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STAFF REPORT: REGULAR CALENDAR

Application No.:	**6-18-1089**
Applicant:	**California Department of Parks and Recreation**
Agent:	Riley Pratt
Location:	5200 S Pacific Coast Hwy, San Onofre State Beach, San Diego County (APN: 101-520-10)
Project Description:	Retain the approximately 800-ft. long emergency revetment constructed in April 2017.
Staff Recommendation:	Approval with Conditions

SUMMARY OF STAFF RECOMMENDATION

The California Department of Parks and Recreation (State Parks) seeks authorization to retain an approximately 800-foot long rip rap revetment along Surf Beach that was constructed pursuant to an emergency permit issued in February 2017 (G-6-17-0002) and approved by a subsequent – yet unissued - interim permit (CDP No. 6-17-0871) to stay until February 28, 2019. The emergency revetment was installed as a temporary measure to protect the beachfront road granting access to 300 of the 320 public parking spaces along Surf Beach during and after the 2016-2017 El Niño winter storms. Pursuant to the requirements of those past Commission actions, State Parks submitted a long-term shoreline management alternatives analysis, identifying seven alternative management strategies for Surf Beach in the face of sea level rise increasingly eroding the area, including retention of the revetment, relocation of the public facilities to the bluff top, or sand replenishment in place of the revetment. However, due to uncertainty regarding the renewal of State Parks'

lease for San Onofre State Beach in August 2021 and the future of the bluff top San Onofre Nuclear Generating Station (SONGS) parking lot integral to some of the managed retreat alternatives, State Parks is not proposing a long-term management strategy at this time, but is requesting that the revetment remain in place in order to continue to protect the public access to Surf Beach in the meantime.

Surf Beach is home to world renowned surf breaks, and San Onofre State Beach as a whole receives over two million visitors a year. At the time the revetment was installed, it was a necessary emergency action to ensure that the only access road to this popular beach was protected throughout the winter. Since that time, the immediate risk to the road has lessened, but wave action and erosion continues to be a threat to the road providing public access. State Parks has demonstrated that the road is at risk of erosion and some form of protection is required. Given the difficulties of non-vehicular access to the area, closing the roadway would essentially close public access to this popular beach.

Given the impacts of shoreline protection and expectation of sea level rise and increased rates of erosion, a long-term management plan that does not rely on hard shoreline protection would be the preferable approach. There is an existing bluff top parking lot owned by the United States Marine Corps and leased to and operated by SONGS above the State Park. This site clearly represents the best opportunity to relocate the parking and public access from the beach. Because SONGS is in the process of being decommissioned (though the decommissioning process is not expected to be completed until the 2030's), this site has the potential to be fully converted to public beach parking either when the plant decommissioning is complete, or gradually during the decommissioning period, seeing how only a fraction of SONGS' parking lots are being used in this interim period.

However, a full evaluation of the inland relocation alternative, let alone implementation of such an approach (which would also require construction of some form of access from the bluff top down to the beach), is not feasible at this time due to the uncertainty regarding the renewal of State Parks' lease with the USMC in 2021 and the future status of the bluff top parking lot. Currently, State Parks is nearing the end of its current fifty-year lease with USMC, with expiration to occur in August 2021.Should the USMC choose not to renew State Parks' lease, it is expected that San Onofre State Beach will cease operation and the land revert to military management. Furthermore, feasibility of the managed retreat to the bluff top parking lot depends on the schedule and needs of the current decommissioning process. Without knowing first if State Parks' lease will be renewed, and secondly if the SONGS decommissioning process could potentially incorporate public parking at the bluff top lot in the next few decades, it is difficult for the Commission to analyze the full range of feasible alternatives at this time. In addition, State Parks is reluctant to commit funds to a particular strategy at least until the lease renewal is resolved.

Therefore, staff is recommending the revetment be retained for a five-year period, with an option to extend to ten years, to provide sufficient time to monitor erosion, impacts to public access and recreation, and obtain necessary information with regards to options for managed retreat. The Commission's staff coastal engineer has visited the revetment and analyzed the historical and anticipated sea level rise and erosion data from State Parks' long-term hazards analysis, and based on current and future conditions, it is likely that removal of all or a

portion of the revetment would lead to another emergency situation to arise during the permit's duration, due to the access road coming under attack from wave action or winter storm events. To avoid a repeat of the 2016-2017 winter scenario while still allowing the access road to function long enough for necessary information related to long-term management of Surf Beach to be obtained, the five-year permit duration with a potential five-year extension is the minimum action necessary at this time.

To minimize potential adverse impacts to public access and sand supply, **Special Condition No. 1** limits authorization of the revetment to five years, with possible extension to ten years, from the date of Commission action on this permit, after which a more permanent, less-impactful management strategy may be selected. **Special Condition No. 2** requires final plans that delineate the smaller revetment to be retained and identify permanent benchmarks to serve in future revetment monitoring. **Special Condition Nos. 3** and **4** require State Parks to monitor the revetment and maintain it in the approved alignment through Commission-approved actions. **Special Condition No. 5** prohibits any further seaward encroachment or lengthening of the retained portion of the revetment. As the development proposed a shoreline device that will experience tidal action in a vulnerable coastal segment, **Special Condition No. 6** requires State Parks to assume all risks and indemnify the Commission for authorizing the project. The revetment is shoreline armoring that will alter natural coastal processes, potentially impacting surf breaks and sediment transport. As such, **Special Condition Nos. 7 and 8** require the implementation of approved surf and beach erosion monitoring, respectively, to identify if substantial adverse impacts arise necessitating redesign or removal of the revetment and establishing a record over the permit duration that will further inform the eventual selection of a permanent management strategy for Surf Beach. Finally, because the future long-term management of Surf Beach will rely heavily on the implementation of thorough monitoring, **Special Condition No. 9** describes the measures that will be taken should State Parks not adhere to the monitoring schedules. **Special Condition No. 10** makes the permit issue upon Commission action.

Commission staff recommends **approval** of coastal development permit application 6-18-1089 as conditioned.

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APPENDICES

EXHIBITS

I. MOTION AND RESOLUTION

Motion:

*I move that the Commission **approve** Coastal Development Permit Application No. 6-18-1089 subject to the conditions set forth in the staff recommendation.*

Staff recommends a **YES** vote on the foregoing motion. Passage of this motion will result in conditional approval of the permit 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 6-18-1089 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. **Interpretation.** Any questions of intent or interpretation of any condition will be resolved by the Executive Director or the Commission.

3. **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.

4. **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. **Limited Authorization Period and Long-Term Hazard Management Plan.**

   (a) This permit authorizes the shoreline protective device for a five (5) year period following Commission approval of this permit.

   (b) No later than six (6) months prior to the termination of the five (5) year authorization period for the shoreline protective device described in subsection (a) of this Special Condition, the permittee shall submit to the Commission a report summarizing and analyzing the monitoring data required by Special Conditions Nos. 3, 7, and 8 of this permit regarding the shoreline protective device's impacts to sand supply, public access and recreation, surf, and any other relevant coastal resources.

   (c) If the permittee proposes to retain any portion the shoreline protective device beyond the initial five (5) year authorization period in this permit as described in subsection (a) of this Special Condition, then the permittee shall submit a request for up to a five-year extension to the authorization, no later than six (6) months prior to the termination of the initial five (5) year authorization period. The permittee is required to include in the extension request an evaluation of alternatives to the shoreline protective device that are capable of protecting the public access road while eliminating or reducing impacts to sand supply, public access and recreation, surf, or any other relevant coastal resources at the site. The information concerning these alternatives must be sufficiently detailed to enable the Coastal Commission to evaluate the feasibility of each alternative for addressing site issues under the Coastal Act. The extension request must also include mitigation for the effects of any remaining portion of the shoreline protective device on sand supply, public access and recreation, surf, or any other relevant coastal resources during the expected life of the remaining shoreline protective device beyond, but not including, the initial period of authorization.

   (d) If the permittee has successfully adhered to all required monitoring programs as described in Special Condition Nos. 3, 7, and 8, and the monitoring demonstrates that the shoreline protective device does not have substantial adverse impacts on sand supply, public access and recreation, surf, or other relevant coastal resources, the Executive Director may grant a single five (5) year extension of the authorization for the shoreline protective device, subject to continued monitoring pursuant to Special Condition Nos. 3, 7, and 8.

   (e) However, if the permittee fails to adhere to the monitoring programs required by Special Condition Nos. 3, 7, and 8, or the monitoring demonstrates that the shoreline protective device is having substantial adverse impacts to sand supply, public access and recreation, surf, or any relevant coastal resource, then retention

of the shoreline protective device beyond the original five (5) year authorization shall require a new permit or an amendment to this permit approved by the Commission.

(f) Should no request for retention of the revetment beyond the initial five (5) year authorization be submitted, or if the extension request is denied, then within 90 days of the termination of the initial authorization period, the permittee shall submit for approval by the Executive Director a plan for the removal of the entire revetment. The removal of the entire revetment shall be completed within 180 days of Executive Director approval of the removal plan.

2. **Submittal of Final Plans**

(a) **WITHIN 90 DAYS OF COMMISSION ACTION ON THIS CDP,** the applicant shall submit, for the review and written approval of the Executive Director, a full-size set of the following final plans:

(i) Final construction plans that conform with the plans submitted to the Commission titled "Emergency Repair: Typical Section." The plans shall identify permanent benchmarks from fixed reference points from which the elevation and seaward limit of the revetment can be referenced for measurement in the future.

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

3. **Revetment Monitoring Program.**

(a) **WITHIN 90 DAYS OF COMMISSION ACTION ON THIS CDP**, the applicant shall submit for review and written approval of the Executive Director, a long-term monitoring plan for the existing shoreline protective device: the approximately 800-ft. long revetment. The purpose of the plan is to monitor and identify damage or changes to the revetment such that repair and maintenance is completed in a timely manner to avoid further encroachment of the revetment on the beach. The monitoring plan shall incorporate, but not be limited to, the following:

i. An evaluation of the current condition and performance of the revetment, addressing any migration or movement of rock that may have occurred on the site and any significant weathering or damage to the revetment that may adversely impact its future performance;

ii. Measurements taken from the benchmarks established in the plans as required by Special Condition No. 2 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;

iii. Recommendations on any necessary maintenance needs, changes or modifications to the revetment to assure its continued function and to assure no encroachment beyond the permitted toe; and

iv. An agreement that the permittee shall apply for a coastal development permit amendment within 90 days of submission of any monitoring report for any necessary maintenance, repair, changes, or modifications to the revetment recommended by the monitoring report that require a coastal development permit, and implement all aspects approved in any such permit.

(b) The above-cited monitoring information shall be prepared by a licensed engineer familiar with shoreline processes. Monitoring shall continue throughout the life of the revetment or until the revetment is removed or replaced under an amendment to this coastal development permit or pursuant to separate coastal development permit.

(c) The applicant shall undertake the development in accordance with the approved monitoring plan. Any proposed changes to the approved monitoring plan shall be reported to the Executive Director. No changes to the monitoring 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.

4. **Future Maintenance.** The applicant shall maintain the existing revetment in its approved state. 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 to restore the structure to its original condition 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.

5. **No Future Seaward or Lateral Extension of Shoreline Protective Device.** By acceptance of this Permit, the applicant agrees, on behalf of itself and all successors and assigns, that no future repair or maintenance, enhancement, reinforcement, or any other activity affecting the shoreline protective device approved pursuant to this permit, as described and depicted on approved final plans required in Special Condition No. 2, shall result in any encroachment seaward or lateral elongation of the authorized footprint of the shoreline protective device. 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.

6. **Assumption of Risk, Waiver of Liability and Indemnity Agreement.**

   (a) By acceptance of this permit, the applicant acknowledges and agrees (i) that the site may be subject to hazards from storm waves, flooding, and erosion; (ii) to assume the risks to the applicant and the property that is the subject of this permit of injury and damage from such hazards in connection with this permitted development; (iii) to unconditionally waive any claim of damage or liability against the Commission, its officers, agents, and employees for injury or damage from such hazards; and (iv) to indemnify and hold harmless the Commission, its officers, agents, and employees with respect to the Commission's approval of the project against any and all liability, claims, demands, damages, costs (including costs and fees incurred in defense of such claims), expenses, and amounts paid in settlement arising from any injury or damage due to such hazards.

   (b) WITHIN 60 DAYS OF COMMISSION APPROVAL, the applicant shall submit a written agreement in a form and content acceptable to the Executive Director, incorporating all of the terms of this Special Condition.

   (c) Liability for Costs and Attorney Fees: The Permittees shall reimburse the Coastal Commission in full for all Coastal Commission costs and attorney 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 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.

7. **Interim Surf Monitoring. WITHIN 90 DAYS OF COMMISSION ACTION ON THIS CDP**, the Permittee shall submit, for Executive Director review and approval, a plan for monitoring the wave breaking patterns of the Surf Beach area ("Surf Plan"). Work outlined in the Plan shall be overseen and certified by a licensed civil engineer or land surveyor with experience in coastal processes. The Surf Plan shall, at a minimum, provide for the following:

   (a) **Dataset Collection**. Wave breaking patterns in front of the approved armoring shall be monitored through collection of video imagery when the surf report forecasts wave heights of three (3) feet or greater, and regardless of forecasts, at least twice a month. The video imagery shall be collected at mid-tide to provide a known vertical reference and in such a way as to capture a complete range of wave break characteristics that can then be averaged to evaluate the spatial extent and locations for the given wave conditions. Wave observations shall include wave height, period, and wave break character for any of the identified set of wave conditions. The video imaging and surf monitoring shall be conducted until the revetment is removed or a new Commission-approved monitoring program is implemented.

(b) **Evaluation Reporting**. The resulting monitoring data regarding wave conditions shall be submitted annually following Commission approval of this permit. The data shall include any recommendations for adapting monitoring plan parameters and requirements (including data collection, evaluation, and reporting parameters) for the duration of the permit.

(c) The permittee shall undertake development in conformance with the approved final plan unless the Commission amends this permit or the Executive Director provides a written determination that no amendment is legally required for any proposed minor deviations.

8. **Interim Shoreline Erosion Monitoring.** WITHIN 90 DAYS OF COMMISSION ACTION ON THIS PERMIT, the Permittee shall submit, for Executive Director review and approval, a plan for monitoring the downcoast erosion of the Surf Beach area ("Erosion Plan"). Work outlined in the Erosion Plan shall be overseen and certified by a licensed civil engineer or land surveyor with experience in costal processes.

A. The Plan shall, at a minimum, provide for the following:

- Shoreline features to be monitored (profiles for wading depth, mean high tide line, beach sand profile, wave height, etc.);
- Monitoring methodology (field surveys, beach cameras, aerial photography);
- Monitoring and reporting schedules;
- Location of two or more downcoast monitoring sites for potential effects of the revetment;
- Locations of two or more up-coast monitoring sites for control; and
- Details of training program for any volunteers.

B. The permittee shall undertake development in conformance with the approved final plan unless the Commission amends this permit or the Executive Director provides a written determination that no amendment is legally required for any proposed minor deviations.

9. **Monitoring and Follow-Up Permits**

(a) **WITHIN 90 DAYS OF COMMISSION ACTION ON THIS CDP**, the applicants shall submit to the Executive Director for review and written approval, an agreement executed on behalf of themselves and all successors and assigns to submit the following future new permit applications or permit amendment applications as required below:

i. Within three months of submission of the monitoring report required in Special Condition Nos. 3, 7, and 8, the permittee shall apply for a coastal development permit amendment for any necessary maintenance, repair,

changes or modifications to the project recommended by the monitoring report that require a coastal development permit or amendment.

ii. If, based on the monitoring report required in Special Condition Nos. 3, 7, and 8, the Executive Director determines that the revetment is causing substantial adverse impacts to public access or coastal resources, or, as described in subsection (a)(iii) of this Special Condition, if the permittee fails to submit a monitoring report required by Special Condition Nos. 4, 8, and 9, the permittee shall apply for a coastal development permit or amendment within three (3) months of the Executive Director's determination or within three (3) months of the date a monitoring report submittal requirement is not satisfied, whichever is applicable, unless additional time is granted by the Executive Director for good cause, to evaluate and mitigate for any impacts of the project that have not been previously addressed. The application shall include an analysis of the feasibility of removing all or portions of the shoreline protection, and methods of calculating mitigation fees for impacts to sand supply and to public access and recreation. Any request for additional time must be submitted to the Executive Director at least ten (10) days before the deadline, and approved in writing by the Executive Director.

iii. Failure to provide the required monitoring reports per Special Condition Nos. 3, 7, and 8, shall result in a conclusive presumption that the shoreline protective device has substantial adverse impacts on public access and coastal resources, and the permittee shall accordingly apply for a coastal development permit or amendment as described in subsection (a)(ii) of this Special Condition.

(b) The permittee shall undertake monitoring in accordance with the approved monitoring program. Any proposed changes to the approved monitoring program shall be reported to the Executive Director. No changes to the monitoring 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.

10. **Permit Expiration & Condition Compliance**

Because there is existing unpermitted development on the site proposed to be retained, this coastal development permit shall be deemed issued upon the Commission's approval and will not expire. Failure to comply with the special conditions of this permit may result in the institution of an action to enforce those conditions under the provisions of Chapter 9 of the Coastal Act.

IV. FINDINGS AND DECLARATIONS

A. PROJECT DESCRIPTION

The California Department of Parks and Recreation (State Parks) is applying to retain an approximately 800-ft. long, 18-ft. tall revetment located along the northernmost portion of Surf Beach at San Onofre State Beach that was originally placed in April 2017 pursuant to a February 2017 emergency authorization from the Coastal Commission (CDP No. G-6-17-0002). The revetment was installed on the sandy beach along the seaward face of the earthen public parking area as an emergency measure to protect the unpaved beachfront road granting access to 300 of the 320 public parking spaces along Surf Beach during the 2016-2017 El Niño winter storms. While the emergency permit and the subsequent permit for temporary retention of the revetment authorized a 900-foot long revetment (CDP No. 6-17-0871), State Parks installed 800 linear feet, as that was determined to be sufficient once construction commenced.

The subject site is located along a public beach west of Highway 101 within Marine Corps Base Camp Pendleton in unincorporated San Diego County. Surf Beach, located between a military coastal recreational facility on the north and San Onofre Nuclear Generating Stations (SONGS) to the south, is a narrow, kilometer-long, beach-front earthen shelf of varying height that backs up to a steep coastal bluff. The width between the water and toe of the coastal bluff ranges from approximately 40 – 140 feet, and is accessed by a single two-lane dirt road from inland Coast Highway. The beach area contains approximately 320 day-use parking spaces, restroom facilities, and fire pits. While the sandy beach fluctuates in elevation relative to the earthen parking area over the course of the year due to annual weather and tidal fluctuations, the sandy beach is lower than the earthen parking area, and thus the revetment does exceed the height of the parking area by more than one or two feet along its entire length.

Although San Diego County has a certified Land Use Plan, it does not have a certified Implementation Plan. Regardless, the project site lies within the Commission's area of original jurisdiction such that the standard of review is Chapter 3 of the Coastal Act, with the Land Use Plan used as guidance.

B. PROJECT HISTORY

San Onofre State Beach

Consistent offshore wave breaks have attracted surfers to the beaches of San Onofre since at least 1933. Over time visitors named the three main surf breaks along this stretch of coast: Upper Trestles, Church, and Lower Trestles. In 1943, Camp Pendleton military base was established along the southern side of the San Diego/Orange County border, which included the subject site and restricted most civilian access. After many years of local, state, and federal discussions and public action, a final lease agreement between California Department of Parks and Recreation and the federal government was signed on March 30, 1971, and San Onofre State Beach was dedicated on April 3, 1971, allowing California State Parks to take over operations at San Onofre State Beach, overseen by the Orange Coast District Headquarters in San Clemente State Beach. A longer 50-year lease

was signed between State Parks and Department of the Navy United States Marine Corps later that year, and today the approximately 2,000 acre state beach serves over two million visitors a year.

Surf Beach

The San Onofre State Beach shoreline is divided into three areas from north to south: Trestles Beach, Surf Beach, and Trails Beach, spanning from San Mateo Point in the north to San Onofre Bluffs to the south. On January 13, 2017, California State Parks applied for Emergency CDP No. G-6-17-0002 seeking authorization to install approximately 900 linear feet of rip rap revetment along the northernmost portion of Surf Beach, one of the non-contiguous beach segments that compose San Onofre State Beach.

State Parks reported at that time that coastal erosion and storm events – including the 2016-2017 El Niño conditions – caused widespread erosion along the length of Surf Beach, punctuated by sudden collapse events along portions of the earthen shelf upon which the public parks and drives. Due to the narrow configuration of Surf Beach, the erosion along the northernmost segment, where the access road comes down around the eastern coastal bluff to the earthen shelf's beach-side parking spaces, had narrowed to approximately twenty-five feet in width. This led State Parks, in later 2016, to begin placing K rails (temporary concrete barriers) along the seaward edge of the earthen shelf in order to shift vehicular traffic eastward. However, due to the narrow width of this bottleneck in the access road at the northern end of Surf Beach, this had the effect of reducing the road to the width to one lane, while still having to accommodate two-way traffic. During storm events, State Parks would periodically close the road altogether due to stability concerns, cutting off vehicular access to 300 of the 320 parking spaces.

After discussion with State Parks and review by the Commission's coastal engineer, it was determined that temporary placement of the rip rap revetment was necessary to protect the bottleneck in the access roadway and preserve public access to the beach, and Emergency CDP No. G-6-17-0002 was issued by the Coastal Commission on February 16, 2017, with the revetment installed in April 2017. However, the Commission's coastal engineer noted that, due to the narrow configuration and consistency of the earthen shelf, the entirety of Surf Beach was in danger of further substantial erosion, and as placement of rock is not necessarily the preferred long term solution to coastal erosion, Commission staff informed State Parks that the required follow-up permit application would need to be accompanied by a long-term hazards management plan detailing the anticipated effects of future erosion on Surf Beach and the potential suite of measures to balance protecting public access with natural coastal processes.

Special Condition No. 4 of the emergency permit only authorized the revetment until November 1, 2017, as it was believed by State Parks at the time of issuance that they would be able to contract an outside engineering firm and complete a hazards management plan by that date in order to submit the required follow-up permit based on its long-term hazards analysis. However, State Parks ran into unexpected difficulties in procuring the necessary authorizations and funding to commission such a study. Thus,

State Parks was not able to initiate the hazards management study until February of 2018, completing the study by August 2018.

To address the unpermitted nature of the 800-ft. long revetment in the interim, State Parks submitted CDP application no. 6-17-0871, which was approved by the Commission at the April 2018 hearing. In its authorization, the Commission permitted the revetment to be retained until February 28, 2019, as that date was believed to allow sufficient time to complete the in-progress long-term hazards analysis and submit an application for the long-term management of Surf Beach, which State Parks did on November 1, 2018. However, the Commission's April approval also required that within 90 days of Commission approval, State Parks submit monitoring programs for the revetment and its impacts, if any, on near-shore surf breaks and down coast erosion, as well as the subsequent monitoring data. To date, no monitoring plans or data have been submitted to the Commission, CDP No. 6-17-0871 remains unissued, and the revetment is currently unpermitted.

C. PUBLIC ACCESS/RECREATION

Section 30210 of the Coastal Act states:

> *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.*

Section 30211 of the Coastal Act states:

> *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.*

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: (1) it is inconsistent with public safety, military security needs, or the protection of fragile coastal resources, (2) adequate access exists nearby, or, (3) agriculture would be adversely affected. Dedicated accessway shall not be required to be opened to public use until a public agency or private association agrees to accept responsibility for maintenance and liability of the accessway.*

Section 30212.5 of the Coastal Act states:

> *Wherever appropriate and feasible, public facilities, including parking areas or facilities, shall be distributed throughout an area so as to mitigate against the impacts, social and otherwise, of overcrowding or overuse by the public of any single area.*

Section 30214 of the Coastal Act states:

> *(a) The public access policies of this article shall be implemented in a manner that takes into account the need to regulate the time, place, and manner of public access depending on the facts and circumstances in each case including, but not limited to, the following:*
>
> *(1) Topographic and geologic site characteristics.*
>
> *(2) The capacity of the site to sustain use and at what level of intensity.*
>
> *(3) The appropriateness of limiting public access to the right to pass and repass depending on such factors as the fragility of the natural resources in the area and the proximity of the access area to adjacent residential uses.*
>
> *(4) The need to provide for the management of access areas so as to protect the privacy of adjacent property owners and to protect the aesthetic values of the area by providing for the collection of litter.*

San Onofre State Beach is one of the top ten most visited parks in the State Parks system, and has served as a popular coastal recreation destination for decades, receiving over two million overnight and day-use visitors per year. The world-renowned surf breaks offshore have played host to several surfing competitions over the years, and along with the provision of parking immediately adjacent to the beach along a stretch of coast that is otherwise closed to civilian access, the excellent surf and convenient parking combine to make the continued provision of public access especially important.

Being a military base, access to the majority of Camp Pendleton's shoreline is prohibited for civilians. Where public beach access is available – within San Onofre State Beach – vertical access can be limited and constrained for several reasons, such as steep topography or protected habitat areas. San Onofre State Beach is composed of several non-contiguous beach segments interspersed among SONGS and existing military coastal facilities. Furthermore, natural topography, such as the steep bluff backing Surf Beach, and artificial barriers, such as the existing railway corridor and military roads, means that vertical beach access comes in a variety of lengths and levels of convenience. While San Onofre State Beach does offer shoreline day-use spaces and overnight camping spaces in various locations, none of the other lots are in close proximity to Surf Beach, with some even being located east of Interstate-5 and requiring lengthy walks to reach the nearest beach.

In the case of Surf Beach, it offers a beachside dirt parking lot consisting of 320 unmarked parking spaces, restroom, and shower facilities (there is also a small 28-space paved parking lot approximately 500 feet inland, halfway down the bluff top access road). Surf Beach is accessed via this road descending from the north around the bluff top, where visitors can drive to the beachfront and continue along an earthen road along the toe of the bluff to find parking. Approximately twenty shoreline parking spaces are located at the very northern portion of the beach, north of the chokepoint in the access

road, with the remainder of the parking spaces located further south. State Parks charges a flat fifteen dollar vehicle entrance fee to this particular lot (non-vehicular visitors may enter the area for free, but due to location and topography, non-vehicular visitation is difficult). The Surf Beach shoreline is comprised of a narrow sandy beach with cobble, backed by coastal bluffs. The combined width of the sandy beach and road/parking area currently varies from approximately 80 feet at the armored pinch point in the north to 160 feet to the south. The nearshore area is relatively shallow, with a large amount of cobble and scattered kelp beds. Thus, the combination of beach-adjacent parking at a renowned surf break makes the parking provided at Surf Beach extremely popular with visitors, and loss of that parking would substantially impact the ability of the public to access this segment of beach.

It was the partial collapse of the access road in the winter of 2016-2017 that led State Parks to apply for the emergency revetment, and although the intent of State Parks' currently proposed retention of the revetment is to maintain public access to most of Surf Beach, the revetment nevertheless occupies beach space that would otherwise be available for lateral beach access and recreation. While the prior emergency permit and interim permit authorized a 900-foot long revetment, State Parks installed 800 linear feet, as Parks staff determined that to be sufficient once construction commenced. In addition, the configuration of rock actually installed and proposed to be retained differs somewhat from the approved revetment. The proposed and approved revetment was to be ten feet tall, and twelve feet wide and the constructed revetment is eighteen feet tall and at least twenty-five feet wide. To minimize adverse impacts to lateral beach access and recreation, State Parks designed the revetment with a relatively steep 1.5:1 horizontal-to-vertical incline. The revetment is comprised of 3-to-6 ton armor stone underlain by 10-12 ton toe stone and geotextile fabric, backed by a short concrete skirt at the top to help control runoff flows off the access road. The total amount of rock placed was approximately 4,600 tons of armor rock and 2,400 tons of foundational rock. The crest of the revetment is approximately 18 feet NAV88 and the base is approximately 0 feet NAV88. The revetment's eastern half covers the face of the earthen shelf supporting the public parking/access road and western, partially buried half extends onto and under the sandy beach area. Consequently, despite its shorter length and steep incline, the revetment still occupies approximately half an acre of public park area.

In addition to its direct impact to the usable public park area, due to the proximity of world-renowned surfing, the revetment has the potential to adversely impact offshore hydrology, specifically the surf break. The Surf Beach area consists of three surf breaks called the Point, Old Man's and Dog Patch. Each site is a relatively soft wave, and caters to surfers of all skill levels and board types, playing a large role in the draw of the site. The frequency of the surf is such that it is rideable almost every day of the year, barring severe storm conditions. As it is the renowned surfing that draws many of the visitors to Surf Beach, adverse impacts to the surf break may discourage public access, as it would diminish or eliminate a famous water-dependent recreational activity.

The parameters that affect surfing are wave exposure, burial of reefs or sand bars, wave backwash, type of wave break, wave breaker location, peel angle, ride length, and wave breaking frequency. The three surf parameters most applicable to analysis of the

revetment are wave exposure, burial of reefs or sand bars, and backwash. Wave exposure can be adversely affected due to blockages by offshore structures (breakwaters or reefs) or long structures extending from the shore (jetties and piers). The segment of revetment to be retained runs parallel to the shore and is not expected to adversely impact wave exposure in this manner. Direct burial of the reefs or sand bars can adversely impact wave patterns, but as discussed above, the revetment does not extend into the ocean and will not bury any offshore reefs or sand bars. Finally, backwash can adversely impact surfing when waves reflect off a steep beach, bluff face, or certain types of shoreline armoring. Changes in backwash can also occur due to changes in the beach and nearshore native sediment grain size. Tides play an important role in backwash; steeper slopes tend to be higher in the beach profile, and backwash during high tide can be higher than the long-term average backwash. The steeper the ocean-facing slope, the greater the backwash. Because State Parks constructed the revetment with a relatively steep slope of 1.5:1 horizontal to vertical and the beach experiences regular wave action, the revetment reflects some of the energy back into the ocean rather than naturally letting the wave continue landward. As a result, the revetment could adversely impact surfing in this manner.

In its April 2018 action authorizing the interim retention of the revetment, the Commission recognized that Surf Beach is a popular coastal destination that grants the public beach-side access to the ocean in what is a legally and geographically constrained segment of the coast, and that should the access road be allowed to fail, that the public's access to approximately ninety-four percent of the available parking in this relatively isolated beach would be jeopardized. Nevertheless, the Commission also recognized that the revetment would likely have adverse impacts and is not the least impactful design in the longer term. Pursuant to the conditions of the Commission's emergency authorization and interim permit for the revetment, State Parks was required to conduct a long term hazards analysis, which was completed in August 2018 and analyzed seven long-term management strategies for Surf Beach through the year 2100 and potentially beyond [Exhibit 6]. The report does not specifically recommend any one approach. The seven long-term strategies are:

1. Retention of the existing 800-ft. revetment and elongating it as needed over the years along the length of Surf Beach. This is essentially the proposed project, although the applicant has not identified future needs for additional rock at this time. The long-term hazards report indicates that this would be one of the less costly management options, though full protection of Surf Beach would require approximately 36,000 tons of rock, would occupy public beach area, and would prevent landward movement of the beach, eventually leading to its disappearance due to sea level rise.

2. Removal of the existing revetment and replacement with a vertical wall along the seaward boundary of the parking area; elongating it as needed along the years along the length of Surf Beach. The report notes that the cost of this option would make it one of the most expensive options and would halt the landward movement of the beach, leading to its eventual disappearance due to sea level rise, though it would occupy less beach area than the revetment.

3. Retention of the existing 800-ft. long revetment and implementation of a beach nourishment program, burying the revetment with 60,000 cubic yards of sand and depositing up to 150,000 additional cubic yards of sand along the length of Surf Beach as needed, with periodic re-nourishment. This option would be "softer" than the revetment or wall, and would be in line with nourishment performed elsewhere on the coast, but it would be among the most expensive options and require periodic re-nourishment to address erosion as sea levels rise and wash away the deposited sand.

4. Removal of the existing 800-ft. revetment and replacement with a cobble berm utilizing both on-site and imported cobble, extending it along the length of Surf Beach as needed. This option would be "softer" than the revetment or seawall, its cost would place it in the middle of the group, and it could potentially achieve the same impact as beach nourishment with less volume. However, while Surf Beach has substantial cobble near shore, it would not be sufficient to protect the entire beach, and cobble would need to be imported elsewhere to construct the berm and perform maintenance over the years as sea level rise wears it away. The cobble berm would also cover substantial sandy beach area and impact the recreational ability of the public.

5. Removal of the existing 800-ft. revetment and implementation of an "active road maintenance" program utilizing imported material to reconstructed eroded or collapsed parking areas as needed. This is among the cheapest of the options, though due to erosion, year-round access to all of the parking spaces may not be feasible over the subsequent years.

6. Removal of the existing 800-ft. revetment and implementation of a "phased retreat" program coordinating gradual erosion of Surf Beach with removal of sea level amenities and eventual relocation to the adjacent bluff top parking lot currently serving the San Onofre Nuclear Generating Station, with a public access path down the bluff to the beach. The cost of this option would be in the middle of the group of options, and it would avoid occupying beach area or impeding beach migration through armoring, however, in addition to the current uncertainty regarding the future availability of the bluff top lot, parking would gradually be lost to erosion while waiting for the lot to become available, and it would likely require the construction of an access structure on the bluff face down to the shoreline.

7. Removal of the existing 800-ft. revetment and implementation of a "limited action/no build" scenario to allow Surf Beach to naturally erode away with no relocation. This is the cheapest option, though sea level rise would gradually erode Surf Beach away until it ceased to exist, with no alternative parking offered on site.

In addition to the above alternatives, staff also identified a potential alternative of retention of only a portion of the revetment, specifically, the minimum necessary to protect the access road, but not necessarily the twenty-space parking lot.

The Commission's coastal engineer, Dr. Lesley Ewing, has visited the site and reviewed the alternatives. As discussed in greater detail below in Section D: Coastal Hazards, State Parks has demonstrated that the road is at risk of erosion and some form of protection is required. Although the precise time frame is uncertain, the Commission's engineer concurs that the "no project" alternative would likely result in the elimination of some or all of the twenty parking spaces on the northern portion of the beach within a period of years, and the roadway itself could also be at risk within the same time period. Closing the roadway would essentially close this popular beach, given the difficulties of non-vehicular access to the area.

Given the impacts of shoreline protection and expectation of sea level rise and increased rates of erosion, the Commission strongly supports the approach of a long-term management plan that does not rely on hard shoreline protection. State Parks should take a comprehensive approach to shoreline management that acknowledges and allows for the inland retreat of the shoreline, while providing alternate public access, including parking, further inland. The existing bluff top parking lot owned by the United States Marine Corps (USMC) and leased and operated by SONGS, clearly represents the best opportunity for relocation of parking and public access at the site. This fully developed parking lot served as the primary parking lot for SONGS, is approximately eleven acres in size, and during operations contained over 1,000 parking spaces. Because SONGS is in the process of being decommissioned (a process that will likely proceed into the 2030's), this site has the potential to be fully converted to public beach parking, either when the plan decommissioning is complete, or gradually during the decommissioning period, as only a portion of the parking lot is being used at this time.

However, a full evaluation of the inland relocation alternative, let alone implementation of such an approach (which would also require construction of some form of access from the bluff top to the beach), is not feasible at this time due to the uncertainty regarding the renewal of State Parks' lease with the USMC in 2021 and the future status of the bluff top parking lot that is currently part of the SONGS leasehold. Currently, State Parks is nearing the end of its current fifty-year lease with the USMC, with expiration to occur in August 2021. Should the USMC choose to not renew State Parks' lease, it is expected that San Onofre State Beach will cease operation and the land revert to military management. Furthermore, feasibility of the managed retreat to the bluff top parking lot does depend on the schedule and needs of the current decommissioning process. Without knowing first if the State Parks lease will be renewed, and second if the SONGS decommissioning process could potentially incorporate public parking at the bluff top lot in the upcoming years, it is difficult for the Commission to undertake a true analysis of the full range of feasible alternatives at this time. In addition, State Parks is reluctant to commit funds to a particular strategy at least until the lease renewal is resolved.

The inability to fully plan for or implement a long-term managed retreat strategy at this time makes this otherwise preferred alternative infeasible at this time. "Softer" strategies,

such as beach nourishment or a living shoreline, would also be preferred alternatives that need to be explored and prioritized. However, similar to the retreat option, the uncertainty of State Parks' long-term lease, and the cost and time associated with pursuing these alternatives, make implementation infeasible at this time.

The Commission's coastal engineer also evaluated the option of removing a portion of the existing revetment, retaining only the minimum necessary to protect the "pinch point" at the narrowest segment of the access road. However, it was determined that removing a portion of the revetment north of the pinch point would lead to the erosion of the twenty parking spaces there and the adjacent access road segment coming under wave attack during the duration of this permit's term, potentially leading to another emergency situation.

In addition, State Parks has argued that removal of all or a substantial portion of the revetment is infeasible for several reasons. First, with the observed rate of erosion along Surf Beach, it is anticipated that the segment currently protected by the emergency revetment would encounter another emergency situation over the subsequent ten years, necessitating protection once again in this area. Secondly, State Parks has indicated that installation of the revetment cost over one million dollars, and complete removal of the revetment would cost up to an additional one million dollars. While removal of portions of the revetment would cost less, it would likely still be costly, and is not an expense State Parks wishes to incur if there is a likelihood that they would have to take future emergency action during heavy winter storms. The Commission is sensitive to the costs incurred by a public agency operating a public recreational facility, however, the basis for the final hazards analysis must be predicated on balancing impacts to public access and natural coastal processes.

In this case, the Commission has looked to establishing a medium-term approach for balancing the impacts and opportunities to protect public access and recreation at this valuable public recreational facility. Retention of the revetment for a limited time frame of five years with specific, detailed monitoring of on-going erosion and the potential impacts associated with retention of the revetment – specifically, on surfing – will allow State Parks to continue to be able to provide safe access to the southern parking spaces, but also establishes a clear end date by which time an alternative plan should be developed, depending on the status of the lease renewal and the decommissioning of SONGS. If the monitoring data is collected as required through the subject permit, and the monitoring data demonstrates that the shoreline protective device does not have substantial adverse impacts on sand supply, public access and recreation, surf, or other relevant coastal resources, the Executive Director may grant a single five-year extension to the authorization for the shoreline protective device, subject to continued monitoring. Given that the preferred long-term approach is relocation of park facilities inland, the most feasible alternative to protect public access and recreation at this time is allowing the existing revetment to remain in place and allowing only the minimum necessary repair and maintenance to occur over the duration of the permit.

Right now, the subject revetment is protecting both the road and the parking spaces at the northern end of the beach. However, when determining the appropriate balance between

protecting the public facilities and impacting the beach, the Commission finds that should additional erosion occur putting these northern parking spaces at risk, only the most critical and at-risk portion of the site – the access road – should be protected. That is, no additional rock should be placed for the purpose of protecting the parking spaces, if the road itself is not at risk. The Commission's staff coastal engineer has determined that a fifty-foot road width is a sufficient minimum to allow the continued operation of the Surf Beach access road, which will allow sufficient space for two-way public traffic and leaving enough space for State Park's revetment maintenance and monitoring staff to parallel park along the road without impeding public traffic. Looking at the current configuration of the revetment and anticipated erosion rates, the Commission's staff coastal engineer recommends that the entire revetment be retained in place to ensure the road is likely to be reasonably safe for the next five years. The historical and anticipated sea level rise and erosion data indicate that without the northern half of the revetment, it is likely that the parking spaces between the beach and the access road would erode away over the next ten years and wave attack would start impacting that portion of the access road, potentially leading to a repeat emergency scenario of needing to authorize some protective action to maintain public access to the remainder of Surf Beach. Thus, allowing the existing revetment to remain for a period of five to ten years represents the alternative requiring the least amount of shoreline protection necessary to protect and preserve public access and recreation, while minimizing the likelihood that another emergency condition will necessitate the placement of additional rock.

Thus, although retention of the revetment will have some adverse impacts on public access and recreation, as conditioned, the footprint of the revetment will maintained to only that necessary to protect continued access to the majority of Surf Beach for the next decade. In this particular case, preserving safe public access to the beach offsets the impacts of the reduced revetment for this time period. **Special Condition No. 2** requires State Parks to submit final plans showing with identified benchmarks to be used in future monitoring of the revetment to ensure that its approved footprint is maintained and it does not encroach onto additional beach area. Future impacts associated with revetment's retention prior to any future removal in a subsequent permit may include the dislodging and/or scattering of revetment rock onto the public beach, and, as such, **Special Condition No. 3** requires State Parks to submit a monitoring program to the Commission to determine settling or seaward movement of the revetment to ensure the revetment continues to be configured to minimize impacts to public access.

Special Condition No. 4 requires State Parks to contact the Executive Director if repair or maintenance is necessary to determine whether a coastal development permit is required, and **Special Condition No. 5** requires the applicant to waive any rights to future seaward or lateral extension of the revetment. The presence of the revetment could adversely impact the quality of the surfing that distinguishes Surf Beach from most beaches and draws large number of the public. To establish a record of the revetments impact, if any, on the surf break in anticipation for the subsequent permit for long-term management of Surf Beach, **Special Condition No. 7** requires State Parks to implement a surf monitoring program to quantitatively and qualitatively monitor the quality of the surf break over the subsequent decade. A related public access impact would occur if the revetment substantially altered the erosion of downcoast beaches through reduced

sediment accretion or increased erosion. **Special Condition No. 8** requires State Parks to implement a beach erosion monitoring plan that will establish benchmarks for monitoring existing and future variations in beach width and profiles. Finally, because several tons of rip rap will remain on the beach, **Special Condition No. 9** requires State Parks to adhere to required monitoring schedules or potentially be required to remove the revetment.

Despite these conditions to minimize the encroachment of the revetment on the public beach, if the revetment were to remain in place indefinitely, this segment of beach would be lost due to sea level rise. As a result, **Special Condition No. 1** authorizes the revetment for only five years from the date of Commission action on this permit. Prior to the termination of the initial authorization period, State Parks may request up to an additional five years of authorization, but all monitoring requirements must be adhered to and monitoring data must demonstrate that the revetment is not having substantial adverse impacts on public access or coastal resources, in which case the Executive Director may grant a single authorization extension. However, should the monitoring plans not be adhered to, or the monitoring data demonstrate that the revetment is having substantial adverse impacts on public access of coastal resources, then a request to extend the authorize beyond the initial five years would require full permit review and approval by the Commission. The duration of the permit's authorization is intended to allow State Parks address the renewal of its lease with the USMC and gain greater certainty regarding the status of the bluff top SONGS parking lot. All of these special conditions will ensure that while the revetment remains on the beach, it will be maintained in a configuration that can be considered the least impactful to public access and recreation, consistent with the public access and recreation policies of the Coastal Act.

D. COASTAL HAZARDS

Section 30235 of the Coastal Act states:

> *Revetments, breakwaters, groins, harbor channels, seawalls, 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.*

Section 30253 of the Coastal Act states in relevant 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 Coastal Act acknowledges that seawalls, revetments, retaining walls, groins, and other such structural or "hard" methods designed to forestall erosion also alter natural landforms and natural shoreline processes. Accordingly, with the exception of new coastal dependent uses, Coastal Act Section 30235 limits the construction of shoreline protective works to those required to protect existing permitted structures or public beaches in danger from erosion. Furthermore, Section 30253 requires that new development be sited, designed, and built in a manner to not require construction of shoreline protective devices that would substantially alter natural landforms along the shoreline. The Coastal Act provides these limitations because shoreline structures can have a negative effect on the coastal environment, including adverse effects on sand supply, public access, coastal views, natural landforms, and shoreline beach dynamics on- and off-site, that can result in the loss of public beach areas. An issue of major concern facing California today is the fast pace of disappearing beaches due to natural processes (e.g. erosion, subsidence, and storm events) and anthropogenic factors (coastal development and sand supply disruptions). Seawalls, revetments, and other types of hard armoring have long been used to protect backshore development from erosion and flooding, but future accelerated sea level rise and extreme storm events will heighten the rate of beach loss and potential exposure of the backshore hazards. Hard armoring already results in unintended ecological and public access consequences, such as loss of biodiversity and ecosystem services and displacement of recreational beach area with protective structures.

Under Coastal Act Section 30235, shoreline protective structures shall be permitted if: (1) there is an existing structure; (2) the existing structure is in danger from erosion; (3) shoreline altering construction is required to protect the existing threatened structure; and (4) the required protection is designed to eliminate or mitigate the adverse impacts on shoreline sand supply.

San Onofre State Beach, including this Surf Beach segment, began operations in 1971, prior to the effective date of the Coastal Act on January 1, 1977, and thus is considered an existing use. Surf Beach is a southwest-facing bluff-backed beach that is experiencing narrow to moderate beach widths over time due to natural and anthropogenic actions such as erosion, sand deposition, storms, the construction of SONGS, and inland development and flood control. .

San Onofre State Beach and its facilities are particularly susceptible to damage from storm events due to exposure to the shoreline. The tides in Southern California are semidiurnal, with a frequency of approximately 12.42 hours, meaning there are two low tides and tow high tides during the 25-hour tidal day, with the tide range varying from tide to tide. In Southern California, the highest tides of the year usually occur in the winter months, which is also the season that exhibits the most extreme storms typically causing beach erosion. In Southern California, wave energy is typically greater in winter, resulting in shoreline erosion as material is moved offshore. In the summer, gentler waves facilitate landward movement of the offshore material, resulting in shoreline accretion. Surf Beach experiences this type of seasonal variation in beach width. In more extreme events, Surf Beach experiences high wave conditions that deposit sand and

cobble on the earthen shelf where the public parking is located, resulting in the need for road repairs.

The most recent study of wave hazards at San Onofre State Beach is the 2016 Federal Emergency Management Agency (FEMA) Open Pacific Coast Study of the California Coastal Analysis and Mapping Project (CCAMP). The results of this study were used to create Preliminary Flood Insurance Rate Maps (PFIRMs), which will replace current flood maps. While these flood maps only look at current conditions and do not consider future sea level rise, they are useful for depicting the extent of the current 100-year (1% annual chance) total water level, known as the base flood elevation. The base flood elevation represents the still water level (water surface elevation resulting from astronomical tides, storm surge, and freshwater inputs) combined with the heights of wave setup and wave run-up. The preliminary base flood elevations at Surf Beach are 20-22 feet NAV88, with flooding extending inland to the toe of the rear bluff, likely resulting in damage to the road and parking area, which have elevations of 15-18 feet NAV88. The FEMA maps also showed that even during a 10-year storm event (10% annual chance), Surf Beach would be subject to flooding and erosion, making it inaccessible to the public. It was during such extreme storm events in the winter of 2016-2017 that State Parks applied for the installation of the existing revetment along the northern portion of Surf Beach.

As discussed above, State Parks conducted a long-term hazards analysis pursuant to the Commission's prior permit actions authorizing the installation and interim retention of the revetment. The long-term hazards analysis determined that Surf Beach would experience severe erosion even in lower sea level rise scenarios, with 0.8 feet of sea level rise causing half of the pinch point in the access road to erode away and the mean high water level washing against the earthen shelf by 2040. The report analyzed seven shoreline management and adaptation methods: rock revetment, narrow-footprint armoring (e.g. vertical wall), beach nourishment, cobble berms, active road maintenance, phased retreat, and "no build." The report analyzed the design, potential impacts and benefits to public access and coastal resources, and construction and maintenance costs of the various adaptation methods.

However, as discussed above, the ability of the Commission to determine the long-term viability of some of the alternatives, such as managed retreat to the adjacent bluff top parking lot, and State Parks' willingness to commit funding to certain adaptation methods, is hindered by the uncertainty regarding the future of local facilities and the San Onofre State Beach itself. Additionally, State Parks is reluctant to commit funding to a facility which it may no longer control in two years' time, or to an adaptation strategy whose likelihood of implementation appears infeasible.

Because of these existing uncertainties and the continued need to operate Surf Beach for the public, State Parks is proposing at this time to retain the entire existing 800-ft. revetment. However, the installation or retention of shoreline armoring such as a revetment has the potential to increase local or downcoast erosion. Besides occupying a portion of the sandy beach, coastal armoring causes impoundment, passive erosion, and active erosion. Impoundment of upland and bluff sediment that would otherwise erode

and enter the cross and downcoast sediment transport would diminish natural sand accretion here and downcoast, hastening beach narrowing. Past surveys have determined that the bluffs along Camp Pendleton range in sand content from 62% to 72%, a rich source of future sediment. Regarding passive erosion, whenever a hard structure is built along an eroding coastline, the shoreline will eventually migrate landward on either side of the structure, resulting in gradual loss of the beach in front of and to either end of the armoring. This is evident at the adjacent seawall built along SONGS, which has no beach in front of it despite having 1.3 million cubic yards of sand excavated during its construction in the late 1960's and placed along the shore in front of it. Local scour is often observed at the downdrift end of armoring as a result of wave reflection and would also hasten the loss of sand at what is already a narrow beach.

As discussed above, the Commission's coastal engineer has determined that the access road can be protected with the retention of the revetment, which is the minimum necessary to protect the existing pinch point and ensure that another emergency situation does not arise in this segment during the permit term. Allowing only the approved revetment to stay in place, with no additions or elongations, for a maximum of ten years will allow sufficient time for the matters of the lease renewal and the decommissioning of SONGS to become clearer, after which State Parks should update its long-term hazards analysis and return for a subsequent coastal permit.

In past projects involving the installation or retention of shoreline protective devices, the Commission has required mitigation fees from the applicant to address the impacts the shoreline protective device has to sand supply – through the reduction of natural erosion on near-shore areas and the introduction of sand material into the littoral cell – and public access and recreation – through occupation of public space and prevention of the beach from migrating landward as sea levels rise. In the current case, as discussed elsewhere in this report, past storm events have necessitated the closure of the public access road permitting use of Surf Beach by the public, effectively preventing the majority of the public from using the area due to its isolated nature. By retaining the existing revetment for five years, with an extension to ten years based on monitoring data, the revetment is serving a beneficial role by protecting a public facility that facilitates future public use of this popular surf break and beach area.

In recognition of the above uncertainties regarding the future of San Onofre State Beach, the cost to State Parks to completely remove the revetment (estimated at $800,000 to $1,000,000), and the importance to providing continued, safe public access to the majority of Surf Beach, the Commission will allow the retention of the current revetment necessary to continue to provide public access for the shortest time necessary to gain the information required in order to select a less-impactful, permanent management strategy in the future.

To ensure that the revetment is only in place the least amount of time necessary to obtain the information needed to select a less-impactful permanent management strategy, **Special Condition No. 1** authorizes the revetment only for an initial five-year period, with extension on that dependent on the thorough implementation of the required monitoring plans and the conclusions drawn from the monitoring data regarding any

impacts to public access or coastal resources. Prior to the termination of the initial authorization period, State Parks may request up to an additional five years of authorization, but all monitoring requirements up to that point must be adhered to and monitoring data must demonstrate that the revetment is not having substantial adverse impacts on public access or coastal resources, in which case the Executive Director may grant a single authorization extension. However, should the monitoring plans not be adhered to, or the monitoring data demonstrate that the revetment is having substantial adverse impacts on public access of coastal resources, then a request to extend the authorize beyond the initial five years would require full permit review and approval by the Commission.

To ensure that the State Parks is able to monitor the revetment, **Special Condition No. 2** requires State Parks to submit final plans that identify the location of benchmarks from fixed reference point(s) from which the elevation and seaward limit of the revetment can be calculated. **Special Condition No. 3** requires State Parks to submit monitoring reports to the Commission to determine settling or seaward movement of the revetment to ensure it continues to be configured to minimize impacts to public access. **Special Condition No. 4** requires the applicant to contact the Executive Director if repair or maintenance is necessary to determine whether a coastal development permit is required, and **Special Condition No. 5** requires the applicant to waive any rights to future seaward extension of the revetment.

Finally, due to the inherent risk of shoreline development, **Special Condition No. 6** requires State Parks to waive liability and indemnify the Commission against damages that might result from the proposed shoreline protective devices. The risks of the proposed development include that the proposed shoreline protective devices will not protect against damage to the access road from waves, storm waves, flooding, and erosion. Although the Commission has sought to minimize these risks, the risks cannot be eliminated entirely. Given that the applicant has chosen to construct the proposed development despite these risks, the applicant and any future property owner must assume the risks. All of these special conditions will ensure that the revetment remains in a configuration that can be considered the lease impactful to coastal resources, consistent with Sections 30235 and 30253 of the Coastal Act.

E. UNPERMITTED DEVELOPMENT

Construction of the existing 800-ft. long revetment was originally authorized through a February 2017 emergency coastal development permit (G-6-17-0002) and occurred in April 2017. Special Condition No. 4 of the emergency permit required that the applicant either obtain permanent authorization for the revetment by November 1, 2017, or to remove it by the same date. The Commission approved a subsequent permit at the April 2018 hearing (6-17-0871) temporarily authorizing the revetment until February 28, 2019, subject to the satisfaction of prior-to-issuance conditions regarding final construction and monitoring plans. The conditions were required to be satisfied within 90 days of Commission action; however, to date, none of those conditions have been satisfied, and the permit has not been issued. Thus, the revetment is currently unpermitted. State Parks' current proposal is to retain the entire 800-ft. revetment in its current configuration. As

conditioned, this permit will authorize the retention of the revetment for five years, with the potential to remain up to ten years. Approval of this application pursuant to the staff recommendation, issuance of the permit, and the applicant's subsequent compliance with all terms and conditions of the permit will result in resolution of the above described violations going forward for the duration of the permit.

Commission review and action on this permit application does not constitute a waiver of any legal action with regard to the alleged violations nor does it constitute an admission as to the legality of any development undertaken on the subject sites without a coastal permit. Consideration of this application by the Commission has been based solely upon the Chapter 3 policies of the Coastal Act, with the certified LCP acting as guidance.

To ensure that the unpermitted development component of this application is resolved in a timely manner, **Special Condition No. 10** requires that the subject permit issue upon Commission approval. Commission review and action on this permit will resolve the violations identified in this section going forward for the duration of the permit once the permit has been fully executed and the terms and conditions of the permit complied with by the applicants. Should the applicant not comply with all of the Special Conditions in the time allotted, the applicant may be subject to enforcement action to require compliance with the approved permit conditions.

F. LOCAL COASTAL PLANNING

Section 30604(a) also requires that a coastal development permit shall be issued only if the Commission finds that the permitted development will not prejudice the ability of the local government to prepare a Local Coastal Program (LCP) in conformity with the provisions of Chapter 3 of the Coastal Act. In this case, such a finding can be made.

San Onofre State Beach is located on Marine Corps Base Camp Pendleton in unincorporated San Diego County. The County of San Diego has a certified Land Use Plan but does not have a certified Implementation Plan and thus does not have a certified Local Coastal Program. Regardless, the proposed development is located in an area of the Coastal Commission's original permit jurisdiction, and thus Chapter 3 of the Coastal Act is the standard of review. As approved, the permitted development will not prejudice the ability of San Diego County to finish its LCP.

G. CALIFORNIA ENVIRONMENTAL QUALITY ACT

Section 13096 of the Commission's Code of Regulations requires Commission approval of Coastal Development Permits to be supported by a finding showing the permit, as conditioned, 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. State Parks found the emergency revetment exempt from CEQA review as an emergency project under Section 15269(b) and (c).

The proposed project has been conditioned in order to be found consistent with the Chapter 3 policies of the Coastal Act. Mitigation measures, including conditions addressing maintenance, monitoring, and design will minimize all adverse environmental impacts. As conditioned, there are no feasible alternatives or feasible mitigation measures available which would substantially lessen any significant adverse impact which the activity may have on the environment. Therefore, the Commission finds that the proposed project is the least environmentally-damaging feasible alternative and can be found consistent with the requirements of the Coastal Act to conform to CEQA.

F. REIMBURSEMENT IN CASE OF CHALLENGE

Coastal Act Section 30620(c)(1) authorizes the Commission to require applicants to reimburse the Commission for expenses incurred in processing CDP applications. Thus, the Commission is authorized to require the 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 No. 6** requiring reimbursement for any costs and attorney fees that the Commission incurs in connection with the defense of any action brought by a part other than the applicant challenging the approval or issuance of this permit.

APPENDIX A – SUBSTANTIVE FILE DOCUMENTS

- San Onofre State beach: Surf Beach Long-Term Shoreline Management Alternatives Analysis Report dated October 2018 by Moffat & Nichol