

**CALIFORNIA COASTAL COMMISSION**

South Coast Area Office  
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**RECORD PACKET COPY**

Filed: November 7, 2002  
 49th Day: December 26, 2002  
 180th Day: May 6, 2003  
 Staff: ALB-LB *ALB*  
 Staff Report: January 16, 2003  
 Hearing Date: February 5-7, 2003  
 Commission Action:

**Item F 15c****STAFF REPORT: PERMIT AMENDMENT**

**APPLICATION NUMBER:** 5-99-206-A2

**APPLICANTS:** Ronald and Yolanda Loder

**AGENT:** Thiep Cung, The Warner Group Architects, Inc.

**PROJECT LOCATION:** Parcel 3 of Parcel Map No. 98-212 at Riviera Drive and Monaco Drive, Laguna Beach, Orange County

**DESCRIPTION OF PROJECT PREVIOUSLY APPROVED:** Subdivision of a single 2.04 acre parcel into three parcels of .92 acre/40,279 square feet (Parcel 1), .62 acre/27,012 square feet (Parcel 2) and .49 acre/21,500 square feet (Parcel 3).

**DESCRIPTION OF PROPOSED AMENDMENT:** Reduction in minimum bluff edge setback from 40 feet to 25 feet (to apply to future development) at Parcel 3 of Parcel Map No. 98-212. The amendment also involves a minor lot line adjustment to modify the size of each parcel. No construction is proposed at this time.

**SUMMARY OF STAFF RECOMMENDATION:**

The amendment would allow a reduction in the minimum bluff edge setback from 40 feet to 25 feet at the subject parcel. The reduction was contemplated in the underlying approval if specific geotechnical information was submitted to support the application of a 25-foot setback. Based on the supplemental geotechnical information provided, staff recommends **APPROVAL** of the proposed development subject to three (3) special conditions. Special Condition No. 1 highlights that all prior conditions imposed by Coastal Development Permit No. 5-99-206 remain in effect. Special Condition No. 2 establishes a minimum 25-foot bluff edge setback on Parcel 3. Special Condition No. 3 requires the recordation of a deed restriction against the property, referencing all of the Special Conditions contained in this staff report. The primary issues addressed by this staff report are geologic stability and appropriate setback from the bluff edge.

At the time of this staff report, the applicants are in agreement with the staff recommendation and conditions of approval. There is no known opposition to the proposed amendment.

**LOCAL APPROVALS RECEIVED:** Approval in Concept 98-212 from City of Laguna Beach Planning Department dated May 18, 1999.

**SUBSTANTIVE FILE DOCUMENTS:** City of Laguna Beach Certified Local Coastal Program; *Report of Geotechnical Studies, Parcels 1, 2 and 3, Tentative Parcel Map 98-212, Laguna Beach, California* prepared by Goffman, McCormick & Urban, Inc. (Project 98-104) dated November 19, 1999; *Wave Runup at Abalone Point* prepared by Favreau Engineering, Inc. dated April 7, 2000; Coastal Commission Staff Memorandum from Mark Johnsson, Senior Geologist dated May 11, 2000; Goffman, McCormick and Urban, Inc. 2002, *Report of Sea Bluff Stability, Parcel 3 of Tentative Parcel Map No. 98-212, Irvine Cove, Laguna Beach, California*, 8 p. geologic report dated 10 October 2002 and signed by A. R. Stone (CEG 1648) and G. Silver (GE 2336) and Coastal Commission Staff Memorandum from Mark Johnsson, Senior Geologist dated December 2, 2002.

**PROCEDURAL NOTE:**

**Coastal Development Permit Amendments**

The Commission's regulations provide for referral of permit amendment requests to the Commission if:

- 1) The Executive Director determines that the proposed amendment is a material change,
- 2) Objection is made to the Executive Director's determination of immateriality, or
- 3) The proposed amendment affects conditions required for the purpose of protecting a coastal resource or coastal access.

If the applicant or objector so requests, the Commission shall make an independent determination as to whether the proposed amendment is material. 14 Cal. Admin. Code 13166.

The amendment request involves a reduction in the minimum bluff edge setback to be applied to future development at the subject site. The subject application is being forwarded to the Commission because the Executive Director has determined that the proposed amendment is a material change and affects conditions required for the purposes of protecting coastal resources or coastal access.

Section 13166 of the Commission Regulations also calls for the Executive Director to require a permit amendment request if it would lessen the intent of the previously approved permit. The proposed amendment request to reduce the minimum setback would not lessen the intended affect of 5-99-206 because the project ensures geologic stability pursuant to the original permit. Therefore, the Executive Director accepted the amendment request for filing.

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**I. STAFF RECOMMENDATION, MOTION AND RESOLUTION OF APPROVAL**

Staff recommends that the Commission make the following motion and adopt the following resolution to APPROVE the amendment application with special conditions.

**MOTION**

*I move that the Commission approve CDP Amendment 5-99-206-A2 pursuant to the staff recommendation.*

Staff recommends a **YES** vote. This will result in approval of the permit amendment as conditioned and adoption of the following resolution and findings. The motion passes only by affirmative vote of a majority of the Commissioners present.

## **RESOLUTION OF APPROVAL WITH CONDITIONS**

The Commission hereby **APPROVES** the amendment to Coastal Development Permit 5-99-206, subject to the conditions below, for the proposed development on the grounds that the development would be in conformity with the provisions of Chapter 3 of the California Coastal Act of 1976, would not prejudice the ability of the local government having jurisdiction over the area to prepare a Local Coastal Program conforming to the provisions of Chapter 3 of the Coastal Act, is located between the sea and first public road nearest the shoreline and is in conformance with the public access and public recreation policies of Chapter 3 of the Coastal Act, and would not have any significant adverse impacts on the environment within the meaning of the California Environmental Quality Act.

### **II. SPECIAL CONDITIONS:**

#### **1. Prior Conditions**

Unless specifically altered by this amendment, all standard and special conditions attached to Coastal Development Permit 5-99-206, as amended, remain in effect. All standards and special conditions previously imposed under Coastal Development Permit 5-99-206, as amended, apply equally to this amendment.

#### **2. Blufftop Setback**

A. No development, as defined in Section 30106 of the Coastal Act, shall occur in the designated blufftop setback area on Parcel 3 of Parcel Map No. 98-212, as defined below and generally depicted on Exhibit 6 of the current staff report:

(1) Twenty-five feet (25') landward of the identified "bluff top" as identified on Parcel Map No. 98-212.

B. Within the designated blufftop setback area, only native, drought-tolerant plant species shall be allowed.

C. The following development may be allowed within the setback area, if approved by the Coastal Commission or successor agency, as an amendment to this coastal development permit:

(1) Construction of the realigned sewer line.

#### **3. Deed Restriction**

**PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT AMENDMENT**, the applicant shall submit to the Executive Director for review and approval documentation demonstrating that the landowner has executed and recorded 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 (hereinafter referred to as the "Special Conditions"); and (2) imposing all 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 applicant's entire parcel or parcels. 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.

## V. FINDINGS AND DECLARATIONS

The Commission hereby finds and declares as follows:

### A. Project Location and Description

#### Location

The proposed project is located between the first public road and the sea at Riviera Drive and Monaco Drive in the private community of Abalone Point, which is in an area of deferred certification (Irvine Cove) within the City of Laguna Beach, County of Orange (Exhibits 1 & 2). The subject site is Parcel 3 of Parcel Map No. 98-212, the most upcoast of three newly created parcels.

The site is located in the R-1 Residential Low Density Zoning District. The site is a vacant sloping parcel bound to the north, west and east by residential development and to the south by a coastal bluff.

#### Original Project Description

The original permit allowed the applicant<sup>1</sup> to subdivide a single 2.04-acre parcel into three parcels for future residential development (Exhibit 3). Although no development was proposed at the time, the permit was conditioned to establish a minimum building setback from the bluff edge for future development. The Commission imposed Special Condition No. 1, which required a deed restriction be recorded against the property which establishes a bluff top setback of 40 feet from the westernmost property line to the midpoint of the promontory between proposed parcels 1 and 3, and a 25' bluff top setback from the midpoint of the promontory between proposed parcels 1 and 3 to the easternmost property boundary (Exhibit 4). All conditions of approval were met and the permit was issued May 17, 2002. An immaterial amendment to allow public sewer relocation and driveway construction was reported to the Commission on November 5, 2002.

#### Amended Project Description

The current amendment request (5-99-206-A2) would allow the minimum blufftop setback on Parcel 3 to be reduced from 40 feet to 25 feet along the upcoast portion of the site (Exhibit 6). The setback on Parcels 1 and 2 and the downcoast portion of Parcel 3 would remain unchanged at 25 feet from the bluff edge. The amendment also involves a minor lot line adjustment to modify the size of each parcel. As amended, the 2.04 acre site would consist of three parcels of .59 acre (Parcel 1), .45 acre (Parcel 2) and 1.0 acre (Parcel 3). No construction is proposed by the current application.

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<sup>1</sup> The original permit applicants were Joan Irvine Smith and James Irvine Swinden. Parcel 3 has since been sold to Ronald and Yolanda Loder.

**B. Geologic Hazards**

Section 30253 of the Coastal Act 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, 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.*

**Site Conditions**

The site is a gently sloping blufftop parcel. The buildable portion of the site has a relief of about 20 feet and is adjacent to an approximately 60 foot high coastal bluff. Development on a coastal bluff is inherently risky. To evaluate the feasibility of future residential development at the subject site, the applicants commissioned a geotechnical investigation by Goffman, McCormick & Urban, Inc. when proposing the subdivision through application 5-99-206. The scope of the investigation involved review of previous research and surface mapping; surface reconnaissance; excavation of 5 drill holes to depths of up to 70 feet; laboratory testing of site materials; and analysis of the exploration and laboratory data to develop recommendations pertaining to use of the site, bluff stability and grading.

The *Report of Geotechnical Studies, Parcels 1, 2 and 3, Tentative Parcel Map 98-212, Laguna Beach, California* (Project 98-104) prepared by Goffman, McCormick & Urban, Inc. dated November 19, 1999 concludes, "*site development is feasible from a geological and geotechnical standpoint.*" The report states that the site is underlain by marine and non-marine Quaternary terrace deposits overlying Tertiary Monterey formation siltstone, which has been locally intruded by volcanic andesite. According to the report, "*the underlying soil and rock materials are typically suitable for support of structures and improvements assuming that any necessary corrective grading has been performed.*" The engineering consultants found no evidence of deep seated or shallow landsliding within the site during their reconnaissance or review of literature. Additionally, the consultant found no indications of active faulting in the subject area.

Bluff retreat at the site was evaluated by performing a review of topography surveyed by U.S. Geological Survey and comparing historical aerial photographs. The report indicates that no change was discernable over the 33 year period (1948-1981) from the comparison of available USGS topographic maps. Additionally, the consultant reports:

*"Geologic reconnaissance of the beach areas below the site indicates that andesite bedrock is exposed at the face of the bluff. No significant surficial deposits (i.e. talus or scree) that would be associated with mass wasting of the bluff were observed during the recent geologic mapping or on the historical aerial photographs. Therefore, gross instability (e.g. topple, fall, slide) is not considered an operative process on the bluffs at the site."*

The geotechnical report concluded that the bluffs along the southwest side of the property show evidence of erosion and rock falls typical of natural coastal bluff retreat, but found the building setback identified on the Tentative Parcel Map to be "*reasonable for preliminary planning*

purposes." The consultant states that the rate of coastal retreat should be further analyzed prior to finalizing structure and improvement locations. The consultant also adds that a more detailed geotechnical investigation, including subsurface exploration, laboratory testing, and slope stability analysis should be performed prior to grading and construction at the site. The Commission's technical staff concurred with the findings of the geotechnical report that the bluff is grossly stable, but recommended a greater bluff top setback than 25 feet in selected areas. As such, the Commission imposed a 40-foot setback along the northernmost portion of Parcel 3, which will be discussed further in the subsequent section.

#### Bluff Top Setback

The City's certified LCP (not effective in this area of deferred certification, but useful in providing guidance) generally requires a structural setback of 25 feet for residences and 10 feet for accessory structures like patios from the edge of the bluff or a setback ascertained by a stringline, whichever is more restrictive. The Commission's typically requires a minimum 25-foot setback for residences from the edge of a coastal bluff in this area. The Commission also recognizes that in a developed area, where construction is generally infilling and is otherwise consistent with the Coastal Act policies, no part of the proposed new structure, including decks, should be built further seaward than a line drawn between the nearest adjacent corners of the adjacent structures (stringline setback). The site is an oddly-shaped, undulating parcel, which is not located directly adjacent to existing developed parcels. Due to the configuration of the subject parcel, the Commission's stringline concept cannot be applied.

The Laguna Beach Zoning Code, which the Commission uses as guidance, states the following in Section 25.50.004(I): *In the event that there is no applicable stringline on adjacent oceanfront lots, the setback shall be at least twenty-five feet from the top of an oceanfront bluff.* The Tentative Parcel Map submitted with the application depicts the top of slope varying between the 55' and 65' contour lines and shows the building setback line 25' inland of the top of slope. A site visit by Commission staff confirmed the applicant's delineation of the top of slope and 25' setback. The original subdivision map indicated that future residential development would comply with the 25-foot building setback from the top of slope.

The geotechnical consultant supported the City's 25-foot setback requirement at the time of the original permit application. As stated in their report:

*"The natural sea bluff descending to the beach is expected to be grossly stable due to its hard, mostly massive intact nature...the potential for any type of failure surface to develop within the rock mass is considered negligible. The potential for bluff failures along joint surfaces to effect future residential structures over their design life is also considered negligible given the generally steeply dipping nature of the joints in combination with the bluff-set back which will place all structures behind an average 1.7:1 (horizontal to vertical) projection extended from the toe of the bluff."*

The Commission's Senior Geologist reviewed the consultant's geotechnical investigation and conducted a site visit on May 5, 2000. The Commission's Senior Engineer also evaluated the associated technical documents. In their review of the proposed subdivision, the Commission's technical staff concurred with the findings of the geotechnical report that the bluff is grossly stable. However, they recommended a greater setback along the western portion of the property than proposed by the applicant. As stated in a Coastal Commission staff memo dated May 11, 2000 (Exhibit 5), the Commission's Senior Geologist noted:

*"A thick wedge of artificial fill extends across the western half of the undivided parcel (including all of proposed parcel 3 and the western 2/3 of parcel 1); its thickness reaches a maximum in Parcel 3, where it is 8-9 feet in thickness. Further, as much as 15 feet of colluvium underlies part of parcel 3, these materials will tend to erode at a much greater rate than the underlying bedrock. The bluff face on the western portion of the property contains a drainage swale that is experiencing some slumping of fill and/or colluvium. A small retaining wall has been built here, presumably to protect the sewer line at this location. The presence of the fill and colluvium, the concentration of drainage in the swale, and the evidence of instability in the form of surficial slumps lead us to be somewhat concerned that the anticipated low bluff retreat rates for other portion of the property may not apply at this location. Accordingly, we recommend a 40-foot building setback from the identified top of bluff between the western property line and the midpoint of the promontory between proposed parcels 1 and 3. From the midpoint of the promontory between proposed parcels 1 and 3, to the eastern property boundary, we concur in the recommended 25-foot setback from the identified bluff top."*

The staff memo also indicated that the applicant could request a reduction in the 40-foot setback in the future if evidence is provided that the long-term stability of this portion of the property compares with the stability of the eastern portion of the property. As stated in the memo, such evidence would consist of the following:

- "1) A quantitative slope stability analysis, using geotechnical parameters (cohesion, unit weight, friction angle) from undisturbed samples obtained from all materials underlying the site, assuming saturated soil conditions, for both static and pseudostatic conditions. The pseudostatic analysis should use a seismic coefficient, k, of 0.2 g. Both analyses should use assumed slip surfaces that test for both surficial and deep-seated failures.*
- 2) A better constrained estimate of bluff retreat rate for proposed parcel 3 taken from either survey data or from aerial photographs taken at a scale of 1:6000 or greater. The time interval covered by the analysis should include the winter storms of 1982-1983 and 1997-1998."*

In accordance with Special Condition 1 of the CDP, which contains provisions for reducing the required 40-foot setback to 25 feet, the applicant submitted a supplemental report prepared by Goffman, McCormick and Urban, Inc., titled "Report of Sea Bluff Stability, Parcel 3 of Tentative Parcel Map No. 98-212, Irvine Cove, Laguna Beach, California", dated October 10, 2002. This report was prepared to support a request for the reduction in the development setback from the bluff edge for Parcel 3 of Parcel Map 98-212.

The Commission's senior staff geologist reviewed the report and concluded that the applicant has met both requirements necessary to justify the setback reduction on Parcel 3 (Exhibit 7). The applicant has demonstrated that the bluff is grossly stable and has demonstrated that the development would be safe from bluff retreat for its expected economic life. As stated in the memo,

*It is my opinion that the applicant has demonstrated that the bluff stability and long-term average bluff retreat rate justify a reduction in development setback to 25 feet landward of the bluff edge, as marked on Plate 1 of the above-referenced report.*

The setbacks requested by the applicant and reviewed by staff will minimize risks to life and property in an area of potential geologic hazard. The Commission finds that a minimum 25-foot

setback from the bluff edge will assure geologic stability for future development. As such, the Commission imposes Special Condition No. 2, which establishes a minimum bluff top setback of 25 feet across all three parcels, as depicted in Exhibit 6. The Commission will have further opportunity to review the adequacy of the setback requirement at the time that development on each of these three lots is proposed. (Development includes, but is not limited to, all grading, utility line realignment and construction activities.) Supplementary project-specific geotechnical evaluations will be required at that time and a greater setback may be required if deemed necessary for purposes of minimizing risks.

Special Condition No. 1 highlights that all prior conditions imposed by Coastal Development Permit No. 5-99-206 remain in effect. Special Condition No. 3 requires the recordation of a deed restriction against the property, referencing all of the Special Conditions contained in this staff report.

#### Conclusion

Therefore, the Commission finds that the requested setback reduction, as conditioned, will not result in any adverse impacts to geologic stability and is consistent with Section 30253 of the Coastal Act, which requires that risks be minimized and geologic stability be assured.

#### **D. Public Access and Recreation**

Section 30604(c) of the Coastal Act requires that every coastal development permit issued for any development between the nearest public road and the sea include a specific finding that the development is in conformity with the public access and public recreation policies of Chapter 3. The proposed development is located between the sea and the nearest public road.

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 proposed development is located within an existing locked gate community (Abalone Point) located between the sea and the first public road paralleling the sea. Public access through this community does not currently exist. However, the proposed development, reduction of the required bluff edge setback in an area inaccessible to the public, will not affect the existing public access condition. It is the locked gate community, which impedes public access. Access is provided in the project vicinity at Crystal Cove State Park, located immediately north of the subject site. The proposed development will not result in any adverse impacts to existing public access or recreation in the area. Therefore, the Commission finds that the project is consistent with the public access and recreation policies of the Coastal Act.

#### **E. Local Coastal Program**

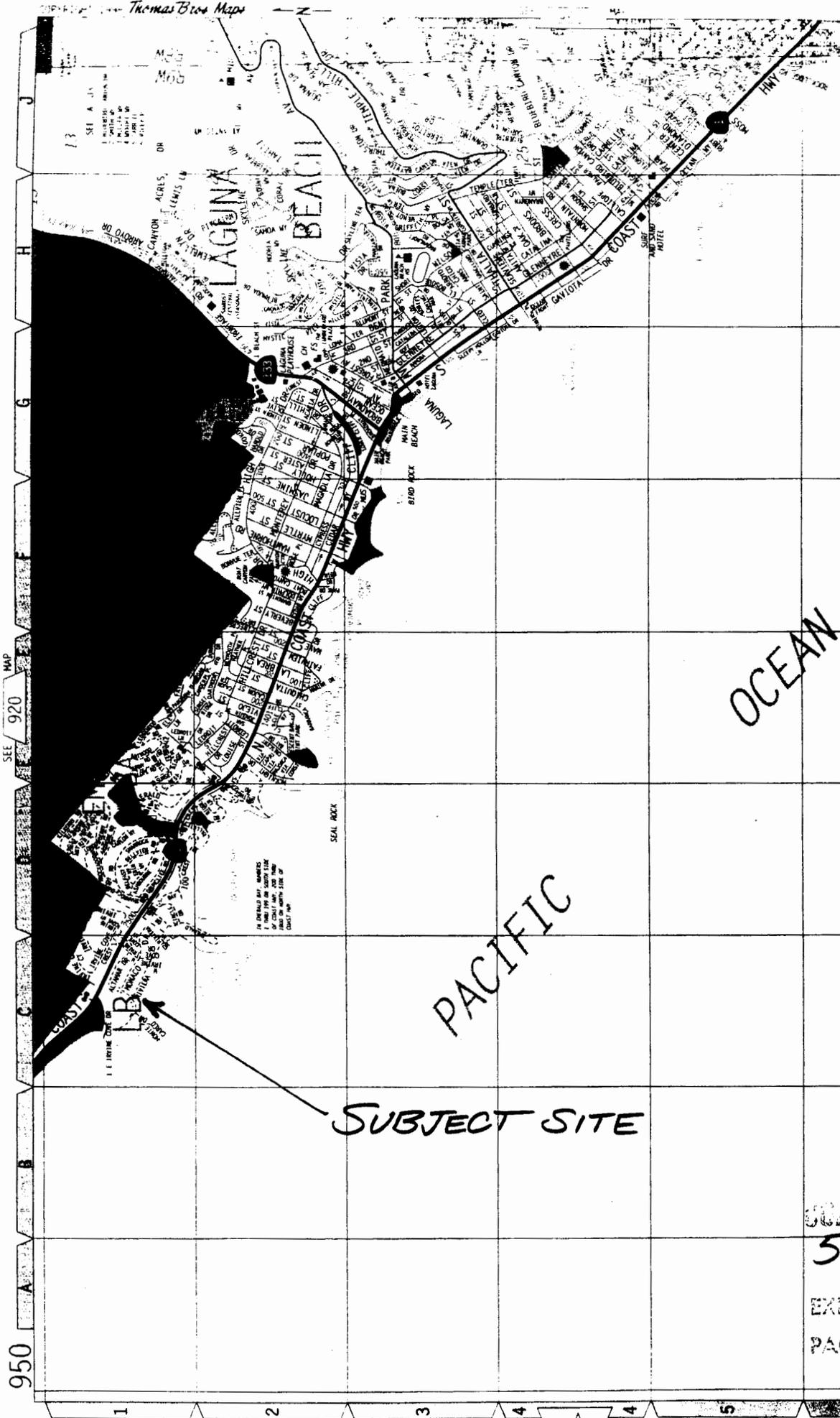
Section 30604(a) of the Coastal Act provides that the Commission shall issue a coastal development permit only if the project will not prejudice the ability of the local government having jurisdiction to prepare a Local Coastal Program which conforms with the Chapter 3 policies of the Coastal Act.

The City of Laguna Beach Local Coastal Program was certified with suggested modifications, except for four areas of deferred certification, in July 1992. In February 1993, the Commission concurred with the Executive Director's determination that the suggested modifications had been properly accepted and the City assumed permit issuing authority at that time. The subject site is located within the Irvine Cove area of deferred certification. Certification in this area was deferred due to issues of public access arising from the locked gate nature of the community. However, as previously discussed above, the proposed development itself will not further decrease public access in an area that is already adversely affected by the existing locked gate community. Further, the project has been found to conform to the hazard policies of the Coastal Act. Therefore, the Commission finds that approval of this project will not prevent the City of Laguna Beach from preparing a total Local Coastal Program for the areas of deferred certification.

**F. California Environmental Quality Act**

Section 13096 of the Commission's regulations requires Commission approval of Coastal Development Permit applications to be supported by a finding showing the application, as conditioned by any conditions of approval, to be consistent with any applicable requirements of the California Environmental Quality Act (CEQA). Section 21080.5(d)(2)(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 proposed project has been conditioned in order to be found consistent with the hazard policies of the Coastal Act. As conditioned to require 1) retention of all special conditions of the original permit not affected by the current amendment; 2) a minimum 25-foot setback from the bluff edge; and 3) recordation of a deed restriction listing all special conditions of the permit, there are no feasible alternatives or feasible mitigation measures available which would substantially lessen any significant adverse impact 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.



SEE 920 MAP

950

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SUBJECT SITE

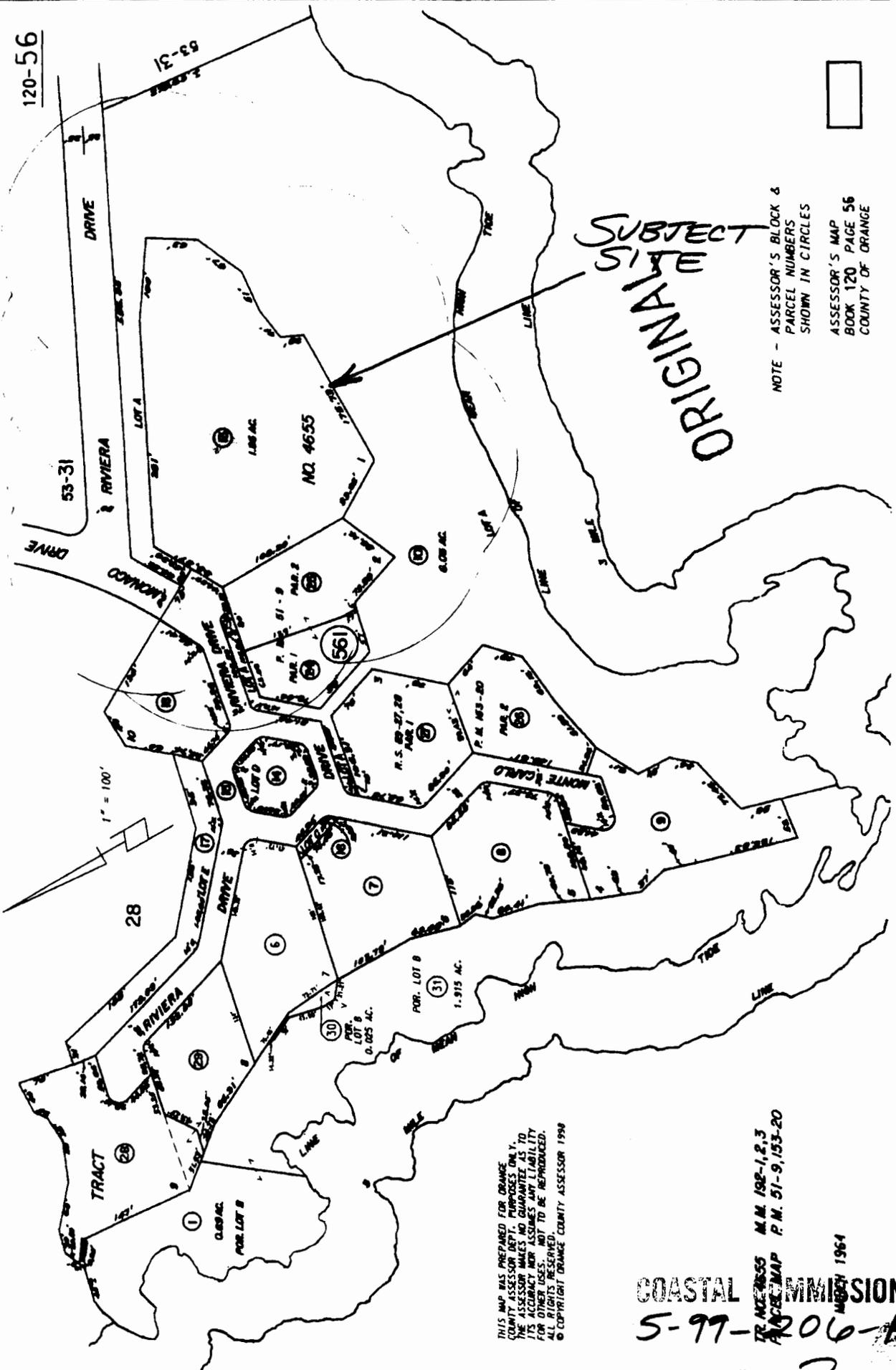
COASTAL COMMISSION

5-97-206-A2

EXHIBIT # 1

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120-56



**SUBJECT SITE ORIGINAL**

NOTE - ASSESSOR'S BLOCK & PARCEL NUMBERS SHOWN IN CIRCLES  
ASSESSOR'S MAP BOOK 120 PAGE 56 COUNTY OF ORANGE

THIS MAP WAS PREPARED FOR ORANGE COUNTY ASSESSOR DEPT. PURPOSES ONLY. THE ASSESSOR MAKES NO GUARANTEE AS TO ITS ACCURACY NOR ASSUMES ANY LIABILITY FOR OTHER USES. NOT TO BE REPRODUCED. ALL RIGHTS RESERVED. © COPYRIGHT ORANGE COUNTY ASSESSOR 1998

COASTAL COMMISION  
5-99-206-A2  
EXHIBIT # 2  
PAGE 1 OF 1

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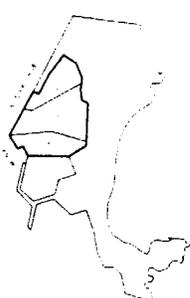
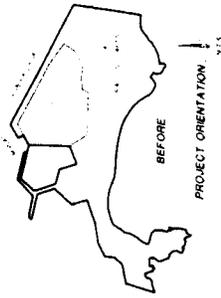
# TENTATIVE PARCEL MAP NO. 98-212

IN THE CITY OF LAGUNA BEACH, COUNTY OF ORANGE, STATE OF CALIFORNIA  
 BEING A DIVISION OF LOT 1 AND A PORTION OF LOT A OF TRACT NO. 4655, AS  
 SHOWN ON THE MAP RECORDED IN BOOK 192, PAGES 1 THROUGH 3, INCLUSIVE,  
 OF MISCELLANEOUS MAPS, RECORDS OF SAID ORANGE COUNTY.

HUITT-ZOLLARS

NOVEMBER, 1998

JAMES F. GILLEN, L.S. 5557



NOTES

LEGEND

STATEMENT OF OWNERSHIP

I, the undersigned, being the owner of the above described property, do hereby certify that the information furnished herein is true and correct to the best of my knowledge and belief.

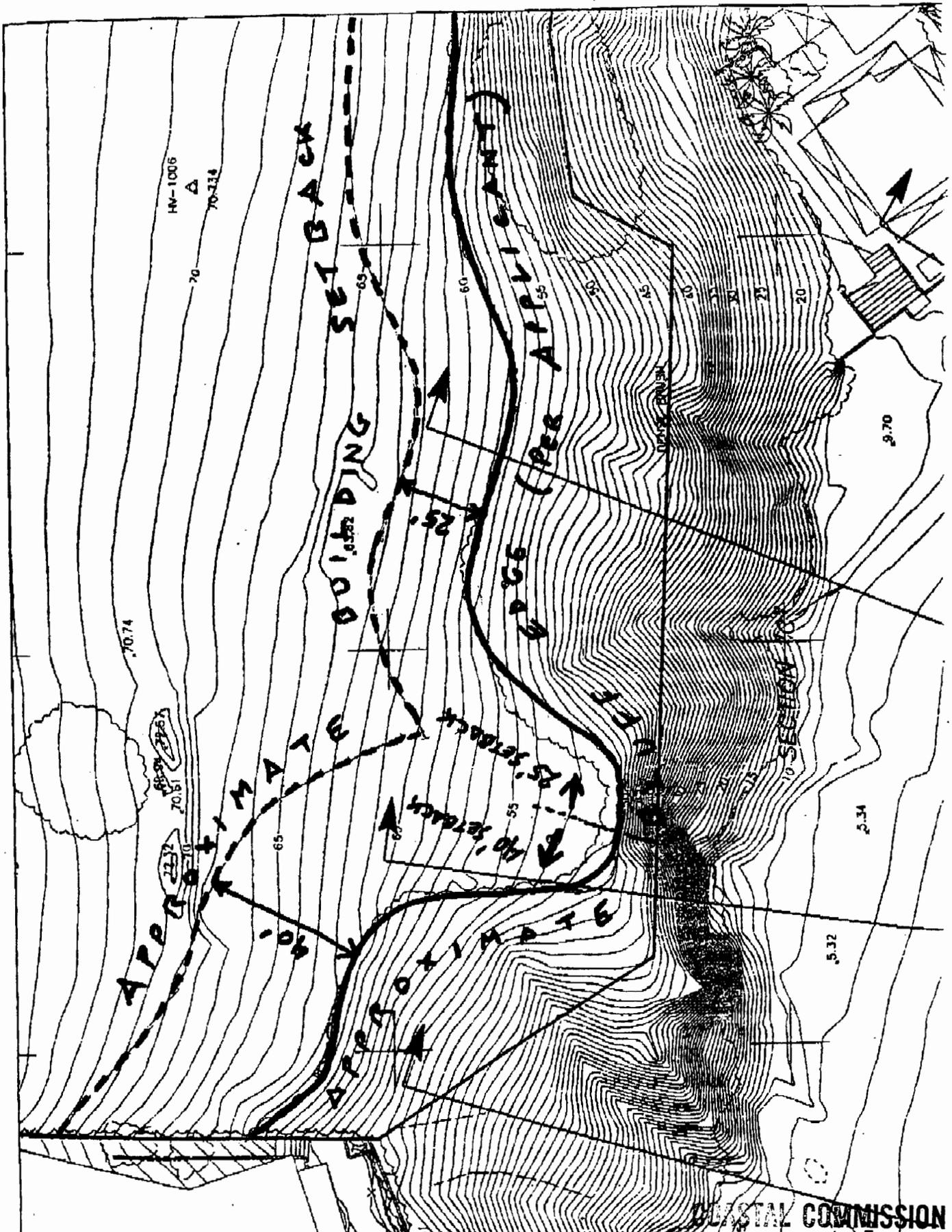
*James F. Gillen*  
 James F. Gillen, L.S. 5557  
 Surveyor

PREPARED BY

HUITT-ZOLLARS



5-99-206-A2



COASTAL COMMISSION  
 5-99-206-A2  
 EXHIBIT # 4  
 PAGE 1 OF 1

## CALIFORNIA COASTAL COMMISSION

45 FREMONT, SUITE 2000  
SAN FRANCISCO, CA 94105-2219  
VOICE AND TDD (415) 904-5200  
FAX (415) 904-5400



11 May 2000

## MEMORANDUM

To: Anne Kramer, Coastal Program Analyst  
From: Mark Johnsson, Senior Geologist  
Re: 5-99-206 (Smith and Swinden)

This memo is a follow-up to my earlier email memo of 19 April, in which I raised concerns related to bluff stability and retreat rates at the subject site. As indicated in that memo, I had concerns that significant portions of the bluff face might be made up of material with lower strength than that indicated in the Goffman, McCormick and Urban report dated 19 November 1999. I have since spoken to Andrew Stone, principal geologist on the project, and have visited the site. Subsequently, I discussed the matter with Lesley Ewing, Senior Coastal Engineer. Our recommendations concerning geologic/engineering aspects of this project are as follows:

We concur with the findings of the provided geotechnical report that the bluff is grossly stable. Although portions of the bluff undoubtedly have lower compressive strength than the ~15,000 psi reported in the Goffman, McCormick and Urban report, these areas appear to be primarily related to surficial weathering at the bluff face; similar weathering might be expected in the top several feet of bedrock underlying colluvium and artificial fill, as was in fact reported in the report. Although the bluff may tend to fail by block fall as unweathered core stones drop out of weathered matrix, this failure mechanism is unlikely to threaten structures over the next 75 years if there is adequate setback and control of surface run-off and groundwater.

A thick wedge of artificial fill extends across the western half of the undivided parcel (including all of proposed parcel 3 and the western 2/3 of parcel 1); its thickness reaches a maximum in Parcel 3, where it is 8-9 feet in thickness. Further, as much as 15 feet of colluvium underlies part of parcel 3. These materials will tend to erode at a much greater rate than the underlying bedrock. The bluff face on the western portion of the property contains a drainage swale that is experiencing some slumping of fill and/or colluvium. A small retaining wall has been built here, presumably to protect the sewer line at this location. The presence of the fill and colluvium, the concentration of drainage in the swale, and the evidence of instability in the form of surficial slumps lead us to be somewhat concerned that the anticipated low bluff retreat rates for other portion of the property may not apply at this location. Accordingly, we recommend a 40-foot building setback from the identified top of bluff between the western property line and the midpoint of the promontory between proposed parcels 1 and 3. From the midpoint of the promontory between proposed parcels 1 and 3, to the eastern property boundary, we concur in the recommended 25-foot setback from the identified bluff top.

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5-99-206-A2

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The 40-foot setback could be reduced in the future if the applicant provides evidence that the long-term stability of this portion of the property compares with the stability of the eastern portion of the property. Such evidence should consist of the following:

- 1) A quantitative slope stability analysis, using geotechnical parameters (cohesion, unit weight, friction angle) from undisturbed samples obtained from all materials underlying the site, assuming saturated soil conditions, for both static and pseudostatic conditions. The pseudostatic analysis should use a seismic coefficient,  $k$ , of 0.2 g. Both analyses should use assumed slip surfaces that test for both surficial and deep-seated failures.
- 2) A better constrained estimate of bluff retreat rate for proposed parcel 3 taken from either survey data or from aerial photographs taken at a scale of 1:6000 or greater. The time interval covered by the analysis should include the winter storms of 1982-1983 and 1997-1998.

These setbacks would limit the area of each parcel that would be available for development, but there would be sufficient area on each parcel to support a single family residence.

Finally, we recommend that a drainage, erosion and run-off control plan be prepared for these parcels and that plans be submitted with any future applications for development of these parcels. In addition to the controls that may be necessary for overall water quality concerns, the plan shall include, at a minimum:

- (1) efforts to control and minimize drainage from upslope, off-site properties
- (2) efforts to control surface drainage, as required by the geotechnical report
- (3) efforts to control and prevent drainage over the bluff face
- (4) if it is necessary to discharge any blufftop surface runoff over the bluff face, the drainage controls for the three parcels shall be integrated, to the extent practicable, to minimize overall impacts to the bluff, bluff face and beach area
- (5) if there is drainage over the bluff face, the efforts to insure that the discharge is in a manner that avoids or minimizes impacts to the beach, access and the nearshore environment.

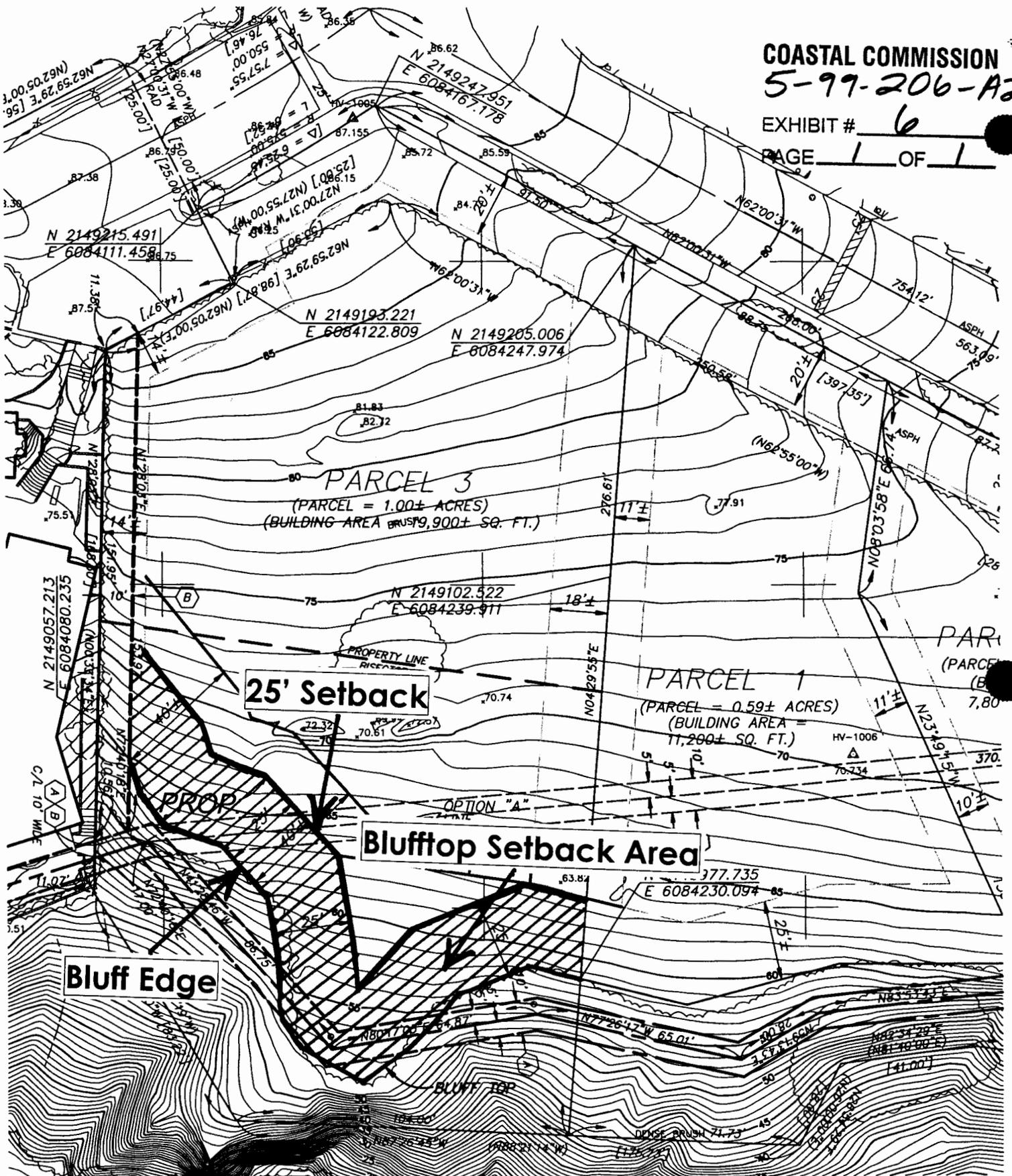
With these modifications, the proposed subdivision is approvable from a geologic and engineering point of view.

I hope that these comments are useful. If either you or the applicants have any questions, please feel free to contact Lesley Ewing or myself.

Sincerely,

Mark Johnsson  
Senior Geologist

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**5-99-206-A2**  
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PROJECT :	LODER RESIDENCE
SCALE:	1"=40'
TITLE:	SETBACKS
BY:	SDW
DATE :	12.11.02

**Warner Group**  
ARCHITECTS, INC.

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2 December 2002

## GEOTECHNICAL REVIEW MEMORANDUM

To: Anne Blemker, Coastal Program Analyst  
From: Mark Johnsson, Staff Geologist  
Re: 5-99-206-A2 (Smith and Swinden CDP Amendment)

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In regard to the above referenced permit amendment, I have reviewed the following document:

Goffman, McCormich and Urban, Inc. 2002, "Report of sea bluff stability, Parcel 3 of Tentative Parcel Map No. 98-212, Irvine Cove, Laguna Beach, California", 8 p. geologic report dated 10 October 2002 and signed by A. R. Stone (CEG 1648) and G. Silver (GE 2336).

This report was prepared to support a request for the reduction in the development setback from the bluff edge for Parcel 3 of Tentative Parcel Map 98-212. This is in accordance with special condition 1 of the CDP, which contains provisions for reducing the required 40 foot setback to 25 feet.

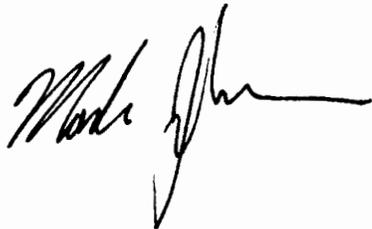
The first requirement for such a reduction is the performance of suitable quantitative slope stability analysis demonstrating that the bluff is stable under both static and seismic conditions. The above-referenced report makes use of a block failure mechanism along adversely-oriented joint sets, and appropriately chooses conservative shear strength parameters for rock strength along joint surfaces. The static analysis demonstrates a factor of safety against sliding of 3.47, and a pseudostatic (seismic) factor of safety of 2.37. Such high values indicate that there is very little possibility of bluff failure along these joint sets. The report contains arguments that failure along these joints is the most likely failure mechanism, with which I concur. Accordingly, I believe that the applicant has demonstrated that the bluff is grossly stable.

The second requirement for reducing the development setback was that a better estimate of the long-term average bluff retreat rate demonstrates that the development would be safe from bluff retreat for its expected economic life. After examining 10 sets of large-scale aerial photographs spanning the time interval 1931 to 1999, no discernable bluff retreat was detected. This is consistent with the documented high strength of the bedrock in the area, the sheltered position of the bluff in a cove, and the demonstrated stability of the bluff. The report conservatively assigns a long-term bluff retreat rate of one inch per year. Using such a value, some 6 ¼ feet of bluff retreat would be expected during the 75 year expected economic life of the development.

It is my opinion that the applicant has demonstrated that the bluff stability and long-term average bluff retreat rate justify a reduction in development setback to 25 feet landward of the bluff edge, as marked on Plate 1 of the above-referenced report.

I hope that this review is helpful. Please do not hesitate to contact me if you have additional questions.

Sincerely,



Mark Johnson, Ph.D., CEG

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