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CALIFORNIA COASTAL COMMISSION

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Staff Report: 10-06-97
Hearing Date: Nov. 4-7, 1997
Commission Action:

**STAFF REPORT: REGULAR CALENDAR**

APPLICATION NO.: 5-97-256

APPLICANT: Noble Development Corp.

AGENT: Victor Patel

PROJECT LOCATION: 1511 Buena Vista, San Clemente, Orange County

PROJECT DESCRIPTION: Construction of a 25 foot high, three-story, 7,082 square foot four unit apartment building with a 1,991 square foot garage with nine (9) parking spaces. The project includes 798 cubic yards of grading and landscaping.

Lot area:	11,571 sq. ft.
Building coverage:	4,276 sq. ft.
Pavement coverage:	3,166 sq. ft.
Landscape coverage:	2,145 sq. ft.
Parking spaces:	9
Plan designation:	RM (residential medium)
Ht abv fin grade:	30 feet

LOCAL APPROVALS RECEIVED: Approval in concept from the City of San Clemente Community Development Department

SUBSTANTIVE FILE DOCUMENTS: City of San Clemente Certified Land Use Plan, Evaluation of Geotechnical Conditions by Soil Pacific Inc., dated June 15, 1997, Engineering Geologic Investigation by GEO-ETKA, INC. on June 2, 1997, Coastal Development Permits A5-DPT-93-275 (Dana Point), 5-93-243 (City of San Clemente/Colony Cove), G5-90-274 (Marblehead), 5-94-256 (Gilmour), 5-97-121 (Samuelian), 5-97-107 (Spruill), 5-93-370 (Rist), 5-93-307 (Ackerly), 5-93-181 (Driftwood Bluffs), 5-83-839 (Perry), 5-83-735G (Curtis), 5-88-177, G5-93-254, "Mass Movement and Sea Retreat along the Southern California Coast" by Antony Orme 1991, "Some Techniques for Reducing Landslide Hazards" Kockelman in Bulletin of the Association of Engineering Geologists 1986,

SUMMARY OF UNRESOLVED ISSUES:

There are no known unresolved issues. Staff has informed the applicant of the special conditions which are required and the applicant does not object to the imposition of these special conditions.

SUMMARY OF STAFF RECOMMENDATION:

Staff recommends that the Commission approve the proposed project with special conditions regarding assumption of risk, conformance with geologic recommendations, submittal of a revised landscape plan, future improvements and limitations on protection of temporary structures in the bluff setback zone.

STAFF RECOMMENDATION:

The staff recommends that the Commission adopt the following resolution:

I. Approval with Conditions

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

II. STANDARD CONDITIONS

1. Notice of Receipt and Acknowledgment. The permit is not valid and development shall not commence until a copy of the permit, signed by the permittee or authorized agent, acknowledging receipt of the permit and acceptance of the terms and conditions, is returned to the Commission office.
2. Expiration. If development has not commenced, the permit will expire two years from the date 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 the issuance of the coastal development permit, the applicant shall execute and record a deed restriction, in a form and content acceptable to the Executive Director, which shall provide: (a) that the applicant understands that the site may be subject to extraordinary hazard from landslide and soil erosion, and the applicant assumes the liability from such hazards and (b) the applicant unconditionally waives any claim of liability on the part of the Commission and agrees to indemnify and hold harmless the Commission, its offices, agents and employees for damages arising from the Commission's approval of the project. The document shall run with the land, binding all successors and assigns, and shall be recorded free of prior liens.

2. Conformance with Geologic Recommendations

Prior to the issuance of the coastal development permit, the applicant shall submit, for the review and approval of the Executive Director, grading, foundation and drainage plans. The approved foundation plans shall include plans for the foundation, retaining walls, subdrains and footings. These plans shall include the signed statement of the geotechnical consultant certifying that these plans incorporate the recommendations contained in the geotechnical investigation prepared by soil PACIFIC, INC. dated June 15, 1997.

The approved development shall be constructed in accordance with the plans approved by the Executive Director. Any deviations from said plans shall be submitted to the Executive Director for a determination as to whether the changes are substantial. Any substantial deviations shall require an amendment to this permit or a new coastal development permit.

3. Revised Landscaping Plans

Prior to the issuance of a coastal development permit the applicant shall submit, for the review and approval of the Executive Director, revised landscaping and bluff top erosion control plans. Blufftop areas in the rear yard not occupied by hardscape (as shown on the landscape plans submitted with the application) shall be planted and maintained for bluff top erosion control and visual enhancement purposes. The revised plans shall be prepared and signed by a licensed landscape architect and shall incorporate the following criteria:

- (a) The applicant shall submit a list of plants to be placed in the rear yard fronting the bluff top. Planting shall be of native plant species indigenous to the area using accepted planting procedures, consistent with fire safety requirements.

- (b) The lawn shown on the proposed landscaping plan designed by Lisa Pierce and dated 8-6-97 shall be replaced with a low watering alternative design such as a desert-type rock and plant landscape design utilizing a plastic undersheet to catch any runoff and direct it to the proposed drainage system. All drainage from the rear yard and house and gutter system shall be directed to the street and away from the bluff. No drainage pipes shall be allowed to direct water to the bluff edge, face or toe.
- (c) Irrigation systems in the front and rear yard shall consist of above ground drip irrigation systems.
- (d) Non-native plants placed against the residence and in the front yard shall be primarily drought tolerant plants. Any water dependent plants shall be placed in planters or individual pots. Invasive, non-indigenous plant species which tend to supplant native species shall not be used.
- (e) The fencing located at the edge of the bluff shall be constructed of non-permanent materials (i.e., material other than concrete), shall be set back a minimum of five feet from the bluff edge and shall be designed so that it can be moved landward in the event of landslide.
- (f) A geofabric material or jute netting, which blends in with the color of the existing bluff, shall be installed on the bluff top seaward of the fence and extending down over the top of the bluff to slow down erosion of the exposed bluff top materials.

4. Temporary Structures in Setback Area

Prior to the issuance of a coastal development permit the applicant shall submit for the review and approval of the Executive Director a deed restriction stating the following:

1. All improvements in the 25 foot bluff top setback zone are considered to be temporary, including landscaping, fences, and hardened surfaces,
2. no bluff protective devices, such as caissons, shall be permitted to protect temporary structures in the setback zone from the threat of bluff retreat, and
3. if threatened by bluff retreat, improvements in the bluff setback zone shall be removed or relocated inland.

The document shall be recorded free and clear of all prior liens and encumbrances which the Executive Director determines affect said interest and shall run with the land and bind all successors and assigns.

5. Future Improvements

Prior to the issuance of the coastal development permit the applicant shall record a deed restriction in a form and content acceptable to the Executive Director, which provides that Coastal Development Permit 5-97-256 is for the approved development only and that any future improvements or additions on the property including grading, landscaping, or installation of hardscape

improvements not permitted in this permit or allowed in special condition 3, will require a coastal development permit or permit amendment from the Commission or its successor agency.

The document shall be recorded free and clear of all prior liens and encumbrances and shall run with the land and bind all successors and assigns.

IV. Findings and Declarations

A. Project Description and Location

The proposed development consists of the construction of a 25 foot high, three-story, 7,082 square foot four unit apartment building with a 1,991 square foot garage and nine parking spaces. The project includes 798 cubic yards of grading and landscaping. This application is the first of three applications for multi-family residential development on three vacant blufftop lots.

The proposed development is located on a coastal bluff on Buena Vista, which is south of North Beach and north of the San Clemente Pier, in the City of San Clemente. The site is one of three currently vacant lots which are being proposed for multi-family residential development. The lots are graded and level on the blufftop with a steep vertical bluff face devoid of vegetation. There are existing multi-family residential and single-family residences in the area.

The bluff below the proposed development is separated from the beach and ocean by the railroad tracks and rip-rap revetment. The bluff is not subject to wave attack.

B. Geologic Safety

Section 30253 of the Coastal Act states in part:

New development shall:

(1) Minimize risks to life and property in areas of high geologic, flood, and fire hazard.

(2) Assure stability and structural integrity, and neither create nor contribute significantly to erosion, geologic instability, or destruction of the site or surrounding area or in any way require the construction of protective devices that would substantially alter natural landforms along bluffs and cliffs.

1. General Findings on the Causes of Bluff Erosion

The proposed development is located on a coastal bluff which is subject to erosion and localized landsliding, especially in San Clemente where the bluffs are primarily composed of poorly consolidated, easily erodible substrate. Coastal bluffs in Southern California are located at the intersection of land and ocean and subject to incredible forces of nature. Coastal bluffs in southern California are composed of relatively recent uplifted geologic material and by virtue of their location and composition, these coastal bluffs are continually in a state of erosion and instability.

Coastal bluff erosion is caused by a combination of environmental factors and impacts by man.

Environmental factors include gravity, seismicity, wave attack, drying and wetting of bluff face soils, wind erosion, salt spray erosion, rodent burrowing and piping, percolation of rain water, poorly structured bedding, surface water runoff and poorly consolidated soils.

Factors attributed to man include bluff oversteepening from cutting roads and railroad tracks, improper irrigation practices, building too close to the bluff edge, improper site drainage, use of impermeable surfaces which increase runoff, use of water-dependent vegetation, pedestrian or vehicular movement across the bluff top, face and toe, and breaks in irrigation lines, water or sewer lines. In addition to irrigation water or runoff at the bluff top, increased residential development inland leads to increased water percolating beneath the surface and outletting on the bluff face along fracture lines in the bluff or points of contact of different geologic formations, forming a potential slide plane.

In San Clemente the coastal bluffs are not subject to wave attack. However, the bluffs were oversteepened due to the construction of the AT&SF railroad tracks at the base of the bluffs and are subject to the various environmental and man-made impacts listed above.

There are several instances of massive bluff restructuring in the City of San Clemente north of the subject site, i.e., the La Ventana landslide (A5-DPT-93-275 and 5-93-243), the Marblehead bluffs (G5-90-274), and the Colony Cove bluff restructuring (5-94-256). In both the La Ventana and Colony Cove instances houses were either completely ruined or partially destroyed due to landsliding. The La Ventana and Colony Cove bluffs were completely restructured with a series of tie-back anchors extending deep into the bluff and connecting to a concrete facing textured to look like natural bluff. These Marblehead bluffs are located adjacent to the North Beach area of San Clemente just north of the proposed development. The Marblehead bluffs were laid back to a 2:1 contour slope following severe bluff failure.

There are numerous other instances where homeowners have installed caisson and grade beam systems to protect an existing residence or blufftop improvements from shallow slope failures (CDPs 5-93-181, Driftwood Bluffs, 5-93-307, Ackerly), 5-93-143 Mertz, 5-83-839 Perry, 5-83-735G Curtis, 5-93-170 Rist, 5-88-177, G5-93-254).

In a 1991 article entitled "Mass Movement and Sea Retreat along the Southern California Coast" published in the Bulletin of the Southern Academy of Science, Antony Orme writes:

Seacliff retreat is a natural process which, if unheeded, threatens human life and livelihood, and which can be aggravated by human activity. It will continue to occur and therefore responsible coastal management must require that human activity be set back an appropriate distance from cliff tops and diverted from unstable and potentially unstable terrain.

Orme also discusses some of the causes of landslide activity in a statement which appropriately describes the situation in San Clemente.

More recently, cliff-top developments involving vegetation change, grading, road drainage, septic tanks, and landscape watering have greatly changed hillslope hydrology. ... Meanwhile, early railroad and later highway construction at the cliffbase has greatly reduced buttressing slope support.

Ernest R. Artim, in an article entitled "Erosion and Threat of Sea Cliffs, San Diego County, California," discusses the factors leading to bluff retreat. He states:

Man has introduced into the coastal region a series of erosion accelerating agents, such as uncontrolled foot traffic and irrigation. Uncontrolled runoff from structures built on top of cliffs often results in channeling and erosion.

2. Site Specific Bluff Information

The findings of this coastal development permit regarding geologic stability are derived from the aerial photograph submitted by the applicant, by numerous site visits by staff, and by the geologic reports submitted by the applicant. The specific information obtained from these two sources affirms and reinforces the generalized findings of coastal bluff instability above.

Site specific geologic information is included in the soils report by GEO-ETKA, INC. dated June 2, 1997. The top of the bluff is 128 feet from the property line. The bluff consists of the toe of the bluff, the mid-section and the top, with a total vertical relief of 85 to 90 feet and an overall slope gradient of 37 degrees. The top of the bluff is near vertical and measures 25 feet high, manifesting minor erosion and slumping.

The GEO-ETKA, INC. report describes the bluff erosion process:

Examination of the site and characteristics of the surrounding area indicates that the materials that comprise the oversteepened bluff face become locally detached. This results in vertical and near-vertical angles. This phenomena is not associated with deep-seated failures or continuous planes of weakness that are controlled by geologic structure. The overall bluff face is oversteepened, but appears stable. The active deterioration of the bluff appears to be controlled through conscientious landscaping and maintenance.

The report also notes that the bluff face at the site is oversteepened and that subsurface water was observed on the bluff face at the point of contact between the marine and terrace deposits and between the terrace deposits and the bedrock materials. The geotechnical consultant, in the above statement, affirms the connection between bluff stability and landscaping and maintenance at the project site.

a. Aerial Photograph Evidence

Exhibit 2 is an aerial view of the bluff showing what the proposed structure(s) will look like after they are built. The proposed structures are the three in the center of the aerial photograph. This application corresponds to the center lot.

In the immediate vicinity of this site there are several buildings erected prior to the Coastal Act which were constructed on or near the bluff edge and have bluff face protective concrete retaining walls and caissons, including the structure at 1503 Buena Vista (Spruill) which is not visible in this aerial photograph. Immediately to the right (south) is a multi-family structure with a concrete structural wall on the bluff top and face. Immediately to the right (south) of that structure is a residence with a massive railroad beam retaining wall supporting a concrete patio and swimming pool. The concrete patio at this location has undergone cracking due to settlement. The residence two structures to the north shows a bluff top escarpment at the perimeter of development.

A walk along the coastal bluffs nearby will show undermined patio and accessory structures, failed bluff staircases, retreating bluffs, talus piles at the base of slopes and landslide material mixed with some construction debris.

The bluff to the north and south of the proposed development is heavily vegetated. The aerial shows that the bluff below the proposed structure is steep and barren at the top, vegetated in the middle, and then barren again at the base. Presumably the line of vegetation which traverses the middle of the bluff is indicative of the presence of water seeping through to the bluff face. The bluff at the project location is steep and is by and large barren of vegetation, presumably caused by the steepness. This steepness and the lack of vegetation to hold down soils combine to make this section of bluff particularly susceptible to erosion and localized slope failure and block falls. Landslide talus debris is evident at the base of the southern portion of the bluff.

Of the six existing structures in the aerial photograph only the residence at the far right (south) has non-improved open space between the primary structure and the bluff edge.

b. Engineering Geological Reports

The applicant submitted an Evaluation of Geotechnical Conditions prepared June 15, 1997 by soil PACIFIC Inc. and an Engineering Geologic Investigation prepared by GEO-ETKA, INC. on June 2, 1997. The geotechnical reports included an evaluation of excavated boring holes, review of sample recovery, engineering geologic review and reconnaissance of the area, review of laboratory testing of on-site samples, field work analysis, summary of findings, and recommendations.

The findings of the geotechnical report include statements concerning the stability or instability of the bluff and recommendations for structural setbacks from the bluff edge. The geotechnical report states:

It is well documented in the referenced reports that the homes located along the bluff have, over the years, experienced slope creep or a minor form of retreat in varying degrees. The references have identified many inches of movement of rear yard appurtenances as a result of downslope creep of soils at the top edge of the bluff.

Review of the Technical Report by Zeiser Geotechnical, Inc., indicates that there is no meaningful way to predict bluff behavior except that

retreat is strongly associated with meteorological events. In addition, it is stated that urbanization has ultimately had a detrimental effect on overall bluff stability and blockfall is not necessarily limited to periods of intense rainfall. Mitigation measures are provided in the Technical report, the most emphatic being the control or curtailing of irrigation water. The technical report concludes that the elevated water content and associated weathering are the primary factors in controlling the blockfall and subsequently the retreat processes of the bluff.

The location of the proposed structure meets the Commission's setback guidelines recommended in the adopted Orange County Regional Guidelines in that it conforms to a stringline and is set back further than 25 feet from the edge of the bluff. In terms of the future stability of the proposed structure, the geotechnical report states that the proposed setback of 25 feet from the top of the bluff is "sufficient for structures to be out of the failure zone." As is stated in the soil PACIFIC INC. report:

It has been determined that the proposed setback of 25 feet from the top of the bluff is sufficient for structures to be out of the failure zone. However, deepened foundations will be proposed in those areas to enhance safety factors to meet code minimums, and will allow for shallow failures to occur in the rear yard areas without detrimental effects on the residences, even to the point of exposing as much as 8 feet of the foundations.

Other development, however, is proposed seaward of the recommended geologic setback. The development proposed to be located seaward of the setback is: a patio, concrete walkway, lawn and five foot high wrought iron fence. As was stated in the geotechnical report:

Some of the referenced reports indicate that rear yard erosion and soil creep is taking place near the top of the bluff. This report in no way is intended to comment on those conditions except to identify their existence and should not be construed to indicate any level of safety for structures located on or about the top of the bluff. Nor can this report be construed to indicate relative safety for structures located on or about the toe of the bluff for the subject site.

As was stated above, the geotechnical report confirms that the bluff top is currently undergoing creep and erosion. In fact the geotechnical report states that the safety factors at the top of bluff vary from 1.0 to 1.5 with a factor of safety of less than 1 within 5 feet of the bluff. The geotechnical report also confirms that there is no level of safety associated with appurtenant structures located in the 25 foot setback. The plans submitted by the applicant show that a five foot high wrought iron fence is proposed at the bluff edge. In addition the landscaping plans show that the 25 foot setback area includes the fence, miscellaneous plantings, an irrigation system, and a lawn area. None of the plants indicated on the landscaping plan are native, drought-tolerant plants.

3. Conclusions and Special Conditions

In his article "Some Techniques for Reducing Landslide Hazards", William Kockelman, of the U.S. Geological Survey, discusses several ways to minimize landslide hazards, including:

- 1) Require a permit prior to scraping, excavating, filling, or cutting any lands.
- 2) Prohibit, minimize, or carefully regulate the excavating, cutting and filling activities in landslide areas.
- 3) Provide for the proper design, construction, and periodic inspection and maintenance of weeps, drains, and drainageways, including culverts, ditches, gutters, and diversions.
- 4) Regulate the disrupting of vegetation and drainage patterns.
- 5) Provide for proper engineering design, placement, and drainage of fills, including periodic inspection and maintenance.

Kockelman also discusses the option of disclosure hazards to potential buyers by the recordation of hazards in public documents. The recordation of hazards via the assumption of risk is one means the Commission utilizes to inform existing and future buyers of property of the potential threat from soil erosion and slope failure (landslide) hazards. The Commission also requires special conditions regarding the types of vegetation to be planted or removed and also routinely imposes a special condition that future development, including grading and vegetation removal, requires a coastal development permit.

The findings in the staff report regarding general causes of bluff erosion and the specific findings from the geotechnical report, aerial photographs, and previous coastal development permits, confirm that the coastal bluff at this location is eroding and that measures to minimize bluff erosion are necessary. The following special conditions will help mitigate the impacts of the proposed development on bluff erosion and instability, and help prevent the necessity for bluff protective structures, as required by Section 30253 of the Coastal Act.

a. Improvements in the Bluff Setback Zone

Special Condition 4 of the permit requires the applicant to record a deed restriction on the property placing the applicant and their successors in interest on notice that no bluff protective devices shall be permitted in the future to protect improvements in the 25 foot bluff top setback zone, i.e., fences, landscaping, walkways, patios, spas, etc. The condition states that in the event any improvements in the setback zone are threatened by bluff retreat, those improvements shall either be removed entirely or relocated landward. The consulting geologist states that the primary structure conforms with the setback established in the geotechnical report, but that the geotechnical report cannot be interpreted to "...indicate any level of safety for structures located on or about the top of the bluff."

The proposed development involves new development which is subject to many different Coastal Act policies, but specifically, Section 30253 which requires that new development be sited and designed to not require protective devices in the future. Thus, condition language states that no bluff protective devices shall be permitted for improvements in the 25 foot bluff setback zone and that should improvements become threatened they should be removed or relocated inland. Without this condition, the Commission cannot find that the proposed development meets the requirements of Section 30253 of the Coastal Act.

b. Landscaping Special Condition

In approving the placement of rear yard improvements in the 25 foot setback zone the Commission must also condition the applicant to minimize potential erosion or as it is stated in Section 30253 "...to neither create nor contribute significantly to erosion...".

Artim, see page 6, discusses the impact of man on coastal bluffs and the role of native vegetation. He states:

Man often replaces native vegetation on the cliff surface with exotic vegetation. This creates an environment more conducive to rodents, depletes the existing natural, fragile cementation, and, when coupled with uncontrolled runoff, produces a greater erosive agent than existed naturally. Exotic vegetation often competes with the natural growth and tends to kill the native plants which have, in the past, adapted to and partially stabilized the bluff surfaces.

The geologic report states that: "...elevated water content and associated weathering are the primary factors in controlling the blockfall and subsequently the retreat processes of the bluff."

The role of water in destabilizing coastal bluffs is documented in this staff report as are prior cases where blufftop property owners have applied for permits for bluff protective measures following the failure of irrigation lines, water or sewer lines which cause slope failure. It is extremely difficult to discover breaks in in-ground irrigation lines until after a certain period of time passes and plants start to die. By then the slope may have become saturated. It is also difficult to assess the longterm damage caused by the accumulation of water on bluff top soils due to watering of lawns and other water intensive vegetation.

Therefore, special condition 3 of this staff report is an attempt to minimize water useage for landscaping and thereby minimize potential slope damage as per Section 30253 of the Coastal Act. The existing landscape plan includes a lawn (watering requirements unknown), water dependent vegetation, and in-ground sprinkler systems. The applicant shall be conditioned to submit a landscaping plan for the rear yard, bluff top area and front yard (special condition 3). The planting list for the rear yard shall consist of native, drought-tolerant plants found along the coastal bluffs in San Clemente. The plant list for the front yard and around the residence can include non-native drought tolerant plants. Water-dependent plants can be placed in planter boxes or individual pots.

Installation of water intensive landscaping runs directly contrary to these recommendations. It is the Commission's experience, as noted in specific coastal development permits on page 6, that one factor contributing to slope failure on coastal bluffs is the failure of irrigation systems either through overwatering or line breakage. This is why section "c" of special condition 3 requires that irrigation be above ground and of the drip system variety. The implementation of a drought-tolerant, erosion control landscaping plan, as stipulated in special condition 3, will minimize the need for irrigation and reduce erosion by stabilizing soils through the plant root systems.

The Engineering Geotechnical study by GEO-ETKA, INC. prepared on June 2, 1997 states:

Examination of the site and characteristics of the surrounding area indicates that the materials that comprise the over steepened bluff face become locally detached. ... The active deterioration of the bluff appears to be controlled through conscientious landscaping and maintenance.

Additionally, the recommendations in the soil PACIFIC, INC. geotechnical evaluation includes the following statement:

Landslide risk is of primary concern as the performance of the bluff is strongly associated with several transient factors. These factors include changes in moisture content of the materials that comprise the bluff, vertical and horizontal movement of phreatic surfaces within the bluff, meteorological and or man made events leading to the changes in moisture and, seismic events. Historical accounts indicate that the bluff retreat at various amounts each year ranging from minor erosion to massive block sliding involving 20 to 80 feet of bluff behind the top grade break. These phenomenon are well documented and should be a consideration in all bluff developments.

It is felt that with appropriate protection, bluff retreat may be inhibited. The magnitude of protection and resulting stability enhancement are beyond the scope of this report. Each project will require specific and detailed analyses to determine what measures, if any, would be appropriate to aid in minimizing bluff retreat or erosion.

The geotechnical consultants will review the proposed site plans to ensure that site drainage is in line with their recommendations. However, the consulting geologist indicated to staff on 10-14-97 that they are not qualified to and would not review landscaping plans. Geologic reports on bluff-top lots, including this report, stress the importance of controlling water use, runoff, and vegetation on bluff and canyon fronting lots. However, although they make these recommendations and review site drainage, they do not review landscaping plans and often do not even see them. Given the fact that these consultants do not see or review these plans and given the fact that this facet of development is crucial to site stability, the Commission is requiring special conditions to address this problem.

For example, staff notified the geotechnical consultant that the proposed landscaping plans included a lawn, which under ordinary circumstances requires the equivalent of 60 to 300 inches of rainfall per year. Normal rainfall in California is from 12 to 20 inches. Obviously, then installment of a lawn on the bluff top and its subsequent watering requirement would not conform with geologic recommendations.

In his article "Mass Movement Along the Southern California Coast" Orme discusses human activity and its role in landslides:

Human activity such as lawn watering, septic tank seepage, and road drainage may promote movement at any time by raising groundwater levels and modifying shear strength. Further, because so much landslide terrain has been inherited from wetter Pleistocene climates, such human activities

may recreate the groundwater hydrology and stress fields of the Pleistocene, pushing terrain of marginal stability over the threshold into renewed landslide activity.

This is a common situation for development on coastal bluffs, in that the consulting geologist makes standard recommendations regarding landscaping and water use, yet does not review landscaping plans or require conformance with their recommendations in this regard. In the past the City of San Clemente has not required planning review for landscaping on coastal bluffs unless excavation is involved. The Coastal Commission staff is in a position to address the concerns and recommendations of the consulting geologist regarding landscaping.

In the past attention has been focused on landscaping fronting the bluff top only. However, it does not make sense to require strict controls on rear yard landscaping and allow water intensive landscaping on the portion of the lot fronting the street. Water flows to the lowest spot, and in this case the lowest spot will be somewhere on the bluff face, as indicated in the geotechnical report. Therefore, section "d" of special condition 3 requires that non-native drought tolerant plants can be utilized in the front yard areas and that water dependent flowering plants and trees be confined to planters or individual pots with a stipulation that irrigation systems be above ground and of the drip variety.

Section "c" of special 3 requires that all site drainage be taken to the street and away from the bluff top, face or toe. Draining water away from the site and onto the site bluff is another major cause of erosion and bluff failure.

The coastal bluff edge is steep and poses a potential danger to future residents. Therefore, it is understandable that a fence be constructed for safety reasons to keep residents and guests away from the bluff edge. The plans submitted by the applicant show that their proposed five foot high wrought iron fence would be located at the bluff edge. The findings of this staff report and the geotechnical report clearly show that the bluff edge is currently undergoing erosion and creep. Therefore, location of a fence at the eroding bluff edge is unacceptable and section "e" of special condition 3 requires that the fence must be set back at least five feet to allow for erosion. In addition, it is in the applicant's interest to design a fence which can be relocated in the event that it becomes threatened by erosion in the future.

Finally, it is the applicants responsibility to control erosion on their property. The top of the bluff face is currently exposed to the elements and susceptible to erosion. Planting will not solve this problem. However, installation of a weather resistant geofabric material on the immediate bluff top and hanging down over the bluff edge will help to minimize bluff edge erosion. Therefore, section "f" of special condition 3 requires that measures of this type be taken to protect the bluff edge.

Therefore, the Commission finds that only as conditioned to submit a revised landscape plan which includes all of the elements in special condition 3, is the proposed development in conformance with Section 30253 of the Coastal Act.

c. Future Improvement Condition

The soil PACIFIC INC geotechnical report includes a statement on the property owner's responsibilities. It states:

The exercise of care in managing surface runoff and conducting it to approved drainage devices in a non erosive manner is the sole responsibility of each individual property owner. Additionally, as occupants of bluff environment properties, it is presumed that there is a certain level of understanding about the detrimental effects of water on slope stability. Each property owner should be aware that individually and collectively, they have a direct contribution to the integrity of the bluff and its performance.

Clearly a bluff homeowner should be aware of the environment and the implications of living on a coastal bluff. Unfortunately, it is the Commission's experience that many property owners are either unaware of their environmental circumstances or don't care and view their property as a short term investment opportunity. It is also common practice for applicants to agree to special conditions, landscaping in particular, only to have future owners come in and plant water intensive lawns, plants and trees on bluff top lots. It is also common practice that new landscaping is installed prior to a structure being sold, the premise being that greenery helps sell property.

The findings of this staff report concerning the causes of bluff failure show that there is a direct correlation between watering and erosion. Section 30253 of the Coastal Act requires that new development "Assure stability and integrity, and neither create nor contribute significantly to erosion...". The only way to ensure that site landscaping remains drought tolerant is to put the current and future owners on notice that any landscaping or hardscape improvements require a coastal development permit or an amendment to this coastal development permit. This condition helps satisfy the geotechnical recommendation for controlling bluff erosion through conscientious landscaping and maintenance. Therefore, only as conditioned for a future improvement special condition does the Commission find that the development conforms with Section 30253 of the Coastal Act.

d. Assumption of Risk

Any development on an eroding coastal bluff involves some risk. The geotechnical report states that the setback of 25 feet from the bluff edge is sufficient for structures to be out of the bluff failure zone. However, the geotechnical report also states that:

Landslide risk is of primary concern as the performance of the bluff is strongly associated with several transient factors. ... Historical accounts indicate that the bluff retreats at various amounts each year ranging from minor erosion to massive block sliding involving 20 to 80 feet of bluff behind the top grade break. These phenomenon are well documented and should be a consideration in all bluff developments.

The findings in this staff report document that the coastal bluff is eroding and that massive block sliding has occurred historically in this area. The landslides at La Ventana and Colony Cove have shown that development is not immune to severe damage by bluff failure and that bluff failure is not

predictable at a particular location. Periods of low rainfall can be accompanied by periods of little bluff erosion. Periods of high rainfall can cause severe landsliding. By accepting the assumption of risk special condition the applicant acknowledges that there are risks to developing on coastal bluffs and that the applicant waives any liability on the part of the Commission for approving the development. The assumption of risk deed restriction also puts future owners on notice of these risks.

Therefore, only as conditioned for an assumption of risk deed restriction does the Commission find that the development conforms with Section 30253 of the Coastal Act.

e. Conformance with Geologic Recommendations

The GEO-ETKA, INC. soils report concludes that the "...site appears suitable from an engineering geologic standpoint to receive residential structure." The report also states that final foundation and grading plans should be reviewed to confirm incorporation of the recommendations presented in the report.

Section 30253 of the Coastal Act requires that new development minimize risks to life and property and assure stability and structural integrity. The geotechnical report identifies these risks and includes recommendations to minimize them or eliminate them altogether.

The geotechnical report offers a range of alternatives for foundation stabilization, including a pile and grade beam system and specifications for the installation of this system. The site plans provided by the applicant conform with the blufftop setbacks recommended by the geotechnical consultants. However, the plans do not include foundation plans. Therefore, the Commission requires that the applicant submit site plans signed and stamped by the consulting geotechnical consultants showing that the plans have been reviewed by the consultants and are in substantial conformance with those plans regarding site drainage, grading, retaining walls, setbacks and foundation installation.

Therefore, the Commission finds that only as conditioned, to submit stamped foundation and drainage plans which conform with the development approved by the Commission and which incorporate the recommendations of the consulting geotechnical consultants, does the development conform with Section 30253 of the Coastal Act.

C. Coastal Access and Recreation

Section 30212(a)(2) of the Coastal Act states:

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

(1) it is inconsistent with public safety, military security needs, or the protection of fragile coastal resources,

(2) adequate access exists nearby, or,

(3) agriculture would be adversely affected. Dedicated accessway shall not be required to be opened to public use until a public agency or

private association agrees to accept responsibility for maintenance and liability of the accessway.

Section 30604(C) of the Coastal Act requires that permit applications between the nearest public road and the shoreline of any body of water within the coastal zone shall include a public access and recreation finding. The proposed development is located between the sea and the first public road and consists of the construction of a multi-family residential structure.

The proposed development is located on a coastal bluff south of the North Beach area and north of the San Clemente Pier. There is no access to the shore provided across the site. A public access dedication can be required pursuant to Section 30212 only if it can be shown that the development either individually or cumulatively directly impacts physical public access, i.e., impacts historic public use, or impacts or precludes use of Public Trust Lands. In this situation, the development is located on a steep coastal bluff between the sea and the first public road, however, it does not impact access either directly or indirectly to the ocean.

The development will not create adverse impacts, either individually or cumulatively on public access and will not block public access from the first public road to the shore. Therefore, the Commission finds that the proposed development is consistent with the public access and recreation policies of the Coastal Act.

D. 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 Chapter 3 policies of the Coastal Act.

The Commission certified the Land Use Plan for the City of San Clemente on May 11, 1988, and certified an amendment approved in October 1995. As conditioned, the proposed development is consistent with the policies contained in the certified Land Use Plan. Therefore, approval of the proposed development will not prejudice the City's ability to prepare a Local Coastal Program for San Clemente that is consistent with the Chapter 3 policies of the Coastal Act as required by Section 30604(a).


E. Consistency with the California Environmental Quality Act (CEQA)

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)(i) of CEQA prohibits a proposed development from being approved if there are feasible alternatives or feasible mitigation measures available which would substantially lessen any significant adverse impact which the activity may have on the environment.

The proposed project has been conditioned in order to be found consistent with section 30253 of the Coastal Act. Mitigation measures requiring the applicant to submit an assumption of risk deed restriction, submit a revised landscaping plan, record a deed restriction concerning future bluff protective devices for

improvements in the bluff setback zone, conform to geotechnical recommendations and comply with a future improvement special condition will minimize all adverse impacts. As conditioned, 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 can be found consistent with the requirements of the Coastal Act to conform to CEQA.

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EXHIBIT NO. 1
APPLICATION NO. S-97-256
JICINITY
 California Coastal Commission

PACIFIC

OCEAN

SITE

CAPISTRANO
BEACH
DANA
POINT

SAN CLEMENTE

01E60

AVENIDA

~~PICO~~

28



RAILROAD
TRACKS

SITE



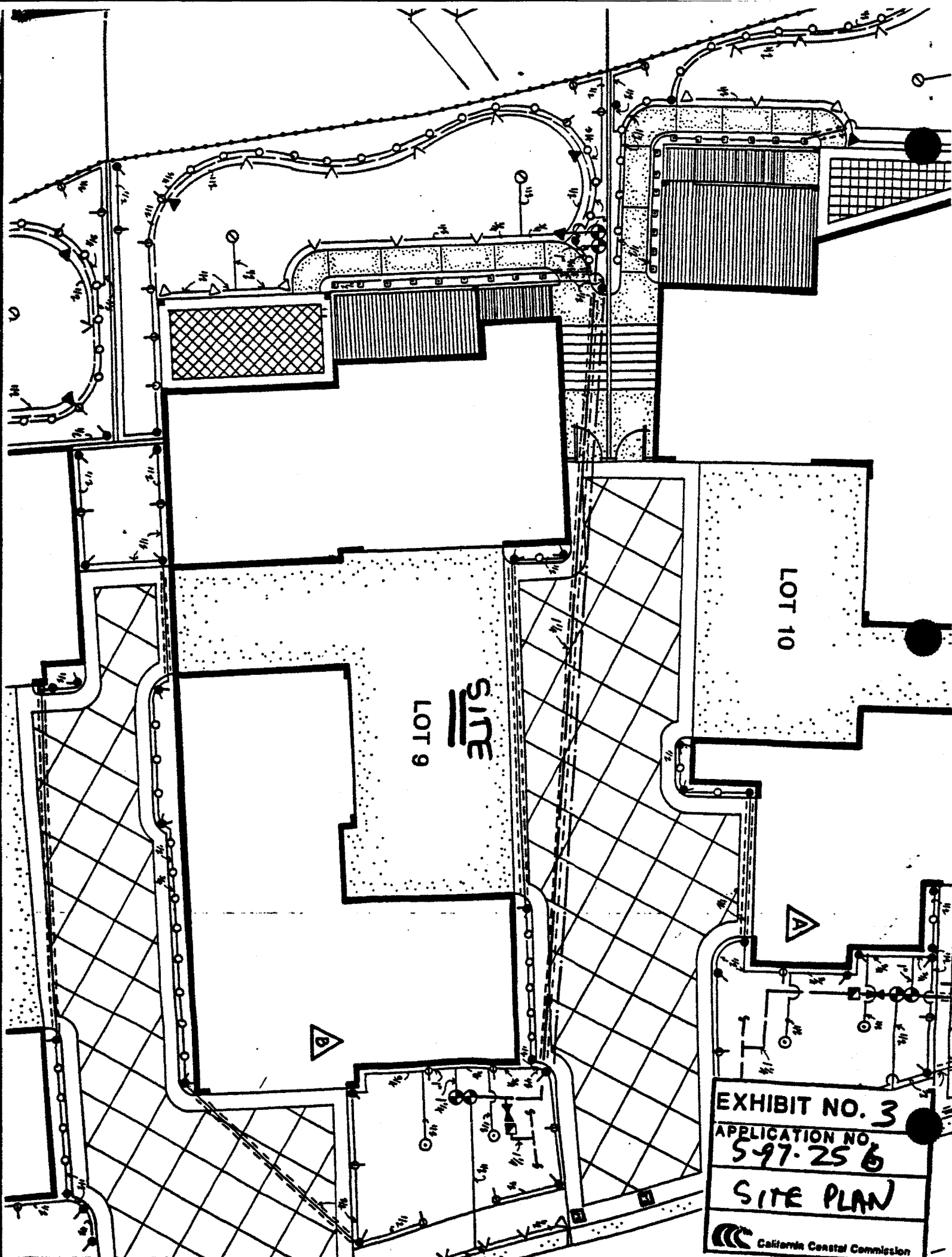
Last of its kind

EXHIBIT NO. 2

APPLICATION NO.

5-97-256

AERIAL PHOTO



EXISTING SLOPE PLANTING TO REMAIN

EDGE
OF
BLUFF

EXISTING SLOPE PLANTING TO REMAIN

SITE

LOT 9

EXHIBIT NO. 4
APPLICATION NO.
S-97-256
BLUFF TOP
California Coastal Commission

