CALIFORNIA COASTAL COMMISSION
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Staff:	MV-LB
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Hearing Date:	710/19

STAFF REPORT: REGULAR CALENDAR

Application No.:	**5-18-1214**
Applicants:	Imamu & Tasha Tomlinson
Agent:	Gani Dino
Location:	17-B Surfside Ave., Surfside Community Seal Beach, Orange County (APN: 178-491-018)
Project Description:	Addition and major remodel of single family residence consisting of 968 square foot addition to an existing 3 story, 35 foot high, 1,858 square foot single family residence; demolish existing detached 423 square foot, two car garage and construction of new, 390 square foot, attached, two car garage; and new 200 square foot roof deck.
Staff Recommendation:	Approval with conditions

SUMMARY OF STAFF RECOMMENDATION:

The proposed development will occur on an inland (not ocean or harbor front) lot in the Surfside area of the City of Seal Beach. The applicants are proposing a major remodel and addition to an existing single family residence. One concern raised by the proposed development, although the subject lot is an interior lot, is that the Wave Runup/Sea Level Rise Study prepared for the project, as well as current best available sea level rise science, indicate that the site may become threatened by coastal hazards prior to the end of its expected 75 year life, about year 2080 under the medium high risk SLR scenario. For this reason, staff is recommending **Special Condition No. 1** which prohibits future shoreline protection devices and requires removal of approved development if threatened, or if essential services to the site can no longer feasibly be maintained, or if located on public trust lands, or if inconsistent with the LCP.

Staff is recommending **approval** of the proposed coastal development permit with **four (4)** special conditions. The special conditions require: 1) prohibition of a future shoreline protection device and

removal of the development if it becomes threatened by coastal hazards and for other specified reasons; 2) conformance with the proposed water quality drainage plan; 3) that the applicants assume the risk of site development and waive liability and indemnity; and, 4) recordation of a Deed Restriction referencing all of the special conditions of the permit and imposing them as covenants, conditions and restrictions on the use and enjoyment of the property.

The motion to accomplish the staff recommendation is found on page 4.

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Appendix A - Substantive File Documents

EXHIBITS

Exhibit 1 - Location Maps
Exhibit 2 – CoSMoS Maps
Exhibit 3 – Project Plans

I. MOTION AND RESOLUTION

Motion:

*I move that the Commission **approve** Coastal Development Permit Application No. 5-18-1214 pursuant to the staff recommendation.*

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 a coastal development permit for the proposed development and adopts the findings set forth below on grounds that the development as conditioned will be in conformity with the policies of Chapter 3 of the Coastal Act and will not prejudice the ability of the local government having jurisdiction over the area to prepare a Local Coastal Program conforming to the provisions of Chapter 3. Approval of the permit complies with the California Environmental Quality Act because either 1) feasible mitigation measures and/or alternatives have been incorporated to substantially lessen any significant adverse effects of the development on the environment, or 2) there are no further feasible mitigation measures or alternatives that would substantially lessen any significant adverse impacts of the development on the environment.

II. STANDARD CONDITIONS

This permit is granted subject to the following standard conditions:

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

2. **Expiration.** If development has not commenced, the permit will expire two years from the date on which the Commission voted on the application. Development shall be pursued in a diligent manner and completed in a reasonable period of time. Application for extension of the permit must be made prior to the expiration date.

3. **Interpretation.** Any questions of intent of 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. No Future Shoreline Protection Device.

A. By acceptance of this permit, the applicants agree, on behalf of themselves and all other successors and assigns, that no shoreline protection device(s) shall be constructed to protect the development approved pursuant to Coastal Development Permit No. 5-18-1214 including, but not limited to, the residence, garage, foundations, and any future improvements, in the event that the development is threatened with damage or destruction from flooding, waves, erosion, storm conditions, sea level rise, or other natural hazards in the future. By acceptance of this permit, the applicants acknowledge that the project is new construction for which there is no right to construct shoreline protection devices, and hereby waives, on behalf of themselves and all successors and assigns, any rights to construct such devices that may exist under applicable law.

B. By acceptance of this permit, the applicants further agree, on behalf of themselves and all successors and assigns, that the landowner(s) shall remove the development authorized by this permit, including the residence, garage, foundations, and hardscape if: (a) any government agency has ordered that the structures are not to be occupied due to coastal hazards, or if any public agency requires the structures to be removed; (b) essential services to the site can no longer feasibly be maintained (e.g., utilities, roads); (c) the development is no longer located on private property due to the migration of the public trust boundary; (d) removal is required pursuant to LCP policies for sea level rise adaptation planning; or (e) the development would require a shoreline protection device to prevent a-d above.

C. In the event that portions of the development fall to the beach before they are removed, the landowner(s) shall remove all recoverable debris associated with the development from the beach and/or ocean and lawfully dispose of the material in an approved disposal site. Such removal shall require a coastal development permit. Prior to removal, the permittee shall submit two copies of a Removal Plan to the Executive Director for review and written approval. The Removal Plan shall clearly describe the manner in which such development is to be removed and the affected area restored so as to best protect coastal resources, including the beach and Pacific Ocean.

2. Conformance with Drainage Plan.

By acceptance of this permit, the permittee agrees that development of the site shall conform with the drainage plan proposed by the applicants and attached to this staff report as Exhibit 3.2, indicating that site drainage will be directed to the four percolation pits located at the four corners of the subject site. Any proposed changes to the approved plan shall be reported to the Executive Director. No changes to the approved plan shall occur without a Commission amendment to this Coastal Development Permit unless the Executive Director determines that no amendment is legally required.

3. **Assumption of Risk, Waiver of Liability and Indemnity.** By acceptance of this permit, the applicants acknowledge and agree (i) that the site may be subject to hazards including, but not limited to, erosion, flooding, wave uprush, and sea level rise; (ii) to assume the risks to the applicants and the property that is the subject of this permit of injury and damage from such hazards in connection with this permitted development; (iii) to unconditionally waive any claim of damage or liability against the Commission, its officers, agents, and employees for injury or damage from such hazards; and (iv) to indemnify and hold harmless the Commission, its officers, agents, and employees with respect to the Commission's approval of the project against any and all liability, claims, demands, damages, costs (including costs and fees incurred in defense of such claims), expenses, and amounts paid in settlement arising from any injury or damage due to such hazards.

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

IV. FINDINGS AND DECLARATIONS

A. PROJECT DESCRIPTION & LOCATION

The applicants are proposing a major remodel of an existing 1,858 square foot, 3 story, 35 feet high single family residence resulting in a 2826 square foot, 3 story, 35 feet high single family residence. Also proposed is the demolition of the existing detached 423 square foot, two car garage and construction of a new, 390 square foot, attached, two car garage. The project also includes construction of a new 200 square foot roof deck with a 3', 2" surrounding wall with a 13' by 2' glass panel insert on the western side. The glass panel with include etched designs to avoid bird strikes (no decals will be used). The proposed additions will occur within the area between the existing residence and detached garage and above the proposed new garage.

The subject site, a 1,560 square foot lot, is located at 17-B Surfside Avenue, in the Surfside community of the City of Seal Beach, Orange County (Exhibit 1). The City of Seal Beach Zoning Code designates use of the site as Residential Low Density (RLD-9) and the proposed project is consistent this zoning designation. The City of Seal Beach does not have a Certified Land Use Plan (LUP) or Certified Local Coastal Program (LCP) and the land use designation is not certified by the

Commission. The standard of review for this project in this area with no certified Local Coastal Program is the Chapter 3 policies of the Coastal Act.

Surfside is located on a low-lying, relatively narrow strip of land between two water bodies – the ocean (approximately 350 feet to the west) and Huntington Harbour (approximately 600 feet to the northeast). The subject site is separated from the sandy beachfront by Surfside Avenue and one row of residential lots, and does not itself front on the sandy beach. The project is located within an existing urban area, on an interior (non-waterfront) lot. To the north of the project site is Pacific Coast Highway, then commercial and residential development, and then the waters of Huntington Harbour (Exhibit 1, vicinity map).

Surfside Colony is a private, gated residential community in an urban residential area and is located just inland of the beach, between the first public road (Pacific Coast Highway) and the sea. The community is comprised of three (3) rows of homes (one of which is beachfront) that parallel the beach and ocean. The three rows of homes taper to two rows in the area of the subject site. The community is accessed by residents via a private road system. Formalized public access is not available through the Surfside community (though members of the public have been known to gain access to the beach at the community entry). However, vertical public access to the beach is provided downcoast of the project site at the end of Anderson Street (Exhibit 1). In addition, the Commission conditioned coastal development permit P-75-6364 to allow public access to the beach through Surfside via the Surfside ingress/egress point at the southeastern end (along Anderson Street) of Surfside during daylight hours. Lateral public access is available along Sunset County beach, seaward of the Surfside Colony's 80-foot wide property between the first line of houses and the sea.

B. REDEVELOPMENT

The issue of whether this project constitutes "new development" or more minor improvements/remodel is important in evaluating the proposed project and in determining application of appropriate special conditions necessary to address site hazards. For a project that constitutes "new development" (as opposed to a minor improvements/remodel), the entire structure must comply with all Coastal Act Chapter 3 policies - and, hence, in this case include sufficient measures to assure potential hazards effecting the site are reduced. (14, Cal. Code Regs. §§ 13250).

While the dividing line between minor improvements/remodel and "new development" is not always clear, at a certain point, substantial alterations to a home can no longer be considered minor improvements/remodel, but instead must be considered new development. Although the Coastal Act and its implementing regulations do not define "improvement," Section 13252(b) of the Commission's regulations states that the "replacement" of 50 percent or more of a single-family residence constitutes a replacement structure requiring a coastal development permit. Consequently, the Commission has looked at the extent of alteration to an existing structure to determine whether it alters the existing residence to such a significant degree that the entire structure constitutes "new development", which then must, as a whole, comply with Coastal Act policies. In this case, the proposed area of addition will result in a 52% increase in area, exceeding the 50% threshold typically used by the Commission in determining whether a project constitutes new development (existing square footage is 1858 square feet and the proposed additional square footage is 968 square feet, or 968/1858 = 52% addition). Additionally, significant changes are proposed to the roof area to accommodate the residential addition and to replace part of the existing roof. The existing

roof area to remain is 455 square feet (including the revised roof deck). The new roof area over the addition, together with the existing roof area to be replaced with new roof totals 650 square feet. Thus, the area of the new roof will be 70% over the area of the existing roof (455/650 = 70%). Therefore, the proposed project constitutes significant alterations to the existing residence (including more than 50% addition to the existing residence and more than 50% new roof area) such that the whole project must be considered new development. Therefore the Coastal Commission considers the project to be new development. Thus, the redeveloped residence must comply with the applicable standards of the Coastal Act, including the hazards policies, as discussed further below.

C. HAZARDS

Coastal Act Section 30253 states, in pertinent 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 protection devices that would substantially alter natural landforms along bluffs and cliffs.*

Due to its low-lying location between the oceanfront and the harbor, an inherently dynamic and potentially hazardous area, the project site must be examined for the potential for erosion, flooding, wave attack and wave runup hazards, including consideration of potential impacts due to severe storm events. Moreover, these hazards may be exacerbated by expected future sea level rise, which must also be considered. In this geographic area, the main concerns raised by development are potential exposure of the proposed development to coastal flood and/or erosion hazards and whether future hazardous conditions (including the possibility of flooding from either the beach or harbor) might eventually lead to a request to build a shoreline protection device to protect the proposed development. Flooding from the harbor inland of the subject site may actually occur earlier than beach flooding and erosion from the ocean. This inland flooding could impact roadways and other infrastructure, limiting access to residences and damaging necessary public services. Although development currently exists between the subject site and the ocean and harbor, sea level rise models suggest the site will likely become at risk within the expected 75-year life of the proposed mixed use structure. To address questions raised by these issues, the applicants' coastal engineer provided a Coastal Hazard and Wave Runup Study (GeoSoils, Inc., April 24, 2019).

The Surfside/Sunset Beach community, where the subject site is located, has historically experienced flooding and damage from storm waves, and areas adjacent to the harbor can flood now during high tides, or high tides combined with storms. In response to these recurring flood problems, the community has developed several programs to minimize beach loss and flood risk. The US Army Corps of Engineers (USACE), in conjunction with the city and county, undertakes a periodic beach replenishment program that is on-going for more than 50 years. The periodic USACE replenishment enhances the beach areas and reduces flooding, but occurs only with a sustained financial commitment from the different funding agencies. In addition, a seasonal berm is constructed annually on the public beach seaward of the Surfside community, intended to provide

protection from winter storms. Without ongoing interventions such as these, much of the lower lying areas of the Surfside/Sunset Beach communities, would likely be at increased risk from flooding, and shoreline areas would be at risk from erosion. With rising sea level, these risks are likely to increase unless the interventions become larger or more frequent to keep up with the future hazards.

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 0.5 to 0.7 inches/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 inches/decade – more than twice the average rate over the 20th century and greater than any time over the past one thousand years.[1] Recent observations of sea level along parts of the California coast have shown some anomalous trends; however, the best available science demonstrates 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 April 2017, a working group of the Ocean Protection Council's (OPC) Science Advisory Team released *Rising Seas in California: An Update on Sea-Level Rise Science*.[2] This report synthesizes recent evolving research on sea level rise science, notably including a discussion of probabilistic sea level rise projections as well as the potential for rapid ice loss leading to extreme sea level rise. This science synthesis was integrated into the OPC's *State of California Sea-Level Rise Guidance 2018 Update*.[3] This Guidance document provides high-level, statewide recommendations for state agencies and other stakeholders to follow when analyzing sea level rise. Notably, it provides a set of projections that OPC recommends using when assessing potential sea level rise vulnerabilities for various projects. Taken together, the Rising Seas science report and updated State Guidance account for the current best available science on sea level rise for the State of California. The updated probabilistic projections in the 2017 Rising Seas report and the 2018 OPC Guidance suggest sea levels could rise between 2.1 and 6.7 feet by 2100 at the Los Angeles tide gauge[4], depending on future greenhouse gas emissions. The OPC Guidance recommends that development of only moderate adaptive capacity, including residential development, use the high end of this range, 6.7 feet, to inform decisions regarding development. The updated Rising Seas science report and OPC Guidance also

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

[2] Griggs, G, Árvai, J, Cayan, D, DeConto, R, Fox, J, Fricker, HA, Kopp, RE, Tebaldi, C, Whiteman, EA (California Ocean Protection Council Science Advisory Team Working Group). Rising Seas in California: An Update on Sea-Level Rise Science. California Ocean Science Trust, April 2017.

[3] OPC State of California Sea-Level Rise Guidance, 2018 Update: http://www.opc.ca.gov/webmaster/ftp/pdf/agenda_items/20180314/Item3_Exhibit-A_OPC_SLR_Guidance-rd3.pdf

[4] The OPC Guidance provides sea level rise projections for 12 California tide gauges, and recommends using the projections from the tide gauge closest to the project site. The projections for the LA tide gauge can be found on page 72 of the OPC Guidance.

include an extreme scenario (termed the "H++" scenario) of 9.9 feet of sea level rise by 2100 based on recent modelling efforts that look at possible sea level rise associated with rapid ice sheet loss. These projections and recommendations are incorporated into the 2018 update of the Coastal Commission Sea Level Rise Policy Guidance[5].

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 as a seawall, 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. Structures that are adequate for current storm conditions may not provide as much protection in the future.

Rising sea levels are exacerbating and will continue to intensify hazards along the shoreline, including inundation, storm flooding, erosion, saltwater intrusion into aquifers, groundwater rise, and liquefaction. Some shoreline development will experience increasingly hazardous conditions over time; therefore, to ensure safety and structural integrity consistent with Section 30253 of the Coastal Act, development must be sited and designed in such a way that takes into account the anticipated impacts of sea level rise over the full time span of its economic life. Changing conditions could also alter the anticipated impacts of the development upon coastal resources. In particular, coastal resources such as beaches and wetlands that are located just inland of the sea could disappear if they are squeezed between rising sea levels and a fixed line of development on the shoreline, thus impacting public access, recreation, visual, and other coastal resources. Therefore, to be consistent with the Chapter 3 policies of the Coastal Act, proposed development must be sited, designed, and conditioned in such a way that considers the impact of the development upon coastal resources over its full economic life, avoiding and mitigating those impacts as appropriate.

[5] https://www.coastal.ca.gov/climate/slrguidance.html

Adverse Coastal Impacts Due to Shoreline Protection Devices

The Coastal Act discourages shoreline protection devices because they generally cause significant impacts on coastal resources and can constrain the ability of the shoreline to respond to dynamic coastal processes. This is expected to be exacerbated with future sea level rise. Adverse impacts associated with shoreline protection devices include: as a sandy beach erodes, the shoreline will generally migrate landward, toward the structure, resulting in reduction and/or loss of public beach area and in some cases, public trust lands, while the landward extent of the beach does not increase; oftentimes the protection structure is placed on public land rather than on the private property it is intended to protect, resulting in physical loss of beach area formerly available to the general public; the shoreline protection device may actually increase the rate of loss of beach due to wave deflection and/or scouring (this is site-specific and varies depending on local factors); shoreline protection devices cause visual impacts and can detract from a natural beach experience, adversely impacting public views; and, shoreline protection devices can lead to loss of ecosystem services, loss of habitat, and reduction in biodiversity compared to natural beaches.[6] All of these impacts are likely to occur as a result of a shoreline protection device being constructed at this beach (Sunset Beach, which is about 200 feet from the subject site). Although the subject site is not a beachfront site, with expected sea level rise and related erosion and flooding, the area between the subject site and ocean waters is expected to narrow with time. Likewise, flooding from the harbor is expected to approach the subject site more and more in the future and groundwater rise, while an area of developing science, could exacerbate flood risks in future. Together, these risks raise the question of potential impacts to the subject site due to these coastal hazards, which in turn raises the question of a possible request for future shoreline protection at the site.

Shoreline protection devices, by their very nature, tend to conflict with various statewide LCPs and Chapter 3 policies because shoreline structures can have a variety of adverse 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 beach. Because shoreline protection devices, such as seawalls, revetments, and groins, can create adverse impacts on coastal processes, Coastal Act Section 30253 specifically prohibits development that could *"…create [or] contribute significantly to erosion, geologic instability, or destruction of the site or surrounding area or in any way require the construction of protection devices that would substantially alter natural landforms along bluffs and cliffs."*[7]

In order to avoid the adverse impacts of shoreline protection devices (described above), it is important to assure that new development (such as major remodel of an existing structure which constitutes new development, as is being proposed here) not be permitted shoreline protection to the extent such shoreline protection would be inconsistent with Coastal Act Chapter 3 coastal resource policies. If it is known that the development requires shoreline protection, it would be unlikely that such development could be found to be consistent with Section 30253 of the Coastal Act which, as stated above, requires that new development not *create nor contribute significantly to erosion, geologic instability, or destruction of the site or surrounding area*, given the well-known coastal resource impacts that shoreline protection typically causes.

[6] Summarized from http://www.beachapedia.org/Seawalls

[7] However, section 30235 of the Coastal Act recognizes that "existing" development may be protected by a shoreline protection device subject to certain conditions. Section 30235 does not apply here because the proposed project is new development.

Public Costs/Loss of Public Beach/Impacts to Public Trust Lands
Requests for shoreline protection devices are common when development is threatened by erosion, flooding, and storm activity. From a public access perspective, a major concern with shoreline protection is the threat of lost public beach area. As the beach erodes, the shoreline retreats landward toward developed areas. Shoreline protection devices also directly interfere with public access to tidelands by impeding the ambulatory nature of the boundary between public and private lands. The impact of a shoreline protection 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 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 shoreline protection such as rock revetments and seawalls to protect private property would prevent any current or future migration of the shoreline 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 narrows or disappears, the seawall effectively eliminates lateral access opportunities along the beach as the entire area below the fixed high tideline becomes 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.

Interference by shoreline protection devices can result in a number of adverse effects on the dynamic shoreline system and the public's ability to access the beach. 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 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 narrows the beach area available for public access. 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 bar can allow such high wave energy on the shoreline that materials may be lost far offshore where it is no longer available to nourish the beach. This affects public access again through a loss of beach area. Third, shoreline protection devices such as revetments, seawalls, 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 protection device on the subject site, then the beach would also accrete at a slower rate, if at all. Fourth, if not sited landward in a location that ensures that the seawall 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 wave energy. Moreover, even when shoreline protection is not present, the placement of structures along an eroding shoreline can impact beach areas and public trust lands. As the shoreline migrates inland, structures may become located on beach areas and/or public trust lands, occupying land that would otherwise be available for public access, ecosystem services and other coastal resource benefits. In this case, the subject site is not currently located adjacent to the public sandy beach. But with sea level rise the location of the beach may well move inland, towards the subject site. Even though development is currently present between the site and the beach, that may not be the case in the future.

Coastal hazards and shoreline protection devices also raise public trust concerns. The common law public trust doctrine protects the public's right to access tidelands, submerged lands, and navigable waters, which the State holds in trust for the public's use and enjoyment. This doctrine is enshrined in California's Constitution, which provides in Article X, section 4, that no individual may "exclude the right of way" to any "frontage or tidal lands of a harbor, bay, inlet, estuary, or other navigable water in this State." Cal. Const. Art. X, Sec. 4. The Constitution further directs the Legislature to enact laws that give the most "liberal construction" to Article X, section 4, so that access to navigable waters of the State "shall be always attainable for the people."

As discussed above, future sea level rise will cause the landward migration of the intersection of the ocean with the shore and, thus, the tidelands and submerged lands that are public trust resources. To the extent that shoreline protection devices contribute to erosion and blockage of the natural inland migration of the beach and shoreline, and thus result in the loss of natural beaches that allow the public to access tidelands and submerged lands, their construction is also inconsistent with the State's obligation to protect the public's right to access these areas. Knowing, as we do, that our understanding of how fast and how severe sea level rise will occur, and the precise impacts on particular coastal areas, is an evolving area of scientific inquiry, the Coastal Commission must act conservatively to manage public trust resources in a way that will protect them for future generations. For this additional reason, the Coastal Commission is unlikely to approve proposals for new development that require shoreline protection devices, as their construction threatens public trust resources managed by the Coastal Commission.

Moreover, private residential use is not a public trust use and the existence of private residential uses, such as the proposed project, on future public trust lands likely would conflict with the public's right to use and enjoy such lands. In addition, private development on public beaches creates conflicts with the public access and recreation policies of the Coastal Act. Thus, the Commission's action on this project must consider the effects on loss of public beach, public trust lands, natural shoreline processes, loss of ecosystem services, and public access under current conditions, and under future conditions, when it is likely that the sandy beach shoreline currently located about 350 feet seaward of the subject site may erode and move inland, up to or past the subject site, and/or that flooding from the harbor, currently located approximately 600 feet inland, may result in inundation of the subject site. Rather than contemplate shoreline protection devices to protect new development in the future, current development proposals must consider adaptation measures that could be implemented should development become threatened.

Site-Specific Evaluation

In order to evaluate whether the proposed development would be consistent with Coastal Act Section 30253's requirement to minimize hazards, the applicants have submitted a Coastal Hazard & Wave Runup Study, prepared by GeoSoils, Inc., dated April 24, 2019 (Study). The Study states:

> *"The modeling [CoSMoS] shows that the site is slightly vulnerable to flooding or inundation during the 100-year wave event and 125 cm (4.1 feet) of SLR. However, the lowest finished floor is at +12.9 feet NAVD88 and about 1 feet about* [above] *the street flow line. It should be noted than* [that] *many of the access streets, including Pacific Coast Highway (PCH), will flood. The flooding of PCH does not appear to directly come from the ocean in front of the site, but rather from bay waters flooding the low lying land areas behind the site. Based upon the CoSMoS modeling, the development is reasonably safe from SLR and 100-year*

> *wave flooding over the design life* [75 years as recognized elsewhere in the Study] *of the development due to the proposed elevation of the finished floor above the area drainage."*

The Study considers impacts to the site due to sea level rise of 4.1 feet, and finds that the proposed development is expected to be safe over the 75 year life. Seventy five years from 2020 will be 2095 (2100). However, 4.1 feet of SLR is closer to the low risk aversion probabilistic projections of 3.2 feet of SLR by 2100 in the Commission's SLR guidelines. The Study finds that applying the ***Low Risk*** aversion projection figures, the subject site is considered safe over the expected 75 year life of the proposed development. However, if the ***Medium-High Risk*** aversion figures (6.7 feet of SLR) are applied as recommended by the Commission's SLR Guidance, the site is only expected to be safe for roughly 60 years, 15 years short of the 75 year expected life of the development.

The 2018 Ocean Protection Council (OPC) Guidance and 2018 Coastal Commission Sea Level Rise Policy Guidance, which contain the current best available science on sea level rise, provide that residential structures, such as the proposed development, should examine the sea level rise projections associated with Medium-High risk aversion or 6.7 feet of SLR by 2100. Thus, applying the best available science standard, the proposed development may be threatened prior to its expected 75 year life. In addition, the updated Rising Seas science report and OPC Guidance also recognize the possibility of an extreme scenario (termed the "H++" scenario) of 9.9 feet of sea level rise by 2100 associated with possible future rapid ice sheet loss.

The Study argues that the low risk projection is applicable because there is a 5% probability that SLR will be about 4.1 feet in 2100, whereas the medium-high risk has only a 0.5% probability of occurring. However, it is important to note that probabilistic projections do not provide probabilities of occurrence of sea level rise, but rather probabilities that the ensemble of climate models used to estimate contributions of sea level rise (from thermal expansion, ice sheet loss, oceanographic conditions etc.) will predict a certain amount of sea level rise. In line with both the OPC Guidance and the CCC Guidance, applicants should understand the risks associated with higher sea level rise projections in order to develop adaptation pathways for the higher scenarios, even if projects are initially designed for lower projections. The low risk aversion scenarios are appropriately applied to projects that would have limited consequences or have a higher ability to adapt, such as decisions for sections of unpaved coastal trail, public accessways, and other small or temporary structures that are easily removable and would not have high costs if damaged. The medium-high risk aversion scenarios are appropriately applied to decisions with greater consequences and/or a lower ability to adapt, such as decisions regarding residential structures. This approach recognizes the need to develop methods that allow better incorporation of the evolving science into planning and decision-making processes going forward. The direction of sea level change is clear. Coastal California is already experiencing the impacts of rising sea levels, and impacts will increase in the future. According to the Rising Seas Report, "*a probabilistic approach to sea level rise projections, combined with a clear articulation of the implications of uncertainty and the decision support needs of affected stakeholders, is the most appropriate approach for use in a policy setting*." It is understood that as science continues to evolve and models are updated, the probability distribution of model results is likely to change.

The medium-high risk aversion probabilistic projection for this area for the year 2100 is 6.7 feet of sea level rise. Using the medium-high risk aversion, and based upon CoSMoS modeling, the project site will become threatened with sea level rise of somewhere between 4.9 feet and 5.7 feet of sea

level rise, sometime in the years between 2090 and 2100. With 6.7 feet of sea level rise, in 2100, the site will be underwater. If 100 year storm events are considered, projections are worse. Despite the Study's conclusion that "*the development is reasonably safe from SLR and 100-year wave flooding over the design life of the development due to the proposed elevation of the finished floor above the area drainage"*, review of CoSMoS modeling shows that with 100 year storm events, the site will become threatened with between 3.3 and 4.1 feet of sea level rise, which is expected to occur between years 2070 and 2080. In any case, it appears, based upon current best available science, that the site will likely be safe from SLR hazards until about the year 2080, about 15 years short of the expected 75 year life of the residence.

In this case, because with future sea level rise, the subject site may be threatened from both the harbor side as well as the ocean side, consideration of impacts due to protecting the proposed development must be considered not just from the ocean, but from the harbor as well. If the site is threatened by coastal hazards from the harbor side of development, as exacerbated by expected future sea level rise, then impacts will have also occurred to Pacific Coast Highway and the surrounding streets, including Surfside Avenue where the subject site is located. This will disrupt the ability of the site to be accessed by essential services such as access by public roads and the ability to be served by public infrastructure in the normal manner. Moreover, the flooding that may be likely at the site with future sea level rise may mean the subject site is no longer located on private property due to the migration of the public trust boundary.

USGS CoSMoS, the best available regional sea level rise modeling tool, shows that the subject site and surrounding area may be significantly impacted by future sea level rise (Exhibit 2) and related flooding. Impacts due to expected future sea level rise flooding will be worse when storm activity and possible groundwater impacts are also factored in. Because the best available science indicates the proposed development will be threatened by coastal hazards as a result of sea level rise towards the end of its 75 year life, under section 30253, the Commission may not approve the project unless it finds: 1) the project does not create or significantly contribute to erosion, geological instability, or destruction of the site or surrounding area (section 30253(b)), 2) the project assures stability and structural integrity (section 30253(b)), and 3) the project minimizes "risks to life and property" in areas of high flood hazard (section 30253(a)).

No Shoreline Protection

As discussed above, an important concern under section 30253 is the potential need for shoreline protection to protect against coastal hazards related to sea level rise, because shoreline protection devices typically conflict with section 30253(b)'s prohibition on new development that either creates or contributes significantly to erosion or destruction of a site. Here, the applicants have not proposed to construct a shoreline protection device and no shoreline protection would be authorized by this permit; however, nothing would prevent the applicants from requesting a shoreline protection device at some point in the future. Therefore, because of the numerous adverse impacts to coastal resources caused by shoreline protection devices (discussed above), which are relevant to this project, to comply with section 30253's prohibition on creating or significantly contributing to erosion and destruction of the site, it must be clear that, as new development, the development approved by this permit is not entitled to a shoreline protection device now or in the future. Therefore, **Special Condition 1** is imposed to require the applicants to acknowledge that, as new development, the applicants have no right to a shoreline protection device for the project and, in

fact, no future shoreline protection device will be constructed on site to protect the proposed development.

Removal if Development is Threatened
Given that coastal hazards may impact the proposed development to some extent during its economic life as a result of sea level rise, the Commission must also find that the project assures stability and structural integrity and minimizes "risks to life and property" in an area of high flood hazard without a shoreline protection device. Section 30253 does not prohibit development in a potentially hazardous area; rather, applicants must demonstrate that risks to life and property are minimized. Here, it is important to note that the site is not currently threatened by coastal hazards and is unlikely to be for many years, and has been designed to be stable and structurally sound under current conditions.

However, as discussed, the best available science indicates that sea level rise is occurring and coastal hazards may threaten the project site to some extent towards the end of its economic life, although there are uncertainties inherent in predicting exactly how and when the impacts discussed above will occur. The Study prepared for the proposed development (GeoSoils, 4/24/2019) identifies adaptation measures, including waterproofing the structure and installation of flood shields at doorways, and indicates that, as proposed, the design of the structure could accommodate these measures in the future, if necessary. Nevertheless, due to increasing sea level rise related coastal hazards in this area, the proposed development may become unstable at some point, posing risks to property and even life, and a shoreline protection device would not be an option for protecting the structure from coastal hazards. If, however, the new development were to be removed if threatened, rather than protected by a shoreline protection device, the proposed development may be found to be consistent with the Coastal Act hazards policies, because the structurally unsound or unsafe development would be removed, minimizing risks to property and life.

Therefore, the Commission imposes **Special Condition 1**, which requires the landowner to remove the development if: (a) any government agency has ordered that the structures are not to be occupied due to coastal hazards, or if any public agency requires the structures to be removed; (b) essential services to the site can no longer feasibly be maintained (e.g., utilities, roads); (c) the development is no longer located on private property due to the migration of the public trust boundary; (d) removal is required pursuant to LCP policies for sea level rise adaptation planning; or (e) the development would require a shoreline protection device to prevent a-d above. **Special Condition 1** requires that if any part of the proposed development becomes threatened by coastal hazards in the future, then the threatened development must be removed rather than protected in place. This condition recognizes that predictions of the future cannot be made with certainty, thereby allowing for development that is currently safe and expected to be for most of its economic life, but ensuring that the future risks of property damage or loss arising from sea level rise or other changed circumstances are borne by the applicants enjoying the benefits of new development, and not the public.

Because of the potential for loss of beach area (and associated public access and recreational resources) as sea levels continue to rise, this project also must be considered in light of sea level rise adaptation actions that may become necessary over time. The City of Seal Beach may develop sea level rise adaptation strategies and programs in conjunction with future preparation of a Local Coastal Program or through other means, which may include provisions on beach width to maintain

public access, consistent with the Coastal Act. Such provisions could define minimum beach and/or dune widths that, once reached, could trigger removal or relocation of potentially threatened residences and thus allow the beach and public tidelands to naturally migrate inland. Therefore, **Special Condition 1** requires the land owner(s) to remove the development if required pursuant to LCP policies for sea level rise adaptation planning.

The Commission also finds that due to the possibility of storm waves, surges, flooding, erosion and other coastal hazards the applicants shall assume these risks as a condition of approval. Because this risk of harm cannot be completely eliminated, the Commission requires the applicants to waive any claim of liability against the Commission for damage to life or property which may occur as a result of the permitted development. The applicants' Assumption of Risk, Waiver of Liability and Indemnity, as required by **Special Condition 3**, will show that the applicants are aware of and understands the nature of the hazards which exist on the site, and that may adversely affect the stability or safety of the subject development, and will effectuate the necessary assumption of those risks by the applicants.

In addition, the Commission imposes **Special Condition 4,** which requires the applicants to record a deed restriction on the property, acknowledging the risks inherent in undertaking development in this dynamic area and acknowledging that the degree of future risk cannot be known with certainty today. Additionally, **Special Condition 4** imposes the terms and conditions of this permit as restrictions on use and enjoyment of the property and provides any prospective purchaser and any future owners of the site with recorded notice that the restrictions are imposed on the subject property. Therefore, the Commission finds that the proposed project, as conditioned, is consistent with the hazards and shoreline development policies of the Coastal Act.

Conclusion

The proposed development, as conditioned, can be found to be consistent with Section 30253 of the Coastal Act, which requires that risks to life and property be minimized, that stability and structural integrity are assured, and that proposed development neither create nor contribute significantly to erosion, geologic instability, or destruction of the site or surrounding area. Approval of the project, as conditioned, also is consistent with the Commission's obligation to manage and protect public trust resources.

D. PUBLIC ACCESS

Section 30212 of the Coastal Act states in relevant part:

> *(a) Public access from the nearest public roadway to the shoreline and along the coast shall be provided in new development projects except where:*
>
> *(2) adequate access exists nearby…*

The protection of public access is an important aspect of the Coastal Act. Although the proposed development is not located on a beachfront lot, it is located within a locked gate community which is located between the sea and the first public road (Pacific Coast Highway). The proposed development will not change the public's ability to gain access to and/or to use the coast and nearby recreational facilities. Although Surfside Colony is a private, gated residential community and no

formal public access is available via the entryway to the community (only resident/guest access is available), vertical public access is provided downcoast of the project site at the end of Anderson Street with adjacent public parking and lateral public access is available along Sunset County beach (seaward of the Surfside Colony's 80' wide property between the first line of houses and the sea). Also, the Commission conditioned Coastal Development Permit No. P-75-6364 to allow public pedestrian access through the Surfside Colony community through the community ingress/egress at the southeastern end of Surfside (along Anderson Street) during daylight hours. The proposed project, a major remodel of an existing single family residence (which rises to the level of "new development"), will have no impact on the existing public access conditions in the Surfside community.

E. WATER QUALITY

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 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 waterflow, encouraging waste water reclamation, maintaining natural vegetation buffer areas that protect riparian habitats, and minimizing alteration of natural streams.*

The proposed development has the potential for construction and post-construction discharge of polluted runoff from the project site into coastal waters, either directly or via the community's storm drains, which ultimately flow to the sea. The applicants have proposed the following measures to minimize impacts to coastal waters in conjunction with development of the subject site: site drainage will be directed to percolation pits located in each of the four corners of the subject site. These measures are reflected on plan sheet C-1.1 (Exhibit 3.2).

Implementation of the proposed water quality measures will minimize adverse water quality impacts and protect water quality. In order to assure these measures are implemented as proposed by the applicants, **Special Condition 2** is imposed which requires the applicants to carry out the drainage plan as proposed. As proposed and conditioned, the project conforms to the water quality policies of the Coastal Act. Therefore, the Commission finds that the proposed development, as conditioned, conforms to Sections 30230 and 30231 of the Coastal Act regarding the protection of water quality to promote the biological productivity of coastal waters and to protect human health.

F. DEED RESTRICTION

To ensure that any prospective future owners of the property are made aware of the applicability of the conditions of this permit, the Commission imposes **Special Condition 4**, requiring that the property owner record a deed restriction against the property, referencing all of the above special conditions of this permit and imposing them as covenants, conditions and restrictions on the use and enjoyment of the property. Thus any prospective future owner will receive notice of the restrictions and/or obligations imposed on the use and enjoyment of the land including the risks of the development and/or hazards to which the site is subject, and the Commission's immunity from liability. Therefore, the Commission finds that the proposed development, as conditioned, conforms to the Coastal Act by ensuring that any successors-in-interest have proper notice, recorded against the subject parcel, of the proposed development's required mitigation measures that mitigate the development's impacts on coastal resources.

G. LOCAL COASTAL PROGRAM

Section 30604 of the Coastal Act provides for the issuance of coastal development permits directly by the Commission in regions where the local government having jurisdiction does not have a certified local coastal program. The permit may only be issued if the Commission finds that the proposed development will not prejudice the ability of the local government to prepare a Local Coastal Program, which conforms with the Chapter 3 policies of the Coastal Act.

On July 28, 1983, the Commission denied the City of Seal Beach Land Use Plan (LUP) as submitted and certified it with suggested modifications. The City did not act on the suggested modifications within six months from the date of Commission action. Therefore, pursuant to Section 13537(b) of the California Code of Regulations, the Commission's certification of the land use plan with suggested modifications expired. The LUP has not been resubmitted for certification since that time. Thus, the Coastal Commission is the permit issuing entity and the standard of review is Chapter 3 of the Coastal Act. As conditioned, the proposed development is consistent with the Chapter Three policies of the Coastal Act. Therefore, the Commission finds that the proposed development as conditioned would not prejudice the ability of the City to prepare a certified coastal program consistent with the Chapter 3 policies of the Coastal Act.

H. CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA)

Section 13096(a) of the Commission's 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.

The City of Seal Beach is the lead agency responsible for CEQA review. The City determined that the project ministerially exempt from CEQA. Typically projects are exempt from CEQA pursuant to section 15303(a) of the CEQA Guidelines when they consist of construction of one single-family residence located within an urbanized residential zone. As conditioned, there are no additional feasible alternatives or additional feasible mitigation measures available which will substantially lessen any significant adverse impact the activity would have on the environment. Therefore, the

Commission finds that the proposed project, as conditioned to mitigate the identified possible impacts, is consistent with CEQA and the policies of the Coastal Act.

APPENDIX A

SUBSTANTIVE FILE DOCUMENTS

1) City of Seal Beach Approval in Concept, 9/18/2018

2) Coastal Hazard & Wave Runup Study; GeoSoils, Inc., (April 24, 2019)

3) Ocean Protection Council's *Rising Seas in California: An Update on Sea-Level Rise Science*

4) Ocean Protection Council's *State of California Sea-Level Rise Guidance 2018 Update*