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Staff:	E. Martinez-SF
Staff Report:	4/30/2021
Hearing Date:	5/14/2021

STAFF REPORT: CDP HEARING

Application Number: **2-20-0319**

Applicant: San Mateo County Department of Public Works

Project Location: Along the bluff and beach adjacent to Mirada Road and the California Coastal Trail where it crosses over Arroyo de en Medio Creek at Half Moon Bay State Beach, straddling portions of the City of Half Moon Bay and the unincorporated Miramar area of San Mateo County.

Project Description: Demolition of an existing concrete arch bridge accommodating the California Coastal Trail (currently closed for safety reasons) and replacement with a new pedestrian bridge fronted by armoring at each bridge abutment area.

Staff Recommendation: Approval with conditions

SUMMARY OF STAFF RECOMMENDATION

San Mateo County proposes to replace an existing damaged (and currently closed) pedestrian bridge over Arroyo de en Medio Creek fronting Half Moon Bay State Beach at Mirada Road. The existing bridge (installed in 2004) is partially mounted on an older concrete arch bridge (installed sometime in the 1940s) that also supports public utility infrastructure. The bluffs and portions of the creek banks in the project area are partially armored, including as a result of emergency work permitted by the Commission in 2016 and by the concrete bridge itself, including concrete debris that has dislodged from it over the years. The existing pedestrian bridge is a part of the California Coastal Trail (CCT) and a critical link for residents, commuters, and visitors the area, including as it provides the only non-motorized crossing of Arroyo de en Medio Creek seaward of Highway 1. Since the bridge was closed in the summer of 2020, pedestrian and bicycle

access has been rerouted about a third of a mile inland to Highway 1, and users currently have to navigate nearly a mile detour to make it from one side of the bridge area to the other.

The proposed project would include demolition of the concrete arch bridge, replacement of the pedestrian bridge, and installation of armoring on the north and south sides of the Arroyo to protect the bridge abutment areas. While the project has obvious public access benefits associated with restoring CCT access at this shoreline location, it also includes significant armoring that leads to adverse coastal resource impacts, including on beach and shoreline access now and over time. In evaluating these issues, staff has concluded that Mirada Road is a pre-Coastal Act existing structure and the CCT at this location is also coastal-dependent, meaning that the project qualifies for the use of armoring under the Coastal Act. At the same time, staff worked very closely with the Applicant to examine potential alternatives that could accommodate CCT access without armoring and/or with minimal armoring (including inland relocation of the pedestrian bridge, use of a longer bridge, removal of the bridge and installation of stairways, and a variety of armoring configurations). Ultimately, even inland relocation would lead to some armoring (to protect Mirada Road), and it would also mean a significant re-routing to the CCT that would both take significant time (where the current detour could be in place for years) and significant public funds (two times what the current project would cost) to be realized, and lead to a CCT that would not be in sight and sound of the ocean. For these reasons, staff concluded that a replacement bridge project would be the most Coastal Act consistent.

Staff thus worked with the Applicant to identify project parameters that would limit armoring as much as possible while still accommodating the CCT at this location. As modified, the armoring would occupy much less beach space than the original proposal, reducing such coverage by nearly a third. Similarly, overall armor length has been reduced by nearly 40 linear feet, or a reduction of almost 15%. Staff and the Applicant also worked together on a mitigation package to help lessen project impacts (including camouflaging the armoring, aesthetically sensitive bridge and fencing design, etc.) and to offset remaining impacts overall, including through new public recreational access improvements in the project area (i.e., an improved accessway down to the beach, improved public overlooks with benches, safety and interpretive signage, bicycle racks, etc.), as well as other measures. Staff believes that the project, as conditioned, is the best outcome possible for the public under the Coastal Act, and recommends that the Commission approve a conditioned CDP. The Applicant is mostly in agreement with the staff recommendation, and the motion is found on page 4 below.

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APPENDICES

EXHIBITS

I. MOTION AND RESOLUTION

Staff recommends that the Commission, after public hearing, **approve** a CDP for the proposed development. To implement this recommendation, staff recommends a **YES** vote on the following motion. Passage of this motion will result in approval of the CDP as conditioned and adoption of the following resolution and findings. The motion passes only by affirmative vote of a majority of the Commissioners present.

Motion: *I move that the Commission* ***approve*** *Coastal Development Permit Number 2-20-0319 pursuant to the staff recommendation, and I recommend a* ***yes*** *vote.*

Resolution to Approve CDP: *The Commission hereby approves Coastal Development Permit Number 2-20-0319 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. 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 Applicant or authorized agent, acknowledging receipt of the permit and acceptance of the terms and conditions, is returned to the Commission office.

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

3. **Interpretation.** Any questions of intent or interpretation of any condition will be resolved by the Executive Director or the Commission.

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

5. **Terms and Conditions Run with the Land.** These terms and conditions shall be perpetual, and it is the intention of the Commission and the Applicant 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. **Revised Final Plans.** PRIOR TO CONSTRUCTION, the Permittee shall submit two full-size sets of Revised Final Plans to the Executive Director for review and written approval. The Plans shall be prepared by a licensed professional or professionals (i.e., geotechnical engineer, surveyor, etc.), shall be based on current professionally surveyed and certified topographic elevations for the entire site, and shall include a graphic scale. The Revised Final Plans shall be in substantial conformance with the proposed plans (by County of San Mateo Department of Public Works titled "Mirada Road Pedestrian Bridge Replacement" dated January 16, 2020, and received in the Coastal Commission's North Central Coast District office on June 4, 2020; see **Exhibit 3**), except that they shall be modified to meet the following requirements:

   (a) Armoring Modifications. All riprap located at the base of the shotcrete wall shall be minimized to the maximum feasible extent and shall be no wider than 12.5 feet, as measured from the toe of the seawall seaward, and shall be located at an elevation between 0 and +6 feet NAVD88 so that it will be covered at normal summer and winter beach sand elevations. The shotcrete wall may extend down to an elevation of +3 feet NAVD88. The length of the armoring along the bluff and creek bank on the south side of the creek shall be minimized to the maximum feasible extent (including by reducing the inland reach by approximately 40 linear feet) to accommodate the public accessway. Such armoring modifications shall be in substantial conformance with those shown in Figure 1 of **Exhibit 5**.

   (b) Concrete Surfacing. All armoring system concrete surfaces shall be faced with a sculpted concrete surface that mimics natural undulating bluff landforms in the vicinity in terms of integral mottled color, texture, and undulation to the maximum extent feasible (except that the stairway treads may be contoured for safety purposes as long as they meet all other camouflaging requirements). Any protruding elements (e.g., corners, edges, etc.) shall be contoured in a non-linear manner designed to evoke natural bluff undulations. All drainage and related elements within the sculpted concrete shall be camouflaged (e.g., randomly spaced, hidden with overhanging or otherwise protruding sculpted concrete, etc.) so as to be hidden or inconspicuous as seen from public viewing areas, including camouflage of any expected drainage staining over time. The color, texture and undulations of all armoring system concrete surfaces shall be maintained in their approved state throughout the life of the structure. AT LEAST 30 DAYS PRIOR TO COMMENCEMENT OF FINISH CONCRETE SURFACING, the Permittee shall submit to the Executive Director for review and approval the qualifications of the contractor who will perform the finish concrete work, including photos and identification of similar completed projects. Such finish concrete work shall not commence until the Executive Director has approved the finish concrete contractor.

(c) Bridge Design. Final bridge design shall limit above deck level elements that block or otherwise impair public views, including by reducing the height and/or modifying the design of all such elements, to limit view obstruction to the maximum feasible extent. Additionally, the bridge shall be colored with natural colors to the extent feasible to blend in with its natural surroundings to the maximum feasible extent, and stark unnatural colors and/or reflective metallic surfaces shall be prohibited.

(d) Railings. Railings and/or other barrier types associated with the bridge and stairway along the armoring system may be allowed by the Executive Director if evidence is provided that conclusively demonstrates that any such railing/barrier is required to ensure public safety. Railings shall be metal, capable of withstanding the rigors of the shoreline location, and shall be sited and designed to blend and be inconspicuous so as to minimize view impacts as much as possible (including limiting railing segments to the minimum required, using integral color to match the seawall/bluff face's mottled color, use of corten steel, mottled or flat-black paint, etc.).

(e) Fencing. Fencing proposed for the Coastal Trail approaches both to the north and south of the bridge shall be designed to blend into the surrounding areas and constructed of natural materials to the extent feasible so as to minimize view impacts as much as possible (e.g., low wooden split rail if possible), and such barriers shall be limited to locations only where required for public safety.

(f) Drainage. All drainage and related elements within the sculpted concrete and any related energy dissipation measures shall be camouflaged (e.g., randomly spaced, hidden with overhanging or otherwise protruding sculpted concrete, etc.) so as to be hidden or inconspicuous as seen from public viewing areas. All drainage elements shall be sited and designed to reduce the potential for drainage-caused erosion, and to be as inconspicuous as possible.

(g) Vertical Public Accessway. A vertical public accessway down to the beach shall be installed in the project area, either as an integral part of the armoring structure or adjacent to it at the downcoast abutment. If located in the armoring, all above visual protection requirements shall apply, and if adjacent to the armoring, the accessway shall be designed to blend into the surrounding area and constructed of natural materials as much as possible. The Plans shall provide that the accessway shall be modified as necessary to maintain continued safe use over the time period throughout the life of the armoring system (see also **Special Condition 6**), and the Plans shall identify all mechanisms to ensure safe use.

(h) Surveyed Benchmarks. The Plans shall identify an appropriate number of surveyed benchmarks, including location and elevation, to be used for future monitoring evaluations (see also **Special Condition 6**).

(i) Adjacent Property Owner Consent. For any development associated with the

project that may occur on adjacent properties, including but not limited to construction that requires equipment access on such other properties, the Plans submitted to the Executive Director shall include evidence of review, approval and consent from all such adjacent property owners allowing such development.

(j) Landscaping and Vegetation Restoration Requirements. Non-native and invasive plant species within the project area, including the improved public access areas (including the enhanced public access overlook area identified in part (k) below, the area between the southern Coastal Trail approach to the pedestrian bridge and the toe of the creek bank, and the vertical public accessway), as well as in any remnant areas impacted by the temporary beach access but not developed with permanent beach access, shall be removed and not be allowed to persist, and such area shall be landscaped with native and noninvasive plant species that are tolerant of salt air and salt spray, with a preference for species capable of trailing vegetation that can persist in a coastal bluff topography. All such plants shall be kept in good growing condition and shall be replaced as necessary to maintain the approved vegetation over the life of the project. Regular monitoring and provisions for remedial action (such as replanting as necessary) shall be identified to ensure landscaping success.

(k) Other Public Recreational Access Improvements. In addition to vertical public accessway), the Plans shall provide for the following additional public recreational access improvements, which shall be sited and designed to maximize coastal view protection and minimize visual intrusion, including through use of materials appropriate to the shoreline context that blend with the natural environment and existing improvements in the area including the following: an enhanced public access overlook area shall be provided on the south side of the pedestrian bridge in the public access easement area (APN 048-051-090, see **Exhibit 4**). This area shall include a safe pedestrian connection to Mirada Road or the Coastal Trail, and shall include consistent, graded surfacing and within which shall be provided benches and/or picnic tables, identification and interpretive signage, bicycle racks, waste and recycling receptacles, a doggie mitt station, or other amenities reasonably expected to be enjoyed by the public. All such elements shall be clearly identified on the Plans. All such development shall be sited and designed in a way that maximizes public access utility and minimizes public view impacts.

All requirements above and all requirements of the approved Revised Final Plans shall be enforceable components of this CDP. The Permittee shall undertake development in accordance with this condition and the approved Revised Final Plans. Minor adjustments to the above requirements, as well as to the Executive Director-approved Revised Final Plans, which do not require a CDP amendment or new CDP (as determined by the Executive Director) may be allowed by the Executive Director if such adjustments: (1) are deemed reasonable and necessary; and (2) do not adversely impact coastal resources.

2. Public Access Management Plan. WITHIN 90 DAYS OF CDP APPROVAL, the

Permittee shall submit two sets of a Public Access Management Plan (Plan) to the Executive Director for review and approval. The Plan shall clearly describe the manner in which public recreational access along the pedestrian bridge and to the beach and overlook area is to be provided and managed, with the objective of maximizing public access and recreational use of all public access areas associated with the approved project and all related areas and public access amenities (i.e., bridge, coastal trail, vertical accessway, overlook, bench, bicycle racks, interpretive signage, waste and recycling receptacles, doggie mitt stations, etc.) as described in this special condition and **Special Condition 1**. All public access improvements shall be sited and designed to maximize coastal view protection and minimize visual intrusion, including through use of materials appropriate to the shoreline context that blend with the natural environment and existing improvements in the area. All public access improvements are required to be maintained and managed pursuant to the Plan over time. The Plan shall at a minimum include and provide for the preceding, and all of the following:

(a) Public Access Areas and Amenities. The Plan shall clearly identify and depict on a site plan all existing and required public access areas and amenities, including as described in **Special Condition 1**.

(b) Public Access Use Parameters. All parameters for use of the public access areas, improvements and amenities shall be clearly identified. All such public access areas, improvements, and amenities shall be publicly available and maintained in their approved state for general public pedestrian and other general public access consistent with the terms and conditions of this CDP for at least as long as the armoring system remains present.

(c) No Public Access Disruption. Development and uses within the Plan's public access areas that disrupt or degrade public access shall be prohibited. The public use areas, improvements, and amenities shall be maintained consistent with the approved Plan and in a manner that maximizes public use and enjoyment.

(d) Public Access Use Hours. All public access areas, improvements, and amenities shall be available to the general public 24 hours a day and shall be free of charge.

(e) Public Access Construction. All public access areas, improvements, and amenities associated with the approved project shall be constructed and available for public use as soon as possible, but no later than the Saturday of Memorial Day weekend 2022 (May 29, 2022). The Executive Director may extend this deadline if the Executive Director determines that the Permittee has been diligently implementing CDP No. 2-20-0319, and that the Permittee has demonstrated good cause for any identified delays.

(f) Public Access Areas and Amenities Maintained. All of the public access areas, improvements, and amenities shall be constructed in a structurally sound

manner and maintained in their approved state consistent with the terms and conditions of this CDP, including through ongoing repair, maintenance, or relocation (if necessary to respond to shoreline erosion) of all public access improvements. Prior to any modification, movement, or replacement of access improvements, the Permittee shall obtain an amendment to this CDP to authorize such development, unless the Executive Director determines that an amendment is not legally necessary, in which case Executive Director approval of any such development shall be required. Public use areas shall be maintained consistent with the approved Public Access Management Plan and in a manner that maximizes public use and enjoyment.

All requirements above and all requirements of the approved Public Access Management Plan shall be enforceable components of this CDP. The Permittee shall undertake development, maintenance and management of all such public access improvements in accordance with this condition and the approved Public Access Management Plan. Minor adjustments to the above requirements, as well as to the Executive Director-approved Plan, which do not require a CDP amendment or new CDP (as determined by the Executive Director) may be allowed by the Executive Director if such adjustments: (1) are deemed reasonable and necessary; and (2) do not adversely impact coastal resources.

3. **Construction Plan.** PRIOR TO CONSTRUCTION, Permittee shall submit two copies of a Construction Plan to the Executive Director for review and written approval. The Construction Plan shall, at a minimum, include and provide for the following:

   (a) Construction Areas. The Construction Plan shall identify the specific location of all construction areas, all staging areas, and all construction access corridors in site plan view. All such areas within which construction activities and/or staging are to take place shall be minimized to the fullest extent feasible in order to have the least impact on public access and ocean resources, including by using, as feasible, inland areas for staging and storing construction equipment and materials. Special attention shall be given to siting and designing construction areas in order to minimize impacts to public beach access and public views from Mirada Road, including but not limited to public views across the site. Intertidal areas shall be avoided to the maximum extent possible.

   (b) Construction Methods. The Construction Plan shall specify the construction methods to be used, including all methods to be used to keep the construction areas separate from public recreational use areas as much as possible (including using unobtrusive temporary fencing or equivalent measures to delineate construction areas), and including verification that equipment operation and equipment and material storage will not, to the maximum extent feasible, significantly degrade public access and public views during construction. The Plan shall limit construction activities to avoid coastal resource impacts as much as feasible, and lighting of the work area is prohibited.

(c) Construction Timing. Construction is prohibited during holiday weekends, from the Saturday of Memorial Day through Labor Day inclusive, and during non-daytime hours (i.e., from one-hour after sunset to one-hour before sunrise), unless due to extenuating circumstances the Executive Director authorizes such work.

(d) Construction BMPs. The Construction Plan shall identify the type and location of all erosion control and water quality best management practices that will be implemented during construction to protect coastal water quality, including at a minimum all of the following:

1. **Runoff Protection.** Silt fences, straw wattles, or equivalent apparatus shall be installed at the perimeter of all construction areas to prevent construction-related runoff and sediment from discharging from the construction area, entering into storm drains, or otherwise offsite or towards the beach and ocean. Similar apparatus shall be applied on the beach area for the same purpose when potential runoff is anticipated. Special attention shall be given to appropriate filtering and treating of all runoff, and all drainage points, including storm drains, shall be equipped with appropriate construction-related containment, filtration, and treatment equipment. All erosion and sediment controls shall be in place prior to the commencement of construction as well as at the end of each workday.

2. **Equipment BMPs.** Equipment washing, refueling, and servicing shall take place at an appropriate off-site and inland location to help prevent leaks and spills of hazardous materials at the project site, at least 50 feet inland from the beach and preferably on an existing hard surface area (e.g., a road) or an area where collection of materials is facilitated. All construction equipment shall also be inspected and maintained at a similarly sited inland location to prevent leaks and spills of hazardous materials at the project site.

3. **Good Housekeeping BMPs.** The construction site shall maintain good construction housekeeping controls and procedures at all times (e.g., clean up all leaks, drips, and other spills immediately; keep materials covered and out of the rain, including covering exposed piles of soil and wastes; dispose of all wastes properly, place trash receptacles on site for that purpose, and cover open trash receptacles during wet weather; remove all construction debris from the site; etc.).

4. **Rubber-tired Construction Vehicles.** Only rubber-tired construction vehicles are allowed on the beach, except track vehicles may be used if the Executive Director determines that they are required to safely carry out construction. When transiting on the beach, all such vehicles shall remain as far away from the ocean as possible and avoid contact with ocean waters.

5. **Construction Material Storage.** All construction materials and equipment placed on the beach during daylight construction hours shall be stored

beyond the reach of tidal waters. All construction materials and equipment shall be removed in their entirety from these areas by one-hour after sunset each day that work occurs, except for necessary erosion and sediment controls, sheet-pile or other ocean barriers (e.g., sand bags, water-filled bags, etc.) authorized by the Executive Director, and construction area boundary fencing where such controls and fencing are placed as close to the toe of the armoring or approved construction area as possible, and are minimized in their extent.

(e) Restoration. All construction debris shall be removed, and all beach area and other public recreational access and use areas and all beach access points impacted by construction activities shall be restored to their pre-construction condition or better within three days of completion of construction. Any native materials impacted shall be appropriately filtered as necessary to remove all construction debris.

(f) Construction Site Documents. The Construction Plan shall provide that copies of the signed CDP and the approved Construction Plan be maintained in a conspicuous location at the construction job site at all times, and that such copies are available for public review on request. All persons involved with the construction shall be briefed on the content and meaning of the CDP and the approved Construction Plan, as well as the public review requirements applicable to them, prior to commencement of construction.

(g) Construction Coordinator. The Construction Plan shall provide that a construction coordinator be designated to be contacted during construction should questions arise regarding the construction (in case of both regular inquiries and emergencies), and that the construction coordinator's contact information (i.e., address, phone numbers, email, etc.), including, at a minimum, an email address and a telephone number that will be made available 24 hours a day for the duration of construction, is conspicuously posted at the job site where such contact information is readily visible from public viewing areas while still protecting public views as much as possible, along with indication that the construction coordinator should be contacted in the case of questions regarding the construction (in case of both regular inquiries and emergencies). The construction coordinator shall record the name and contact information (i.e., address, email, phone number, etc.) and nature of all complaints received regarding the construction, and shall investigate complaints and take remedial action, if necessary, within 24 hours of receipt of the complaint or inquiry. All complaints and all actions taken in response shall be summarized and provided to the Executive Director on at least a weekly basis.

(h) Construction Specifications. The construction specifications and materials shall include appropriate control provisions that require remediation for any work done inconsistent with the terms and conditions of this CDP.

(i) Notification. The Permittee shall notify planning staff of the Coastal

Commission's North Central Coast District Office at least three working days in advance of commencement of construction, and immediately upon completion of construction.

(j) Adjacent Property Owner Consent. For any construction activities that may occur on adjacent properties, including but not limited to construction that requires equipment access on such other properties, the Plan shall be submitted with evidence of review, approval and consent from such adjacent property owners allowing such activities.

All requirements above and all requirements of the approved Construction Plan shall be enforceable components of this CDP. The Permittee shall undertake development in accordance with this condition and the approved Construction Plan. Minor adjustments to the above requirements, as well as to the Executive Director-approved Plan, which do not require a CDP amendment or new CDP (as determined by the Executive Director) may be allowed by the Executive Director if such adjustments: (1) are deemed reasonable and necessary; and (2) do not adversely impact coastal resources.

4. Shoreline Armoring Terms. This CDP authorizes shoreline armoring pursuant to the following terms:

(a) Purpose. This CDP authorizes the approved armoring system for protection of the pedestrian bridge and Mirada Road only, and is not intended or designed to provide protection for any other development and/or structures, including those that might be associated with adjacent private property. This CDP and the project it authorizes shall not be countenanced as evidence of Commission authorization of such armoring for any other such development and/or structures.

(b) Duration. This CDP authorizes the approved armoring system for the pedestrian bridge and Mirada Road until the time when such infrastructure is no longer present, no longer requires shoreline armoring, or is being modified or relocated through a larger community wide adaptation planning effort, whichever occurs first. At such time, the Permittee shall remove the approved armoring and appropriately restore the affected area to natural conditions subject to Executive Director approval of a plan to accomplish same with the least coastal resource impacts. Within three months of the anticipated termination of the authorization identified in this special condition, including in conjunction with any proposed removal and/or relocation of the bridge or roadway, the Permittee shall submit a complete CDP amendment application to the Coastal Commission to remove the approved armoring and to appropriately restore the affected area to natural conditions.

(c) Future Mitigation. If the CDP authorization has not expired via the terms of subdivision (b) of this special condition by May 14, 2041, and if the Permittee intends to keep the approved armoring in place beyond the end of that initial 20-year mitigation period (i.e., past May 14, 2041), the Permittee shall submit a

complete CDP amendment application to the Coastal Commission that shall reassess mitigation for the ongoing impacts of the approved armoring, including an evaluation of actions that could be taken to reduce or eliminate those impacts. The complete application shall be submitted no later than 6 months prior to the end of the original mitigation period (i.e., by November 14, 2040). The application shall include analysis of feasible alternatives to modify the shoreline armoring and the bridge and roadway, the public access improvements, and any related development that the approved armoring protects, in order to eliminate to the maximum extent feasible such armoring's impacts on coastal resources, and shall propose mitigation for unavoidable coastal resource impacts associated with the retention of the armoring and/or any modified armoring beyond the initial 20-year mitigation period. In addition, if the Permittee applies for a separate CDP or an amendment to this CDP to modify the approved armoring, or to perform repair work affecting 50% or more of the armoring, the Permittee shall be required to propose additional commensurate mitigation for the impacts of the enlarged or redeveloped armoring on public views, public recreational access, shoreline processes, and all other affected coastal resources that have not already been mitigated through this CDP, at that time.

(d) Provision of Information. The Permittee shall promptly submit information regarding the development sufficient to establish the presence or absence of the factors listed above upon Executive Director request.

5. **As-Built Plans.** WITHIN THREE MONTHS OF COMPLETION OF CONSTRUCTION, the Permittee shall submit two copies of As-Built Plans to the Executive Director for review and written approval showing all elements of the approved project. The As-Built Plans shall be substantially consistent with the approved project identified in **Special Condition 1**. The As-Built Plans shall include color photographs (in hard copy and jpg format) that clearly show the as-built project, and that are accompanied by a site plan that notes the location of each photographic viewpoint and the date and time of each photograph. At a minimum, the photographs shall be from inland viewpoints, as well as upcoast, seaward, and downcoast viewpoints on the beach, and from a sufficient number of viewpoints as to provide complete photographic coverage of the permitted project. Such photographs shall be at a scale that allows comparisons to be made with the naked eye between photographs taken in different years and from the same vantage points. The As-Built Plans shall include an adequate number of vertical and horizontal surveyed reference markers built into the approved project to allow comparison to them from inland surveyed benchmarks (required to be installed as part of the as-built plan process) for use in future monitoring efforts. The As-Built Plans shall be submitted with certification by a licensed civil engineer with experience in coastal structures and processes, acceptable to the Executive Director, verifying that the armoring system has been constructed in conformance with the approved project identified in **Special Condition 1**.

6. **Monitoring and Reporting.** The Permittee shall ensure that the condition and performance of the approved as-built project is regularly monitored and maintained,

with reports to the Executive Director as described in this condition. Such monitoring evaluation shall, at a minimum, address whether any significant weathering or damage has occurred that would adversely impact future performance, and identify any structural or other damage or wear and tear requiring repair to maintain the armoring system and the public access improvements in a structurally sound manner and their approved state, including at a minimum with regards to the following:

(a) Armoring. The approved armoring system and all associated development, including its integral public accessway, described in **Special Condition 1**, shall be monitored by a licensed civil engineer with experience in coastal structures and processes to ensure structural integrity, including at a minimum evaluation of concrete competence, spalling, cracks, movement, outflanking, and undercutting, and evaluation of all required surface treatments.

(b) Other Public Access Improvements. The approved public access improvements (including trail, vertical accessway, overlook, benches, bicycle racks, interpretive signage, waste and recycling receptacles, doggie mitt stations, etc.) as described in **Special Conditions 1 and 2**, shall be regularly monitored to ensure continued public safety and public access utility consistent with the terms and condition of this CDP.

(c) Photo Documentation. All monitored elements shall be photographed at least bi-annually from an adequate number of inland and seaward locations as to provide complete photographic coverage of the approved project, including from all vantage points included in the approved As-Built Plans (**see Special Condition 5**). All photographs shall be documented on a site plan that notes the location of each photographic viewpoint and the date and time of each photograph, including to allow naked eye comparison of the same views over time. Such photo documentation shall commence no later than the date of construction completion.

(d) Reporting. Monitoring reports covering the above-described evaluations shall be submitted to the Executive Director for review and approval by May 1st of every fifth year from the date of CDP approval (i.e., May 1, 2026, May 1, 2031, etc.) for as long as any part of the approved project remains extant. The reports shall identify the existing configuration and condition of the armoring system and all public access improvements, including providing vertical and horizontal reference distances between the approved As-Built Plans' surveyed reference markers and the inland benchmarks, and shall recommend any actions necessary to maintain these project elements in their approved and required state. The reports shall also include photographs (in color hard copy 8½ x 11 and digital jpg formats) that clearly show all components of the as-built project from at least the same vantage points as the approved As-Built Plans and initial photo documentation as well as subsequent monitoring reports. Any proposed actions necessary to maintain the approved as-built project in a structurally sound manner and its approved state shall be implemented within 30 days of Executive Director

approval, unless a different time frame for implementation is identified by the Executive Director. In addition to the every five year requirement, separate and additional monitoring reports shall be submitted within 30 days following either (1) an El Niño storm event comparable to a 20-year or larger storm, or (2) an earthquake of magnitude 5.5 or greater with an epicenter in San Mateo County.

7. **Future Maintenance/Repair.** This CDP authorizes future maintenance and repair of the approved project components as described in this special condition. The Permittee acknowledges and agrees on behalf of themselves and all successors and assigns that it is the Permittee's responsibility to: (1) maintain the approved project, including the bridge, the armoring system, and public access improvements (see **Special Conditions 1 and 2**), and all related development in a structurally sound manner, visually compatible with the beach and bluff shoreline surroundings, and in their approved and required states, including that the concrete surfacing of the armoring system and integral stairway required by **Special Condition 1** shall be maintained throughout the life of the system; (2) retrieve any failing portions of the permitted structures or related improvements that might otherwise substantially impair the use, aesthetic qualities, or environmental integrity of the beach, creek and blufftop areas; and (3) bi-annually or more often inspect the armoring system for signs of compromise. Any such maintenance-oriented development associated with the approved armoring system, public access improvements, and related development shall be subject to the following:

   (a) Maintenance/Repair. "Maintenance" and "repair" as understood in this special condition means development that would otherwise require a CDP whose purpose is to maintain and/or repair the armoring system and all public access improvements and amenities in their approved and/or required state pursuant to the terms and conditions of this CDP, and will not result in an addition to, or enlargement or expansion of, the object of the repair or maintenance activities. No more than 50% of any component of the development approved by CDP No. 2-20-0319 can be replaced as a result of repair and maintenance activities authorized by CDP No. 2-20-0319 without an amendment to CDP No. 2-20-0319 or a new coastal development permit.

   (b) Other Agency Approvals. The Permittee acknowledges that these maintenance and repair stipulations do not obviate the need to obtain permits and/or authorizations from other agencies for any future maintenance or repair.

   (c) Maintenance/Repair Notification. At least two weeks prior to commencing any maintenance and/or repair activity, the Permittee shall notify, in writing, planning staff of the Coastal Commission's North Central Coast District Office. The notification shall include: (1) a detailed description of the maintenance/repair proposed; (2) any plans, engineering, geology, or other reports describing the event; (3) a construction plan that clearly describes construction areas and methods, and that is consistent with the parameters of **Special Condition 3** above; (4) other agency authorizations; and (5) any other supporting documentation describing the maintenance/repair event. Maintenance or repair

may not commence until the Permittee has been informed by planning staff of the Coastal Commission's North Central Coast District Office that the maintenance or repair proposed complies with this CDP. If the Permittee has not been given a verbal response or sent a written response within 30 days of the notification being received in the North Central Coast District Office, the maintenance shall be authorized as if planning staff affirmatively indicated that the maintenance/repair complies with this CDP. The notification shall clearly indicate that maintenance/repair is proposed pursuant to this CDP, and that the lack of a response to the notification within 30 days constitutes approval of it as specified in the CDP. If the notification does not explicitly indicate same, then the automatic authorization provision does not apply. In the event of an emergency requiring immediate maintenance, the notification of such emergency shall be made as soon as possible, and shall (in addition to the foregoing information) clearly describe the nature of the emergency.

(d) Maintenance/Repair Coordination. Maintenance/repair activity shall, to the degree feasible, be coordinated with other maintenance/repair activity proposed in the immediate vicinity with the goal being to limit coastal resource impacts, including the length of time that construction occurs in and around the beach and beach access points. As such, the Permittee shall make reasonable efforts to coordinate their maintenance/repair activity with other adjacent property maintenance/repair activities, including adjusting their maintenance/repair activity scheduling as directed by planning staff of the Coastal Commission's North Central Coast District Office.

(e) Restoration. The Permittee shall restore all beach and other public access areas impacted by construction activities to their pre-construction condition or better within three days of completion of construction. Any beach sand impacted shall be filtered as necessary to remove all construction debris from the beach. The Permittee shall notify planning staff of the Coastal Commission's North Central Coast District Office upon completion of restoration activities to allow for a site visit to verify that all project and beach-area restoration activities are complete. If planning staff should identify additional reasonable measures necessary to restore project and/or beach areas, such measures shall be implemented as quickly as feasible.

(f) Noncompliance Provision. If the Permittee is not in compliance with permitting requirements of the Coastal Act, including the terms and conditions of any Coastal Commission CDPs or other coastal authorizations that apply to the subject property, at the time that a maintenance/repair event is proposed, then maintenance/repair that might otherwise be allowed by the terms of this future maintenance/repair condition may be disallowed by the Executive Director until the Permittee is in full compliance with the permitting requirements of the Coastal Act, including all terms and conditions of any outstanding CDPs and other coastal authorizations that apply to the subject properties.

(g) Emergency. Notwithstanding the emergency notifications set forth in subsection (c) of this special condition, nothing in this condition shall affect the emergency authority provided by Coastal Act Section 30611, Coastal Act Section 30624, and Subchapter 4 of Chapter 5 of Title 14, Division 5.5, of the California Code of Regulations (Permits for Approval of Emergency Work).

(h) Duration of Covered Maintenance/Repair. Future maintenance under this CDP is allowed subject to the above terms throughout the duration of the armoring authorization (see **Special Condition 4**) subject to Executive Director review and approval every 5 years (i.e., by May 14, 2026; May 14, 2031; and so on) to verify that there are not changed circumstances associated with such allowance of maintenance/repair events that necessitate re-review and approval by the Commission. It is the Permittee's responsibility to request Executive Director approval prior to the end of each 5-year maintenance/repair period pursuant to these maintenance/repair provisions, and the term shall only be extended if the Permittee requests an extension prior to the end of each 5-year maintenance/repair period and only if the Executive Director extends the maintenance/repair term in writing. The intent of this CDP is to allow for 5-year extensions of the maintenance/repair term for as long as the approved armoring, public access improvements, and related development remain authorized unless there are changed circumstances that may affect the consistency of this maintenance/repair authorization with the policies of Chapter 3 of the Coastal Act. The Permittee shall maintain the approved armoring system, public access improvements, and all related development in their approved and required state.

8. **Assumption of Risk, Waiver of Liability, and Indemnity.** By acceptance of this CDP, the Permittee acknowledges and agrees, on behalf of themselves and all successors and assigns: (a) that the project area is subject to coastal hazards, including but not limited to episodic and long-term shoreline retreat and coastal erosion, high seas, ocean waves, tidal scour, storms, tsunami, coastal flooding, landslide, earth movement, and the interaction of all of these, many of which will worsen with future sea level rise; (b) to assume the risks to the Permittee and the properties that are the subject of this CDP of injury and damage from such hazards in connection with this permitted development; (c) to unconditionally waive any claim of damage or liability against the Commission, its officers, agents, and employees for injury or damage from such hazards; (d) to indemnify and hold harmless the Commission, its officers, agents, and employees with respect to the Commission's approval of the CDP against any and all liability, claims, demands, damages, costs (including costs and fees incurred in defense of such claims), expenses, and amounts paid in settlement arising from any injury or damage due to such hazards; and (e) that any adverse effects to property caused by the permitted project shall be fully the responsibility of the Permittee.

9. **Public Rights.** By acceptance of this CDP, the Permittee acknowledges and agrees, on behalf of themselves and all successors and assigns, that the Coastal Commission's approval of this CDP shall not constitute a waiver of any public rights that may exist on the properties involved. The Permittee shall not use this CDP as

evidence of a waiver of any public rights that may exist on the properties now or in the future.

10. **Future Permitting.** This permit is only for the development described in CDP No. 2-20-0319. Pursuant to Title 14 California Code of Regulations (CCR) Section 13253(b)(6), the exemptions otherwise provided in Coastal Act Section 30610(b) shall not apply to the development governed by CDP No. 2-20-0319. Accordingly, any future improvements to the development authorized by this CDP shall require an amendment to CDP No. 2-20-0319 from the Commission or shall require an additional CDP from the Commission, unless the Executive Director determines that no such CDP or amendment is necessary because it is covered by CDP No. 2-20-0319.

11. **Other Authorizations.** PRIOR TO CONSTRUCTION, the Permittee shall provide to the Executive Director written documentation of authorizations from all entities from which such authorization is necessary for the approved project, including at a minimum San Mateo County, the City of Half Moon Bay, the California State Lands Commission, the Monterey Bay National Marine Sanctuary, and the U.S. Army Corps of Engineers, or evidence that no such authorizations are required from each of these entities. The Permittee shall inform the Executive Director of any changes to the project required by any other such authorizations. Any such changes shall not be incorporated into the project until the Permittee obtains a Commission amendment to this CDP, unless the Executive Director determines that no amendment is legally required.

12. **Liability for Costs and Attorneys' Fees.** The Permittee shall reimburse the Coastal Commission in full for all Coastal Commission costs and attorneys' fees (including but not limited to such costs/fees that are: (1) charged by the Office of the Attorney General; and/or (2) required by a court) that the Coastal Commission incurs in connection with the defense of any action brought by a party other than the Permittee against the Coastal Commission, its officers, employees, agents, successors and/or assigns challenging the approval or issuance of this CDP, the interpretation and/or enforcement of CDP terms and conditions, or any other matter related to this CDP. The Permittee shall reimburse the Coastal Commission within 60 days of being informed by the Executive Director of the amount of such costs/fees. The Coastal Commission retains complete authority to conduct and direct the defense of any such action against the Coastal Commission, its officers, employees, agents, successors and/or assigns.

IV. FINDINGS AND DECLARATIONS

A. Project Location and Background

The proposed project would be located along the bluff and beach adjacent to Mirada Road and the California Coastal Trail (CCT) where it crosses over Arroyo de en Medio Creek at Half Moon Bay State Beach, straddling portions of the City of Half Moon Bay and the unincorporated Miramar area of San Mateo County. The Creek flows to the

ocean intermittently at this location, generally during winter/spring times, and the portion of the Arroyo nearest the beach is mostly filled with sand. As a result, the area under the bridge and extending inland for about 80 feet is more aptly considered an inland extension of beach than a riparian corridor. Although Mirada Road once crossed the Arroyo via a concrete arch bridge built in the 1940s (and supporting the current pedestrian bridge atop it now), vehicular traffic on that bridge ceased around 1979. The existing pedestrian bridge, installed by San Mateo County in 2004,[1] is a single span structure supported by 24-inch diameter cast-in-drilled-hole piles located on the north and south sides of the arroyo within the existing roadway and blufftop area, and also supported by the concrete arch bridge. The wingwalls and arch associated with the concrete bridge have been subjected to marine processes and have been partially lost to coastal erosion over time. There are existing electric and sewer lines mounted and connected along the side of the old concrete bridge and the existing pedestrian bridge, respectively. The electric lines were attached and activated during 2013 and the sewer line has been in place since the 1960s.

The project area experienced extensive and rapid erosion due to the combination of high waves, king tides, and storm surge during El Nino storms in 2015-16. At that time, the County requested, and the Commission approved, an emergency CDP (G-2-16-0066) to allow for the placement of approximately 200 tons of riprap extending along the shoreline approximately 15 linear feet (with a height and width of 15 feet) just north of the bridge location.[2] The Applicant indicates that this emergency repair reduced wave energy but the fine materials from the bluff and roadway base continued to erode, eventually resulting in the pedestrian bridge being threatened and closed to access on July 27, 2020. Additional emergency repairs along Mirada Road were also conducted by the County in 2016-17 pursuant to approved ECDP G-2-16-0018 (in an area stretching roughly from 100 feet north of Magellan Road to 100 feet south of Medio Avenue). This work consisted of the filling of 13 voids adjacent to the Mirada Road with approximately 500 tons of riprap totaling a length of approximately 462 linear feet, with a width varying from 5-10 feet. The required follow up CDP associated with the emergency work conducted under G-2-16-0066 is part of this current CDP application.

There is currently large rock and concrete debris in the stream channel, in part from the eroding concrete arch bridge and movement of existing riprap in the project area, as well as unpermitted riprap extending inland along the southern bank of the stream inland of the bridge. In addition, a portion of the riprap on the south side of the arroyo directly adjacent to the proposed project area is currently unpermitted.[3] The existing pedestrian bridge is a part of the California Coastal Trail and a critical link for residents, commuters, and visitors to the area, including as it is the only non-motorized crossing of Arroyo de en Medio Creek seaward of Highway 1. Since the bridge was closed in the

[1] Via San Mateo County CDP PLN2001-00429.

[2] Review of historic photos in the project area also show rock placed in this area north of the bridge in 2003. There is no evidence of CDPs for such rock in the Coastal Commission permit files.

[3] See, for example, Commission findings associated with CDP 2-16-0784 (Mirada Seawall) approved by the Commission on November 13, 2019.

summer of 2020, pedestrian and vehicle access has been rerouted about a third of a mile inland to Highway 1, and users currently have to navigate nearly a mile detour to make it from one side of the bridge area to the other.

See **Exhibits 1 and 2** for the project location and project area photos.

B. Project Description

The proposed project would include demolition of the concrete arch bridge; installation of a new pedestrian and bicycle bridge; relocation of electric and sewer lines; and construction of two vertical seawalls with a buried riprap toe along the bluffs and stream banks to the north and south of the arroyo to protect the bridge abutments, trail approaches, and a portion of Mirada Road and related infrastructure. The existing pedestrian bridge is a steel truss bridge with a wooden plank deck supported by abutments at either end. The proposed replacement bridge would be a lighter and prefabricated aluminum bridge that would use the same abutments. The old concrete arch bridge under the existing pedestrian bridge, including any of its remaining associated abutments and wingwalls not lost to erosion, would be demolished and completely removed as part of the project. Existing riprap located along the bluff north and south of the arroyo would be removed and replaced with 2 shotcrete seawalls extending along sections of the bluff and stream banks stretching 170 feet on the north side of the bridge and 110 feet of the south side of the bridge. The armoring would parallel the ocean and partially extend inland along the stream opening. The seawalls would be 3 feet wide with a height of 26 feet. The project would also include removal and relocation of the utilities that currently run across the existing bridges.

The project would occur in phases to maintain public access as much as possible. During the first phase, public utility entities (i.e., Pacific Gas & Electric (PG&E) and Granada Community Services District) would remove existing public infrastructure (or construct temporary connections), which would eventually be relocated. GCSD would re-route sewer flows to their existing pump station in the Miramar neighborhood. PG&E would reinstall the conduits onto the new bridge along the seaward edge once it is replaced.

A temporary access road 15 feet wide and 60 feet long from the Mirada Road cul-de-sac into the creek area where it meets the beach would be constructed to allow for construction vehicle access to the beach. If creek flows occur during the construction period, water would be diverted via a pipe buried in the sand. The existing riprap, partially placed during the emergency work from 2016-17, would be removed and temporarily stockpiled to be reused as toe protection for the new seawalls.

The proposed seawalls would be constructed with tie-back anchors at 5-foot intervals, driven to a depth no more than 25 feet landward, tied together with steel reinforcement, and sprayed with concrete. The surface of the wall would be sculpted and stained to match the surrounding bluffs. The wall would be about 26 feet high, extending up to an

elevation of +31 feet NAVD88[4] and down to an elevation of +5 feet NAVD88.[5] The base of the riprap would be set to an elevation of 0 feet NAVD88 and rise to an elevation of +10 feet NAVD88, with a width on the beach of 18 feet extending from the 3-foot wide wall (making the total height of the armoring from the base of the riprap to the top of the seawall a total of 31 feet and the total width of the armoring from the landward extent of the wall to the seaward extent of the riprap 21 feet). The Applicant estimates that the riprap would be covered by sand in the summer months and exposed in the winter months.

Phase 1 of the work would include initial installation of bluff stabilization measures outside of the footprint of the existing arch and pedestrian bridges, temporary reroute of utilities, and debris removal, and would occur over about 45 working days, on non-holiday weekdays between the hours of 7am-4pm, during low tide periods. Construction equipment would be stored along the County's Mirada Road cul de sac.

Phase 2 would include final relocation of utilities, removal of the old concrete arch bridge, placement of the final shotcrete walls, installation of the riprap, replacement of the pedestrian bridge, and improvements to the trail approaches. A cable rail fence, 36 inches high on the northwest and southwest approaches of the bridge would be installed for public safety. Phase 2 would occur over 40 days and would occur on non-holiday weekdays between hours of 7am-4pm.

See **Exhibit 3** for the proposed project plans.

C. Standard of Review

This proposed project spans Coastal Commission retained original CDP permitting jurisdiction, and San Mateo County and the City of Half Moon Bay CDP permitting jurisdictions. In addition, the project is the subject of prior Coastal Commission CDP decisions and requirements, including ECDPs for riprap placement within the project area. In addition to the fact that the proposed project modifies the Commission's prior CDP approvals (and thus would be properly before the Commission under that criteria), the County, the City, the Applicant, and the Commission have all agreed to a consolidated CDP application review for the project, as allowed by Coastal Act Section 30601.3. The standard of review for a consolidated CDP application is the Chapter 3 policies of the Coastal Act with San Mateo County and City of Half Moon Bay's certified LCPs providing non-binding guidance.

D. Coastal Hazards

Applicable Coastal Act Provisions

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

> ***30235.*** *Revetments, breakwaters, groins, harbor channels, seawalls, cliff*

[4] Elevation zero for NAVD88 is about 3 feet above mean sea level, so roughly 34 feet above sea level.

[5] Or about 8 feet above mean sea level.

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. …

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

Section 30253. *New development shall do all of the following: (1) Minimize risks to life and property in areas of high geologic, flood, and fire hazard. (2) Assure stability and structural integrity, and neither create nor contribute significantly to erosion, geologic instability, or destruction of the site or surrounding area or in any way require the construction of protective devices that would substantially alter natural landforms along bluffs and cliffs. …*

Consistency Analysis
The Coastal Act discourages seawalls, revetments, bluff retaining walls and other forms of hard shoreline protective devices because they generally cause significant impacts to 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 protective structure is placed on public land rather than on the private property it is intended to protect, resulting in a loss of public land and its utility; armoring is also often placed on top of sandy beach and/or recreational shoreline space, leading to a physical loss of beach and shoreline area formerly available to general public use; 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.

Shoreline protective devices, by their very nature, tend to conflict with Chapter 3 policies because hard forms of shoreline armoring 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 protective devices that would substantially alter natural landforms along bluffs and cliffs."

Accordingly, with the exception of coastal-dependent uses, Section 30235 authorizes the construction of shoreline armoring that is otherwise inconsistent with the Coastal Act only if that armoring is required to protect existing structures or public beaches in danger from erosion and if its impacts are eliminated or mitigated. Furthermore, Section 30253 requires that new development be sited, designed, and built in a manner so as not to require construction of shoreline armoring that would substantially alter natural landforms along the shoreline.

To protect these core coastal resources, the Coastal Act has a series of specific criteria that must be met in order to approve shoreline armoring. For example, shoreline protective devices compelled by Coastal Act Section 30235 related to the existing structure criterion must be supported by substantial evidence demonstrating: (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 in-danger structure; and (4) the required protection is designed to eliminate or mitigate its adverse impacts on shoreline sand supply.[6] The first three criteria pertaining to Section 30235 relate to whether the proposed armoring is necessary, while the fourth criterion applies to mitigation for some of the impacts of such armoring. Similarly, with respect to the coastal-dependent use criterion, the armoring must be necessary serve the coastal-dependent use and meet the latter two requirements above as well.

The analysis below discusses the project's consistency with Section 30235 and 30253 of the Coastal Act. Additional Coastal Act policies protect against other types of coastal resource impacts, which will be addressed in more detail in subsequent sections of this staff report.

Structure/Use to be Protected

With respect to the existing structure criterion, the first Section 30235 test is whether or not a structure for which armoring is proposed as protection is considered "existing," not in terms of whether it is extant today, but rather whether it existed in its current form when the Coastal Act came into effect (i.e., January 1, 1977) and hasn't been redeveloped since.[7] Specifically, the Coastal Act distinguishes between that type of

[6] CDP approval also requires that projects be found consistent with the other policies of the Coastal Act in addition to these Section 30235 requirements.

[7] As described in the Commission's 2015 Sea Level Rise Policy Guidance, the Commission interprets the term "existing structures" in Section 30235 as meaning structures that were in existence on January 1, 1977, the effective date of the Coastal Act. In other words, Section 30235's directive to permit shoreline armoring for structures in certain circumstances applies to development that lawfully existed as of January 1, 1977 and that has not subsequently been redeveloped (i.e., where changes to it since 1977 have been sufficient enough that it is considered a replacement structure required to conform to applicable Coastal Act and LCP provisions). This interpretation is the most reasonable way to construe and harmonize Sections 30235 and 30253, which together evince a broad legislative intent to allow armoring for development that existed when the Coastal Act was passed, when such development is in danger from erosion, but to avoid such armoring for development constructed consistent with the Act since then, which doesn't allow shoreline altering armoring development to support same. This interpretation, which essentially allows protection for development that predates the Coastal Act, is also

"existing structure" development that is allowed the protection offered by shoreline armoring and other forms of development that are not pursuant to Section 30235. Under Coastal Act Section 30235, those type of existing structures are potentially allowed shoreline armoring if the remaining three criteria identified above are satisfied.

In contrast, under Section 30253, new structures (i.e., structures built on or after January 1, 1977, including those structures that may have originally been built before then, but that have been redeveloped since) are to be sited, designed, and built in a manner safe from coastal hazards *without* creating a need for shoreline altering armoring. However, coastal zone development that was approved and constructed prior to the effective date of the Coastal Act was not subject to Section 30253 requirements (as such requirements didn't exist prior to that time), even if it may have been subject to other similar local requirements. Thus, although some local coastal hazard-type policies may have been in effect prior to the Coastal Act, these pre-Coastal Act structures have not necessarily been built in such a way as to avoid the future need for shoreline armoring as is required for post-Coastal Act structures under Section 30253.

In addition, the Commission has typically interpreted Section 30235 to allow shoreline armoring only to protect existing *primary* structures.[8] The Commission has at times historically permitted at-grade structures to be located within required coastal hazard setback areas if such structures are expendable and capable of being removed or relocated rather than requiring an armoring device that would alter natural landforms and processes along bluffs, cliffs, and beaches.

In this case, the project proposes armoring to protect structures that qualify as "existing" structures for purposes of Section 30235 of the Coastal Act. Mirada Road, originally constructed in the 1940s prior to the Coastal Act's effective date, historically crossed the Arroyo De en Medio Creek by way of a concrete arch bridge that was also installed around the same time. Although, the concrete arch bridge was closed to vehicle access sometime prior to 1979, it has continued to serve as a pedestrian and bicycle accessway since that time. In 2004, a pedestrian bridge was partially mounted on top of the concrete arch bridge.

Mirada Road also provides vehicular access to the residences just inland of the bluff, which include a mix of homes constructed since the mid-1970's, after the effective date of the Coastal Act. Additionally, the concrete arch bridge hosts a force main and a gravity sanitary sewer main that have been in place since the 1960s. However, both the arch bridge and sewer line would be removed or relocated as part of the project. In any case, Mirada Road has provided and/or supported an important vehicle and pedestrian coastal accessway in this stretch of coast, including to adjacent residences and to cross Arroyo de en Medio since before January 1, 1977.

Based on analysis of CDPs, building permit records, and historic aerial photos, currently

supported by the Commission's duty to protect public trust resources and to interpret the Coastal Act in a liberal manner to accomplish its purposes.

[8] See, for example, CDPs 3-16-0345 (Honjo), 2-16-0684 (Aimco) and A-3-SCO-06-006 (Willmott).

available information indicates that Mirada Road has not been modified to such an extent as to be considered redeveloped in the time since January 1, 1977, and thus is still considered an existing structure for purposes of Section 30235 context. Other aspects of the extant development in the project area are not considered "existing" and as such, do not warrant protection in the context of Section 30235, include the pedestrian bridge mounted on top of the arch bridge constructed in 2004, and the electrical lines running along the base of the bridge installed and activated in 2013. Thus, the only structure that is eligible for shoreline armoring as "existing" development under Section 30235 is Mirada Road.

Lastly, the pedestrian bridge and its associated abutments and adjacent walkways leading to Mirada Road on both the north and south ends also warrant consideration of armoring as a current component of the California Coastal Trail (CCT). The trail is coastal-dependent inasmuch as it requires a site adjacent to the sea to function for its intended public purpose, and Section 30235 allows for consideration of armoring to protect it for this purpose as well. Thus, Mirada Road and the coastal-dependent CCT which would include the new pedestrian bridge, existing supporting abutments, and the northern and southern walkway approaches connecting to Mirada Road, in this case, are eligible for consideration of armoring; and therefore, the proposed project meets the first test of Section 30235 of the Coastal Act.

Danger from Erosion

The second Section 30235 test is whether the existing structure is in danger from erosion. The Coastal Act allows shoreline armoring to be installed to protect existing structures that are in danger from erosion, but it does not define the phrase "in danger." There is a certain amount of risk involved in maintaining any development along the actively eroding California coastline that also can be directly subject to violent storms, wave attack, flooding, earthquakes, and other hazards, including at the subject location. These risks can be exacerbated by such factors as sea level rise and localized geography that can focus storm energy at particular stretches of coastline. In a sense, all development along the immediate California coastline is in a certain amount of "danger." It is a matter of the degree of threat that distinguishes between danger that represents an ordinary and acceptable risk, and danger that requires shoreline armoring per Section 30235. Lacking a Coastal Act definition, the Commission has in the past evaluated the immediacy of any threat in order to make a determination as to whether an existing structure is "in danger" for the purposes of Section 30235 considerations. While each case is evaluated based upon its own particular set of facts, the Commission has previously interpreted "in danger" to mean that an existing structure would be unsafe to use or otherwise occupy within the next two or three storm season cycles (generally, the next few years) if nothing were to be done (i.e., in the "no project" alternative).[9]

As mentioned above, the elements that are eligible for the consideration of armoring

[9] See, for example, CDPs 3-07-019 (Pleasure Point seawall), 3-09-025 (Pebble Beach Company Beach Club seawall), 3-09-042 (O'Neill seawall), 2-10-039 (Land's End seawall), 3-14-0488 (Iceplant LLC seawall), and 2-17-0702 (Sharp Park Golf Course).

include Mirada Road and the CCT. As documented over the past decade, this section of the coast has experienced significant damage from wave action and bluff erosion that has resulted in partial collapse of the concrete arch bridge resulting in large pieces of concrete falling onto the beach below (see **Exhibit 2**) and threatening the existing sewer line running along the concrete arch bridge. In addition, the northern portion of Mirada Road has experienced extensive erosion and bluff failure due to high waves, king tides and storm surges including during the 2015-2016 El Nino storms which triggered emergency slope protection repairs which consisted of the placement of large diameter angular rock (riprap) at the base of the eroded bluff below Mirada Road as a temporary measure to prevent further failure of the bluff during the remainder of the storm season. The Applicant indicates that this emergency repair reduced wave energy in this area but the fine materials from the bluff and roadway base continued to erode, eventually resulting in additional corrosion of the pedestrian bridge and erosion of the bluffs near the bridge abutments, threatening the safety of the pedestrian bridge and resulting in its closure to all access on July 27, 2020.

The Applicants' geotechnical and engineering reports speak to a range of erosion rates within the project area based on available evidence including a bluff retreat rate up to 1.64 feet per year which occurred from 1993 to 2012[10] in the area north of the Mirada Road revetment, and a long-term shoreline (mean high tide line) recession rate of 0.7 feet per year in an area 1,500 feet north of Arroyo de en Medio Creek[11]. However, other sources of evidence indicate that higher retreat rates have occurred in unprotected bluffs both north and south of Arroyo de en Medio, and that a rate of 2 feet per year better characterizes long-term historical bluff retreat at the project site[12]. This retreat rate has been confirmed by the Commission's Senior Coastal Engineer, Dr. Lesley Ewing, Coastal Engineer, Jeremy Smith, and Geologist, Dr. Joseph Street. However, erosion does not typically occur in this area as small incremental amounts slowly over the course of a year, as such annualized estimates might suggest, but rather more often occurs sporadically as several feet to tens of feet of episodic retreat that can occur during a significant winter storm, combined with perhaps smaller amounts of retreat during other times. As a case in point, an unarmored section of bluff just south of the pedestrian bridge retreated over 20 feet in the winter of 2015-16, demonstrating that the bluffs in question are vulnerable to sudden and substantial episodic erosion and bluff loss.

[10] *Mirada Road Pedestrian Bridge Replacement Project,* January 10, 2020. The cited report indicates this rate was based on a 2015 study completed by the U.S. Army Corps of Engineers.

[11] Moffatt & Nichol, *Beach Sand Replenishment Volume*, February 2, 2021. The cited report indicates that this rate is based on long-term rates of shoreline recession developed by the U.S. Geological Survey in 2021.

[12] Griggs, G, Weber, J, Lajoie, KR, Mathieson, S, 2005. "San Francisco to Año Nuevo", in Griggs, G, Patsch, K, Savoy, L (eds.), *Living with the Changing California Coast*. University of California Press, pp. 228-269.

Thus, the Commission in recent cases within this section of the coast has applied an annual retreat rate of 2 feet per year.[13] In any case, a retreat rate of up to 2 feet per year is a fairly aggressive retreat rate relatively speaking along the California coast, and coastal bluffs in this area are clearly subject to a high rate of erosion, particularly during winter storm conditions when high wave run-up and velocity, as well as heavy rains at times, are present. During these periods, erosion of the bluff typically occurs in the form of vertical columns of soil becoming undermined and eroding away from the bluff face in large sections. Comparison of California Coastal Records Project[14] photos of this section of shoreline from 1979 and 1987 also show large losses of the bluff to the south of the pedestrian bridge including 2 large cypress trees lost to inland erosion. Mirada Road and the pedestrian bridge approaches and abutments are within 0-20 feet of the blufftop edge. Therefore, without protection, it is fair to conclude that anything within about 20 feet of the present blufftop edge location is in danger of being undermined in such an event, and annual and ongoing erosion will continue to exacerbate this threat.

In conclusion, erosion continues to affect this area, and such impacts stand to get worse due to ongoing sea level rise and the predicted increase in extreme weather events, including as illustrated most recently in July 27, 2020 when the County opted to close the pedestrian bridge due to its unsafe condition and severe corrosion. The Commission's Senior Coastal Engineer, Dr. Lesley Ewing, Coastal Engineer, Jeremy Smith, and Commission Geologist, Dr. Joseph Street, all of whom have visited the site, have reviewed the relevant materials associated with this project, and concur that the danger to Mirada Road, and the CCT (including the to be replaced pedestrian bridge and its associated existing abutments) from erosion is imminent in a "no action" scenario. Therefore, the Commission concludes that Mirada Road and the CCT constitute an existing structure and coastal-dependent use, respectively, in danger from erosion for purposes of Section 30235.

Feasible Protection Alternatives to a Shoreline Structure

The third test of Section 30235 that must be met is that the proposed armoring must be "required" to protect the existing structures in danger from erosion. In other words, shoreline armoring shall only be permitted if it is the only feasible alternative capable of protecting the existing endangered structures.[15] Other alternatives to shoreline protective devices typically considered include the "no project" alternative, managed retreat (including abandonment and demolition of threatened structures), relocation of threatened structures and/or portions thereof, beach and sand replenishment programs, foundation underpinning, drainage and vegetation measures, and combinations of each. Additionally, if shoreline armoring is determined to be the only feasible alternative, this test also requires that the chosen structural design of the shoreline protective device be the least environmentally damaging option, including being the minimum necessary to

[13] See, for example, CDP 2-16-0784 (Mirada Seawall).

[14] See www.californiacoastline.org.

[15] Coastal Act Section 30108 defines feasibility as follows: "Feasible" means capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, social, and technological factors.

protect the endangered existing structure and coastal dependent use in question (i.e., here Mirada Road and the CCT).

The Applicants prepared an alternatives analysis for the proposed project, which included both armoring and the 'no-project' alternatives, each of which is discussed briefly. Specifically, the Applicants' analysis included a Mirada Road Project Benefits and Analysis submitted on June 3, 2020, a response letter to Commission staff's information requests regarding additional alternatives analysis received on December 15, 2020, an Option to Lengthen the Mirada Road Pedestrian Bridge Memo received on February 21, 2021, and a Mirada Road Pedestrian Bridge Replacement and Bluff Stabilization Memo on April 16, 2021.

No Project Alternative

The "no project" alternative means that the pedestrian bridge would not be replaced and that soil nail walls and riprap would not be installed, leaving the existing, already deteriorated and shutdown bridge vulnerable to erosion that already exists and may be further exacerbated due to sea level rise. The existing issues of bluff erosion would continue to further destabilize the pedestrian bridge, which would eventually have to be removed as it would become a hazard to the public, and could fall to the beach, adversely impacting the environment by contributing further debris to the beach, which already contains a fair amount of derelict debris and loose riprap. Without the pedestrian bridge along Mirada Road, pedestrians and bicyclists would continue to be rerouted to use Highway 1 to cross the creek. This reroute is not ideal for a section of the CCT at this location as Highway 1 is about a third of a mile inland from the bridge location; the detour from one end of the bridge to the other via Highway 1 is nearly a mile trip; there is a good amount of development blocking the sight and sound of the ocean from the trail reroute; and Highway 1 has a high volume of fast-moving vehicular traffic, which is not ideal or safe for pedestrians and bicyclist use. Collapse of the bridge would not only eliminate a safe pathway for pedestrians and bicyclists, but it would also damage electrical and sewer utilities that serve the local community. The Applicant dismissed the no project alternative because it would fail to ensure safe public access and cost at least approximately $1 million the first year and about $100,000 every year after for the County to remove the damaged bridge and associated debris, and conduct emergency mobilization to address electrical, sewer, and access service loss to surrounding residential development. In addition, if none of the armoring proposed by the project were installed, existing structures immediately threatened by erosion that are not already planned for removal, such as Mirada Road, would also potentially be threatened and could fall to the beach aggravating the adverse impacts that already exist on the beach.

Stairway Alternative

The Applicant also considered an option involving removal of the pedestrian bridge and providing seasonal access to cross Arroyo de en Medio Creek via staircases.[16] This

[16] Again, the Creek rarely flows to the ocean, the Arroyo nearest the beach is mostly filled with sand, and the area under the bridge and extending inland for about 80 feet is more an inland extension of beach. As

option would include removal of the pedestrian bridge, abutments, and the old concrete bridge, but instead of installing a new bridge it would install stairs from each of the trail approaches down to the beach. This would require about 50 stairs for each staircase, which would limit utility to those physically able to navigate such staircases (i.e., about two-stories of stairs to navigate to get up and down). In addition, access up and downcoast would be blocked during times that the creek was flowing enough to block access between the stairs, which would generally be intermittent times during the winter/spring. In addition, during years where the sand is highly eroded and the tide washes up into the creek, the crossing would have to potentially be closed for safety reasons at these points as well. In addition, this option is not accessible to those with physical disabilities and would not be passable for bicyclists. Lastly, it is likely that this alternative would also still necessitate some form of hard shoreline armoring to protect the Mirada Road connection point on the northern end and the newly installed stairways. For all of the foregoing reasons, this alternative was not considered feasible to adequately protect endangered structures and coastal dependent uses at this location.

Inland Relocation

Another alternative typically considered when dealing with coastal development is inland relocation to an area not under threat from coastal hazards. In this case, a relocation alternative would involve relocating this section of the CCT and associated pedestrian bridge inland, to a location where cross-creek linkage could be created. The retreat alternative investigated involved relocating the pedestrian bridge crossing to Alameda Avenue about 500 feet inland of its current location. Two alternative configurations were considered: 1) a Class III[17] facility linking Mirada Road, Alameda Avenue and Medio Avenue, including the application of shared use markings along the roadway; and 2) a Class I[18] facility constructed along Mirada Road, as well as both Alameda and Medio Avenues (see **Exhibit 5**). The Class III facility would require the application of asphalt to the street's current aggregate base surface to ensure an all-weather accessible surface that requires minimal maintenance. The entire cost of the inland re-route was estimated at $2.7 million, which includes $250,000 for road surfacing (asphalt and striping); $950,000 for the bridge and foundation; $500,000 for design, permitting, mitigation, and inspection costs; and $1 million to re-route utilities, remove the pedestrian bridge, install barriers on either side of the current CCT location at Arroyo de en Medio Creek, and install signs and markings to reroute users inland. The Class I facility option would likely require the removal of improvements private parties have installed in the public right of way as well as the need to acquire temporary construction easements. The Class I facility was estimated to cost approximately $3.65 million, which includes all of the same costs as the class III option but extra costs for

such, the stairway access alternative would get users from one side to the other of the arroyo via traversing both stairways and the beach area in between them.

[17] Where 'Class III' refers to trails that share the road with vehicles by design (via use of striping, signage, etc.).

[18] Where 'Class I" refers to trails that are physically separated from vehicular areas.

surfacing (an additional $650,000) and design, permitting, mitigation, and inspection (and additional $300,000).

While the relocation option would provide long-term protection and continuity of the CCT in light of coastal hazard impacts at the current bridge location, there are a number of challenges associated with this option. First, implementing this alternative would likely require a least an additional 1-2 years to design, implement, and develop the project, including obtaining necessary private easements, which would mean that critical public coastal trail linkages remain closed and impacted for much longer than the current proposal (which is expected to be completed this year). Second, such relocation options have been met with significant negative feedback from community members, some of whom express an overt desire to keep the current location of the trail as close to the coast as possible, and others of whom do not believe it is appropriate to install the CCT through inland neighborhood streets, or both. Additionally, this alternative would require a significant expenditure of funds to conduct required environmental reviews and has a strong potential to result in litigation. Further, the proposed relocation of the bridge along Alameda Avenue would require replacing the abutments at the top of the bank with a 95-foot-long free span bridge across Arroyo de en Medio Creek. While the bridge's abutments would be clear of creek vegetation, the bridge's construction would require trimming and removal of riparian vegetation and mature trees, creating a total area of impact to sensitive, riparian habitats of about 1,140 square feet. Again, as described earlier, the area of the existing bridge is really more a sandy beach area, whereas the inland location is much more clearly a riparian corridor and resource, which presents different coastal resource challenges and the potential for more biological impacts. Lastly, relocating the pedestrian bridge would not entirely remove the need for armoring along the northern end of Arroyo de en Medio Creek to protect Mirada Road and the access to the adjacent residences where no other available access to such residences would be possible. Thus, the relocation alternative, while partially feasible, would lead to other coastal resource impacts including temporary loss of trail access, permanent loss of an integral connection between this section of the Coastal Trail and the sight and sound of the ocean, riparian habitat impacts, and added costs, while still not entirely removing a need for coastal armoring for pre-Coastal Act structures in the project area. Thus, this alterative was found not to be feasible to adequately protect endangered structures and coastal dependent uses at this location, and was not found to be preferable by the Applicant.

It is also noted that when faced with a similar nearby and recent decision of whether or not to armor to protect a section of the CCT (adjacent to a pre-Coastal apartment building approximately 150 feet south of the proposed project area), the Commission agreed that armoring of the pre-Coastal residence was warranted but found that inland relocation of the CCT was in fact the least environmentally damaging feasible alternative in that case. Specifically, on November 13, 2019, the Commission denied armoring for the CCT just south of the 2 Mirada apartment complex and indicated that it could be realigned inland, east of the adjacent condominiums onto State Parks

property, as needed to address ongoing erosion.[19] The area identified by the Commission for potential realignment would actually align better with the inland relocation alternative examined by the County along Alameda Avenue because it would be closer to Alameda Avenue than to the shoreline CCT area (see **Exhibit 5**).[20] That said, either southern CCT alignment (i.e., the current shoreline location or one that may move 400 feet further inland on Mirada Road) would be able to work with the existing bridge location, and keeping the CCT along the shoreline continues to allow it to function as a coastal-dependent use.

Armoring Alternatives

In addition to the proposed project, the Applicant evaluated several other armoring alternatives, including a full height rock revetment, a full height in-ground wall, a hybrid system including a shotcrete wall and revetment or sheet pile wall at the base, and a bridge extension with no armoring along the southern bank of Arroyo de en Medio and the adjacent bluff.

The full height rock revetment would install rock riprap along the face of the bluff and creek banks within the proposed project area. To create a stable configuration, the slope of the armoring would need to be flattened by expanding the base of the riprap increasing the armoring footprint and reducing the available beach area. In this option, the rock would extend about 40 feet from the base of the bluff out onto the beach. This is a lowest cost option ($3,000 per wall foot) but creates a large loss of beach area and was ruled out for impacts to public access as well as the visual impacts associated with the large amounts of rock along this scenic stretch of coast.

The full height in-ground wall (secant pile or similar) consists of installing a series of intersecting concrete piles to form a concrete wall that stabilizes the slope and creates a barrier to the flow of groundwater. This option could be designed to be raised in the future to accommodate sea level rise in conjunction with a wall that serves the remainder of Mirada Road. Typically, this type of wall is installed several feet back from the face of the bluff as the drilled holes serve as the form for the concrete. The cost of this wall was estimated to be in excess of $15,000 per wall foot. While the full height wall offers a long-term solution, this alternative was removed from consideration by the Applicant because the high cost to protect a small area of the coast exceeds the benefit.

The longer bridge with no armoring on the bluff and banks south of the Arroyo would involve extending the length of the bridge from the proposed 120 feet to 150 feet to provide greater clearance from the eroding bluffs and the bridge foundation. While this is not possible on the northern side of the bridge because the longer bridge would conflict with driveways serving private properties, it would be possible on the south side,

[19] CDP 2-16-0784 (Mirada Seawall), approved November 13, 2019. The Commission was sued following that decision by the Applicant in that case, and the case remains pending in San Mateo County Superior Court.

[20] It would be about 150 feet to Alameda Avenue from an inland relocated CCT where it hits Mirada Road coming from the south, but about 400 feet to the shoreline down Mirada Road from the same location.

getting rid of the need for armoring on the southern bluff. However, creating a longer bridge would increase the weight of the proposed bridge and the weight generated by foot traffic. To comply with current building codes, this would require the replacement of both the northerly and southerly foundations further impacting the eroding bluffs. Extending the bridge would also require a deeper, higher truss leading to more visual impacts, and increase the cost due to materials needed and complexity of installation. Increasing the length of the bridge in this way was estimated to add about $550,000 in total to the project cost. This option would still include the removal of the old concrete bridge, opening up about 700 square feet of area of sand, however, this would leave the southern, unarmored bluff exposed to the ocean – which would lead to increased erosion that could potentially compromise the replaced pedestrian bridge and new foundations, the inland end section of Mirada Road on the southern end, the Coastal Trail, and utility systems present within 20-30 years, necessitating further action, including potentially armoring, to protect the inland existing structures. However, the reduction in the extent of armoring overall would minimize impacts to sand supply and beach area from installing armoring in the near-term. Due to the additional cost, visual impacts, and the fact that this alternative would not guarantee protection of the Coastal Trail or adjacent infrastructure over the proposed design life of 40 years, the County did not find this alternative feasible or preferable.

The four hybrid approaches examined all involved a full height shotcrete wall with either a sheet pile wall, cast-in-drilled-hole (CIDH) piles, deep soil mixed wall (DSM), or riprap base to prevent scour and eliminate the depth needed to install the shotcrete wall. The shotcrete wall with tie backs would include installation of a series of anchors into the bluff that are grouted in place and sprayed with concrete onto the surface of the bluff, preventing erosion. The anchors would need to extend about 20 feet landward, requiring easements from property owners. The wall would cover the face of the bluff and would need to extend down to a varying depth depending on the base protection selected. The structure at the base would need to be installed at a depth starting at around +0-5 feet NAVD88 to support the shotcrete wall and provide scour protection.

In the case of the sheet piles, they would need to be driven into the ground approximately 15 feet deep for a total depth of 20 feet, potentially encountering and fracturing the marine terrace. Sheet piles would need to be heavy gauge steel and thus, would require heavy equipment for installation as well as installation of a construction pad made of locally excavated sand and a cofferdam at the base of the bluff. The CIDH piles would involve installation of a series of cast-in-drilled-hole concrete piers within steel casings supporting a concrete cap that acts as a barrier to scour underneath the shotcrete wall. This would require a large ramp to the beach to operate heavy machinery and an exceptionally large cofferdam and dewatering to facilitate construction. This option would cost $4 million and would require a 5-month construction period. The DSM base alternative would involve a series of interlaced cementitious piers fabricated by deep soil mixing from an elevation of 5 feet to the marine terrace to protect the base from scour. In addition to also requiring a large ramp and significant dewatering, this option would also require the disposal of significant amounts of sand contaminated with cement. It would create a permanent impermeable scour protection at the base of the wall that would be exposed when sand levels are

low, causing an unpleasing appearance. This option would cost $4 million and would require a 4-month construction period. Thus, the Applicant found these alternatives infeasible due to the added construction impacts, potential impacts to bluff stability and erosion from fracturing the marine terrace, and visual impacts of the unnatural steel look when this section of the armoring was exposed.

The proposed project, the preferred hybrid armoring alternative recommend by the Applicant, would similarly install shotcrete walls with tieback anchors but would utilize riprap at the base of the wall to protect against scour. The wall would be about 26 feet high, extending up to an elevation of +31 feet NAVD88 down to an elevation of +5 feet NAVD88. The base of the riprap would be set to an elevation of 0 feet NAVD88 and rise to about an elevation of +10 feet NAVD88, and stretch out to a width on the beach of 18 feet from the 3 foot wide wall (making the total height of the armoring from the base of the riprap to the top of the seawall a total of 31 feet and the total width of the armoring from the landward extent of the wall to the seaward extent of the riprap 21 feet). This option would cost $2.2 million and would require a 2-month construction period. The Applicant asserts that the additional beach coverage resulting from the riprap at the base of the bluff would not be impactful to beach access as the majority of it would be covered when sand levels are high. In addition, the Applicant asserts that the hybrid solution with rock at the base is the best balance in terms of cost, construction impacts, and long-term stability of the Coastal Trail.

However, as discussed below, the impacts to sand supply and to beach access of the proposed project are not Coastal Act consistent, as the third test of Section 30235 requires that armoring is only allowed when the proposed armoring is the least environmentally damaging feasible alternative. In consultation with Commission's Senior Coastal Engineer, Dr. Lesley Ewing, who has visited the site, and Coastal Engineer, Jeremy Smith, and Commission Geologist, Dr. Joseph Street, there appear to be feasible options for either reducing the footprint of the riprap toe-protection or removing it all together.

As a result, the County and Commission staff worked closely together to come up with an alternative that would minimize the riprap to the maximum feasible extent including by extending the shotcrete wall down to an elevation of +3 feet NAVD88. Under this option, the wall would be about 28 feet high (extending up to an elevation of +31 feet NAVD88 and down to an elevation of +3 feet NAVD 88). The base of the riprap would be set to an elevation of 0 feet NAVD88 and rise to about an elevation of +6 feet NAVD88, and stretch out to a width on the beach of 12.5 feet from the 3-foot wide seawall (making the total height of the armoring from the base of the riprap to the top of the seawall a total of 31 feet and the total width from the landward extent of the wall to the seaward extent of the riprap 15.5 feet). Additionally, the southern bluff stabilization would be reduced to 73 feet in length along the bluff and creek bank in order to accommodate a public access stairway improvement. Thus, in this instance, the Commission determines that this modified hybrid approach is the least environmentally damaging feasible solution to protect the existing endangered structures and serve the existing coastal dependent use, including as it reduces construction related environmental impacts and minimizes the armoring footprint and resultant impacts to

public access and recreation.

In short, the Commission finds that the recent modified hybrid approach would be the least environmentally damaging feasible armoring alternative to protect Mirada Road and the Coastal Trail, provided its impacts over time can be mitigated consistent with Coastal Act Section 30235 and other Coastal Act policies. Thus, the project, if the design is so modified, meets the third test of Section 30235 of the Coastal Act.

Beach/Shoreline Area/Sand Supply Impacts
The fourth test of Section 30235 that must be met in order to allow Commission approval of a shoreline armoring project is that such armoring must be designed to eliminate or mitigate adverse impacts to local shoreline sand supply.

Shoreline Processes
Some of the effects of engineered armoring structures on the beach (such as scour, end effects, and modification to the beach profile) are often temporary or may be difficult to distinguish from all the other actions that modify the shoreline. In addition, there are effects that are more qualitative (e.g., impacts to the character of the shoreline and visual quality) that are imprecise proxies for understanding the total impact of an armoring structure to the coastline. However, some of the effects that a shoreline armoring structure may have on natural shoreline processes can be quantified, including: (1) the loss of the beach area on which the structure is located; (2) the long-term loss of beach that will result when the back-beach location is fixed on an eroding shoreline; and (3) the amount of material that would have been supplied to the beach if the bluff and back-beach were to erode naturally. The first two calculations affect beach and shoreline use areas, and the third is almost exclusively about providing materials that can feed the beach, but all three impact public recreational access to the beach as it relates to sand supply and, by extension, beach and shoreline recreational areas.

Encroachment on the Beach and Shoreline Recreational Area
Shoreline protective devices, regardless of their configuration, are all physical structures that occupy space that would otherwise be unencumbered. When a shoreline protective device is placed on a beach area, the underlying beach area cannot be used by the public. This generally results in a loss of public access and recreational opportunity as well as a loss of sand and areas from which sand generating materials can be derived. The area where the structure is placed will be altered from the time the protective device is constructed, and the extent or area occupied by the device will remain the same over time, until the structure is removed or moved from its initial location (or in the case of a revetment, as it spreads seaward over time). The beach area located beneath a shoreline protective device, referred to as the encroachment area, is the area of the structure's footprint. Consistent with past practice, including the Commission's experience that shoreline armoring often needs to be reinforced, augmented, replaced, or substantially changed within twenty years of its original installation, and to provide for re-review on a regular basis to allow for consideration of possible changes in policy, law, and physical conditions associated with armoring, the Commission generally

evaluates this impact for an initial twenty year period.[21] After this 20-year initial mitigation period, additional impact analysis will be needed (see **Special Condition 4**) to assess the appropriate mitigation necessary at that time and moving forward.

In this case, the preferred modified hybrid approach would cover 3,767 square feet of shoreline and beach area that would otherwise be unencumbered.[22] In addition, the removal of the concrete arch bridge would open up additional beach area of 700 square feet. Thus, over the initial 20-year mitigation period, the coverage is considered to be 3,067 square feet (i.e., 3,767 square feet – 700 square feet).[23]

Fixing the Beach/Shoreline Position (the "Coastal Squeeze")

On an eroding shoreline, a beach will typically continue to recreate itself between the waterline and the bluff as long as there is space to form a beach between the bluff and the ocean. As bluff erosion proceeds, the profile of the beach also retreats and the beach area migrates inland with the bluff. This process stops, however, when the backshore is fronted by a hardened, protective structure such as a revetment or a seawall. Experts generally agree that where the shoreline is eroding and armoring is installed, the armoring will eventually define the boundary between the sea and the upland.[24] While the shoreline up and downcoast of the armoring continues to retreat and reform new beach areas, shoreline in front of the armoring eventually stops at the armoring. This effect is also known as passive erosion, or "coastal squeeze." The sandy beach area will narrow, squeezed between the moving shoreline and the fixed backshore. One need look no further for an example of this phenomenon than the 2 Mirada Road apartments just downcoast, where the pre-Coastal Act apartments have been armored over time, and the apartment site now juts out onto the beach as an armored headland, whereas the bluffs on either side have eroded further inland and allowed creation of beach space (see **Exhibit 5**).

The coastal squeeze phenomenon caused by armoring is exacerbated by climate change and sea-level rise. As climate change causes the seas to rise ever faster, beach and recreational shoreline areas will be lost at an increasingly rapid pace.[25] If the inland

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[21] See for example, CDPs 2-10-039 (Land's End), 2-16-0684 (Aimco), 3-12-030 (Pebble Beach Company), 2-16-0784 (2 Mirada), and 2-17-0438 (AMJT Capital/BCPUD).

[22] The armoring system's frontage would be approximately 243 feet long by 15.5 feet wide occupying approximately 3,767 total square feet (which would include the same 225 square foot area that the 2016 emergency rock covered).

[23] Which value would revert to 3,767 square feet for future mitigation calculations past the initial 20-year term.

[24] See, for example: Kraus, Nicholas (1988) "Effects of Seawalls on the Beach: An Extended Literature Review", Journal of Coastal Research, Special Issue No. 4: 1-28; Kraus, Nicholas (1996) "Effects of Seawalls on the Beach: Part I An Updated Literature Review", Journal of Coastal Research, Vol.12: 691-701, pages 1-28; and Tait and Griggs (1990) "Beach Response to the Presence of a Seawall", Shore and Beach, 58, 11-28.

[25] Sea level has been rising for many years, and there is a growing body of evidence that there has been an increase in global temperature and that acceleration in the rate of sea level rise can be expected to

area cannot also retreat, eventually there will be no available dry beach or shoreline area, and the shoreline will be fixed at the base of the armoring structure. In the case of an eroding shoreline, this represents the loss of a beach and shoreline recreational area as a direct result of the armoring. Specifically, beach areas are diminished as the beach is compressed between the ocean migrating landward and the fixed backshore. Such passive erosion impacts can be calculated over the time the proposed armoring is expected to be in place.

The Commission has established a methodology for calculating passive erosion, or the long-term loss of beach due to fixing the back beach. The area of beach lost due to long-term erosion is equal to the long-term average annual erosion rate multiplied by the number of years that the back beach or bluff will be fixed, multiplied by the width of the property that will be protected. Applying the 2 feet per year average annual rate of erosion over the first 20 years of the roughly 243-foot long seawall being present, subtracting the area that may be double counted by the fact that erosion would be happening along the creek mouth and the bluff face, and adding in the 5 years that the 15-foot long bluff has been armored by the emergency revetment, 7,805 square feet of beach will have been lost through the next 20-year period due to armoring here.[26] Thus, the armoring here leads to a total loss of 7,805 square feet of beach that would have been created naturally if the back beach had not been fixed by the armoring through the first 20-year assessment period.

Thus, the armoring project leads to beach and shoreline use area impacts of approximately 10,872 square feet (3,067 square feet associated with the seawall's footprint which includes the temporary 2016 ECDP revetment's footprint, and 7,805 square feet associated with passive erosion due to fixing the back beach) through the first 20 year impact horizon. There is no doubt that such impacts represent a significant

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accompany this increase in temperature. The Coastal Commission's Sea Level Rise Policy Guidance (2015) recommends using best available science at the time of application to understand the risks associated with sea level rise over the life of development. In March 2018, the California Ocean Protection Council adopted updated State Sea Level Rise Guidance, which incorporates recent scientific information and is now considered the best available science on sea level rise for the State of California. According to this Guidance, updated most recently in November 2018, the estimated range of sea level rise for the project area (based on the San Francisco tide gauge) for 2070 is approximately 1.9 to 3.5 feet; and 2.9 to 5.6 feet for 2090. Additionally, recent scientific studies have analyzed the potential for rapid ice loss and suggest that there could be extreme sea level rise of as much as 10 feet by 2100 (or an additional 5.2 and 8.3 feet of sea level rise that would be added to those estimates for 2070 and 2090, respectively), though this extreme scenario is currently less well understood. The observed trend for global sea level has been a long-term, persistent rise. Mean sea levels affect shoreline erosion several ways, and an increase in the average sea level will exacerbate all these conditions. 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. This, too, leads to loss of the beach as a direct result of the armor as the beach is squeezed between the landward migrating ocean and the fixed backshore (e.g., even without any armoring, a 1-foot rise in sea level generally translates into a 40-foot inland migration of the land/ocean interface for a roughly 40:1 beach slope, typical of average sandy beach profiles).

[26] That is, 243 feet multiplied by 2 feet per year multiplied by 20 years (i.e., 9,720 square feet) minus the area of overlap (2,065 square feet) added to 15 feet multiplied by 2 feet per year multiplied by 5 years (i.e., 150 square feet) equals 7,805 square feet.

public recreational access impact, including a loss of the social-economic value of beach and shoreline recreational access, for which the Coastal Act requires mitigation.

The most obvious in-kind mitigation for these impacts would be to create a new 10,872 square-foot area of beach/shoreline to replace that which will be lost over the first 20 years with an identical area of beach/shoreline in close proximity to the lost beach/shoreline area. While in concept this would be the most direct mitigation approach, finding an area that can be turned into a beach and ensuring it does so appropriately over time is very difficult in practice. At the same time, the calculations of affected area do provide a means to identify an appropriate relative scale for evaluating alternative mitigations. For example, in the past the Commission has looked at several ways to value such lost beach and shoreline areas in order to determine appropriate in-lieu mitigation fees, including evaluating the recreational value of the beach/shoreline in terms of the larger economy, as well as the real estate value of the land that would have otherwise gone to public beach/shoreline use.

In terms of the recreational beach and shoreline value, the Commission has recognized that in addition to the more qualitative social benefits of beaches and shoreline areas (recreational, aesthetic, habitat values, etc.), beaches and shoreline areas provide significant direct and indirect revenues to local economies, the state, and the nation. It is well-recognized that the ocean and the coastline of California contribute greatly to the California economy through activities such as tourism, fishing, recreation, and other commercial activities.[27] There is also value in just spending a day at the beach and having wildlife and clean water at that beach, and being able to walk along a stretch of beach and shoreline. Society also benefits from access to beach and shoreline areas, including through contribution to the local community and the broader regional social fabric and cultural identity, though this value is more difficult to quantify. In addition, the loss of access to a sandy beach raises the issue of environmental justice that is similarly challenging to put a price tag on.

Thus, these recreational impacts are, in many cases, difficult to quantify, including at sites such as this where visitation data needed for certain economic impact models are lacking. In other cases (including cases where visitation data was also lacking), the Commission has found that using a real estate valuation method as a basis for identifying mitigation allows for objective quantification of the value of lost beach and shoreline area and that this valuation is appropriate both in terms of the scope of the impacts and the rational basis for applying such methodology.[28] This method requires an evaluation of the cost of property that could be purchased and allowed to erode and turn into beach naturally to offset the area that will be lost due to the construction and

[27] See Coastal Commission's Adopted Sea Level Rise Policy Guidance at https://www.coastal.ca.gov/climate/ slrguidance.html: "Just over 21 million people lived in California's coastal counties as of July 2014 (CDF 2014), and the state supports a $40 billion coastal and ocean economy (NOEP 2010)."

[28] See, for example, CDPs 2-10-039 (Land's End seawall), 2-11-009 (City of Pacifica shoreline armoring), A-3-PSB-12-042 and A-3-PSB-12-043 (Pismo seawalls), and 3-16-0345 (Honjo seawall).

continued placement of the armoring over time.

Toward this end, the market values of representative blufftop properties near the project area supply a means to identify what it might cost to purchase such property and allow it to erode in this way to create offsetting beach/shoreline recreational space. Specifically, this review was conducted by looking at the sales of blufftop property in this specific area within the last three years. This value is then divided by the property square footage to arrive at a price per square-foot. The price per square-foot calculation serves as a way to gauge the cost of acquiring an equivalent blufftop property area that could be allowed to erode to provide an equivalent amount of beach and shoreline area to that which will be lost over the first 20-year mitigation timeframe.

This evaluation focused on a total of eleven blufftop properties within the vicinity of the proposed project representing a range of properties for which sales information was available over the past three years (see **Exhibit 6**). The range of values starts at the high end for the property at 215 Mirada Road with a value of $404.20 per square-foot, to the low end for the property at 465 Alameda Avenue with a value of $108.58 per square-foot, with an average of $243.12 per square-foot. This average per square-foot value represents a reasonable estimate of the market value of blufftop properties nearest the subject site based on actual sales data in the last three years. Given median sales prices have been rising in Half Moon Bay over the same timeframe, such a value may slightly underestimate current costs, but it is still a valid, if conservative, estimate for mitigation purposes.

Applying this land acquisition value to the 10,872 square-foot impact due to the proposed armoring would result in a mitigation fee of $2,643,201 for the loss of beach and shoreline use areas based on the initial 20-year mitigation period (i.e., 10,872 square feet x $243.12/square foot = $2,643,201). The Commission finds that this potential mitigation fee amount is most closely tied to specific property values in the vicinity of the project, and is thus both reasonably related and roughly proportional to the anticipated impacts of the proposed armoring on beach and shoreline use areas through the first 20 years it is in place.

Retention of Potential Beach Material

The final impact calculation pertains to the loss of sand and sand generating materials due to the project, and the way that affects the larger sand supply system. Beach sand material comes to the shoreline from inland areas, carried by rivers and streams; from offshore deposits, carried by waves; and from coastal dunes and bluffs feeding the beach. Bluff retreat/shoreline erosion is one of several ways that sand and sand generating materials are added to the shoreline. Bluff retreat and erosion are natural processes resulting from many different factors such as erosion by wave action causing cave formation, enlargement and eventual collapse of caves; saturation of the bluff soil from groundwater causing the bluff to slough off; and natural bluff deterioration. For coastal dunes, the contribution to the system is typically more direct, with sand becoming part of the shoreline system during and as a result of climatic events, including wind, rain, and storms. When the bluff/shoreline is armored with a shoreline protective device, the natural exchange of material from the armored area to the beach

and shoreline is interrupted, and, if the armored bluff area would have otherwise eroded, there will be a measurable loss of material provided to the beach and shoreline, contributing to a loss of sandy beach.

In bluff areas, if natural erosion were allowed to continue (absent of any shoreline armoring), bluff sediment would be added to the beach, as well as to the larger littoral cell sand supply system fronting the bluffs. The volume of total material that would have gone into the sand supply system over the life of the shoreline structure would be the volume of material between (a) the likely future bluff face location with shoreline protection; and (b) the likely future bluff face location without shoreline protection. Using the Commission's methodology[29] the amount of beach-quality sand that would be retained due to the approved armoring system, subtracting for the potential amount of overlap due to the erosion occurring in a non-linear manner, would be equal to 3,779 cubic yards of sand over the course of the initial 20-year mitigation horizon. In addition, the amount of sand retained due to the emergency rock was 35 cubic yards. Thus, over the course of the initial 20-year mitigation horizon, including the last five years that the emergency revetment has had the same effect, the preferred modified hybrid approach would result in the loss of about 3,814 cubic yards of sand through the first 20-year mitigation horizon (i.e., 3,779 cubic yards added to 35 cubic yards).[30] To mitigate for this loss of sand, the Commission oftentimes requires payment of an in-lieu fee to contribute to ongoing sand replenishment or other appropriate mitigation programs. In such cases, the Commission has typically mitigated for such sand retention impacts with an in-lieu fee based on the cost of buying and delivering an equivalent volume of beach quality sand to the affected area. In this case, as discussed above, the preferred modified hybrid approach would result in the retention of about 3,814 cubic yards of sandy material through the initial 20-year mitigation horizon. The Applicant obtained a quote of approximately $63 per cubic yard for the cost of delivered sand appropriate for the Miramar Beach area. Thus, an in-lieu fee to address this initial sand retention impact would be approximately $240,282.[31]

Approvable Mitigation Package

In total, through the first 20-year mitigation timeframe, these sand supply and related beach/shoreline loss impacts associated with the armoring would result in a required mitigation fee of $2,883,483 (i.e., $2,643,201 + $240,282= $2,883,483). Based on the above analysis, such a figure is both reasonably related and roughly proportional to the

[29] Sand generating materials loss is calculated with a formula that utilizes factors such as the fraction of beach quality material in the bluff material; the length of time the back beach will be fixed; the predicted rate of erosion with no armoring system; the height of the structure; and the width of property to be armored. In this case, the fraction of beach quality material was determined by the Applicants (and confirmed by the Commission's Geologist, Dr. Street) to be 0.43, the height of the armoring system from the scour level to the top of the bluff is 31 feet, the width of the property to be armored is 243 feet, the rate of retreat is 2 feet per year, the time period the system is installed is measured over the first 20-year mitigation period and the five years the emergency rock was in place, and the amount double counted by the convex shoreline estimated to be about 1,020 cubic yards over the 20-year mitigation period.

[30] And Dr. Ewing and Dr. Street reviewed all calculations and concurred on these estimates.

[31] That is, $63 per cubic yard multiplied by 3,814 cubic yards equals $240,282.

quantifiable impacts of the approved armoring. However, rather than requiring a mitigation fee of almost three-million dollars to facilitate possible beach and shoreline access acquisition and/or improvements as a means of offsetting this identified impact, a series of immediate public access improvements near the project site, described in more detail below, can most effectively offset such impacts.

When viable, the Commission has historically offset identified impacts via in-kind public access improvement projects. Because this option is generally only available with public agency applicants, in this case there is a unique opportunity for the Applicant, which is a public agency, to provide for a series of improvements that together can appropriately offset these beach and shoreline area recreational access impacts as part of an overall mitigation package in place of a fee. Such mitigation strategies can allow for mitigation benefits to be realized in the near term and in the area of the impacts, as opposed to fees that might not be spent for many years, and mitigation not timely realized as a result. The idea is typically to acknowledge that the value of a fee diminishes over time in terms of what it can result in, and improvements only become more expensive over time, and to place a premium on improvements that can be realized in the near term.

The Applicant has been working with Commission staff on such a strategy whereby the Applicant would fund and implement a series of public access improvements in the vicinity of the project to help offset project impacts. It is important to note that while the proposed armoring will have a negative impact on beach footprint, the proposed project is actually at least partially self-mitigating as it will re-establish CCT linkage and clean-up a portion of the beach by removing the arch bridge and concrete debris from the beach. In order to mitigate for the negative impacts associated with armoring, the Applicant is also willing to include a series of public access improvements on the beach and along the blufftop, all of which would be managed for the public's use and enjoyment via a comprehensive public access management plan (see **Special Conditions 2**). Specifically, the Applicants have voluntarily agreed to pay for and implement the following:

- Construction of a new vertical beach accessway, incorporated into the seawall design or just adjacent to it at the bridge location on the southern abutment just inland of the bridge.

- Improving the beach overlook south of the bridge by adding benches and/or picnic tables as well as other public amenities (e.g., bike racks, trash and recycling receptacles, doggy mitt stations, etc.).

- Removal of invasives and restoration plantings of native coastal bluff scrub species throughout the bluffs and banks in the project area, including within the new overlook area, and required maintenance of these restoration plantings.

- Ongoing maintenance of public access areas, improvements, and amenities.

These types of improvements will enhance public recreational access amenities and utility in the project area, appropriately offsetting the beach/shoreline area impacts

identified above.

Thus, in this case, the Commission finds it reasonable to mitigate for the above-identified armoring impacts, as well as to enhance and maximize public access and recreational opportunities in the project area as required by the Coastal Act, to require the Applicant to improve and maintain public recreational access areas, improvements, and amenities outlined here, all with the objective of maximizing and enhancing public recreational access and utility in this area to help offset approved project impacts. This mitigation package strategy and approach is similar to compensatory projects and mitigation packages required by the Commission in the past.[32] In addition, this approach will allow public access improvements to be realized in the near term, providing fairly immediate and tangible public benefits as opposed to an overall single fee approach that may not be used or applied for some time, reducing its effectiveness. The above described approach will likely have more value to public access users than can be captured by the cost to develop these improvement projects, as they have an intrinsic value to the shoreline-visiting public, particularly given the popularity of the related public access features on this stretch of coast that is difficult to quantify. In short, the above-described access improvement project constitutes an appropriate and adequate compensatory mitigation package to offset the impacts identified above and to be able to find the project consistent with Coastal Act Section 30235.

Duration of Armoring Authorization

The Coastal Act compels approval of shoreline armoring to serve a coastal-dependent use or protect an existing structure in danger of erosion, and therefore such devices are no longer required after the existing structures or coastal-dependent uses they protect are no longer present or no longer require armoring. Although the purpose of the proposed development is to protect the existing structures (i.e., Mirada Road) and the coastal dependent CCT linkage on the bridge and its approaches, the shoreline armoring itself impedes public access to and along the sandy beach, adversely impacts beaches and shoreline recreational areas, potentially increases erosion on adjacent properties, and visually impairs this coastal area (discussed more fully below in the Public Access and Public Views section of the staff report). In this case, the long term status of the existing structures that warrant protection is unclear, including related to how sea level rise and other coastal hazards may affect the shoreline in this area over time, and how the larger community will adapt over time, so it is still necessary to ensure that the shoreline protection as constructed is not allowed to outlast the structure or use it was designed and approved to protect. **Special Condition 4** thus limits the duration of this armoring approval to until the time when the pedestrian bridge and Mirada Road is no longer present, no longer requires shoreline armoring, or is being modified or relocated through a larger community wide planning effort, whichever occurs first. If some aspects that warrant protection are removed or abandoned, the armoring is required to be reduced or modified so that it is the minimum necessary to

[32] See, for example, CDPs 2-17-0702 (Sharp Park), 3-02-107 (Podesto), 2-16-0684 (Aimco), A-3-SCO-06-006 (Willmott), 3-09-029 (Rusconi), 3-09-042 (O'Neill), 3-10-044 (Crest Apartments), 2-11-009 (Pacifica), A-3-PSB-12-0042 and -0043 (Pismo Beach Oceanview), A-3-SCO-07-015/3-07-019 (Pleasure Point), 3-14-0488 (Iceplant LLC), 2-16-0784 (2 Mirada), 2-17-0438 (AMJT Capital/BCPUD).

protect only the retained portion of the existing structures or coastal-dependent uses that remain.

The intent of **Special Condition 4** is also to limit future impacts to public resources by restricting expansion of new development on site and to allow for potential removal of the approved armoring system when it is no longer necessary to protect the existing structure or coastal-dependent development, and, as such, the armoring would be removed or reauthorized with updated terms under a new CDP application or amendment to this CDP, either of which would be required to be consistent with the terms and conditions identified herein.

In terms of impact mitigation for the approved project, mitigation for Section 30235 impacts associated with the armoring system is based on impacts through the initial 20-year time period. These impacts will continue to occur, though, for the full time that the approved armoring is in place, including beyond 20 years if it continues to be required to protect the development present that warrants armoring. Future impacts beyond the initial mitigation period are far more uncertain to predict at this point in time due, among other factors, to possible changes in sea level, storm frequency and intensity, and direction of wave attack. The public access mitigation improvements required through this approval may very well be sufficient to offset the continued impacts of retaining the armoring in the future, but evaluation of ongoing project impacts to shoreline resources in the future could demonstrate that additional mitigation is necessary in order to maintain public access and recreation and to adequately mitigate for ongoing project impacts to these resources. **Special Condition 4** therefore requires the Applicant to reevaluate impacts associated with the retention of armoring beyond the initial 20-year mitigation period and provide additional mitigation if needed to respond to impacts to coastal resources past the initial 20 years, in the event that said impacts are not mitigated sufficiently under this approval.

Thus, as conditioned, the project satisfies the Coastal Act Section 30235 requirements regarding mitigation for sand supply impacts, and thus also meets all Section 30235 tests for requiring such armoring.

Long-Term Stability, Maintenance, and Risk

Coastal Act Section 30253 requires the project to assure long-term stability and structural integrity, minimize future risk, and avoid additional, more substantial protective measures in the future. Given the dynamic shoreline environment in this area, the design and implementation a formal long-term monitoring and maintenance program will be a critical tool for achieving Coastal Act consistency. If the subject armoring were damaged in the future (e.g., as a result of flooding, wave action, storms, etc.), it could lead to degraded public access conditions to and along the shore. In addition, such damages could adversely affect nearby beaches and recreational use areas by resulting in debris on the beaches and creating a hazard to the public using the beaches and offshore areas. To ensure consistency with Section 30253's requirement that projects assure stability and structural integrity, the project must be maintained in its approved state over the life of the proposed development. Further, in order to ensure that the Applicants and the Commission know when repairs or maintenance are required, the

Applicants must regularly monitor the performance of the subject armoring, particularly after major storm events. Such monitoring will ensure that the Applicants and the Commission are aware of any damages and inform whether repairs or other actions are necessary to maintain the armoring and the offsetting access improvements in their approved state before such repairs or actions are undertaken. To assist in such an effort, monitoring plans should provide vertical and horizontal reference distances from armoring structures to surveyed benchmarks for use in future monitoring efforts.

Thus, to provide long-term structural stability and ensure that the proposed project is properly maintained, **Special Condition 6** requires monitoring and related reporting at five-year intervals. Regular monitoring allows for evaluation of the condition and performance of the proposed project, and provides the opportunity to identify any necessary maintenance, repair, changes or modifications. **Special Conditions 1, 2, 6 and 7** require the Applicants to maintain the project in its approved state, subject to the terms and conditions identified herein. Future monitoring and maintenance activities must be understood in relation to the approved final project plans (see **Special Condition 1**).

In terms of recognizing and assuming the hazard risks for shoreline development, the Commission's experience in evaluating proposed developments in areas subject to hazards has been that development has continued to occur despite periodic episodes of heavy storm damage and other such occurrences. Development in such dynamic environments is susceptible to damage due to both long-term and episodic processes. Past occurrences statewide have resulted in public costs (through low interest loans, grants, subsidies, direct assistance, etc.) amounting to tens of millions of dollars. As a means of allowing continued private development in areas subject to these hazards while also avoiding placing the economic burden for possible future damages onto the people of the State of California, applicants are regularly required to acknowledge site hazards and agree to waive any claims of liability on the part of the Commission for allowing the development to proceed. Accordingly, this approval is conditioned for the Applicants to assume all risks for developing at this location (see **Special Condition 8**).

Coastal Hazards Conclusion

The existing Mirada Road, as well as the coastal-dependent CCT linkage, are in danger from erosion and require armoring through the approved project in order to be protected. The Commission-approved project configuration, as conditioned, is the least environmentally damaging feasible alternative. Conditions are included to ensure that the project will appropriately offset its sand supply and beach access impacts, and to ensure long term stability and efficacy. Although the project is not consistent with Section 30253 to the extent that it will result in a bluff retention device that will substantially alter natural landforms along bluffs and cliffs, Section 30235 requires approval of the proposed shoreline armoring as necessary to protect existing structures in danger of erosion, and the project has been conditioned to be consistent with other requirements of Section 30253.

E. Public Access and Recreation

Applicable Coastal Act Provisions

The Coastal Act grants a high priority to public recreational access uses and activities to and along the coast. The Act protects and encourages lower-cost visitor and recreational facilities where feasible and states a preference for developments providing public recreational opportunities. In addition, the Coastal Act requires that oceanfront land and upland areas suitable for recreational use be protected for those uses. Coastal Act Sections 30210 through 30213, 30221 and 30223 specifically protect public access and recreation. In particular:

> ***30210.*** *In carrying out the requirement of Section 4 of Article X of the California Constitution, maximum access, which shall be conspicuously posted, and recreational opportunities shall be provided for all the people consistent with public safety needs and the need to protect public rights, rights of private property owners, and natural resource areas from overuse.*
>
> ***30211.*** *Development shall not interfere with the public's right of access to the sea where acquired through use or legislative authorization, including, but not limited to, the use of dry sand and rocky coastal beaches to the first line of terrestrial vegetation.*
>
> ***30212.*** *Public access from the nearest public roadway to the shoreline and along the coast shall be provided in new development projects 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....*
>
> ***30221.*** *Oceanfront land suitable for recreational use shall be protected for recreational use and development unless present and foreseeable future demand for public or commercial recreational activities that could be accommodated on the property is already adequately provided for in the area.*

Coastal Act Section 30240(b) protects sensitive habitat, as well as parks and recreation areas, such as the adjacent beach:

> ***30240(b).*** *Development in areas adjacent to environmentally sensitive habitat areas and parks and recreation areas shall be sited and designed to prevent impacts which would significantly degrade those areas, and shall be compatible with the continuance of those habitat and recreation areas.*

These overlapping policies clearly protect access to and along the shoreline and to offshore waters for public access and recreation purposes, particularly free and low-cost access.

Consistency Analysis

Shoreline protective devices have significant adverse impacts to public access and recreation. Section 30210 of the Coastal Act requires the Commission to provide the

general public maximum access and recreational opportunities, while respecting the rights of private property owners. Section 30211 prohibits development from interfering with the public's right of access to the sea where acquired through use or by legislation. In approving new development, Section 30212 requires new development to provide access from the nearest public roadway to the shoreline and along the coast, save certain limited exceptions, such as existing adequate nearby access. The Coastal Act Section 30210 direction to maximize access represents a different threshold than to simply provide or protect such access, and is fundamentally different from other like provisions in this respect: it is not enough to simply *provide* access to and along the coast, and not enough to simply *protect* access; rather such access must also be *maximized*. This terminology distinguishes the Coastal Act in certain respects, and provides fundamental direction with respect to projects along the California coast that raise public access issues, like this one.

As mentioned in the project description, this area (including both the greater Half Moon Bay State Beach area and the CCT along the Miramar area coast specifically) is heavily used by the public, and it provides significant coastal access and recreational opportunities for residents and visitors alike. In addition, the mean high tide line will move landward over time depending on the beach profile, seasonal tidal activity, and continued sea level rise. Therefore, it is also critically important that the Commission assess whether the project, which if approved would be authorized indefinitely, would impact public access and recreation over this period and protects public access and recreational opportunities over the time period when the project remains, and that it includes measures to avoid (and where unavoidable appropriately mitigate) potential public recreational access impacts.

As discussed in the Coastal Hazards section above (incorporated herein by reference), shoreline structures like the armoring proposed can have a variety of negative impacts on coastal resources, through loss of beach/shoreline recreational use area where it is sited, incremental loss of beach due to the "coastal squeeze," and cumulative impacts to beach and shoreline recreation in the area, which ultimately result in the loss of the beach and associated impacts to public access. The proposed project's impact to sand supply, and ultimately to beach/shoreline area, would result in measurable impacts to beaches and beach area access. Critically, the proposed project would lead to a loss of available beach and shoreline recreation area for public access and recreation because the back of the beach/shoreline area will be fixed by the continued placement of the seawall, and the ocean interface will gradually move landward as sea level rises due to climate change. More specifically, anticipated sea level rise at this location is estimated at between 0.5 feet to 1.8 feet by 2040, and thus it is likely that the armoring system will have discernible impacts on public access and recreation for as long as it is in place. In fact, with sea levels anticipated to rise between half-a-foot and nearly two feet within the next 20 years, less of the beach/shoreline area seaward of the armoring system will be available and such availability will be for a shorter period of time each day. Further, these impacts are predicted to be exacerbated as the years go on.

Coastal Act Section 30212 requires new development projects, where appropriate, to provide public coastal access as part of the project. In this case, the recommended

project includes **Special Conditions 1 and 2**, which provides for a series of public access improvements, including a new vertical access stairway and benches and overlooks in the project area, as well as a Public Access Management Plan. Specifically, and as described in the previous findings regarding coastal hazards, the project would be conditioned to provide offsetting public access improvements at the project site to mitigate for the projects impacts on coastal resources. The area of beach lost due to encroachment of the wall and long-term erosion caused by the proposed armoring would be about 15,015 square feet. With the modified hybrid approach discussed above, consisting of a reduction in riprap footprint and length of the armoring along the southern bluff, that impact can be reduced to 10,872 square feet, or nearly a one-third reduction in impact. To offset these remaining impacts, the Commission and the Applicants are in agreement regarding a mitigation package that includes a combination of public recreational access improvements (see discussion in the prior Coastal Hazards finding). It is also important to note that the project would enhance access in and around the area by improving the trail approaches from Mirada Road to the pedestrian bridge and by installing park benches on the southern side of the pedestrian bridge within the existing public easement area. Additionally, the project would remove the old concrete arch bridge and derelict debris and rock on the beach and in the creek channel and, as conditioned to reduce the amount of riprap needed, will free up additional beach space that will enhance public beach access in tandem with the required offsetting public recreational access mitigations. Lastly, the replacement and protection of the bridge will reestablish connection to the Coastal Trail and encourage the use of this section of the beach and is a self-mitigating project component, in terms of impacts to access. Thus, the project as conditioned will appropriately offset public access and recreation impacts (see **Special Conditions 1, 2, 3, and 4**).

The remaining public access and recreation impacts accrue due to project activities on the beach and in related public access areas, and from construction overall. With respect to construction impacts, this project will: require the movement of large equipment, workers, materials, and supplies in and around the shoreline area and public access points; include large equipment operations in these areas; result in the loss of public access use areas to a construction zone; and generally intrude and negatively impact the aesthetics, ambiance, serenity, and safety of the recreational experience at these locations. These public recreational use impacts have been minimized (through the Applicant's proposed best management practices) and can be further mitigated through construction parameters that require the following: limiting the area of construction, limiting the times when work can take place (e.g., to avoid both holiday weekends and peak summer use months when recreational use is highest), clearly fencing off the minimum construction area necessary, keeping equipment out of coastal waters, requiring off-beach equipment and material storage during non-construction times, clearly delineating and avoiding to the maximum extent possible public use areas, and restoration all affected public access areas at the conclusion of construction. A construction plan is required to implement these measures (s**ee Special Condition 3**). In addition, to provide maximum information to the beach-going public during all construction, the Applicant must maintain copies of the CDP and approved plans available for public review at the construction sites, as well as provide a

construction coordinator whose contact information is posted at the sites to respond to any problems and/or inquiries that might arise (**see Special Condition 3**). In addition, this permit does not constitute a waiver of any public rights that might exist on the properties (see **Special Condition 9**).

Public Access and Recreation Conclusion
In conclusion, while the project will include shoreline protection that will have negative impacts on the beach fronting the project, it will also provide a continued public benefit as it will not only reestablish Coastal Trail connectivity for pedestrians and bicyclists but also provide additional public access amenities as required by **Special Conditions 1 and 2**. Thus, the Applicant must implement the mitigation package per the terms and conditions of this approval, including reassessment of such impacts on a twenty-year cycle, in order to offset the public recreational access impacts associated with the proposed project as much as is possible under these circumstances. As conditioned, the Commission finds the project as consistent with the Coastal Act access and recreation policies cited above as is feasible.

F. Creek/Marine Resources

Applicable Coastal Act Provisions
The Coastal Act protects the marine resources and habitat offshore of this site. Coastal Act Sections 30230 and 30231 provide:

> ***Section 30230.*** *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.*** *The biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes appropriate to maintain optimum populations of marine organisms and for the protection of human health shall be maintained and, where feasible, restored through, among other means, minimizing adverse effects of waste water discharges and entrainment, controlling runoff, preventing depletion of ground water supplies and substantial interference with surface water flow, encouraging waste water reclamation, maintaining natural vegetation buffer areas that protect riparian habitats, and minimizing alteration of natural streams.*
>
> ***Section 30236.*** *Channelizations, dams, or other substantial alterations of rivers and streams shall incorporate the best mitigation measures feasible, and be limited to (l) necessary water supply projects, (2) flood control projects where no other method for protecting existing structures in the flood plain is feasible and where such protection is necessary for public safety or to protect existing development, or (3) developments where the primary function is the improvement of fish and wildlife habitat.*

Consistency Analysis
Section 30230 and 30231 of the Coastal Act require that marine resources "be maintained, enhanced, and where feasible, restored." Further, uses of the marine environment must 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 30236 requires substantial alterations of rivers and streams to incorporate the best mitigation measures feasible and limits these alterations to necessary water supply projects, flood control projects, and for developments where the primary function is the improvement of fish and wildlife.

As discussed above, the project is located along the bluff and beach adjacent to Mirada Road and the Coastal Trail, to the north, south and stretching over Arroyo de en Medio Creek (a coastal stream that flows directly to the Pacific Ocean). The more seaward reach of Arroyo de en Medio Creek from the project site to approximately 100 feet upstream appears to be dominated by sandy beach coastal processes. For example, the sand bed is covered with many large woody debris and herbaceous growth, showing that this location is the highest elevation that wave run-up typically occurs in Arroyo de en Medio. The transition from coastal dominated to fluvial dominated processes, which include a well-defined low-flow channel filled with course and sand and fine gravel and a dense stand of willows, is between 100 feet and 120 feet upstream of the bridge area. This transition is marked by a large amount of woody debris, a change in creek bed material and vegetation, and a dense stand of willows (see **Exhibit 2**). As a result, development in the Arroyo (such as the construction ramp and ultimately the armoring and the vertical accessway) is not expected to have any impacts on creek biological resources.

In addition, the upstream part of the creek that is more fluvial-dominated has a narrower bed and narrower distance between banks when compared to the coastal processes-dominated reach near seaward project area. The proposed project, which includes the removal of the abandoned concrete arch bridge, will widen the cross section of the creek at the project location back to its more natural configuration, but given that this section of the creek is dominated by coastal processes, it is not expected to impact the fluvial geomorphic processes or willow stands further up the creek. As also found in the Applicant's consultant report, the three main activities occurring at the mouth of the creek (i.e., the soil nail walls, the bridge replacement, and armoring) would not result in appreciable change to the watershed hydrology of Arroyo de en Medio Creek because the narrowest cross section between the soil nail walls will be approximately 50 feet, which is much wider than the current bank width measured in the fluvial dominated reach of Arroyo de en Medio (approximately 21 feet wide) and will be wider than the narrowest cross section between banks within the coastal processes dominated reach (approximately 20 feet), assuring the construction will not change the current coastal dynamic at the seaward mouth of the Arroyo.

In terms of the potential for impacts to marine resources, the project is conditioned to include construction methods typically required by the Commission to protect water quality and marine resources during bridge and/or armoring construction in close

association with the beach and coastal waters, including construction site housekeeping controls and procedures, the use of appropriate erosion and sediment controls, and a prohibition on equipment washing, refueling, or servicing on the beach (see **Special Condition 3**). To further protect marine resources and offshore habitat, **Special Condition 3** requires construction documents to be kept at the site for inspection, and also requires a construction coordinator to be available to respond to any inquiries that arise during construction. Additionally, conditions of the project require removal of existing invasive vegetation and restoration plantings in the bluff and bank areas and also in the bluffs just south of the southern bridge abutment, as well as similar revegetation activities in the areas of the new public overlook, assuring temporary impacts are mitigated for and additional areas in the project vicinity are restored with appropriate native vegetation (see **Special Condition 1(j)**).

As conditioned, the Commission finds the project consistent with Coastal Act Sections 30230, 30231, and 30236 regarding protection of marine resources and offshore habitats.

G. Public Views

Applicable Coastal Act Provisions

Coastal Act Section 30251 states:

> ***Section 30251.*** *The scenic and visual qualities of coastal areas shall be considered and protected as a resource of public importance. Permitted development shall be sited and designed to protect views to and along the ocean and scenic coastal areas, to minimize the alteration of natural land forms, to be visually compatible with the character of surrounding areas, and, where feasible, to restore and enhance visual quality in visually degraded areas.*

Coastal Act Section 30240(b), previously cited, also protects the aesthetics of beach recreation areas such as those located directly adjacent to and at the project site.

> ***30240(b).*** *Development in areas adjacent to environmentally sensitive habitat areas and parks and recreation areas shall be sited and designed to prevent impacts which would significantly degrade those areas, and shall be compatible with the continuance of those habitat and recreation areas.*

Consistency Analysis

The Coastal Act requires that development be sited and designed to protect public views to and along the ocean and scenic coastal areas, to minimize the alteration of natural landforms, and to be visually compatible with the character of surrounding areas. Although the proposed bridge, seawalls, and related development introduce new massing into the viewshed as compared to the project area's natural condition, the proposed project is the preferred alternative, as conditioned, as it will remove the visual impediment of the deteriorated arch bridge, the seawalls will be sculpted and designed to approximate the look of natural bluffs in the vicinity, derelict debris and riprap that has fallen down to the beach will be removed, and riprap on the beach will be minimized. In addition, final fencing, bridge, and railing design will be required to blend with the

coastal surroundings and be as inconspicuous as possible. With these requirements, the project is designed to minimize to the extent possible visual impacts to the surrounding beach and coastal views.

At the same time, it will still remain a significant and unnatural visual impediment along the coast that detracts from and impedes public views. Some of this impact can be offset by the public recreational access improvements that will also serve to improve the visual character of the area (e.g., public benches in overlook areas, removal and clean-up of derelict debris that act as impediments to access in the beach area, etc.). Additionally, the removal and clean-up of the old concrete bridge and concrete debris found within the project site will provide a much cleaner look to the area, improving public views (see **Exhibit 2**). Required conditions of approval also require removal of existing invasive vegetation and restoration plantings in the bluff and bank areas, including in the new public access overlook area, assuring a more native plant assemblage in the project vicinity. Finally, all public access improvements are required to be sited and designed to maximize coastal view protection and minimize visual intrusion, including through use of materials appropriate to the shoreline context that blend with the natural environment and existing improvements in the area. In addition, all public access improvements and amenities described in **Special Conditions 1 and 2** are required to be regularly monitored to ensure that all elements are appropriately maintained in their approved state (see **Special Conditions 1, 2, and 6**).

The proposed project is not fully consistent with the visual resource protection policies of the Coastal Act. However, the project has been conditioned to minimize impacts of the project on visual resources to the extent possible. Insofar as any impacts are not fully minimized or off-set by benefits resulting from the project, Section 30235 requires approval of the proposed shoreline armoring notwithstanding any inconsistency with the visual resource protection policies of the Coastal Act. Overall, as conditioned, however, the proposed project will protect public views as much as possible, given that the armoring is required to be approved in this shoreline area.

H. Other Agency Approvals

San Mateo County/City of Half Moon Bay
The project includes components that will occur both in unincorporated San Mateo County and incorporated Half Moon Bay. Accordingly, this approval is conditioned to ensure that the project (as conditioned and approved by this CDP) has received all necessary authorizations (or evidence that none are necessary) from the County and the City of Half Moon Bay (see **Special Condition 11**).

California State Lands Commission
The California State Lands Commission (CSLC) may require a lease or some other type of approval for the underlying armoring, and thus this approval is conditioned to require written evidence either of CSLC approval of the project or evidence that such approval is not required (see **Special Condition 11**).

Monterey Bay National Marine Sanctuary
As some project elements may be located below the mean high tide and project

construction may result in impacts to coastal waters, authorization for the project by the Monterey Bay National Marine Sanctuary is a requirement of the project. Accordingly, this approval is conditioned to ensure that the project (as conditioned and approved by this CDP) has received all necessary authorizations (or evidence that none are necessary) from the Sanctuary (see **Special Condition 11**).

U.S. Army Corps of Engineers

The U.S. Army Corps of Engineers (ACOE) has regulatory authority over the proposed project under Section 10 of the Rivers and Harbors Act and Section 404 of the Clean Water Act.[33] Portions of the project may be located within ACOE jurisdiction, and the use of equipment and machinery on the beach up to the high tide line also has the potential to impact these areas. Accordingly, this approval is conditioned to ensure that the project (as conditioned and approved by this CDP) has received all necessary authorizations (or evidence that none are necessary) from ACOE (see **Special Condition 11**).

I. Other

Public Rights

The area associated with this CDP application includes areas that are clearly public, as well as other areas historically used by the public, including the sandy beach areas. Although the Commission has identified areas of public land and public use herein, the Commission here does not intend its action waive *any* public rights that may exist on the affected properties, including the area just up- and down-coast of the proposed bridge abutments, as well as the areas within Arroyo de en Medio and inland of the proposed armoring system at the northern and southern bridge termini. Thus, this approval is conditioned to make that clear, and to require the Applicant to agree and acknowledge same, including that this CDP shall not be used as evidence of a waiver of any public rights that may exist on these properties now or in the future (see **Special Condition 9**).

Future Permitting

The Commission herein fully expects to review any future proposed development at and/or directly related to this project and/or project area, including to ensure continued compliance with the terms and conditions of this CDP through such future proposals, but also to ensure that any such future proposed development can be understood in the same terms. Thus, any and all future proposed improvements to the development authorized by this CDP and that in any way relate to this project, this project area, and/or this CDP shall require a new CDP or a CDP amendment that is approved by the Coastal Commission (see **Special Condition 10**).

Indemnification

Coastal Act Section 30620(c)(1) authorizes the Commission to require applicants to reimburse the Commission for expenses incurred in processing CDP applications. Thus,

[33] Section 10 of the Rivers and Harbors Act regulates the diking, filling, and placement of structures in navigable waterways, and Section 404 of the Clean Water Act regulates fill or discharge of materials into waters and ocean waters.

the Commission is authorized to require reimbursement for expenses incurred in defending its actions on the pending CDP applications 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 12** requiring reimbursement for any costs and attorneys' fees that the Commission incurs in connection with the defense of any action brought by a party other than the Applicants challenging the approval or issuance of this CDP, or challenging any other aspect of its implementation, including with respect to condition compliance efforts (see **Special Condition 12**).

J. California Environmental Quality Act (CEQA)

Section 13096 of Title 14 of the California Code of Regulations requires that a specific finding be made in conjunction with CDP applications showing the application to be consistent with any applicable requirements of 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 that the activity may have on the environment.

San Mateo County, acting as lead CEQA agency, adopted an Initial Study and Mitigated Negative Declaration for the project pursuant to California Public Resources Code Section 21081.6. The County determined that the potential adverse effects of the project were reduced to less than significant levels through the implementation of a required Mitigation Monitoring and Reporting Program, which program is part of the proposed project description in this case. The Coastal Commission's review and analysis of land use proposals has been certified by the Secretary of the Natural Resources Agency as being the functional equivalent of environmental review under CEQA. The preceding findings in this report have discussed the relevant coastal resource issues with the proposal, and the CDP terms and conditions identify appropriate mitigations to avoid and/or lessen any potential for adverse impacts to said resources. Further, all public comments received to date have been addressed in the preceding findings, which are incorporated herein in their entirety by reference.

As such, there are no additional feasible alternatives or feasible mitigation measures available which would substantially lessen any significant adverse environmental effects which approval of the proposed project, as conditioned, would have on the environment within the meaning of CEQA. Thus, as so conditioned, the proposed project will not result in any significant environmental effects, either individually or cumulatively, for which feasible mitigation measures have not been employed consistent with CEQA Section 21080.5(d)(2)(A).

APPENDIX A – SUBSTANTIVE FILE DOCUMENTS

- Geotechnical Design Recommendations Mirada Road Pedestrian Bridge Replacement Project San Mateo County, California, prepared by Parikh Consultants, January 10, 2020
- Beach and Sand Replenishment Volume Memorandum, prepared by Moffat & Nichol, February 2, 2021
- Mirada Road Project Benefits and Alternatives Analysis Memorandum, prepared by CSW Struber Stroeh Engineering Group, October, 2, 2019
- Option to Lengthen the Mirada Road Pedestrian Bridge Memorandum, prepared by CSW|ST2, February 21, 2021
- Fluvial Geomorphic Assessment, prepared by WRECO, February 3, 2021

APPENDIX B – STAFF CONTACT WITH AGENCIES AND GROUPS

- San Mateo County
- MidCoast Community Council
- Surfrider Foundation