ARNOLD SCHWARZENEGGER, Governor

CALIFORNIA COASTAL COMMISSION

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STAFF REPORT: REGULAR CALENDAR

APPLICATION NUMBER:	5-04-125
APPLICANT:	Harold D. Craft
AGENT:	D-Works, Attn: Marcoz Rafael Anaya
PROJECT LOCATION:	1742 Galaxy Drive, City of Newport Beach, County of Orange
PROJECT DESCRIPTION:	Construction of a 3,998 square foot one-story single-family residence attached to an existing 655 square foot three-car garage on a blufftop lot adjacent to the Upper Newport Bay Ecological Reserve.

SUMMARY OF STAFF RECOMMENDATION:

The subject site is a coastal bluff top lot located between the first public road and the shoreline of Upper Newport Bay in Newport Beach. The primary issues addressed in this staff report are conformance of the proposed development with the geologic hazard, visual resource, water quality and sensitive habitat protection policies of the Coastal Act.

The subject application was previously scheduled on the Commission's February and April 2005 agendas, but it was postponed in both instances. Geologic information available at that time indicated the bluff at the site was grossly unstable and that a line of soldier piles embedded in the ground bluffward of the structure was required to support the bluff and protect the new development in the location it was proposed. Commission staff had recommended denial of that proposal as there were feasible alternatives available to site the development without reliance upon bluff protective devices. Since then, an updated geotechnical investigation submitted by the applicant found that the bluff is grossly stable and there is no need for the piles. Commission staff's geologist has reviewed that updated report and concurs with the conclusions regarding site stability. Accordingly, the applicant has removed the solider piles from the proposed project.

Commission staff is recommending <u>APPROVAL</u> of the proposed project with **Ten (10) Special Conditions** regarding: 1) assumption of risk; 2) revised project plans showing removal of hardscape located within 10-feet of the bluff edge; 3) no future bluff protective devices; 4) additional approvals for any future development; 5) evidence of conformance with geotechnical recommendations; 6) submittal of a final drainage and run-off control µlan; 7) submittal of a spa protection plan; 8) submittal of a final landscaping plan; 9) storage of construction materials, mechanized equipment and removal of construction debris; and 10) a deed restriction against the property, referencing all of the special conditions contained in this staff report. **LOCAL APPROVALS RECEIVED:** Approval in Concept (#0512-2004) from the City of Newport Beach Planning Department dated March 16, 2004.

SUBSTANTIVE FILE DOCUMENTS: City of Newport Beach Land Use Plan; Letter from Commission staff to D-Works dated April 28, 2004; Information from D-Works to Commission staff received June 30, 2004; Geotechnical and Geologic Investigation For Proposed Residence at 1742 Galaxy Drive Newport Beach, California (W.O. 254004-01) prepared by Coast Geotechnical dated June 24, 2004; Letter from Commission staff to D-Works dated July 30, 2004; Information from D-Works to Commission staff received August 23, 2004; and Addendum Report to Geotechnical and Geologic Investigation for Proposed Residence at 1742 Galaxy Drive Newport Beach, California (W.O. 254005-02) prepared by Coast Geotechnical dated March 23, 2005.

LIST OF EXHIBITS

- 1. Location Map
- 2. Assessor's Parcel Map
- 3. Topographic Plan for the Previously Existing Residence
- 4. Site Plan
- 5. Floor Plan
- 6. Section Plan
- 7. Elevation Plan

STAFF RECOMMENDATION:

Staff recommends that the Commission adopt the following motion and resolution:

MOTION:

"I move that the Commission approve Coastal Development Permit No. 5-04-125 pursuant to the staff recommendation."

Staff recommends a <u>YES</u> vote. Passage of this motion will result in approval of the permit as conditioned and 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 **GRANTS** 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 conferming 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 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

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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 CONDTIONS

1. Assumption of Risk, Waiver of Liability and Indemnity

By acceptance of this permit, the applicant acknowledges and agrees (i) that the site may be subject to hazards from bluff and slope instability, erosion, landslides; (ii) to assume the risks to the applicant and the property that is the subject of this permit of injury and damage from such hazards in connection with this permitted development; (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.

2. Revised Project Plans

A. PRIOR TO THE ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the applicant shall submit, for the Executive Director's review and approval, two (2) full size sets of revised project plans. The revised plans shall demonstrate that proposed development, including but not limited to hardscape, shall be located at least 10-feet landward of the bluff edge. The bluff edge presently follows the 101-foot elevation contour near the rear yard property line as generally depicted on Exhibit #4, page 2 of the April 21, 2005 staff report. Furthermore, no form of

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development (including but not limited to grading, hardscape and planters) other than planting of native, drought tolerant vegetation, shall occur seaward of the minimum 10-foot bluff edge setback or beyond the bluff edge.

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 to this coastal development permit unless the Executive Director determines that no amendment is required.

3. <u>No Future Bluff Protective Devices</u>

- A. By acceptance of this Permit, the applicant agrees, on behalf of himself and all other successors and assigns, that no bluff protective device(s) shall ever be constructed to protect the development approved pursuant to Coastal Development Permit No. 5-04-125 including, but not limited to, the residence, spa, decks, patios, hardscape and any future improvements, in the event that the development is threatened with damage or destruction from bluff and slope instability, erosion, landslides or other natural hazards in the 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. By acceptance of this Permit, the applicant further agrees, on behalf of himself and all successors and assigns, that the landowner shall remove the development authorized by this permit, including but not limited to the residence, spa, decks, patios, and hardscape, if any government agency has ordered that the structure(s) is/are not to be occupied due to any of the hazards identified above. In the event that portions of the development fall to the bay before they are removed, the landowner shall remove all recoverable debris associated with the development from the bay and shoreline and lawfully dispose of the material in an approved disposal site. Such removal shall require a coastal development permit.
- **C.** In the event the edge of the bluff recedes to within ten (10) feet of the principal residence but no government agency has ordered that the structures are not to be occupied, a geotechnical investigation shall be prepared by a licensed coastal engineer and geologist retained by the applicant, that addresses whether any portions of the residence are threatened by bluff and slope instability, erosion, landslides or other natural hazards. The report shall identify all those immediate or potential future measures that could stabilize the principal residence without bluff protection, including but not limited to removal or relocation of portions of the residence. The report shall be submitted to the Executive Director and the appropriate local government official. If the geotechnical report concludes that the residence or any portion of the residence is unsafe for occupancy, the permittee shall, within 90 days of submitting the report, apply for a coastal development permit amendment to remedy the hazard which shall include removal of the threatened portion of the structure.

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4. Future Development

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This permit is only for the development described in Coastal Development Permit No. 5-04-125. Pursuant to Title 14 California Code of Regulations Section 13250(b)(6), the exemptions otherwise provided in Public Resources Code Section 30610(a) shall not apply to the development governed by Coastal Development Permit No. 5-04-125. Accordingly, any future improvements to the single family house authorized by this permit, including but not limited to improvements to the residence, spa, decks, patios, and hardscape, change in use from a permanent residential unit and repair and maintenance identified as requiring a permit in Public Resources Section 30610(d) and Title 14 California Code of Regulations Sections 13252(a)-(b), shall require an amendment to Permit No. 5-04-125 from the Commission or shall require an additional coastal development permit from the Commission or from the applicable certified local government.

5. Conformance with Geotechnical Recommendations

- A. All final design and construction plans, including foundations, grading and drainage plans, shall be consistent with all recommendations (excepting there from those recommendations suggesting use of bluff protective devices in the geotechnical investigation prepared by Coast Geotechnical dated June 24, 2004) contained in the geologic engineering investigations: Geotechnical and Geologic Investigation For Proposed Residence at 1742 Galaxy Drive Newport Beach, California (W.O. 254004-01) prepared by Coast Geotechnical dated June 24, 2004 as modified by the Addendum Report to Geotechnical and Geologic Investigation for Proposed Residence at 1742 Galaxy Drive Newport Beach, California (W.O. 254005-02) prepared by Coast Geotechnical dated March 23, 2005.
- B. PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the applicant shall submit, for the Executive Director's review and approval, evidence that an appropriately licensed professional has reviewed and approved all final design and construction plans and certified that each of those final plans is consistent with all the recommendations specified in the above-referenced geologic engineering reports.
- **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 unless the Executive Director determines that no amendment is required.

6. Drainage and Runoff Control Plan

A. PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the applicant shall submit, for review and approval of the Executive Director, two (2) full size sets of a final drainage and run-off control plan. The drainage and run-off control plan shall show that all roof drainage, including roof gutters and collection drains, and sub-drain systems for all landscape and hardscape improvements for

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the residence and all yard areas, shall be collected on site for discharge to the street through piping without allowing water to percolate into the ground.

- **B.** The permittee shall undertake development in accordance with the approved final plan. Any proposed changes to the approved final plan shall be reported to the Executive Director. No changes to the approved final plan shall occur without a Commission amendment to this coastal development permit unless the Executive Director determines that no amendment is required.
- **C.** The applicant shall maintain the functionality of the approved drainage and run-off control plan to assure that water is collected and discharged to the street without percolating into the ground.

7. Spa Protection Plan

- Α. PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the applicant shall submit, for review and approval of the Executive Director, two (2) full size sets of final spa plans prepared by an appropriately licensed professional that incorporates mitigation of the potential for geologic instability caused by leakage from the proposed spa. The final spa plan shall incorporate and identify on the plans the following measures, at a minimum: 1) installation of a spa leak detection system such as, but not limited to, leak detection system/moisture sensor with alarm and/or a separate water meter for the spa which are separate from the water meter for the house to allow for the monitoring of water usage for the spa, and 2) use of materials and spa design features, such as but not limited to double linings, plastic linings or specially treated cement, to be used to waterproof the undersides of the spa to prevent leakage, along with information regarding the past and/or anticipated success of these materials in preventing leakage; and where feasible 3) installation of a sub drain or other equivalent drainage system under the spa that conveys any water leakage to an appropriate drainage outlet.
- **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 unless the Executive Director determines that no amendment is required.

8. Landscaping Plan

- A. PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the applicant shall submit, in a form and content acceptable to the Executive Director, two (2) full size sets of a final landscaping plan prepared by an appropriately licensed professional which demonstrates the following:
 - (1) The plan shall demonstrate that:
 - (a) All planting shall provide 90 percent coverage within 90 days and shall be repeated if necessary to provide such coverage;

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- (b) All plantings shall be maintained in good growing condition throughout the life of the project, and whenever necessary, shall be replaced with new plant materials to ensure continued compliance with the landscape plan;
- (c) Landscaped areas in the rear yard (bay and bluff-facing) areas shall be planted and maintained for erosion control and native habitat enhancement purposes. To minimize the need for irrigation and minimize encroachment of non-native plant species into the adjacent Upper Newport Bay Ecological Reserve, all landscaping in the rear yard shall consist of drought tolerant plants native to coastal Orange County and appropriate to the habitat type. Invasive, non-indigenous plant species that tend to supplant native species shall not be used.
- (d) Landscaped areas in the front (street-facing) and side yards shall consist of native or non-invasive non-native drought tolerant plant species.
- (e) No permanent in-ground irrigation systems shall be installed on site. Temporary above ground irrigation is allowed to establish plantings. The landscaping plan shall show all the existing vegetation and any existing irrigation system.
- (f) The applicant shall submit written evidence from the California Department of Fish and Game (Department) demonstrating that the Department has approved the landscaping plan.
- (2) The plan shall include, at a minimum, the following components:
 - (a) A map showing the type, size, and location of all plant materials that will be on the developed site, the irrigation system, topography of the developed site, and all other landscape features, and
 - (b) a schedule for installation of plants.
- **B.** The permittee shall undertake development in accordance with the approved plan. Any proposed changes to the approved final plan 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.

9. <u>Storage of Construction Materials, Mechanized Equipment and Removal of</u> <u>Construction Debris</u>

The permittee shall comply with the following construction-related requirements:

A. No construction materials, debris, or waste shall be placed or stored where it may enter the storm drain system leading to the Pacific Ocean;

- **B.** Any and all debris resulting from construction activities shall be removed from the project site within 24 hours of completion of the project;
- C. Erosion control/sedimentation Best Management Practices (BMP's) shall be used to control sedimentation impacts to coastal waters during construction. BMPs shall include, but are not limited to: placement of sand bags around drainage inlets to prevent runoff/sediment transport into the storm drain system and a pre-construction meeting to review procedural and BMP guidelines;
- D. Construction debris and sediment shall be removed from construction areas each day that construction occurs to prevent the accumulation of sediment and other debris which may be discharged into coastal waters. Debris shall be disposed of outside the coastal zone, as proposed by the applicant.

10. Deed Restriction

PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the applicant shall submit to the Executive Director for review and approval documentation demonstrating that the landowner has executed and recorded against the parcel(s) governed by this permit a deed restriction, in a form and content acceptable to the Executive Director: (1) indicating that, pursuant to this permit, the California Coastal Commission has authorized development on the subject property, subject to terms and conditions that restrict the use and enjoyment of that property; and (2) imposing the special conditions of this permit as covenants, conditions and restrictions on the use and enjoyment of the Property. The deed restriction shall include a legal description of the entire parcel or parcels governed by this permit. The deed restriction for any reason, the terms and conditions of this permit shall continue to restrict the use and enjoyment of the subject property so long as either this permit or the development it authorizes, or any part, modification, or amendment thereof, remains in existence on or with respect to the subject property.

IV. FINDINGS AND DECLARATIONS

A. <u>Project Location and Description</u>

The proposed project is located within an existing developed urban residential area at 1742 Galaxy Drive in the City of Newport Beach, County of Orange (Exhibits #1-2). The lot size is 9,825 square feet and the City of Newport Beach Land Use Plan (LUP) designates use of the site for singlefamily detached residential and the proposed project adheres to this designation. A fire had destroyed the existing home except for the garage, which currently remains on site (Exhibit #3). The residence was demolished due to fire damage and a swimming pool filled in late 2003. To the North of the site (i.e. on the inland side of the property) is Galaxy Drive. To the South of the project site (i.e. the bluff and bay front side of the property) is the Upper Newport Bay Ecological Reserve. To the East and West of the project site are existing single-family residential development. The residence is located on a bluff top lot on Galaxy Drive, which is on the bayfronting side of Galaxy Drive; hence, the subject site is located between the nearest public roadway and the shoreline of Upper Newport Bay. Some bluff areas of Galaxy Drive have been known to be geotechnically active and have been prone to failure. The Commission has issued coastal development permits for slope repairs on Galaxy Drive (CDP's: #5-98-497-G-(Penfill), 5-

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98-524-G-(Penfill), 5-98-524-(Penfill), 5-98-469-G-(Ferber), 5-98-469-(Ferber), 5-98-240-G-(Patton) and 5-98-240-(Patton), 5-94-288-(Lewis), 5-93-308-(Pope Trust), 5-85-062-(Braman) and 5-93-367-(Rushton)).

The lot is rectangular in shape, near level, with a descending slope at the rear (bluff side) of the property. The slope descends from the building pad to Upper Newport Bay below at a gradient of about 1.25:1 (horizon to vertical) with localized variations. The total slope height is estimated to be 85-feet.

The subject property is located adjacent to the Upper Newport Bay Ecological Reserve (UNBER), which was created in 1975 to conserve and enhance 752 acres of saltwater marsh ecosystem in the upper reaches of Newport Bay, commonly referred to as the Back Bay. The reserve is managed by the California Department of Fish and Game (CDF&G). The reserve allows limited recreational and educational access as specified in the California Fish and Game code. The majority of the Upper Bay is an estuarine salt marsh system.

The proposed project consists of construction of a 3,998 square foot one-story single-family residence attached to the existing 655 square foot three-car garage (Exhibits #4-7). In addition, the project consists of: hardscape improvements, landscape improvements, and new rear yard spa. Also, approximately 740 cubic yards of grading for recompaction will take place, which will balance on site

B. Geological Hazards

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

New development shall:

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

The findings in this section of the staff report include generalized findings regarding the susceptibility of coastal bluffs to erosion and site-specific findings from the geological report.

1. General Findings on Bluff Erosion

The proposed development is located on a bluff above Upper Newport Bay, which is subject to erosion, but to only very modest wave attack due to the subject site's location within the inner bay Upper Newport Bay.

Coastal bluff erosion is caused by a combination of inherent environmental factors and erosion caused by human activity. Environmental factors include gravity, seismicity, wave attack, wetting and drying of bluff face soils, wind erosion, salt spray erosion, rodent burrowing and piping, percolation of rain water, poorly structured bedding, surface water

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runoff and poorly consolidated soils.

Factors attributed to human activity include: improper irrigation practices; building too close to the bluff edge; improper site drainage; use of impermeable surfaces which concentrate 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 soils and potentially outletting on the bluff face along fracture lines in the bluff or points of contact of different geologic formations, forming a potential slide plane.

2. <u>Site Specific Bluff Information</u>

Site Stability and Erosion

The applicant has submitted a geotechnical investigation titled Geotechnical and Geologic Investigation For Proposed Residence at 1742 Galaxy Drive Newport Beach, California (W.O. 254004-01) prepared by Coast Geotechnical dated June 24, 2004 and an Addendum Report to Geotechnical and Geologic Investigation for Proposed Residence at 1742 Galaxy Drive Newport Beach, California (W.O. 254005-02) prepared by Coast Geotechnical dated March 23, 2005. The geotechnical investigation states that the site is underlain by predominantly fine grained folded marine sedimentary rocks of the Capistrano formation, which is overlain by artificial fill and terrace deposits. Slope wash deposits mantle the face of the coastal bluff.

The geotechnical investigation dated June 24, 2004 discussed slope failures and stated that they have occurred along the bluff in the area caused by localized conditions: "Slope failures have occurred along this bluff at other locations and have been attributed to unique localized conditions. These conditions have been identified as near vertical gradients, poor lot drainage, broken irrigation lines, intense rainstorms rainfall and poorly placed fills. The failures have generally been restricted to areas near the top of bluff and have been repaired with soldier piles and or grading." A slope stability analysis was completed for the site and the slope was shown to have a factor of safety of less than 1.5. Furthermore, the investigation stated that surficial slope instability could impact proposed improvements such as hardscape and fencing located near the bluff edge. Although the bluff has a factor of safety less than 1.5, the factor of safety increases at points landward of the bluff edge. The investigation provided cross-section plans that located a 1.5 factor of safety line which intersects the surface of the lot approximately 25-feet inland of the bluff-side property boundary. The subject lot is 120 to 125-feet deep. Thus, based on the cross-section, there is at least an 85 foot deep area on the lot that presently has a factor of safety at or greater than 1.5. The Commission finds that in order to be consistent with Section 30253 of the Coastal Act, development must be sited such that it will be located in an area with a minimum factor of safety against sliding of greater than 1.5 throughout its useful economic life, assumed to be 75 years.

Rather than placing development landward of the 1.5 factor of safety line, and include an adequate safety buffer to address anticipated bluff retreat over the life of

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the development, the original proposed project included development bluff-ward of the 1.5 factor of safety line. The proposed project had originally sought to achieve required structural stability by relying upon sufficiently embedded soldier piles to protect the new development from damage caused by failure of the areas known to be unstable. The geotechnical investigation had recommend use of a row of soldier piles placed at the rear of the property to adequately provide lateral support for the residence and proposed rear yard area development. The soldier piles would have been placed a minimum of 10-feet bluff ward of the rear building line and no closer than 5-feet from the bluff edge, which is roughly the rear property line located at approximately the 101-foot contour. The investigation stated that the location of the soldier piles would be within the applicant's property and would not affect the bluff. The geotechnical report also recommended that any rear yard improvements be placed landward of the soldier piles, unless those improvements are considered temporary and could be removed when the bluff recedes.

In addition, this investigation stated that since the property is located about 85-feet above sea level adjacent to Upper Newport Bay, the property itself, which doesn't include the bluff face and bay below (these are within the boundary of the UNBER), is not subject to flooding or erosion forces caused by wave action, tidal changes or a rise in sea level. However, the bluff is subject to tidal changes and a rise in sea level and associated erosive forces.

This geotechnical investigation also examined long-term bluff retreat, but only very briefly. The investigation states: "Based on review of aerial photographs significant bluff retreat has not occurred in the past fifty years at this site, however, the potential exists for episodic bluff retreat to occur due to moisture changes in the cliff: seismic activity; and weathering. Episodic failure has occurred at other locations along this bluff and was attributed to episodes of increased rainfall and poor drainage. The affected area was generally within the ten feet of top of slope. Quantitative analysis of long-term bluff retreat is only reliable as the data available from which to extrapolate a linear historical retreat rate. Adequate data is not available for this site. It is our opinion that the proposed residence and site improvements will not be affected by bluff retreat over the building lifespan of 50 years, provided recommendations of this report are followed." Furthermore, the geotechnical investigation state: "It is our judgment, based on current site knowledge, that the proposed residence will not be subject to erosion or stability hazard over the course of its design life and that no seawall, revetment, jetty, groin, retaining wall, or other shoreline protective device will be needed to protect the development over the course of its design life, normally assigned to a residence, provided recommendations of this report are incorporated in to the project design." On the other hand, the applicant originally proposed a bluff protective device (i.e. the soldier pile wall), which was deemed necessary by the applicant's geologist to protect the proposed development (since then the proposal for a soldier pile wall has changed, look below).

Since the submittal of the original geotechnical investigation an addendum to the geotechnical investigation dated March 23, 2005 was completed and submitted to Commission staff. This addendum now claims that soldier piles would not be necessary for the proposed project.

The addendum reanalyzed the coastal bluff for gross stability, under static and seismic conditions utilizing an updated survey of existing conditions. It determined that the slope had a factor of safety above the industry standard of 1.5 for static conditions and above 1.1 for seismic conditions. The investigation attributes the change in results to a reduction in slope height, which reduces the driving weight utilized in stability analysis. It concludes that the use of soldier piles is not required based on this new analysis.

This addendum to the geotechnical investigation also performed an additional examination of the long-term bluff retreat. To establish long-term coastal bluff retreat, a historic research of survey records and air photos was performed. After review of the photos, it determined that the site did not exhibit discernable bluff retreat in the time frame reviewed, but made clear that this does not mean bluff retreat will not occur in the future, only that the sample period was not adequate to provide a quantitative bluff retreat. Additionally it stated that: "When adequate data is not available it is generally reasonable to assign a qualitative bluff retreat rate based on site-specific conditions." Furthermore, it concluded: "Based on the slope gradient, favorable stability analysis, favorable geologic structure, and controlled site drainage it is unlikely that bluff retreat will be a grain-by-grain process and small sufficial slumps rather that a catastrophic failure. It is our opinion that a conservative coastal bluff retreat rate of the site is four inches per year. Based on the Coastal Commission use of a 75-year life span for a project the long-term bluff retreat setback shall be 25 feet. Since the surface of the slope was judged to be unstable to a depth of three to four feet small failures near the top of slope are possible, as such, the coastal bluff retreat setback shall be measured starting four feet landward of the top of bluff ... It is our understanding that the proposed house is setback from the rear property about 32 feet along the southerly property line and 37 feet along the northerly property line. This places the proposed structure landward of the bluff retreat setback line."

The Commission's staff geologist has reviewed these geotechnical investigations and has concurred that these investigations have adequately addressed concerns regarding bluff erosion and slope stability of the project site.

As stated previously, bluff erosion is caused by a combination of inherent environmental factors and erosion caused by human activity. Some examples of environmental factors include percolation of rainwater and surface water runoff and poorly consolidated soils. Various factors attributed to human activity include improper irrigation practices; improper site drainage; use of impermeable surfaces which concentrate runoff; use of water-dependent vegetation; and breaks in irrigation lines, water or sewer lines. Therefore, drainage on site and any vegetation proposed should not contribute to any potential coastal bluff erosion. Drainage on site and any vegetation proposed must not be allowed to contribute to any potential coastal bluff erosion. The original proposed project included a drainage plan that shows that drainage will be directed to the street and treated before exiting the property onto the street. Since then the applicant has submitted revised project plans that no longer include the use the previously proposed piles; however, revised drainage and run-off control plans have not been submitted. Part of the proposed project also consists of construction of a spa in the rear yard. If water from the proposed spa is not properly controlled there is a potential for bluff

failure due to the infiltration of water into the bluff. The applicant has not provided any methods (i.e. having the spa double lined and installing a spa leak detection system) to prevent any potential infiltration into the bluff. The original proposed project also included a landscaping plan detailing what the landscaping improvements involve. Commission staff had reviewed the landscape plan and determined that the plan did contain invasive species and also contained high-water use plants. Since then the applicant has submitted revised project plans that no longer include use of the previously proposed piles; however, revised landscape plans have not been submitted. Lastly, the applicant had originally submitted plans showing a permanent underground irrigation system is proposed.

Geotechnical Issues

To address geotechnical issues, the applicant has submitted a geotechnical investigation entitled Geotechnical and Geologic Investigation For Proposed Residence at 1742 Galaxy Drive Newport Beach, California (W.O. 254004-01) prepared by Coast Geotechnical dated June 24, 2004. The purpose for this investigation was: "...to determine the general engineering characteristics of the soils and bedrock on and underlying the site and to provide recommendations for the design of foundations for a proposed residence." The geotechnical investigation concludes: "Development of the site as proposed is considered feasible from a geotechnical and geological engineering standpoint, provided that the recommendations stated herein are incorporated in the design and are implemented in the field."

This geotechnical investigation included recommendations for the proposed project. Among those recommendations are: 1) drainage should be directed away from structures via non-erodible conduits to suitable disposal areas; 2) drainage shall not be directed onto or over slopes; and 3) foundation shall consist of continuous footings.

In order to avoid adverse impacts of the proposed development on bluff erosion and instability, and prevent the necessity for bluff protective structures, as required by Section 30253 of the Coastal Act, **Nine (9) Special Conditions** are being imposed. These special conditions are more thoroughly discussed later in this report in Section 4 below.

3. Geologic Setback

Development on coastal bluffs is inherently risky due to the potential for slope failure. Bluff top development poses potential adverse impacts to the geologic stability of hillsides and the stability of residential structures. To meet the requirements of the Coastal Act, bluff top developments must be sited and designed to assure geologic stability and structural integrity for their expected economic lifespans while minimizing alteration of natural landforms. In order to assure that this is the case, a development setback line must be established that places the proposed structures a sufficient distance from unstable or marginally stable bluffs to assure their safety, and that takes into account bluff retreat over the life of the structures, thus assuring the stability of the structures over their design life. The goal is to assure that by the time the bluff retreats sufficiently to threaten the development, the structures themselves are obsolete. Replacement development can then

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be appropriately sited behind a new setback line.

The first aspect to consider in establishing development setbacks from the bluff edge is to determine whether the existing coastal bluff meets minimum requirements for slope stability. If the answer to this question is "yes," then no setback is necessary for slope stability considerations. If the answer is "no," then the distance from the bluff edge to a position where sufficient stability exists to assure safety must be found. In other words, we must determine how far back from the unstable or marginally stable slope must development be sited to assure its safety. Assessing the stability of slopes against landsliding is undertaken through a quantitative slope stability analysis. In such an analysis, the forces resisting a potential landslide are first determined. These are essentially the strength of the rocks or soils making up the bluff. Next, the forces driving a potential landslide are determined. These forces are the weight of the rocks as projected along a potential slide surface. The resisting forces are divided by the driving forces to determine the "factor of safety." A value below 1.0 is theoretically impossible, as the slope would have failed already. A value of 1.0 indicates that failure is imminent. Factors of safety at increasing values above 1.0 lend increasing confidence in the stability of the slope. The industry-standard for new development is a factor of safety of 1.5.

In this case, the applicant has submitted slope stability analyses, supported by site-specific soil and rock strength parameters that demonstrate that the bluff has a minimum factor of safety of 1.508. The pseudostatic (seismic) factors of safety is 1.185. The Commission's staff Geologist has reviewed these calculations and concurs that the coastal bluff is safe from global instability, and that no setback is necessary for slope stability purposes.

The second aspect to be considered in the establishment of a development setback line from the edge of a coastal bluff is the issue of more gradual, or "grain by grain" erosion. In order to develop appropriate setbacks for bluff top development, we need to predict the position of the bluff edge into the future. In other words, at what distance from the bluff edge will bluff top development be safe from long-term coastal erosion?

At the subject property, the applicant's geological consultant reviewed aerial photographs from 1938, 1953, 1963, 1972, 1985, and, 1997 and was unable to document any bluff retreat over that time interval. Accordingly, historic bluff retreat at the site must be very slow, and a minimal precautionary setback should suffice to assure stability of the site. The applicant's geotechnical consultant recommends a 29-foot setback, and Commission staff concurs that this is adequate to assure stability pursuant to section 30253 of the Coastal Act.

The Commission has typically required that structures be setback at least 25-feet from the bluff edge and hardscape features and other site appurtenances be setback at least 10-feet from the bluff edge to minimize the potential that the development will contribute to slope instability. The proposed residence will be setback a minimum of 32-feet from the bluff edge. However, some of the hardscape features and appurtenances will be located less than 10-feet from the bluff edge (Exhibit #4, page 2). Therefore, the proposed development does conform to a 25-foot structural setback, however it does not conform to a 10-foot setback for hardscape and appurtenances.

The proposed project also includes construction of a spa located in the rear yard with a portion of the spa located within the 10-foot setback from the bluff edge. If water from the

proposed spa is not properly controlled there is a potential for bluff failure due to the infiltration of water into the bluff. The applicant has not provided any methods (i.e. having the spa double lined and installing a spa leak detection system) to prevent any potential infiltration into the bluff. Therefore, the proposed spa does not conform to the to the 10-foot setback for hardscape and appurtenances and no additional measures to prevent any adverse impacts to the bluff due to the spa have been incorporated into the project design.

4. <u>Conclusions and Special Conditions</u>

Section 30253 of the Coastal Act states that new development shall minimize the impacts of the proposed development on bluff erosion and instability, and prevent the necessity for bluff protective structures. William Kockelman, U.S. Geological Survey, wrote an article entitled "Some Techniques for Reducing Landslide Hazards" that discusses several ways to minimize landslide hazards such as bluff erosion and instability, including:

- A. Require a permit prior to scraping, excavating, filling, or cutting any lands.
- B. Prohibit, minimize, or carefully regulate the excavating, cutting and filling activities in landslide areas.
- C. Provide for the proper design, construction, and periodic inspection and maintenance of weeps, drains, and drainage ways, including culverts, ditches, gutters, and diversions.
- D. Regulate the disruption of vegetation and drainage patterns.
- E. Provide for proper engineering design, placement, and drainage of fills, including periodic inspection and maintenance.

Kockelman also discusses the option of disclosure of 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. Several of these recommendations are routinely required by local government, including requiring permits for grading, minimizing grading, and requirements for proper engineering design.

The Commission has imposed many of these same recommendations, including requiring the consulting geologist to review foundation and drainage plans in order to confirm that the project conforms to the policies of the Coastal Act. The findings in the staff report regarding the general causes of bluff erosion and the specific findings from the geotechnical report confirm that the coastal bluff at this location may retreat at a rate of four (4)-inches per year and that measures to minimize bluff erosion are necessary. The following special conditions will mitigate the impacts of the proposed development on bluff erosion and instability, and prevent the necessity for bluff protective structures, as required by Section 30253 of the Coastal Act.

a. Assumption of Risk

Coastal bluffs in southern California are recently emergent landforms in a tectonically active environment. Any development on an eroding coastal bluff involves some risk to development.

Although adherence to the geotechnical consultant's recommendations will minimize the risk of damage from erosion, the risk is not entirely eliminated. The findings in sections 1-3 above, including site-specific geologic information, support the contention that development on coastal bluffs involves risks and that structural engineering can minimize some of the risk but cannot eliminate it entirely. Galaxy Drive has been prone to bluff failures on a consistent basis. Therefore, the standard waiver of liability condition has been attached via **Special Condition No.** 1.

By this means, the applicant and future buyers are notified that the proposed development is located in an area that is potentially subject to bluff erosion that can damage the applicant's property. In addition, the condition insures that the Commission does not incur damages as a result of its approval of the Coastal Development Permit.

b. Revised Plans

As indicated above, the Commission has typically required that structures be setback at least 25-feet from the bluff edge and hardscape features and appurtenances be setback at least 10-feet from the bluff edge to minimize the potential that the development will contribute to slope instability. The same reasoning applied in those previous cases applies equally here. The proposed residence will be setback a minimum of 32-feet from the bluff edge. However, some of the hardscape features and appurtenances (i.e. spa and paved patio) will be located within the minimum 10-foot bluff-edge setback (Exhibit #4, page 2). Therefore, the proposed development does conform to the 25-foot structural setback, however it does not conform to the 10-foot bluff edge setback for hardscape and appurtenances. Therefore, the Commission is imposing **Special Condition No. 2**, which requires the applicant to submit revised project plans showing relocation of all hardscape and appurtenances at least 10-feet from the bluff edge.

c. Bluff Protective Devices

Bluff top lots are inherently hazardous. It is the nature of bluffs to erode. Bluff failure can be episodic, and bluffs that seem stable now may not be so in the future. Even when a thorough professional geotechnical analysis of a site has concluded that a proposed development is expected to be safe from bluff retreat hazards for the life of the project, it has been the experience of the Commission that in some instances, unexpected bluff retreat episodes that threaten development during the life of a structure sometimes do occur (e.g. coastal development permit files #5-98-497-G-(Penfil), 5-98-524-G-(Penfil), 5-98-524-(Penfil), 5-98-469-G-(Ferber), 5-98-

469-(Ferber), 5-98-240-G-(Patton) and 5-98-240-(Patton), 5-94-288-(Lewis), 5-93-308-(Pope Trust), 5-85-062-(Braman) and 5-93-367-(Rushton); #5-99-332 A1-(Frahm);5-97-174-(Braeger); 5-99-338-(Braeger)). In the Commission's experience, geologists cannot predict with absolute certainty if or when bluff failure on a particular site may take place, and cannot predict if or when a residence or property may become endangered.

Section 30253 of the Coastal Act requires that new development shall not require construction of protective devices that would substantially alter natural landforms along bluffs and cliffs. The proposed development could not be approved as being consistent with Section 30253 of the Coastal Act if projected bluff retreat would affect the proposed development and necessitate construction of a protection device.

No bluff protection device is proposed. However, because the proposed project includes new development and is located in an area where bluff failures have occurred, it can only be found consistent with Section 30253 of the Coastal Act if a bluff protective device is not expected to be needed in the future. Therefore, the Commission imposes **Special Condition No. 3**, which states that no bluff protective devices shall be permitted to protect the proposed development.

d. Future Development

The development is located within an existing developed area and is compatible with the character and scale of the surrounding area. However, without controls on future development, the applicant could construct amenities to the proposed home that would have negative impacts on coastal resources, and could do so without first acquiring a coastal development permit, due to the exemption for improvements to existing single-family residences in Coastal Act Section 30610 (a). In order to prevent the current authorization from allowing such future negative effects, it is necessary to ensure that any future development -- including the development of amenities that would otherwise normally be exempt -- will require a permit. To assure that future development is consistent with the Chapter 3 policies of the Coastal Act, the Commission imposes **Special Condition No. 4**, which is a future improvements special condition.

e. Conformance with Geologic Recommendations

The geotechnical consultant has found that the proposed development is feasible provided the recommendations contained in the geotechnical reports prepared by the consultants are implemented in regards to the design and construction of the project. The geotechnical recommendations address foundations, excavation, and footings. In order to insure that risks of development are minimized, as per Section 30253, the Commission imposes **Special Condition No. 5**, which states that the geotechnical consultant's recommendations should be incorporated into the design of the project. The requirements of the condition shall not be interpreted as allowing use of any bluff protective device to accommodate the new development. As a condition of approval the applicant shall submit for the review and approval of the Executive Director foundation plans reviewed and signed by a consulting

geologist.

f. Drainage and Runoff, Spa and Landscaping Special Conditions

In approving development on a coastal bluff the Commission must condition the development to minimize potential erosion or, as it is stated in Section 30253 "...to neither create nor contribute significantly to erosion..."

Along the urbanized seacliffs of southern California, geologic instability has been increased through the addition of large volumes of irrigation water required to maintain lawns and non-native vegetation in the yards of cliff top homes. Landscape irrigation alone is estimated to add the equivalent of 50 to 60 inches of additional rainfall each year to garden and lawn areas. This irrigation has led to a slow, steady rise in the water table that has progressively weakened cliff material and lubricated joint and fracture surfaces in the rock along which slides and block falls are initiated. In addition to these effects, surface runoff discharged through culverts at the top or along the face of the bluffs leads to gullying or failure of weakened surficial materials.

The Commission has acted on many coastal development permits in which an applicant has applied for bluff protective measures following the failure of irrigation lines, water or sewer lines which then 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 long-term damage caused by the accumulation of water on bluff topsoils due to watering of lawns and other water intensive vegetation that are water-dependent. It is estimated that watering a lawn on a regular basis is the equivalent of 60 inches of rainfall a year. The average rainfall in southern California is 12 to 20 inches per. In fact, although consulting geologists routinely make recommendations concerning landscaping and site drainage, geologists do not review landscaping plans. In this respect the Commission fills an important role in minimizing landsliding and erosion.

The geotechnical investigation states that water should be directed away from the top of bluff and the applicant's originally proposed project included a drainage plan that shows that drainage will be directed to the street and treated before exiting the property onto the street. Since then the applicant has submitted revised project plans that no longer include the use the previously proposed piles; however, revised drainage and run-off control plans have not been submitted. Therefore, the Commission is imposing **Special Condition No. 6**, which requires the applicant to submit a final drainage and run-off control plan.

The proposed project consists of construction of a spa in the rear yard. If water from the proposed spa is not properly controlled there is a potential for bluff failure due to the infiltration of water into the bluff. For this reason, the potential for infiltration into the bluff should be minimized. This can be achieved by various methods, including having the spa double lined and installing a spa leak detection system to prevent the infiltration of water into the bluff due to any possible spa

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problems. However, the applicant has not proposed any such measures. Therefore, the Commission imposes **Special Condition No. 7**, which requires the applicant to submit a spa protection plan.

Because of the fragile nature of coastal bluffs and their susceptibility to erosion, the Commission requires a special condition regarding the types of vegetation to be planted. The original proposed project also included a landscaping plan detailing what the landscaping improvements involve. Commission staff had reviewed the landscape plan and determined that plan did contain invasive species and also contained high-water use plants. Since then the applicant has submitted revised project plans that no longer include use of the previously proposed piles; however, revised landscape plans have not been submitted. Use of non-native vegetation that is invasive can have an adverse impact on the existence of native vegetation. Invasive plants are generally those identified by the California Invasive Plant Council (http://www.caleppc.org/) and California Native Plant Society (www.CNPS.org) in their publications. As discussed previously, any plants in the landscaping plan should be drought tolerant to minimize the use of water. The term "drought tolerant" is equivalent to the terms 'low water use' and 'ultra low water use' as defined and used by "A Guide to Estimating Irrigation Water Needs of Landscape Plantings in California" prepared by University of California Cooperative Extension and the California Department of Water Resources dated August 2000 available at http://www.owue.water.ca.gov/landscape/pubs/pubs.cfm. Lastly, the applicant had originally submitted plans showing a permanent underground irrigation system is proposed, which can be a problem since irrigation can contribute to possible slope failure.

The Commission imposes **Special Condition No. 8**, which requires that the applicant shall prepare prior to issuance of this permit a final landscape plan, which shall be submitted for the review and approval of the Executive Director. To minimize the potential for the introduction of non-native invasive species and to minimize the potential for future bluff failure, a final landscaping plan shall be prepared by a licensed landscape architect and shall incorporate the following criteria: 1) to minimize the introduction of water into the ground, no permanent in-ground irrigation shall be permitted, temporary above ground irrigation to establish the plantings is permitted; 2) landscaping shall consist of native or deep rooted drought tolerant non-native plants that are non-invasive. Invasive, non-indigenous plant species which tend to supplant native species shall not be used; and 3) to assure that the landscaping plan will be compatible with the Upper Newport Bay Ecological reserve, only native non-invasive plants shall be used on the bluffward side of the site and the plan shall be reviewed and approved by the California Department of Fish and Game.

g. Deed Restriction

To ensure that any prospective future owners of the property are made aware of the applicability of the conditions of this permit, the Comm ssion imposes **Special Condition No. 10** requiring that the property owner record a deed restriction against the property, referencing all of the above special conditions of this permit and imposing them as covenants, conditions and restrictions on the use and

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enjoyment of the Property. Thus, as conditioned, any prospective future owners will receive actual notice of the restrictions and/or obligations imposed on the use and enjoyment of the land including the risks of the development and/or hazards to which the site is subject, and the Commission's immunity from liability.

h. <u>Conclusion</u>

The Commission has required several **Nine (9) Special Conditions**, which are intended to bring the proposed development into conformance with Section 30253 of the Coastal Act. These special conditions include: **1)** assumption of risk; **2)** revised project plans showing removal of hardscape located within 10-feet of the bluff edge; **3)** no future bluff protective devices; **4)** additional approvals for any future development; **5)** evidence of conformance with geotechnical recommendations; **6)** submittal of a final drainage and run-off control plan; **7)** submittal of a spa protection plan; **8)** submittal of a final landscaping plan; and **9)** a deed restriction against the property, referencing all of the special conditions contained in this staff report. Only as conditioned to comply with the provisions of these special conditions does the Commission find that the proposed development conforms with Section 30253 of the Coastal Act.

C. <u>Scenic Resources</u>

Section 30251 of the Coastal Act pertains to visual resources. It states:

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

Section 30251 of the Coastal Act requires that scenic and visual qualities of coastal areas be protected. The project is located on a blufftop lot overlooking Upper Newport Bay. The site is visible from a variety of public vantage points around the bay, including from Back Bay Drive. Because the new residence will potentially affect views from public vantage points any adverse impacts must be minimized. Consequently, it is necessary to ensure that the development will be sited to protect views to and along Upper Newport Bay and minimize the alteration of existing landforms.

Establishing a limit of development and setting development farther back from the edge of the coastal bluff decreases a development's visibility from public vantage points. For these reasons, the Commission typically imposes some type of bluff edge set back.

City Setback

The plans submitted by the applicant show that the project conforms to the City zoning setback requirement of 20-feet, but conformance to the City required setback however does not address the potential visual scenic resource impacts that the seaward encroaching development will have on the project site. Adhering to the City setback of 20-feet for development located on the bluff face would not achieve the objectives of Coastal Act Section 30251.

Stringline

Since the City's setback cannot be used to evaluate the potential impacts that the seaward encroaching development will have on the project site, the applicability of the structural and deck stringlines will be evaluated. Two types of string lines are applied to evaluate a proposed projecta structural string line and a deck string line. A structural string line refers to the line drawn from the nearest adjacent corners of adjacent structures. Similarly, a accessory structure (i.e. hardscape, appurtenances, etc.) string line refers to the line drawn from the nearest adjacent corners of adjacent accessory structures. Considering the applicability of a stringline, there is a residence immediately north and south of the project site. A stringline can be applied in this case and finds that the proposed residence will be located behind the stringline. The accessory structure stringline can also be applied in this case and finds that portions of the proposed hardscape and appurtenances are located outside of the accessory structure stringline and consequently located within 10-feet of the bluff edge. As indicated earlier, the Commission has typically required that hardscape features and appurtenances be setback at least 10-feet from the bluff edge to minimize the potential that the development will contribute to slope instability. While the proposed residence is consistent with the structural stringline, the project is not consistent with the accessory structure stringline and also does not adhere to the typically required 10-foot setback for slope stability. Therefore, to make the project consistent with the pattern of development and protect public views in the area, the Commission is imposing Special Condition No. 2, which requires the applicant to submit revised project plans showing relocation of all hardscape and appurtenances at least 10-feet from the bluff edge.

In addition, the future development restriction will ensure that improvements are not made at the blufftop that could affect the visual appearance of the coastal bluff or affect the stability of the bluff. The landscaping condition requires that the applicant install native and/or drought tolerant non-invasive plants throughout the site. The established vegetation on the bluff face will remain undisturbed.

Therefore, the Commission finds that, as proposed and conditioned, the project will not obstruct significant coastal views from public vantage points and is consistent with the visual resource protection policies of Section 30251 of the Coastal Act.

D. Environmentally Sensitive Habitat Areas

The project site is immediately adjacent to the Upper Newport Bay Ecological Reserve managed by the California Department of Fish and Game. The Ecological Reserve is a 752 acre wetland habitat sanctuary. In 1968 the California State Legislature authorized the Fish and Game Commission to establish ecological reserves for the purpose of protecting rare and endangered wildlife, aquatic organisms, and critical habitat. Upper Newport Bay Ecological Reserve was established for the principal purpose of preserving and enhancing a saltwater marsh ecosystem. Section 30240(b) of the Coastal Act states:

(b) Development in areas adjacent to environmentally sensitive habitat areas and parks and recreation areas shall be sited and designed to prevent impacts which would significantly degrade those areas, and shall be compatible with the continuance of those habitat and recreation areas.

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Upper Newport Bay (hereafter 'the Bay') is one of the last major estuarine habitats remaining in a near natural condition in southern California. The Department of Fish and Game notes that the Bay is ecologically valuable due to the fact that it supports many resident and migratory birds; many species of plants and animals; and that the Bay is a nursery for numerous marine organisms. The Upper Newport Bay Regional Park, Existing Conditions Report (May 30, 1990) identifies a total of 22 natural communities within Upper Newport Bay. Furthermore, the Bay is an important recreation area and supports nature study, bird watching, and fishing. According to the Los Angeles Times (Monday, July 22, 1996) over two million persons per year visit the Ecological Reserve. Thus, the Ecological Reserve is an important coastal visitor destination because of its ecological value and for its recreational benefits such as open space, and bird watching. Human activity, in the form of increasing urban development adjacent to the Ecological Reserve has had significant adverse effects on the Bay. Major adverse effects include increased sediment flowing into the Bay, the elimination of natural vegetation, and the elimination of habitat adjoining the Bay.

Concerning ESHA degradation, Commission staff noted in a working paper for the San Diego County Regional Coastal Wetlands Workshop (July 20 and 21, 1978) that: *"Excessive sedimentation is probably the biggest problem facing Upper Newport. The lack of proper watershed management and in particular poor grading practices have accelerated erosion and sediment transport. This process is endangering ecological habitats."* As re-emphasis of sedimentation as a problem, the Los Angeles Times (April 6, 1992) wrote that urban development adjacent to Upper Newport Bay has caused silt to flow into the Bay. The Bay is dredged on an on-going basis to remove accumulated sediments.

Maintaining the Bay's biological productivity and ESHA values is a critical concern since estuaries are one of the most productive areas of the world. Tidal action allows acres of saltwater, spreading over mudflats to reach sunlight and air. This stimulates the growth of algae and plankton that begins the food chain essential to wildlife and commercial ocean fishing. Coastal mudflats support seventy percent of the birds using the Pacific Flyway. Birds known to frequent the Ecological Reserve include the light-footed clapper rail and Beldings Savannah sparrow, Brown Pelican, California least tern. The intertidal mud flats support cordgrass, pickleweed, jaumea and the endangered salt marsh bird's beak. Some ocean dwelling fish such as the California halibut and barred sandbass use Upper Newport Bay for spawning and as a nursery.

Vegetation patterns in the watershed have been altered considerably by human activity. These changes have resulted from agricultural use, increasing urbanization, commercial development, and industrial development. Undeveloped areas still contain arid scrub vegetation that is typical of southern California. According the Upper Newport Bay Regional Park, Existing Conditions Report (May 30, 1990) exotic species, both plant and animal have invaded Upper Newport Bay. These include non-native grassland species, which are infiltrating native habitat such as wild oats, barely, fennel, and artichoke thistle. Introduced birds include English sparrows and rock doves. Introduced mammals include the house mouse and Virginia opossum.

The original proposed project also included a landscaping plan detailing what the landscaping improvements involve. Commission staff had reviewed the landscape plan and determined that the plan did contain invasive species and also contained high-water use plants. Since then the applicant has submitted revised project plans that no longer include use of the previously proposed piles; however, revised landscape plans have not been submitted. To assure that development on property adjacent to Ecological Reserve is consistent with Section 30240(b) of the Coastal Act, the Commission imposes **Special Condition No. 8**, which requires that the applicant shall prepare

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prior to issuance of this permit a final landscape plan, which shall be submitted for the review and approval of the Executive Director. To minimize the potential for the introduction of non-native invasive species and to minimize the potential for future bluff failure, a landscaping plan shall be prepared by a licensed landscape architect and shall incorporate the following criteria: 1) to minimize the introduction of water into the ground, no permanent in-ground irrigation shall be permitted, temporary above ground irrigation to establish the plantings is permitted; 2) landscaping shall consist of native or deep rooted drought tolerant non-native plants that are non-invasive. Invasive, non-indigenous plant species which tend to supplant native species shall not be used; and 3) to assure that the landscaping plan will be compatible with the Upper Newport Bay Ecological reserve, only native non-invasive plants shall be used on the bluffward side of the site and the plan shall be reviewed and approved by the California Department of Fish and Game.

Through this special condition, the Commission finds that the project is consistent with Section 30240(b) of the Coastal Act which requires that development adjoining environmentally sensitive habitat areas and parks and recreation areas shall be designed to prevent impacts that would significantly degrade those areas and shall be compatible with the continuance of those habitat and recreation areas.

E. Water Quality

Section 30230 of the Coastal Act states, in pertinent part:

Marine resources shall be maintained, enhanced, and where feasible, restored.

Section 30231 of the Coastal Act states:

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

1. Construction Impacts to Water Quality

Storage or placement of construction materials, debris, or waste in a location subject to erosion and dispersion or which may be discharged into coastal water via rain, surf, or wind would result in adverse impacts upon the marine environment that would reduce the biological productivity of coastal waters. For instance, construction debris entering coastal waters may cover and displace soft bottom habitat. In addition, the use of machinery in coastal waters not designed for such use may result in the release of lubricants or oils that are toxic to marine life. Sediment discharged into coastal waters may cause turbidity, which can shade and reduce the productivity of foraging avian and marine species' ability to see food in the water column. This is especially of a concern in locations that are adjacent to the Upper Newport Bay Ecological Reserve, which is one of the last major estuarine habitats remaining in a near natural condition in southern California. In order to

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avoid adverse construction-related impacts upon marine resources, **Special Condition No.** 9 outlines construction-related requirements to provide for the safe storage of construction materials and the safe disposal of construction debris.

2. Post-Construction Impacts to Water Quality

The proposed residential development has impervious surfaces, such as roofs where pollutants such as particulate matter may settle, as well as a driveway where pollutants such as oil and grease from vehicles may drip. In addition, landscaped areas may contain fertilizers and pesticides. During storm events, the pollutants which have collected upon the roof and upon other impervious surfaces created by the proposed project may be discharged from the site into the storm water system and eventually into coastal waters which can become polluted from those discharges. Water pollution decreases the biological productivity of coastal waters.

Typically, adverse water quality impacts to coastal waters can be avoided or minimized by directing storm water discharges from roof areas and other impervious surfaces to landscaped areas where pollutants may settle out of the storm water. In addition, reducing the quantity of impervious surfaces and increasing pervious water infiltration areas can improve water quality.

However, these common techniques of addressing water quality problems, by design, result in increased infiltration of water into the ground. As noted in the hazard section of these findings, the infiltration of water into the bluff is a primary potential source of bluff instability at the project site. Therefore, increasing the quantity of pervious areas, directing runoff to those pervious areas, and encouraging water infiltration for water quality purposes could have adverse impacts upon bluff stability.

There are measures, however, that would contribute to increased water quality that could feasibly be applied even to bluff top lots such as the subject site without increasing instability. In general, the primary contributors to storm drain pollution stemming from single-family residential development are irrigation, fertilizers, swimming pool discharges, and pet waste. These can be eliminated or significantly reduced even on bluff top lots. For example, permanent, in-ground irrigation tends to result in over-watering, causing drainage to run off site. Irrigation runoff carries with it particulates such as soil, debris, and fertilizers. Limiting irrigation to that necessary to establish and maintain plantings, reduces the chance of excess runoff due to over-irrigation. Permanent, in-ground irrigation, in general, is set by timer and not by soil moisture condition. Thus, the site is irrigated on a regular basis regardless of the need, resulting in over-saturation and run off. The run off, carrying soil, fertilizer, etc, is then directed to the storm drain system, which then enters the ocean. This can be avoided by limiting irrigation on bluff top lots.

Another way to improve water quality on bluff top lots without jeopardizing stability is the use of native/drought tolerant plantings. Low water use, drought tolerant, native plants require less water than other types of vegetation, thereby minimizing the amount of water introduced into the bluff top. As these plantings use less water than ornamental plants, incidents of over-watering, causing saturation and excess runoff, is substantially reduced. As previously stated, reducing site runoff reduces the extent of pollutants carried into the storm drain system and into the ocean.

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Due to the potential for increased hazards in bluff top areas, which could be caused by encouraging water infiltration for water quality purposes, maximizing on site retention of drainage is not required. However, the measures described above including no permanent irrigation and the use of native, drought tolerant plants, can help to increase water quality in the area. To assure that post construction water quality is protected, the Commission imposes Special Condition No. 8, which requires that the applicant shall prepare prior to issuance of this permit a final landscape plan, which shall be submitted for the review and approval of the Executive Director. To minimize the potential for the introduction of non-native invasive species and to minimize the potential for future bluff failure, a landscaping plan shall be prepared by a licensed landscape architect and shall incorporate the following criteria: 1) to minimize the introduction of water into the ground, no permanent in-ground irrigation shall be permitted, temporary above ground irrigation to establish the plantings is permitted; 2) landscaping shall consist of native or deep rooted drought tolerant non-native plants that are non-invasive. Invasive, non-indigenous plant species which tend to supplant native species shall not be used; and 3) to assure that the landscaping plan will be compatible with the Upper Newport Bay Ecological reserve, only native non-invasive plants shall be used on the bluffward side of the site and the plan shall be reviewed and approved by the California Department of Fish and Game.

3. <u>Conclusion</u>

The Commission has required several **Two (2) Special Conditions**, which are intended to bring the proposed development into conformance with Sections 30230and 30231 of the Coastal Act. In order to avoid adverse construction-related impacts upon marine resources, **Special Condition No. 9** outlines construction-related requirements to provide for the safe storage of construction materials and the safe disposal of construction debris. To assure that post construction water quality is protected, the Commission imposes **Special Condition No. 8**, which requires that the applicant shall prepare prior to issuance of this permit a final landscape plan. Only as conditioned to comply with the provisions of these special conditions does the Commission find that the proposed development conforms with Sections 30230 and 30231 of the Coastal Act.

F. Public Access and Recreation

Section 30212 of the Coastal Act states, in relevant part 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:
 - (2) adequate access exists nearby.

Section 30252 of the Coastal Act states, in relevant part states:

The location and amount of new development should maintain and enhance public access to the coast by...

(4) providing adequate parking facilities or providing substitute means of serving the development with public transportation...

The proposed development is located on a lot with an existing single-family dwelling (destroyed by fire). The proposed development will not change the use or intensity of use of the site. Public access opportunities exist through Galaxy View Park, which overlooks the Bay and North Star Beach. The proposed development, as conditioned, will not result in any adverse impacts to existing public access or recreation in the area. Upon completion of the project, the development will remain as a single-family residence. The proposed development would provide adequate parking based on the Commission's regularly used parking standard of two (2) parking spaces per individual dwelling unit. Therefore, the Commission finds that the proposed development would be consistent with Section 30212 and 30252 of the Coastal Act regarding public access.

G. 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 that conforms with the Chapter 3 policies of the Coastal Act.

The Newport Beach Land Use Plan was effectively certified on May 19, 1982. The certified LUP was updated on January 9, 1990. The City currently has no certified implementation plan. Therefore, the Commission issues CDP's within the City based on the development's conformance with the Chapter 3 policies of the Coastal Act. The LUP policies may be used for guidance in evaluating a development's consistency with Chapter 3.

The City of Newport Beach certified Land Use Plan includes policies regarding the development on coastal bluffs. Pages 25-27 of the LUP contain policies regarding definition of a bluff, grading, provision of geologic reports, setbacks and building in hazardous areas.

The policy on grading requires that the alteration of natural coastal landforms be minimized and that waivers of liability are required in areas of geologic hazard. Another LUP requirement is the submittal of a site-specific geologic report to assess areas of potential geologic instability.

The certified LUP includes a discussion of hazard areas, which it defines as areas where natural processes can pose a threat to the public health, safety, and welfare. It further defines specific geologic hazards as earthquake faults, existing or potential landslides, areas with expansive or collapsible soil, excessive settlement and subsidence, flood hazard areas, and areas subject to potential erosion and siltation. Coastal bluffs qualify as areas of geologic hazard and areas subject to erosion.

The certified LUP also contains a discussion of bluff top setbacks. However, the setback policies pertain only to all new tracts and subdivisions, residential developments greater than four residences, and commercial development. This policy states: "As a general guideline, the property line setback from the edge of a bluff should be no closer to the edge of the bluff than the point at which the top of the bluff is intersected by a line drawn from the solid toe of the bluff at an angle of 26.6 degrees to the horizontal."

The intent of this policy section, as stated in the certified LUP, is to require setbacks in new subdivision development for public access purposes. Because the proposed development is a

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single-family residence it is exempt from this policy. Therefore, there are no specific LUP policies, which would provide guidance as to bluff setbacks in this instance.

The proposed project will include approximately 740 cubic yards of grading for recompaction, which will balance on site. The amount of grading is not projected to result in extensive landform alteration. As per the LUP requirements, an assumption of risk special condition is being required and a comprehensive geological report was supplied with the application. Therefore, the proposed development is consistent with the certified LUP policies.

The proposed development, as conditioned, is consistent with Chapter 3 of the Coastal Act and with the certified Land Use Plan for the area. Approval of the project, as conditioned, 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.

H. California Environmental Quality Act

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

The proposed project is located in an urban area. All infrastructure necessary to serve the site exists in the area. As conditioned, the proposed project has been found consistent with the hazard, visual resource, water quality and sensitive habitat protection policies of Chapter 3 of the Coastal Act. Mitigation measures include special conditions requiring conformance with geotechnical recommendations and setback requirements, submittal of a final drainage and run-off control plan and submittal of a final landscaping plan.

As conditioned, there are no feasible alternatives or additional feasible mitigation measures available that would substantially lessen any significant adverse effect, which the activity may have on the environment. Therefore, the Commission finds that the proposed project, as conditioned to mitigate the identified impacts, is the least environmentally damaging feasible alternative and can be found consistent with the requirements of the Coastal Act to conform to CEQA.

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