presence of organic material and too much moisture in some of the on-site material. The actual amount of export will be determined as construction proceeds based upon the recommendation of the on-site geologist.

The amount of import will approximate the amount of export so that the new contours will essentially replicate the existing.

c. Slope Sections

Please see the plans enclosed. The plans include four site sections through the property.

3. Marine Resources

There will be no construction equipment or supplies placed upon the sandy beach. We plan to grade a flat pad on the site for temporary storage of equipment and materials to be used in the erection of the shoring wall. Because we are not planning to place any construction equipment or supplies on the beach, we had not considered grunion runs. With regard to spills, we have an environmental briefing that we always give to the various contractors that will be working on the site. The briefing includes the importance of containing any spillage of petroleum or other toxic fluid.

I will encourage the consultants to get their responses to you as soon as possible. Thank you for your help with this application. If you need anything further please give me a call.

Respectfully Submitted,

James Conrad, Architect
Owner of 23 Bay Drive. (lot 26)

COASTAL COMMISSION
5-97-371

EXHIBIT # L
PAGE 4 OF 4