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STAFF REPORT: CONSENT CALENDAR

Application No.:	5-15-0253
Applicant:	Shiloh, LLC
Project Location:	4607-4615 Brighton Road, Newport Beach (Orange County)
Project Description:	**Demolish the single family residence at 4607 Brighton Rd. and construct a 14,904 sq. ft. addition to the existing 6,387 sq. ft. single family residence at 4615 Brighton Rd. resulting in a 25,036 square foot, 14 foot high, bluff-top single-family home with a basement and sub-basement, at 4607 Brighton Rd.**
Staff Recommendation:	Approval with conditions

SUMMARY OF STAFF RECOMMENDATION

Commission staff is recommending **APPROVAL** of the proposed project. The two lots at 4607 and 4615 Brighton Road were previously consolidated into one legal lot and received Commission approval under 5-08-164-W. The project includes demolition of the existing 4,022 sq. ft. residence at 4607 Brighton Road and construction of an approximately 14,904 square feet, 14 foot high addition with a basement and subbasement to the existing 6,387 sq. ft. residence at 4615 Brighton Road. There would be 7,466 cubic yards of grading for the basements. On the seaward side of the home, the partial subbasement would be 24 feet below grade and the basement would be approximately 14 feet below grade.

The subject site is a coastal bluff top lot located between the first public road and the sea in Corona Del Mar (Newport Beach) and the project would not impact public access to the coast. Section 30230 of the Coastal Act requires that marine resources including biological productivity be protected. The Coastal Act requires that the biological productivity of coastal waters be

maintained, and where feasible, restored and that the quality of coastal waters be maintained and protected from adverse impacts. The project's drainage system has been designed to meet these requirements.

Scenic and visual qualities of coastal areas be protected. The project is located on a blufftop lot overlooking a rocky beach and the ocean below. The site is visible from public vantage points located at the rocky beach and ocean below the site. The development will be sited to protect views to and along the bluffs and minimize the alteration of existing landforms.

The primary issues addressed in this staff report are the conformance of the proposed development with the geologic hazard policies of the Coastal Act. The proposed development would be located on the bluff 35 feet above current sea level. The basement levels would be a minimum of 4.7 feet above the highest level of sea level rise anticipated and would therefore, still be safe from flooding or damage. The bluff is composed of exposed bedrock and has near zero erosion historically. The property is underlain by dense bedrock and the toe of the bluff is characterized by a rocky beach with a natural exposed outcrop of rock. Erosion is very minor and is limited to the upper 2 to 3 feet of soil zone. The potential intrusion of sea water into ground water from sea level rise is expected to be negligible. Wave erosion along the base of the bluff and retreat of the bedrock seacliff is predicted to cause a maximum total of 2.4 feet of cliff retreat over the next 75-100 years. Because the proposed development would be setback a total of 27 feet from the bluff edge, by 2100 there would remain an approximately 24 foot bluff edge setback. Under the maximum sea level rise scenario, erosion would cause the basement walls to be exposed in 800 years. A 25-foot setback from the bluff edge is proposed for the structure and no accessory structures will be located within the 10 foot setback.

Because of the bluff top location of the project site, **Special Conditions 3, 4, 5, 6, 8** and **9** are being imposed to: inform the application of the risk of bluff top and coastal development, ensure that final foundation plans, erosion control plans, drainage and landscape plans, and construction plans are designed to minimize bluff erosion and are approved by the consulting Geologist, ensure visual treatment of any exposed portion of the structure in the future, prevent future bluff protective devices, and to acquire all appropriate approvals from other agencies that oversee dewatering activities. **Special Condition 7** ensures proper construction responsibilities and BMPs. **Special Condition 1** is imposed to ensure any future development is reviewed by the Commission, and **Special Condition 2** requires a deed restriction. As conditioned, the project is consistent with the policies of the Coastal Act.

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I. MOTION AND RESOLUTION

Motion:

*I move that the Commission **approve** the coastal development permit applications included on the consent calendar in accordance with the staff recommendations.*

Staff recommends a **YES** vote. Passage of this motion will result in approval of all of the permits included on the consent calendar. The motion passes only by affirmative vote of a majority of the Commissioners present.

Resolution:

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 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

This permit is granted subject to the following standard conditions:

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

2. **Expiration**. If development has not commenced, the permit will expire two years from the date on which the Commission voted on the application. 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. **Interpretation**. Any questions of intent or interpretation of any condition will be resolved by the Executive Director or the Commission.

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

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

III. SPECIAL CONDITIONS

This permit is granted subject to the following special conditions:

1. **Future Development.** This permit is only for the development described in Coastal Development Permit No. 5-15-0253. 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. 5-15-0253. Accordingly, any change in use or intensity of use and any future improvements to the existing uses authorized by this permit, including but not limited to repair and maintenance identified as requiring a permit in Public Resources Section 30610(b) and Title 14 California Code of Regulations Sections 13253(a)-(b), shall require an amendment to Permit No. 5-15-0253 from the Commission or shall require an additional coastal development permit from the Commission or from the applicable certified local government.

2. **Deed Restriction.** PRIOR TO THE ISSUANCE OF A 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 (4607 and 4615 Brighton Road). The deed restriction shall also indicate that, in the event of an extinguishment or termination of the deed restriction for any reason, the terms and conditions of this permit shall continue to restrict the use and enjoyment of the subject property so long as either this permit or the development it authorizes, or any part, modification, or amendment thereof, remains in existence on or with respect to the subject property.

3. **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 flooding, sea level rise, erosion and wave uprush; (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.

4. **Visual Treatment.** By acceptance of this permit, the applicant acknowledges and agrees that in the event any project features initially proposed to be subsurface but which subsequently become exposed to public view from the beach below the site, the applicant shall submit plans to the Executive Director, for his review and concurrence, that provide for visual and aesthetic treatment plans similar to those required in conjunction with this coastal development permit. The aesthetic treatment shall provide that exposed materials match the surrounding terrain to the extent feasible and minimize visual impact of the exposed features. The applicant shall identify proposed materials, colors, monitoring, and maintenance plans, in conjunction with their submittal. The Executive Director shall determine whether the proposed work will require an amendment to this coastal development permit, a new coastal development permit, or whether no amendment or new permit is legally required.

5. **Conformance with Geotechnical Recommendations.** PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the applicant shall submit, for review and approval of the Executive Director, along with a copy of each plan, evidence that an appropriately licensed professional has reviewed and approved all final design and construction plans including foundation, grading, and drainage plans, and certified that each of those final plans is consistent with all the recommendations contained in the geologic engineering investigations.

6. **Submittal of Revised and Final Plans.** PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the applicant shall submit, for review and approval of the Executive Director, two (2) sets of final architectural plans, grading plans, foundation plans, drainage and run-off control plans, construction and site plans, and landscaping plans. The final plans shall be reviewed and approved by the City prior to submission to the Executive Director, but shall be revised in the following ways:

   A. Erosion Control Plan and Final Drainage Plan. The applicant shall submit, for review and approval of the Executive Director, two (2) full size sets of final drainage and run-off control plans. The drainage and runoff 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 the residence and all yard areas, treating as much as possible onsite. The applicant shall maintain the functionality of the approved drainage and runoff control plan to assure that water is collected and discharged to the street without percolating into the ground. The drainage plans shall include final sub-drainage plans and permanent and temporary dewatering plans.

   B. Revised plans for Accessory Structures. The applicant shall submit, for the Executive Director's review and approval, revised construction plans depicting the proposed bar, fire pit, retaining walls, and all other accessory structures seaward of the house to be constructed at grade and setback a minimum of 10 feet

from the delineated bluff edge, as depicted in the exhibits of this staff report.

C. Foundation Plans. 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, including recommendations pertaining to a pile/caisson foundation system, as specified in the above-referenced geologic engineering report.

D. Landscaping Plans. The applicant shall submit, for the Executive Director's review and approval, revised landscaping plans that incorporate the following:

(a) All planting shall provide 90 percent coverage within 90 days and shall be repeated if necessary to provide such coverage;

(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 not occupied by hardscape shall be planted and maintained for slope stability and erosion control. To minimize the need for irrigation and minimize encroachment of non-native plant species into adjacent or nearby native plant areas, all landscaping shall consist of native drought tolerant plant species and appropriate to the habitat type. No plant species listed as problematic and/or invasive by the California Native Plant Society (http://www.CNPS.org/), the California Invasive Plant Council (formerly the California Exotic Pest Plant Council) (http://www.cal-ipc.org/), or as may be identified from time to time by the State of California shall be employed or allowed to naturalize or persist on the site. No plant species listed as a "noxious weed" by the State of California or the United States Government shall be utilized within the property. All plants shall be low water use plants as identified by California Department of Water Resources (See: http://ucanr.edu/sites/WUCOLS/).

(d) No permanent irrigation system shall be allowed on the coastal bluff face. Any existing in-ground irrigation systems on the coastal bluff face shall be disconnected and capped. Temporary above ground irrigation to allow the establishment of the plantings is allowed. The landscaping plan shall show all the existing vegetation and any existing irrigation system; no landscaping shall be installed over the bluff edge.

(e) The landscaping plans shall include 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.

(f) Within the 25 foot bluff edge setback irrigation may be installed and the use of reclaimed water is encouraged. If using potable water for irrigation, only drip or microspray irrigation systems may be used. Other water conservation measures shall be considered, such as weather based irrigation controllers.

E. 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 legally required.

6. Construction Responsibilities and Debris Removal. The permittee shall comply with the following construction related requirements:

A. No demolition or construction materials, equipment, debris, or waste shall be placed or stored where it may enter sensitive habitat, receiving waters or a storm drain, or be subject to wave, wind, rain or tidal erosion and dispersion.
B. Any and all debris resulting from demolition or construction activities, and any remaining construction material, shall be removed from the project site within 24 hours of completion of the project.
C. Demolition or construction debris and sediment shall be removed from work areas each day that demolition or construction occurs to prevent the accumulation of sediment and other debris that may be discharged into coastal waters.
D. Machinery or construction materials not essential for project improvements will not be allowed at any time in the intertidal zone.
H. All trash and debris shall be disposed in the proper trash and recycling receptacles at the end of every construction day.
I. The applicant shall provide adequate disposal facilities for solid waste, including excess concrete, produced during demolition or construction.
J. Debris shall be disposed of at a legal disposal site or recycled at a recycling facility. If the disposal site is located in the coastal zone, a coastal development permit or an amendment to this permit shall be required before disposal can take place unless the Executive Director determines that no amendment or new permit is legally required.
K. All stock piles and construction materials shall be covered, enclosed on all sides, shall be located as far away as possible from drain inlets and any waterway, and shall not be stored in contact with the soil.
L. Machinery and equipment shall be maintained and washed in confined areas specifically designed to control runoff. Thinners or solvents shall not be discharged into sanitary or storm sewer systems.
M. The discharge of any hazardous materials into any receiving waters shall be prohibited.
N. Spill prevention and control measures shall be implemented to ensure the proper handling and storage of petroleum products and other construction materials. Measures shall include a designated fueling and vehicle maintenance area with appropriate berms and

protection to prevent any spillage of gasoline or related petroleum products or contact with runoff. The area shall be located as far away from the receiving waters and storm drain inlets as possible.

O. Best Management Practices (BMPs) and Good Housekeeping Practices (GHPs) designed to prevent spillage and/or runoff of demolition or construction-related materials, and to contain sediment or contaminants associated with demolition or construction activity, shall be implemented prior to the on-set of such activity.

P. All BMPs shall be maintained in a functional condition throughout the duration of construction activity.

7. No Future Bluff or Shoreline Protective Device(s).

A. By acceptance of this Permit, the applicant agrees, on behalf of itself and all successors and assigns, that no bluff or shoreline protective device(s) shall ever be constructed to protect the development approved pursuant to Coastal Development Permit 5-15-0253 including, but not limited to, the residence, garage, foundations, pool/spa, decks, balconies, hardscape, and any other future improvements in the event that the development is threatened with damage or destruction from waves, erosion, storm conditions, bluff retreat, landslides, sea level rise, or other natural coastal hazards in the future. By acceptance of this Permit, the applicant/landowner hereby waives, on behalf of itself 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/landowner further agrees, on behalf of itself and all successors and assigns, that the landowner(s) shall remove the development authorized by this Permit, including, but not limited to, the residence, garage, foundations, decks, balconies, hardscape, and any other future improvements if any government agency has ordered that the structures are not to be occupied due to any of the hazards identified above. In the event that portions of the development fall to the beach before they are removed, the landowner shall remove all recoverable debris associated with the development from the beach and ocean 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 structure is not to be occupied, a geotechnical investigation shall be prepared by a licensed coastal engineer and geologist retained by the landowner(s), that addresses whether any portions of the residence are threatened by bluff and slope instability, erosion, landslides, sea level rise or other natural hazards. The report shall identify all those immediate or potential future measures that could stabilize the principal residence without bluff or shore 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.

8. Other Agency Approvals.
By acceptance of this permit, the applicant agrees to obtain all other necessary State or Federal permits that may be necessary for all aspects of the proposed project (including the Regional Water Quality Control Board for any dewatering, etc.). The applicant shall inform the Executive Director of any changes to the project required by other agencies and such changes shall not be incorporated into the project until the applicant obtains a Commission amendment to this coastal development permit, unless the Executive Director determines that no amendment is legally required.

IV. FINDINGS AND DECLARATIONS:

A. DESCRIPTION AND PROJECT LOCATION

The two lots at 4607 and 4615 Brighton Road were previously consolidated into one legal lot and received Commission approval under 5-08-164-W. The parcel is irregular in plan view, a level lot, has a net area of 45, 999 square feet (1.056 acres), and extends to the mean high tide line (MSL). It is surrounded by single family residences to the northwest and southeast, ocean bluff and rocky strand to the southwest, and Brighton Road to the northeast. The project includes demolition of the existing residence at 4607 Brighton Road and using the area for the construction of an addition to the existing residence at 4615 Brighton Road. The proposed new ground floor addition will be approximately 5,876 sq. ft. and the proposed basement is 5,535 square feet and subbasement is 3,493 square feet. The resulting home would be 25,036 sq. ft. not including garages. There would be 7,466 cubic yards of grading for the basements. The partial subbasement would be 24 feet below grade and the basement would be approximately 14 feet below grade on the seaward side of the home.

The project site consists of two adjacent lots situated on the seaward side of Brighton Road in the community of Cameo Shores (Newport Beach). The project is located within an existing developed urban residential area. The residential development along this southern portion of Brighton Road is located on top of a coastal bluff. To the east of the project site is the Pelican Hill Golf Course and Crystal Cove State Park. To the west of the project site is an existing single-family residential development. To the north of the project site is the intersection of Brighton Road and Cameo Shores Road. To the south of the project site is a coastal bluff, rocky beach and the Pacific Ocean. The coastal bluff along the ocean frontage of the lot is approximately 30-feet in height. The natural bluff areas are composed of exposed bedrock.

B. HAZARDS

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

> *New development shall do all of the following:*
>
> *(l) Minimize risks to life and property in areas of high geologic, flood, and fire hazard.*

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

The proposed development is located on a coastal bluff, which is subject to wave attack and erosion. Coastal bluffs in California are located at the intersection of land and ocean, are composed of relatively recent uplifted geologic materials and are exposed to severe weathering forces.

Coastal bluff erosion is caused by a combination of inherent environmental factors and the anthropogenic factors. 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 runoff and poorly consolidated soils. Factors attributed to anthropogenic causes 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.

The Commission's staff Geologist has reviewed all geotechnical investigations submitted by the applicant and has concurred that these investigations have adequately addressed concerns regarding bluff erosion and slope stability of the project site. The geotechnical investigation included recommendations for the proposed project, including:

> *Construction of the 2 story basement will require perimeter retaining walls ranging in height approximately from 12+ feet to 24 feet (+), which are to be of reinforced concrete and/or multi-layered shotcrete construction. The walls are to be fully waterproofed prior to construction of heel drains (ie- subdrains) and placement of granular backfill. Floor slabs-on-grade at main grotto and theater levels will be 4- to 12- inches thick, and are to be underlain by a gravel layer and vapor/ moisture barrier.*

In addition, the geotechnical investigation states that the foundation for the proposed residence will consist of continuous footings and a 30 inch thick mat foundation. Preliminary plans show that caissons would be included as part of the foundation system. In order to avoid adverse impacts of the proposed development on bluff erosion and instability, and prevent the necessity for bluff or shoreline protective structures, as required by Section 30253 of the Coastal Act, **Special Conditions 3, 4, 5, 6, 8** and **9** are being imposed to: inform the application of the risk of bluff top and coastal development, ensure that final foundation plans, erosion control plans, drainage and landscape plans, and construction plans are designed to minimize bluff erosion and are approved by the consulting Geologist, prevent future bluff protective devices, require visual treatment of any exposed structural elements, and to acquire all appropriate approvals from other agencies that oversee dewatering activities.

The certified Land Use Plan (LUP) (approved with suggested modifications by the Commission at the October 2005 hearing) includes policies regarding development on coastal bluffs. The certified LUP requires that all new blufftop development located on a bluff subject to marine erosion to be sited in accordance with the predominant line of existing development in the subject area, but not less than 25 feet from the bluff edge. As conditioned, to submit revised final project plans showing that the proposed residence shall be, at minimum, setback 25-feet from the bluff edge the project adheres to this LUP policy.

Another LUP policy states that on bluffs subject to marine erosion, new accessory structures such as decks, patios and walkways that do not require structural foundations are to be sited in accordance with the predominant line of existing development in the subject area, but not less than 10 feet from the bluff edge. Furthermore, the LUP policy requires accessory structures to be removed or relocated landward when threatened by erosion, instability or other hazards. As discussed more fully below, conditions imposed by the Commission will bring the proposal into conformance with the recently certified LUP policy.

Bluff Top 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 bluffs 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 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 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 portion of the bluff 15-feet and more inland of the bluff edge has a factor of safety of 1.50 under static and seismic conditions. The Commission's staff Geologist has reviewed these calculations and concurs that the coastal bluff is safe from global instability.

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.

The geotechnical investigation clarifies that since the proposed residence is situated landward of the 1.5 factor of safety line (approximately 27 feet from the bluff edge), the proposed buffer is considered adequate for any upper bluff retreat over the seventy-five year life span of the structure. In this area, the Commission has generally used a 25-foot setback for primary structures from the top of the bluff (e.g. CDP #5-04-013-[Primm] and #5-04-035-[Hoff] and #5-05-196-[Lee]) as an absolute minimum development setback. The Commission typically requires that structures be setback at least 25-feet from the bluff edge and hardscape and accessory structures be setback at least 10-feet from the bluff edge to minimize the potential that the development will contribute to slope instability.

To analyze the suitability of the site for development relative to potential wave hazards, Commission staff requested the preparation of a wave run-up, flooding, and erosion hazard analysis, prepared by an appropriately licensed professional (e.g. coastal engineer). The purpose of this analysis is to determine the potential for future storm damage and any possible mitigation measures, which could be incorporated into the project design.

The submitted coastal hazards study by GeoSoils Inc. dated October 2008 indicates the proposed development would be located on the bluff above, 35 feet above current sea level. According to the data in the study, during a strong storm event under the highest sea level rise conditions at 5.5 feet by 2100, the maximum wave uprush on the bluffs would be approximately 25 feet high. The basement levels would be a minimum of 4.7 feet above the highest level of sea level rise anticipated and would therefore, still be safe from flooding or damage. This would not impact or flood the proposed development on the bluff top, however increased storm event and sea level rise may contribute to erosion of the bluff face.

An additional geotechnical document providing updated coastal hazards analysis by Shree Consulting dated November 25, 2015 indicates that the bluff is composed of exposed bedrock and has near zero erosion historically. The property is underlain by dense bedrock and the toe of the bluff is characterized by a rocky beach with a natural exposed outcrop of rock. Erosion is very minor and is limited to the upper 2 to 3 feet of soil zone. The potential intrusion of sea water into ground water from sea level rise is expected to be negligible. Wave erosion along the base of the bluff and retreat of the bedrock seacliff is predicted to cause a maximum total of 2.4 feet of cliff retreat over the next 75-100 years. Because the proposed development would be setback a total of 27 feet from the bluff edge, by 2100 there would remain an approximately 24 foot bluff

edge setback. Under the maximum sea level rise scenario, erosion would cause the basement walls to be exposed in 800 years. Even with this bluff retreat rate, the factor of safety for the basement would remain at 1.62.

Based on the general causes of bluff erosion and the specific findings from the geotechnical report it is evident that the coastal bluff at this location is eroding minimally, but measures to minimize bluff erosion are necessary. The following special conditions will prevent the necessity for future bluff protective structures, as required by Section 30253 of the Coastal Act.

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 1-5 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. Therefore, the standard waiver of liability condition has been attached via **Special Condition 3**.

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 ensures that the Commission does not incur damages as a result of its approval of the coastal development permit.

Bluff and Shoreline Protective Devices
Coastal bluff lots are inherently hazardous, especially those located adjacent to the ocean. It is the nature of bluffs to erode. For the economic life of the structure, the structure os expected to be safe from bluff retreat, however 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 or wave up-rush 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. 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. **Special Condition 8** prevents the construction of bluff protective devices in the future.

Future Development
The development is located within an existing developed area and, as conditioned, is compatible with the character and scale of the surrounding area. However, without controls on future development, the applicant could construct future improvements to the single-family house, including but not limited to improvements to the residence and hardscape, that would have negative impacts on coastal resources, and could do so without first acquiring a coastal development permit, due to exemption for improvements to existing single-family residences in Coastal Act Section 30610 (a). To assure that future development is consistent with the Chapter 3 policies of the Coastal Act, the Commission imposes **Special Condition 1**, a future improvements special condition. As conditioned the development conforms with the Chapter 3 policies of the Coastal Act relating to geologic hazards.

Conformance with Geotechnical Recommendations
The geotechnical consultant has found that the proposed development is feasible provided the recommendations contained in the geotechnical report prepared by the consultant are implemented as regards 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 5**, which states that the geotechnical consultant's recommendations should be incorporated into the design of the project. 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.

Drainage and Runoff and Landscaping Special Conditions
In approving development on a coastal bluff the Commission must ensure that the development minimizes 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. It is 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. 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. Also, the weight of the saturated soils weakens the cliff. 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. In this respect the Commission fills an important role in minimizing landsliding and erosion.

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.

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. Due to the potential impacts to the bluff from infiltration of water into the bluff, the Commission imposes **Special Condition 6**, which requires that the applicant shall prepare and submit 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 within the 10 foot bluff setback; and 2) landscaping shall consist of native or deep rooted drought tolerant non-native plants which are non-invasive. Invasive, non-indigenous plant species which tend to supplant native species shall not be used. **Special Condition 6** also requires revised plans depicting that all accessory structures are located inland of the 10 foot bluff setback and that accessory structures such as retaining walls and hardscape are constructed at grade and will not contribute to increased bluff erosion.

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 Commission imposes **Special Condition 2** requiring that the property owner records 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 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.

C. VISUAL RESOURCES

Section 30251 of the Coastal Act states:

> *The scenic and visual qualities of coastal areas shall be considered and protected as a resource of public importance. Permitted development shall be sited and designed to protect views to and along the ocean and scenic coastal areas, to minimize the alteration of natural land forms, to be visually compatible with the character of surrounding areas, and, where feasible, to restore and enhance visual quality in visually degraded areas. New development in highly scenic areas such as those designated in the California Coastline Preservation and Recreation Plan prepared by the Department of Parks and Recreation and by local government shall be subordinate to the character of its setting.*

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 a public rocky beach and the ocean below. The site is visible from public vantage points located at the rocky beach and ocean below the site. Because the project 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 the bluffs and minimize the alteration of existing landforms.

Establishing a limit of development and setting development further 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 setback of a minimum of 25 feet in this area. In addition, the future development restriction will ensure that improvements are not made at the blufftop, which 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 non-native, drought tolerant, non-invasive plants throughout the site.

Visual Treatment
Under the maximum sea level rise scenario, erosion would cause the basement walls to be exposed in 800 years, however if bluff erosion is greater than expected and/or the structure lasts much longer than expected, **Special Condition 4** requires that any portions of the structure, basement, or foundation system that become exposed to view from the surrounding public beaches, are treated with a visual treatment subject to an amendment to this permit or a new permit.

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. WATER QUALITY AND MARINE RESOURCES

Section 30230 of the Coastal Act states:

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

Section 30231 of the Coastal Act states:

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

Section 30250 of the Coastal Act states in part:

> *(a)New residential…development…shall be located…where it will not have significant adverse effects, either individually or cumulatively, on coastal resources….*

Section 30230 of the Coastal Act requires that marine resources including biological productivity be protected. Section 30231 of the Coastal Act requires that the biological productivity of coastal waters be maintained, and where feasible, restored. In addition, Sections 30230 and 30231 require that the quality of coastal waters be maintained and protected from adverse impacts.

Single-family residences have the potential to increase local runoff due to the creation of impervious areas. This runoff could carry with it pollutants such as suspended solids, oil and grease, nutrients, and synthetic organic chemicals. This is especially of a concern in locations that are adjacent to coastal waters, such as the proposed project. As a result, any runoff should be directed away from the rear of the site, which is adjacent to coastal waters. In addition to preventing runoff from adversely impacting marine resources, drainage directed away from the rear of the lot will minimize adverse geologic impacts to the bluff.

All downspouts on the proposed new addition are directed toward underground conveyance pipes and trench drains that lead to a storm drain sump pump with overflow to the municipal storm drain system. The sump pump directs water to existing permeable areas of 4615 Brighton Road which contain an existing detention basin to allow for onsite infiltration. Any overflow of the detention basin is directed toward the storm drain system.

The proposed drainage system would adequately deal with possible adverse impacts due to water accumulation on site, the drainage and run-off control plan locates some area drains within the 10-foot setback from the bluff edge. Hardscape features and other site appurtenances (i.e. area drains and drain lines) should be setback at least 10-feet from the bluff edge to minimize the potential that the development will be affected by erosion and landslide hazards. Thus, the Commission is imposing **Special Condition 6**, which requires the applicant to submit a revised drainage and run-off control plan.

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 either to the storm drain system (which then enters the ocean) or directly over the bluff to the rocky beach and ocean below. 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.

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 over the luff edge, and the use of native/drought tolerant plants, can help to increase water quality in the area. In addition, the proposed drainage plan indicates that collected drainage will be filtered prior to being pumped to the street. Preliminary landscaping plans show some non-native species planned to be planted over the bluff edge, such as morning glory. The **Special Condition 6** requires native and drought tolerant vegetation and prohibits permanent irrigation over the bluff edge and requires a revised landscape plan.

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 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. 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. In order to avoid adverse construction-related impacts upon marine resources, the Commission imposes **Special Condition 7**, which outlines construction-related requirements to provide for the safe storage of construction materials and the safe disposal of construction debris. This condition requires the applicant to remove any and all debris resulting from construction activities within 24 hours of completion of the project. In addition, all construction materials, excluding lumber, shall be covered and enclosed on all sides, and as far away from a storm drain inlet and receiving waters as possible.

Only as conditioned does the Commission find the proposed development to be consistent with Sections 30230 and 30231 of the Coastal Act.

E. 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 subject site is located between the nearest public roadway and the shoreline. Adequate access and public recreation opportunities exist nearby at Little Corona Beach to the northwest and Crystal Cove State Beach and Park to the southeast. The site is currently developed with a single-family residence. 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.

F. LOCAL COASTAL PROGRAM (LCP)

Coastal Act section 30604(a) states that, prior to certification of a local coastal program ("LCP"), a coastal development permit can only be issued upon a finding that the proposed development is in conformity with Chapter 3 of the Act and that the permitted development will not prejudice the ability of the local government to prepare an LCP that is in conformity with Chapter 3. The Coastal Land Use Plan (CLUP) for the City of Newport Beach was effectively certified on May 19, 1982. The certified CLUP was updated on October 2005 and in October 2009. As conditioned, the proposed development is consistent with Chapter 3 of the Coastal Act and with the certified CLUP for the area. Approval of the project, as conditioned, will not prejudice the ability of the local government to prepare an LCP that is in conformity with the provisions of Chapter 3 of the Coastal Act.

G. CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA)

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 which the activity may have on the environment.

As a responsible agency under CEQA, the Commission has determined that the proposed project, as conditioned, is consistent with the enhancement of biological productivity and water quality policies, the public access and recreational opportunities policies, and the protection of the natural landform policies of the Coastal Act. As conditioned, there are no feasible alternatives or feasible mitigation measures available which would substantially lessen any significant adverse impact which the activity may have on the environment. Therefore, the Commission finds that the proposed project can be found consistent with the requirements of the Coastal Act to conform to CEQA.

PROJECT LOCATION

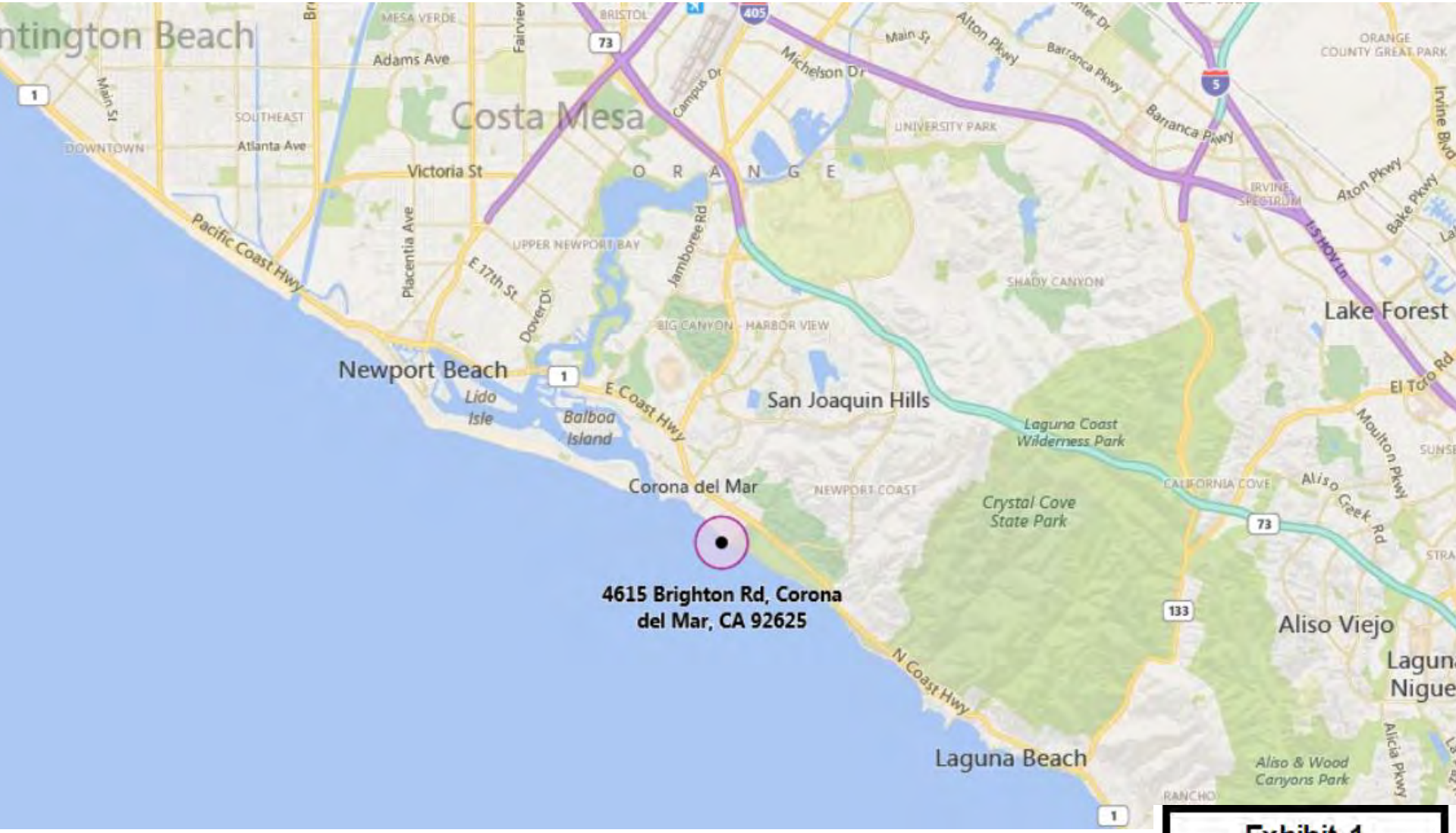


Exhibit 1

California Coastal Commission

PROJECT SITE

Exhibit 1

California Coastal Commission

SITE PLAN

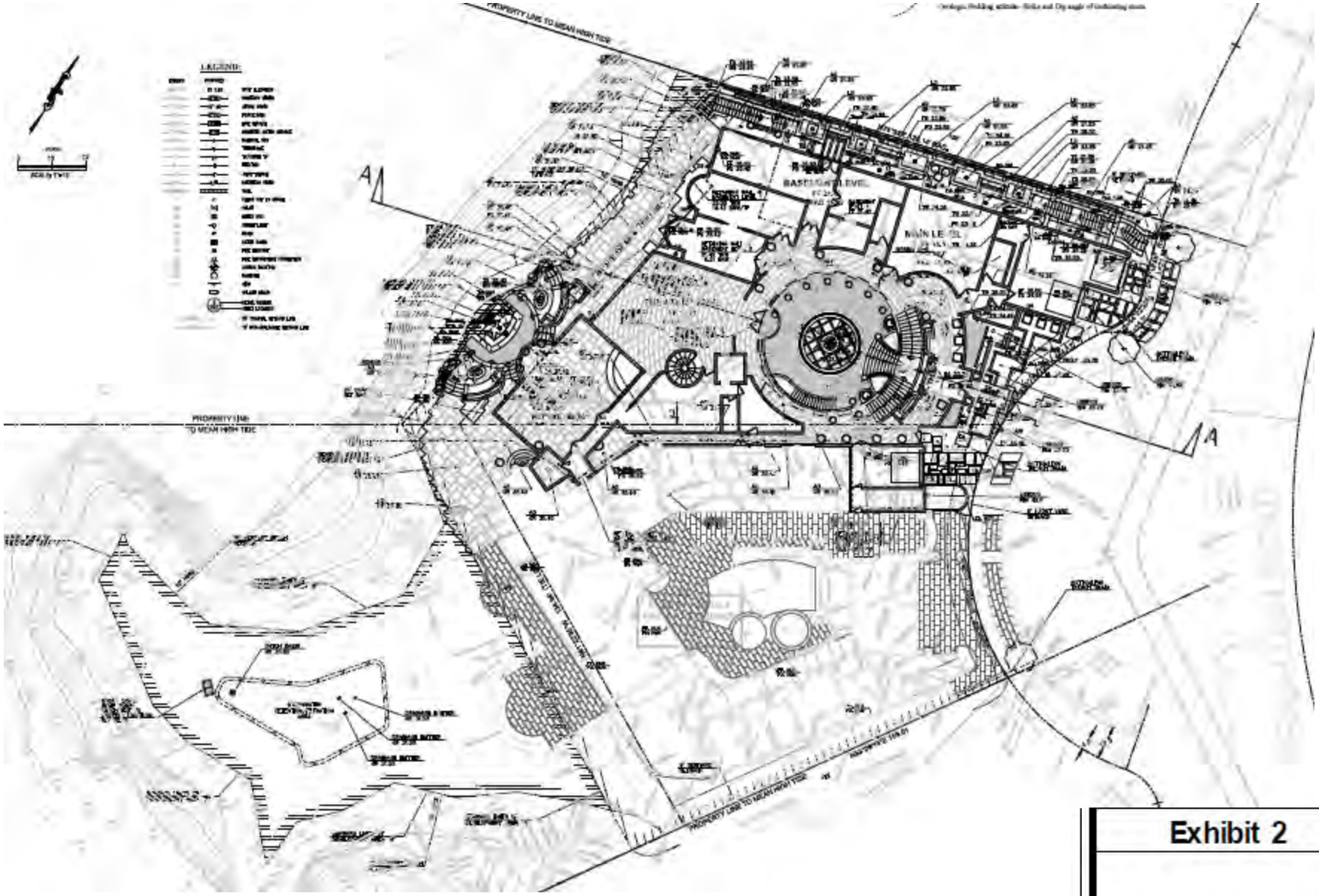


Exhibit 2

California Coastal Commission

FLOOR PLANS

Street Level

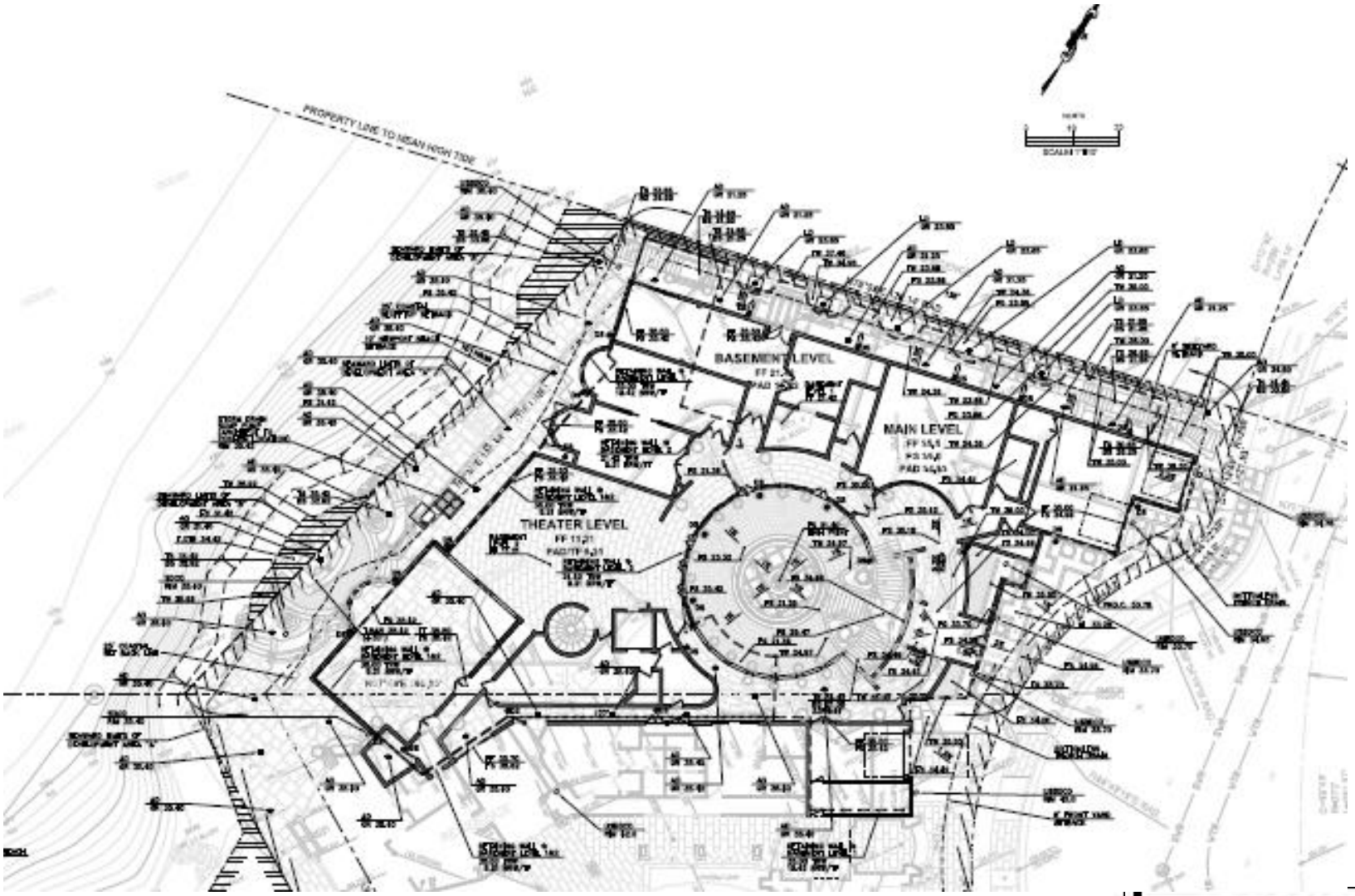


Exhibit 2

California Coastal Commission

FLOOR PLANS

Basement Level

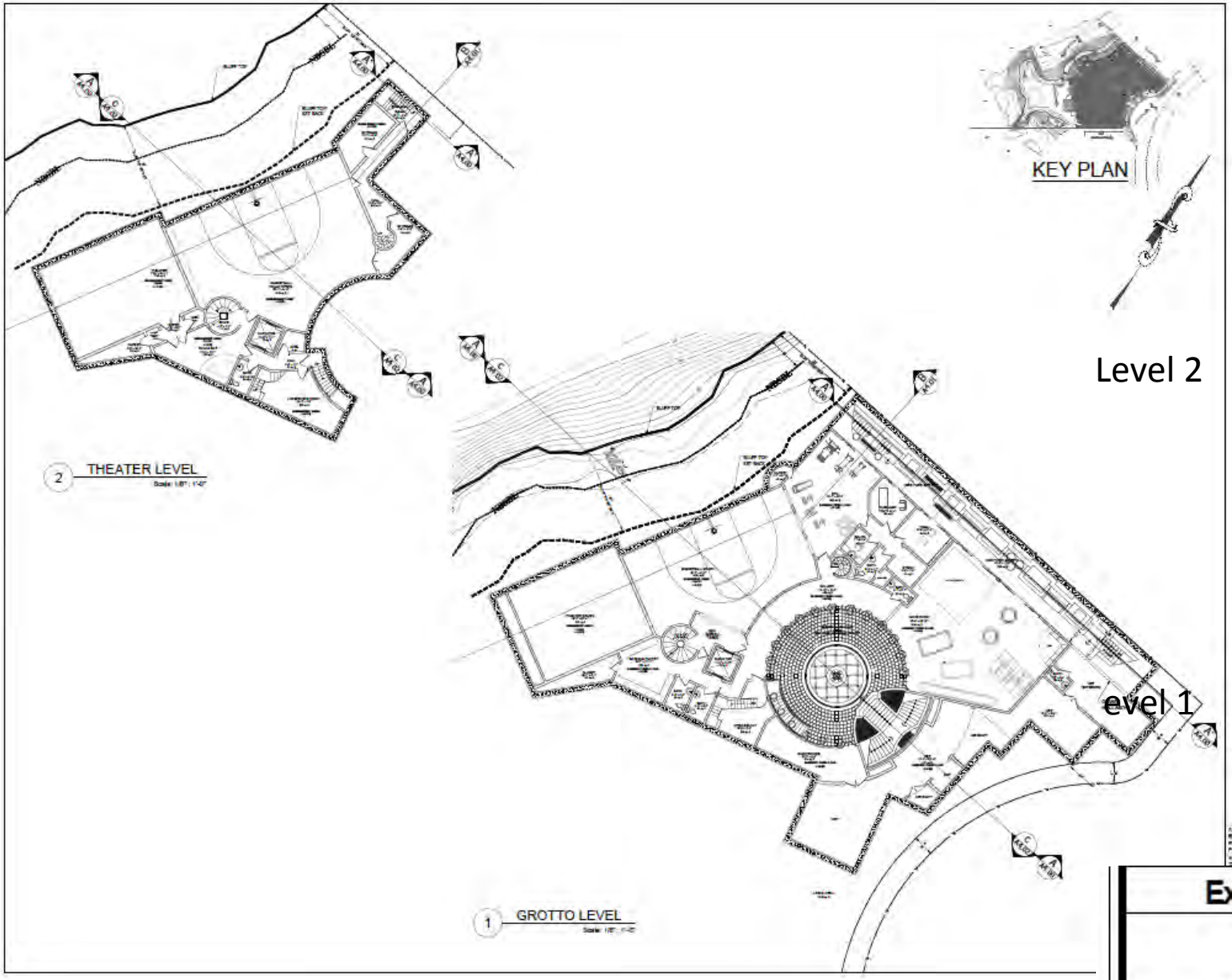


Exhibit 2

California Coastal Commission

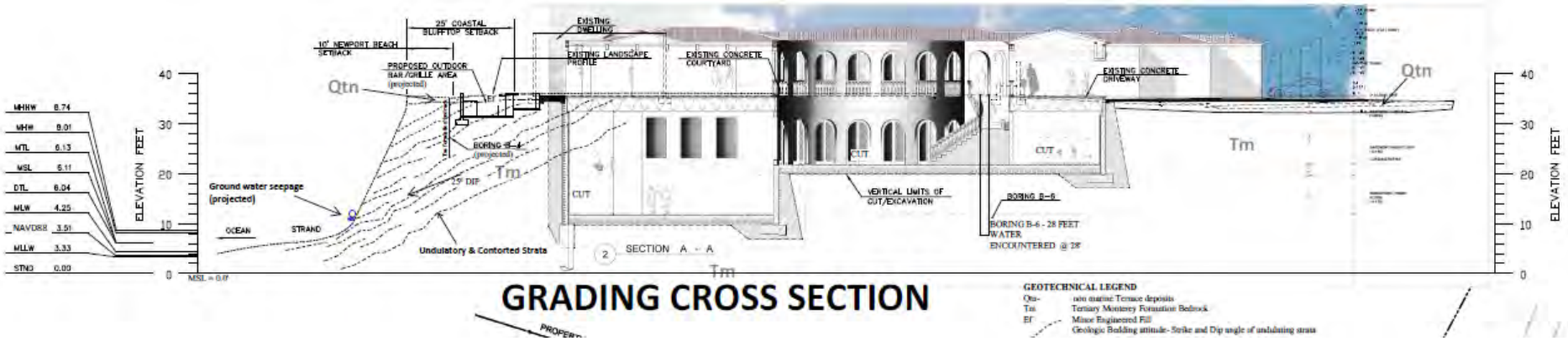
ELEVATIONS

ADDITION TO AN EXISTING SINGLE FAMILY RESIDENCE
for SHILOH, LLC
4615 BRIGHTON ROAD CORONA DEL MAR, CA 92625

Exhibit 3

California Coastal Commission

ELEVATIONS



GRADING CROSS SECTION

GEOTECHNICAL LEGEND

Qtn- non marine Terrace deposits
Tm Tertiary Monterey Formation Bedrock
Ef Minor Engineered Fill
Geologic Bedding attitude- Strike and Dip angle of undulating strata

Exhibit 3

California Coastal Commission