

CALIFORNIA COASTAL COMMISSION

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Th14b

Filed: 7/11/2019
270th Day: 04/6/2020
Staff: E. Stevens-LB
Staff Report: 1/24/2020
Hearing Date: 2/13/2020

STAFF REPORT: REGULAR CALENDAR

Application No.: 5-19-0288

Applicant: OC Parks

Agent: TerraCosta Consulting Group, Inc.; Attention: Walter Crampton

Location: Strand Beach and 1-23 Breakers Isle, City of Dana Point, Orange County

Project Description: Removal of 1,250 linear ft. of an existing rock revetment and construction of a new 1,250 linear ft. rock revetment, a new public access walkway, a new structural seat wall/wave deflector with 85, 18 in. diameter drilled piers, four new public stairways, new security fence, three new private access gates, drainage repairs and improvements, and landscaping on bluff.

Staff Recommendation: Approval with Conditions

SUMMARY OF STAFF RECOMMENDATION

Staff recommends that the Commission **Approve** the applicant's request to remove the majority of the rock from the existing revetment on a County beach, fronting a private residential neighborhood within the Niguel Shores community, and to construct a much larger rock revetment, a lateral public access path, and four new public stairways. The proposed revetment is inconsistent with several Coastal Act policies relating to coastal hazards, protection of natural landforms and minimization of visual resources, and protection of public access. However,

Section 30235 of the Coastal Act requires approval of shoreline protective devices, such as the proposed revetment, when necessary to protecting existing structures in danger from erosion, and when designed to eliminate or mitigation adverse impacts on local shoreline sand supply. Here, staff has carefully review the proposal and determined that the standards of Section 30235 have been meet and approval of a revetment at this location is required. However, the recommended approval is limited to 20 years with conditions to address coastal hazards, public access, biological resources, water quality, and visual resources.

Project Description:

The proposed project includes the removal of the majority of rock from an existing 1,250 linear ft. rock revetment and the construction of a new 1,250 linear ft. rock revetment. The existing revetment at the site consists primarily of 350 to 500 pound rock and has a low-profile concave alignment, while the proposed revetment would use 4-ton stone at 1.5:1 slope. While the toe of the proposed revetment is relatively consistent with the placement of the toe of the existing revetment, the shape and height of the proposed revetment is more massive than the existing revetment and would displace significantly more sand than the existing revetment.

The applicant also proposes to construct a 10-ft. wide public walkway adjacent to the landward side of the new revetment along its entirety. Only eight ft. of the proposed walkway would be available for the public to walk on, with the remaining two ft. used for a seat wall/wave deflector on the seaward side of the walkway and a concrete wall and security fence on the landward side of the walkway. The proposed public walkway would connect the existing southerly public walkway along the southern section of Strand Beach at The Strand development with the small County park area and the County's Salt Creek Beach Recreational area to the north. As proposed, four new public stairways (two monolithic stairways and two timber stairways) would also be constructed to provide access through the revetment from the walkway to the beach.

In addition, three locked gates are proposed to be located on the privately owned portion of the coastal bluff directly adjacent to the landward side of the walkway, which would correspond with the existing private bluff stairways. Proposed development on the privately owned portion of the coastal bluff also includes repair or in-kind replacement of existing drainage swales on the bluff showing signs of spalling, cracking and/or broken sections and construction of a 2-ft.-wide drainage swale behind the wall on the landward side of the walkway, and revegetation of the portion of the bluff that will be impacted by the construction with native plant species.

Sea Level Rise Impacts:

With sea level rise, protection of sandy beach areas at the subject site and throughout the state will be even more important as beaches are inundated by higher water levels. It is likely that in the future, if the bluff at the subject site continues to be armored and sea levels continue to increase, as predicted, that the beach fronting the revetment will be impassible at all but the lowest tide cycles. The Mean High Water (MHW) line at the subject site is +4.5 ft. NAVD88. With current, typical summer sand levels, the proposed revetment intersects the beach at +10 ft. NAVD 88, inland of the MHW line so that there is available recreational beach area for typical summer conditions. However, with current, typical winter sand levels, the proposed revetment intersects the beach at +5 ft. NAVD 88, leaving little beach area between the

MHW line and the revetment slope. When storm waves add to the winter high tide, there will often be little if any dry winter beach area and waves may reach the proposed revetment. Under a high emissions scenario with medium-high risk aversion, sea levels are expected to rise 0.7 ft. by the year 2030. The beach slope will steepen to adjust to the higher water levels. However, the revetment will prevent the beach from migrating inland and within a decade, the subject beach would be flooded during the average daily high tide in the winter. Under a high emissions scenario with medium-high risk aversion, sea levels are expected to rise 5.4 ft. by the year 2090; the subject beach would be flooded during the average daily high tide in the summer and waves would routinely break on the revetment face during many winter tide conditions.

Project/Site History:

The existing revetment at the site was constructed in late 1969 in conjunction with a buttress fill that spans the entire shorefront bluff slope, which is intended to stabilize the toe of a large landslide at the site. The applicant asserts that at the time of its construction, the revetment was deemed necessary to protect the toe of the buttress fill from erosion from wave action in order to maintain its integrity and ability to stabilize the landslide. At or about the same time that the buttress and revetment were being constructed, extensive grading of the area landward of the site was occurring in order to prepare the site for the eventual construction of the Niguel Shores residential community. Subsequent reconstruction and stabilization of the northern portion of the bluff was undertaken following landslide activity in 1977. Additionally, the severe El Niño storms of 1983 caused additional damage to the bluff slope and emergency repairs were made to the bluff slope and the revetment was repaired and rehabilitated by placing one ton and smaller stones throughout the revetment. The blufftop community is now fully built out with large single family homes, many of which were constructed prior to January 1, 1977 – the effective date of the Coastal Act.

Through mediation, the County and the homeowners agreed to a stipulated, court ordered settlement requiring that the County prepare an application to reconstruct the revetment and incorporate a walkway on the new revetment, and to be responsible for constructing and maintaining the upgraded revetment. Thus, even though the purpose of the revetment is to protect the private blufftop development, Orange County Parks is the sole applicant for this CDP application. The County asked the homeowners receiving the benefit of the proposed revetment if they would like to join the County as co-applicants. The homeowners responded that they do not want to be included as co-applicants.

In 2012, the Commission reviewed a similar application by the County to reconstruct the subject revetment (Ref: CDP Application No. 5-11-053). The Commission denied that application and found that the project had not been designed to eliminate or mitigate its adverse impacts on local shoreline sand supply, public access or recreational opportunities. The Commission also questioned whether the proposed revetment had been designed such that it was placed as far landward as possible in order to reduce the footprint on the public beach and whether the proposed revetment would be able to withstand the effects of sea level rise during its estimated design life.

Existing Pre-Coastal Structures Entitled to Protection:

The seaward portion of the Niguel Shores development (and the neighboring Strand development to the south) is situated on a massive pre-historic landslide complex, affecting more than 50 acres along the mile of shoreline between Dana Point headlands and the promontory at the north end of Niguel Shores. Within Niguel Shores, approximately 62 houses have been built within the limits of landslide, extending as far inland as the third row of houses. Many of the homes within the mapped landslide limit, as they exist today, are “existing structures” under Coastal Act section 30235 because they were in existence on January 1, 1977—the effective date of the Coastal Act, have not been altered in such a way that greater than 50% of the structure is replaced, have not been increased in size by greater than 50%. Other homes, though, were built or improved with coastal development permits subject to the section 30253 requirement that new development not require future shoreline protection. Thus, some homes are not necessarily entitled to receiving authorization of a shoreline protective device under the Coastal Act.

Need for the Proposed Revetment:

The measures undertaken in the past to stabilize the landslide at the subject site were part of a system that included removal of unstable material, construction of an earthen buttress, installation of a sand drain below the buttress, and installation of the existing revetment. Without the continued protection provided by the revetment at the base of the bluff, the stabilization system will be susceptible to damage and destabilization from wave attack. The applicant’s geotechnical consultant has provided evidence that a landslide would be likely to occur if the stabilization system were compromised, which would endanger the homes within the landslide limits. Landslide movement during the heavy rainfall season of 1977-79 and the slope damage resulting from the severe El Niño storms of 1983 provide evidence of the risk to the structures. Furthermore, the applicant’s geotechnical consultant has demonstrated that the existing revetment rock is undersized for the existing and future wave environment and that the overall condition of the revetment is degraded and no longer sufficient to protect the sand drain and toe of the buttress fill. The Commission geologist and engineer concur with the applicant’s analysis that existing structures within the identified landslide limit are in danger from erosion and landsliding, and that improvements to the existing, under-sized and degraded revetment are necessary.

Alternatives to the Proposed Revetment:

In order to identify the least environmentally damaging feasible alternative to protect the threatened bluff top structures, staff undertook a detailed analysis of possible alternatives. The alternatives analysis included a retention of the existing revetment, beach replenishment, a nearshore submerged breakwater, construction of a seawall in lieu of the revetment, managed retreat, individual stabilization of the existing threatened bluff top structures, improved drainage and landscaping, a revised revetment design that did not include reconstruction of the portions of the revetment seaward of the homes constructed after January 1, 1977, and a revised revetment design located further landward. Staff, including the Commission’s geologist and engineer, has concluded that the proposed revetment is the least environmentally damaging feasible alternative to protect the existing endangered structures.

Mitigation for Impacts Resulting from the Proposed Revetment:

The proposed project raises fundamental questions about how to address significant coastal hazard risks to development while protecting other coastal resources, including public beach access and recreation and natural shoreline habitat and aesthetic values. The new revetment would be located entirely on the publicly-owned beach and bluff. With typical summer sand levels, 21,048 sq. ft. of existing sandy beach area will be replaced with rock for the new revetment. In addition to the loss of public sandy beach area from the direct occupation of the revetment itself, since the back of the beach will be effectively “fixed” by the revetment, the revetment will also result in the loss of beach area for public use landward of the revetment that would have become available for public use as the shoreline continued to erode and move landward. Over an initial 20-year period, the proposed revetment would prevent an additional 4,750 sq. ft. of beach from forming. Therefore, for a 20 year period, the proposed revetment would result in the loss of 25,798 sq. ft. of area that would otherwise have been sand beach available for the public to enjoy. For perspective, the lost beach area is approximately equivalent to ½ the area of a regulation professional football field¹.

When the bluff/shoreline area is armored with a shoreline protective device, the natural exchange of material from the armored area to the beach/shoreline area and offshore sand supply system is interrupted and, if the armored bluff/shoreline area would have otherwise eroded, there is a measurable loss of material to the beach/shoreline/offshore sand supply system area as a result. The applicant’s consultant conducted analyses using the Commission’s methodology and determined that the amount of beach-quality sand retained by the revetment would be 5,990 cu. yds. of sand over 20 years (Dr. Ewing reviewed and concurs on this estimate). The cost of purchasing and delivering beach quality sand is currently approximately \$25 per cu. yd. Thus, an in-lieu fee to address this sand supply impact would be approximately \$149,750 (i.e., \$25/cu. yd. x 5,990 cu. yds. = \$149,750 for the initial 20-year mitigation timeframe). Therefore Special Condition 10 requires that the County provide evidence, in a form and content acceptable to the Executive Director, that a fee of \$149,750 has been deposited in a Sand Supply Shoreline Account established and held by the County Parks Department, in-lieu of providing the total amount of sand to replace the sand that will be lost due to the impacts of the proposed revetment for the an initial 20 year period.

Although the sand supply fee estimate is based on a quantifiable, site-specific volume of sand and market condition, this estimation of the beach loss through a sand volume calculation does not fully address the recreational value of the anticipated beach loss. As detailed above, the proposed revetment will effectively eliminate a large area of public sandy beach. The most appropriate mitigation for the loss of public sandy beach would be to provide a new public sandy beach area of the same size, which affords the same recreational opportunities in the immediate vicinity of the site for the 20-year duration of which the revetment would be permitted. However, such opportunities rarely exist, and in this case, neither the Commission nor Orange County Parks Department is aware of any equivalent private beach area in Orange County available for purchase. In the past, the Commission has either relied upon site-specific economic studies or a real estate valuation method to determine appropriate mitigation for public access impacts resulting from shoreline armoring. In this case, the County did not undertake an economic study for the value of the beach that would be lost. Therefore, the Commission used the average value

¹ A football field is 120 yards (360 feet) in length and 53 1/3 yards (160 feet) in width. The playing field is 100 yards long, with a 10-yard-deep end zone on each side. In total, a football field covers 57,600 square feet.

of vacant bluff properties that had recently been sold in the near vicinity of the subject site (\$689.70 per sq. ft.) to estimate the value of the beach area that would be impacted by the revetment. Applying this land acquisition value to the 25,798 sq. ft. impact area associated with the proposed revetment would result in a mitigation fee of \$17,792,993 for the loss of beach area based on the initial 20-year mitigation period (i.e., 25,798 sq. ft. x \$689.70 per sq. ft. = \$17,792,993). The County has indicated that the proposed walkway and stairs will add approximately \$3,000,000 to the cost of the proposed revetment (total project cost for the revetment and public access improvements is \$9,000,000). In recognition of the public benefit that will result from the public walkway and stairs, it is reasonable to deduct the cost of those public access improvements from the calculated public access mitigation fee. Thus, Special Condition 10 requires that the County provide evidence, in a form and content acceptable to the Executive Director, that a fee of \$14,792,933 (\$17,792,933 - \$3,000,000) has been deposited in a Public Access and Recreation Shoreline Account established and held by the County Parks Department, in-lieu of providing new public beach area to replace the public beach area that will be lost due to the impacts of the proposed revetment for the an initial 20 year period.

Additional Special Conditions:

Staff is also recommending a variety of other conditions to address the impacts of the shoreline armoring:

- Special condition 1 requires that the County provide property lines, assessor parcel numbers, and street addresses of all of the properties in the Niguel Shores Community within the existing mapped landslide limit.
- Special condition 15 requires that the County submit an annual Hazard Notification Plan to the Executive Director of the Commission that shows notice has been provided to the property owners within the identified landslide limits that the subject revetment was approved by the Commission to protect Pre-Coastal structures and that future redevelopment or improvements cannot rely on the revetment to meet geologic stability requirements.
- Special Condition 2 requires that the proposed security fence and locked private gates proposed to be constructed on the bluff landward of the access path be eliminated, but allows for the County to design the proposed landscaping to deter the public from physically accessing the Coastal bluff.
- Special Condition 3 requires that the new landscaping, proposed by the County along the lower five ft. of the bluff, be native, drought-tolerant, and non-invasive.
- Special Condition 4 requires that as-built plans be submitted to the Executive Director of the Commission within 90 days of project completion.
- Special Condition 5 authorizes the proposed revetment and access path for a period of 20 years. A limited twenty year authorization allows the Commission to support an adaptive management approach to shoreline erosion, providing protection to existing development but not authorizing *permanent* shoreline structures for development not entitled to such protection.
- Special Condition 6 requires that the County provide monitoring reports every five years to ensure the revetment and access path are functioning as intended.
- Special Condition 7 requires that the County obtain a permit for any future maintenance to the revetment beyond exempt maintenance.

- Special Condition 8 prohibits future expansions of the revetment that would result in additional beach encroachment.
- Special Condition 9 requires that the County pay for any legal fees the Commission incurs as a result of lawsuits related to the challenges to the Commission approval or issuance of this project.
- Special Condition 11 and 12 requires that all staging and construction activities for the project minimize impacts to coastal resources, including water quality.
- Special Condition 13 maintains that the Commission's approval of this permit does not constitute a waiver of any public rights that exist or may exist on the property.
- Special Conditions 14 and 17 detail required monitoring and avoidance measures that must be implemented to minimize impacts to grunion, western snowy plover, and California Least Tern.
- Special Condition 16 requires that the County acknowledge and agree that the subject site is in a hazardous location, to assume any risks related to the project, to waive any liability against the Commission, and to acknowledge that the mean high tide line is ambulatory and that the revetment may become located on public trust lands at some point in the future.

Commission staff recommends approval of coastal development permit application 5-19-0288, as conditioned.

Standard of Review: Chapter 3 policies of the Coastal Act, with the certified LCP used as guidance.

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APPENDICES

Appendix A – Substantive File Documents

EXHIBITS

[Exhibit No. 1 – Project Location and Aerial Photos](#)

[Exhibit No. 2 - Project Plans](#)

[Exhibit No. 3 - Mapped Landslide Limit](#)

[Exhibit No. 4 - Stone with Distinctive Bedding](#)

[Exhibit No. 5 - Grunion Walker Scale](#)

[Exhibit No. 6 - Existing vs. Proposed Toe Exhibit](#)

[Exhibit No. 7 - Existing vs. Proposed Winter Sand Level Exhibit](#)

[Exhibit No. 8 - Existing vs. Proposed Summer Sand Level Exhibit](#)

[Exhibit No. 9 – MHTL Survey](#)

[Exhibit No. 10 - Stand at Headlands Revetment and Walkway Photos](#)

[Exhibit No. 11 - Limits of 1977 Seagate Landslide](#)

[Exhibit No. 12 - 1972 Coastal Records Project Photo](#)

[Exhibit No. 13 - Historic Photo January 1977](#)

[Exhibit No. 14 - June 2011 State Lands Determination](#)

[Exhibit No. 15 - August 2017 State Lands Determination](#)

[Exhibit No. 16 - Legal Summary and Settlement Agreements](#)

[Exhibit No. 17 - Pre-Coastal Homes](#)

[Exhibit No. 18 - CCC Geotechnical Review Memo](#)

[Exhibit No. 19 - Proposed Revetment Story Pole](#)

[Exhibit No. 20 - High Tide Photos](#)

[Exhibit No. 21 - Sand Mitigation Calculations](#)

[Exhibit No. 22 - Existing Bluff Vegetation](#)

[Exhibit No. 23 - CCC Beach Valuation Technical Memo](#)

[Exhibit No. 24 - Real Estate Valuation Method CCC Actions](#)

I. MOTION AND RESOLUTION

Motion:

*I move that the Commission **approve** Coastal Development Permit Application No. 5-19-0288 subject to the conditions set forth in the staff recommendations.*

Staff recommends a **YES** 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.

Resolution:

*The Commission hereby **approves** Coastal Development Permit No. 5-19-0288 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. **Existing Properties Site Plan.** PRIOR TO ISSUANCE OF THE NOTICE OF INTENT TO ISSUE THE COASTAL DEVELOPMENT PERMIT, the applicant shall provide a full sized site plan identifying the property lines, assessor parcel numbers, and street addresses of all of the properties in the Niguel Shores Community (including privately held parcels and property owned by a Home Owners Association) within the existing mapped landslide limit (Ref: [Exhibit 3](#)).
2. **Revised Final Plans.** PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the applicant shall submit, for review and written approval of the Executive Director, two full-size sets of revised final plans, that substantially conform with the plans submitted to the Commission, titled Concept Plans for Niguel Shores Pedestrian Walkway & Revetment, by TerraCosta Consulting Group, dated October 29, 2019, except that they shall be modified to reflect all of the following:
 - A. The revetment shall be located as far landward as feasible without destabilizing the buttress fill slope or sand drain.
 - B. The proposed six ft. high security fence on the inland side of the public walkway is prohibited and shall be removed from the plans. The landscaping required by Special Condition 3 of this permit may be designed to prevent the public from climbing on and adversely impacting the reconstructed bluff, provided that the height of any vegetation adjacent to the walkway shall not exceed three ft. at maturity.
 - C. The three proposed private access gates on the coastal bluff adjacent to the inland side of the public walkway are prohibited and shall be removed from the plans.
 - D. The proposed concrete wall on the landward side of the public walkway shall be no more than three (3) ft. in height.
 - E. Any existing irrigation system(s) located on the bluff face or on the properties identified in Special Condition 1 that drain anywhere on or over the bluff top and/or face shall be identified and removed or capped, unless approved and installed prior to January 1, 1977 or pursuant to a Coastal Development Permit. All runoff from impervious surfaces on the properties identified in Special Condition 1 shall be collected and directed away from the bluff edge toward the street.
 - F. Any large stone with distinct bedding or other visually attractive features, as determined by the County's Coastal Engineer, shall be incorporated into the face of the revetment or into the walkway (Ref: [Exhibit 4](#) for example photo of stone).

- G. The proposed concrete stairways, concrete seat wall/wave deflector, concrete wall on landward side of the public walkway, and the concrete public walkway shall be colored to match the appearance of the natural bluff.

The permittee shall undertake development in conformance with the approved final plans unless the Commission amends this permit or the Executive Director determines that no amendment is legally required for any proposed minor deviations.

- 3. **Bluff Landscaping Plans.** PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the applicant shall submit, for review and written approval of the Executive Director, two full-size sets of final landscaping plans, prepared by a licensed landscape architect or a qualified resource specialist. The qualified landscape professional shall certify in writing that the final Landscape plans are in conformance with the following requirements:

- A. All new landscaping on the lower portion of the bluff that will be impacted by construction activities shall consist of native drought tolerant plants, as listed by the California Native Plant Society. (See <http://www.cnps.org/cnps/grownative/lists.php>). 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 U.S. Federal Government shall be planted or allowed to naturalize or persist on the site. All plants shall be low water use plants as identified by California Department of Water Resources (See: <http://www.water.ca.gov/wateruseefficiency/docs/wucols00.pdf>).
- B. Permanent irrigation for the new landscaping on the lower portion of the bluff that will be impacted by construction activities is prohibited. Temporary low pressure irrigation may be used for a maximum of 12 months and all temporary irrigation components shall be removed within 24 months.

The permittee shall undertake development in conformance with the approved final landscaping plans unless the Commission amends this permit or the Executive Director determines that no amendment is legally required for any proposed minor deviations.

- 4. **As-Built Plans.** WITHIN 90 DAYS OF PROJECT COMPLETION, the applicant shall submit as-built plans for the approved revetment, which include permanent benchmarks from fixed reference points from which the elevation and seaward limit of the revetment can be referenced for measurements in the future.

5. Limited Authorization and Mitigation Period.

- A. This CDP authorizes the approved development on a temporary basis only for a period of twenty (20) years from the date of Commission action (i.e., until February 13, 2040) or when the existing structures built prior to January 1, 1977 and identified in the aerial photograph attached to the County’s Permit Application within the area described as

“Approximate Limits of Old Landslides” ([Exhibit 3](#)), are (1) redeveloped as defined in Special Condition 15; (2) are no longer present; or (3) no longer require the revetment approved by this permit, whichever occurs first. After such time, the authorization for continuation and/or retention of any development approved as part of this permit (including, but not limited to, the rock revetment, public access path, and public access stairways) shall cease.

- B. No later than twelve months prior to the end of the twenty-year term of this permit or until such time that no existing structures built prior to January 1, 1977 qualify for protection, whichever occurs first, the permittee or successor(s), or any party/property owner receiving protection from the rock revetment, shall apply for a new CDP or amendment to this CDP, to remove the shoreline armoring or to modify the terms of its authorization, including with respect to any necessary mitigation.
 - C. The coastal development permit application submitted by the permittee/successors(s)/property owner(s), pursuant to Part B of this special condition, shall include a complete evaluation of all feasible alternatives to the retention of the rock revetment in its current location, including, at a minimum, but not limited to, landward relocation of part or all of the revetment and removal of part or all of the revetment; construction of an alternative type/location of shoreline protective device; and, must also include options for removal and/or landward relocation of existing private residential development. The application shall also identify and address changed circumstances and/or unanticipated impacts associated with the presence of the rock revetment, including excessive scour and impacts to shoreline processes and beach width, or other impacts from coastal hazards and sea level rise.
 - D. The Public Access and Sand Supply Mitigation required in Special Condition 7 of this permit applies to the initial 20-year mitigation period (beginning on the building permit completion certification date for the revetment and public access improvements). The coastal development permit application submitted by the permittee, pursuant to Part B of this special condition, shall also include an analysis of additional mitigation measures necessary to adequately compensate for any adverse impacts to public access and sand supply resulting from the continued retention of the rock revetment and public access improvements.
 - E. Failure to obtain a new coastal development permit to retain the rock revetment and public access improvements beyond the permitted twenty (20) year term shall constitute a violation of the terms and conditions of this coastal development permit.
- 6. Shoreline Armoring Monitoring and Reporting Program.** PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the applicant shall submit to the Executive Director for review and written approval, a monitoring program prepared by a licensed civil engineer or geotechnical engineer to monitor the performance of the shoreline armoring which shall include the following:

- a. An annual evaluation of the condition and performance of the shoreline armoring addressing whether any significant damage has occurred that would adversely impact the future performance of the structure.

Provisions for submittal of a report to the Executive Director of the Coastal Commission by May 1 each fifth year after Commission action, for so long as the revetment remains, summarizing the results of the annual evaluations described in this subsection. In addition, a report shall be submitted within 60 days following either:

1. An “El Niño” storm event – comparable to or greater than a 20-year storm.
 2. An earthquake of magnitude 5.5 or greater with an epicenter in Orange County.
- b. Measurements taken from the benchmarks established in the survey as required by Special Condition 4 of this permit to determine settling or seaward movement of the revetment. Changes in the beach profile fronting the site shall be noted and the potential impact of these changes on the effectiveness of the revetment evaluated.
 - c. Every 5 years, the permittee shall submit a new Mean High Tide Line (MHTL) survey of the subject property based on field data collected within 6 months of the date submitted. Such survey shall be at the expense of the applicant and shall be conducted in consultation with the California State Lands Commission (CSLC) staff. Such surveys shall:
 1. Use either the published Mean High Water elevation from a National Oceanic and Atmospheric Agency published tide station closest to the project or a linear interpolation between two adjacent tide stations, depending on the most appropriate approach in light of tidal regime characteristics.
 2. Use the most current tidal epoch.
 3. Use local, published control benchmarks to determine elevations at the survey site. Control benchmarks are the monuments on the ground that have been precisely located and referenced to the local tide stations and vertical datum used to calculate the Mean High Tide elevation.
 4. Match elevation datum with tide datum.
 5. Reference all elevations and contour lines to the North American Vertical Datum 1988 (NAVD88).
 6. Note survey date, datum, and MHTL elevation.
 7. A minimum of two MHTL surveys during the initial 20 year permit term shall be based on field data collected during typical winter sand level conditions.

- d. Each report shall be prepared by a licensed civil engineer, geotechnical engineer or geologist. The report shall also summarize all measurements and analyze trends such as erosion of the bluffs, changes in sea level, the stability of the overall bluff face, including the upper bluff area, and the impact of the structure on the beach. In addition, each report shall contain recommendations, if any, for necessary maintenance, repair, changes or modifications to the shoreline armoring.
- e. An agreement that, if after inspection or in the event the report required in subsection (a) of this condition recommends any necessary maintenance, repair, changes or modifications to the project, the permittee shall contact the Executive Director to determine whether a coastal development permit or an amendment to this permit is legally required, and, if required, shall subsequently apply for a coastal development permit or permit amendment for the required maintenance within 90 days of the report or discovery of the problem.

The applicant shall undertake monitoring and reporting in accordance with the approved final monitoring and reporting program. Any proposed changes to the approved final monitoring and reporting program shall be reported to the Executive Director. No changes to the approved final monitoring and reporting program shall occur without a Coastal Commission approved amendment to this coastal development permit unless the Executive Director determines that no amendment is legally required.

- 7. **Future Maintenance.** Any change in the design of the revetment or future additions to or reinforcement of the revetment beyond exempt maintenance (as defined in Section 13252 of Title 14 of the California Code of Regulations) will require a coastal development permit. However, in all cases, if after inspection it is apparent that repair and maintenance is necessary, the applicant shall contact the Executive Director to determine whether a coastal development permit or an amendment to this permit is legally required, and, if required, shall subsequently apply for a coastal development permit or permit amendment for the required maintenance.
- 8. **No Future Seaward Encroachment or Increase in Height.** No future repair or maintenance, enhancement, reinforcement, or any other activity affecting the rock revetment, as approved by this permit, as described and depicted on approved, as-built plans, shall be undertaken if such activity results in any encroachment seaward of the authorized footprint of the rock revetment or if the alteration increases beach encroachment at typical summer or winter beach sand profiles. No rock shall be placed seaward of the approved toe of the revetment. Any debris, rock, or other materials which become dislodged after completion of the approved revetment through weathering, wave action, settlement or other action shall be removed from the beach or deposited on the revetment on an as-needed basis as soon as feasible after discovery. By acceptance of this Permit, the applicant waives, on behalf of itself, and all successors and assigns, any rights to such activity that may exist under Public Resources Code Section 30235.

9. Indemnification by Applicant

Liability for Costs and Attorney's Fees: By acceptance of this permit, the Applicant/Permittee agrees to reimburse the Coastal Commission in full for all Coastal Commission costs and attorney's fees -- including (1) those charged by the Office of the Attorney General, and (2) any court costs and attorney's fees that the Coastal Commission may be required by a court to pay -- that the Coastal Commission incurs in connection with the defense of any action brought by a party other than the Applicant/Permittee against the Coastal Commission, its officers, employees, agents, successors and assigns challenging the approval or issuance of this permit. The Coastal Commission retains complete authority to conduct and direct the defense of any such action against the Coastal Commission.

10. Mitigation for Impacts to Public Access and Recreational Opportunities/Sand Supply.

- A. The proposed public access improvements (walkway and four stairways) shall be constructed concurrently with the proposed revetment and shall be maintained and available for use by the public for so long as the revetment is in place.
- B. PRIOR TO ISSUANCE OF THIS COASTAL DEVELOPMENT PERMIT, the applicant shall provide evidence, in a form and content acceptable to the Executive Director, that a fee of \$14,792,933 has been deposited in a Public Access and Recreation Shoreline Account established and held by the County of Orange Parks Department, in-lieu of providing new beach area to replace the beach area that will be lost due to the impacts of the revetment for the an initial 20 year period beginning on the building permit completion certification date. All interest earned by the account shall be payable to the account for the purposes stated below. The Public Recreation funds shall be released only upon written approval of an appropriate project by the Executive Director of the Coastal Commission.

Public Recreation Fees must be expended for coastal public access and public recreation improvements in the Orange County coastal zone as a first priority, and for sand replenishment and retention as secondary priorities where an analysis done by the County determines that there are no priority public recreation or public access projects where the money could be allocated.

- C. PRIOR TO ISSUANCE OF THIS COASTAL DEVELOPMENT PERMIT, the applicant shall provide evidence, in a form and content acceptable to the Executive Director, that a fee of \$149,750 has been deposited in a Sand Supply Shoreline Account established and held by the County of Orange Parks Department, in-lieu of providing the total amount of sand to replace the sand that will be lost due to the impacts of the revetment for the an initial 20 year period beginning on the building permit completion certification date. All interest earned by the account shall be payable to the account for the purposes stated below. The Sand Mitigation funds shall be released only upon written approval of an appropriate project by the Executive Director of the Coastal Commission.

Sand Mitigation Fees must be expended for sand replenishment projects in the Orange County coastal zone as a first priority and may be expended for coastal public access and public recreation improvements in the coastal zone as secondary priorities where an

analysis done by the County determines that there are no sand replenishment projects where the money could be allocated.

11. Storage and Staging Areas/Access Corridors. PRIOR TO THE ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the applicant shall submit to the Executive Director for review and written approval, final plans indicating the location of access corridors to the construction site and staging areas. The final plans shall indicate that, at a minimum:

- A. No storage of equipment or materials may occur on sandy beach, at the Salt Creek Beach Parking Lot, at the Strand Beach Parking Lot, or on the County-owned path that parallels the Strand Beach Funicular Cable Car, and the use of other public parking street spaces shall be minimized. The permittee may not store any construction materials or waste where it will be or could potentially be subject to wave erosion and dispersion. In addition, no machinery may be placed, stored or otherwise located in the intertidal zone at any time, except for the minimum necessary to construct the revetment and public walkway. Construction equipment may not be washed on the beach or public parking lots or access roads;
- B. Construction access corridors shall be located in a manner that has the least impact on public access to and along the shoreline;
- C. No work may occur on the beach on weekends or holidays or between Memorial Day weekend and Labor Day of any year;
- D. The applicant shall submit evidence that the approved plans and plan notes have been incorporated into construction bid documents; and
- E. The permittee shall remove all construction materials and equipment from the staging site and restore the staging site to its prior-to-construction condition within 72 hours following completion of the development.

The permittee shall undertake the 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 final plans shall occur without a Coastal Commission approved amendment to this coastal development permit unless the Executive Director determines that no amendment is legally required.

12. Water Quality--Best Management Practices. PRIOR TO THE ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the applicant shall submit for review and written approval of the Executive Director a Best Management Practices Plan that ensures no construction byproduct will be allowed onto the sandy beach or allowed to enter into coastal waters.

The applicant shall undertake the development in accordance with the approved Plan. Any proposed changes to the approved Plan shall be reported to the Executive Director. No changes to the Plan shall occur without a Coastal Commission approved amendment to this

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

13. Public Rights. The Coastal Commission's approval of this permit shall not constitute a waiver of any public rights that exist or may exist on the property. By acceptance of this permit, the applicant acknowledges, on behalf of him/herself/itself and his/her/its successors in interest, that issuance of the permit and construction of the permitted development shall not constitute a waiver of any public rights that may exist on the property.

14. Grunion Monitoring & Avoidance Plan. PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT AMENDMENT, the applicant shall submit to the Executive Director for review and written approval, a Grunion Monitoring and Avoidance Plan that provides for the following:

- A. Should construction activities on the beach be necessary between March 1 and May 28, the County shall avoid impacts to mature and/or spawning grunion and to grunion eggs. The applicant shall retain the services of a biologist with appropriate qualifications. The annually published California Department of Fish and Wildlife (CDFW) expected grunion runs shall be used to determine possible grunion spawning periods. The plan shall, at a minimum, include:
 - 1. Construction sites on the beach shall be monitored for grunion runs beginning at least two weeks prior to commencement of construction activities, and throughout the period of any work from March 1 through May 28. Monitoring is not necessary in areas where there is no sand, such as areas supporting 100% cobble or bluff backed beaches with no sand exposed during high tide.
 - 2. Grunion monitoring shall be conducted by a qualified biologist for 30 minutes prior to, and two hours following, the predicted start of each daily spawning event. Sufficient qualified biologists shall be employed to ensure that the entire proposed construction area on the beach is monitored during the predicted grunion run. The magnitude and extent of a spawning event shall be defined in 300-foot segments of beach using the Walker Scale ([Exhibit 5](#)). Every individual fish (males and females) shall be counted to determine the Walker Scale value (e.g. 0, 1, 2, 3, 4, or 5) of each 300-foot segment within the proposed work area. Construction activities shall be modified according to the following plan:
- B. If a grunion run consisting of 0-100 individual fish per 300-foot segment (Walker Scale 0 or 1) is reported within two weeks prior to, or during, construction activities, the applicant does not need to take any avoidance action for grunion eggs. No mature grunion may be buried or harmed as a result of construction activities.
- C. Within two weeks prior to proposed work, if a grunion run consisting of 100 or more individual fish per 300-foot segment (Walker Scale 2, 3, 4, or 5) is reported, the applicant shall avoid work on the respective beach segment(s) and truck route and additionally, shall avoid a 100-foot buffer on either side of the segment(s) and route, for a minimum of

two weeks, to ensure that no grunion eggs are buried or disturbed². These areas shall be memorialized through multiple GPS coordinates, and marked with irrigation flags for a minimum of two weeks when the next scheduled grunion run will be monitored. The applicant shall adapt the construction schedule to avoid operations on such beach segments and their associated buffers. No mature grunion may be harmed as a result of construction activities.

- D. If construction activities have already commenced, and a grunion run consisting of 100 to 500 individual fish, in one or more 300-foot segment (Walker Scale 2) in the work area is reported, the applicant shall avoid impacts to grunion eggs to the greatest extent feasible and then shall minimize impacts to grunion eggs through such measures as alteration of the truck route and relocation of construction activities.
- E. If construction activities have already commenced, and a grunion run consisting of 500 or more individual fish per segment (Walker Scale 3, 4, or 5) is reported, the applicant shall avoid work on the respective beach segment(s) and truck route and additionally, shall avoid a 100-foot buffer on either side of the segment(s) and route, for a minimum of two weeks, to ensure that no grunion eggs are buried or disturbed. These areas shall be memorialized through multiple GPS coordinates, and marked with irrigation flags for a minimum of two weeks when the next scheduled grunion run will be monitored. The applicant shall adapt the construction schedule to avoid operations on such beach segments and their associated buffers. No mature grunion may be harmed as a result of construction activities.

15. No Reliance on Permitted Shoreline Armoring

- A. PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the applicant shall submit for the review and approval of the Executive Director, a hazard notification plan for the purpose of demonstrating that the terms of this Coastal Development Permit (Permit) No. 5-19-0288, including the hazards inherent in development that relies on the revetment approved by this Permit, and the limited duration of the authorization of the revetment, will be communicated to, and where appropriate, acknowledged by, the Niguel Shores homeowners that will benefit from the revetment approved by this permit, including the Niguel Shores Community Association, as identified in the aerial photograph attached to the County's Permit Application within the area described as "Approximate Limits of Old Landslides" ([Exhibit 3](#)) (hereinafter "Affected Homeowners"). The hazard notification plan shall comply with the following minimum requirements:

- 1. The plan shall provide a list of the lots by address located in the landslide area and owned by the Affected Homeowners.

² During grunion spawning season, grunion spawn once every two weeks, on several nights, during the highest tides that occur during each month (called spring and neap tides). Grunion eggs take approximately 10 days to mature and hatch during the next high tide. Monitoring for grunion runs must happen, per the annual CDFW published grunion spawning schedule, because one cannot predict where grunion will spawn from one event to another.

2. The County shall provide annual written notifications to the Affected Homeowners, including a copy of this permit and notification that:
 - a. The Commission authorized construction of the revetment to protect structures in existence prior to the effective date of the Coastal Act (i.e., prior to January 1, 1977), and development not in existence at that time, or existing development that has subsequently been redeveloped, is not entitled to rely on the revetment approved by this permit to ensure stability of the landowners' property.
 - b. The landowners' parcel may be subject to hazards, including but not limited to landslide, bluff retreat, erosion, and earth movement, many of which will worsen with future sea level rise;
 - c. The landowner bears the risks to the landowner and the landowner's parcel of injury and damage from such hazards in connection with this permitted development;
 - d. The revetment is authorized for a 20-year period only, and the landowner may not site new development, or redevelop existing development, in reliance on the revetment approved by this permit;
 - e. The mean high tide line is ambulatory in nature and may migrate inland due to sea level rise; thus, the revetment may become located on public trust lands at some point in the future and, if so, the revetment may require a lease from the State Lands Commission and/or may need to be removed if it is inconsistent with the public trust.
3. The County shall provide evidence that the Niguel Shores Community Association Annual Disclosure package, containing the notifications required by #2 above, is provided to Affected Homeowners each year, and that the Niguel Shores Community Architectural Application and the Niguel Shores Architectural Rules contain the notifications required by #2 above.
4. The County shall provide annual reports to the Commission, beginning on June 1, 2021, and for as long as the revetment is in place, including:
 - a. Evidence that the County has provided the notice required by #2 above;
 - b. Evidence that the Niguel Shores Community Association Annual Disclosure package provided to Affected Homeowners during the previous year includes a copy of this permit and the notifications required by #2 above;
 - c. A copy of all Architectural Applications for Affected Homeowners signed by the property owner and approved by the Niguel Shores Community Association during the previous year;

- d. A statement, signed by the County, certifying that the Niguel Shores Community Architectural Application, the Niguel Shores Architectural Rules, and the Niguel Shores Community Annual Disclosure package have not been amended or modified with respect to any of the notifications required by #2 above.
5. The plan shall include a requirement that if the annual monitoring reports establish that either the Niguel Shores Community Architectural Application, the Niguel Shores Architectural Rules, or the Niguel Shores Community Annual Disclosure package has been amended or modified with respect to any of the notifications required by #2 above, or if any of the requirements of this condition have not been met, the County must immediately notify the Commission Executive Director, who will determine whether the County must apply for a new CDP or amendment to this CDP, to remove the shoreline armoring or to modify the terms of its authorization.

B. As used in this condition, “redevelop” means:

1. Development that consists of alterations to a structure, including: (a) additions to an existing structure, (b) exterior and/or interior renovations, or (c) demolition or replacement of an existing home or other principal structure, or portions thereof, which results in:
 - a. Alteration (including demolition, renovation or replacement) of 50% or more of major structural components including exterior walls, floor structure, roof structure or foundation, or a 50% increase in gross floor area. Alterations under this definition are not additive between individual major structural components;

OR

- b. Alteration (including demolition, renovation or replacement) of less than 50% of a major structural component where the proposed alteration would result in cumulative alterations exceeding 50% or more of a major structural component, taking into consideration previous alterations approved on or after the date of certification of the Coastal Act (i.e., January 1, 1977); or an alteration that constitutes less than 50% increase in floor area where the proposed alteration would result in a cumulative addition of greater than 50% of the floor area, taking into consideration previous additions approved on or after January 1, 1977.

16. Assumption of Risk, Waiver of Liability and Indemnity (By the Applicant)

- A. By acceptance of this permit, the applicant acknowledges and agrees: (i) that the site may be subject to hazards, including but not limited to waves, storms, flooding, landslide, erosion, and earth movement, all of which will worsen with future sea level rise; (ii) to assume the risks to the permittee 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; (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; and (v) that the mean high tide line is ambulatory in nature and may migrate inland due to sea level rise; thus, the revetment may become located on public trust lands at some point in the future and, if so, the revetment may require a lease from the State Lands Commission and/or may need to be removed if it is inconsistent with the public trust.

- B. PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the applicant shall submit a written agreement, in a form and content acceptable to the Executive Director, incorporating all of the above terms of this condition.

17. Avian Monitoring & Avoidance Plan. PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT AMENDMENT, the applicant shall submit to the Executive Director for review and written approval an Avian Monitoring and Avoidance Plan that provides for the following:

- A. Construction activities that occur during western snowy plover breeding season (March 1 to August 31) and California least tern breeding season (April 1 to September 15) will take the following steps to mitigate impacts to these species. A designated avian biological monitor with stop-work authority will conduct pre- and during construction surveys as needed within the project area and within 500 feet of the work area to determine the location of any active special status avian roosting and nesting areas. If western snowy plovers or California least terns are observed during any survey, the following measures will be implemented:
1. If western snowy plovers or California least terns are observed exhibiting nesting behaviors (scraping, territorial displays or calls, false brooding, etc.) during the breeding season, no project-related activities will occur within 500 feet of these areas until subsequent monitoring indicates that western snowy plovers or California least terns are no longer present.
 2. If an active western snowy plover or California least tern nest (nest containing eggs or an empty or partial nest with western snowy plovers or California least terns actively exhibiting breeding behaviors) occurs within 500 feet of the proposed construction area, the following measures will be implemented:
 - a. The biological monitor with stop-work authority will report the nest to the U.S. Fish and Wildlife Service. After initial identification of the nest, the biological monitor will not approach within 50 feet of an active western snowy plover or California least tern nest. Nest monitoring will occur with binoculars. The biological monitor will use the distance to the project limits and local topography to determine if construction activities are likely to damage a nest or significantly disturb nesting activities. Signage will be installed to deter people from entering any area with an active nest.

- b. Where damage or disturbance of any western snowy plover or California least tern nest(s) is likely, the designated biological monitor will implement further measures to avoid the likelihood of nest destruction or disturbance, including: temporarily halting construction activities until the nest fails or until at least 10 days after the young fledge from the nest, with construction activities directed to other areas further than 350 feet from the active nest(s) or where activities will not disturb the active nest(s), as directed by the biological monitor.
 - c. The biological monitor will monitor nest progress, construction activity, and protective fencing to minimize potential construction-related disturbance and will submit a weekly nest status report to the U.S. Fish and Wildlife Service. A post-construction report will be submitted to the U.S. Fish and Wildlife Service summarizing the weekly nest status report and outcomes within 6 months of project completion.
- B. No activities are allowed within 100 feet of active roost areas for the western snowy plover or California least tern unless measures are implemented to minimize the noise and disturbance to those adjacent birds until subsequent monitoring indicates that western snowy plover and California least tern are no longer present. If these conditions cannot be met, the following measures will be implemented:
 - 1. The biological monitor with stop-work authority will report the roost site to the U.S. Fish and Wildlife Service. After initial identification of the roost, the biological monitor will not approach within 50 feet of roosting western snowy plover or California least terns. Roost monitoring will occur with binoculars. The biological monitor will use the distance to the project limits and local topography to determine if construction activities are likely to damage a nest or significantly disturb nesting activities. Signage will be installed to deter people from entering any area with an active nest.
 - 2. Where damage or disturbance of any western snowy plover or California least tern roosting is likely, the biological monitor will implement further measures to avoid the likelihood of roost disturbance, including temporarily halting construction activities until the birds depart for the season, with construction activities directed to other areas that will not disturb the roost, as directed by the designated biological monitor.
 - 3. A biological monitor will monitor the roost and construction activity to minimize potential construction-related disturbance and will submit a weekly nest status report to the U.S. Fish and Wildlife Service. A post-construction report will be submitted to the U.S. Fish and Wildlife Service summarizing the weekly nest status report and outcomes within 6 months of project completion.
- C. All participants and contractors for the project will receive educational training concerning special status species within the project area. The program will be conducted during all project phases and will cover the potential presence of listed species; the requirements and boundaries of the project; the importance of complying with avoidance,

minimization, and compensation measures; and problem reporting and resolution methods. The designated project biologist and/or other qualified project proponent shall conduct the training and provide a sign-in sheet for each training activity to ensure all participants and contractors are educated on the environmental conditions and associated constraints.

IV. FINDINGS AND DECLARATIONS

1. PROJECT DESCRIPTION

The proposed project includes the removal of the majority of rock from an existing 1,250 linear ft. rock revetment with a width ranging from 40 ft. to 60 ft. and a crest elevation from +14 ft. to +15 ft. NAVD 88³ and the construction of a new 1,250 linear ft. rock revetment with a width ranging from 37 ft. to 48-ft.⁴ The existing revetment was built circa 1969 to address geologic concerns of a new housing development that was to be built on top of an active landslide, which is further discussed below. The 48 ft. wide portion of the proposed revetment would be approximately 240 linear ft. and corresponds to a deeper section of the landslide at the site. The revetment would have a toe elevation on the beach of approximately 0 ft. NAVD 88 and a crest elevation on the bluff of +17 ft. NAVD 88. The existing revetment at the site consists primarily of 350 to 500 pound rock and has a low-profile concave alignment, while the proposed revetment would use 4-ton stone at 1.5:1 slope. As possible, the rock from the existing revetment would be used to fill voids behind the proposed revetment. Any existing rock not used to fill voids will be exported outside the Coastal Zone ([Exhibit 2](#)).

While the toe of the proposed revetment is relatively consistent with the placement of the toe of the existing revetment, the shape and height of the proposed revetment is more massive than the existing revetment and would displace significantly more sand than the existing revetment. As such, at times when there is little sand on the beach, and the toe of the proposed revetment is exposed, the new revetment would result in a loss of approximately 2,092 sq. ft. of public beach area as compared with the existing revetment ([Exhibit 6](#)). However, the applicant indicates that: *“The typical level of sand at the project site is roughly at elevation +10 [ft. NAVD 88] during the summer season and elevation +5 [ft. NAVD 88] during the winter season...”* Thus, the estimated encroachment difference between the existing rock revetment and the proposed rock revetment with little sand on the beach depicts a situation that is not representative of typical winter or summer beach conditions. With a sand elevation of +5 ft. NAVD 88 (winter) and +10 ft. NAVD 88 (summer), the area of beach that would no longer be available for public use (i.e. rocks in place of existing sandy beach) would be 15,051 sq. and 21,048 sq. ft., respectively ([Exhibits 7 & 8](#)).

³ North American Vertical Datum of 1988 is the vertical control datum established in 1991 by the minimum-constraint adjustment of the Canadian-Mexican-U.S. leveling observations. It held fixed the height of the primary tidal bench mark from which a vertical measurement may be taken above or below that mark.

⁴ Portions of the existing revetment are wider than the proposed revetment because the existing revetment extends to the private property boundary on the bluff, while the proposed revetment will terminate at the seaward edge of the proposed public access path.

The applicant also proposes to construct a 10 ft. wide public walkway adjacent to the landward side of the new revetment along its entirety. Only eight ft. of the proposed walkway would be available for the public to walk on, with the remaining two ft. used for a seat wall/wave deflector on the seaward side of the walkway and a concrete wall and security fence on the landward side of the walkway. The proposed public walkway would connect the existing southerly public walkway along the southern section of Strand Beach at The Strand development with the small County park area and the County's Salt Creek Beach Recreational area to the north ([Exhibit 1](#)). As proposed, four new public stairways (two monolithic stairways and two timber stairways) would be constructed to provide access through the revetment from the walkway to the beach ([Exhibit 2](#), Plan Sheets 4 & 5).

The high seat wall/wave deflector would be 2.5 ft. high, with a maximum elevation of 19.5-ft. NAVD 88. The seat wall is proposed in order to reduce the occurrence of wave overtopping and to account for anticipated future sea level rise. As designed, the seat wall/wave deflector would be founded on 18 in. diameter drilled piers located between the walkway and the revetment. Also, 83 dewatering wells are proposed to be installed at the base of the piers for groundwater level monitoring during construction. The applicant proposes to decommission the dewatering wells upon completion of construction.

The approximately 3-ft. high concrete wall with a 6 ft.-high security fence on top of the wall is proposed between the walkway and the privately owned portion of bluff inland of the walkway in order to deter the public from disturbing the bluff slope and from accessing the private property at the top of the bluff.

In addition to the development described above, which would occur on the public beach and portion of the bluff owned by the County of Orange, the applicant proposes improvements to the privately owned portions of the bluff located directly inland from the walkway. Three locked gates are proposed to be located on the privately-owned portion of the coastal bluff directly adjacent to the landward side of the walkway and incorporated into wall/security fence, which would correspond with the existing private bluff stairways, to allow the residents of the private enclave to access the walkway and beach via the private stairways. No other modifications to the existing private access stairways are proposed with this application. Proposed development on the private property also includes repair or in-kind replacement of existing drainage swales on the bluff showing signs of spalling, cracking and/or broken sections and construction of a 2-ft.-wide drainage swale behind the wall on the landward side of the walkway, and revegetation of the portion of the bluff that will be impacted by the construction with native plant species (approximately five ft. strip adjacent to the landward side of the proposed walkway). Runoff from the bluff would be routed underneath the walkway and revetment and would discharge onto the beach.

2. PROJECT LOCATION AND OWNERSHIP

The proposed revetment and walkway would be located in the City of Dana Point, entirely on the public beach and bluff directly seaward of a private residential neighborhood within the Niguel Shores community, which includes private roads, graded slopes, and a private bluff top park and parking lot. The first public road in this location is Pacific Coast Highway, approximately ¼ mile inland from the site ([Exhibit 1](#)). There are 23 discrete private lots developed with single-family

residences on the bluff top directly adjacent to and landward of the proposed revetment and walkway. The individual blufftop lots each include a portion of the steep vegetated and previously graded coastal bluff from the bluff top to approximately 17 ft. NAVD 88. The County owns the lower portion of the bluff and the beach out to the mean high tide line (MHTL) ([Exhibit 9](#)). Strands Beach is located seaward and beneath the proposed revetment.

Salt Creek Beach is located approximately 750 ft. north of the subject revetment. The northern edge of the subject revetment is bounded by an existing approximately 1,000-ft. long revetment, built prior to enactment of the Coastal Act, that provides protection for the County park, which includes an access road, lifeguard station, grass picnic area, restrooms, outdoor showers and short ramps/stairways for access to the public beach level. The revetment to the north also provides protection for the Ritz Carlton Hotel at the top of the bluff and protects a portion of an access road landward of Salt Creek Beach. The southern edge of the revetment is bounded by an access ramp that descends from the southerly corner of the Niguel Shores private residential community. This ramp provides public beach access from not only the Niguel Shores private residential community, but is also part of a public beach accessway that descends from a relatively large public parking lot that is located along Selva Road.

Adjacent to the south of the subject site is an existing approximately 2,300-ft. long revetment, with a wooden and concrete public access path. The revetment to the south provides protection for a private blufftop park and private parking area owned by the Niguel Shores Community Association and also provides protection for The Strand at Headlands, another private gated residential community. In 2004, the Commission approved a Local Coastal Program Amendment (Dana Point Local Coastal Program Amendment 1-03/Headlands Development Conservation Plan (HDCP)) for The Strand at Headlands development⁵. The HDCP included creation of a Planned Development District for the site that could allow development of up to 125 single family residential lots, a maximum of 110,750 sq. ft. of visitor serving commercial land use including a 65-90 room inn, a 35,000 sq. ft. commercial site with visitor information center and minimum 40-bed hostel and 68.5 acres of public parks, coastal trails and open space and a funicular to serve Strand beach. The development of the new community also included extensive grading to remediate a landslide on the site and repair and maintenance of the existing revetment fronting the site. The HDCP allowed for the existing revetment to be upgraded in a manner that would constitute repair and maintenance and because it was not clear if the slope landward of the revetment was considered a coastal bluff, new development was allowed to be constructed that depended on the upgraded revetment for structural stability. The Strand at Headlands was subsequently approved through a City of Dana Point CDP (Ref: Local CDP No. 04-23). The local CDP was appealed to the Commission and in April 2005 the Commission found no substantial issue (Ref: A-5-DPT-05-091).

The applicant states that the portion of the existing revetment fronting The Strand at Headlands is “*nearly identical in design*” to the proposed revetment, in terms of rock size and slope, crest

⁵ On January 19, 2005, the City of Dana Point Planning Commission approved a Master Coastal Development Permit for the development at the site (CDP No. 04-23). The Planning Commission approval was appealed to the Dana Point City Council by the Surfrider Foundation, which adopted Resolution No. 05-02-23-07 to deny the appeal and uphold the Planning Commission’s approval. The City approved CDP was appealed to the Commission by two Commissions and the Surfrider Foundation and in April 2005, the Commission found No Substantial Issue on the appeal (Appeal No. A-5-DPT-05-091/Headlands Reserve LLC).

elevation, and provision of a public walkway ([Exhibit 10](#)). The primary differences between the revetment to the south and the proposed revetment are the proposed seat wall/wave deflector and the landward extension of the portion of the proposed revetment to account for the deeper landslide mass.

3. SITE HISTORY (BLUFF STABILIZATION AND REVETMENT)

Niguel Shores is a private residential community that is located directly landward of the subject rock revetment and extends landward beyond Pacific Coast Highway. The community sits atop a massive landslide complex that affects nearly one mile of coastline north of the Dana Point Headlands ([Exhibit 3](#)). The landslide complex reaches a depth of nearly 40 ft. below sea level and encompasses the first three rows of homes directly landward of the subject rock revetment within the Niguel Shores community. According to the applicant, the original revetment was constructed in late 1969 and consisted of a one-ft. bedding layer overlain by two layers of 350 to 500 pound armor stone placed on a 1.5 horizontal to 1 vertical slope. The revetment was constructed in conjunction with a buttress fill that spans the entire shorefront bluff slope, which is intended to stabilize the toe of the landslide. The applicant asserts that at the time of its construction, the revetment was deemed necessary to protect the toe of the buttress fill from erosion resulting from wave action in order to maintain its integrity and ability to stabilize the landslide.

At or about the same time that the buttress fill and revetment were being constructed, extensive grading of the site was occurring in order to prepare the site for the eventual construction of the Niguel Shores residential community. The development included remedial grading measures to enhance the stability of a large ancient landslide in the area. During the heavy rainfall season of 1977-78, evidence of landslide movement was discovered within several of the vacant building pads. Remedial grading and reconstruction of the buttress fills took place and were completed in 1980-81, authorized by the Commission under Emergency Coastal Development Permit No. EME-134.

Further reconstruction and stabilization of the bluff due to the landslide activity in 1977 was approved under Coastal Development Permit No. P-80-7056. On September 8, 1980, the Commission approved P-80-7056 for the reconstruction and stabilization of six contiguous coastal bluff lots⁶ heavily damaged by landslide activity in 1977. [Exhibit 11](#) depicts the limits of the 1977 landslide.

The severe El Niño storms of 1983 and subsequent storms in January 1988 caused additional damage to the Niguel Shores bluff slope. Since the revetment stone was too small to resist severe storm wave attack, the existing revetment was overtopped and damaged and wave attack eroded the back bluff slope. Many of the existing rocks in the revetment were dislodged by wave attack. In response to this, emergency repairs were made to the bluff slope and the revetment was repaired and rehabilitated by placing one ton and smaller stones⁷ throughout the revetment.

⁶ The affected lots included 18 Breakers Isle, 19 Breakers Isle, 20 Breakers Isle, 21 Breakers Isle, 22 Breakers Isle, and 23 Breakers Isle.

⁷ On December 28, 1988 the Commission issued an exemption for the following repairs to the revetment: *"The replacement of an existing rip-rap revetment damaged during the January, 1988 storms. Replacement shall be of the*

In 1986, the Commission approved CDP No. 5-86-109 for the “Enlargement of an existing 1,400-ft. long⁸ rock revetment from +13-ft. Mean Sea Level (MSL) to +18-ft. Mean Sea Level (MSL) resulting in an approximately 7-ft. encroachment on a public beach.” The permit was never issued and the work was never undertaken.

On July 12, 2012 the Commission denied a similar CDP application by the County to reconstruct the revetment fronting the Niguel Shores community (Ref: CDP Application No. 5-11-053). In a memo dated November 14, 2019, the applicant provided the following summary of how the previous proposal differs from the current proposal to reconstruct the revetment: *“Both seawall [revetment] designs included a crest elevation at +17 feet NAVD 88. The previously proposed revetment design recommended 2 to 2 ½ ton armor stone within the upper two thirds of the revetment with larger stone of 4 to 5 tons to be placed at the base of the revetment to provide a stable toe foundation. The previously proposed revetment design was based on an analysis that did not incorporate the Commission’s current sea level rise guidance and OPC requirements, and did not account for the need to stabilize the deeper, 240-foot section of the landslide. It was also acknowledged that the design was not optimal. The previous proposal did not include a pile-supported walkway or the seat wall with a wave deflector.”* In its denial findings, the Commission found that although past evidence of erosion indicates some form of shoreline armoring was required to protect the existing development in danger from erosion, the project had not been designed to eliminate or mitigate its adverse impacts on local shoreline sand supply, public access or recreational opportunities. To deal with these impacts, the Commission suggested that appropriate mitigation should be evaluated and proposed, such as the inclusion of a public walkway on top of the revetment and additional mitigation for impacts on local shoreline sand supply and beach width. The Commission also questioned whether the proposed revetment had been designed such that it was placed as far landward as possible in order to reduce the footprint on the public beach. In addition, the Commission found that the proposed revetment had not been designed to withstand the effects of sea level rise or to adapt to it during its estimated 50-year project life.⁹

4. SITE HISTORY (BLUFFTOP DEVELOPMENT)

The applicant states that the grading for the blufftop lots inland of the subject revetment was completed by 1969. The 1972 Coastal Records Project aerial photograph of the site confirms that the revetment had been constructed, the blufftop land had been graded, the private park and

same material and shall be placed in the same location as previously existed and shall not result in any increase in height, bulk or seaward extension beyond that which existed prior to the 1982-83 and 1988 winter storms (commonly referred to as phase I). ”

⁸ Staff notes that the length of the revetment approved in 1986 was 150 ft. longer than the length of the revetment currently proposed for re-construction (1,400 sq. ft. vs. 1,250 sq. ft.). It is not clear based on the 1986 file materials why a large portion of the revetment was proposed for repair at that time. There are revetments located both north and south of the subject site and it is likely that the limits of each ‘individual’ revetment are not clearly defined. Thus, the 1986 application likely proposed repair of portions of the existing revetments to the north and south of the project site.

⁹ The 50-year project life is the applicant’s engineer’s assumption as discussed in the Noble, 2009 investigation.

parking lot had been constructed, the drainage improvements on the bluff had been constructed, and two homes on the second row of development landward of the bluff and three homes on the third row landward of the bluff had been constructed prior to 1972 ([Exhibit 12](#)). Three private stairways were approved by Regional Commission pursuant to CDP P-73-1468 to connect the midbluff access path/drainage channel to the beach.¹⁰

Currently, the 23 parcels on Breakers Isle, the seaward-most row of homes landward of the revetment, are all developed with single family residences. The parcels were all permitted and developed individually beginning in the early 1970s. Commission staff has determined that 13 of the 23 Breakers Isle homes were constructed prior to January 1, 1977¹¹ ([Exhibit 13](#)). The other ten single-family residences were constructed after January 1, 1977. This determination is based on research undertaken by Commission staff using aerial photographs from 1977 and 1979 and available Commission and City permit history.¹²

The following list includes the address and Coastal Development Permit for each of the ten homes on Breakers Isle constructed after January 1, 1977:

- 7 Breakers Isle/CDP No. 5-88-020
- 11 Breakers Isle/CDP No. 5-DPT-05-318
- 14 Breakers Isle/CDP No. 5-77-2505
- 15 Breakers Isle/No CDP Record Found/No Home in January 1, 1977 Photograph/Home in 1979 Photograph
- 18 Breakers Isle/CDP No. 5-DPT-99-014
- 19 Breakers Isle/CDP No. 5-84-378
- 20 Breakers Isle/CDP No. 5-96-065
- 21 Breakers Isle/CDP P-80-7505¹³
- 22 Breakers Isle/ CDP P-80-7505
- 23 Breakers Isle/ CDP No. 5-DPT-99-162

The applicant states that without the proposed revetment reconstruction, all of the homes in the first, second, and third rows back from the bluff edge would be subject to threat by a landslide. The properties at risk are identified in [Exhibit 3](#) and are all currently developed with single family homes. In addition to the 23 bluff edge homes on Breakers Isle, the landslide exhibit provided by the applicant shows that approximately 13 homes on Cabrillo Isle, approximately 8 homes on Shackleton Isle, approximately 6 homes on Niguel Shores Drive, and approximately 12 homes on Nauticus Isle are at risk. Based on a cursory review of a January 1, 1977 aerial

¹⁰ The permit file for CDP P-73-1468 could not be located. However, the Commission action was included in the findings for CDP 5-96-073, a permit for construction of a new single family residence at 18 Breakers Isle.

¹¹ The Commission's 2015 Sea Level Rise Policy Guidance interprets the term "existing structures" in Section 30235 as meaning structures that were in existence on January 1, 1977 – the effective date of the Coastal Act.

¹² Due to the large number of sites and the difficulty in obtaining complete permit history, it may be the case that homes identified as "pre-coastal" may have been redeveloped subsequent to January 1, 1977. Thus, the determination made in this staff report regarding the status of the existing homes may be subject to change based on additional research.

¹³ CDP for construction of new homes on 18 – 23 Breakers Isle

photograph, it appears that the majority of the approximately 39 additional homes were in existence on January 1, 1977 ([Exhibit 13](#)).

5. OTHER AGENCY REVIEWS

a) State Lands Commission (SLC)

The State Lands Commission (SLC) stated in a letter dated June 6, 2011 that the proposed project is located within land owned by the Orange County Harbor District, pursuant to Legislative Statute of 1971, Chapter 1209 and approved by the SLC on February 24, 1972, and not within the leasing jurisdiction of the SLC ([Exhibit 14](#)).

In a subsequent letter dated August 21, 2017, the SLC states "...the existing rock revetment and proposed improvements (wave deflector and walkway) appear to be landward of all known MHTLs [Mean High Tide Lines]. Consequently, [State Lands] Commission staff does not presently claim that the proposed Project encroaches onto lands under its jurisdiction. Therefore, no lease, permit, or other authorization is required for the proposed Project from the [State Lands] Commission at this time..." ([Exhibit 15](#)).

b) California Department of Fish & Wildlife (CDF&W)

The California Department of Fish & Wildlife (CDFW) stated in an email dated July 20, 2017 that they do not object to the project as long as the project is repaired in-kind, designed in order to minimize impacts to marine and sandy beach habitat and uses best management practices and monitoring plans to protect ocean water quality and habitat: *"The Department has no objections to the proposed project as long as the construction of the rock revetment is repaired in-kind, designed to minimize marine and sandy beach habitat impacts, and is implemented using best management practices and monitoring plans for protection of ocean water quality, fish and wildlife."*

c) Regional Water Quality Control Board (RWQCB)

The Regional Water Quality Control Board (RWQCB) stated in an email dated May 2, 2018 that since the project does not require a Federal permit then it does not need a Clean Water Act Section 401 Water Quality Certification: *"...If the Niguel Shores-Breakers Isle Project is not subject to a federal permit, then no Clean Water Act Section 401 Water Quality Certification will be needed. The Project may proceed as proposed. Activities must not cause a violation of any applicable water quality standards, including impairment of designated beneficial uses for receiving water as adopted in the Water Quality Control Plan (Basin Plan) by the Regional or State Water Board."*

d) United States Army Corps of Engineers (USACOE)

The applicant states that the revetment is outside of the jurisdiction of the United States Army Corps of Engineers (USACOE): *"Based on the topographic survey by D. Wooley & Associates, Inc. dated October 31, 2014, the jurisdictional Mean High Tide Line*

boundary corresponding to elevation 4.5 feet (NAVD 88) is typically more than 60 feet seaward of the toe of the proposed revetment, and locally within about 35 feet of the proposed revetment in the vicinity of Station 11+50. Regardless, the project limits are well above the USACOE's jurisdiction.” The United States Army Corps of Engineers (USACOE) states in an email dated May 2, 2018 that since the proposed work does not involve work or structures in or affecting navigable waters and therefore would not be regulated under Section 10 of the River and Harbor Act: “I have determined the proposed work would not involve a discharge of dredged or fill material and therefore would not be regulated under Section 404 of the Clean Water Act, and would not involve work or structures in or affecting navigable waters and therefore would not be regulated under Section 10 of the River and Harbor Act, if the activity is performed in the manner described in your application. Notwithstanding this determination, you proposed project may be regulated under other Federal, State, and Local Laws.”

6. LEGAL HISTORY

Subsequent to the 1983 El Niño storm and resultant damage to the Niguel Shores bluff slope and revetment, Niguel Shores Community Association sued the Orange County Harbor, Beaches and Parks District and the developer of Niguel Shores, regarding the alleged failure of the slope. The County states that the claims were in connection with maintenance of the slope based on a 1971 agreement, which obligated the developer of Niguel Shores to build improvements and obligated the County to maintain those improvements for a period of 15 years. In 1989, the parties settled the litigation and the County of Orange agreed to maintain and repair the existing rock revetment, and also to accept all liability and responsibility for any damages resulting to the Niguel Shores Community Association and/or the Association's property benefiting from the revetment arising from the County's failure to repair the revetment in a timely manner. In 2013, a lawsuit was filed by individual Breakers Isle homeowners against the Niguel Shore Community Association and the County of Orange to enforce the terms of the 1989 settlement. Through mediation, the County and the homeowners agreed to a stipulated, court ordered settlement requiring that the County prepare an application to reconstruct the revetment and incorporate a walkway on the new revetment, and to be responsible for constructing and maintaining the upgraded revetment. The County provided a document titled “Legal History of County Obligation to Repair Niguel Shores Revetment” and provided copies of the two settlements to Commission staff. The summary of the legal history and the two settlements are included in their entirety in [Exhibit 16](#).

The proposed revetment is being constructed in order to provide protection for the homes and private roads within the identified landslide limit. However, a portion of the proposed development, including the gates for private walkways, drainage improvements, and landscaping on the bluff will be located on privately owned portions of the bluff. In a typical situation, the blufftop property owners would either be the permit applicants, or at a minimum, co-applicants for this Coastal Development Permit. The County has indicated to Commission staff that they considered it unnecessary for the Niguel Shores Community Association and/or individual homeowners to join as co-applicants for the Coastal Development Permit application. In response to a staff request that the blufftop homeowners be invited as co-applicants, the County referred staff to the following section of the 2013 settlement agreement with the homeowners as a rationale for why it is not necessary for the homeowners to be co-applicants:

Section 2.5 of the Settlement Agreement provides that the County shall have all access and encroachments rights necessary to construct the subject improvements on private property: “2.5 During construction, the Association, Plaintiffs and Cross-Defendants will provide County with all necessary access to their lots, including the Slope Control Area, and any necessary encroachment permit or equivalent access rights necessary for construction of the revetment, as well as any related drainage improvements encroaching onto private property. Any such drainage improvement or portion thereof which is constructed on Breakers Isle Properties, and the fence and access gates constructed between the public walkway and the Slope Control Area, shall be deemed improvement within the Slope Control Area for which the Association had the obligation to maintain and repair pursuant to Article X(b) of the Declaration and Paragraph 4 of the Supplementary Declaration.”

However, at the request of Commission Staff, the County asked the homeowners receiving the primary benefit of the proposed revetment if they would join the County as co-applicants. The homeowners responded that they do not want to be included as co-applicants.

7. STANDARD OF REVIEW

The seaward edge of the proposed revetment would begin on the top of the bedrock formation at approximately 0 ft., NAVD 88. The Mean High Water (MHW) Line¹⁴ is located at + 4.5-feet, NAVD 88. The evidence submitted with the subject application, including the applicant’s 2014 MHTL survey and the 2017 State Lands Commission MHTL Determination Letter; indicate that, with typical summer season beach sand levels, the revetment is located on the beach and not on tidelands or other public trust lands. However, the MHTL is ambulatory and may shift with sea level rise or if surveys are undertaken in the future with lower beach sand levels. Thus, the revetment could become located on public trust lands at some point in the future. During construction, the beach sand within the footprint of the revetment will be temporarily removed. Therefore, work necessary to construct the revetment and the seaward portion of the revetment will occur and be located, at least temporarily, seaward of the MHTL Line.

The City of Dana Point presently has two groups of documents that serve as its certified Local Coastal Program (LCP). There is an older set of documents containing a Land Use Plan (LUP) and Implementation Plan (IP) that were originally certified when Dana Point was unincorporated and operated by the County of Orange and which were adopted by the City when it incorporated that still apply to the central geographic area of the City (i.e. that area generally located between Monarch Beach to the north and Capistrano Beach to the south). These older documents are referred to as the “Dana Point Specific Plan Local Coastal Program or '1986' LCP”. In addition, there is a more recent group of documents that includes three elements of the City's General Plan (the Land Use Element, Urban Design Element, and Conservation Open Space Element), the City's Zoning Code, the Monarch Beach Resort Specific Plan, the Dana Point Town Center Plan, the Dana Point Harbor Revitalization Plan, and the Headlands Development Conservation Plan

¹⁴ MHW Line is “A tidal *datum*; the average of the higher of the two *high water* heights of each *tidal day*, averaged over the U.S. *National Tidal Datum Epoch*.” American Meteorological Society.
http://glossary.ametsoc.org/wiki/Mean_higher_high_water

(HDCP) which apply to those areas of the City which are not covered by the 1986 LCP. These more recent documents are referred to as the “1996' LCP.” The portion of the proposed project located landward of the MHW line is within the boundaries of the City of Dana Point and would typically be subject to the provisions of the “1996 LCP.” However, the subject site is not within the boundaries of any of the four specific plans included in the “1996 LCP.”

The portion of the proposed project located seaward of the MHW line is on land owned by the County and within the Commission’s area of original jurisdiction, where the Commission retains the responsibility to issue coastal development permits. Section 30601.3 of the Coastal Act provides that the Commission may process and act upon a consolidated permit application where a proposed project requires a CDP from both a local government and the Commission, and where the applicant, the local government, and the Commission consent to consolidation of the permit application, provided that public participation is not substantially impaired by consolidation, and that Chapter 3 of the Coastal Act is the standard of review for a consolidated permit application. In addition, Section 9.69.030(c)(1) “Authority to Grant Permit” of the City’s Certified Implementation Plan (IP)/City’s Zoning Code, states in part:

Where a proposed development lies partially within the area of “Coastal Commission Permit Jurisdiction” and partially within the Coastal Overlay District, and the development is physically integrated, the Coastal Commission shall be the responsible agency for the issuance of any Coastal Development Permit for the entire development. That portion of the development that lies within the Coastal Overlay District shall be deemed to be within an area of deferred certification and the Commission shall approve a coastal development permit if the entire development is consistent with the policies of Chapter 3 of the Coastal Act...

Therefore, because the applicant, local government, and Commission agreed to a consolidated permit application and consolidation will not substantially impair public participation, the Coastal Commission is the permit issuing authority for the entire proposed project and the standard of review is Chapter 3 of the Coastal Act, with the certified LCP used as guidance.

A. GEOLOGIC CONDITIONS AND HAZARDS

Coastal Act Section 30235 addresses the use of shoreline protective devices:

Revetments, breakwaters, groins, harbor channels, seawall/bulkheads, cliff retaining walls, and other such construction that alters natural shoreline processes shall be permitted when required to serve coastal-dependent uses or to protect existing structures or public beaches in danger from erosion and when designed to eliminate or mitigate adverse impacts on local shoreline sand supply. Existing marine structures causing water stagnation contributing to pollution problems and fish kills should be phased out or upgraded where feasible.

Coastal Act Section 30253 addresses the need for new development to ensure long-term structural integrity, minimize future risk, and to avoid landform altering protective measures along the shoreline as part of the new development or in the future. Section 30253 provides, in part:

New development shall do all of the following:

- (a) Minimize risks to life and property in areas of high geologic, flood, and fire hazard.*
- (b) 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 following policies of the City of Dana Point LCP are also applicable, and state:

Land Use Element Policy 4.2: Consider the constraints of natural and man-made hazards in determining the location, type and intensities of new development. (Coastal Act/30240, 30253)

Land Use Element Policy 4.10: Regulate the construction of non-recreational uses on coastal stretches with high predicted storm wave run-up to minimize risk of life and property damage. (Coastal Act/30253)

Conservation and Open Space Element Policy 2.5: Lessen beach erosion by minimizing any natural changes or man-caused activities which would reduce the replenishment of sand to the beaches. (Coastal Act/30235)

Conservation and Open Space Element Policy 2.7: Require geotechnical studies for developments that are proposed for steep slopes (4:1 or steeper), on or adjacent to coastal or inland bluffs, and where geological instability may be suspected. (Coastal Act/30253)

Conservation and Open Space Element Policy 2.8: Minimize risks to life and property, and preserve the natural environment, by siting and clustering new development away from areas which have physical constraints associated with steep topography and unstable slopes; and where such areas are designated as Recreation/Open Space or include bluffs, beaches, or wetlands, exclude such areas from the calculation of net acreage available for determining development intensity or density potential. (Coastal Act/30233, 30253)

Conservation and Open Space Element Policy 2.11: Preserve Dana Point's bluffs as a natural and scenic resource and avoid risk to life and property through responsible and sensitive bluff top development, including, but not limited to, the provision of drainage which directs runoff away from the bluff edge and towards the street, where feasible, and restricting irrigation and use of water-intensive landscaping within the setback area to prevent bluff erosion. (Coastal Act/30251, 30253)

Conservation and Open Space Element Policy 2.12: New bluff top development shall minimize risks to life and property in geologically sensitive areas and be designed and located so as to ensure geological stability and structural integrity. Such development shall have no detrimental affect, either on-site or off-site, on erosion or geologic stability, and shall be

designed so as not to require the construction of protective devices that would substantially alter natural land forms along bluffs and cliffs. (Coastal Act/30253)

Conservation and Open Space Element Policy 2.13: Bluff repair and erosion control measures such as retaining walls and other similar devices shall be limited to those necessary to protect existing structures in danger from erosion to minimize risks to life and property and shall avoid causing significant alteration to the natural character of the bluffs. (Coastal Act/30251, 30253)

Conservation and Open Space Element Policy 2.14: Shoreline or ocean protective devices such as revetments, breakwaters, groins, harbor channels, seawalls, cliff retaining walls, and other such construction that alters shoreline processes shall be permitted when required to serve coastal-dependent uses or to protect existing structures or public beaches in danger from erosion, and when designed to eliminate or mitigate adverse impacts on local shoreline sand supply and minimize adverse impacts on public use of sandy beach areas. (Coastal Act/30210-12, 30235)

Section 09.27.030(c) of the City's certified Implementation Plan states, in part:

(c) Development Adjacent to Coastal Bluffs. Development adjacent to coastal bluffs shall minimize hazards to owners, occupants, property, and the general public; be environmentally sensitive to the natural coastal bluffs; and protect the bluffs as a scenic visual resource. The minimum setback from the bluff edge of a coastal bluff shall be established by the underlying zoning district. However, in no case shall the minimum setback be less than 25 feet or one which provides for 50 years of erosion, whichever is most restrictive.

In addition, should the geotechnical report indicate bluff stabilization is required to ensure proposed development is safe from a threat of erosion and bluff failure for fifty years, additional setbacks will be required. Any approved slope stabilization measures shall be the least environmentally damaging feasible alternative and shall be designed to minimize alteration of the bluffs and be subordinate to the natural character of the bluffs.

Development setbacks from coastal bluff edges may not be the same due to varying geologic conditions and environmental conditions. The following provisions detail the items required for filing, the means by which coastal bluff edges are measured, criteria for review, development standards, and the potential development that may be permitted within the coastal bluff setback area.

(2) Criteria For Review. At a minimum, the following will be required for each application for development adjacent to coastal bluff edges:

(A) Development plans shall be prepared and wet stamped by a State Certified Engineering Geologist knowledgeable in coastal engineering and engineering geology.

(B) A geotechnical report shall address the factors which directly or indirectly cause, promote, or encourage bluff erosion or failure either on site or on adjacent properties, and

the measures to control these factors. The report shall include, but shall not be limited to, the following information: ...

4. Evidence of past and potential landslides and the implication of such conditions on the structural integrity of the proposed development as well as the proposed development's potential effect on landslide activity...

8. Any other facts that might affect slope stability, including but not limited to the effects of marine erosion on coastal bluffs, and related mitigation measures for potential impacts.

9. Any proposed development, either main structures or minor development, shall be addressed in the report. Said structures and development shall be evaluated with respect to impact on the stability of the bluff to ensure that structures and development are reasonably safe from failure and erosion given a minimum 50-year physical life...

Section 09.27.030(f) of the City's certified Implementation Plan states, in part:

(f) Shoreline Protective Devices. Seawalls, revetments, and other such shoreline protective devices or construction that alters natural shoreline processes shall be permitted only if nonstructural alternatives are found to be infeasible, and when required to serve coastal-dependent uses or to protect existing structures or public beaches in danger from erosion, and when designed to eliminate or mitigate adverse impacts on local shoreline sand supply. Existing marine structures or shoreline protective devices causing water stagnation contributing to pollution problems and fish kills should be phased out or upgraded where feasible. Any shoreline protective device which may be permitted shall be placed so that no part of a new shoreline protective device is built further onto the beach than a line drawn between the nearest adjacent corners of the nearest adjacent shoreline protective devices.

Section 30253 of the Coastal Act mandates that new development shall minimize risks to life and property in areas of high geologic and flood hazard; and that new development shall assure stability and structural integrity and not in any way require the construction of protective devices that would substantially alter natural landforms along bluffs and cliffs. However, Coastal Act Section 30235 specifically provides that shoreline protective devices must be permitted only when both of the following two criteria are met: (1) the device is required to serve coastal-dependent uses or to protect existing structures or public beaches that are in danger from erosion and (2) the device is designed to eliminate or mitigate adverse impacts on local shoreline sand supply.¹⁵

1. Sea Level Rise

Sea-level has been rising for many years. Several different approaches have been used to analyze the global tide gauge records in order to assess the spatial and temporal variations, and these efforts have yielded sea-level rise rates ranging from about 1.2 mm/year to 1.7 mm/year (about

¹⁵ The geologic hazards policies in the City's certified LCP are generally consistent with the Coastal Act hazards policies. Therefore, the findings in this staff report are based primarily on the Coastal Act policies, which is the standard of review for this application.

0.5 to 0.7 in./decade) for the 20th century, but since 1990 the rate has more than doubled, and the rate of sea-level rise continues to accelerate. Since the advent of satellite altimetry in 1993, measurements of absolute sea-level from space indicate an average global rate of sea-level rise of 3.4 mm/year or 1.3 in./decade – more than twice the average rate over the 20th century and greater than any time over the past one thousand years.¹⁶ Recent observations of sea-level along parts of the California coast have shown some anomalous trends; however, there is unequivocal evidence that the climate is warming, and such warming is expected to cause sea-levels to rise at an accelerating rate throughout this century.

The State of California has undertaken significant research to understand how much sea-level rise to expect over this century and to anticipate the likely impacts of such sea-level rise. In 2013, the Ocean Protection Council (OPC) adopted the National Research Council (NRC) report, “Sea-Level Rise for the Coasts of California, Oregon, and Washington: Past Present and Future”, as best available science for the State of California, and recommended in its 2013 State Sea-Level Rise Guidance that state agencies and others use these projections in their planning processes (the Coastal Commission also adopted the NRC report as best available science its 2015 Sea-level Rise Policy Guidance). Two subsequent OPC reports have updated the best available science, including the *Rising Seas in California: An Update on Sea-Level Rise Science*, released in April 2017 by a working group of OPC’s Science Advisory team, and the *State of California Sea Level-Rise Guidance: 2018 Update*. The OPC’s most recent projections in its statewide sea-level rise guidance is that in this area sea levels may rise between 2.1 and 6.7 ft. by the year 2100, though there is a risk of much more significant sea-level rise depending on various uncertainties, including the dynamics of ice sheet loss. The projection is given in a range largely because researchers cannot know exactly how much greenhouse gases we will continue to emit over the coming decades – large-scale curtailment of greenhouse gas emissions would keep sea-level rise toward the lower end of the projections, while business as usual emissions scenarios would result in the higher end of the projections. Because the world has continued along the “business as usual” scenario (and data suggests temperatures and sea-level rise are tracking along the higher projections), OPC and the Natural Resources Agency have continued to recommend against relying on the lower projections in planning and decision-making processes.

As our understanding of sea-level rise continues to evolve, it is possible that sea-level rise projections will continue to change as well (as evidenced by the recent updates to best available science). While uncertainty will remain with regard to exactly how much sea levels will rise and when, the direction of sea-level change is clear and it is critical to continue to assess sea-level rise vulnerabilities when planning for future development. Importantly, maintaining a precautionary approach that considers high or even extreme sea-level rise rates and includes planning for future adaptation will help ensure that decisions are made that will result in a resilient coastal California.

On the California coast, the effect of a rise in sea-level will be the landward migration of the intersection of the ocean with the shore, which will result in increased flooding, erosion, and storm impacts to coastal areas. On a relatively flat beach, with a slope of 40:1, a simple geometric model of the coast indicated that every centimeter of sea-level rise will result in a 40 cm landward movement of the ocean/beach interface. For fixed structures on the shoreline, such

¹⁶ <http://www.opc.ca.gov/webmaster/ftp/pdf/docs/rising-seas-in-california-an-update-on-sea-level-rise-science.pdf>

as a residential home, an increase in sea-level will increase the inundation of the structure. More of the structure will be inundated or underwater than is inundated now and the portions of the structure that are now underwater part of the time will be underwater more frequently.

Accompanying this rise in sea-level will be an increase in wave heights and wave energy. Along much of the California coast, the bottom depth controls the nearshore wave heights, with bigger waves occurring in deeper water. Since wave energy increases with the square of the wave height, a small increase in wave height can cause a significant increase in wave energy and wave damage. Combined with the physical increase in water elevation, a small rise in sea-level can expose previously protected back shore development to increased wave action, and those areas that are already exposed to wave action will be exposed more frequently, with higher wave forces.

2. Application to the Proposed Revetment

Coastal Act Sections 30253 and 30235 acknowledge that seawalls and other forms of shoreline protective devices, including revetments, cliff retaining walls, groins and other such structural or “hard” methods designed to forestall erosion also alter natural landforms and natural shoreline processes. Here, although the proposed revetment is intended to stabilize the slope and assure stability of the bluff-top homes, approval of the revetment would involve “the construction of protective devices that would substantially alter natural landforms along bluffs and cliffs,” contrary to Section 30253(b) of the Coastal Act, in addition to other Chapter 3 inconsistencies discussed in this staff report below. The Coastal Act provides the limitations in section 30253 and 30235 because shoreline structures have a variety of negative impacts on coastal resources, including adverse effects on sand supply, public access, coastal views, natural landforms, and overall shoreline beach dynamics on and off site, ultimately resulting in the loss of public beaches that are priceless and irreplaceable public resources. Accordingly, under section 30235, shoreline armoring devices are only compelled to be approved for coastal-dependent uses, existing structures, or public beaches in danger of erosion (subject to the requirement that adverse impacts to local shoreline sand supply are mitigated or eliminated).

Specifically, Coastal Act Section 30235 provides that shoreline protection devices “shall” be permitted when all of the following four criteria are met: (1) there is an existing structure, public beach area, or coastal dependent use; (2) the existing structure, public beach area, or coastal dependent use is in danger from erosion; (3) shoreline-altering construction is “required” to protect the existing threatened structure or public beach area, or to serve the coastal dependent use; and (4) the required protection is designed to eliminate or mitigate its adverse impacts on shoreline sand supply. The first three questions relate to whether the proposed shoreline protection device is necessary, while the fourth question applies to avoiding or mitigating any unavoidable impacts from it. In addition, even where all four criteria are satisfied, and thus, shoreline protection devices must be permitted; a shoreline protective device must be located, designed, and maintained in a manner that is consistent with all other Chapter 3 policies to the extent possible.

a. Existing Development to be Protected:

The first Section 30235 test is whether or not the structures for which a shoreline protective device is proposed is considered “existing.” The Coastal Act distinguishes between development where shoreline protective devices may be required and development where that is not the case. Under Coastal Act Section 30235, existing development (meaning development existing prior to the effective date of the Coastal Act on January 1, 1977) is potentially compelled a shoreline protective device if the remaining three criteria identified above are also satisfied. Under Section 30253, new development (i.e., all development built on or after January 1, 1977) is to be sited, designed, and built in a manner safe from coastal hazards without creating a need for a shoreline protective device that would substantially alter landforms along bluffs and cliffs and therefore is not entitled to such shoreline protection pursuant to Section 30235. Coastal zone development approved and constructed prior to the Coastal Act going into effect was not subject to Section 30253 requirements. Although some local hazard policies may have been in effect prior to the Coastal Act, these pre-Coastal Act structures have not necessarily been sited, designed, permitted and built in such a way as to avoid the need for future shoreline protection.

The approximately 1,250 linear ft. rock revetment is proposed to be located seaward of 23 bluff top single family homes between 1 Breakers Isle and 23 Breakers Isle ([Exhibit 1](#)). The applicant also asserts that the revetment is necessary to prevent a landslide which also would affect additional homes located within the second and third rows back from the bluff edge.

The project’s Basis of Design Report states, in part:

“The Niguel Shores rock revetment protects approximately 1,250 feet of coastal frontage supporting a total of 23 residential bluff-top homes along Breakers Isle within the gated community of Niguel Shores in Dana Point. The rock revetment was originally constructed in the late 1960s associated with the grading for the Niguel Shores development, and importantly, the stabilization of a series of massive landslides that underlie virtually the entire area. These large landslides affect nearly one mile of coastline north of the Dana Point Headlands shown on a 2005 Google Earth image, Figure 1. As indicated on the Google Earth image, this large landslide complex extends beyond the top of the coastal bluff and has displaced more than 50 acres of property adjacent to the shoreline.”

Furthermore, in an email from the County to Commission staff dated January 22, 2019, the applicant states, in part:

“Our October 2016 report discusses this subject, and describes in detail the very severe geologic constraints to cutting into an existing marginally stable earthen buttress that was constructed in the late 1960’s to stabilize a landslide. Much of the landslide remains intact, with the vertical extent of this landslide locally extending 40 feet below mean sea level. The proposed revetment protecting this existing earthen buttress cannot be pushed landward without destabilizing the entire slope affecting not only the 23 Breakers Isle residences, but the next two rows of residences as well.”

There are approximately 39 single family homes located in the two rows inland of Breakers Isle within the identified landslide limit. The additional threatened structures are located on Cabrillo Isle, Shackleton Isle, Niguel Shores Drive, and Nauticus Isle.

However, one factor in determining whether shoreline protection should be approved is whether the development at risk is an “existing structure” entitled to shoreline protection under Section 30235 of the Coastal Act. As described in the Commission’s 2015 Sea Level Rise Policy Guidance, the Commission interprets the term “existing structures” in Coastal Act Section 30235 as meaning structures that were in existence on January 1, 1977—the effective date of the Coastal Act. The Commission’s draft Residential Adaption Policy Guidance Interpretive Guidelines further suggest that structures in existence prior to the effective date of the Coastal Act that have been altered in such a way that greater than 50% of the structure is replaced, or structures that have been increased in size by greater than 50%, should be considered new development or redevelopment and not an existing structure for purposes of Section 30235.

Section IV.4 (Site History Blufftop Development) of this report provides a detailed permit history for the 23 bluff edge homes immediately seaward of the proposed revetment. Thirteen of the 23 bluff-fronting homes were constructed prior to enactment of the Coastal Act and, based on staff’s assessment, have not been altered in such a way that greater than 50% of the structure has been replaced or that the structure has been increased in size by greater than 50%. Thus, the structures qualify as “existing” for purposes of Section 30235 of the Coastal Act. However, 10 of the 23 bluff edge homes were either not constructed prior to enactment of the Coastal Act or have been altered in such a way that greater than 50% of the structure has been replaced or have been increased in size by greater than 50%. Thus, 10 of the houses in the first row of development on the bluff do not qualify as “existing” for purposes of 30235 of the Coastal Act ([Exhibit 17](#)) and the Commission is not required to approve shoreline armoring to protect these bluff top residences.

Staff also reviewed the status of the homes within the landslide limit in the second and third rows back from the bluff edge and found that the majority of those homes likely were in existence on January 1, 1977, while some of the properties were not developed until after January 1, 1977. There is no evidence that any of the identified blufftop homes were required to waive rights to a shoreline armoring device as a condition of approval.

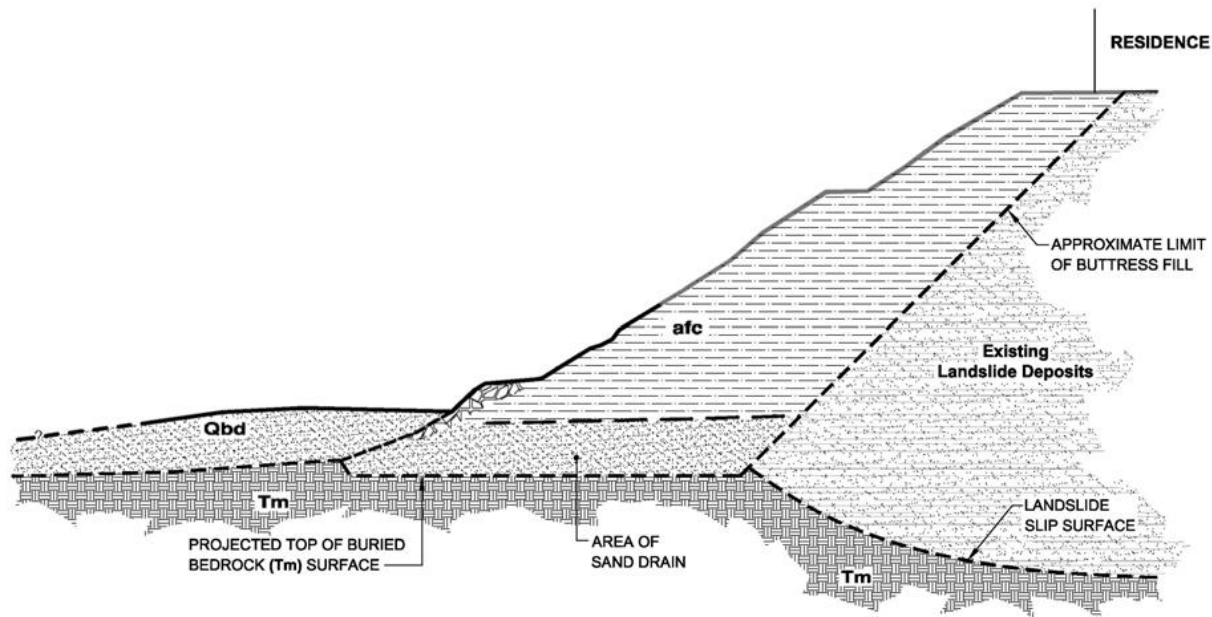
The Commission finds that thirteen (13) of the homes in the first row of bluff-top homes in the Niguel Shores community qualify as “existing structures” for purposes of Section 30235 of the Coastal Act. In addition, numerous homes in the second and third row of development also likely to qualify as existing structures. Thus, the proposed project meets the first test of Section 30235 of the Coastal Act.

b. In Danger from Erosion/Landslide:

Regarding the second part of the test under Section 30235, the applicant has also established that the existing single family residences described above that were constructed prior to the effective date of the Coastal Act, including, at a minimum, the 13 homes in the first row of bluff-top homes, are in danger of serious damage or destruction due the relatively large ancient landslide complex that is present at the subject area. The problem of landsliding has been previously acknowledged by the Commission in its review of Coastal Development Permit Nos. EME-134 (1977), P-80-7056 (1980), 5-86-109 (1986), and 5-11-053 (2012). Furthermore, the measures undertaken in the past to stabilize the landslide at the subject site were part of a system that

included removal of unstable material, construction of an earthen buttress, installation of the existing revetment, and installation of a sand drain below the buttress.

The figure below shows the general configuration of the landside buttress that underlies the entirety of the Breakers Isle, along with the existing sand drain below the buttress.



Without the continued existence of armoring at the site, the stabilization system will be susceptible to damage and destabilization from wave attack. The landslide movement during the heavy rainfall season of 1977-79 and the slope damage resulting from the severe El Niño storms of 1983 provide further evidence of the risk to the structures.

Moreover, with global warming and sea level rise, increased relative wave heights and wave energy are expected. Along much of the California coast, the bottom depth (offshore depth) controls the nearshore wave heights, with bigger waves occurring in deeper water. Since wave energy increases with the square of the wave height, a small increase in water depth and wave height can cause a significant increase in wave energy and wave damage. Thus, combined with the physical increase in water elevation, a small rise in sea level can expose previously safe backshore development to both inundation and wave attack, and those areas that are already exposed to wave attack will be exposed to more frequent wave attack with higher wave forces. Therefore, given the effects of expected sea level rise at the subject site, the upland areas of beach and the bluff at the subject site are expected to be subjected to greater wave action more frequently in the future.

A geotechnical review memorandum by the Commission geologist and engineer is included as [Exhibit 18](#) and provides an in-depth evaluation of the vulnerabilities of the project site and the existing landslide stabilization system, the degree of danger to principal structures from erosion and geologic instability, and whether the proposed revetment is the preferred and least damaging, feasible alternative. The Commission geologist and engineer concur with the applicant's analysis that existing structures within the identified landslide limit are in danger from erosion and

landsliding, and that improvements to the existing, under-sized and degraded revetment are necessary to protect those structures.

Thus, the Commission finds that there is adequate evidence to demonstrate that existing structures within the project area, that were constructed prior to the effective date of the Coastal Act, currently are at risk from large-scale erosion (i.e., a landslide), for purposes of Section 30235.

c. “Required” to Protect Existing Structures:

The third part of the test under Section 30235 is whether the proposed device or shoreline-altering construction is “required” to protect the existing threatened structure or public beach area, or to serve the coastal dependent use. The Commission has construed this part of Section 30235 to require that a shoreline protection device must be permitted if there are no other ways of protecting the endangered development besides approval of a shoreline protective device. Further, the Commission has approved a particular protective device only if it is found to be the only feasible means of providing protection or, if there are multiple possible means, if it is the alternative with the fewest impacts on coastal resources. Thus, when read in tandem with other applicable Coastal Act policies protecting coastal resources as cited in these findings, the analysis under Section 30235 is often conceptualized as identifying the least environmentally damaging feasible alternative that can serve to achieve the stated project goal of protecting the threatened structure, coastal-dependent use, or public beach. The following is an analysis of possible alternatives for protecting the Niguel Shores homes in danger from erosion.

No Project Alternative:

Because there is already a revetment at the subject site, the “No Project” alternative would be retention or repair of the existing revetment. The existing revetment included a 12-in. gravel mattress with two layers of armor stone ranging in size from 350 to 500 pounds, with a slope of 1.5:1 and a top elevation of 15’. Repairs to the revetment during the 1980s added rock to the structure that was substantially larger than what was used in the initial design, but reported to be less than 1-ton rock. The revetment has deteriorated over time; some rock has been lost from the structure and some rock has migrated from the main face of the revetment. Current deficiencies include inadequate cover to protect the buttress fill, portions of the revetment are no longer at a 1.5:1 slope and the elevation of the revetment has lowered in some sections. While deterioration of the revetment is one concern, this could possibly be addressed through maintenance or reconstruction of the structure to its original condition. However, the revetment design does not meet current practice for a revetment. The applicant’s previous and current engineers have concluded that the revetment rock is undersized for the existing and future wave environment, and that the overall condition of the structure is degraded and no longer sufficient to protect the sand drain and toe of the buttress fill. In addition, there was no fabric filter installed between the buttress fill and the revetment rock and the structure is too low. The Commission engineer and geologist have concluded that maintenance of the existing revetment would not be adequate to protect the buttress fill from wave attack and that the proposed revetment would adequately protect the buttress fill and sand drain thereby contributing to the stabilization of the landslide.

Beach Replenishment Alternative

The project geotechnical report states that on a typical Orange County shoreline, a winter beach width of 150 to 200-ft. is required for storm wave protection and based on historical aerial photographs, the mean winter beach width at the project site is less than 50-ft. Analysis of the project site has determined that a large sand volume of 140,000 to 210,000 cubic yards of sand would be needed to extend the beach 100 to 150-ft. Additionally, the littoral transport regime in the Niguel Shores area appears to be in an equal/balancing condition and such a large sand placement could alter the equilibrium and have associated impacts.

The City's draft Sea Level Rise Vulnerability Assessment, dated January 2019, states the following related to sand levels at the subject site:

"...The most recent study of littoral process and shoreline change upcoast of the Dana Point Headland was performed by Everts Coastal (1997) as part of the Coast of California Storm and Tidal Waves Study for the Orange County Region (CCSTWS-OC) prepared by the USACE (2002). The Salt Creek & Dana Strand beaches were reported to have a relatively stable to slightly accretional long-term shoreline change trend..."

A large beach replenishment project at Strand Beach may have an effect on a nearby shoal located on the harbor side of the west breakwater in Dana Point Harbor that requires periodic dredging to maintain a navigable harbor. The beach fill could potentially deposit along both sides of the breakwater resulting in the harbor side shoal expanding more rapidly compared to the present condition and thus require more frequent maintenance dredging. A large beach replenishment project at the site may also adversely impact the nearshore resources within the Dana Point State Marine Conservation Area (SMCA), which is located directly adjacent to Strand Beach. The Dana Point SMCA spans 3.9 miles of shoreline, supporting a variety of sensitive habitats including 2.06 miles of rocky intertidal habitat, 2.16 miles of surfgrass and an average of 0.08 square miles of kelp forest habitats. A biological resources report submitted by the applicant includes the following information about nearshore habitat adjacent to the project site:

*The intertidal habitat throughout the central portions of the revetment area is sandy beach. At the northeast end, at Monarch Point, is an area of rocky intertidal that consists of boulders and rock outcrops in vertical layers extending away from the shoreline. Scattered intertidal rocks also occur at the southeast end of the area with occasional patches of surfgrass. Most of these rocks are in the lower to mid-intertidal zone. Thick kelp beds occur offshore from the revetment...The rocky intertidal headland off Monarch Point at the north end of the project area supports a typical rocky intertidal invertebrate community characterized by acorn barnacles (*Balanus glandula* and *Chthamalus* spp.), mussels (*Mytilus californianus*), gooseneck barnacles (*Pollicipes polymerus*), anemones (*Anthopleura elegantissima*), and sand tube worms (*Phragmatopoma californica*). A school of unidentified perciform fish, kelp fly (*Anthomyiidae*), thrip (*Thysanoptera*), skimmer dragonflies (*Libellulidae*), sea lice (*Isopoda*), scuds (*Amphipoda*), murex snail (*Mucidiidae*), and ectoprocts (*Bryozoa*) also were found in this area. (Chambers Group, Inc. July 2017)*

Thus, the placement of such a large volume of sand within a relatively short length of shoreline might result in significant burial effects on marine resources when the sand moves offshore.

Therefore, this alternative is not considered to be feasible because of the potential for significant adverse impacts on the proximal environment and marine resources, which are protected by Coastal Act policies, including sections 30230 and 30231.

Nearshore Submerged Breakwater Alternative

Another alternative would be the construction of an offshore riprap stone structure (breakwater) placed parallel to the shoreline. This breakwater would dissipate incident waves and protect the Niguel Shores area. In addition, the attenuation of the wave energy that drives the littoral transport system would result in the deposition of sediment behind the breakwater. While this sand entrapment effect would benefit the Niguel Shores area, it would reduce the amount of sediment that is transported around Dana Point and could result in the loss of sand for downcoast beaches. Also, the breakwater would be placed in an area with sensitive marine habitat that could result in the burying of existing biological resources, which also raises potential inconsistencies with the marine resource protection policies of the Coastal Act. Lastly, this alternative may adversely impact water-oriented recreational activities that cannot readily be provided at inland water areas, like surfing, in the project area due to the breakwater potentially impacting wave break formation. Thus, based on the identified environmental impacts of a new breakwater, this alternative would not result in the best alternative for protecting the existing structures.

Seawall Alternative

An alternative that would reduce encroachment on the public beach would be a vertical seawall constructed of poured in-place concrete driven into the bedrock. Such a seawall would need to be designed to resist the full force of incident waves and would therefore be very large. The applicant states that the seawall in this location would reflect and amplify the incident wave energy resulting in scour at the toe of the structure, which could, depending on the nature of the wave attack and the depth of bedrock, form a trough in the front of the seawall. Additionally, a more severe scouring effect could occur at either end of the seawall since such a seawall would not form a continuous shoreline protective device with the neighboring rock revetment structures that currently exist at both ends of the project site. Also, the depth of hard bedrock at the subject site varies from shallow to moderately deep and the top surface of bedrock is topped boulders and cobble debris, which complicates preparation of the bedrock surface for a seawall foundation. Furthermore, the applicant contends that a seawall would also compromise the current highly permeable drainage blanket under the landslide buttress fill and would not be able to accommodate the extensive groundwater that discharges through the face of the slope, which would then destabilize the reconstructed coastal bluff. The Commission geologist and engineer concur with the applicant's analysis that a seawall would not be feasible at the subject site. Therefore, this alternative is not considered to be the feasible alternative that would substantially lessen any significant adverse impact which the activity may have on the environment.

Managed Retreat Alternative

Another option often considered is planned or managed retreat. This option has been long debated and discussed more generally and should be considered in the context of the citywide vulnerability assessment. This concept posits that instead of allowing continued armoring, once existing structures have been removed, then any shoreline armoring should also be removed

allowing the shoreline to retreat or migrate inland as it would do naturally without development to stop it. Beach formation in this respect is partly assisted by the sand-generating material in the bluffs as they erode, but more importantly there is space for the natural equilibrium between the shoreline and the ocean to establish itself and for beaches to form naturally. Over the longer run, a more comprehensive strategy to address shoreline erosion and the impacts of armoring may be developed (e.g. planned or managed retreat, relocation of structures inland, abandonment of structures, etc.). However, a managed retreat option to protecting the Niguel Shores homes is not feasible at this location at this time. In order for planned retreat to work comprehensively in the future, the removal or modification of hard armoring structures at the project location would occur in conjunction with the removal of other shore-fronting development. Special Condition 5 authorizes the revetment and public access improvements for a period of 20 years from the date of Commission approval of the CDP or until such time that no existing structures built prior to January 1, 1977 qualify for protection, whichever occurs first. The managed retreat alternative will be considered again at the completion of the initial 20-year permit term to allow for consideration of possible changes in policy, law, and physical conditions associated with armoring and adjacent beach and bluff.

Individual Home Stabilization (i.e. caissons)

In a Memo to Commission Staff, received November 14, 2019, the applicant's geotechnical consultant stated the following in regard to stabilizing the existing blufftop homes with caissons in place of reconstructing the revetment:

"..The houses rely on the integrity of the slope. The purpose of the rock revetment is to protect the toe of the buttress which in turn will stabilize the slope. Any alternatives relying on caisson stabilization would first require that all the homes at risk be demolished and rebuilt with caisson foundations. In addition, because the bluff top homes have been constructed on an engineered buttress fill that, in conjunction with the rock revetment, stabilizes the landslide, any caisson-stabilization option would have to be designed to withstand significant landslide forces given that the landslide is likely to fail absent a properly engineered rock revetment protecting the toe of the buttress..."

The Commission geologist and engineer concur with the applicant's analysis that individual stabilization of the affected homes would not be a feasible alternative at this time to the proposed revetment at the subject site. Thus, staff concurs that this alternative is not considered to be the feasible alternative that would substantially lessen any significant adverse impact which the activity may have on the environment.

Improved drainage and landscaping

Consistent with Conservation and Open Space Element Policy 2.11, improved drainage and landscaping atop the bluffs is another option that is typically considered when evaluation methods for stabilizing bluff-top development. Appropriate drainage measures coupled with planting long-rooted native bluff species can help to stabilize some bluffs and extend the useful life of setbacks. Thus, Special Condition 2 requires that all runoff in the Niguel Shores Community from impervious surfaces within the mapped landslide limit on the bluff be collected and drain toward the street and that any irrigation systems located on the bluff face or on the

identified properties that drain on or over the bluff edge be removed or capped (unless approved and installed prior to January 1, 1977 or pursuant to a Coastal Development Permit), so that any drainage on the bluff face will be minimized and not adversely impact bluff stability. In order to further ensure that excess saturation of the bluff does not adversely impact bluff stability, Special Condition 3 requires that the applicant submit final bluff face landscaping plans for all new landscaping on the lower portion of the bluff that will be impacted by construction activities that consist of native drought tolerant plants and prohibits permanent irrigation. The special condition allows for the use of temporary low pressure irrigation for a maximum of 12 months to allow plantings to establish, but requires that all temporary irrigation components must be removed within 24 months. However, the Commission geologist and engineer concur with the applicant that these measures alone will not address the entire identified threat to the existing bluff top structures.

Revised Revetment Design Alternative (No Reconstruction of the Portion of the Revetment Seaward of the Homes Constructed After January 1, 1977)

Among the project alternatives that have been considered is a more limited reconstruction of the revetment to protect only those parcels on Breakers Isle containing houses that were built prior to the passage of the Coastal Act. Under this alternative, the revetment in front of ten individual parcels constructed after January 1, 1977 would not be improved, and the original, undersized revetment rock would remain the only toe protection for the sand drain and buttress fill. Of particular note, the six northernmost parcels on Breakers Isle were developed after January 1, 1977 and do not qualify as “existing structures” under Section 30235. However, as discussed in previous sections, this would, at a minimum, leave the unimproved sections of the buttress fill slope and sand drain vulnerable to marine erosion and landslides that could extend to the first row of development along Breakers Isle. Because the revetment, buttress fill, and sand drain were designed to function as a system, and because the overall stability of the landslide complex depends on the integrity of this system, the Commission engineer and geologist concur with the applicant that there is a significant risk that localized erosion and landslides originating in the unimproved sections of the slope could spread to adjacent parcels, or that the entire landslide complex could be destabilized. Thus, the Commission finds that in this unique case, in order to allow for a single, unbroken revetment that minimizes edge effects, it would be necessary to allow for the construction of the rock revetment seaward of those properties developed with residential structures after the effective date of the Coastal Act.

Revised Revetment Design Alternative (Relocation of the Revetment Further Landward)

When the proposed revetment re-construction was reviewed by the Commission in 2012, the design at that time was smaller and would have resulted in less encroachment on the public beach. However, the technical analysis provided by the applicant for the prior iteration of the project had not discussed or highlighted the sensitivity of the buttress fill and sand drain to small modifications and changes as extensively as the current submittal. In review of the current submittal, staff engaged in multiple discussions with the applicant’s geotechnical consultant to thoroughly explore whether the proposed revetment design would minimize encroachment on the public beach. The discussions primarily focused on whether it would be feasible to construct the new revetment further landward, potentially requiring some excavation into the buttress fill and replacement of buttress fill material with the rock revetment.

The applicant's geotechnical consultant provided the following explanation as to why the revetment could not be relocated further landward:

"...The revetment cannot be moved further landward than currently proposed as this would require deeper construction cuts exposing deeper sections of saturated clean sands throughout the majority of the revetment, which would fail once exposed. In addition, locating the revetment further landward than currently proposed would also require a deeper construction back cut into the existing, marginally stable, rock revetment and buttress fill. The combination of these two factors substantially increases the risk of slope failure during construction. As such, given the various geologic constraints of the site, the proposed revetment is located as landward as feasible to ensure site stability and to prevent damage to existing structures within the Niguel Shores residential community. The presence or absence of the proposed 10-foot-wide revetment walkway and the existing boundary between public and private property have no effect on what would be an unacceptable reduction in slope stability during construction if the revetment were to be located any further landward than proposed..."

The Commission geologist and engineer concur that the buttress fill slope and the sand drain are critical elements of the slope stabilization system and that measures to avoid disturbance of these components limit the inland relocation of the revetment, overall, to the currently proposed location as depicted on the project plans. However, once construction is underway, actual observed site conditions may vary from the conditions shown on the plans, and it may be feasible for the applicant's contractor to reduce the revetment encroachment on the public beach. Therefore, Special Condition 2 requires that the revetment be located as far landward as feasible without destabilizing the buttress fill slope or sand drain.

The Commission's geologist and engineer have reviewed the geotechnical information provided by the applicant and concur that the proposed shoreline armoring is necessary to protect the structures. Following construction of the proposed revetment, the applicant's engineer has demonstrated that the stability for the structures will be increased to an adequate level and, thus, the proposed revetment will provide the necessary protection for existing development. Thus, substantial evidence has been provided to document that the proposed revetment is the least environmentally damaging feasible alternative to protect the existing endangered structures, and the proposed project meets the third test of Section 30235 of the Coastal Act.

d. Avoidance/Mitigation of Shoreline Sand Supply Impacts

The fourth test of Section 30235 that must be met in order to compel Commission approval of a shoreline armoring project is that such armoring must be designed to eliminate or mitigate adverse impacts to local shoreline sand supply.

Shoreline armoring or protection devices directly interfere with public access to tidelands by impeding the ambulatory nature of the mean high tide line (the boundary between public and private lands) during high tide and severe storm events, and potentially throughout the entire winter season. The impact of a shoreline protective device on public access is most evident on a beach where wave run-up and the mean high tide line are frequently observed in an extreme

landward position during storm events and the winter season. As the shoreline retreats landward due to the natural process of erosion, the boundary between public and private land also retreats landward. Construction of rock revetments and seawalls to protect private property fixes a boundary on the beach and prevents any current or future migration of the shoreline and mean high tide line landward, thus eliminating the distance between the high water mark and low water mark. As the distance between the high water mark and low water mark becomes obsolete the revetment effectively eliminates lateral access opportunities along the beach as the entire area below the fixed high tideline is inundated. The ultimate result of a fixed tideline boundary (which would otherwise normally migrate and retreat landward, while maintaining a passable distance between the high water mark and low water mark overtime) is a reduction or elimination of the area of sandy beach available for public access and recreation.

Shoreline protective devices can result in a number of adverse effects on the dynamic shoreline system. First, changes in the shoreline profile, particularly changes in the slope of the profile which results from a reduced beach berm width, alter the usable public beach area. A beach that rests either temporarily or permanently at a steeper angle than under natural conditions will have less horizontal distance between the mean low water and mean high water lines. This reduces the actual area in which the public can pass or recreate on. The second effect on access is through a progressive loss of sand as shore material is not available to nourish the nearshore sand bar. The lack of an effective sand bar can allow such high wave energy on the shoreline that beach materials may be lost so far offshore that the materials are no longer available to nourish the beach. This further affects public access through a loss of area between the mean high water line and the actual water. Third, shoreline protective devices such as revetments and bulkheads cumulatively affect shoreline sand supply and public access by causing accelerated and increased erosion on adjacent public beaches. This effect may not become clear until such devices are constructed individually along a shoreline and they reach a public beach. In addition, if a seasonal eroded beach condition occurs with greater frequency due to the placement of a shoreline protective device on the subject site, then the subject beach would also accrete at a slower rate. Fourth, if not sited landward in a location that ensures that the revetment is only acted upon during severe storm events, beach scour during the winter season will be accelerated because there is less beach area to dissipate the wave's energy.

Shoreline protective devices, such as seawalls, revetments, gunite facings, groins, et cetera, are all physical structures that occupy space. When a shoreline protective device is placed on a beach area, the underlying beach area cannot be used as beach. This generally results in a loss of public access as well as a loss of sand-generating area. The area where the structure is placed will be altered from the time the protective device is constructed, and the extent or area occupied by the device will remain the same over time, until the structure is removed or moved from its initial location, or in the case of a revetment, as it spreads seaward over time. The beach area located beneath a shoreline protective device, referred to as the encroachment area, is the area of the structure's footprint.

When a shoreline or beach segment is developed with a shoreline protective device, the natural exchange of material between the back beach, dune systems, foreshore and intertidal region can all be interrupted. The natural shoreline processes affecting the formation and retention of sandy beaches can be significantly altered by the construction of shoreline armoring structures depending on where these devices are located on the beach and the site specific

geomorphological characteristics of the shoreline. There are effects that a shoreline protective structure has on a shoreline which can be quantified, including, (1) the loss of beach area on which the structure is located, (2) the long-term loss of beach which will result when the back beach location is fixed on an eroding shoreline (also known as passive erosion); and (3) the amount of material which would have been supplied to the beach if the back beach were allowed to erode naturally. The location and alignment of a shoreline protective device on a beach dictates the amount of material that would otherwise have been supplied to the beach seaward of the device. Thus, generally the Commission has found in past approvals of shoreline protective devices that the furthest landward location of a device is preferable to maximize the amount of sandy beach available for public access seaward of the device and to reduce impacts to the natural environments and natural sand exchange systems existing along a beach.

As applied to this project, the applicant does not propose to repair and maintain the existing revetment at the site. Instead, the applicant proposes to remove the vast majority of the rock in the existing revetment and to construct an entirely new revetment. Thus, the proposal constitutes new development and the impacts of the entire proposed new revetment must be analyzed for consistency with Chapter 3 policies. While the location of the existing revetment along the beach has already modified the normal sand interaction and movements along this shoreline, construction of the revetment in the proposed location would function to further ‘fix’ the back beach in a much further seaward location than that which currently exists along the subject shoreline.

Typically, when determining the area impacted by a new/reconstructed shoreline armoring structure, the Commission would assume the existing shoreline armoring structure was no longer in place. However, the bluff at the subject site has been completely reconstructed and the existing 50 year old revetment has become embedded into the face of the bluff in many areas. Furthermore, the submitted plans show that the existing revetment does not extend significantly further seaward than the reconstructed bluff face (Ref: [Exhibit 2](#), Sheet 6). Thus, because for this particular project, it is not feasible to accurately identify the location of the bluff face for the entire length of the revetment, the Commission has determined that the seaward face of the existing revetment and the reconstructed bluff face are generally equivalent.

The revetment is proposed to be constructed at a 1.5 to 1 slope, so the portion of the beach that will no longer be available for public use is dependent on the level of the beach sand when the encroachment is quantified. Because peak beach usage time is during the summer, the typical summer sand level (+10 ft. NAVD 88) will be assumed to quantify the initial beach encroachment of the proposed revetment. [Exhibit Nos. 7 and 8](#) show transects of the current rock revetment and the proposed rock revetment with approximately 10 ft. of the sand on the beach. As shown, the new revetment will encroach approximately 15 ft. seaward of the existing revetment for a length of 995 ft. and will encroach approximately 18.5 ft. seaward for the remaining 255 ft. [Exhibit No. 19](#) includes photographs of a string line set up by the applicant’s geotechnical consultant depicting the outline of the proposed revetment for the thinner and wider proposed portions of the project. The applicant has calculated that with typical summer sand levels, 21,048 sq. ft. of existing sandy beach area will be immediately lost from the direct occupation of the revetment ([Exhibit 8](#)).

For the subject site, the applicant has estimated that the back bluff would erode at an annual rate of 0.19 ft. per year¹⁷ were it not for the existing revetment. The applicant has indicated that the erosion rate of 0.19 ft. per year does not factor in the landslide risk at the subject site. Thus, in addition to the loss of public sandy beach area from the direct occupation of the revetment (21,048 sq. ft. in area), since the back of the beach will be effectively “fixed” by the revetment, the revetment will also result in the loss of area of beach area for public use landward of the revetment that would have become available for public use as the shoreline continued to erode and move landward. Given the historical average rate of 0.19 ft. of shoreline erosion per year, and over the course of 20 years, the proposed revetment would result in the expected loss of another 4,750 sq. ft. (1,250 ft. * 0.19 ft./yr. * 20 years = 4,750 sq. ft.) that would otherwise be available for public use. Therefore, for an initial 20 year period, the proposed revetment will result in the loss of 25,798 sq. ft. of area that would otherwise have been sand beach available for the public to enjoy. For perspective, the lost beach area is approximately equivalent to ½ the area of a regulation professional football field¹⁸.

The existing rock revetment at the site already fixes the location of the back of the beach, which results in the narrowing of the beach seaward of the revetment particularly during medium/high tide and high wave events ([Exhibit 20](#)). With typical winter and summer sand profiles, the proposed revetment goes significantly further seaward than the existing revetment, which means waves will reach the new revetment more frequently and the beach will be less accessible more often.

Shoreline Sand Supply Impacts/Retention of Potential Beach Material

Beach sand material comes to the shoreline from inland areas, carried by rivers and streams; from offshore deposits, carried by waves and tidal currents; and from coastal dunes and bluffs feeding sandy beaches and shoreline recreational areas. Bluff retreat is one of several ways that sand and sand generating materials are added to the shoreline. Bluff retreat and erosion are natural processes resulting from many different factors such as erosion by wave action causing cave formation, enlargement and eventual collapse; saturation of the bluff soil from groundwater causing the bluff to slough off; and natural bluff deterioration. For coastal dunes, the contribution to the system is typically more direct, with sand becoming part of the shoreline system during and as a result of climatic events, including wind, rain, and storms. When the bluff/shoreline area is armored with a shoreline protective device, the natural exchange of material from the armored area to the beach/shoreline area and offshore sand supply system is interrupted and, if the armored bluff/shoreline area would have otherwise eroded, there is a measurable loss of material to the beach/shoreline/offshore sand supply system area as a result.

In these cases, sand and sand generating materials would be added to the beach/shoreline at these locations, as well as to the larger littoral cell sand supply system fronting the bluff/shoreline, if natural erosion were allowed to continue (i.e., if the armoring weren't there). The volume of total

¹⁷ USAGE-LAD, 1995b. "Seacliff Erosion and Sediment Contributions, Dana Point to the San Gabriel River". Final Report, November 1995.

¹⁸ A football field is 120 yards (360 feet) in length and 53 1/3 yards (160 feet) in width. The playing field is 100 yards long, with a 10-yard-deep end zone on each side. In total, a football field covers 57,600 square feet.

material that would have gone into the sand supply system over the lifetime of the shoreline protective device would be the volume of material between (a) the likely future bluff/shoreline configuration with shoreline protection; and (b) the likely future bluff/shoreline configuration without shoreline protection. The applicant's consultant conducted analyses using the Commission's methodology and determined that the amount of beach-quality sand retained by the revetment would be 5,990 cu. yds. of sand over 20 years (and Dr. Ewing reviewed and concurs on this estimate) ([Exhibit 21](#)).

To mitigate for this loss of sand, the Commission has, in the past, required payment of an in-lieu fee to contribute to ongoing sand replenishment or other appropriate mitigation programs, where such fee is based on the cost of buying and delivering an equivalent volume of beach quality sand to the affected area. The cost of purchasing and delivering beach quality sand is currently approximately \$25 per cu. yd. Thus, an in-lieu fee to address this sand supply impact would be approximately \$149,750 (i.e., \$25/cu. yd. x 5,990 cu. yds. = \$149,750 for the initial 20-year mitigation timeframe). Ideally, the identified quantity of sand would be placed on the beach fronting the proposed revetment. However, in this case, and as further described in the Hazards section of this report, the beach at the subject site is in a relative state of equilibrium, beach replenishment may result in the need for increased maintenance dredging of Dana Point Harbor, and there are identified nearshore resources directly offshore that could be adversely impacted by a beach replenishment project at Strand Beach. Therefore, Special Condition 10 requires that the County provide evidence, in a form and content acceptable to the Executive Director, that a fee of \$149,750 has been deposited in a Sand Supply Shoreline Account established and held by the County Parks Department, in-lieu of providing the total amount of sand to replace the sand that will be lost due to the impacts of the proposed revetment for the an initial 20 year period. The sand mitigation fee must be expended for sand replenishment in Orange County as a first priority and may be expended for public access and public recreation improvements as secondary priorities where an analysis done by the County determines that there are no near-term, priority sand replenishment projects where the money could be allocated. The Sand Mitigation funds shall only be released upon written approval of an appropriate project by the Executive Director of the Coastal Commission.

Moreover, although this fee estimate is based on a quantifiable, site-specific volume of sand and market condition, this estimation of the beach loss through a sand volume calculation does not really address the recreational value of the anticipated beach loss. Indeed, the primary impact of loss of sand at the project site will be on public access and recreation because of the eventual loss of approximately 1,250 linear feet of lateral access and recreational opportunities on this portion of an urban, heavily used sandy beach as the ocean intersects more and more frequently with the armoring as of sea levels rise. Thus, the loss of sand seaward of the revetment will mean a significant loss of recreational beach use and lateral beach access.

Impact of Loss of Sand at the Project Site on Public Access and Recreation

As detailed above, the proposed revetment will result in the loss of approximately 25,798 sq. ft. of public sandy beach. The most appropriate mitigation for the loss of public sandy beach would be to provide a new public sandy beach area of the same size, which affords the same recreational opportunities in the immediate vicinity of the site for the 20-year duration of which the revetment would be permitted. However, such opportunities rarely exist, and in this case,

neither the Commission nor Orange County Parks Department is aware of any equivalent private beach area in Orange County available for purchase. Alternatively, the public access impacts created by the proposed revetment can be quantified to provide a relative scale for evaluating alternative mitigation measures. For example, in the past, the Commission has looked at several ways to value such beach and shoreline areas in order to determine appropriate in-lieu mitigation fees, including evaluating the recreational value of the beach/shoreline recreational area in terms of the larger economy, as well as calculating the real estate value of the land that would be taken from public use.

The Commission also recognizes the qualitative benefits of beaches and shoreline areas, including recreational, aesthetic, habitat values, etc., which provide significant direct and indirect revenues to local economies, the state, and the nation. The ocean and the coastline of California contribute greatly to the California economy through activities such as tourism, fishing, recreation, and other commercial activities¹⁹. There is also intrinsic value in simply spending a day at the beach, walking along a stretch of coast or along the shoreline, watching the sunset from a coastal bluff, etc. The societal benefits of beaches and shoreline areas, include the ways in which they contribute to local and regional communities and cultural identity, all of which are difficult, if not impossible, to put a price tag on.

In 2004, the Commission began evaluating comprehensive ways to quantify the adverse impacts that shoreline protective devices have on public access and recreation, thereby, developing more appropriate mitigation measures for those impacts. Mitigation measures for impacts to public beach access and recreation in California is becoming more common and the Commission has explored various methods for addressing such impacts. Although the Commission has previously approved various projects that have included mitigation for impacts to public access and recreation, it is likely that the past mitigation requirements underestimated the total economic value of those impacts as they may not have included market components or evaluated the intrinsic value of beaches and shorelines.

Site Specific Beach Valuation Economic Studies

The Commission first required an in-lieu beach access and recreation fee, separate from the Sand Mitigation Fee, for impacts to public access and recreation in October 2004. The approved project included the construction of a 58-ft. long seawall fronting a 172-unit condominium complex in Monterey which was estimated to impact 43,500 sq. ft. of beach area over a 50 year period. To mitigate the adverse impacts of the seawall on public access and recreational opportunities, and in lieu of purchasing a comparable area of beach, the Commission required a mitigation payment of \$5,300,000 for a 50 year period based on the area of beach impacted, the number of annual beach users, and a study of average beach user expenditure conducted for a different area of the state (Ref. CDP 3-02-024/Ocean Harbor House).

In October 2005, the Commission approved the construction of a 120-ft. long, 2 ½-ft. wide seawall below the Las Brisas condominium complex in Solana Beach. The land area impacted over the 22 year design life of the seawall was estimated to be 1,364.8 sq. ft. After hiring an

¹⁹ Sea Level Rise, Adopted Policy Guidance, <https://www.coastal.ca.gov/climate/slrguidance.html>, “Just over 21 million people lived in California’s coastal counties as of July 2014 (CDF 2014), and the state supports a \$40 billion coastal and ocean economy (NOEP 2010).”

economist, Dr. Phillip King, to perform an economic analysis of the lost recreational value associated with the construction of the seawall, the Commission determined that the applicant should make a payment of \$248,680.72 to mitigate impacts of the seawall. The payment was designed to be used for purchase of beach land and/or recreational beach park amenities (Ref. CDP 6-05-072/Las Brisas). These funds were subsequently used to pay for substantial repairs to an existing public stairway in Solana Beach.

City and Statewide Beach Valuation Economic Studies

In 2018, the Commission certified an in-lieu fee method to quantify the value of public recreational losses due to the encroachment of shoreline armoring and long-term beach loss due to fixing the back of the beach in the City of Solana Beach (Ref: LCP-6-SOL-16-0020-1). The in lieu fees are to be used to mitigate for the loss of such public recreational opportunities. The City's public recreation mitigation method was derived using certain economic concepts that primarily depend on 1) choice of a proxy, or 'stand-in', for recreational value of the beach per visitor per day (also called the beach day use value), 2) estimated numbers of beach visitors annually, and 3) the area of beach impacted by shoreline armoring. The fee program was subsequently adopted by the City of Solana Beach and has recently been put into practice for one project thus far. That project was approved in March 2019, when the Commission approved construction of a 100-ft. long seawall fronting two single family homes in Solana Beach which was estimated to impact approximately 1,000 sq. ft. of beach area over an initial 20-year mitigation period. Pursuant to the City's fee program, the Commission required a public access and recreation fee of \$99,470 to mitigate for the loss of approximately 1,000 sq. ft. of public beach area over the 20 year period (6-18-0288/DeSimone et al.). This beach valuation methodology was tailored specifically for the City of Solana Beach and is not intended for use in other areas of the state. Other methods for calculating mitigation are available that use relevant local, or site-specific, information to specify value estimates (based on local real estate or beach recreation loss models). However, for the purposes of generating a very rough approximation of mitigation, and to provide an interesting comparison, were the proposed revetment built in Solana Beach, the required mitigation fee for the initial twenty year period would be approximately 3.7 million dollars.

Beaches are valuable recreational resources that are too often afflicted by shoreline armoring. To determine recreational value impacts from shoreline armoring, Commission staff employed an erosion loss model and economic tools. Coastal Commission staff has worked with economists experienced in applying recreational valuation methods to explore potential applications to Commission mitigation practices for shoreline armoring projects. The method used here to calculate recreational impacts was recommended by these economists.²⁰ The method consists of estimating the loss of recreational value due to shoreline armoring such as rock revetment by estimating the recreational value of the beach with and without the rock, using an erosion loss beach valuation model. Such a model assumes that an individual beach user will receive diminishing recreational value as the beach narrows. With knowledge of the length and width of

²⁰ CCC Administrative Draft. September 2015. Improved Valuation of Impacts to Recreation, Public Access, and Beach Ecology from Shoreline Armoring. FY 2012 NOAA Project of Special Merit (NA12NOS4190026) grant report.
https://documents.coastal.ca.gov/assets/ecology/BeachValuationNOAADeliverableSubmitted_092815.pdf

the project, initial beach width, erosion rate, and attendance, the recreational value of beach area loss due to a revetment can be calculated.

Key to this calculation is the value of a beach day (also called consumer surplus value) for each visitor. The consumer surplus is often developed from detailed studies of beach visitation and it is challenging to determine for every specific beach. Thus, economists often assume that a benefit transfer approach that uses peer reviewed studies of comparable locations provides the most efficient way for local communities to assess resource value for their areas. Studies of beaches throughout California have found consumer surplus values ranging from \$16 to \$119/visitor/day (\$ 2019), with a median value of approximately \$43/visitor/day in 2019 dollars.²¹

In addition to beach day use assumptions, some assumptions about beach visitor attendance are necessary to use recreation erosion loss models. In this case, an attendance survey was not conducted to provide accurate beach usership data for the project area, therefore, district staff looked to beach usership estimates used for nearby beaches. Salt Creek Beach attendance from June 2017 – November 2017 was derived from a local study of Aliso Creek, Salt Creek and Poche Beaches using video footage from static cameras to count people.²² Averaging the high and low monthly visitor counts for Salt Creek and applying that monthly number for an average year, staff calculated an annual attendance number of approximately 24,000. As this attendance number appears low and likely missed visitors outside of the camera range, staff included it in the analysis as a proxy for a conservative estimate at the project beach. Staff also researched published literature on beach attendance and found Salt Creek/Strand Beach average annual attendance reported at 1,611,061 for the years 2000–2004.²³ By interpolating within the larger attendance average for the size of the project site, staff scaled the higher attendance numbers to 271,000 for the beach fronting the revetment.

Using the inputs specified above, the general recreational value of an area of beach can be determined from the day use value, the number of visitors and the beach area available for recreation. The general equation for calculating annual recreation value is below:

$$\text{Annual Recreational Value} = \text{Day use value} * \text{attendance density} * \text{length} * \text{width}$$

Where, day use value (consumer surplus) will change as a function of beach width,
 Attendance will change as a function of beach area,
 Length (the length of the shoreline protection) will be constant, and
 Width (beach width at location of shore protection) will change due to erosion.

²¹ Pendleton, L., and Kildow, J. (2006). The non-market value of beach recreation in California. *Shore and Beach*, 74(2), 34.

²² Volep, E. and Reinke, J. 2017. People Counting Report on Orange County Beaches. June 2017-November 2017. 21pg.

²³ Salt Creek/Strand Beach attendance within collected data for 75 beaches along the 350 km of coastline in Southern California for the years 2000–2004. The overall study methods relied on direct observations (73%), parking, hotel and camping receipts (19%), and electronic counters (8%).
 Dwight, R.H., Brinks, M.V., SharavanaKumar, G. and Semenza, J.C., 2007. Beach attendance and bathing rates for Southern California beaches. *Ocean & Coastal Management*, 50(10), pp.847-858.

Commission staff applied this method to the subject site. In the case of the proposed revetment location, the day use value of approximately \$43/visitor was adjusted to \$39/visitor-day, based on the resulting narrower beach width at the site. For this project, the recreational value over the permit period was estimated using the summation of present value annual recreational values for 20 years. The recreational losses due to the revetment are the difference between the recreational value ‘without armoring’ and the recreational value ‘with armoring’ conditions. With armoring, the beach area is reduced, which lowers attendance and the value of the beach day.

The inputs below were used to estimate recreational value lost due to the revetment over the permit period:

Length of Revetment = 1250 ft.
 Width of Revetment = 15 ft. (995 ft. section)
 Width of Revetment = 18.5 ft. (255 ft. section)
 Initial Beach Width = 130 ft.²⁴
 Erosion rate = 0.19 ft. /yr.
 Attendance = range from 24,000 – 271,000 people/yr.
 Day use value scaled to width of 130 ft. = ~\$39 for year 0

The present value loss in recreational value over a 20-year period, assuming a 1% discount rate was calculated to range from \$2.7 million to \$29.8 million, for the 24,000 and 271,000 annual attendance numbers, respectively. Because no individual studies of Niguel Shores beachfront were available to derive accurate day use value or attendance, this model calculation approximates a range for potential recreation value loss that will result from the project. While the range of values is likely to encompass the “true” recreation value, locally collected data would be necessary for ensuring a more accurate estimate of the project’s impact on beach recreation.

A more detailed discussion of the recreation loss calculation can be found in a memo from Dr. Matella that is provided as [Exhibit 23](#).

Real Estate Valuation Method

As evidenced by the relatively rigorous and time and cost intensive studies described above, these recreational impacts are in many cases difficult to quantify, including at sites such as Strand Beach where reliable visitation data needed for certain economic impact models are lacking. In other cases where visitation and economic data is lacking, the Commission has found that using a real estate valuation method as a basis for identifying mitigation values allows for objective quantification of the value of beach and shoreline area, and that this valuation is appropriate both in terms of the scope of impacts and the rational basis for applying such

²⁴ Staff estimated the average beach width based on the average distance from the base of the bluff to the MHTL as represented on the applicant’s 2014 MHTL survey

methodology.²⁵ [Exhibit 24](#) includes a summary of each of the past CDPs where the real estate valuation method was employed. This method requires an evaluation of the cost of land that could be purchased and allowed to erode and turn into beach naturally or to be re-purposed as blufftop recreation area to offset the area that would be lost due to the proposed revetment over time.

As explained above, the proposed revetment is necessary to protect not just the first row of homes on the bluff, but also to provide protection to homes located two and three rows inland from the bluff edge. Toward this end, the market values of representative blufftop properties and properties located two and three rows inland of the beach in the immediate vicinity of the project site were identified as a means to identify what it might cost to purchase such property and allow it to erode to create beach or to be re-purposed as shoreline recreational space. Specifically, this review was conducted by looking at the sales of undeveloped blufftop property in close proximity to the project site between the years 2017 and 2019. This value is then divided by the property square footage to derive a price per sq. ft. The sq. ft. calculated value provides an estimated value of what it would cost to purchase/acquire an equivalent blufftop property area that could be allowed to naturally erode and provide a beach area or to be re-purposed as shoreline recreational space that is roughly equivalent to what will be lost due to the new revetment over the initial 20-year authorization.

This evaluation focused on a total of nine undeveloped properties sold within the adjacent Strand at Headlands development located adjacent to the south of the project site between 2017 and 2019. Over this time frame, sales show a range of per-sq. ft. values from \$228.35 per sq.ft. at the low end,²⁶ up to \$1,296.64 per sq. ft. at the high end,²⁷ with an average of \$689.70 per sq. ft.²⁸ This value represents a reasonable conservative estimate of the market value of blufftop lots nearest to the subject site based on actual recent sales data.

Applying this land acquisition value to the 25,798 sq. ft. impact area associated with the proposed revetment would result in a mitigation fee of \$17,792,993 for the loss of beach area based on the initial 20-year mitigation period (i.e., 25,798 sq. ft. x \$689.70 per sq. ft. = \$17,792,993). Based on the analysis above, the Commission finds that the mitigation fee amount calculated using the Real Estate Evaluation Method is most closely tied to specific land values in the vicinity of the project, and is thus both reasonably related and roughly proportional to the anticipated impacts of the revetment on beach and shoreline recreational use for the 20 years it is permitted.

²⁵ See, for example, CDP Nos. 6-07-133 (Li Seawall), 6-12-041 (Lampl Seawall), 2-10-039 (Land's End Seawall), 2-11-009 (City of Pacifica Shoreline Protection), A-3-PSB-12-042 and A-3-PSB-12-043 (Pismo Seawalls), 3-16-0345 (Honjo Seawall), and 3-16-0446 (Rockview Drive Homeowners Seawall).

²⁶ The property at 29 Beach View Drive sold for \$4,675,000 in 2018 and included 20,473 sq. ft. of property, or \$228.35 per square-foot.

²⁷ The property at 3 Strand Beach Drive sold for \$11,850,000 in 2017 and included 9,139 square feet of property, or \$1,296.64 per square-foot.

²⁸ The other properties used to derive the average price per sq. ft. for blufftop land in the immediate vicinity include: 37 Strand Beach Drive (\$1,137.88/sq. ft.); 35 Strand Beach Drive (\$1,111.32/sq. ft.); 15 Strand Beach Drive (\$1,101.93/sq. ft.); 9 Pacific Wave Circle (\$379.25/sq. ft.); 19 Shoreline Drive (\$218.97/sq. ft.); 11 Shoreline Drive (\$378.33/sq. ft.); and 9 Shoreline Drive (\$354.68/sq. ft.).

Approvable Mitigation Package

Therefore, over the 20-year period that the revetment would be permitted, and for which mitigation measures are being calculated, sand supply and beach loss impacts associated with the armoring would result in a required mitigation fee of \$17,942,743 ($149,750 + \$17,792,993 = \$17,942,743$). While requiring such a mitigation fee could commensurately mitigate for these impacts, the Commission has also required the provision of public recreational access improvements to further offset such impacts. Such mitigation strategies can allow for bona fide improvements to public recreational access infrastructure and utility so that mitigation benefits can be realized in the near term, and in the area of the impacts. Toward that end, the County contends that the 10 ft. wide public access walkway and the four new public stairways that connect the walkway to the beach should be accepted as adequate mitigation for the public access impacts to the beach resulting from the new revetment.

The new walkway and stairs will provide 17,285 sq. ft. of usable public area adjacent to the beach and represent an important link in the California Coastal Trail. In addition, the new walkway will provide improved ADA access along this stretch of beach and will allow the public to enjoy the coastline at the site even during high tides when the beach would otherwise be impassible. Although, with further seaward encroachment of the proposed revetment, there will, undoubtedly, be an increase in the number of days that the beach is submerged due to high tides.

In addition, the usable public area resulting from the walkway and stairs will be substantially smaller than the area of beach that will be effectively eliminated by the new revetment (25,978 sq. ft. of beach vs 17,285 sq. ft. of concrete walkway and wood/concrete stairs). Furthermore, natural sandy beach area is arguably much more valuable than a concrete access path. While the path will certainly be a great way to enjoy a walk along the coast, especially for those with limited physical abilities, the public will not be able to spread out a towel on the concrete to comfortably sunbath and children will not be able to sit on the path to dig for seashells and build sandcastles. With sea level rise, protection of sandy beach areas at the subject site and throughout the state will be even more important as beaches are inundated by higher water levels. It is likely that in the future, if the bluff at the subject site continues to be armored and sea levels continue to increase, as predicted, that the beach fronting the revetment will be impassible at all but the lowest tide cycles. While the applicant's contention that the new walkway will allow the public to pass during high tides when the beach is flooded is factually correct, the reason that the beach is impassible is, in large part, a result of the armoring that has existed at the site the past 50 years. If the bluff at the site had not been armored it would have been able to erode landward such that the beach could have expanded significantly.

As detailed above, it would not be appropriate to allocate the same value between a sq. ft. of constructed access path/stairs and the lost public beach. However, the County has indicated that the proposed walkway and stairs will add approximately \$3,000,000 to the cost of the proposed revetment (total project cost for the revetment and public access improvements is \$9,000,000). In recognition of the public benefit that will result from the public walkway and stairs, it is reasonable to deduct the cost of those public access improvements from the calculated public access mitigation fee. At this time, the County has not been able to identify other projects that could be implemented to adequately mitigate for the entirety of the public access impacts

imposed by the presence of the revetment. Thus, Special Condition 10 requires that the proposed public access improvements (walkway and four stairways) be constructed at the same time as the proposed revetment and that the public access improvements must be maintained and available for use by the public for so long as the proposed revetment is in place. Special Condition 10 also requires that the County provide evidence, in a form and content acceptable to the Executive Director, that a fee of \$14,792,933 (\$17,792,933 - \$3,000,000) has been deposited in a Public Access and Recreation Shoreline Account established and held by the County Parks Department, in-lieu of providing new public beach area to replace the public beach area that will be lost due to the impacts of the proposed revetment for the an initial 20 year period.

The public access mitigation fee must be expended for public beach access and public beach recreation improvements projects in Orange County as a first priority and may be expended for beach replenishment as secondary priorities where an analysis done by the County determines that there are no near-term, priority public beach access and public beach recreation improvements projects where the money could be allocated. Examples of how the public access mitigation funds may be used, include but are not limited to, purchase of developable bluff top property to allow for erosion and creation of new beach area or to be used as a recreation area, removal of existing encroachments on public beaches (i.e. structures or shoreline armoring), construction of beach access paths or stairways, construction of restrooms, construction of new public beach parks and parking areas, or purchase of existing private beach parks and private parking areas for conversion to public use. Although not a condition of this permit, opening up the existing private beach park and parking area owned by the Niguel Shores Community Association on the bluff top for public use would be an appropriate way to mitigate for the impacts of the revetment on public access ([Exhibit 2](#)). Regardless, the public access mitigation funds shall only be released upon written approval of an appropriate project by the Executive Director of the Coastal Commission.

Responsibility for Mitigation Fees

The mission of Orange County Parks is already, in part, to improve beach access at County-owned beach areas. Thus, if the funds for the mitigation come directly out of the Orange County Parks budget, it may result in projects that would otherwise already have been implemented or worse, it may be at the cost of improvements that would have been undertaken elsewhere at a public facility owned or managed by Orange County Parks, though Commission staff does not have detailed evidence relating to the OC Parks budget and where exactly the mitigation funds would come from if the applicant is required to pay the in lieu mitigation fees. Thus, in order to ensure that the required mitigation actually results in improvements to public beach access that are commensurate to the impacts resulting from the proposed revetment, payment of the sand supply and public access mitigation fees would ideally be provided in large part, if not entirely, by the blufftop property owners that will receive the primary benefit of the revetment. However, it may be the case, based on the prior settlement agreements between the County and the property owners that the County will be required to pay for the entire cost of the new revetment and to also pay the sand and public access mitigation fees. The Commission is not a party to those settlement agreements and is not bound by their terms, nor does the Commission have sufficient evidence to determine the wisdom or appropriateness of OC Parks being responsible for constructing and maintaining the proposed revetment, as the agency agreed to in the 2013 settlement agreement. As such, the Commission here requires only that the required in lieu

mitigation fee be paid prior to issuance of this coastal development permit, and does not weigh in as to which entity ultimately should shoulder the financial burdens associated with the required in lieu mitigation fees.

The proposed revetment is required to protect existing structures in danger from erosion, and, as conditioned, adequate mitigation to off-set the expected impacts of the revetment on shoreline sand supply at this location will be a condition of the permit. Therefore, the project can be approved pursuant to Section 30235 of the Coastal Act. However, the project must still comply with other Coastal Act policies, including public access policies (discussed below). In addition, given the impacts of the proposed revetment on the beach and surrounding area, which raise numerous inconsistencies with Coastal Act policies as discussed here and elsewhere in this staff report, the project must be conditioned to ensure that the protection afforded by Section 30235 extends only so long as the revetment actually serves the purpose of protecting “existing structures in danger from erosion.”

Duration of Armoring Approval and Initial Mitigation Period

Section 30235 only requires approval of shoreline armoring when required to protect existing structures in danger of erosion, and when impacts to shoreline sand supply have been avoided or mitigated. Thus, due to the significant adverse impacts of the proposed revetment on coastal resources and inconsistencies with Chapter 3 policies discussed in this staff report, including impacts to natural landforms and visual resources and impacts to the beach and public access (discussed more fully below), it is important to ensure that impacts of the proposed revetment, if approved, are minimized and mitigated, including consideration of limitations on the authorization period for the revetment. In certain past cases, the Commission has required a fixed armoring authorization term, such as 20 years (Ref: CDP No. 4-12-043/Broad Beach (10-year authorization), CDP No. 6-14-025/Koman et al. (20-year authorization). The concept is consistent with the Commission’s experience that shoreline armoring often needs to be reinforced, augmented, replaced, or substantially changed within twenty years of its original installation, and to provide for re-review on a regular basis to allow for consideration of possible changes in policy, law, and physical conditions associated with armoring, all of which will minimize impacts of the revetment on coastal resources and encourage maximum public access to the coast.

A 20-year authorization term is appropriate because rising sea levels and its attendant consequences will likely decrease the intervals between applications for armoring repairs in the future, potentially dramatically, depending on how far sea level actually rises. A 20-year period better responds to such potential changes and uncertainties, including allowing for an appropriate reassessment of continued armoring and its effects at that time, including with respect to its physical condition after 20 years of being subjected to the coastal environment. In addition, with respect to climatic change and sea level rise specifically, the understanding of these issues should improve in the future, given better understanding of the atmospheric and oceanic linkages and more time to observe the oceanic and glacial responses to increased temperatures, including trends in sea level rise. Such an improved understanding will almost certainly affect CDP armoring decisions, including at this location, much as the Commission’s direction on armoring has changed over the past 20 years as more information and better understanding has been gained regarding such projects, including their effect on the California coastline. In addition, after 20

years, it is possible that the structures on the bluff top will have been rebuilt, remodeled or relocated such that the shoreline protection is no longer necessary or legally required.

Furthermore, Section 30253 requires new development on a bluff top lot to be sited and designed so that it does not require the construction of new shoreline armoring or reliance on existing shoreline armoring. However, when the approval of shoreline armoring is not expressly linked to a particular bluff top structure, shoreline armoring could remain long after the structure(s) it was required to protect has been removed, and therefore may encourage the construction of new structures and additions to existing structures in an unsafe location while continuing to adversely affect coastal resources, including sand supply, natural landforms, and public recreational use of the beach and coast. Therefore, Special Condition 5 also limits the duration of the subject CDP approval to when all of the existing bluff top structures within the landslide limit built prior to January 1, 1977 requiring protection are redeveloped (as defined in Special Condition 15), are no longer present (i.e. demolished), or no longer require the shoreline armoring approved under this CDP, whichever occurs first. Approval of this permit requires the applicant to apply for a new CDP or amendment to this CDP to remove the shoreline armoring or to modify the terms of its authorization, at such time that no existing structures built prior to January 1, 1977 qualify for protection.

Therefore, Special Condition 5 authorizes the revetment and public access improvements for a period of 20 years from the date of Commission approval of the CDP or until such time that no existing structures built prior to January 1, 1977 qualify for protection, whichever occurs first. Prior to the expiration of this CDP, a new CDP or an amendment to this CDP would need to be applied for if the County intends to keep, maintain, or remove the revetment and public access improvements. The applicant, in that case, does not necessarily have to be Orange County Parks; it could, and probably should, be those property owners who are actually receiving the benefit of the shoreline protective structure at the expense of the public beach. Failure to obtain a new coastal development permit for the rock revetment and public access path beyond the authorization term would constitute a violation of the terms and conditions of this coastal development permit, unless the Executive Director grants additional time for good cause. In addition, Special Condition 7 requires the future applicant(s) to mitigate for impacts attributable to the armoring beyond the initial 20-year mitigation period (beginning on the building permit completion certification date for the revetment and public access improvements) upon which initial impact mitigation is based.

As detailed in Special Condition 5, an application to retain the revetment and public access improvements must include a complete evaluation of all feasible alternatives to the retention of the rock revetment in its current location, including, but not limited to, landward relocation of part or all of the revetment and removal of part or all of the revetment; construction of an alternative type/location of shoreline protective device; and options for removal and/or landward relocation of existing private residential development. The application shall also identify and address changed circumstances and/or unanticipated impacts associated with the presence of the rock revetment, including excessive scour and impacts to shoreline processes and beach width, or other impacts from coastal hazards and sea level rise. Additionally, the application shall include an analysis of additional mitigation measures necessary to adequately compensate for any adverse impacts to public access and sand supply resulting from the continued retention of the rock revetment and public access improvements.

Likewise, in order to ensure maximum access and to prevent further loss of recreational opportunities on the public beach, consistent with Coastal Act Policy 30210, Special Condition 8 mandates that no future repair or maintenance, enhancement, reinforcement, or any other activity affecting the rock revetment, as approved by this permit, as described and depicted on approved, as-built plans, shall be undertaken if such activity results in any encroachment seaward of the authorized footprint of the rock revetment or if the alteration increases beach encroachment at typical summer or winter beach sand profiles. The condition further requires that no rock be placed seaward of the approved toe of the revetment. Any debris, rock, or other materials which become dislodged after completion of the approved revetment through weathering, wave action, settlement or other action shall be removed from the beach or deposited on the revetment on an as-needed basis as soon as feasible after discovery. Additionally, Special Condition 8 requires that, by acceptance of this Permit, the applicant waives, on behalf of itself, and all successors and assigns, any rights to such activity that may exist under Public Resources Code Section 30235.

Limitations on Reliance on Approved Revetment

As described elsewhere in this report, the County is acting as the sole applicant for this revetment project due to settlements negotiated between the County and the blufftop homeowners. This is a unique situation. In past Commission actions on applications to construct shoreline armoring to protect private development, the private property owner(s) benefiting from the armoring would first request and obtain approval from the owners of the land where the revetment is proposed (e.g., the County in this case) and would then apply to Commission, as the sole applicant or, at the very least, co-applicants on a CDP application. Regardless of the fact that the blufftop property owners have chosen not to participate as applicants, the Commission still must require various Special Conditions that may affect the private property owners in order to find that the proposed revetment consistent with the Chapter 3 policies of the Coastal Act.

In order to identify the property owners that will benefit from and rely on the revetment for stability of their property, Special Condition 1 requires that prior to issuance of the notice of intent to issue this CDP, the applicant (County) must provide a full sized site plan identifying the property lines, accessors parcel numbers, and street addresses of all of the properties (including privately held parcels and property owned by the Home Owners Association) in the Niguel Shores Community within the mapped landslide limit (Ref: [Exhibit 3](#)).

To ensure that current blufftop property owners and buyers of the subject properties of lots within the area described as “Approximate Limits of Old Landslides” ([Exhibit 3](#), identified in Special Condition 1), which also includes the Niguel Shores Community Association, receive notice of the CDP and its various restrictions and limitations on the authorization of the approved revetment, Special Condition 15 requires that the applicant provide the Commission with documentation demonstrating that the Niguel Shores Community Architectural Application, the Niguel Shores Architectural Rules, and the Niguel Shores Community Annual Disclosure Documents have been updated to include the requirements of Special Condition 15A.2 of this permit in its entirety in each document. Staff discussions with representatives from the Niguel Shores Homeowners Association and with a representative of some of the bluff fronting property owners resulted in a proposal by the Niguel Shores Homeowners Association to amend their Architectural rules and application forms to include the acknowledgements usually included in

deed restrictions, and to provide annual disclosures to homeowners that include the required notifications, which the attorney for the HOA represented would be included in materials reviewed by potential purchasers during escrow.

Special Condition 15 also requires that the County provide annual written notifications to the Affected Homeowners, including a copy of this permit. Special Condition 15 is necessary to ensure that current and future owners of the properties that will benefit from construction of the proposed revetment understand the limited nature of the Commission's approval of the revetment, given the significant coastal resource impacts of the proposed revetment, as well as the strict limitations in Section 30235 on developments that may require construction of shoreline protective devices.

The subject application is relatively unique, in that the beneficiaries of the proposed revetment are not permit applicants. However, similar conditions requiring project applicants to assume the risks of development in hazardous areas, and to record deed restrictions accepting and incorporating the terms and conditions of a permit approving development that they benefit from, are commonly imposed to ensure that the risks of a private development are borne by those who are primarily benefiting from the proposed development, and to ensure that the risks and benefits reflected in a CDP run with the land, due to the significant amounts of time that permits may be in place, and the likelihood that properties impacted by a permit may change hands at some point during a CDP's authorization period (Ref: CDP Nos. 5-10-058/Mahfood (San Clemente), A-5-LGB-14-0027/11 Lagunita (Laguna Beach), 5-18-0304/City of San Clemente (San Clemente)). In this case, deed restrictions on individual properties are not required, due to practical concerns raised by the Niguel Shores HOA associated with the task of obtaining over 60 recorded deed restrictions or obtaining approval of CC&Rs in such a large community (over 900 homeowners), and an assessment by staff that if adequate notice to current and future homeowners can be provided and ensured, then the typical approach in these types of practices of requiring a deed restriction or amendments to CC&Rs may not be necessary.

As Section 30235 requires approval of shoreline protective devices only if necessary to protect existing structures in danger of erosion, the noticing provisions required by Special Condition 15 also acknowledge that the Commission authorized construction of the revetment to protect structures in existence prior to the effective date of the Coastal Act (i.e., prior to January 1, 1977), and that development not in existence at that time, or existing development that has subsequently been redeveloped, is not entitled to rely on the revetment approved by this permit to ensure stability of the landowners' property, and the landowner shall not site new development, or redevelop existing development, in reliance on the revetment approved by this permit. As cited above, the LCP, which is used for guidance, contains several policies designed to reduce or avoid risks to new development. Conservation and Open Space Element Policy 2.12 of the LUP prevents new development that will represent a hazard to its occupants and which may require structural measures to prevent destructive erosion or collapse. In addition, Conservation and Open Space Element Policy 2.7 of the LUP and Section 09.27.030(c) of the IP require an applicant to provide extensive geotechnical information documenting that any new development on the coastal blufftop has an appropriate setback to ensure that the residence is reasonably safe from failure and erosion given a minimum 50-year physical life, without having to propose bluff stabilization to protect the structure.

As used in this condition, “redeveloped” means:

1. Development that consists of alterations to a structure, including: (a) additions to an existing structure, (b) exterior and/or interior renovations, or (c) demolition or replacement of an existing home or other principal structure, or portions thereof, which results in:
 - a. Alteration (including demolition, renovation or replacement) of 50% or more of major structural components including exterior walls, floor structure, roof structure or foundation, or a 50% increase in gross floor area. Alterations under this definition are not additive between individual major structural components;

OR

- b. Alteration (including demolition, renovation or replacement) of less than 50% of a major structural component where the proposed alteration would result in cumulative alterations exceeding 50% or more of a major structural component, taking into consideration previous alterations approved on or after the date of certification of the Coastal Act (i.e., January 1, 1977); or an alteration that constitutes less than 50% increase in floor area where the proposed alteration would result in a cumulative addition of greater than 50% of the floor area, taking into consideration previous additions approved on or after January 1, 1977.

Special Condition 15 requires the County to develop a hazard notification plan that will include measures to ensure adequate notice and acknowledgment of the requirements of the permit, including that the Niguel Shores Community Association must provide Annual Disclosures to affected homeowners informing them of the requirements of the permit, and that the Niguel Shores Community Association will amend their Architectural Rules and Architectural Applications for the affected properties to incorporate notifications of the requirements of the permit. Special Condition 15 also includes a requirement that if the annual monitoring reports establish that either the Niguel Shores Community Architectural Application, the Niguel Shores Architectural Rules, or the Niguel Shores Community Annual Disclosure package has been amended or modified with respect to any of the notifications required by #2 above, or if any of the requirements of this condition have not been met, the County must immediately notify the Commission Executive Director, who will determine whether the County must apply for a new CDP or amendment to this CDP, to remove the shoreline armoring or to modify the terms of its authorization.

Assumption of Risk, Waiver of Liability and Indemnity (Applicable to the County)

Due to the inherent risk of shoreline development, Special Condition 16 requires the applicant to waive liability and indemnify the Commission against damages that might result from the proposed shoreline devices or their construction. The risks of the proposed development include that the proposed shoreline devices will not protect against damage to the structures from bluff collapse and erosion. In addition, the structure itself may cause damage either to the structures or to neighboring properties by increasing erosion of the bluffs. Such damage may also result from wave action that damages the seawall. Although as conditioned, the project minimizes these

risks, the risks cannot be eliminated entirely. Given that the applicant has chosen to construct the proposed shoreline device despite these risks, the applicant must assume the risks. Special Condition 16 further requires that the County must submit a written agreement to the Commission incorporating all the terms of the condition.

Coastal Act Section 30620(c)(1) authorizes the Commission to require applicants to reimburse the Commission for expenses incurred in processing CDP applications. See also 14 C.C.R. § 13055(g). Thus, the Commission is authorized to require reimbursement for expenses incurred in defending its action on the pending CDP application in the event that the Commission's action is challenged by a party other than the Applicant. Therefore, consistent with Section 30620(c), the Commission imposes Special Condition 9 requiring that the County, by acceptance of this permit, agree to reimburse the Commission for any costs and attorney's fees that the Commission may incur in connection with the defense of any action brought by a party other than the applicant against the Commission, its officers, employees, agents, successors and assigns.

Long-Term Stability and Maintenance

Coastal Act Section 30253 requires the project to assure long-term stability and structural integrity, minimize future risk, and avoid additional, more substantial protective measures in the future. This is particularly critical given the dynamic shoreline environment in this area. Also critical to the task of ensuring long-term stability, as required by Section 30253, is a formal long-term monitoring and maintenance program. If the subject armoring were damaged in the future (e.g., as a result of flooding, landsliding, wave action, storms, etc.), it could lead to a degraded public access condition. In addition, such damages could adversely affect nearby beaches and recreational use areas by resulting in debris on the beaches and/or creating a hazard to the public using the beaches and offshore areas. Therefore, in order to find the proposed project consistent with Coastal Act Section 30253, the project must be maintained in its approved state. Further, in order to ensure that the applicant and the Commission know when repairs or maintenance are required, the applicant must regularly monitor the condition of the subject armoring, particularly after major storm events. Such monitoring will ensure that the applicant and the Commission are aware of any damage to or weathering of the armoring and other project components, and can determine whether repairs or other actions are necessary to maintain the armoring and the offsetting access improvements in their approved state before such repairs or actions are undertaken. Special Condition 6 requires the applicant to submit a monitoring report every five years that evaluates the condition and performance of the revetment and overall site stability, and to submit recommendations, if any, for necessary maintenance, repair, changes or modifications to the project. Special Condition 6 also requires that the applicant to monitor sand levels and to undertake a MHTL every five years from the date of CDP issuance. In order to provide an accurate representation of the public trust at the subject site, a minimum of two MHTL surveys during the initial 20 year permit term shall be based on field data collected during typical winter sand level conditions.

Special Condition 7 memorializes that any change in the design of the revetment or future additions to or reinforcement of the revetment beyond exempt maintenance as defined in Section 13252 of Title 14 of the California Code of Regulations will require a coastal development permit. However, in all cases, if after inspection it is apparent that repair and maintenance is

necessary, the applicant shall contact the Executive Director to determine whether a coastal development permit or an amendment to this permit is legally required, and, if required, shall subsequently apply for a coastal development permit or permit amendment for the required maintenance.

To assure the proposed shoreline armoring and public access improvements have been constructed properly, Special Condition 4 requires that, within 90 days of completion of the project, as built-plans be submitted that verify the proposed revetment has been constructed in accordance with the approved plans.

Special Condition 13 requires that the applicant acknowledge that the issuance of this permit does not waive any public rights that may exist on the property.

In summary, given the identified landslide risk at the subject site, the Commission finds that the existing primary structures are in danger from erosion and that the proposed revetment is necessary to protect the existing bluff top structures (which were originally constructed prior to the enactment of the Coastal Act). The proposed project is the least environmentally damaging feasible alternative, with no further feasible mitigation measures or alternatives that would substantially lessen any significant adverse impacts of the development on the environment. Therefore, the Commission finds that the proposed shoreline armoring, as conditioned, is consistent with Sections 30235 and 30253 of the Coastal Act.

B. PUBLIC ACCESS AND RECREATION

Coastal Act Section 30604(c) requires that every coastal development permit issued for any development between the nearest public road and the sea “shall include a specific finding that the development is in conformity with the public access and public recreation policies of [Coastal Act] Chapter 3.” The proposed project is located seaward of the first through public road (Pacific Coast Highway). Coastal Act Sections 30210 through 30214 and 30220 through 30224 specifically protect public access and recreation. In particular:

***30210.** In carrying out the requirement of Section 4 of Article X of the California Constitution, maximum access, which shall be conspicuously posted, and recreational opportunities shall be provided for all the people consistent with public safety needs and the need to protect public rights, rights of private property owners, and natural resource areas from overuse.*

***30211.** Development shall not interfere with the public's right of access to the sea where acquired through use or legislative authorization, including, but not limited to, the use of dry sand and rocky coastal beaches to the first line of terrestrial vegetation.*

***30212.** Public access from the nearest public roadway to the shoreline and along the coast shall be provided in new development projects*

***30221.** Oceanfront land suitable for recreational use shall be protected for recreational use and development unless present and foreseeable future demand for public or*

commercial recreational activities that could be accommodated on the property is already adequately provided for in the area.

30223. *Upland areas necessary to support coastal recreational uses shall be reserved for such uses, where feasible.*

Coastal Act Section 30240(b) also protects parks and recreation areas, such as the adjacent beach area. Section 30240(b) states:

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.

Additionally, Coastal Act section 30604(h) allows the Commission to consider environmental justice when acting on a coastal development permit:

When acting on a coastal development permit, the issuing agency, or the commission on appeal, may consider environmental justice, or the equitable distribution of environmental benefits throughout the state.

The City's LUP policies related to public access state:²⁹

Land Use Element Policy 2.9: Oceanfront land suitable for recreational use shall be protected for recreational use and development unless present and foreseeable future demand for public or commercial recreational activities that could be accommodated on the property is already adequately provided for in the area. (Coastal Act/30221)

Land Use Element Policy 3.3: Priority should be given to those projects that provide for coastal recreational opportunities for the public. Lower cost visitor and recreational facilities shall be protected, encouraged, and, where feasible, provided. Upland areas necessary to support coastal recreational uses shall be reserved for such uses, where feasible. (Coastal Act/30213, 30222, 30223)

Land Use Element Policy 3.7: Encourage safe and convenient bicycle and pedestrian access throughout the community. (Coastal Act/30210-212.5, 30250, 30252)

Land Use Element Policy 3.11 Development shall not interfere with the public's right of access to the sea where acquired through use or legislative authorization, including, but not limited to, the use of dry sand and rocky coastal beaches to the first line of terrestrial vegetation. (Coastal Act/30211)

Land Use Element Policy 3.12: Public access from the nearest public roadway to the shoreline and along the coast shall be provided in new development projects except where it is inconsistent

²⁹ The access policies in the City's certified LCP are generally consistent with the Coastal Act access policies. Therefore, the findings in this staff report are based primarily on the Coastal Act policies, which is the standard of review for this application.

with public safety, military security needs, or the protection of fragile coastal resources, or where adequate access exists nearby, including access as identified on Figures UD-2 and COS-4. (Coastal Act/30212)

Land Use Element Policy 4.3: Public access, which shall be conspicuously posted, and public recreational opportunities, shall be provided to the maximum extent feasible for all the people to the coastal zone area and shoreline consistent with public safety needs and the need to protect public rights, rights of private property owners, and natural resource areas from overuse. (Coastal Act/30210)

Urban Design Element Policy 2.2: Improve public spaces and recreational facilities as focus points for each community. (Coastal Act/30213)

Urban Design Element Policy 4.3: Develop stronger pedestrian, bicycle and visual linkages between public spaces and to and along the shoreline and bluffs. (Coastal Act/30210, 30212)

Urban Design Element Policy 4.4: Encourage development of community cultural and recreational facilities. (Coastal Act/30213)

Conservation and Open Space Element Policy 3.8: Development in areas adjacent to parks and recreation areas shall be sited and designed to prevent impacts which would significantly degrade those areas through, among other methods, creative site planning and minimizing visual impacts, and shall be compatible with the continuance of those parks and recreation areas. (Coastal Act 30240)

Conservation and Open Space Element Policy 7.3: Preserve public and private open space lands for active and passive recreational opportunities. (Coastal Act/30213)

Shoreline protective devices have significant adverse impacts to public access and recreation. Section 30210 of the Coastal Act requires the Commission to provide the general public maximum access and recreational opportunities, while respecting the rights of private property owners. Section 30211 prohibits development from interfering with the public's right of access to the sea. In approving new development, Section 30212(a) requires new development to provide access from the nearest public roadway to the shoreline and along the coast, save certain limited exceptions, such as existing adequate nearby access. Section 30213 protects lower cost forms of access, such as the free access available at the project site. Section 30220 protects coastal areas suited for ocean-oriented activities, such as the beach and surfing accessway here, for such purposes. Sections 30221 and 30223 protect oceanfront and upland areas for public recreational uses, and Section 30222 prioritizes visitor-serving amenities providing for public recreational use. Section 30240(b) protects park facilities, such as the beach at the project site, from degradation. Finally, the Coastal Act Section 30210 direction to maximize access represents a different threshold than to simply provide or protect such access, and is fundamentally different from other like provisions in this respect. In other words, it is not enough to simply provide access to and along the coast, and not enough to simply protect such access, but rather that such access must also be maximized. This terminology distinguishes the Coastal Act in certain respects, and provides fundamental direction to maximize public recreational

access opportunities with respect to projects along the California coast that raise public access issues, like this one.

As discussed above in the Hazards section of this staff report, the proposed project would have significant and identifiable impacts on public recreational access, including through loss of beach/shoreline recreational use area where it is sited, incremental loss of dry beach area due to the “coastal squeeze,” and cumulative impacts to beach and shoreline recreation in the area (see discussion above in Section A “Geologic Conditions and Hazards,” incorporated here by reference). More specifically, loss of public beach area in front of the proposed revetment will continue to occur more and more often as sea level rises until the beach will be only usable during lower tides and eventually lost entirely. The Mean High Water (MHW) line at the subject site is +4.5 ft. NAVD88. With current, typical summer sand levels, the proposed revetment intersects the beach at +10 ft. NAVD 88, inland of the MHW line so that there is available recreational beach area for typical summer conditions. However, with current, typical winter sand levels, the proposed revetment intersects the beach at +5 ft. NAVD 88, leaving little beach area between the MHW line and the revetment slope. When storm waves add to the winter high tide, there will often be little if any dry winter beach area and waves may reach the proposed revetment.

These recreational beach conditions will worsen in the future with rising sea levels. Under a high emissions scenario with medium-high risk aversion, sea levels are expected to rise 0.7 ft. by the year 2030. The beach slope will steepen to adjust to the higher water levels. However, the revetment will prevent the beach from migrating inland and within a decade, the subject beach would be flooded during the average daily high tide in the winter. Under a high emissions scenario with medium-high risk aversion, sea levels are expected to rise 5.4 ft. by the year 2090; the subject beach would be flooded during the average daily high tide in the summer and waves would routinely break on the revetment face during many winter tide conditions.

The public beach at the project site is heavily used by beachgoers.³⁰ Public access to the beach is available at the northern and southern ends of the revetment. At the northern end, a trail system from Salt Creek Beach continues south directly connecting to the northern end of the revetment and beach area via a small County park with a restroom facility. At the southern end there is another trail system that includes multiple vertical accessways from a public parking lot at the end and to the west of Selva Road and lateral access along the shoreline and atop a revetment fronting The Strand residential area. Additionally, there are three (3) private stairways along the bluff slope above the revetment that provide private beach access for the Niguel Shore homeowners. The beach fronting the subject site is narrow, and at high tides throughout the year it is inundated with water and can be difficult to traverse. The proposed revetment will be constructed on the public beach that would otherwise be available for public use and would also prevent natural erosion thereby creating new beach area and, therefore, will have both immediate and long-term adverse impacts on public access and recreational opportunities.

³⁰ The heavy use of this beach can be seen by the large and multiple beach public parking lots located in the adjacent areas (public parking lot located off Ritz Carlton Drive and public parking lot located off of Selva Road). Additionally, the location of the adjacent Ritz Carlton and St. Regis hotels show the popularity of the site. The heavy frequent use of this beach is also due to it being known as a popular surfing location.

Coastal Act Section 30212 requires new development projects, where appropriate, to provide public coastal access as part of the project. In this case, the proposed project includes a public access path adjacent to the beach and construction of four new public stairways between the beach and the proposed accessway. Special Condition 10 requires that the proposed public access improvements (walkway and four stairways) be constructed concurrently with the proposed revetment and shall be maintained and available for use by the public for so long as the revetment is in place. The proposed walkway will result in an important link between the existing walkways located adjacent to the south and north of the subject site.

Public Trust

In addition to the Coastal Act policies that support public access and equal opportunities for recreation, the Commission has the responsibility to protect the public trust and public trust uses.³¹ Coastal Act regulations³² define public trust lands as “all lands subject” to the common law public trust and associated with trust purposes, including recreation. In the common law, the doctrine traditionally protects in-water uses such as fishing and navigation, but has been extended to protect the environment (*Marks v. Whitney* (1971) 6 Cal.3d 251, 259-260), and associated resources that affect trust lands, such as non-navigable tributaries supplying water to a lake (*Nat'l Audubon Soc. v. Super. Ct.* (1983) 33 Cal. 419, 436-437). In some jurisdictions, the doctrine explicitly protects “dry sand” recreation adjacent to public trust lands (*Matthews v. Bay Head Improvement Assn.* (1984) 95 N.J. 306, 331-332), on the rationale that “reasonable enjoyment” of the shore and sea cannot be realized without some use of the dry sand area (*id.* at p. 325).³³ California recognizes access as a component of public trust resources. A July 2017 report by the Stanford Center for Ocean Solutions explains that agencies “may not undertake or authorize uses of uplands without appropriate safeguards for nearby public trust resources and uses.”³⁴ The State Lands Commission, which administers leases on public trust lands, analyzes the entire area of public trust impacts, including impacts on upland recreation.³⁵ Thus, use of dry land adjacent to public trust lands may not interfere with recreation and other public trust uses.

³¹ The State of California acquired sovereign ownership of all tidelands and submerged lands and beds of navigable waterways upon its admission to the United States in 1850. The State holds and manages these lands for the benefit of all people of the State for statewide purposes consistent with the common law Public Trust Doctrine (“public trust”). In coastal areas, the landward location and extent of the State's sovereign fee ownership of these public trust lands are generally defined by reference to the ordinary high water mark (Civil Code, §670), as measured by the mean high tide line (*Borax Consol. v. City of Los Angeles* (1935) 296 U.S. 10); these boundaries remain ambulatory, except where there has been fill or artificial accretion.

³² Cal. Code of Regs., title 14, § 13577(f).

³³ In a 2005, the same court affirmed *Matthews* and described access over uplands as “integral to the public trust doctrine.” (*Raleigh Ave. Beach Assn. v. Atlantis Beach Club, Inc.* (2005) 185 N.J. 40, 53.)

³⁴ Center for Ocean Solutions, Stanford Woods Institute for the Environment, *The Public Trust Doctrine: A Guiding Principle for Governing California's Coast Under Climate Change* (2017), p. 5.

³⁵ See e.g., Section 3.2.4, Public Trust Impact Analysis, Broad Beach Restoration Project Revised Analysis of Impacts to Public Trust Resources and Values, July 2014, including discussion of long-term impacts on recreational use at pp. 3.2-23 to 26. Available at http://www.slc.ca.gov/Info/Reports/Broad_Beach/3.2_Recreation.pdf.

The concern is complicated by the effects of sea level rise. As sea levels rise, and beaches and bluffs migrate inland, maintaining development adjacent to the shoreline will in many cases cause the narrowing and eventual loss of beaches, dunes and other shoreline habitats as well as the loss of offshore recreational areas. This narrowing often referred to as the “coastal squeeze,” can occur when shoreline protection or other fixed development prevents the landward migration of the beach that would have otherwise occurred.

Thus far, the beach fronting Niguel Shores has maintained a width capable of providing public access during most tide cycles throughout any given year. However, at certain high tides, especially during King Tides, the tide reaches the existing, much smaller, revetment, fully submerging the beach. Given that the proposed revetment would occupy much more public beach area than does the existing revetment, these occurrences are likely to occur much more frequently, further limiting the space available for the public to recreate on the beach and access the shoreline, and ultimately interfering with public trust uses.

To address public trust concerns, Special Condition 15 puts the blufftop property owners on notice that the mean high tide line is ambulatory in nature and may migrate inland due to sea level rise; thus, the revetment may become located on public trust lands at some point in the future and, if so, the revetment may require a lease from the State Lands Commission and/or may need to be removed if it is inconsistent with the public trust. Special Condition 16 requires a similar public trust lands acknowledgement from the County.

Environmental Justice

This project also raises environmental justice concerns. Section 30604(h) states that: “When acting on a coastal development permit, the issuing agency, or the commission on appeal, may consider environmental justice, or the equitable distribution of environmental benefits throughout the state.”³⁶ The Commission adopted an environmental justice policy³⁷, committing it to consider these principles, consistent with Coastal Act policies, in the agency’s decision-making process and to ensure coastal protection benefits are accessible to everyone. In approving the policy, the Commission recognized that equitable coastal access is encompassed in, and protected by the public access policies in Chapter 3 of the Coastal Act.

Equitable public access and coastal recreation, however, face the growing threat of coastal armoring, which causes significant impacts to beaches and public access. Armoring proposals, including the one here, often protects a relatively small amount of very expensive private property at the direct expense of the public (cost to public calculated above at \$149,750 for sand supply loss and \$17,792,933 for loss of coastal public access), including low-income and minority communities who live farther inland.

³⁶ Government Code Section 65040.12(e) defines environmental justice as “the fair treatment of people of all races, cultures, and incomes with respect to the development, adoption, implementation, and enforcement of environmental laws, regulations, and policies.”

³⁷ Environmental Justice Policy, Adopted March 8, 2019 - https://documents.coastal.ca.gov/assets/env-justice/CCC_EJ_Policy_FINAL.pdf

In California, equitable coastal access and recreation opportunities for all populations has not been realized due to historic and social factors, such as discriminatory land use and economic policies and practices.³⁸ Spatial analysis of 2010 Census data shows a majority of Californians (70.9%) still live within 62 miles of the coast, but populations closest to the coast are disproportionately white, affluent, and older than those who live farther inland.³⁹ Shoreline armoring structures further exacerbate inequitable coastal access because these structures take up public beach space over extended periods of time, often to protect private residential property (e.g. proposed revetment displaces 25,798 sq. ft. of beach area over an initial 20 year period to protect a private bluff-top community) that would otherwise be available to the public, regardless of demographic or socioeconomic background or place of residence.

Further, views from the beach are correspondingly diminished as the beach becomes less available for public access. In this case, the private property will continue to have coastal views even when public beach access may be diminished. In other words, the negative impacts of shoreline armoring structures on public beach area and coastal access will be disproportionately borne by low income and minority communities, while coastal property owners will continue to enjoy coastal benefits at the expense of the public.

To address some of the public access environmental justice impacts resulting from this project, staff has conditioned the project to require the applicant to provide for a coastal access walkway and public stairways and to provide additional mitigation for public access and sand supply impacts (Special Condition 10). However, the applicant has indicated that the cost of the project itself and any required mitigation may reduce their budget to improve and maintain property owned and managed by the parks department in other parts of Orange County. Thus, the costs associated with this project could adversely impact county residents in low-income and minority communities outside of the coastal zone, though Commission staff does not have detailed information concerning the applicant's budget and how funding for OC Parks projects would be reallocated if the agency were required to pay the in-lieu mitigation fees. Thus, ideally the applicant would explore opportunities to shift the burden of those costs in part to the property owners benefiting from these shoreline protections at the expense of the public. While payment of the identified mitigation fee could reduce the County's ability to serve inland low income and minority communities, the Commission does not have evidence that this is, in fact the case; in any event, this does not obviate the need to mitigate for the adverse impacts to coastal resources within the coastal zone caused by the applicant's proposed shoreline protection. At this time, the applicant has not identified alternative coastal public access projects, in addition to the public walkway and stairways, which would provide commensurate benefits to the calculated in-lieu mitigation fee.

Staging and Construction Timing

³⁸ Robert Garcia & Erica Flores Baltodano, *Free the Beach! Public Access, Equal Justice, and the California Coast*, Stanford Journal of Civil Rights and Civil Liberties. Pages 143 (2005)

³⁹ Reineman, et al., Coastal Access Equity and the Implementation of the California Coastal Act , Stanford Environmental Law Review Journal, v. 36. Pages 96-98. (2016)

In 2012, when the Commission previously reviewed a similar application to reconstruct the revetment at the site, the applicant had proposed to use the Salt Creek Beach parking lot and smaller areas along the access road to the project site for staging. Specifically, the applicant proposed to use about half of the public parking lot (4 acres) at Ritz Carlton Drive and Pacific Coast Highway to stage and stockpile stone, set up scales, maneuver trucks and establish an office trailer. Staging at the public parking lot would significantly impact public access as these lots are heavily used by visitors to the beach. Even using only a reduced section of the parking lot would result in a significant impact, let alone half of the parking lot as proposed by the applicant. If a parking lot were to be used for a staging area for the project, the large Niguel Shores private residential community parking lot adjacent to the project site should instead be used. The project plans submitted with the current application include a note stating “Possible Staging Area” within the upper southerly private parking lot adjacent to Niguel Shores Drive. However, the applicant has not committed to a staging area. Therefore, Special Condition 11 requires that the applicant submit a storage, staging, and access plan to the Commission and prohibits storage of equipment or materials on the sandy beach, at the Salt Creek Beach Parking Lot, at the Strand Beach Parking Lot, or on the County-owned path that parallels the Strand Beach Funicular Cable Car and requires that the use of other public parking street spaces to be minimized.

The applicant has indicated that if construction of the revetment and public access trail is allowed to occur during the summer months, it may be possible to complete the project in six months. However, if construction is not allowed during the summer, the applicant estimates work will have to occur over two winter seasons due to anticipated delays associated with winter storms, which might extend the construction time. However, as described previously, the subject beach is heavily used and is often narrow depending on the tide cycle. Therefore, in order to provide maximum public access during the busy summer beach season and Special Condition 11 prohibits construction on the sandy beach during weekends and holidays and between Memorial Day to Labor Day of any year.

In conclusion, as discussed above and in the Hazards section of this staff report, the proposed revetment will have significant adverse impacts on public access and recreation that is not consistent with the public access policies of the Coastal Act. However, as demonstrated in the Hazards section, approval of the proposed revetment is required by section 30235, because it is necessary to protect existing structures in danger from erosion, and the permit has been conditioned to require mitigation of the impacts to shoreline sand supply and public access. Furthermore, the mitigation fees required under section 30235 and the proposed public access improvements adequately mitigate for the anticipated impacts of the revetment on public access for the 20-year duration of this approval. Thus, as conditioned, the proposed public access improvements appropriately mitigate for the public recreational access impacts associated with the proposed revetment. Therefore, as conditioned, the proposed project is consistent with the Coastal Act access and recreation policies and with the public access policies of the City’s certified LCP cited above.

C. BIOLOGICAL RESOURCES/WATER QUALITY

The following Chapter 3 policies of the Coastal Act are most applicable to this development:

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.

The following policies of the City of Dana Point LCP protect environmentally sensitive habitats and/or protect coastal water quality:⁴⁰

Land Use Element Policy 4.4: Preserve, maintain and, where feasible, enhance and restore marine resource areas and coastal waters. Special protection shall be given to areas and species of special biological or economic significance. (Coastal Act/30230)

Conservation and Open Space Element Policy 2.20: The biological productivity and quality of coastal waters, streams, wetlands, estuaries, and lakes and the restoration of optimum populations of marine organisms shall be ensured by, among other means, minimizing adverse effects of waste water discharges. Any specific plans and/or planned development district policies and specific development proposals, site plans and subdivision maps shall control runoff, prevent depletion of ground water supplies and substantial interference with surface water flow, encourage waste water reclamation, maintain natural vegetation buffer areas that protect riparian habitats, and minimize alteration of natural streams. (Coastal Act/ 30231).

The majority of the subject coastal bluff is composed of non-native ornamental landscaping species with only a small percentage of the bluff composed of native shrubs ([Exhibit 22](#)). Thus, the proposed development on the face of the bluff (re-construction of revetment, construction of new access path, and drainage improvements) is not expected to result in adverse impacts to native habitat on the bluff. As described in detail in the alternatives analysis section of this report related to the beach replenishment alternative, there is important intertidal habitat in the

⁴⁰ The biological resource policies in the City's certified LCP are generally consistent with the Coastal Act biological resource policies. Therefore, the findings in this staff report are based primarily on the Coastal Act policies, which is the standard of review for this application.

nearshore area seaward of the project site. Nevertheless, the project is not expected to impact the nearshore habitat because no beach replenishment is proposed at the subject site.

However, the revetment will be located on the sandy beach. Sandy beach ecosystems are unique—their intrinsic biota and ecological functions are not provided by any other coastal ecosystem. Sandy beaches are comprised of three different biological zones: the supra-littoral zone, the mid-littoral zone, and the surf zone, each of which provides critical habitat, food and/or breeding grounds for many species. These zones provide functions that include buffering and absorption of wave energy by stored sand, filtration of large volumes of seawater, extensive detrital and wrack processing and nutrient recycling, and the provision of critical habitat and resources for declining and endangered wildlife, such as shorebirds and pinnipeds.

The effects of shoreline armoring on sandy beach ecosystems are increasingly recognized, though difficult to quantify. Armoring directly encroaches upon the beach and fixes shoreline position, constraining the possible responses and evolution of beach ecosystems to adjust to changes in sea level and other dynamic coastal processes. This loss of the scope and ability of beaches to respond to coastal processes results in the reduction of overall width and the elimination of habitat zones and the space needed by biota to adjust to changing swell, tide and beach conditions. As pressure to develop the coast continues, and sea level rise and coastal erosion accelerates, the need to understand the ecological consequences of armoring on coastal ecosystems is increasingly urgent.

Quantitatively assessing effects of armoring on ecological components and functions potentially altered or lost on a given stretch of sandy beach is complex. One option for mitigating ecological impacts of coastal armoring is to use the cost of restoring suitable natural habitat, either at that site or nearby as a proxy for ecological value. A fundamental assumption to the replacement cost method is that the restored ecosystem function is equivalent to the natural function lost and is the least costly way to regain that natural function.^{41,42} The replacement cost approach relies on determining proportional and appropriate ecological restoration for identifying equitable mitigation and thus requires a robust set of suitable restoration projects to draw upon for valuation.

However, a replacement cost approach is only one alternative to delving into the array of methods for identifying, replicating, and monitoring lost ecological components of a specific stretch of beach and still requires further study before a mitigation methodology can be devised and implicated. Thus, the Commission finds that the full ecological impacts of shoreline armoring on beach habitat may not be fully identified, or mitigated at this time. Research continues and staff anticipates this issue will be resolved in the future. The Commission finds that it is not feasible at this time mitigate for the loss of the biological productivity of a given stretch of beach.

Grunion

⁴¹ US National Research Council. 2005. *Valuing Ecosystem Services: Toward Better Environmental Decision-Making*. The National Academies Press. Washington, DC. <http://www.nap.edu/catalog/11139.html>

⁴² Bockstael, N.E., A.M. Freeman, R.J. Kopp, *et al.* 2000. On measuring economic values for nature. *Environ. Sci. Technol.* 34: 1384–1389.

The project's 2017 biological report indicates that grunion may spawn on the Salt Creek Beach. Thus, it is likely that the beach fronting the subject site would be used by grunion.

California grunion typically spawn on sandy beaches in the Orange County region between March and August and have the potential to be affected by beach fill projects and construction activities on the beach. The California grunion (*Leuresthes tenuis*) is a member of the New World silversides family, Atheriniopsidae, along with jacksmelt and topsmelt. Their usual range extends from Point Conception, California, to Point Abrejos, Baja California. Occasionally, they are found farther north to Tomales Bay, California, and south to San Juanico Bay, Baja California. They inhabit the nearshore waters from the surf to a depth of 60 ft. Tagging studies indicate that they do not migrate.

Grunion leave the water at night to spawn on beaches during the spring and summer months. For four consecutive nights, beginning on the nights of the full and new moons, spawning occurs after high tides and continues for several hours. As waves break on the beach, grunion swim as far up the slope as possible, and the female arches her body and excavates the semi-fluid sand with her tail to create a nest. She then deposits her eggs in the nest. Males curve around the female and release milt. The milt flows down the female's body until it reaches and fertilizes the eggs. As many as eight males may fertilize the eggs in a single nest. After spawning, the males immediately retreat toward the water while the female twists free and returns with the next waves. While spawning may only take 30 seconds, some fish remain stranded on the beach for several minutes.

Spawning occurs from March through August, and occasionally in February and September. Peak spawning is late March to early June. Mature grunion may spawn during successive runs, with females spawning up to six times each season. Females lay between 1,600 and 3,600 eggs during one spawn, with larger females producing more eggs. Eggs are deposited during the highest tides of the month and incubate in the sand during lower tides, when they will not be disturbed by wave action. The eggs are kept moist by residual water in the sand. They hatch about 10 days later during the next high tide series, when they are inundated with seawater and agitated by rising surf.

Construction activities can potentially bury grunion eggs or change the beach profile such that juvenile grunion are unable to return to the ocean. Monitoring for grunion and implementation of impact minimization measures are required when construction activities are scheduled to overlap or follow within two weeks of a grunion spawning event (Special Condition 14).

In order to monitor grunion runs and spawning events, the Walker Scale⁴³ was developed. The Walker Scale is used to monitor California grunion runs and spawning events by observing the number of fish and their proximities on a beach. The Walker Scale is provided as [Exhibit 5](#) to this report.

In order to avoid impacts to grunion, the Special Condition 14 requires the applicant to prepare and implement a monitoring program that includes the following elements: monitoring runs prior

⁴³ The Walker Scale is used for monitoring California grunion runs. For more information, visit <http://grunion.pepperdine.edu/sighting.asp>

to construction activities; defining spawning events in 300-foot segments; and stopping work if a W3, W4 or W5 is observed. This monitoring program would be put into place if construction activities occur between February 28th and May 28th. Special Condition 14 further requires that counts be conducted during the peak of each run when the most fish are on the beach, and that counts must include all fish on the beach, not only spawning females. In addition, each 300-foot segment must be memorialized through multiple GPS coordinates and be marked with irrigation flags. Areas of high concentration of grunion and grunion eggs must be avoided, and construction activities must halt in these highly concentrated areas unless a 100-foot buffer on either side of the highly concentrated areas is observed and no work occurs within the 100-foot buffers. The condition also differentiates between a Walker Scale 2 and 3 (W2 and W3), and allows work to commence in areas where grunion haven't spawned, while avoiding areas where the fish have spawned in the case of a W2. Construction must completely halt if a W3, W4, or W5 is observed. As conditioned, monitoring, GPS mapping, and flagging the runs so that construction halts will ensure that impacts to egg masses and areas of high concentrations of grunion and grunion eggs are avoided.

California Least Tern and Western Snowy Plover

The project's 2017 biological report also indicates that two wildlife species listed as threatened or endangered, western snowy plover and California least tern, were identified to have the potential to occur within the general project area.

California Least Tern forage and nest near sandy beaches in the Orange County region between April and September and have the potential to be affected by construction activities on the beach. In addition, Western Snowy Plover also forage and nest near the sandy beaches in Orange County from March through August. Special Condition 17 requires that if construction activities from between September 15th through May 28th, avian monitoring for these species must be implemented. The monitoring requirements to protect California least tern and western snowy plover required by Special Condition 17 will prevent disruption to the avian species during nesting and breeding season by implementing avoidance measures if roosting, false brooding, or mating and nesting behaviors are observed within 500 feet of project sites. While site preparation and excavation of the beach may cause a low-level turbidity plume in the water, the effects would be localized and temporary, and are not expected to extend beyond the normal foraging distances for either of these species and should diminish immediately when construction activities are halted. With the proposed monitoring and ample alternative forage areas available to these species during construction activities, no adverse impacts to these species are anticipated.

Special Condition 11 requires that during the construction of the project, the permittee may not store any construction materials or waste where it will be or could potentially be subject to wave erosion and dispersion. Additionally, to further assure that the subject development will not result in the pollution of the ocean waters, Special Condition 12 requires the applicant to submit a Best Management Practices Plan that incorporates structural and nonstructural Best Management Practices (BMPs), for Executive Director approval, for the construction of the proposed revetment. Construction methods must be devised to assure that no construction byproduct will be allowed on the sand beach or allowed to enter into coastal waters. With

appropriate BMPs, the potential for this polluted material from the site making its way into the ocean will be reduced to an acceptable level.

As conditioned, the Commission finds that the proposed project, as conditioned, will ensure that all environmental impacts will be minimized to the maximum extent feasible. Therefore, the proposed project can be found consistent with Coastal Act Sections 30230 and 30231 and the resource protection policies of the City's certified LUP.

D. Visual Resources

Section 30251 of the Coastal Act requires that the scenic and visual qualities of coastal areas be protected, that new development adjacent to park and recreation areas be sited so as to not degrade or impact the areas and that new development not significantly adversely affect coastal resources:

Section 30251

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.

In addition, the following certified City of LCP language provides pertinent information and guidance regarding the protection of coastal zone visual resources:⁴⁴

Land Use Element Policy 4.6: Ensure land uses within designated and proposed scenic corridors are compatible with scenic enhancement and preservation. (Coastal Act/30251)

Urban Design Element Policy 1.4: Preserve public views from streets and public places. (Coastal Act/30251)

Conservation and Open Space Element Policy 1.7: Maintain and, where feasible, restore the biological productivity and the quality of coastal waters, creeks, and groundwater, appropriate to maintain optimum populations of marine organisms and to protect human health. Measures including, but not limited to, minimizing the adverse effects of waste water discharges, controlling runoff, preventing the depletion of groundwater supplies, preventing substantial interference with surface water flow, maintaining vegetation buffer areas protecting riparian habitats, minimizing alteration of natural streams, and street sweeping, shall be encouraged. (Coastal Act/30231)

⁴⁴ The visual resource policies in the City's certified LCP are generally consistent with the Coastal Act visual resource policies. Therefore, the findings in this staff report are based primarily on the Coastal Act policies, which is the standard of review for this application.

Conservation and Open Space Element Policy 2.1: Place restrictions on the development of floodplain areas, beaches, sea cliffs, ecologically sensitive areas and potentially hazardous areas. (Coastal Act/30235, 30236, 30240, 30253)

COSE Policy 2.2: Site and architectural design shall respond to the natural landform whenever possible to minimize grading and visual impact. (Coastal Act/30250)

COSE Policy 2.3: Control erosion during and following construction through proper grading techniques, vegetation replanting, and the installation of proper drainage, and other soil related problems. (Coastal Act/30243)

COSE Policy 2.9: Preserve significant natural features as part of new development. Permitted development shall be sited and designed to minimize the alteration of natural land forms. Improvements adjacent to beaches shall protect existing natural features and be carefully integrated with land forms. (Coastal Act/30240, 30250, 30251, 30253)

COSE Policy 6.4: Preserve and protect the scenic and visual quality of the coastal areas as a resource of public importance as depicted in Figure COS-5, "Scenic Overlooks from Public Lands", of this Element. Permitted development shall be sited and designed to protect public views from identified scenic overlooks on public lands 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. (Coastal Act/30251)

Section 30251 of the Coastal Act requires that visual qualities of coastal areas shall be considered and protected, landform alteration shall be minimized, and where feasible, degraded areas shall be enhanced and restored. The proposed shoreline armoring would be located directly on and adjacent to the public beach and bluff. The proposed revetment will be much larger and more visually intrusive than the existing revetment.

In addition to the large revetment, the applicant also proposes to construct a six ft. high security fence on top of a three ft. high concrete wall, towering over the public walkway, on public land on the landward edge of the proposed public access walkway and to incorporate three locked private access gates into the security fence. As evidenced by the security fence and locked gates constructed on the landward side of the walkway fronting the Strand at Headlands development adjacent to the subject site, the proposed security fence would result in an imposing and visually obtrusive effect for beach users and public walking along the proposed accessway ([Exhibit 10](#)). Further, the homes at the Strand at Headlands development are located significantly closer to the public walkway than the homes on the blufftop in the Niguel Shores community. At the subject site, there is currently no security fence at the base of the bluff or locked gates at the base of the private stairways. The applicant asserts that the security fence and locked gates are necessary to prevent the public from climbing on and adversely impacting the reconstructed bluff and also to prevent the public from using the three private stairways which are intended for use only by the 23 owners of the blufftop property to gain direct access down the buttress fill/bluff to the beach. However, no information has been provided to the Commission to show that public climbing on the bluff or using the private stairways has generated any problems over the past 50+ years that the stairways and existing revetment have been in place. The County has also raised concerns

that without a security fence and locked private gates on the stairways, the public could venture onto private property, where they could be injured. Again, no evidence has been provided to justify this concern. Thus, Special Condition 2 mandates that the security fence and locked gates are prohibited and requires that they be removed from the project plans. The landscaping required by Special Condition 3 of this permit may be designed to prevent the public from climbing on and adversely impacting the reconstructed bluff, provided that the height of any vegetation adjacent to the walkway shall not exceed three ft. at maturity. If the applicant provides evidence that trespassing has resulted in legal convictions or other legally-binding action in this location, an alternate solution, which would result in an improvement to the visual aesthetics of the bluff, would be to remove the three private stairways and to instead use the existing private access pathway located adjacent to the southernmost home on Breakers Isle. In any case, it is not appropriate to install an imposing security fence on public land, especially adjacent to the public beach, which the public has a constitutional right to access free of intimidation, to address security concerns of private citizens on their own private property. In addition, the property owners opted to not be applicants of this CDP application, which is for a revetment to benefit private property. It would be more appropriate for individual property owners with security concerns to apply individually or as a group for a separate CDP to address security concerns to the City of Dana Point. The County is responsible for maintaining the revetment at the toe of the bluff, not for individual security concerns of private citizens and private property within the City of Dana Point LCP area.

To further offset potential visual impacts, the project is also conditioned to require that the plans be clarified to show that the concrete wall on the landward side of the walkway shall be no more than three ft. in height. Special Condition 2 also requires that the proposed concrete stairways, concrete seat wall/wave deflector, concrete wall on landward side of the public walkway, and the concrete public walkway shall be colored to match the appearance of the natural bluff. Additionally, there are various fine-grained sedimentary rocks at the site (potentially mudstone or siltstone), with distinct and aesthetically pleasing bedding ([Exhibit 4](#)). It is likely that these stones are locally-derived and predate the revetment. Special Condition 2 requires that any large stone found at the site with distinct bedding or other visually attractive features, as determined by the County's Coastal Engineer, be incorporated into the face of the revetment or into the walkway.

Therefore, as conditioned, the Commission finds that potential visual impacts associated with the proposed development have been reduced to the maximum extent feasible and the proposed development will include measures to prevent impacts that would significantly degrade the adjacent beach and recreation area. Thus, the project is consistent with Section 30251 of the Coastal Act and the City's certified LUP.

E. LOCAL COASTAL PROGRAM (LCP)

The City of Dana Point has a Certified Local Coastal Program that was effectively certified in 1989. Since then parts of the LCP have been updated through LCP amendments. The proposed development is taking place partially within the City's permitting jurisdiction and partially within the Commission's area of retained permitting jurisdiction under Coastal Act Section 30519(b). Section 9.69.030(c) "Authority to Grant Permit" of the City's Certified

Implementation Plan (IP)/City's Zoning Code, states that for any development that lies partially within the City and Coastal Commission permit jurisdiction, the Coastal Commission shall be the responsible agency for the issuance of any Coastal Development Permit for the entire development, and the standard of review is Chapter 3 of the Coastal Act and the policies of the Certified LCP may only be used for guidance.

As conditioned, the proposed development is consistent with Chapter 3 of the Coastal Act and with the certified Local Coastal Program for the area. Approval of the project, as conditioned, will not prejudice the ability of the local government to maintain an LCP that is in conformity with the provisions of Chapter 3 of the Coastal Act.

F. CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA)

Section 13096 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 feasible mitigation measures available which would substantially lessen any significant adverse effect which the activity may have on the environment. On January 30, 2017, the City of Dana Point found that the proposed project does not require any local permits and is CEQA categorically exempt pursuant to Classes 1, 2, 4, & 8.

As conditioned, there are no feasible alternatives or additional feasible mitigation measures available that would substantially lessen any significant adverse effect that 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.

APPENDIX A: Substantive File Documents

- Concept Plans for Niguel Shores Pedestrian Walkway & Revetment, by TerraCosta Consulting Group, dated October 29, 2019
- *Basis of Design Report; Niguel Shores Pedestrian Walkway and Revetment prepared for Orange County Parks, Irvine, California*; prepared by TerraCosta Consulting Group, Inc., San Diego, California (Project No. 2923) dated October 21, 2016
- Coastal Process Assessment reconstruction of Niguel Shores Revetment prepared by Noble Consultants, Inc. dated July 2011
- USAGE-LAD, 1995b. "Seacliff Erosion and Sediment Contributions, Dana Point to the San Gabriel River". Final Report, November 1995.
- Niguel Shores/Breakers Isle Biological Resources Report prepared for TerraCosta Consulting Group, Inc. and County of Orange, OC Parks prepared by Chambers Group, Inc. dated July 2017
- Improved Valuation of Impacts to Recreation, Public Access, and Beach Ecology from Shoreline Armoring Administrative Draft, dated September 28, 2015
- DRAFT City of Dana Point Sea Level Rise Vulnerability Assessment, by Moffatt & Nichol, Dated January 2019, Funded by CCC Grant LCP 16-10
- MHTL Survey, Record of Survey 2014-1152, by David Woolley, dated October 31, 2014