CALIFORNIA COASTAL COMMISSION

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 Commission Action:
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Item Th 19e

STAFF REPORT: REGULAR CALENDAR

APPLICATION NUMBER: 5-01-018

APPLICANTS: Robert and Nancy Conger

AGENT: GWC Architects, Attn: Gerald Compton

PROJECT LOCATION: 501 Paseo de la Playa, Torrance (Los Angeles County)

PROJECT DESCRIPTION: Interior remodel and construction of a 591 square foot, 12.5-foot high first story addition at the rear of an existing 3,152 square foot, two-story single family residence on the bluff top and construction of three retaining walls, a 404 square foot patio area with spa and stairs, and a 246 square foot wood deck cantilevered 12 inches above existing grade on the bluff face in the rear yard of a 23,400 square foot, R-1 zoned bluff lot. A total of 8.9 cubic yards of excavation and fill is required to install the spa and 34.8 cubic yards of excavation and fill is required for the patio, stairs and footings.

Lot Area 23,400 square feet 2,802 square feet **Building Coverage Pavement Coverage** 1,890 square feet Landscape Coverage 1,788 square feet **Parking Spaces** 2 Zonina **R-1** Plan Designation Low Density Residential 12 feet 6 inches (addition only) Ht above final grade

SUMMARY OF STAFF RECOMMENDATION

Staff is recommending <u>APPROVAL</u> of the proposed project with conditions to (1) assume the risk of the proposed development; (2) agree to not build a device to protect the developments in the future; (3) provide revised plans eliminating all proposed development seaward of the top of bluff; and (4) conform to the consultants' recommendations and any requirements of the City of Los Angeles, Department of Building and Safety. The major issue of the staff report concerns development on a bluff face.

LOCAL APPROVAL:

1. City of Torrance Approval in Concept dated December 13, 1999.

SUBSTANTIVE FILE DOCUMENTS:

- 1. City of Torrance Land Use Plan certified with suggested modifications, 1981.
- 2. Regional Interpretive Guidelines for Los Angeles County adopted October 14, 1980.
- Coastal Development Permits P-4-20-77-716 (Warren); A-79-4879 (McGraw); 5-83-618 (Fire); 5-84-187 and 5-84-187-A (Briles); 5-85-183 (Hall); 5-85-755 (Briles); 5-90-506 (Stamegna); 5-90-868 (Schreiber); 5-90-1041, 5-90-1041-A1, -A2, -A3 and -A4 (Campbell); 5-90-1079 (Wright); 5-91-697 (Wright); 5-96-167 (Lichter); 5-97-050 (Kreag); and 5-99-456 (Conger).
- 4. Wave Impact Study, 501 Paseo de la Playa, Torrance, CA prepared by Skelly Engineering dated March 2001.
- 5. Geological Investigation for Proposed Residential Improvements, 501 Paseo de la Playa, Torrance, California (Project No. 4705-00) prepared by Keith W. Ehlert, Consulting Engineering Geologist dated July 11, 2000.
- Geotechnical Engineering Investigation Report Proposed Spa, Deck and Exterior of House, 501 Paseo de la Playa, Redondo Beach, California (Project No. 1601C-070) prepared by Coastline Geotechnical Consultants, Inc. dated August 8, 2000.

STAFF RECOMMENDATION:

The staff recommends that the Commission **<u>APPROVE</u>** the following resolution with special conditions.

Motion:

I move that the Commission approve CDP No. 5-01-018 pursuant to the staff recommendation.

Staff Recommends a <u>YES</u> vote. Passage of this motion will result in adoption of the following resolution and findings. The motion passes only by affirmative vote of a majority of the Commissioners present.

I. APPROVAL WITH CONDITIONS

The Commission hereby approves a coastal development permit for the proposed development and adopts the findings set forth below on grounds that the development as conditioned will be in conformity with the policies of Chapter 3 of the Coastal Act and 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. Approval of the

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permit complies with the California Environmental Quality Act because either 1) feasible mitigation measures and/or alternatives have been incorporated to substantially lessen any significant adverse effects of the development on the environment, or 2) there are no further feasible mitigation measures or alternatives that would substantially lessen any significant adverse impacts of the development on the environment.

II. STANDARD CONDITIONS

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

III. SPECIAL CONDITIONS

- 1. Revised Plans
 - A) **PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT**, the applicant shall submit revised plans to the Executive Director for review and approval. The revised plans shall show the following changes to the project:
 - 1. Show only development inland of the top of bluff on the plans and eliminate from plans all proposed development seaward of the top of bluff (shown in Exhibit #3).
 - (a) Show the proposed living room and family room addition inland of the top of bluff at the rear of the existing single family residence.
 - (b) Eliminate from plans the proposed patio area, spa, retaining walls, stairs and cantilevered wood deck.

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(c) Eliminate the previously revised plans, which incorporated Revision 3, Drainage Plan, for the proposed spa.

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- B) The revised plans shall, prior to submittal to the Executive Director, be reviewed and certified by a qualified professional to ensure that they are consistent with the Commission's approval and with the recommendations of any required technical reports [please see special condition 4].
- C) The permittee shall undertake development in accordance with the approved final plans. Any proposed changes to the approved final plans shall be reported to the Executive Director. No changes to the approved final plans shall occur without a Commission amendment to this coastal development permit unless the Executive Director determines that no amendment is required.

2. Assumption of Risk, Waiver of Liability and Indemnity

- A) By acceptance of this permit, the applicant acknowledges and agrees (i) that the site may be subject to hazards from landslide, bluff retreat, erosion and/or earth movement, (ii) to assume the risks to the property that is the subject of this permit of injury and damage from such hazards in connection with this permitted development; (iii) to unconditionally waive any claim of damage or liability against the Commission, its officers, agents, and employees for injury or damage from such hazards; and (iv) to indemnify and hold harmless the Commission, its officers, agents, and employees with respect to the Commission's approval of the project against any and all liability, claims, demands, damages, costs (including costs and fees incurred in defense of such claims), expenses, and amounts paid in settlement arising from any injury or damage due to such hazards.
- B) PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the applicant shall execute and record a deed restriction, in a form and content acceptable to the Executive Director incorporating all of the above terms of this condition. The deed restriction shall include a legal description of the applicant's entire parcel. The deed restriction shall run with the land, binding all successors and assigns, and shall be recorded free of prior liens that the Executive Director determines may affect the enforceability of the restriction. This deed restriction shall not be removed or changed without a Commission amendment to this coastal development permit.

3. No Future Protective Device

A) By acceptance of this permit, the applicant agrees, on behalf of himself and all other successors and assigns, that no bluff or shoreline protective device(s) shall ever be constructed to protect the subject property approved pursuant to Coastal Development Permit No. 5-01-018, including future improvements, in the event that the property is threatened with damage or destruction from erosion, landslide, waves, storm conditions or other natural hazards in the

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future. By acceptance of this permit, the applicant hereby waives, on behalf of himself and all successors and assigns, any rights to construct such devices that may exist under Public Resources Code Section 30235.

B) PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the applicant shall execute and record a deed restriction in a form and content acceptable to the Executive Director, which reflects the above restriction on development. The deed restriction shall include a legal description of the applicant's entire parcel. The deed restriction shall run with the land, binding all successors and assigns, and shall be recorded free of prior liens that the Executive Director determines may affect the enforceability of the restriction. This deed restriction shall not be removed or changed without a Commission amendment to this coastal development permit.

4. Conformance of Plans to Recommendations and Requirements

- A) All final design and construction plans shall meet or exceed all recommendations and requirements contained in Geological Investigation Report No. 4705-00 prepared by Keith W. Ehlert, Consulting Engineering Geologist, dated July 11, 2000, Geotechnical Engineering Investigation Report No. 1601C-070 prepared by Coastline Geotechnical Consultants, Inc. dated August 8, 2000, Wave Impact Study prepared by Skelly Engineering dated March 2000 and any requirements of the City of Torrance, Department of Building and Safety.
- B) The permittee shall undertake development in accordance with the approved final plans. Any proposed changes to the approved final plans shall be reported to the Executive Director. No changes to the approved final plans shall occur without a Commission amendment of this coastal development permit unless the Executive Director determines that no amendment is required.

IV. FINDINGS AND DECLARATIONS

The Commission hereby finds and declares:

A. PROJECT DESCRIPTION

The subject site is located at 501 Paseo de la Playa within the City of Torrance, Los Angeles County (Exhibit #1). The site is a bluff lot located between the first public road and the sea. The 23,400 square foot lot is located on the seaward side of Paseo de la Playa and extends down to the public beach (Exhibit #2). The top of the lot is approximately 50 feet wide and extends approximately 75 feet to the top of bluff, which is located at the seaward side of the concrete patio pad locate at the rear of the existing single family residence (Exhibits #3, p.2 and #4, p.1). Historically, the top of bluff (at an approximate elevation of 130 feet) was located approximately 9 feet 6 inches seaward of the rear side of the existing house, which is approximately the extent of the existing concrete patio pad, and the bluff face sloped gently seaward from that edge. However, at



some time in the past this and adjacent lots were graded such that there is a manufactured 2:1 slope descending 20 horizontal feet from the top of bluff located at the rear of the house to the concrete swale (Exhibit #3, p.2). The top of bluff remains at its original location, which is the upper part of the cut slope or top of the manufactured 2:1 slope. Seaward of the concrete swale is a relatively flat grade that extends approximately 10 horizontal feet (Exhibit #3, p.2). The flat grade ends at the lower edge of cut slope where the bluff continues to descend to the sandy beach. This slope extends approximately 300 feet down to the beach and has an approximate maximum width of 86 feet at the seaward property line. Although the bluff has been graded such that a portion of the bluff face is notched out (Exhibit #4, p.8), the location of the top of bluff does not change. The lower edge of the cut slope, seaward of the existing house and swale, is not the top of bluff. The concrete swale runs nearly parallel to the top of bluff and lower edge of cut slope and is located approximately 20 feet seaward of the top of bluff and 10 feet inland of the lower edge of cut slope (as measured on Section A of Sheet 6 of the plans) (Exhibits #3, p.2 and #5). The project is located within an existing residential area and overlooks Torrance Beach. There is an approximately 200-foot wide sandy beach between the toe of the approximately 130-foot high bluff and the mean high tide line (Exhibits #4, p.8 and #6, p.1). Vertical public access to this beach is available to pedestrians via public parking lots and footpaths at Redondo Beach approximately one-quarter to one-half mile north of the project site (Exhibit #1).

The applicants are proposing to build a 591 square foot addition to the living room and family room at the rear of the existing single family residence, extending that portion of the house to the historic top of bluff. The applicants also propose to build a new 404 square foot patio area with a spa on fill and stairs leading down to a new 246 square foot wood deck cantilevered 12 inches above existing grade (Exhibit #3, pp.1-2) seaward of the top of bluff. Three retaining walls are proposed to support the existing earth and fill in the proposed three-tiered rear yard (Exhibit #3, p.2) located between the historic top of bluff on fill slope and the lower edge of cut slope. The inland retaining wall would be 6 feet high and support fill upon which the upper concrete patio slab would lie. The second and third retaining walls would each be 4 feet high and support fill. A planter would be located inland of the second retaining wall and the lower patio and spa would be located inland of the third (seaward) retaining wall. A 36-inch high glass wall would stand above the seaward retaining wall. The retaining walls are part of the project design and would not function as protective devices. The applicants propose to construct the addition to the residence, patio, spa, stairs, deck and retaining walls on a 23,400 square foot R-1 zoned lot in Torrance. Grading is proposed for installation of the spa (8.9 cubic yards), patio, stairs and footings (34.8 cubic yards). No encroachment into City property is proposed. The proposed development is seaward of the top of bluff, development is proposed on the bluff face, but no development is proposed seaward of the lower edge of cut slope.

B. BLUFF FACE DEVELOPMENT

Of the several proposed developments on this lot, only the proposed addition to the house would be inland of the top of bluff. All of the other proposed developments, including the proposed patio area, spa, retaining walls, stairs and wood deck would be seaward of the historic top of bluff on the bluff face.

Section 30240 of the Coastal Act states, in part:

(a) Environmentally sensitive habitat areas shall be protected against any significant disruption of habitat values, and only uses dependent on those resources shall be allowed within those areas.

Section 30251 of the Coastal Act states, in part:

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 landforms, to be visually compatible with the character of surrounding areas, and, where feasible, to restore and enhance visual quality in visually degraded areas.

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

New development shall:

- (I) Minimize risks to life and property in areas of high geologic, flood, and fire hazard.
- (II) 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. Visual Impacts

The applicant has proposed to build a new patio area, spa, retaining walls, and cantilevered wood deck on the bluff face. Section 30251 of the Coastal Act requires minimization of alteration of landforms. Although a portion of the rear yard area has been significantly graded in the past (prior to enactment of the Coastal Act), further development on the bluff face would be inconsistent with that requirement. Therefore, Special Condition #1 requires the submission and implementation of revised plans that eliminate all proposed development seaward of the top of bluff. The resulting plans would be for the addition to the house only. By permitting the addition to the house within the currently proposed footprint, the Commission is approving only development inland of the top of bluff. The plans, if revised according to the requirements of Special Condition #1, would be consistent with Section 30251 of the Coastal Act.

This section of Paseo del la Playa in Torrance includes one- and two-story single family residences on individual lots. The proposed addition to the living room and family room of the single family residence is 12.5 feet high, which is lower than the roof height of the existing two-story home. The living room and family room addition would be at the rear of the residence and would not be visible from the fronting street. The addition may be

visible from the beach below the gently sloping, approximately 130-foot high bluff. However, since the entire blufftop in this area is developed with residences and the addition does not exceed the height of the existing residence, the proposed addition would not negatively impact the visual quality of the blufftop. The patio area and spa would be ground level improvements and would not be visible from the fronting street or the beach. The retaining walls and cantilevered wood deck, however, may be visible from the beach below.

All of the proposed developments, except for the proposed addition, are located seaward of the top of bluff and inland of the lower edge of cut slope. Development is proposed on the previously modified bluff face. The placement of protective devices seaward of the lower edge of cut slope on the bluff face would require alteration of the natural landform of the gently sloping bluff. Protective devices, such as retaining walls seaward of the lower edge of cut slope would also negatively impact the visual quality of the bluff as viewed from the ocean, beach and neighboring properties. In order to protect visual quality and minimize alteration of natural landforms, Special Condition #3 requires the applicant to record a deed restriction that would prohibit the applicant, or future landowner, from constructing a protective device for the purpose of protecting any of the development proposed as part of this application. Only as conditioned is the proposed project consistent with the Section 30251 of the Coastal Act, which requires that scenic and visual gualities of coastal areas be considered and protected as a resource of public importance, and alteration of landform be minimized. The project, only as conditioned to not allow the placement of protective devices, is consistent with Section 30253 of the Coastal Act, which requires that new development not require the construction of protective devices that would substantially alter natural landforms along bluffs.

2. <u>Habitat Impacts</u>

Host plant for the El Segundo blue butterfly (Euphilotes bernardino allyni), an endangered species, is located in patches throughout the bluff face on many of the lots along Paseo de la Playa, especially seaward of the lower edge of cut slope. Since all of the applicant's proposed development is inland of the lower edge of cut slope in an area that was previously modified and contains primarily ice plant and ornamentals, it would not directly impact the El Segundo blue butterfly or its habitat. Moving the development encroachment line seaward, however, reduces the area available for possible habitat restoration and brings development and associated human activity closer to existing habitat. It's possible that some of the habitat of this endangered species is located inland of the lower edge of cut slope on other bluff lots on this street. It's also possible that land owners at this and other properties on this street may in the future apply for permits to allow development seaward of the lower edge of cut slope (as has occurred in the past). The question is where the Commission will draw the line on bluff face development that historically has encroached into this sensitive habitat. To allow development to the lower edge of cut slope on the bluff face could effectively establish a development setback closer to the natural bluff that supports this habitat. The project, only as conditioned by Special Condition #1 to not allow development seaward of the top of bluff in this existing setback area, is consistent with Section 30240 of the Coastal Act.

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3. Geologic Hazards

Development on a coastal bluff is inherently risky. To evaluate the feasibility of future residential development at the subject site, the applicants commissioned a geological investigation by Keith W. Ehlert (Consulting Engineering Geologist), a geotechnical investigation by Coastline Geotechnical Consultants Inc., and a wave impact study by Skelly Engineering. The scope of the geological investigation involved review of published and unpublished reports and maps pertaining to the geologic conditions on the site and in surrounding areas, aerial photographs, geologic mapping in the site area and on the bluff below the site, analysis and evaluation of data, and test excavations (Exhibit #7). According to the report, '[t]he purpose of the investigation was to obtain sufficient information to evaluate geologic conditions within the site with respect to construction of additions to the rear portion of the existing house" (Exhibit #7). The geotechnical engineering investigation involved "geotechnical observations, subsurface explorations and sampling, field and laboratory testing, calculations and analyses" (Exhibit #4, p.1). The consultant reviewed "Reconnaissance Seismic Hazard" maps prepared by the State of California, Division of Mines and Geology dated March 25, 1999 (Exhibit #4, p.2), excavation, laboratory tests, and slope stability analyses to develop recommendations pertaining to use of the site, bluff stability and grading. The report includes conclusions and recommendations regarding liquefaction potential, foundations on terrace deposits, lateral loads and spread footings, cast-in-place friction piles, lateral loads and piles, creep, retaining walls, temporary excavation slopes, drainage, floor slabs-on-grade, grading and inspection. The wave impact study involved the review of historical and annual aerial photographs and calculations of wave runup and overtopping to determine if the proposed development will be subject to wave runup or wave attack over the typical life (100 years) of the development.

Geological and Geotechnical Engineering Investigation Reports

The geological investigation report concluded that (1) the site is underlain by bedrock of the Miocene Monterey Formation mantled by relatively thick terrace deposits, (2) maps provided no indication of active faults or landslides at the site, (3) no features were observed which indicate the site is undergoing or has undergone any gross instability problems, and (4) considerable damage could occur to the site from earthquakes generated on any of several faults in southern California. The report recommends that the project soils engineer perform appropriate stability analysis.

Several conclusions, requirements and recommendations were made in the geotechnical engineering investigation report. The City of Torrance requires a foundation slope setback for the placement of structures on, or adjacent to, slopes steeper than 3:1 (horizontal to vertical) to provide protection from water, mudflow, loose slope debris and shallow slope failures. The setback is the horizontal clearance from the face of the foundations to the lower edge of cut slope, which is the top of the steeper than 3:1 slope. The report refers to and includes a copy of the City's information sheet for slope setback requirements (Exhibit #4, p.3). For the proposed project, the information is used to determine the required setback for footings and spas from the descending slope surface, which is the lower edge of cut slope.



The "Reconnaissance Seismic Hazard" maps indicate the site is not in an area that may contain liquefiable materials. The report concludes that due to the depth of groundwater being in excess of 50 feet, liquefaction is considered unlikely. It requires that all foundation excavations be formed to prevent caving which is expected to occur in the The report names allowable lateral bearing values for spread present on-site soils. footings and piles (Exhibit #4, pp.4-5). Furthermore, it requires that piers or piles placed on a slope steeper than 5:1 in contact with Terrace deposits are designed for creep loads. The report names the fluid pressure for retaining walls at varying slopes, requires backfill to consist of clean sand and gravel, and requires a proper drainage system to be utilized. It requires site drainage to be dispersed by non-erosive devices to preclude concentrated run-off and erosion over the site, water to not be allowed to pond or drain down the slope in a concentrated and uncontrolled manner, and water to be conducted to Paseo de la Playa. The report concludes that since the surface soils are granular in nature and nonexpansive, slabs-on-grade may be used without special design consideration for expansive soils, but a moisture barrier beneath the slabs-on-grade is recommended in areas where slab moisture would be detrimental. Refer to Exhibit #4, pp.6-7 for the numerous grading specifications named in the report. The report states that inspection by the geotechnical engineer or the engineering geologist is required during construction.

The City of Los Angeles Regional Interpretive Guidelines recommends a minimum 25-foot setback for development from the edge of a coastal bluff. The Guidelines also recognize 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). Since the lots immediately next door to the subject lot do not have decks in their rear yards, the Commission's stringline concept cannot be applied to the proposed deck.

According to the geotechnical engineering report, the City of Torrance Zoning Code (which the Commission uses as guidance) states that a footing setback from steeper than 3:1 slope (lower edge of cut slope) is one-third the vertical height of the slope measured horizontally from the lower edge of cut slope to the footing (Exhibit #4, p.3). The report identified the lower edge of cut slope as the top of bluff. While the Commission's Senior Geologist disagrees with that characterization, he does agree that the development as proposed would be stable. In this case, the top of the steeper than 3:1 slope is the lower edge of cut slope, which is seaward of the top of bluff (Exhibits #3, p.2 and #5). The lower edge of cut slope, therefore, does not refer to the top of bluff in this situation. Since the vertical height to the lower edge of cut slope is 115 feet measured from the beach (as stated on page 1 of the Wave Impact Study report) (Exhibit #6, p.1), the City requires a 38foot 4-inch setback for the footings from the lower edge of cut slope. The City required spa setback is one-half the building footing setback distance required above. Therefore, the City requires a 19-foot 2-inch setback for the spa from the lower edge of cut slope. The proposed project includes a 38-foot setback for the footings (measured at the center of the footing shown on Section A of Sheet 6 of the plans) (Exhibit #3, p.2) and a 25-foot 6-inch setback for the spa. The proposed footings and spa setbacks are substantially consistent with those required by the City. Special Condition 1 requires that the living room and family room addition and spa are built at the minimum required setbacks required by the City, either as described on the diagram in the geotechnical engineering

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report shown on Exhibit #4, p.3, or as otherwise required by the City of Torrance Department of Building and Safety.

The lot on which development is proposed is a gently sloping parcel with an approximate angle of 26 degrees. The City requires a 38-foot 4-inch setback for the footings and a 19foot 2-inch setback for the spa from the lower edge of cut slope, as is recommended in the geotechnical engineering report prepared for the proposed project. The Commission's Senior Engineer and Geologist reviewed the geology report, geotechnical engineering report and wave impact study report prepared for the site and determined that the minimum footings and spa setbacks from the lower edge of cut slope that are required by the City are adequate to ensure stability of the bluff under current conditions. The Commission finds in this particular case that the City's setback requirements for the footings and spa will not add to instability, but will add to a pattern of development extending onto the bluff face. Since bluff face development would require walls and pilings, such development would disturb the integrity of the sand bluff face. Allowing additional development on the bluff face would add to a cumulatively unstable pattern along this stretch of the bluff. The Commission finds that the living room and family room addition, which is located inland of the top of bluff, as conditioned to be built at the minimum setbacks required by the City, minimizes risks to life and property, assures stability and structural integrity, does not create or contribute significantly to geologic stability or destruction of the site and surrounding area. Only as conditioned to be setback from the lower edge of cut slope the distance required to minimize risks to life and property, assure stability and structural integrity of the structures, and neither create nor contribute significantly to geologic instability is the proposed addition consistent with Section 30253 of the Coastal Act.

Section 30253 of the Coastal Act requires that development not require construction of protective devices that would substantially alter natural landforms along bluffs and cliffs. As discussed earlier in the "Visual Impacts" section, the placement of protective devices seaward of the lower edge of cut slope on the bluff face would require alteration of the natural landform of the gently sloping bluff. The construction of protective device(s) to protect the proposed development, therefore, would be inconsistent with Section 30253 of the Coastal Act. The Commission imposes Special Condition #3 requiring the applicant to record a deed restriction stating that no bluff or shoreline protective device(s) shall ever be constructed to protect the subject property, and thereby making the project consistent with Section 30253 of the Coastal Act.

Wave Impact Report

Section 30253 (1) states that new development shall minimize risks to life and property in areas of high geologic, flood, and fire hazard. Since coastal bluffs may be subject to flooding and wave attack, the Commission requires wave impact studies for blufftop development to assess the potential hazard from wave attack, flooding and erosion. The wave runup, flooding, and erosion hazard analyses should anticipate wave and sea level conditions (and associated wave runup, flooding, and erosion hazard studies) through the life of the development. For a 100 year structural life, that would be taking the 1982/83 storm conditions (or 1988 conditions) and adding in 2 to 3 feet of sea level rise. The purpose of this analysis is to determine how high any future storm damage may be so the hazards

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can be anticipated and so that mitigation measures can be incorporated into the project design.

The applicant provided a Wave Runup Study for the subject property, as is consistently required by the Commission for shoreline development in southern Los Angeles County and Orange County. The Wave Impact Study for the subject property was prepared by Skelly Engineering and is dated March 2001.

According to the consultant, the site is on coastal bluff located at the southern terminus of the Santa Monica Littoral Cell. The Wave Runup Study states:

"The net sand movement along this section of shoreline is to the north towards King Harbor. A groin is located about 1.5 miles to the north of the site and the Malaga Cove headland (Flat Rock Point) is located immediately to the south of the site. A review of aerial photographs shows little if any overall shoreline retreat. The shoreline is stabilized by the natural headland to the south, and the groin and harbor to the north. For the purpose of this analysis a very conservative estimate of the shoreline retreat rate is 0.5 feet per year" (Exhibit #6, p.1).

The Wave Impact Study concludes that the proposed development and the base of the bluff will not be subject to hazards from flooding and wave runup during the life of the development (Exhibit #6, p.2). According to the report, the approximately 200-foot wide sandy beach provides adequate protection for the base of the bluff at the seaward property line of the site (Exhibit #6, p.1). The report states:

"Over the vast majority of time wave runup will not reach the base of the bluff and will <u>absolutely not</u> reach the improvements on the property over the next 100 years...In conclusion, wave runup will not impact this property over the life of the proposed improvement. The proposed development will neither create nor contribute to erosion, geologic instability, or destruction of the site or adjacent area. There are no recommendations necessary for wave runup protection. The proposed project minimizes risks from flooding" (Exhibit #6, pp.1-2).

The Commission's Senior Geologist reviewed the report and does not expect that wave impact would result in erosion at the toe of the bluff to an extent that would put the development at risk during its lifetime (100 years).

Although there is no safety concern because the bluff is found to be relatively stable, development on any bluff face that results in landform alteration is inconsistent with Section 30251 of the Coastal Act and would be inconsistent with Section 30253 of the Coastal Act if protective devices were required to protect the development in the future. Therefore, the Commission has conditioned the project to not allow development seaward of the top of bluff and require the recordation of an assumption of risk deed restriction and a future protective device deed restriction on the property. Since the bluff is found to be stable and the proposed addition is inland of the top of bluff, the Commission conditions

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the addition to the existing residence such that it will be built inland of the top of bluff and meet or exceed the required setbacks.

Assumption of Risk, Waiver of Liability and Indemnity

Under Section 30253 of the Coastal Act new development in areas of high geologic, flood, and fire hazard may occur so long as risks to life and property are minimized and the other policies of Chapter 3 are met. The Coastal Act recognizes that new development may involve the taking of some risk. When development in areas of identified hazards is proposed, the Commission considers the hazard associated with the project site and the potential cost to the public, as well as the individual's right to use his/her property.

The existing single family residence lies on a gently sloping coastal bluff lot. The geological and geotechnical engineering investigation reports and wave impact report state that the subject property is well suited for the proposed development. Although the wave impact report states a conservative estimate of bluff retreat of one-half foot per year, this speed is highly unlikely. The Commission's Senior Geologist does not expect the bluff to retreat at a rate that would jeopardize the stability of the bluff or the proposed development. The applicant, however, commissions these reports, and ultimately the conclusion of the report and the decision to construct the project relying on the report is the responsibility of the applicant. The proposed project may still be subject to natural hazards such as slope failure and erosion. The geological and geotechnical evaluations do not guarantee that future erosion, landslide activity, or land movement will not affect the stability of the proposed project. Because of the inherent risks to development situated on a coastal bluff, the Commission cannot absolutely acknowledge that the design of the addition to the single family residence and other improvements will protect the subject property during future storms, erosion, and/or landslides. Therefore, the Commission finds that the proposed project is subject to risk from erosion and that the applicant should assume the liability of such risk.

The applicant may decide that the economic benefits of development outweigh the risk of harm, which may occur from the identified hazards. However, neither the Commission nor any other public agency that permits development should be held liable for the applicant's decision to develop. Therefore, the applicant is required to expressly waive any potential claim of liability against the Commission for any damage or economic harm suffered as a result of the decision to develop. The assumption of risk, when recorded against the property as a deed restriction, will show that the applicant is aware of and appreciates the nature of the hazards which may exist on the site and which may adversely affect the stability or safety of the proposed development.

In case an unexpected event occurs on the subject property, the Commission attaches Special Condition #2 which requires recordation of a deed restriction whereby the land owner assumes the risk of extraordinary erosion and/or geologic hazards of the property and accepts sole responsibility for the removal of any structural or other debris resulting from landslides, slope failures, or erosion on and from the site. The deed restriction will provide notice of potential hazards of the property and help eliminate false expectations on the part of potential buyers of the property, lending institutions, and insurance agencies that the property is safe for an indefinite period of time and for further development indefinitely in the future.

Therefore, prior to issuance of the Coastal Development Permit, the applicant shall execute and record a deed restriction in a form and content acceptable to the Executive Director, which reflects the above restriction on development. The deed restriction shall include a legal description of the applicant's entire parcel. The deed restriction shall run with the land, binding all successors and assigns, and shall be recorded free of prior liens that the Executive Director determines may affect the enforceability of the restriction. This deed restriction shall not be removed or changed without a Commission amendment to this coastal development permit.

No Future Protective Device

The Coastal Act limits construction of protective devices because they have a variety of negative impacts on coastal resources, including adverse effects on natural landforms, bluff stability, and coastal views. Under Coastal Act Section 30235, a protective device, such as a cliff retaining wall or seawall, must be approved if: (1) there is an existing principal structure in imminent danger from erosion; (2) shoreline altering construction is required to protect the existing threatened structure; and (3) the required protection is designed to eliminate or mitigate the adverse impacts on shoreline sand supply.

The Commission has generally interpreted Section 30235 to require the Commission to approve protection of development only for <u>existing</u> principal structures. The construction of a protective device to protect <u>new</u> development would not be required by Section 30235 of the Coastal Act. The proposed project involves the construction of a new living room and family room addition, patio area, spa, retaining walls, stairs and wood deck. The proposed developments, including the living room and family room addition, are new development. In addition, allowing the construction of a protective device to protect new development would conflict with Section 30253 of the Coastal Act, which states that permitted development shall not require the construction of protective devices that would substantially alter natural landforms along bluffs.

In the case of the current project, the applicant does not propose the construction of any protective device to protect the proposed development. The three proposed retaining walls are part of the design of the project and allow the creation of building pads for the developments. The proposed retaining walls are not protective devices.

It is not possible to completely predict what conditions the proposed structure may be subject to in the future. Consequently, it is conceivable the proposed structure may be subject to erosion hazards that could lead to a request for a protective device, such as a retaining wall, to support the developments.

Section 30253 (2) of the Coastal Act states that new development shall neither create nor contribute to erosion or geologic instability of the project site or surrounding area. The proposed developments could require a protective device as a result of increased erosion caused by those developments. Therefore, if the proposed structure requires a protective device in the future it would be inconsistent with Section 30253 of the Coastal Act because

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such the developments would be contributing to erosion of the bluff. In addition, the construction of a protective device to protect development would also conflict with Section 30251 of the Coastal Act. Section 30251 states that permitted development shall minimize the alteration of natural landforms. The placement of retaining walls or other protective structures would require alteration of the natural landform of the gently sloping bluff.

The development is not subject to wave runup and flooding. Based on the information provided by the applicant, no mitigation measures, such as a seawall, are anticipated to be needed in the future. The coastal processes and physical conditions are such at this site that the project is not expected to engender the need for a seawall to protect the proposed development. There currently is a wide sandy beach in front of the proposed development that provides substantial protection of the toe of the bluff from wave activity. The proposed development would be located on top of the approximately 115-foot high bluff and would not be subject to wave runup or flooding hazards.

To further ensure that the proposed project is consistent with Sections 30251 and 30253 of the Coastal Act, and to ensure that the proposed project does not result in future increased bluff erosion and adverse effects to coastal processes, the Commission imposes Special Condition #3. Special Condition #3 requires the applicant to record a deed restriction that would prohibit the applicant, or future landowner, from constructing a protective device for the purpose of protecting any of the development approved as part of this application. This condition is necessary because it is impossible to completely predict what conditions the proposed structure may be subject to in the future.

By receiving recordation of a deed restriction agreeing that no protective devices, including retaining walls, shall ever be constructed to protect the development approved by this permit, the Commission makes it clear that it's approval is based on the understanding the proposed development will be safe from potential erosion and wave runup damage. Based on Special Condition #3, the Commission also requires that the applicant remove the structures if any government agency has ordered that the structures be removed due to erosion, wave runup or other hazards.

As conditioned, the Commission finds that the proposed project is consistent with Section 30251 of the Coastal Act, which requires that permitted development shall minimize the alteration of natural landforms, and Section 30253, which requires that geologic and flood hazards be minimized, and that stability and structural integrity be assured.

Conformance of Plans to Recommendations and Requirements

Recommendations regarding the design and installation of the addition to the single family home, patio area, spa, deck and grading have been provided in several reports submitted by the applicant. Adherence to the recommendations and requirements contained in these reports and named by the City of Torrance Department of Building and Safety is necessary to ensure that the permitted development 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 requires the construction of protective devices that would substantially alter natural landforms. Therefore, adherence to the recommendations and requirements is necessary to ensure that the developments are consistent with Section 30253 of the Coastal Act.

Special Condition #4 requires the applicant to conform to the geological recommendations in report No. 4705-00, the geotechnical requirements and recommendations in report No. 1601C-070 and the recommendations in the wave impact report prepared for the site. The applicant shall also comply with any recommendations and requirements of the City of Torrance Department of Building and Safety.

Conclusion

Only as conditioned to (1) revise the plans such that only development inland of the top of bluff is permitted; (2) submit evidence that the applicant has recorded assumption of risk deed restriction on the development; (3) submit evidence that the applicant has recorded a no future protective devices deed restriction on the development; and (4) incorporate the recommendations by Keith W. Ehlert, Consulting Engineering Geologist, Coastline Geotechnical Consultants, Inc., and Skelly Engineering and any requirements of the City of Torrance Department of Building and Safety, can the Commission find that the proposed development is consistent with Sections 30240, 30251 and 30253 of the Coastal Act.

C. PREVIOUS COMMISSION ACTION IN PROJECT AREA

The Commission has approved 17 coastal development permits (including amendments) for residential-type development on 10 of the 27 bluff lots on Paseo de la Playa in Torrance (Exhibits #2 and #8). Of the 10 lots, 5 are located north of (near Redondo Beach) and 5 are located south of (near Palos Verdes Peninsula) the subject site. The residential-type developments included remodels of and additions to existing houses. construction of decks, swimming pools, spas, jacuzzis and retaining walls, and implementation of landscape, irrigation, erosion control and habitat restoration plans. In evaluating the previously issued permits, staff noted that some of the developments in the rear vards extended seaward of the top of bluff and some even extended seaward of the lower edge of cut slope. The Commission has allowed development down the bluff face to the beach in certain circumstances, however, the majority of the bluff face development has been between the top of bluff and the lower edge of cut slope. These developments resulted in cumulative impacts to the bluff, especially to the upper portion. In at least one case (CDP 5-83-618 (Fire)), extensive grading was proposed to stabilize the bluff. The Commission has not approved development in the rear yards inland or seaward of the top of bluff on the other 17 bluff lots on Paseo de la Playa. The Commission is not committed to approving development on the bluff face of these lots.

The Commission approved CDP's for development on 5 lots north of the subject site. The Commission approved development of a jacuzzi with a waterfall and landscaped area at 417 Paseo de la Playa (9 lots north of the subject site) under CDP 5-97-050 (Kreag). The Commission approved CDP's 5-84-187 (Briles), 5-84-187-A and 5-85-755 for construction of a new single family residence, amendment of the lower portion of the landscape plan and development of a landscape plan for below the 50-foot contour line, respectively, at 429 Paseo de la Playa (6 lots north of the subject site). The Commission approved CDP 5-90-1041 and four amendments to this permit for development at 433 Paseo de la Playa

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(5 lots north of the subject site). The Commission approved CDP 5-90-1041 (Stamegna) for development of a new single family residence and issued CDP 5-90-1041-A1 in 1993 to decrease the footprint of the residence, increase the rear building setback by 3 feet and add 400 square feet in the remaining footprint. In 1996, the Commission issued CDP's 5-90-1041-A2 (Hawthorne/Campbell) and 5-90-1041-A3 (Campbell) for installation of a drainline, steps, fence and irrigation system, grading, and implementation of an erosion control plan. CDP 5-90-1041-A2 also included habitat planning and CDP 5-90-1041-A3 included a pool and retaining wall, as well. The Commission issued CDP 5-90-1041-A4 (Campbell) in 1996 also to change the previously proposed direction of the swimming pool, add retaining walls and move the steps 10 feet further to the west. The Commission approved CDP P-4-20-77-716 (Warren) to relocate a single family residence and add a breezeway at 441 Paseo de la Playa (3 lots north of the subject site). The Commission approved CDP 5-90-868 for grading, restoration and revegetation of the bluff at 449 Paseo de la Playa, which is the lot immediately north of the subject site.

The Commission approved CDP's for development on 5 lots south of the subject site. The Commission approved CDP 5-85-183 (Hall) for an addition to the existing single family residence and a deck at the rear of the house at 511 Paseo de la Playa (3 lots south of the subject site). The Commission approved CDP 5-90-1079 (Wright) for construction of a path to the beach utilizing the existing slopes and contours and placement of 4-inch by 6inch beams to stop erosion on the bluff at 515 Paseo de la Play (4 lots south of the subject The Commission also approved CDP 5-91-697 (Wright) at that property for a site). remodel of the existing single family residence, enclosure of a balcony and enlargement of the first floor den. The Commission approved CDP A-79-4879 (McGraw) for the replacement of an aluminum awning with a wooden sunscreen and a two-level wooden deck with a jacuzzi on the lower level at 517 Paseo de la Playa (5 lots south of the subject site). The Commission permitted the correction of an earth slump condition on the bluff at 623 Paseo de la Plava (16 lots south of the subject site) under CDP 5-83-618 (Fire). The commission approved CDP 5-96-167 (Lichter) for the remodel of and addition to an existing single family residence and construction of a deck and swimming pool in the rear yard of 631 Paseo de la Playa (18 lots south of the subject site).

There is a history of development on the bluff face of nearby lots on Paseo de la Playa. However, the Commission cannot approve development on the bluff face in this situation simply because of this history. The Commission is obligated to not perpetuate development on coastal bluffs. The Commission must analyze development according to its consistency with the Chapter 3 policies of the Coastal Act. The proposed development, except for the addition, would be located seaward of the top of bluff on the bluff face. The proposed development on the bluff face would be inconsistent with Section 30251 of the Coastal Act, which requires minimization of the alteration of natural landforms.

Development of the sunscreen, deck and jacuzzi at 517 Paseo de la Play complied with a stringline measured from the seaward side of the nearest adjacent corners of developments on the neighboring lots. The Commission approved CDP 5-90-1041 (Stamegna) for construction of a single family residence and deck with a condition that the ground level deck be relocated to a location inland of a stringline drawn between the nearest adjacent corners of the decks on the adjacent residences. The Commission also conditioned the project to require recordation of an assumption of risk deed restriction on

the property stating that the applicant understands that the site may be subject to extraordinary hazard and waives any claims of liability against the Commission or its successors. The Commission has been concerned that applicants for new development and residential renovation projects on bluff lots should record an assumption of risk deed restriction acknowledging the risk of building on a coastal bluff. Other CDP's that were conditioned to record assumption of risk deed restrictions include the amendments to CDP 5-90-1041, CDP 5-96-167 for the remodel and addition to an existing house including a swimming pool and deck, and CDP 5-97-050 for construction of a jacuzzi with waterfall and adjacent landscaping.

The Commission has also conditioned some projects on these bluff lots to require the recordation of documents stating that future development on the sites would require coastal development permits. Those projects include CDP 5-90-1079 for construction of a path down the slope to the beach, CDP 5-96-167 for a remodel of and addition to the existing residence and construction of a deck and pool, and CDP 5-97-050 for a jacuzzi with a waterfall and adjacent landscaping.

In CDP 5-85-183, the top of bluff was determined to be the lower edge of cut slope. This determination is inconsistent with the top of bluff determination on this project. The Commission's Senior Geologist determined the top of bluff on the subject lot to be approximately 9 feet 6 inches seaward of the rear side of the existing house (at the seaward extent of the existing concrete patio pad). As described in the project description, the rear yard area was graded prior to enactment of the Coastal Act. The grading resulted in a 2:1 slope descending from the back of the house and a flat area seaward of the manufactured slope. The point where the relatively flat area meets the naturally descending bluff slope is considered to be the top of the lower edge of cut slope. Although this point is referred to as the lower edge of cut slope, it is not the top of bluff. The top of bluff remains at the higher elevation located at the back of the existing house.

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 fully developed residential community partially located between the sea and the first public road paralleling the sea. Public access through the privately owned residential lots in this community does not currently exist. However, adequate public access to Torrance Beach is available via public

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parking lots and footpaths at Redondo Beach located approximately one-half mile north of the project 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 Chapter 3 policies of the Coastal Act:

(a) Prior to certification of the Local Coastal Program, a coastal development permit shall be issued if the issuing agency, or the commission on appeal, finds that the proposed development is in conformity with the provisions of Chapter 3 (commencing with Section 30200) of this division and that the permitted development will not prejudice the ability of the local government to prepare a Local Coastal Program that is in conformity with the provisions of Chapter 3 (commencing with Section 30200). A denial of a Coastal Development Permit on grounds it would prejudice the ability of the local government to prepare a Local Coastal Program that is in conformity with the provisions of Chapter 3 (commencing with Section 30200) shall be accompanied by a specific finding which sets forth the basis for such conclusion.

On June 18, 1981, the Commission approved with suggested modifications the City of Torrance Land Use Plan (LUP). The City did not accept the modifications and the certified LUP, which was valid for six months, has lapsed. The major issues raised in the LUP were affordable housing, blufftop development and beach parking.

Based upon the findings presented in the preceding section, the Commission finds that the proposed development, as conditioned, will not create adverse impacts on coastal resources and is therefore consistent with applicable policies contained in the City of Torrance LUP. In addition, the Commission finds that approval of the proposed project will not prejudice the City's ability to prepare a Local Coastal Program consistent with the Chapter 3 policies of the Coastal Act, as required by Section 30604(a).

F. CALIFORNIA ENVIRONMENTAL QUALITY ACT

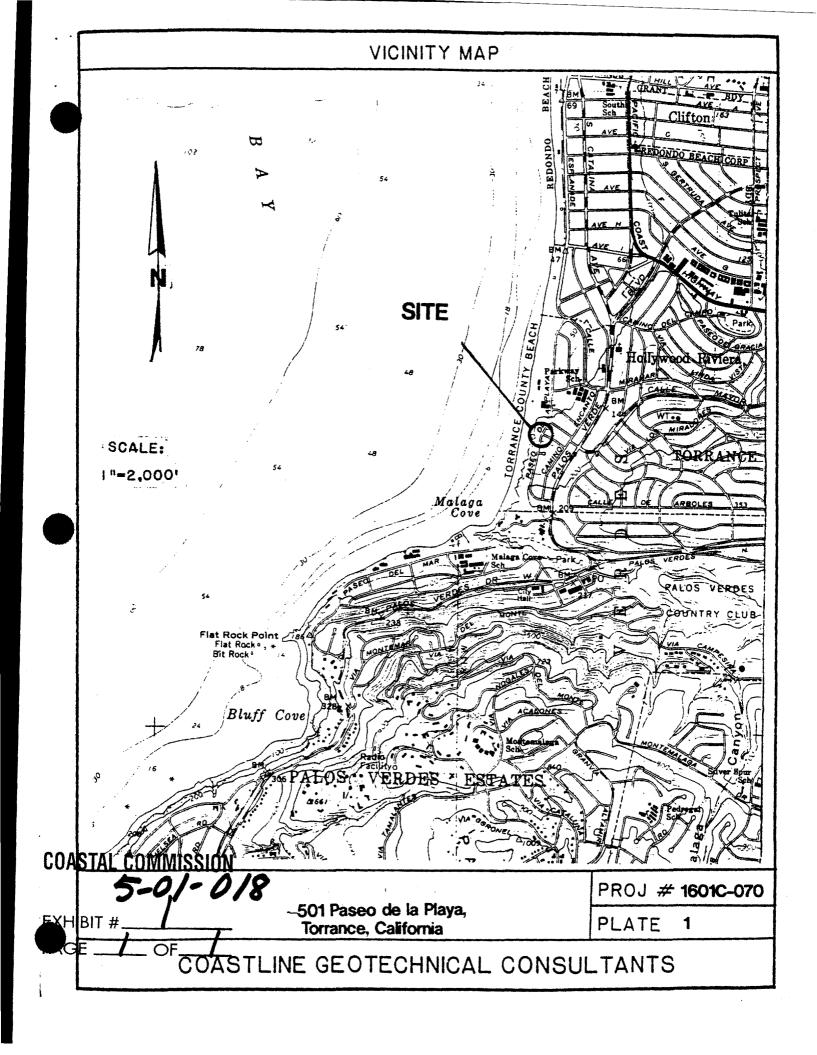
Section 13096 Title 14 of the California Code of Regulations requires Commission approval of a coastal development permit application to be supported by a finding showing the application, as conditioned by any conditions of approval, to be consistent with any applicable requirements of the California 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 that the activity may have on the environment.

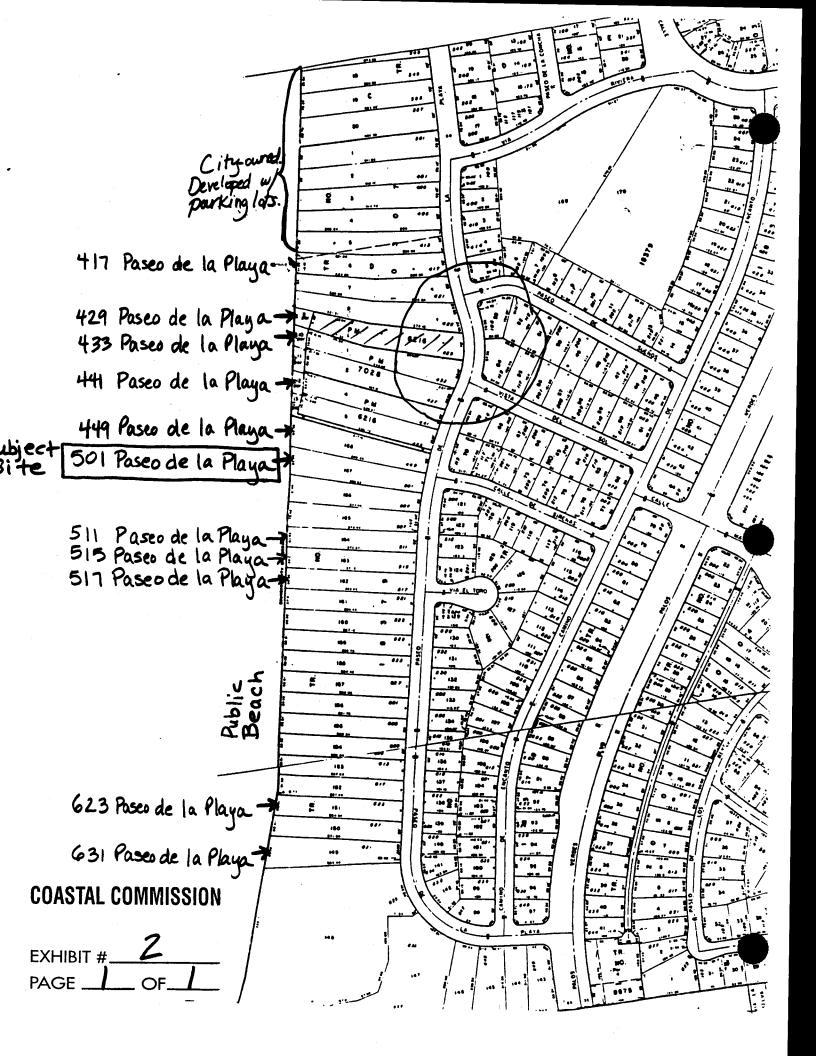
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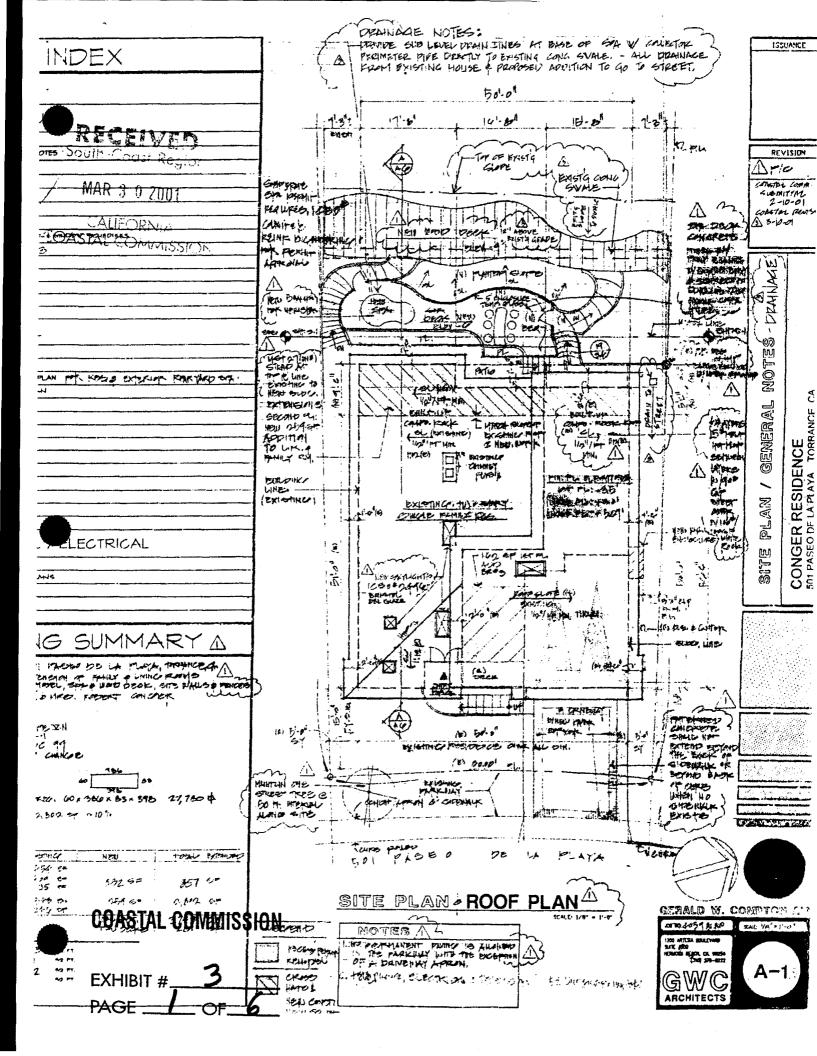
The project, as conditioned, minimizes impacts to the bluff top and removes potential negative impacts to the bluff face that would have been associated with development seaward of the top of bluff. The project, as conditioned, allows the development proposed inland of the top of bluff, which consists of the living room and family room addition only. The Commission would consider alternative or additional development inland of the top of bluff to meet the intent of some of the other proposed developments if the applicant chose to apply for such development. For example, the Commission would consider approving development of a roof deck above the proposed 12.5 foot high addition if it were located inland of the top of bluff, would not create or contribute to geologic instability and would not have negative visual impacts due to its height below the height of the front of the house.

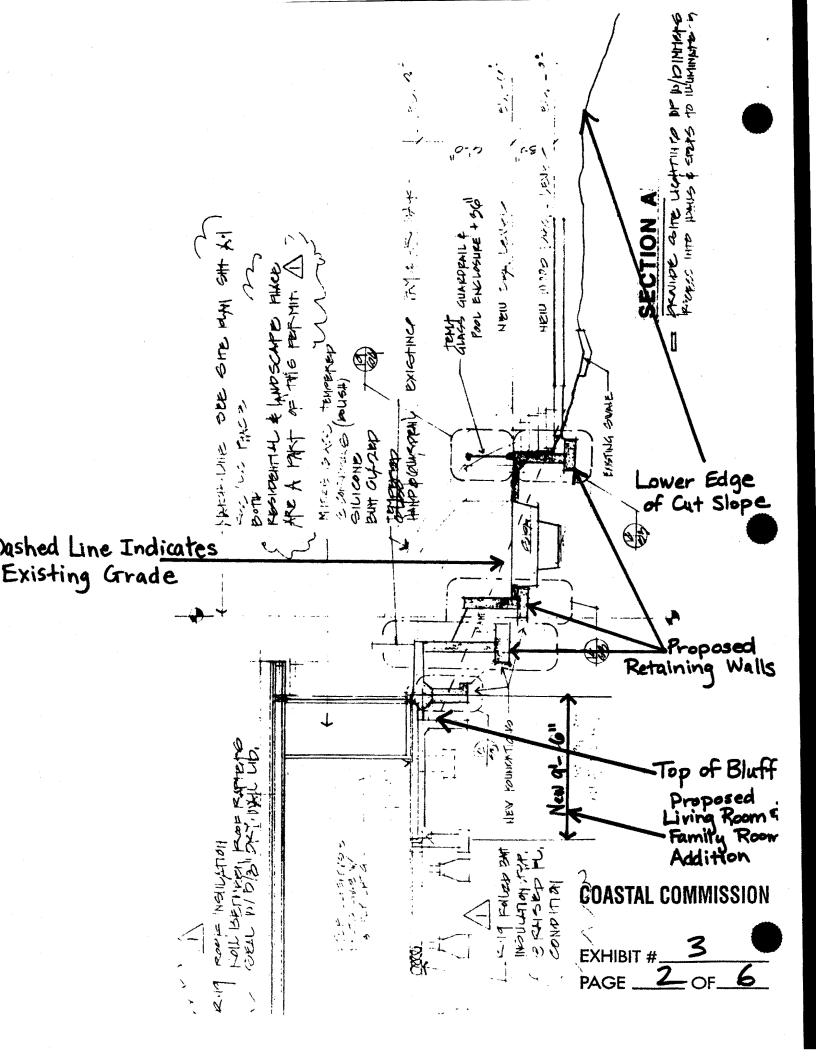
The proposed project, as conditioned, has been found consistent with the visual resource, environmentally sensitive habitat and natural hazard policies of Chapter 3 of the Coastal Act. All adverse impacts have been minimized and there are no feasible alternatives or feasible mitigation measures available which would substantially lessen any significant adverse impact that 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.

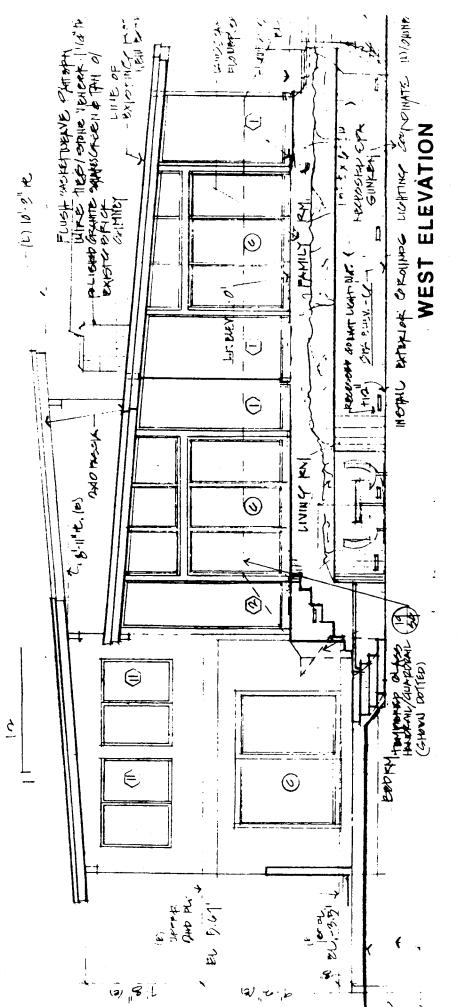
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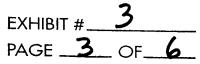


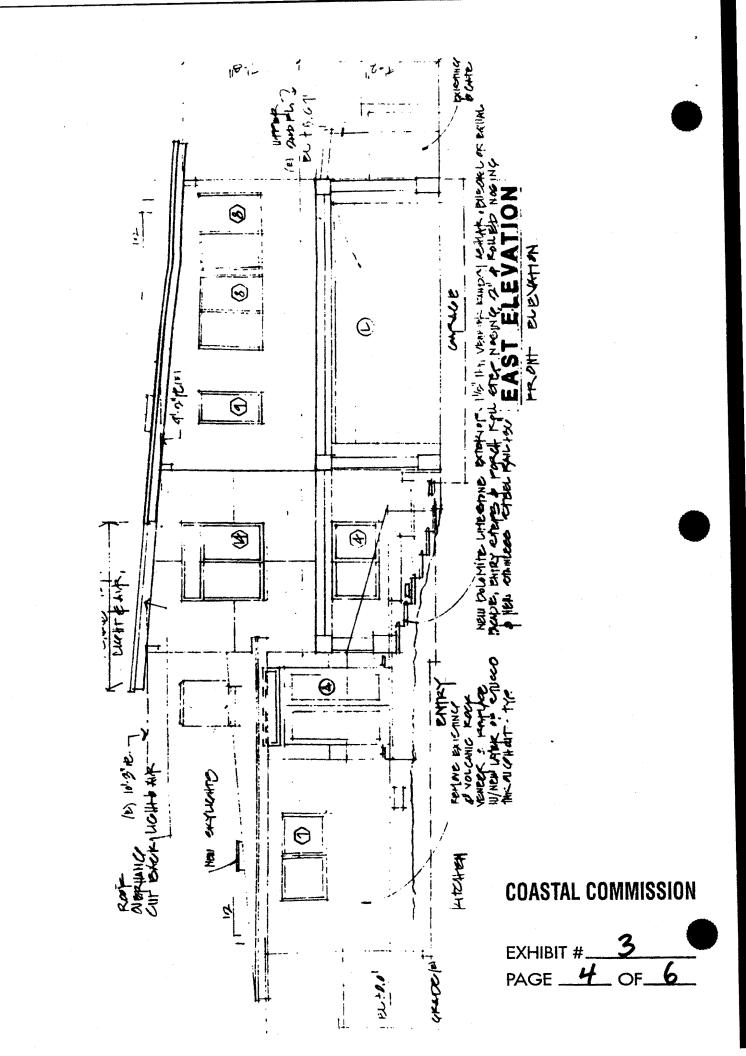


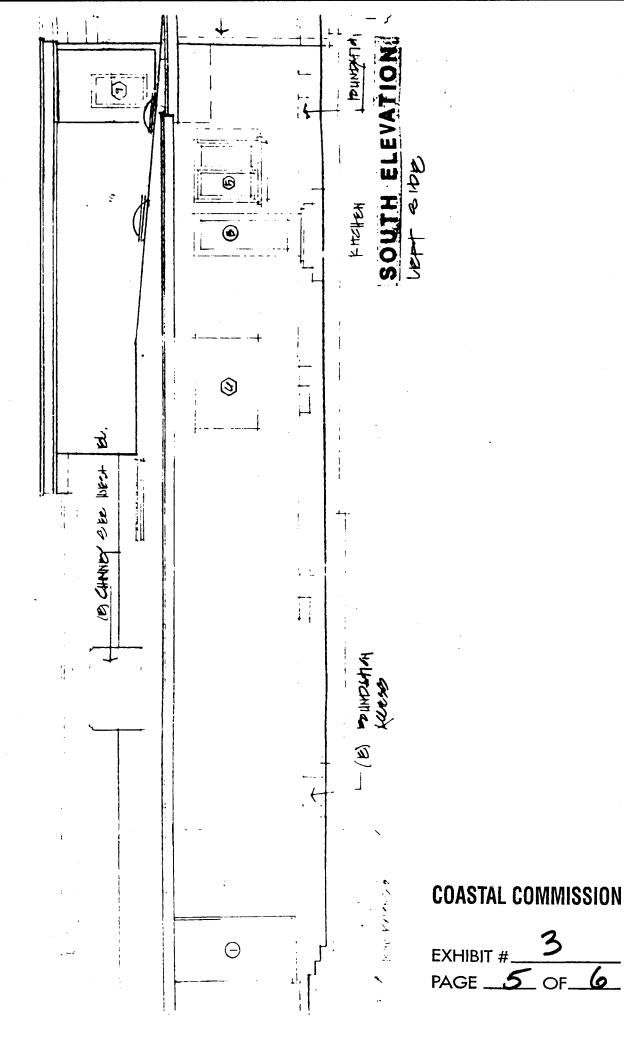


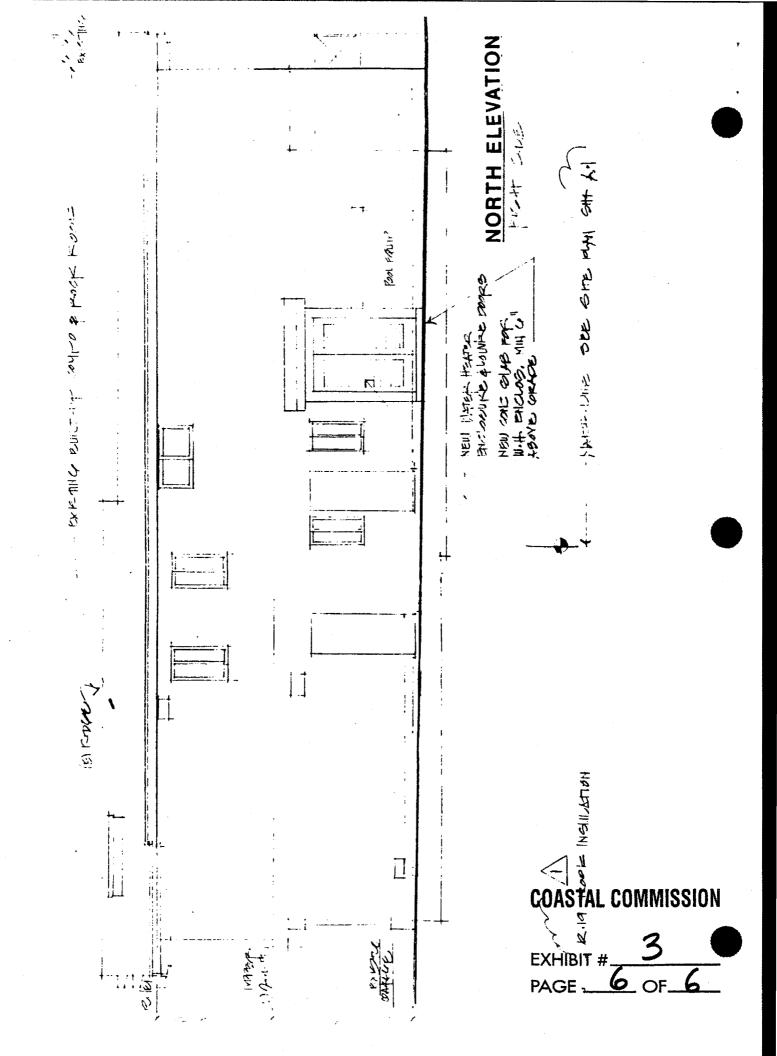


COASTAL COMMISSION









COASTLINE GEOTECHNICAL CONSULTANTS, INC.

 CONCLUTIN	ICAL ENGINEERS
 ULINSUI IIN	

46 W. 178 TH STREET ARDENA, CALIFORNIA 90248-3202 Tel. (310) 217-1504 Fax (310) 217-1909

August 8, 2000

Project No. 1601C-070

Mr. and Mrs. Robert Conger 501 Paseo de la Playa Redondo Beach, CA 90277

Project Reference: Geotechnical Engineering Investigation Proposed Spa, Deck and Exterior of House 501 Paseo de la Playa Redondo Beach, California

X Reference: Geological Investigation for Proposed Residential Improvements 501 Paseo de la Playa Torrance, California prepared by Keith W. Ehlert dated July 11, 2000

Dear Mr. and Mrs. Conger:

Submitted herewith is a report of a geotechnical engineering investigation for the referenced project. This investigation was made for the purpose of obtaining information on subsurface soils and bedrock on which to base recommendations for a suitable foundation design for the proposed spa, deck and exterior of the house. This investigation was coordinated with a geologic investigation by Keith Ehlert, consulting engineering geologist.

Location of the site, relative to general topography, streets, and landmarks, is shown on the attached Vicinity Map, Plate 1.

As outlined in the proposal of March 30, 2000, our work consisted of geotechnical observations, subsurface explorations and sampling, field and laboratory testing, calculations and analyses, and the preparation of this report.

COASTAL COMMISSION

EXHIBIT # PAGE

Surficial Stability Analysis

Surficial stability analysis was performed on the steepest slope found on the property. The result of the analysis, as shown on Plate 15, indicates the factor of safety is in excess of the normally accepted minimum for stable slopes.

DISCUSSION AND GENERAL COMMENTS

Development of the property, as contemplated, is believed feasible from the soils engineering standpoint, provided adherence is given to the recommendations of this report, and provided that the designs, construction, and grading are adequately and properly executed.

CONCLUSIONS AND RECOMMENDATIONS

The foundation slope setback, required by the City of Torrance, is for the placement of buildings and structures on, or adjacent to, slopes steeper than 3:1 (horizontal to vertical) to provide protection from water, mudflow, loose slope debris, and shallow slope failures. This setback, shown on Plate A, is the horizontal clearance from the face of the foundations to the slope face.

Liquefaction Potential

During earthquakes, major damage of various types of structures have occurred due to the creation of fissures, abnormal and/or unequal movement, and loss of strength or stiffness of ground. The loss of strength or stiffness of the ground results in the settlement of buildings, failure of earth dams, landslides and other hazards. The process by which soil looses strength is called liquefaction. The phenomenon of soil liquefaction is primarily associated with medium to fine grained, saturated cohesionless soil (sand and silts).

The State of California, Division of Mines and Geology, have prepared "Reconnaissance Seismic Hazard" maps, dated March 25, 1999, which indicates the site is not in an area that may contain liquefiable materials. Due to the depth of groundwater being in excess of 50 feet, liquefaction is considered unlikely.

Foundations on Terrace Deposits

An allowable bearing value of 2000 pounds per square foot, for square footings, and 2000 pounds per square foot for continuous footings, is recommended for foundations placed at a depth of at least 24 inches below the lowest adjacent final grade (top **propstatic property of the second sec**

EXHIBIT # _____ PAGE _____OF

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PROJECT NO. 1601C-070

SLOPE SETBACK - Sec. 1806.4 FOUNDATIONS ON OR ADJACENT TO SLOPES

1. SCOPE (1806.4.1) - The placement of buildings and structures on or adjacent to slopes steeper than 3 horizontal to 1 vertical (33.3% slope) shall be in accordance with this section. The provisions are intended to provide protection to the building from water from natural sources, mudflow, loose slope debris, shallow slope failures, and foundation movement.

2. BUILDING CLEARANCE FROM ASCENDING SLOPES (1806.4.2) - In general, buildings below slopes shall he set a sufficient distance from the slope to provide protection from slope drainage, erosion, and shallow failures. Except as provided for in this section, the following criteria will be assumed to provide this protection. Buildings shall be set back from the toe of slopes a distance equal to one-half the vertical height of the slope above the top of the foundation with a minimum clearance of 3 feet and a maximum clearance of 15 feet. A detached one-story accessory building not used for living purposes which does not exceed 600 square feet in area may extend to within 3 feet of the toe of a slope. Where the existing slope is steeper than one horizontal to one vertical, the toe of the slope shall be assumed to be at the intersection of a horizontal plane drawn from the top of the foundation and a plane drown tangent to the slope to an angle of 45 degrees to the horizontal, where a retaining wall is constructed at the toe of the slope, the height of the slope shall be measured from the top of the wall to the top of the slope.

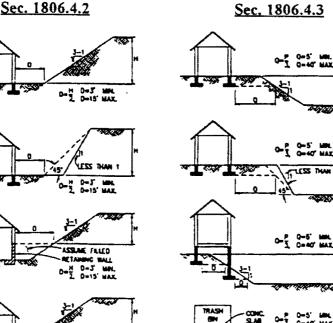
3. FOOTING SETBACK FROM DESCENDING SLOPE SURFACE (1806.4.3) - Footing on or adjacent to slope surfaces shall he founded in firm material with an embedment and sethack from the slope surface sufficient to provide vertical and lateral support for the footing without detrimental settlement. Except as provided for in this section, the following setback is deemed adequate to meet the criteria.

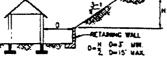
Footings shall be placed into firm material and located a distance of one-third the vertical height of the slope with a minimum of 5 feet and a maximum of 40 feet measured horizontally from the slope surface to the lower edge of the footing. Where the slope is steeper than one vertical to one horizontal, the required setback shall be measured from an imaginary plane 45 degrees to the horizontal, projected upward from the toe of the slope.

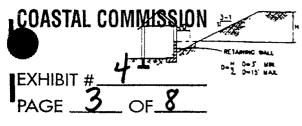
4. POOLS (1806.4.4) - The setback between pools regulated this Code and slopes shall be equal to one-half the building footing 4. POOLS (1806.4.4) - The setback between pools regulated by setback distance required by this section. That portion of the pool wall within a horizontal distance of 7 feet from the top of the slope shall be capable of supporting the water in the pool without soil support.

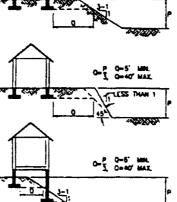
5. FOUNDATION ELEVATION (1806.4.5) - On graded sites. the top of any exterior foundation shall extend above the elevation of the street gutter at point of discharge or the inlet of on approved drainage device a minimum of 12 inches plus 2 percent of the distance from the foundation to the gutter or drainage device. The building official may approve alternate elevations providing it can be demonstrated that required drainage to the point of discharge and away from the structure is provided at all locations on the site.

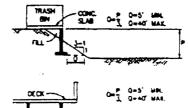
6. ALTERNATE SETBACK AND CLEARANCE (1896,4.6) -The building official may approve alternate setbacks and clearances when the intent of this section is demonstrated by on investigation and recommendations of a soil engineer and/or an engineering geologist. Such an investigation shall include consideration of type of material. height of slope, slope-gradient, load intensity, and erosion characteristics of slope material. Where adverse geological soil and drainage conditions exist, the building official may require increased setbacks and clearances.

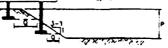




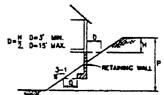


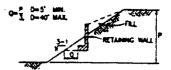




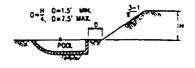


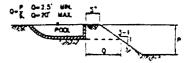
Sec. 1806.4.2, .3





Sec. 1806.4.4





"5" IS LESS THAN 7, THE POOL WALL BE PABLE OF SUPPORTING THE WATER IN THE POOL HOUT SOIL SUPPORT.

by 500 pounds per square foot, for each additional foot in depth over 2 feet, and 250 pounds per square foot for each additional foot in width over 1 foot, to a maximum of 4000 pounds per square foot. For detailed calculations of these recommended bearing values see Plate 17.

All foundation excavations shall be formed to prevent caving which is expected to occur in the present on-site soils.

Settlement of footings up to 2.5 feet wide continuous and 5 feet square is not expected to exceed 1/2 inch under the recommended fully applied bearing pressure. Differential settlement between footings is expected to be on the order of 1/4 inch.

The bearing capacities given are net allowable bearing values, and the weight of the concrete foundations can be ignored. The bearing value is for dead plus live load, and may be increased by one third for momentary wind or seismic loads.

The maximum edge pressure of any eccentrically loaded footing should not exceed the values recommended for either permanent or momentary loads.

Lateral Loads - Spread Footings

An allowable lateral bearing value against the sides of footings of 250 pounds per square foot, per foot of depth, to a maximum of 3000 pounds per square foot may be used, provided there is positive contact between the vertical bearing surface and the Terrace deposit. Friction between the base of the footings and/or floor slabs and the underlying material may be assumed as 0.4 times the dead load. Friction and lateral pressure may be combined, provided either value is limited to two-thirds of the allowable. The above values may be increased by one-third for short durations of seismic and wind forces.

Cast-in-Place Friction Piles

Recommended bearing and uplift capacities for drilled, cast-in-place piles are given on Plate B. It is recommended that the minimum depth of penetration below the present ground surface into firm Terrace deposits be at least 10 feet. The existing fill and porous portion of the residual soils shall not be used for any foundation support. The weight of the concrete in the piles may be neglected in considering bearing pressure.

Drilling holes should be filled with concrete as soon as possible after excavation. All pile excavations should be inspected and approved by the foundation engineer.

Settlement of single piles, or groups of up to 3 piles, is estimated to be dess than COMMISSION Most of the estimated settlement will take place rapidly with the first application of load.

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6

Lateral Loads - Piles

An allowable lateral bearing value against the sides of isolated piles (poles) of 500 pounds per square foot, per foot of depth, to a maximum of 5000 pounds per square foot may be used, provided there is positive contact between the vertical bearing surface and the Terrace deposit.

Creep

P

Piers or piles placed on a slope steeper than 5:1 (horizontal to vertical), in contact with Terrace deposits, shall be designed for creep loads. For design purposes, the lateral creep pressures may e assumed as one kip per foot of depth, to a depth of four (4) feet, for foundations in contact with the creeping soils.

Retaining Walls

Walls retaining drained earth may be designed for the following:

Surface Slope of Retained Material	Equivalent Fluid Pressure		
Horizontal to Vertical	Pounds per Cubic Foot		
Level	30		
5 to 1	32		
4 to 1	35		
3 to 1	38		
2 to 1	43		

Backfill should consist of clean sand and gravel. While all backfills should be compacted to the required degree, extra care should be taken working close to walls to prevent excessive pressure.

A proper drainage system should be utilized to prevent hydrostatic pressures behind the retaining wall. It is therefore recommended that either weep holes or a drainage pipe be installed. A four inch perforated pipe (holes down) surrounded by at least 12 inches of 3/4 inch gravel enveloped in a drainage fabric, such as Mirafi 140N or equivalent, should be placed at the base of the footing at the wall. If weep holes are chosen, these openings should be four feet on center, and also situated at the base of the wall with a gravel and drainage fabric backdrain.

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Temporary Excavation Slopes

Temporary excavation slopes in the existing surface soil may be made vertical for cuts of less than five (5) feet. For deeper cuts, temporary excavation slopes shall be made no steeper than 1:1 (horizontal to vertical). In areas where soils with little or no binder are encountered, shoring or flatter excavation slopes shall be made.

Your attention is directed to the fact that caving was encountered in the test excavations and it is likely that a trench or excavation will react in a similar manner.

All excavations shall be made in accordance with the regulations of the State of California, Division of Industrial Safety. These recommended temporary excavation slopes do not preclude local raveling and sloughing.

Drainage

Site drainage should be dispersed by non-erosive devices in accordance with the grading regulations of controlling agencies to preclude concentrated run-off and erosion over the site. In no case shall water be allowed to pond or drain down the slope in a concentrated and uncontrolled manner. Water shall be conducted to Paseo de la Playa.

Floor Slabs-on-Grade

The surface soils are granular in nature and non-expansive. Slabs-on-grade may be used without special design consideration for expansive soils.

A moisture barrier beneath the slabs-on-grade, preferably consisting of at least four inches of rock, with a waterproof vapor barrier, such as a plastic membrane of at least six mils in thickness, covered with two inches of clean sand, is recommended in areas where slab moisture would be detrimental.

Grading

The following general specifications are recommended:

- 1. Areas to be graded or paved shall be grubbed and stripped of all vegetation, debris and other deleterious material. All loose soil disturbed by the removal of trees, and existing fill shall be removed.
- 2. In all cases where the ground slope is steeper than 5 (horizontal) to 1 (vertical), the existing ground shall be benched, as the fill thereon is brought **ODASTAR**: **CONMISSION**

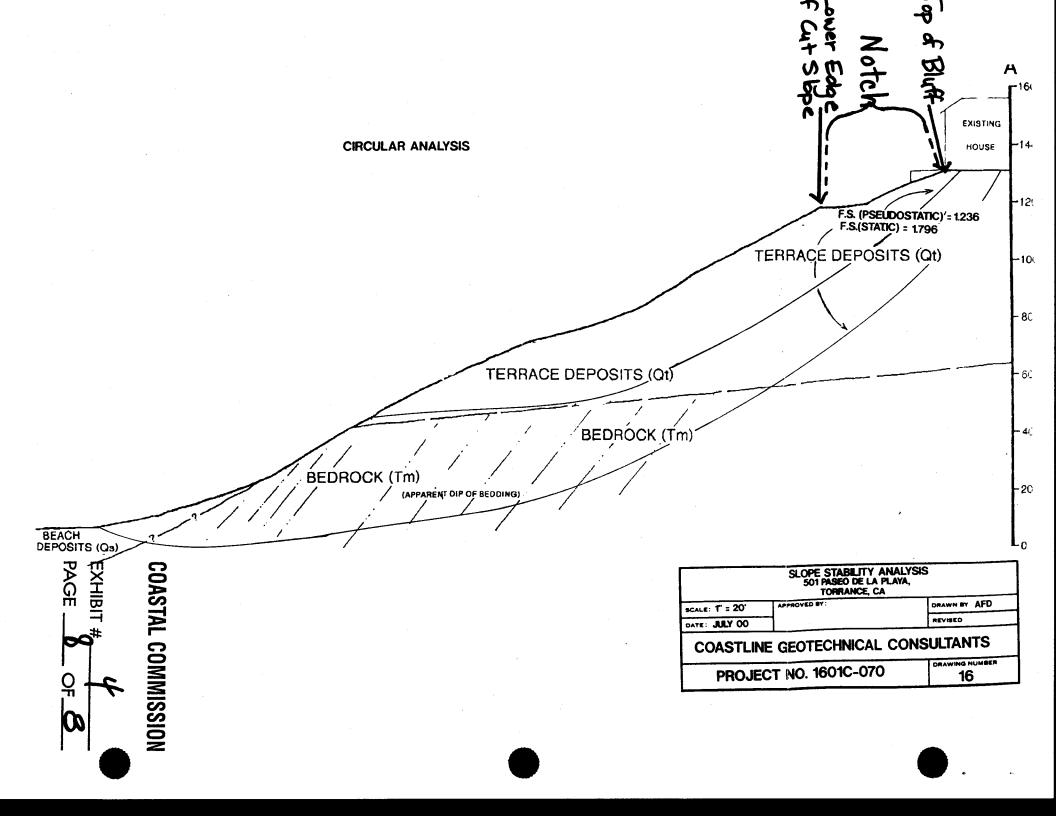
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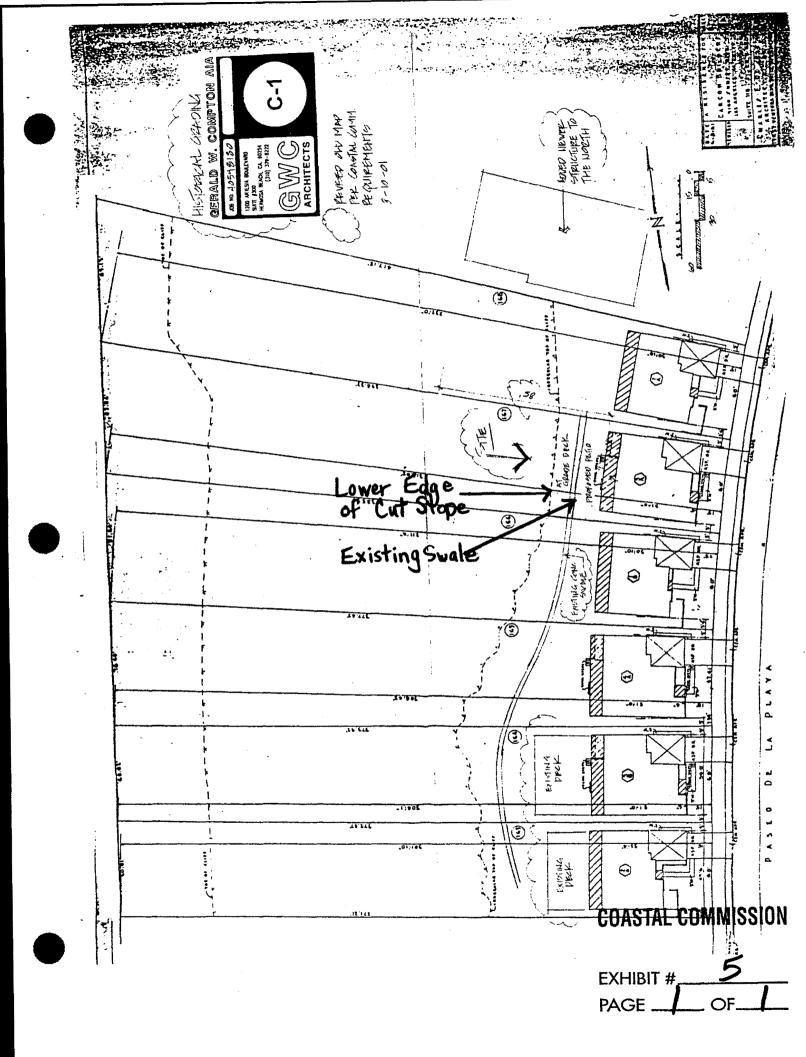
existing ground which slopes flatter than 5 to 1 may also require benching, if the foundation engineer considers such to be necessary.

- 3. All new fill shall be brought to near optimum moisture content, placed in layers not exceeding six (6) inches thick and compacted to at least 90 percent.
- 4. The existing subgrade loose soils within the building and paved areas shall be compacted prior to construction of floor slabs and paving to secure uniform support and to minimize differential settlement. It is recommended the degree of compaction within the upper 8 inches be at least 90 percent.
- 5. All other fills and backfills shall be compacted to at least 90 percent.
- The compaction characteristics of all fill soils shall be determined by ASTM D-1557-97. The field density and degree of compaction shall be determined by ASTM D-1556, or by other acceptable ASTM standard methods which are acceptable to the governing public agency.
- 7. All new fill shall consist of clean, granular, non-expansive soil, free of vegetation and other debris, and shall be placed in layers not exceeding six (6) inches at near optimum moisture content. No rocks over three (3) inches in greatest dimension shall be used. No soil shall be imported to the site without prior approval by the geotechnical engineer. The surface soils found on the project would be suitable for use in compacted fills.
- 8. No jetting or water tamping of fill soils shall be permitted.
- 9. Care shall be exercised during rough grading so that areas involved will drain properly. Water shall be prevented from running over slopes by temporary berms.
- 10. At all times, the contractor shall have a responsible field superintendent on the project, in full charge of the work, with authority to make decisions. He shall cooperate fully with the foundation engineer in carrying out the work.
- 11. No fill shall be placed, spread or rolled during unfavorable weather. When the work is interrupted by rain, operations shall not be resumed until field tests by the foundation engineer indicate that conditions will permit satisfactory results.

COASTAL COMMISSION

EXHIBIT # 4 PAGE 7 OF 8





I. INTRODUCTION

The purpose of this wave runup study is to determine if the proposed development will be subject to wave runup or wave attack over the typical life (100 years) of the development. If the property will be subject to wave runup or wave attack the analysis will discuss how frequently it will occur, what the predicted water volume and water height will be on the property, and how, if necessary, to manage the overtopping waters. The analysis will also determine if the property will be subject to direct wave attack of the project life. If the property is subject to wave attack then the analysis will include design parameters for wave forces. The analysis uses design storm conditions typical of the January 1988 and winter of 1982-83 type storm waves and beach conditions.

The subject property, 501 Paseo de la Playa, is an approximately rectangular lot 50' to 86' wide by 385' to 398' long. The lot varies in elevation from +125' MSL to about +10' MSL and is fronted by a sandy beach (approximately 200 feet wide) and the Pacific Ocean. This shoreline is located at the southern end of the Santa Monica Littoral Cell. A littoral cell is a coastal compartment that contains a complete cycle of littoral sedimentation including sources, transport pathways and sediment sinks. The Santa Monica Littoral Cell extends from Point Dume to Palos Verdes Point, a distance of 40 miles. Most of the shoreline in this littoral cell has been essentially stabilized by man. The local beaches were primarily made by man through nourishment as a result of major shoreline civil works projects (Hyperion Treatment Plant, Marina Del Rey, King Harbor, etc.). The up-coast and down-coast movement of sand along the shoreline is mostly controlled by groins, breakwaters, and jetties and is generally to the south. A major sink for the beach sands is the Redondo Submarine Canyon located at the entrance to King Harbor.

The subject site is located at the southern terminus of the Santa Monica Littoral Cell. The net sand movement along this section of shoreline is to the north towards King Harbor. A groin is located about 1.5 miles to the north of the site and the Malaga Cove headland (Flat Rock Point) is located immediately to the south of the site. A review of aerial photographs shows little if any overall shoreline retreat. The shoreline is stabilized by the natural headland to the south, and the groin and harbor to the north. For the purpose of this analysis a very conservative estimate of the shoreline retreat rate is 0.5 feet per year. The wide sandy beach in front of the site is normally 200 feet wide and provides adequate protection for the base of the bluff at the seaward property line of the site. Over the vast majority of time wave runup will not reach the base of the bluff and will <u>absolutely not</u> reach the improvements on the property over the next 100 years. However, the beach in this area is subject to seasonal erosion due to extreme event storm events which may erode the beach back to near the bluff base within the 100 year lifetime of the new development. **COASTAL COMMISSION**

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EXHIBIT #_ PAGE _ OF

VI. CONCLUSIONS AND RECOMMENDATIONS

Prediction of runup on a beach and bluff during extreme storm events is a very complex problem. The calculations made herein use state of the art methods, yet they are based on several simplifying assumptions (see Chapter 7 of SPM). There are several facts that indicate that wave runup will not reach the property or adversely impact the property over the life of the structure.

- There is a relatively stable beach sandy beach in front of the property 99.9% of the time. The conservative (extreme) erosion rate is small (0.5 ft/yr) and would only reduce the beach width about 50 feet in 100 years.
- A review of aerial photographs over the last four decades shows little overall shoreline retreat in general and a sand beach even at times when the beach is seasonally at its narrowest.
- The base of the bluff is a bedrock material, Miocene Monterey Formation, which is resistant to erosion. Using a extreme bluff erosion rate of 0.5 ft/year, the bluff would retreat only 50 feet. The structure is over 280 feet from the bluff toe.
- The property has not been subject to wave runup attack in the past.
- The runup analysis shows that the 100 year wave runup event will not reach the improvements on the property.

In conclusion, wave runup will not impact this property over the life of the proposed improvement. The proposed development will neither create nor contribute to erosion, geologic instability, or destruction of the site or adjacent area. There are no recommendations necessary for wave runup protection. The proposed project minimizes risks from flooding.

VII. CERTIFICATION

This report is prepared in accordance with accepted standards of engineering practice, based on the site conditions, the materials observed and historical data reported. No warranty is expressed or implied.

VIII. REFERENCES

Coastal Construction Manual, 1986 FEMA (Federal Emergency Management Agency) Ref COASTAL COMMISSION

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EXHIBIT # ______ PAGE _____ OF_

INTRODUCTION

PURPOSE AND PROPOSED IMPROVEMENTS

The purpose of this investigation was to obtain sufficient information to evaluate geologic conditions within the site with respect to construction of additions to the rear portion of the existing house.

REFERENCES

Items utilized during preparation of this geologic report include the following:

- Geology of Southern California: California Division of Mines and Geology Bulletin 170, 1954.
- Geology and Paleontology of the Palos Verdes Hills, California, by W. P. Woodring, M. N. Bramlette, and W. S. W. Kew, 1946, U.S.G.S. Professional Paper 207.
- Geologic Map of the Palos Verdes Peninsula, by Thomas W. Dibblee, dated May 1999.

SCOPE OF WORK

The scope of work performed for this investigation included the following items:

- Gathering and review of published and unpublished reports and maps pertaining to the geologic conditions on the site and in the surrounding area.
- Review of aerial photographs of the site area.
- Geologic mapping in the site area and on the bluff below the site.
- Analysis and evaluation of data.
- Preparation of this report with map, and other graphics to present the findings and recommendations.

COASTAL COMMISSION EXHIBIT # PAGE

PROJECTS NORTH OF THE SUBJECT SITE

Address	CDP	Applicant	Project Description	Result	Other
417	5-97-050	Kreag	build a gunite jacuzzi w/ waterfall & landscaped area	Approved w/ conditions	future development &
		-			assumption of risk
429	5-84-187	Briles	SFR		
	5-84-187-A	Briles	amend lower portion of landscape plan		
	5-85-755	Briles	landscape plan for below 50' contour line		
433	5-90-1041	Stamegna	SFR	Approved w/ conditions	stringline for deck future development & assumption of risk
	5-90-1041-A1	Stamegna	decrease footprint, increase rear building setback by 3', add 400 sf in remaining footprint	Issued April 19, 1993	
			install drainline, steps & fence; grading, irrigation system, erosion control planning & habitat planning	Issued April 29, 1996	assumption of risk
	5-90-1041-A3	Campbell	install drainline, steps & fence; grading, irrigation system, erosion control, pool, retaining wall	Issued April 29, 1996	
	5-90-1041-A4		change direction of swimming pool, add retaining walls, move steps 10' further west	Issued April 29, 1996	
441	P-4-20-77-716	Warren	relocate SFR* & add breezeway		
449	5-90-868	Schreiber	grade bluff, restore & revegetate bluff	Approved w/ conditions	

PROJECTS SOUTH OF THE SUBJECT SITE

Address	CDP	Applicant	Project Description	Result	Other
511	5-85-183	Hall	addition to SFR to include a deck at rear	Administrative	top of bluff determination
515	5-90-1079	Wright	path to beach-utilizing existing slopes & contours;	Approved w/ conditions	future development
			place 4"x6" beams to stop erosion		
	5-91-697	Wright	remodel SFR, enclose balcony & enlarge 1st floor den	Waiver 11/21/91	
<u>5</u> 17	<u>A-79-4879</u>	McGraw	remodel sunscreen & 2nd level deck & spa	~	stringline
6 23	5 83-618	Fire	correct an earth slump condition on bluff top		
\$23 5-96-167 50	631	Lichter	remodel & add.; deck & swimming pool (inland of swale)	Approved w/ conditions	future development & assumption of risk
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