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STAFF REPORT: REGULAR CALENDAR

Application No.:	**9-18-0647**
Consistency Certification No.:	**CC-0006-18**
Applicant:	**Tyco Electronics Subsea Communications, LLC (TE SubCom)**
Location:	In state and federal waters offshore of Dockweiler State Beach out to the edge of the continental shelf, and within the City of Los Angeles, Dockweiler State Beach Parking Lot #3 (**Exhibit 1**).
Project Description:	Install and operate one submarine fiber optic cable extending from Dockweiler State Beach, through California state and federal waters, and landing in Chile. Project is Phase II of the Los Angeles Trans-Pacific Telecommunications Cable Hub (Cable Hub) project, and will use an ocean ground bed, beach manhole, subsea steel bore pipe, and upland conduit that were constructed under Phase I of the Cable Hub project.
Staff Recommendation:	Approval with conditions (CDP); Concurrence with conditions (Consistency Certification).

SUMMARY OF STAFF RECOMMENDATION

TE SubCom proposes the installation and operation of a fiber optic cable as the second phase of a multi-phase project to install and operate up to four transpacific submarine fiber optic cables to land at Dockweiler State Beach in the City of Los Angeles. The purpose of the project is to connect the United States to various locations along the western and eastern rims of the Pacific Ocean. In Phase I of the project, TE SubCom constructed a landing site and related infrastructure (including two ocean ground beds, two beach manholes, subsea steel bore pipes, and upland conduit) at Parking Lot 3 of Dockweiler State Beach and along public Rights of Way (ROW) to the Equinox Data Center in El Segundo. Phase II of this project (the subject of this staff report) will involve installation and operation of a fiber optic cable using the existing landing site at Parking Lot 3, the existing terrestrial infrastructure, and the previously installed subsea steel bore pipe. This recommendation covers a combined coastal development permit and federal consistency certification; the standard of review for both is Chapter 3 of the Coastal Act.

The key Coastal Act issues raised by this project are the potential for adverse impacts to marine resources and commercial fishing. The proposed project has the potential to harm marine mammals, fish, hard bottom habitat, soft bottom habitat and marine water quality. To minimize impacts, Commission staff recommends several conditions designed to protect marine habitats and sensitive species. These include **Special Condition 4** requiring TE SubCom to implement a Marine Wildlife Monitoring and Contingency Plan (MWMCP), **Special Condition 5** that requires the cable to be buried to a depth of 1.0 meter, and **Special Condition 6** requiring TE SubCom to avoid and eliminate cable suspensions. **Special Condition 12** requires TE SubCom to eventually remove the cable from state waters. In addition, **Special Conditions 13** and **14** require TE SubCom to quantify impacts to hard bottom substrate and mitigate for those impacts through payment of a hard bottom mitigation fee to be used to remove derelict fishing gear and marine debris from waters off of Southern California. Further, **Special Conditions 17 and 18** require TE SubCom to submit plans to protect against the discharge of hazardous and non-hazardous substances into the marine environment. As conditioned, the Commission staff recommends the Commission find the proposed project would be consistent with Sections 30230, 30231 and 30232 of the Coastal Act.

The proposed project also has the potential to result in conflicts and impacts to commercial and recreational fishing activities. To minimize this potential, **Special Conditions 7, 8**, and **9** require TE SubCom to notify fisherman of the location of the installed cable and any areas of exposed or suspended cable. In addition, **Special Condition 22** requires TE SubCom to adhere to the requirements included in the existing Fishing Agreement (**Exhibit 9**). As conditioned, the Commission staff recommends the Commission find the project would protect commercial and recreational fishing interests and is therefore consistent with Coastal Act Section 30234.5.

Commission staff recommends that the Commission **approve** coastal development permit application 9-18-0647, as conditioned, and **conditionally concur** with consistency certification CC-0006-18.

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APPENDICES

EXHIBITS

MOTION AND RESOLUTION

1. Coastal Development Permit

Motion:

*I move that the Commission **approve** Coastal Development Permit No. 9-18-0647 pursuant to the staff recommendation.*

Staff recommends a **YES** vote on the foregoing motion. Passage of this motion will result in conditional approval of the permit and adoption of the following resolution and findings. The motion passes only by affirmative vote of a majority of the Commissioners present.

Resolution:

The Commission hereby approves Coastal Development Permit 9-18-0647 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.

2. Consistency Certification

Motion:

I move that the Commission conditionally concur with Consistency Certification CC-0006-18 on the grounds that, if modified in accordance with the following conditions, the project described therein would be consistent with the enforceable policies of the California Coastal Management Program (CCMP).

Staff recommends a **YES** vote on the motion. Passage of this motion will result in a concurrence with the certification and adoption of the following resolution and findings. An affirmative vote of a majority of the Commissioners present is required to pass the motion.

Resolution to Conditionally Concur with Consistency Certification:

The Commission hereby conditionally concurs with Consistency Certification CC-0006-18 on the grounds that, if modified in accordance with the following conditions, the project described therein would be consistent with the enforceable policies of the CCMP.

II. APPLICANT'S CONSISTENCY CERTIFICATION

TE SubCom has certified that the proposed activity complies with the California Coastal Management Program and will be conducted in a manner consistent with such program.

III. STANDARD CONDITIONS

The coastal development permit (9-18-0647) is granted subject to the following standard conditions:

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

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

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

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

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

IV. SPECIAL CONDITIONS

Both Coastal Development Permit (CDP) No. 9-18-0647 and Consistency Certification (CC) No. CC-0006-18 are granted subject to the following special conditions:

1. **Performance Bond.** Prior to issuance of this permit, the applicant shall provide a surety bond or other security device guaranteed by the Permittee acceptable to the Executive Director of the Coastal Commission (hereinafter Executive Director), for $500,000, and naming the Coastal Commission as the assured, to guarantee the faithful observance and performance of the applicant of the terms and conditions of this permit. The surety bond or other security device shall be maintained in full force and effect at all times until the cable has been removed pursuant to **Special Condition 12** of this permit.

2. **Other Permits and Approvals:** PRIOR TO THE START OF CONSTRUCTION, the applicant shall provide to the Executive Director copies of all other local, state, and federal permits required to perform project-related work. These permits and approvals include:

a. Regional Water Quality Control Board – Los Angeles Region: final approved Clean Water Act Section 401 water quality certification and National Pollution Discharge Elimination (NPDES) General Construction Permit.
b. U.S. Army Corps of Engineers: Authorization under Nationwide Permit #12, pursuant to Rivers and Harbors Act Section 10 and Clean Water Act Section 404.
c. California State Parks and Recreation: Right of Entry Permit and Easement.
d. Los Angeles County Beaches and Harbors: Right of Entry Permit
e. City of Los Angeles: Easement (submerged land and upland parcel) and Local Coastal Development Permit.

3. **Environmental Impact Report Mitigation Measures.** This permit incorporates those mitigation measures identified in the March 2016, *Final EIR for the Los Angeles Trans-Pacific Telecommunications Cable Hub* (State Clearinghouse No. 2016101050) concerning marine habitats, biological resources, fishing, public access, and cultural resources that are attached to this report as **Exhibit 8.**

4. **Marine Wildlife Monitoring and Contingency Plan (MWMCP**). AT LEAST 30 DAYS PRIOR TO THE START OF CABLE INSTALLATION ACIVITIES, the Permittee shall prepare a MWMCP for review and approval by the Executive Director. The Permittee shall implement the MWMCP during all marine operations (e.g., cable installation, post-lay inspection, burial, maintenance and repair, retrieval of entangled fishing gear, and inspection surveys). The MWMCP shall include the following elements, and shall be implemented consistent with vessel and worker safety:

- Prior to the start of offshore activities, the Permittee shall provide awareness training to all Project-related personnel and vessel crew, including viewing of an applicable wildlife and fisheries training video, on the most common types of marine wildlife likely to be encountered in the Project area and the types of activities that have the most potential for affecting the animals.
- A minimum of two National Marine Fisheries Service (NMFS)-qualified marine mammal observers shall be located on the cable installation vessel (CIV) to conduct observations, with two observers on duty during all cable installation activities. The MWMCP shall identify any scenarios that require an additional observer on the CIV or other Project vessel and, in these cases, make recommendations as to where they should be placed to ensure complete coverage of the surrounding marine environment.
- Shipboard observers shall submit a daily sighting report to the Executive Director no later than noon the following day, provided that electronic communications from the CIV are available, that shall be of sufficient detail to determine whether observable effects to marine mammals are occurring.
- The observers shall have the appropriate safety and monitoring equipment adequate to conduct their activities (including night-vision equipment).
- The observers shall have the authority to stop any activity that could result in harm to a marine mammal or sea turtle. For monitoring purposes, the observers shall establish a 1,640 foot (500 meter) radius avoidance zone around the CIV and other Project

vessels (if required by the MWMCP) for the protection of large marine mammals (i.e., whales) and a 500-foot (152-meter) radius avoidance zone around the CIV and other Project vessels (if required by the MWMCP) for the protection of smaller marine mammals (i.e., dolphins, sea lions, seals, etc.) or sea turtles.

- In the event that a whale becomes entangled in any cables or lines, the observer shall immediately notify NMFS and the Executive Director, so appropriate response measures can be implemented. Similarly, if any take involving harassment or harm to a marine mammal occurs, the observer shall immediately notify the Executive Director, NMFS and any other required regulatory agency.
- While cable is being deployed, CIV speeds shall be limited to less than 2 nautical miles per hour (knots), with the speed of Project support vessels while assisting the CIV moderated to 3 to 5 knots to minimize the likelihood of collisions with marine mammals and sea turtles.
- Propeller noise and other noises associated with cable laying activities shall be reduced or minimized to the extent feasible.
- The captain of the CIV and the Permittee's Project management team shall be responsible for ensuring that the MWMCP is implemented.
- A final report summarizing the results of monitoring activities shall be submitted to the Executive Director and other appropriate agencies no more than 90 days following completion of cable installation and retrieval activities. The report shall include: (a) an evaluation of the effectiveness of monitoring protocols and (b) reporting of: (i) marine mammal, sea turtle, and other wildlife sightings (species and numbers); (ii) any wildlife behavioral changes; and (iii) any project delays or cessation of operations due to the presence in the project area of marine wildlife species subject to protection.

5. **Cable Burial Depth**. The cable shall be buried to a depth of 1.0 meter in waters up to 1200 meters, except where proposed use of the plow for installation is precluded by seafloor substrates or by other physical factors such as steeply sloping seafloor. Where a 1.0-meter burial depth cannot be achieved, the Permittee shall bury the cables to the maximum depth feasible.

6. **Avoid and Eliminate Cable Suspensions**. AT LEAST 30 DAYS PRIOR TO THE START OF CABLE INSTALLATION ACTIVITIES, the Permittee shall prepare a Cable Slack Management Plan for review and approval by the Executive Director. The plan shall include the following elements to avoid and eliminate cable suspensions:

   - During cable surface-lay operations, the Permittee shall employ a remotely-operated vehicle (ROV) to track cable-lay operations and provide real-time ROV video feed to the cable ship.

   - If the ROV video feed identifies a suspended segment of cable that can be eliminated or minimized by repositioning or introduction of additional cable slack, the Permittee shall recover the cable and reinstall it using the above methods.

- During post-lay inspection and burial operations, the Permittee shall use a ROV to reposition and/or bury to 1.0 meter any suspended or exposed cable segment, unless precluded from doing so by seafloor substrates.

7. **Notification of Exposed Cable**. During the marine cable installation phase of the project, the Permittee shall submit to (a) the Executive Director, (b) the U.S. Coast Guard (for publication in a Notice to Mariners), and (c) the signatories of the Fishing Agreement (see **Special Condition 22**), weekly notices containing preliminary as-built coordinates of any unburied or exposed sections of cable. The Permittee shall also make radio broadcast announcements on the local fishers' emergency radio frequency that provide the current cable installation location and a toll-free number that can be called for additional information.

8. **As-Built Documentation**. Within 45 days of completing marine cable installation, the Permittee shall submit to the Executive Director and the signatories of the Fishing Agreement (see **Special Condition 22**) the following: (a) as-built plans in writing (Route Position List) and alignment or strip charts depicting bathymetry, seafloor substrates or features, seabed profile, depth of cable burial below the seafloor, and cable tension; (b) electronic as-built plans (in a format to be determined by the Fishing Agreement signatories); and (c) as-built cable plans overlaid on National Oceanic and Atmosphere Administration (NOAA) navigation charts. The cable location shall be obtained by an acoustic navigation system linked to a surface differential global positioning system. The transponder for the acoustical navigational system shall be mounted on the equipment used for cable burial. The cable shall be considered installed the day after the last day of post-lay inspection burial operations.

9. **Changes to Nautical Charts:** WITHIN 30 DAYS OF COMPLETING INWATER CONSTRUCTION, the Permittee shall provide written verification to the Executive Director that the Permittee has submitted project-related information to NOAA to be included on area nautical charts. Information submitted shall include as-built drawings, blueprints, or other engineering documents which depict the completed development; geographic coordinates of the location, using a Differential Geographic Positioning System (DGPS) unit or comparable navigational equipment; and the Permittee's point of contact and telephone number.

10. **Cable Installation Report**. WITHIN 60 DAYS OF CABLE INSTALLATION, the Permittee shall submit to the Executive Director a cable installation report containing, at minimum, the following: (a) a summary of pre-lay, cable-laying, and burial methods used; (b) a summary of slack control equipment and methods applied during cable installation; (c) results from the post-lay burial survey indicating the depth of burial achieved along the cable route; (d) identification of any areas of cable suspension greater than 1.0 meter from the seafloor and a description of why cable could not be re-routed to avoid suspended cable; (e) a map depicting the cable route and indicating areas where the cable could not be buried and where cable suspensions of greater than 1.0 meter from the seafloor are present; (f) an evaluation of the consistency of cable installation with the project description and applicable special conditions of this permit; and (g) a description of any observed fishing activity during the pre-lay and cable installation project phases.

11. **Cable Surveying**. Five years after cable installation, the Permittee shall survey those portions of the cable route from the mean high tide line to where project operations extend into federal waters out to the 1,200-meter depth contour to verify that the cables have remained buried consistent with the as-built cable burial plan. The survey shall be conducted by a third party, approved by the Executive Director, using a ROV equipped with video and still cameras. Within 30 days of survey completion, the Permittee shall submit to the Executive Director a report describing the results of the survey (including still images) and a copy of the video recorded during the cable survey. The video shall include a display that identifies the date, time, position, water depth, and heading of the ROV.

    a. If the Executive Director determines that the initial five year cable installation survey demonstrates no significant change in cable burial status, then the Permittee shall not be required to conduct a follow-up cable survey except after any event that has the potential to affect the cable. "Event" for the purposes of this condition is defined as: an incident or activity (such as a gear snag), the circumstances of which indicate the likelihood that the previously buried cable has become unburied; an act of God, such as a severe earthquake in the vicinity of the cables that could cause deformation of the sea floor or underwater landslides; or any other significant event that could cause excessive ocean floor scouring. The applicant shall notify the Executive Director in writing within 10 days of the reporting or other identification of a qualifying event, and shall schedule a survey at the soonest available opportunity, subject to vessel availability, weather conditions, and related operational conditions affecting the survey. Five years after the initial cable survey, and once every five years thereafter, in the absence of an event that would trigger a cable survey as described above, the applicant shall submit a written statement to the Executive Director confirming that no qualifying event has occurred since the prior cable survey and that no other conditions or changes have occurred that would affect the burial status of the segments of the cable that were documented as buried in the post-lay survey and subsequent cable surveys.

    b. If, instead, the Executive Director determines that the initial five year survey demonstrates that a segment(s) of a cable is no longer buried consistent with the as-built cable burial plan, the Permittee shall, within 30 days of survey completion, submit to the Executive Director for review and written approval a plan to re-bury that cable segment(s). Upon approval of the plan by the Executive Director, the Permittee shall proceed to implement the plan in accordance with the time schedule specified therein. The Permittee shall also be required to conduct additional cable burial surveys within five years of the initial survey and every five years thereafter and to re-bury any unburied cable identified in such surveys consistent with this special condition.

12. **Cable Removal**. WITHIN 90 DAYS OF EITHER TAKING A CABLE OUT OF SERVICE or after the expiration or sooner termination of the Permittee's City of Los Angeles' lease(s) or permit(s), the Permittee shall apply for an amendment to this permit to remove the cable(s) from the territorial waters of the State of California. Upon approval by the Commission of the permit amendment, the applicant shall implement the

cable removal project authorized by the amendment in accordance with the time schedule specified therein.

13. **Hard Bottom Seafloor Study.** WITHIN 60 DAYS OF CABLE INSTALLATION, the Permittee shall submit to the Executive Director for review and approval the results of a Hard Bottom Study that quantifies the extent of hard bottom substrate that is impacted by the installed cable out to the edge of the Outer Continental Shelf. The study will use data collected during cable installation and/or post-lay burial operations to determine areas where the cable is in direct contact with or is suspended above hard bottom substrate. At least 30 days prior to the cable installation work, the Permittee shall submit to the Executive Director for review and approval a proposed methodology for collecting the necessary data and calculating the hard bottom impact. Still-photographs of representative habitat shall be taken in any area of rocky substrate traversed by the cable. The survey shall quantify the extent of exposed rocky substrate, including type and relief along the cable corridor and the height and length of any cable suspended over rocky or soft substrates at heights greater than 1.0 meter from the seafloor.

14. **Hard Bottom Mitigation Fund.** The applicant shall compensate for all project-related impacts to hard bottom habitat through payment of a compensatory hard bottom mitigation fee to be used to remove derelict fishing gear and other marine debris from waters in the Southern California Bight. This work will be carried out pursuant to a Memorandum of Agreement (MOA) by and between the California Coastal Commission and the Regents of the University of California on behalf of the UC Davis Wildlife Health Center's California Lost Fishing Gear Recovery Project.

    The amount of the hard bottom mitigation fee shall be calculated by applying a 3:1 mitigation ratio to the total square footage of impacted hard bottom and then multiplying that acreage by a compensation rate of $14.30 per square foot. The total square footage of hard bottom impacted shall be calculated by multiplying the linear distance of cable laid on or suspended over hard bottom by approximately twice the width of the cable (i.e., 3 inches). The fee shall be paid to the UC Davis Wildlife Center within 30 calendar days of the approval of the Executive Director of the results of the hard bottom study required by **Special Condition 13**. The applicant shall provide evidence of this payment to the Executive Director within the same time frame.

15. **Spill Prevention and Response Plan.** PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the Permittee shall submit a Project-specific Spill Prevention and Response Plan to the Executive Director for review and approval. The Plan shall identify the worst-case spill scenario and demonstrate that adequate spill response equipment will be available. The Plan shall also include preventative measures the Permittee will implement to avoid spills and clearly identify responsibilities of onshore and offshore contractors and the Permittee personnel and shall list and identify the location of oil spill response equipment (including booms), appropriate protocols and response times for deployment. Petroleum-fueled equipment on the main deck of all vessels shall have drip pans or other means of collecting dripped petroleum, which shall be collected and treated with onboard equipment. Response drills shall be in accordance with Federal and State

requirements. Contracts with off-site spill response companies shall be in-place and shall provide additional containment and clean-up resources as needed.

16. **Critical Operations and Curtailment Plan (COCP).** PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the Permittee shall submit a Final COCP to the Executive Director for approval. The COCP shall define the limiting conditions of sea state, wind, or any other weather conditions that exceed the safe operation of offshore vessels, equipment, or divers in the water; that hinder potential spill cleanup; or in any way pose a threat to personnel or the safety of the environment. The COCP shall provide for a minimum ongoing 5-day advance favorable weather forecast during offshore operations. The plan shall also identify the onsite person with authority to determine critical conditions and suspend work operations when needed.

17. **Marine Discharge**. There shall be no marine discharge of sewage or bilge/ballast water from vessels either installing or repairing the cables. A zero-discharge policy shall be adopted for all project vessels.

18. **Stormwater Management Plan:** PRIOR TO ANY PROJECT-RELATED GRADING OR FILLING, the Permittee shall provide for the Executive Director's review and approval a Stormwater Management Plan that describes all structural and non-structural measures the Permittee will implement to avoid and minimize stormwater-related impacts during construction activities. The Plan shall identify measures the Permittee will implement to store and/or contain materials, soils, and debris originating from the project in a manner that precludes their uncontrolled entry and dispersion into nearby waters or habitat areas. Any debris that inadvertently enters coastal waters or waters shall be removed immediately. The Plan will identify Best Management Practices (BMPs) that will be implemented during project activities to prevent erosion and excessive sedimentation and to protect wetlands, coastal waters and upland habitats from stormwater runoff associated with project activities.

19. **El Segundo Blue Butterfly Avoidance and Southern Foredune Habitat Protection Plan.** The Permittee shall implement the El Segundo Blue Butterfly Avoidance Plan that was approved by the Executive Director as part of the approval for Phase 1 of the Cable Hub Project (CDP 9-17-0389/CC-0004-17).

20. **Avoidance of Nesting Birds**. NO MORE THAN 14 DAYS PRIOR TO COMMENCEMENT OF CONSTRUCTION ACTIVITIES, a qualified biologist, approved by the Executive Director, shall conduct a pre-construction survey for the presence of nesting birds. If an active nest of a Federal or State-listed threatened or endangered bird species, bird species of special concern, or any species of raptor is identified during such preconstruction surveys, or is otherwise identified during construction, the Permittee shall notify all appropriate State and Federal agencies within 24 hours, and shall develop an appropriate action plan specific to each incident that shall be consistent with any recommendations of those agencies. The Permittee shall notify the Executive Director in writing within 24 hours and consult with the Executive Director regarding the determinations of the State and Federal agencies. At a minimum, if the active nest is located within 300 feet of construction activities (within 500 feet for

raptors), the Permittee must ensure that nesting birds are not disturbed by construction-related noise and activity, and shall submit a plan to the Executive Director, for review and approval, demonstrating how construction activities will be modified to avoid, minimize and mitigate impacts to nesting birds, including, but not limited to, such measures as buffer zones around nests, limits on duration of construction activities, and limits on the location of construction-related machinery and activity.

21. **Artificial Lighting**. Artificial lighting of work areas during nighttime hours shall be minimized to the maximum extent practicable. If nighttime lighting is necessary, lights shall be low-wattage, non-reflective, shielded, and directed downward such that no light will shine beyond the boundaries of the immediate work area or onto the surrounding beach and dune areas.

22. **Compliance with Fishing Agreement Requirements**. In a manner consistent with the requirements of Sections 1.1(a) through 1.1(k) of the Fishing Agreement (see **Exhibit 9**), the Permittee shall comply with all deadlines for payment, reimbursement, and compensation of all expenses of the Cable Committee and Cable Committee representatives, as approved by the Cable Committee in its Annual Budget.

23. **Cable Repairs**. The Permittee shall provide notice of proposed cable repairs in writing to the Executive Director and in a U.S. Coast Guard Notice to Mariners 15 days prior to any cable repair or maintenance activity, or as soon as possible for emergency repairs.

24. C**able Entanglements and Gear Retrieval**. In the event that fishermen snag a cable and lose or cut gear, or that any other type of entanglement occurs (e.g., involving a whale), the Permittee shall use all feasible measures to retrieve the fishing gear or inanimate object. In the event of an entanglement involving a whale, the Permittee shall notify the NOAA stranding coordinator. The Permittee shall notify the Executive Director within 48 hours of its knowledge of gear loss or other cable entanglement. Retrieval shall occur no later than six weeks after discovering or receiving notice of the incident, unless otherwise authorized by the Executive Director. If full removal of gear is not feasible, the Permittee shall remove as much gear as practicable to minimize harm to wildlife (e.g. fishes, birds, and marine mammals). Within two weeks of completing the recovery operation, the Permittee shall submit to the Executive Director a report describing (a) the nature of and location of the entanglement (with a map) and (b) the retrieval method used for removing the entangled gear or object or the method used for minimizing harm to wildlife if gear retrieval proves infeasible.

25. **Elimination of Future Hazards.** Within 30 days of discovering that a project component approved under this CDP that is located on the beach or further inland has become unburied, the Permittee shall rebury the project components or, if reburial is infeasible, it shall submit an amendment to this CDP to seek approval for a different course of action.

V. FINDINGS AND DECLARATIONS

A. PROJECT DESCRIPTION

TE SubCom proposes the second phase of a multi-phase project to install and operate up to four transpacific submarine fiber optic cables to land at Dockweiler State Beach (Dockweiler) in the City of Los Angeles with the purpose of connecting the United States to various locations along the eastern and western rims of the Pacific Ocean (**Exhibit 1**). In Phase I of the project, TE SubCom constructed a landing site and related infrastructure (including two ocean ground beds, two beach manholes, subsea steel bore pipes, and upland conduit) at Parking Lot 3 of Dockweiler and along public Rights of Way (ROW) to the Equinox Data Center in El Segundo. The proposed project is the second phase of this effort and would result in the installation and operation of a fiber optic cable using the existing landing site at Parking Lot 3, the existing terrestrial infrastructure, and a previously installed subsea steel bore pipe (**Exhibits 2** and **3**).

TE SubCom proposes to install the cable along the alignment shown in **Exhibit** 4. This alignment was selected to avoid known marine features such as the Santa Monica and Redondo Canyons, the Channel Islands National Marine Sanctuary, the Hyperion wastewater treatment plant outfalls, areas of Essential Fish Habitat such as Hidden Reef-Kidney Bank and Catalina Island, and Habitat Areas of Particular Concern such as mapped sea grass, rocky reefs, and kelp beds (**Exhibits 5** and **6**).

For onshore construction staging, TE SubCom will use up to 58 parking spots at Parking Lot 3 (with approximately 370 parking spots remaining open in the immediate lot), which is approximately 4.5% of available parking at Dockweiler State Beach Parking Lots 1, 2, and 3.

Immediately prior to installing the submarine fiber optic cable on the seafloor, TE SubCom will conduct a pre-lay grapnel run to clear debris from the cable corridor. Anything snagged on the grapnel, such as discarded fishing gear, will be retrieved and disposed of onshore. The grapnel blade can penetrate the seafloor (depending on bottom substrate type and composition) up to a depth of 15.7 inches (40 centimeters). The pre-lay grapnel run will extend to a depth of approximately 3,937 feet (1200 meters) but will not occur over areas of hard bottom or in the vicinity of existing buried cables. TE SubCom estimates that the pre-lay grapnel run will last for three to five days.

Following the pre-lay grapnel run, cable installation involves three steps: tie-in of the cable to the landing site, installation of the offshore cable, and post-cable lay inspection and burial. These steps are described below.

Cable tie-in

The initial step in cable installation is the connection at the previously installed landing site at Parking Lot 3 at Dockweiler, which includes two ocean ground beds, two beach manholes, landside landing of a subsea steel bore pipe extending under the beach to an exit point approximately 4,000 feet (1,219 meters) offshore, and upland conduit. A one- or two-day operation, the shore-side connection involves a winch to pull the cable from the cable ship offshore through the bore pipe and anchoring the cable in place behind the beach manhole. A

trench will be excavated in the parking lot for a 97 foot (30 meter) long articulated pipe to connect the cable from the landward end of the bore pipe to the beach manhole. This trench will be repaved and returned to preconstruction contours and elevations per the requirements of the Los Angeles County Right-of-Entry permit.

Offshore cable installation

Following the tie-in at the landing site, the offshore cable installation process will begin with a dive team installing articulated pipe extending seaward 16.4 feet (five meters) from the offshore bore pipe exit point. The dive team then will bury the cable (within this articulated pipe) to a target depth of 3.3 feet (one meter) using jetting and continue the jetting process from the seaward end of the articulated pipe for another approximately 80 to 115 feet (25 to 35 meters). The dive team will operate from two support boats and a dive platform.

Beginning at the end of the articulated pipe, the cable will be payed out by the cable lay vessel and temporarily laid on the seafloor. Where possible, from the end of the bore pipe to 3,937 feet (1,200 meters) water depth, the offshore cable will be buried to a target depth of 3.3 feet (1 meter) below the sea floor. Through areas of soft seafloor, the cable lay vessel will install and bury the cable simultaneously using a sea plow (**Exhibit 7**). As the plow is towed (and controlled by an operator on the cable ship), it creates a 1.5 foot (45 cm) wide furrow into which the cable is placed. As the plow continues to move forward, the weight of the sled and the weight of the sediment which falls back into the furrow closes and compacts the furrow, effectively burying the cable to the target burial depth.

In areas of hard seafloor, areas where substrate types or high slopes preclude burial, and in areas with water depths greater than 3,937 feet (1,200 meters), the cable will be laid directly on the ocean floor. In areas where plow burial is not possible (e.g. at crossings of other in-service cables or where plow burial could not achieve the target depth because of bottom conditions), the cable will be surface-laid by the main cable lay vessel and subsequently buried during the post lay inspection and burial process (described below).

Post lay inspection and burial

Post lay inspection and burial is expected to take place immediately following laying of the cable to ensure that the cable was sufficiently buried by the plow or to bury the cable in areas where using the plow was infeasible or unsuccessful. Post lay burial can include two types of operations. In deeper waters between 98 and 328 feet (30 and 100 meters), TE SubCom will use a remotely-operated vehicle (ROV) deployed and operated from the cable lay vessel to which it is tethered. The ROV will use water jets to fluidize the seafloor sediments beneath the cable, allowing the cable to settle to the desired depth. In shallower depths between 32 and 98 feet (10 and 30 meters), TE SubCom can use diver-assisted jet burial, where fluidizing the seabed with hand jets facilitates cable burial.

Following the cable installation procedure described above, the cable will be connected to the existing terrestrial fiber optic conduit by pulling the cable from one manhole to the next using trailers for transportation of the cable and trucks with mechanical pulling equipment. Terrestrial cable pulling for this project will not involve physical ground disturbance, although traffic control may be required for manholes located in traffic lanes.

TE SubCom estimates that construction of the entire proposed project will take approximately two months in total and will take place in the first months of 2019. Onshore, landing site-related activities such as setup, landing support, and cleanup will take approximately two weeks and will occur during the hours of 7:00 AM to 9:00 PM on Monday through Friday and 8:00 AM to 6:00 PM on Saturdays and Sundays. The shore-end landing and cable pulling activities will last for one to two days and occur 24 hours a day. Offshore activities will also be conducted 24 hours a day, seven days a week, except for the pre-lay grapnel run, which will occur only during daylight hours. The marine cable lay is planned to last for three to four weeks, with the post-lay inspection and burial lasting three to five days.

Once installed, the marine and terrestrial portions of the fiber optic cable do not require routine maintenance. However, damage caused by salt water intrusion into the conduit, anchors or snagged fishing gear could result in a fault that would need to be repaired. If the cable is buried in the vicinity of the fault, a standard grapnel would be used to recover the cable in burial depths up to 20 inches. If the cable is buried deeper, a de-trenching grapnel, divers and an ROV could be used to remove the cable from the burial trench and bring it to the surface. There, the cable would be repaired and then reburied in its original position to the extent practicable. If the cable is not buried, it might be possible to bring the cable to the surface without cutting it.

TE SubCom estimates that the proposed fiber optic cable project would have a life of approximately 25 years. Within 90 days of either taking the cable out of service or the expiration of the City's entitlement, TE SubCom would notify the City, the Commission and other applicable agencies of the status and the proposed disposition of the inactive cable. At the end of the cable's life, TE SubCom proposes to abandon the conduit and manhole system as well as buried portions of the cable in place, both in the water and on land.

B. PRIOR FIBER OPTIC CABLE PROJECTS APPROVED BY THE COMMISSION

The Commission has approved a number of fiber optic cable projects in offshore waters:

- In January 1992, the Commission approved the installation, operation, and maintenance of one cable, HAW-5, and four conduits offshore of Montana de Oro State Park (#4-91-61).
- In September 1994, the Commission approved two additional cables, TPC5-T1 and TPC5-G offshore of Montana de Oro State Park (#4-91-61-A1).
- In April 2000, the Commission approved the installation of two fiber optic cables and five offshore conduits by MFS Globenet and MCI WorldCom at Montana de Oro State Park (E-99-011).
- In May and June 2000, the Commission approved the installation of two fiber optic cables by AT&T off of Montana de Oro State Park (E-98-029).
- In June 2000, the Commission approved the installation of three fiber optic cables and three conduits by PC Landing Corporation and PAC Landing Corporation at Grove Beach (E-98-27).
- In September 2000, the Commission approved the installation of one fiber optic cable and five conduits at Manchester State Beach, and one cable off of Montana de Oro State Park by AT&T Corporation (E-00-004).

- In December 2000, the Commission approved the installation of a festoon fiber optic cable along the California coastline landing onshore at four locations (Morro Bay, Leadbetter Beach in Santa Barbara, Manhattan Beach, and Mission Beach in San Diego) by Global West Network, Inc. (E-00-008).
- In July 2002, the Commission approved the installation of two fiber optic cables landing at the City of Hermosa Beach in Los Angeles County by Tyco Networks (US), Inc. (E-01-029).
- In September 2005, the Commission approved the installation of a research fiber optic cable extending from Moss Landing to the Smooth Ridge in Monterey Bay by the Monterey Bay Aquarium Research Institute (MBARI) (E-05-007).
- In March 2009, the Commission approved the installation of two additional fiber optic cables by AT&T off of Montana de Oro State Park (E-08-021).
- In July 2016, the Commission approved the installation of one fiber optic cable offshore of Hermosa Beach and the construction of two landing sites in Hermosa Beach with a total capacity of four cables by MC Global BP4, Inc. (9-16-0160)
- In February 2018, the Commission approved Phase I of this project, including a fiber optic cable and 4-cable landing site at Dockweiler State Beach (9-17-0389).

Through its federal consistency authority, the Commission has also concurred with numerous other consistency certifications, consistency determinations, and negative determinations for submarine fiber optic cable-related projects in other areas of the state and in federal waters by, for example, the Navy, Coast Guard, and the Federal Aviation Administration.

C. OTHER AGENCY APPROVALS AND TRIBAL CONSULTATIONS

City of Los Angeles

The City of Los Angeles (City) is the lead agency under the California Environmental Quality Act (CEQA) for the proposed project. On November 3, 2017, the City certified the final EIR for Phase I of the project, and issued an addendum to the final EIR for the proposed project in June 2018. The June 2018 Addendum to the Final EIR, prepared by the City of Los Angeles for the proposed cable and related activities that are the subjects of this permit, did not identify any additional mitigation measures. In October 2018, the City issued a local Coastal Development Permit (local CDP) for the proposed project that has an appeal period that expires on November 1, 2018. Ownership and management of the tidelands offshore of the City was granted to the City by the State Lands Commission. On May 31, 2018, the City granted an easement to the applicant for the proposed project.

The onshore portions of the proposed project are located within the City of Los Angeles dual permit jurisdiction area. The Coastal Act requires that any development located in this jurisdiction which receives a local CDP also obtain a second (or "dual") CDP from the Commission. The Commission's standard of review for proposed development in the dual permit jurisdiction area is the Chapter 3 policies of the Coastal Act. The offshore portions of this project are within the Commission's original jurisdiction, where Chapter 3 is also the standard of review. Thus, the Commission will consider both the onshore and offshore portions of the project within the Coastal Zone as part of a CDP. In addition to issuing a local CDP, the City is the landowner for one upland parcel and the submerged lands offshore of Dockweiler State Beach. Ownership and management of the tidelands offshore of the City was granted to the City by the State Lands

Commission. Easements and an Excavation Permit on these lands are currently being considered by the City.

County of Los Angeles
The applicant applied to the County for a Right-of-Entry Permit for work at Dockweiler State Beach, which is operated by Los Angeles County Beaches and Harbors. This approval is pending.

California Department of State Parks and Recreation
The applicant applied for a Right of Entry Permit and an Easement from the California Department of State Parks and Recreation for work at Dockweiler State Beach. The Right of Entry Permit was approved February 28, 2018, and the Easement negotiation is complete and is pending final signatures.

Regional Water Quality Control Board – Los Angeles Region (RWQCB)
The RWQCB regulates waste discharges into receiving waters in the project area. On September 6, 2018, the Applicant submitted an application for a Section 401 water quality certification. The RWQCB is expected to issue a final water quality certification in late 2018 and issued a National Pollution Discharge Elimination System (NPDES) general construction permit on February 2, 2018.

U.S. Army Corps of Engineers (Corps)
The Corps has regulatory authority over the proposed project under Section 10 of the Rivers and Harbors Act of 1899 (*33 U.S.C. 1344*) and Section 404 of the Clean Water Act (*33 U.S.C. 1344*). The Applicant requested federal authorization from the Corps on June 5, 2018. The Corps is processing the request under Nationwide Permit #12 (Utility Line Activities) and a final decision is expected in late 2018.

Tribal Outreach and Consultations
During the process of reviewing TE SubCom's CDP amendment application for this project and developing this recommendation, Commission staff reached out to representatives from Native American Tribes understood to have current and/or historic connections to the project area. These Tribes include the Fernandeno Tataviam Band of Mission Indians and the Gabrieleno/Tongva San Gabriel Band of Mission Indians. Contact information for these Tribal Representatives was gathered from the Native American Heritage Commission's Native American Contact List dated July 23, 2018. At the time of publication of this staff report and recommendation, no questions or concerns had been brought to the attention of Commission staff by representatives of these Tribes. Any concerns raised subsequent to the publication of this report will be brought to the attention of the Commission through the development of an addendum to this staff report and recommendation.

D. DREDGING AND PLACEMENT OF FILL IN COASTAL WATERS

Coastal Act Section 30233(a) states:

The diking, filling, or dredging of open coastal waters, wetlands, estuaries, and lakes shall be permitted in accordance with other applicable provisions of this division, where there is no feasible less environmentally damaging alternative, and where feasible mitigation measures have been provided to minimize adverse environmental effects, and shall be limited to the following:

(1) New or expanded port, energy, and coastal-dependent industrial facilities, including commercial fishing facilities.

(2) Maintaining existing, or restoring previously dredged depths on existing navigational channels, turning basins, vessel berthing and mooring areas, and boat launching ramps.

(3) In open coastal waters, other than wetlands, including streams, estuaries, and lakes, new or expanded boating facilities and the placement of structural pilings for public recreational piers that provide public access and recreational opportunities.

(4) Incidental public service purposes, including but not limited to, burying cables and pipes or inspection of piers and maintenance of existing intake and outfall lines.

(5) Mineral extraction, including sand for restoring beaches, except in environmentally sensitive areas.

(6) Restoration purposes.

(7) Nature study, aquaculture, or similar resource dependent activities.

The proposed project includes the burial or placement of a marine cable on the seafloor. This constitutes fill of open coastal waters that is subject to Coastal Act Section 30233(a), which imposes three tests on a project that includes dredging and/or fill of open coastal waters. The first test requires that the proposed activity must fit into one of the seven categories of uses enumerated above. The second test requires that there be no feasible less environmentally damaging alternative. The third test requires that feasible mitigation measures be provided to minimize the project's adverse environmental effects.

Allowable Use Test

One of the seven allowable uses of fill under 30233(a) is a coastal-dependent industrial facility. The proposed TE SubCom transoceanic fiber optic cable, the purpose of which is to provide direct ocean connectivity between the United States and Chile, is "coastal-dependent" since it requires "a site on, or adjacent to, the sea to be able to function at all" as defined in Coastal Act Section 30101. The Commission thus finds that the proposed cable meets the allowable use test of Coastal Act Section 30233(a).

Alternatives

The Commission must further find that there is no feasible less environmentally damaging alternative to the proposed project, especially with respect to the impacts of submarine cables

and cable installation on marine organisms and hard bottom habitat. In order to find that there is no less environmentally damaging alternative to the proposed project, it is necessary to assess two types of alternatives: (a) alternatives to the proposed landing site and (b) alternative offshore routes.

Alternatives to the Proposed Landing Sites

The Project EIR examined alternative landing sites within the City of Los Angeles, including at Dockweiler State Beach, Hermosa Beach, and Manhattan Beach. Results of this analysis are summarized in the staff report for A-5-DRL-17-0071/ CDP 9-17-0389/CC-0004-17. As discussed in that staff report, the Commission found that there was no less environmentally damaging alternative to the proposed landing site at Dockweiler State Beach, and the CDP approved its construction. The proposed fiber optic cable described in this staff report would land at the previously approved (and already constructed) landing site. An alternative landing site would involve new construction or use of a different but already constructed landing site. Constructing a new landing site would result in additional terrestrial and marine habitat and species-specific, water quality, or other impacts from construction activities. Thus, use of a new alternative landing site would be considered more environmentally damaging than the proposed use of the existing landing site at Dockweiler. Use of a different existing landing site would involve the same types of construction activities and impacts associated with the proposed project, and therefore would also not be considered less environmentally damaging. For these reasons, the Commission finds that there is no feasible less environmentally damaging alternative landing location to the proposed project.

Alternative Offshore Routes

TE SubCom sited the proposed cable route to minimize or avoid sensitive marine habitats and other known marine features. Areas that were identified by TE SubCom for avoidance or impact minimization included: rocky substrates, kelp beds, marine sanctuaries, conservation areas, fishing areas, explosives dumping areas, contaminated sediments, commercial outfalls and anchorages, submarine canyons and unstable substrates, as well as known significant marine cultural resources. **Exhibits 5** and **6** show the proposed cable route and several habitat areas that were avoided. In addition, TE SubCom worked with local fishing organizations to choose routes with minimal potential to affect fisheries.

Specifically, the following areas were avoided:

- Areas designated as Essential Fish Habitat
- Habitat Areas of Particular Concern
- Channel Islands National Marine Sanctuary
- Chemical waste dumping areas and spoil grounds
- El Segundo Offshore Marine Terminal Safety Zone
- Contaminated sediments associated with the Palos Verdes Shelf and the Hyperion sewerage outfall
- Commercial vessel anchoring and pilot boarding areas

Although the proposed project will not avoid all hard bottom substrate, impacts to communities that surround these areas will be minimized. TE SubCom conducted a geophysical survey of seabed features that concluded that the majority of hard bottom habitat within the cable corridor consisted of low relief rocks or sub-cropping rocks (defined as rock covered by a thin layer of loose sediment less than 5 feet thick and including areas where rocks or boulders are intermittently exposed at the seabed surface). No high-relief rocky areas were identified.

These results are fairly typical of the surrounding marine environment of the Southern California Bight. Although the EIR did not specifically analyze alternate marine cable routes, it is not likely that, due to the prevalence of scattered low-relief rocky outcrops in the relatively narrow corridors available, an alternate route could be found that would be able to completely avoid or even significantly decrease impacts to hard bottom areas. Additionally, as described above, the proposed route was designed specifically to avoid several areas designated for protection or conservation.

Accordingly, for the reasons described above, the Commission finds that the proposed project is the least environmentally damaging feasible alternative and therefore meets the second test of Coastal Act Section 30233(a).

Mitigation

The final requirement of Coastal Act Section 30233(a) is that dredging and filling of coastal waters may be permitted if feasible mitigation measures have been provided to minimize any adverse environmental effects. In Sections E and F of this report, the Commission has identified feasible mitigation measures that will minimize the adverse environmental effects of the proposed cable. These mitigation measures include: requiring TE SubCom to bury the cable to a depth of 1 meter; avoiding and eliminating cable suspensions; providing notification to fisherman of the location of the cable and any exposed sections (to reduce the potential for snags); submitting plans to minimize impacts from anchoring, spills of hazardous material and stormwater runoff; and assessing and mitigating for impacts to hard bottom habitat caused by the proposed project.

With the imposition of the afore-mentioned conditions of this permit, the Commission finds that the third test of Coastal Act Section 30233(a) has been met and the proposed project is consistent with Section 30233(a) of the Coastal Act.

E. MARINE RESOURCES AND WATER QUALITY

Section 30230 of the Coastal Act states:

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

Section 30231 of the Coastal Act states:

> *The biological productivity and 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 30232 of the Coastal Act states:

> *Protection against the spillage of crude oil, gas, petroleum products, or hazardous substances shall be provided in relation to any development or transportation of such materials. Effective containment and cleanup facilities and procedures shall be provided for accidental spills that do occur.*

The offshore portion of the project extends from the shoreline at Dockweiler Beach State Park; through the Santa Monica, Santa Cruz, and Tanner Basins; and out to the edge of the Outer Continental Shelf (**Exhibit 4**). This area is known for its biological diversity and contains several valuable marine habitats characterized by both soft and hard substrate, and supports several special-status species. Although not located within a State or federal Marine Protected Area, the project site is in the vicinity of the Channel Island National Marine Sanctuary, Point Vicente and Point Dume State Marine Conservation Area (SMCA), several SMCAs on Catalina Island, and the Santa Barbara Island State Marine Reserve (SMR) (**Exhibit 5**). Santa Monica Bay is also designated as Essential Fish Habitat (EFH) and serves as an important commercial fishery for a variety of fish and invertebrate species. The proposed project also crosses a portion of the California Department of Fish and Wildlife (CDFW)-designated Cowcod Conservation Area (**Exhibit 5**).

The proposed project involves the installation of fiber optic cable on the seafloor from the shoreline out to the edge of the OCS and has the potential to result in impacts to marine mammals and sea turtles, fish, hard bottom habitat, soft bottom habitat, and marine water quality. Each of these potential impacts is discussed in detail below.

1. Marine Mammal and Sea Turtle Impacts

There are three potential types of impacts to whales and other marine wildlife due to the proposed project: entanglement with the project cable, entanglement with "ghost nets" or abandoned fishing gear, and collision with project vessels.

Potential Whale Entanglement with the Project Cable

Marine mammals that live and migrate through coastal waters in the project area may become entangled in unburied or insufficiently buried cable or in cable suspensions. Whale species commonly observed in the area through which the cable would pass include gray whales (*Eschrichtius robustus*), humpback whales (*Megaptera novaeangliae*), blue whales (*Balaenoptera musculus*), fin whales (*B. physalus*), minke whales (*B. acutorostrata*), sperm

whales (*Physeter microcephalus*), and killer whales (*Orincus orca*), several of which are listed as endangered under the federal Endangered Species Act. In addition, several types of dolphins and porpoises, including bottlenose dolphins (*Tursiops truncates*), Pacific white-sided dolphins (*Lagenorhynchus obliquidens*) and Risso's dolphins (*Gampus griseus*) are also common in the area. Other marine mammals such as pinnipeds (*e.g.*, sea lions, harbor seals), fissipeds (*e.g.*, sea otters) and sea turtles have also been observed.

Of the marine mammal species that frequent the area, two species—the California gray whale (*Eschrichtius robustus*) and sperm whale (*Physeter macrocephalus*)—have the potential to become entangled due to, respectively, bottom-feeding behavior or deep-diving behavior. Approximately 20,000 gray whales migrate through California waters each year between Alaskan waters and Baja California. Due to their abundance off the Pacific coast, their tendency to hug the shoreline during migration and their bottom feeding patterns, gray whales may face the highest risk of entanglement with insufficiently buried or exposed cables. The majority of southbound (November to January) gray whales migrate within 2 nautical miles (nm) from shore, while the northbound migration occurs much closer to shore, with mother and calves reported within kelp beds sometimes only yards from the shoreline. These distances vary seasonally over time, particularly because of the deterring presence of boat traffic. The number of migrating gray whales recorded near San Clemente Island suggests that a significant proportion of the total population crosses the project area during the southbound and northbound migrations (E&E 2001).

Gray whales usually feed nearshore in soft-bottom sediments and typically feed opportunistically during migration (MMS 1989). Gray whales forage on the seafloor by diving, rolling onto one side on the seafloor, and sucking up sediments that the whale filters with its baleen (E&E 2001). One study also found sea floor gouges approximately 15 centimeters deep created by migrating gray whales offshore of Northern California, and concluded that migrating gray whales interact with the muddy part of the central marine shelf (at 60-120 meter water depths), although this behavior was determined to be secondary to their migratory objective (Cacchione et al. 1987). Gray whales can also dive in waters from 150 to 200 meters deep, but usually prefer shallower water.

Sperm whales are much less abundant off the coast of California than gray whales, numbering only approximately 1,200 individuals. Sperm whales typically inhabit deep open waters, and are the deepest and longest diving of all cetaceans. Sperm whales regularly dive to water depths between 200 and 1,000 meters (E&E 2001). Sperm whales are the only species confirmed to have been entangled in a submarine cable, and their deep diving puts them at risk of entanglement with insufficiently buried, exposed, or suspended cables. However, based on aerial and boat surveys off California, sperm whales are usually found north of the project area (Fahy 2002). In addition, unlike gray whales, sperm whales do not bottom feed; instead, they feed solely on squid and octopi found in the water column (E&E 2001). The National Marine Fisheries Service (NMFS) has therefore determined the risk of sperm whale entanglement from bottom-laid cables to be very low (Fahy 2002).

Several older studies have documented occurrences of whale entanglements with submarine cables. A study by Heezen (1957) documents fourteen examples of sperm whale entanglements

with submarine telegraph cables worldwide between 1930 and 1955.[1] Heezen postulated that the sperm whales became entangled "…while swimming along in search of food, with their lower jaw skimming through the upper layer of sediment. It may also be that the whales attacked the cable mistaking it for prey." The report also documented possible entanglements of baleen (*e.g.,* gray) whales in shallower water, and one humpback whale reported entangled in Alaskan waters.

In the October 2008 *IEEE Journal of Oceanic Engineering*, Wood and Carter published the results of a new evaluation of two substantial fault databases to determine the occurrence of whale entanglements with telecommunication cables since the 1955-1966 time period. Wood and Carter discuss the 14 cable faults occurring between 1877 and 1955 attributed to whales in Heezen's 1957 study, and they cite a 1969 study of the Alaska-mainland USA telegraph system which reported two whale entanglements prior to 1966. Wood and Carter state that both of the aforementioned studies "continue to be cited as examples of the potential threat posed to whales by submarine cables although there is a suggestion (unsupported by definitive data) that entanglements may not have occurred since 1955-1966." Wood and Carter's 2008 report concluded that:

> *Before 1955-1966, up to 16 faults in submarine telegraphic cables were reported and attributed to entanglements with mainly sperm whales. Circumstantial evidence suggests that capture was related to excessive slack in repaired cables laid in areas of rough and/or steep topography. Since 1955-1966, substantial fault data sets contain no reference to whale entanglements. This cessation and its continuation to the present day is largely related to marked changes in submarine cable design, deployment, and maintenance as well as advances in marine surveying. The period from 1955 to 1966 marked the phased replacement of submarine telegraphic cables by coaxial types, which were superseded by fiber-optic systems in the 1980s. Cables of the post telegraphic era have different torsional and flexile characteristics, are laid with just enough slack to follow the seabed topography, and are commonly buried below the seabed on the continental shelf and upper continental slope – the main sounding habitat of sperm whales. Furthermore, precision marine surveys allow for accurate cable placement to avoid areas where potential ensnaring suspensions may result.*

Despite these findings, the potential for whale entanglement with submarine cables still exists. Given the diving depth ranges of both gray whales and sperm whales, and the bottom-foraging behavior of gray whales, the presence of suspensions in the submarine cable increases the risk of whale entanglement. In addition, the potential for entanglement is present during the initial installation of the cable as cable is payed out from the cable-laying vessel on the surface and traverses the entire length of the water column before it is buried in the seafloor sediments. Due to the protection of these marine mammals under the Endangered Species Act and the Marine Mammal Protection Act, entanglement or injury impacts due to insufficiently buried or exposed cables or from cable-laying would be significant. TE SubCom estimates that approximately 6 percent of the total cable distance to the edge of the continental shelf (approximately 9.4 miles) crosses hard substrate where the cable will not be buried and will instead be placed on the ocean floor, thus creating the potential for cable suspensions. TE SubCom also estimates that

[1]At the time of the study, there were nearly a half-million miles of cable laid on the sea floor in various parts of the world (Heezen 1957). That figure has more than doubled in the years since (Rampal 1998).

approximately 6 percent of the total cable distance to the edge of the outer continental shelf (approximately 9.5 miles) crosses areas where other physical factors (such as steeply sloping substrate) will preclude use of the plow to bury the cable.

The Project EIR analyzed the risk to whales from cable entanglement and concluded that the impact was not significant. Specifically, the EIR listed several factors that contribute to this conclusion:

- The majority of the cable in the nearshore environmental where whales transit the coast will be buried.
- In hard bottom areas where the cable cannot be buried, the cable would be surface-laid with only enough slack to allow the cable to conform to the seabed.
- Post-lay burial and inspection would be conducted to attempt to re-bury any segments of exposed cable.

To ensure that the proposed project minimizes the potential for whale and other marine wildlife interaction with the project cables, and to document any future entanglements, the Commission requires that several conditions be met by the applicant. **Special Condition 3** requires TE SubCom to implement the mitigation measures related to marine resources included in the final EIR (**Exhibit 8**). Final EIR mitigation Measures MBIO-1, 2 and 3 require TE SubCom to provide two observers for marine mammal and sea turtle monitoring, submit a cable burial verification report to the City immediately post-project (and five years after cable installation) and after any future event that might result in unburial of the cable, and retrieve any reported snagged fishing gear. **Special Conditions 10** and **11** require such reports to be submitted to the Commission as well; see below for discussion of **Special Condition 24** related to retrieval of entangled fishing gear. To further reduce the potential for entanglement during cable laying, **Special Condition 4** requires TE SubCom to prepare and implement a Marine Wildlife Monitoring and Contingency Plan. The plan will incorporate the marine protection elements of EIR Mitigation Measures MBIO-1 but also will include provisions for a marine mammal avoidance zone, reporting requirements, reduced vessel speed during cable-laying activities and minimization of propeller noise. The observers will send daily sightings reports to the Executive Director and other agencies and will have the authority to stop any activity that could result in harm to a marine mammal or sea turtle.

To minimize the potential for entanglement once the cable is installed, **Special Condition 5** requires TE SubCom to bury the cable to a depth of 1.0-meter except where use of the plow is precluded by seafloor substrates or other physical conditions such as steeply-sloping bottom. Where a 1.0-meter burial depth cannot be achieved, TE SubCom is required to bury the cable to the maximum depth feasible. In order to ensure that cable installation is consistent with the project description, **Special Condition 8** requires TE SubCom to submit to the Executive Director and the signatories to the Fishing Agreement (required by **Special Condition 22**) the as-built plans, including burial depth, of the project cable.

To minimize the occurrence of suspended cable, **Special Condition 6** requires TE SubCom to develop and implement a Cable Slack Management Plan. This Plan will describe the steps TE SubCom will take during cable installation to identify and eliminate, where feasible, segments of cable that are suspended above the seafloor.

In addition, **Special Condition 12** requires TE SubCom to apply for an amendment to this permit to remove the cable within 90 days of either taking the cable out of service or after the expiration or sooner termination of TE SubCom's easement in state waters off of Dockweiler State Beach.

In order to ensure compliance with these and other conditions, **Special Condition 1** requires TE SubCom to post a performance bond in the amount of $500,000 to cover its cable operations in State and federal waters out to the 1,200-meter water depth.

Entanglement with Ghost Nets and Abandoned Fishing Gear

Fishermen may snag gear or nets on cables. When this occurs, fishermen generally abandon their gear or nets (creating "ghost nets"), thereby creating a risk to marine mammals and other species. Pursuant to a Fishing Agreement executed by TE SubCom with various fishermen and their representatives (see **Exhibit 9**), when it appears that a fisherman has snagged a cable, he or she is expected to cut their gear instead of risking damage to the cable. If the fisherman was operating consistent with established procedures, TE SubCom will reimburse the fisherman for the lost gear. This abandoned gear, and particularly the nets, can become a hazard to marine life, potentially entangling marine mammals and fish, preventing them from feeding and causing them to drown.

To address these concerns, the proposed project was designed to reduce impacts to commercial and recreational fishing. The practice of burying the cable to an optimal depth of 1 meter will ensure that the vast majority of the cable is buried beneath the surface and does not create a potential hazard for fisherman. To further minimize the likelihood that fisherman come into contact with the cable, **Special Condition 8** requires TE SubCom to provide the signatories to the Fishing Agreement with as-built plans of the installed cable, including information related to burial depth and cable suspensions. This information can be used by fisherman to avoid potentially problematic areas where the cable is exposed. In addition, **Special Condition 9** requires TE SubCom to provide NOAA with the information necessary to update its nautical charts to reflect the position and burial status of the installed cable.

Although the entanglement of fishing with the proposed cable is not expected to occur, to provide additional assurance that any gear that does become entangled would not pose a threat to marine wildlife, **Special Condition 24** requires TE SubCom to use all feasible measures to retrieve any fishing gear or object that becomes entangled in a cable no later than six weeks after discovering or receiving notice of the incident. If full removal is not feasible, TE SubCom shall remove as much gear as practicable to minimize harm to wildlife. Within two weeks of completing a recovery operation, TE SubCom is required to submit to the Executive Director a report describing the nature and location of the entanglement and the retrieval method used.

Marine Mammal or Sea Turtle Collision with Project Vessels

The proposed project could also result in impacts to marine mammals and sea turtles from collisions with or harassment from project vessels during marine operations associated with the proposed project. As described above, several species of marine mammals are known to inhabit the waters in the vicinity of the proposed project. Ship strikes of whales present the most serious concern. In 2007, four blue whales were found dead in the vicinity of the Santa Barbara Channel and Los Angeles-Long Beach Harbors with direct or indirect evidence of having been struck by a

ship. However, the slow speeds necessary for project vessels during cable installation activities are likely to limit the potential for collisions with marine mammals or sea turtles. The EIR for the MC Global fiber optic cable project, a similar project with a cable landing just south of the project site (in Hermosa Beach) states that:

> *Ship strikes during cable installation is highly unlikely since the speed of the ship during the cable laying activities is slower (approximately 0.5 to 1.5 knots while plowing) than migrating whales or fast-swimming sea lions. According to the Large Whale Ship Strike Database, the majority of strikes were by vessels traveling between 13 and 15 knots, there are no reported collisions below 2 knots (Jenson and Silber, 2003). Nevertheless, there remains a small risk of marine mammals and sea turtles encountering Project vessels and, therefore, there is a potential for collisions. Any collision or potential for harm to marine mammals and sea turtles would be a significant impact.*

In addition, the EIR for the proposed project states that impacts from noise and vessel movement have the potential to result in behavioral changes or disruptions in animal movements. These impacts, however, would be temporary and geographically isolated and would not cause disruptions substantially different than normal ship traffic through the area.

The EIR also includes MBIO-1, a mitigation measure designed to reduce the impact on marine mammals and sea turtles to a less than significant level. This measure requires awareness training, monitoring by two qualified observers, development of project-specific monitoring procedures and control measures and reporting any collisions to the resource agencies. **Special Condition 3** requires TE SubCom to implement this mitigation measure. However, although this measure is likely to decrease the risk of a collision, additional measures are necessary for the proposed project to be found consistent with the requirement to protect marine species under Section 30230 of the Coastal Act. For example, for previous cable-laying projects of similar scope, the Commission has generally required a minimum of two NMFS-qualified marine mammal observers on duty during all cable installation activities to ensure adequate coverage of the project area. In addition, these conditions do not identify an appropriate avoidance zone or require project vessels to reduce speeds to avoid collisions.

Therefore, consistent with previous fiber optic submarine cable project approvals, the Commission has included an additional mitigation measure to ensure that impacts to marine mammals and sea turtles are minimized and healthy populations of marine organisms are maintained. **Special Condition 4** requires TE SubCom to prepare and implement a Marine Wildlife Monitoring and Contingency Plan. This plan will incorporate elements of the EIR mitigation measures described above but also will include provisions for a minimum of two NMFS-qualified marine wildlife observers on duty during all cable installation activities, the establishment of a 500-1640 foot avoidance zone, limits on project vessel speed, and reporting requirements. With these conditions in place, the potential for adverse impacts to marine mammals and sea turtles from collisions with project vessels or harassment from noise associated with project activities will be minimized.

2. Fish

The distribution of fish species in Santa Monica Bay, like the rest of the California Coast, is influenced by depth, substrate type, temperature, and ocean currents. According to the MC Global EIR, nearshore rocky areas in the Southern California Bight (SCB) vary widely with respect to the observed assemblages of macroinvertebrates and fishes. Many of the most abundant species in the SCB are schooling fish found in the water column such as senorita (*Oxyjulis californica*) and blacksmith (*Chromis punctipinnis*) or demersal (i.e., fishes living on or near the sea floor) species such as kelp bass (*Paralabrax clathratus*) and California sheephead (*Semicossyphus pulcher*) often associated with giant kelp communities. In soft substrates, the most widespread benthic habitat in the SCB, fish assemblages are characterized by flatfishes such as sandabs (*Citharichthys* spp), California halibut (*Paralichthys californicus*) and other demersal species as well as several species of pelagic fishes, such as northern anchovy (*Engraulis mordax*), topsmelt and California grunion (*Leuresthes tenuis*). Grunion have been observed to spawn on the sandy beaches at Dockweiler and, consequently, were the focus of a special condition incorporated as part of the CDP for Phase I of the project because it included installation of beach-side infrastructure; this project does not include activities within the areas of the beach where grunion spawning would occur. Other special status species may also be present including the scalloped hammerhead (*Sphyrna lewini*) and steelhead (*Oncorhynchus mykiss*). In addition, the proposed cable route passes through areas of Santa Monica Bay designated as Essential Fish Habitat for three Fishery Management Plans (Pacific Coast Groundfish, Coastal Pelagic Species, and Highly Migratory Species), and through an area designated as a Cowcod (*Sebastes levis*) Conservation Area.

The Cowcod Conservation Area (CCA) is a 4,200-square-nautical miles (~3.6 million acres) area (see **Exhibit 5**) established in 2001 to rebuild heavily overfished cowcod populations to sustainable levels. Cowcod is a large and resilient groundfish species that favors a range of habitats including benthic soft-bottom environments and rocky deep shelf regions as deep as 1,600 feet. The geographic range for the cowcod extends as far north as Oregon, as far south as Baja Mexico, and up to approximately 500 miles offshore (NOAA 2009; Pacific Fishery Management Council [PFMC] 2016). Thus, the area of cowcod habitat is not limited to the CCA.

In contrast to benthic species that are immobile or severely restricted in their mobility, fish species are not likely to experience direct impacts from project activities. Cable installation activities will result in a temporary increase in turbidity that will likely cause mobile species such as fish and marine mammals to avoid the project area. However, sediment is likely to settle relatively quickly (i.e., within a matter of hours), and the relatively narrow project footprint will not substantially limit available habitat. Thus, these impacts are not expected to be significant. During cable-lay operations, the cable installation vessel will move slowly, allowing any mobile species to avoid the descending cable. **Special Condition 16** requires TE SubCom to submit a Critical Operations and Curtailment Plan which describes the sea and weather conditions under which project activities can safely proceed, thus minimizing sediment dispersal and the potential for release of hazardous material by limiting construction activities to avoid periods of storms or heavy seas.

Another potential concern for fish species are impacts associated with noise from construction activities. Criteria developed by several federal and state agencies, including the NMFS, U.S.

Fish and Wildlife Service (USFWS) and CDFW set threshold-type criteria for exposure to impulse sounds at 206 dB. [2] Lower levels may cause fish to alter their behavior patterns by avoiding the affected area but are not expected to cause injury. Project-related underwater noise is expected to originate from project vessels, wherein underwater noise is generally correlated with vessel speed. One study measured sound levels from a tug travelling at 11 knots at 160dB at a distance of 2 meters. Due to underwater attenuation, noise levels would be reduced to less than 120 dB at a distance of 200 meters. Background levels of noise in the near-shore environment are often close to 120 dB due to both anthropogenic and natural sources of noise. Based on this information, noise levels are not anticipated to reach levels that would cause injury in fish. As an additional precaution, the Marine Wildlife Monitoring and Contingency Plan described in **Special Condition 4** requires TE SubCom to limit the speed of project cable-laying vessels to two nautical miles per hour (knots), further reducing noise levels associated with project activities.

The proposed project also has the potential to result in disturbance to Essential Fish Habitat. Specifically, in areas of soft substrate, the pre-lay grapnel run and cable installation activities including use of the sea plow or ROV to bury the cable could result in short term disturbance associated with the displacement of sediments and minor, local turbidity effects from suspended sediments. In addition, resuspension of contaminated sediments could occur, although the areas of highest concentration will be avoided. These potential impacts are likely to be short-lived, with full recovery expected within a year. In hard bottom areas, horizontal movement and strumming of the cable has the potential to harm organisms in the immediate vicinity of the cable. However, according to the Project EIR, "methods and equipment used to install undersea cables have improved over the years to greatly reduce horizontal movement during installation, and for this Project an impact width of only 0.25 feet (3 inches; 7.6 centimeters) is assumed." Thus, impacts to hard substrate in Essential Fish Habitat would be minor and localized. Further, although recovery in hard bottom areas is expected to be longer than in soft-bottom areas, the small width of the disturbance corridor would limit impacts to individuals. Therefore, the proposed project is not likely to lead to any measurable reduction in the capacity of these environments to support fishes identified in Fishery Management Plans for the Pacific Coast.

As described above, a portion of the proposed cable will be laid within the Cowcod Conservation Area (CCA). The area of project-related bottom habitat impact within the CCA would be relatively minimal compared to the overall size of the CCA—approximately 5.6 acres of soft substrate will be disturbed by use of the sea plow. This impact would be temporary (as described in further detail below in the discussion of soft substrate impacts) and will not adversely affect the cowcod population itself or the ability of CDFW to effectively manage the CCA. Correspondence with CDFW indicated its posit that the goals and fishing restrictions of the CCA "are relative to fishing activities not habitat impacts relative to proposed projects" (CDFW personal communication 2018) and did not include opposition or a need for additional measures to be applied to the proposed cable.

[2] Underwater standard ((dB re 1µPa @ 1m).

3. Benthic Species: Hard Substrate Impacts

Cable-laying operations could adversely impact hard substrate habitat and associated biota. Hard substrate is exposed rocky seafloor area that provides habitat for a diverse group of plants and animals. Common epifaunal invertebrates occurring in the hard substrate areas vary based on depth and substrate relief height. Along much of the California coast, there is a strong positive association between the types of communities and the depths and substrate types in which they occur. Hard substrates, including rocky bottoms, rock outcrops, and rock crevices, provide habitat and shelter for numerous sessile organisms, demersal fishes, and mobile invertebrates such as lobsters and crabs. In shallow waters (less than 200 meters or 656 feet), algae, including giant kelp, eelgrass and anemones such as *Corynactis californica* are present. At these depths (and deeper), depending on favorable high relief substrate, current speeds and sedimentation rates, branching hard and soft corals have also been reported. In deeper waters (greater than 600 meters or 1,968 feet), hydroids provide substrate to anemones, amphipods, polychaetes, and ectoprocts. Gorgonians, large sponges, shrimp, crinoids, ophiuroids, brittle stars, and seastars are also present.

Hard substrate (especially high-relief substrate) and its associated biota are relatively rare in the SCB, and therefore any effect to them is potentially significant. Impacts to high-relief substrate in particular are significant because: (a) deepwater reefs are relatively rare along the central and southern California coast; (b) they support a diverse assemblage of epifaunal invertebrates; (c) they attract fish as a nursery ground, food source, and as shelter; and (d) epibiota residing on rocky substrates are sensitive to mechanical disturbance and increased sediment loads.

Adverse impacts (*e.g.*, crushing, scraping, and/or displacement) to hard substrate can occur during cable installation and subsequent movement of the cable on the seafloor due to currents and wave action. In their study on the environmental impacts of a one- to three-inch submarine cable offshore of Half Moon Bay, Kogan et al. (2006) found incisions, scrapes, and vertical grooves from 2.5-inches to 17.5-inches wide in rocky substrate along the cable route. Hard substrate was altered or damaged by these scrapes and grooves and typical epifaunal organisms were absent. Placement of the project cable on rocky substrates would disrupt associated bottom communities, likely crushing and/or dislodging small, sessile or relatively sedentary invertebrates along a narrow strip. Sessile species may experience repeated, localized disturbances throughout the life of the cable if it moves due to current action.

Potentially significant impacts to hard substrate and biota could occur if rock features are crossed with the grapnel or if anchors are placed directly on hard bottom. The grapnel will be dragged along the proposed alignment in soft sediment areas and is expected to disturb a three foot-wide area along the centerline of the cable lay corridor. However, to avoid impacts to hard bottom associated with the pre-lay grapnel run, TE SubCom will not deploy the grapnel in areas of rocky seafloor substrate. Impacts to hard bottom habitat from anchors would be temporary, and studies have shown that hard bottom ecosystems are relatively slow to recover from direct impacts (e.g., as compared to soft bottom ecosystems). According to the project description and CDP application materials, the main cable laying vessel is equipped with a dynamic positioning system that does not use anchors. This includes during storms, high waves and other reasonably foreseeable circumstances. Diver-support vessels, which would be used to support cable installation at the offshore bore pipe exit point, may use an 18” anchor similar to what is used in

a fishing boat in rough conditions. The bore pipe is located in an area of soft sediment, however, so no hard bottom impacts will occur from any such anchoring. **Special Condition 13** (described in more detail below) requires that TE Subcom submit a post-project study that documents project-related impacts to hard bottom areas, including from any unanticipated anchoring. Thus, with inclusion of this measure, impacts to hard bottom habitat and the associated benthic species from anchoring of project vessels will be minor.

However, TE SubCom will lay cable over areas of hard substrate. The Commission calculates the hard substrate impact area by multiplying the length of cable that will be laid over hard substrate by double the cable width (because the cable does not necessarily stay stationary). In this case, TE SubCom estimates the length of cable to be laid over hard substrate to be 14.3 kilometers (46,916 feet). Double the width of cable is 3 inches or 0.25 feet. The projected hard substrate impact area is thus estimated at 11,729 square feet. As described above, cable-laying activities and any ongoing movement of the cable over the life of project has the potential to damage or crush rocky substrate and its associated biota.

In previous marine cable related projects, the applicant has agreed to compensate for potential project-related impacts to hard substrate and its biota by paying a mitigation payment to the UC Davis Wildlife Health Center's California Lost Fishing Gear Recovery Project. Started in 2005 by the SeaDoc Society, a marine ecosystem health program of the UC Davis Wildlife Health Center, the primary purpose of the Recovery Project is to remove commercial fishing gear that is accidentally lost or intentionally discarded in California's marine environment.

Derelict fishing gear is likely found in the water along the entire coast of California. The gear is potentially hazardous to divers and an array of wildlife including seabirds, fish, turtles, sea otters, and other marine mammals. Derelict fishing gear affects the marine environment in several ways: it can continue to "catch" fish and marine animals, which become enmeshed or trapped, and it can damage the habitat upon which it becomes entangled or upon which it rests. It is also a visual blight on the seafloor, diminishing the natural aesthetic quality of the seafloor and rocky habitat. Currently, the SeaDoc Society is focusing gear recovery efforts in the newly established Central Coast Marine Protected Areas network and near the Channel Islands.

The Commission has previously found contributions to the Recovery Project to be an acceptable form of compensation for unavoidable adverse impacts to hard substrate and the organisms it supports. In combined CDP/Consistency Certification no. E-08-021/CC-005-09, the Commission accepted AT&T's offer of $100,000 to the Recovery Project as adequate to compensate for potential project-related impacts to 5,500 square feet of hard substrate and its biota. Subsequent marine cable projects have used this $100,000 dollars per 5,500 square feet of impact area figure approved under E-08-021/CC-005-09 to determine appropriate compensatory funds for different areas of impact. For example, the Commission approved a payment of $32,000 (32% of $100,000) to compensate for a hard bottom impact of 1760 square feet (32% of 5,500 square feet).

In 2016, Commission staff examined data on completed compensatory mitigation work to quantify the acreage of compensation that could be achieved for the funds provided to the Recovery Project for this purpose. In total, the Recovery Project had received $801,193 in compensatory mitigation funds to mitigate impacts to a collective total of 24,325 square feet of

hard bottom habitat from seven fiber optic cable projects and two pipeline removal projects. With these funds, the Recovery Project was able to collect 1301 items of derelict fishing gear over 105 field days, resulting in the enhancement of an estimated 64,702 square feet. These data showed that the Recovery Project was able to achieve enhancement of marine habitats at a mitigation ratio of 2.7 to 1 and for a cost per area of $12.38/square foot. When this cost per acre figure is adjusted to 2018 dollars using the Consumer Price Index, the result is $14.30/square foot.

For all fiber optic cable projects approved in 2106 or after, including Phase I of this project (CDP 9-17-0389), the Commission has applied the results from the analysis of Recovery Project data described above to determine an appropriate mitigation fee for impacts to hard bottom substrate from submarine cable projects. In addition, the Commission applied a 3:1 mitigation ratio because of the nature of the mitigation work performed by the Recovery Project. The Recovery Project's work removes chronic sources of habitat and wildlife disturbance and loss, but it does not actively restore habitat areas after those sources of disturbance are removed. The actual "restoration" of the disturbed areas is achieved through natural recruitment of missing organisms over time. It can often take years for that natural recovery to occur on marine hard substrate habitats (Lissner et al., 1991). Compensating for this time lag between the impact and the success of the mitigation site is one of the principal reasons the Commission has applied mitigation ratios larger than 1: 1 in other cases. Another key consideration is the likelihood of mitigation success. Once the Recovery Project removes a source of disturbance from a particular area, it is highly likely that natural recovery of the restored site will occur over the long-term. However, unlike terrestrial mitigation projects where the Commission generally requires conservation easements or other types of protections to protect against future ecological damage, there is no similar mechanism that can be applied to protect marine mitigation sites. Thus, the Commission cannot assume that future anthropogenic disturbance of the same site will not occur in the future. It is likely that some of the sites that are restored by the Recovery Project could be subjected to future damage as lost fishing gear re-accumulates or other types of damage are sustained. Thus, in this case, the uncertainty in the long term restoration of the site also justifies applying a 3:1 mitigation ratio when calculating the appropriate mitigation fee.

As described above, TE SubCom estimates that the proposed project could impact approximately 11,729 square feet of hard bottom substrate. This impact area was determined using data from a 2018 geophysical survey that used sonar to determine substrate type within the cable corridor. These data are then used to forecast the anticipated depth of burial that can be achieved, but can only provide an estimate of the impact. To determine the actual impact**, Special Condition 13** requires TE SubCom to conduct a post-lay burial study of the installed cable to quantify the extent of actual hard bottom impacts. The survey shall also quantify the height and length of any cable suspended at heights greater than 1.0-meter from the seafloor. Within 60 days of completing the survey, TE SubCom will submit to the Executive Director a written report describing the results of the survey for review and approval.

Additionally, **Special Condition 14** requires TE SubCom to compensate for all project-related impacts to hard bottom habitat through payment of a compensatory hard bottom mitigation fee to the UC Davis Wildlife Center to be used to remove derelict fishing gear and other marine debris from waters in the Southern California Bight. The total hard bottom mitigation fee will be calculated by applying a 3:1 mitigation ratio to the total square footage of impacted hard bottom

and then multiplying that acreage by a compensation rate of $14.30 per square foot. The total square footage of hard bottom impacted will be calculated by multiplying the linear distance of cable laid on or suspended over hard bottom by approximately twice the width of the cable (i.e., 3 inches.

The mitigation work will be carried out pursuant to a Memorandum of Agreement (MOA) by and between the Commission and the Regents of the University of California on behalf of the UC Davis Wildlife Health Center's California Lost Fishing Gear Recovery Project. Once the mitigation funds are received, the Recovery Project will submit a spending plan to the Executive Director for review and approval that includes, at minimum, a description of the mitigation project and its estimated cost. The mitigation work will aim to recover known (previously located and/or reported) and opportunistically encountered derelict commercial fishing nets, traps and other types of gear within the Southern California Bight. The removal of derelict nets snagged on rocky bottom habitat or on underwater structures, or in some cases still attached to fishing vessels, is critical because this form of derelict fishing gear (net) presents a significant entanglement/drowning risk to wildlife and to underwater users (divers, scientists, engineers). The Recovery Project also will recover lost trap gear that results in hazards, blight, and/or interferes with fishing, emphasizing recovery soon after the close of commercial seasons. Project personnel will collect data on all gear recovered, including location, type, substrate type and impacts to resources and habitat. The overall scope of the field effort will be dependent upon the final determination of mitigation funds.

The Commission finds that removing lost fishing gear and other marine debris from the marine environment will offset the projected impacts to rocky bottom areas caused by cable-laying activities. Thus, with the above special condition incorporated, impacts to hard bottom habitat and the associated benthic species will be minimized, consistent with the requirement in Coastal Act Section 30230 that marine resources be maintained, enhanced, and where feasible, restored.

4. Benthic Species: Soft Bottom Habitat Impacts

Soft-bottom areas are unconsolidated sediments (e.g., gravel, coarse-grained and mixed sediments, sand, and mud) that provide habitat to epifauna (surface living) and infaunal (below-surface living) organisms. Impacts to epifauna and infauna due to the proposed project are of concern because: (1) the proposed cable burial will disturb their seafloor habitat; (2) many infaunal organisms have limited mobility and cannot easily escape habitat disturbance or rapidly repopulate regions of disturbance; and (3) they are a source of food for more mobile epifaunal and pelagic marine organisms such as crabs, fin fish, and marine mammals.

Soft-bottom benthic communities in the nearshore areas of the proposed cable route are comprised of species associated with the sand and gravel substrate typical of the high-energy and dynamic environments of the California coast. As depth increases from the shore to 200 meters (656 feet), the density of infaunal species increases, most likely because of the greater stability of the sediments. Examples of dominant species present at shallow water depths (subtidal to 30 meters or 98.4 feet) include several species of red algae and epibenthic biota such as the ornate tube worm (*Diopatra ornata*), cancer crabs (*Cancer* sp.), the slender crab (*Cancer gracilis*), the masking crab (*Loxorhynchus crispatus*), octopus (*Octopus rubescens* and *O. bimaculatus/*

bimaculoides), the white sea pen (*Stylatula elongata*), the sea cucumber (*Parastichopus californicus*), the sunflower star (*Pycnopodia helianthoides*). In the coarser sand habitats, the invertebrate community was typically dominated by ornate tubeworms and sand dollars when they were present in colonies occupying fairly narrow bands. Demersal fish present include the California halibut and other flat fish species. From 30-150 meter (98.4-410 feet) depths, species such as sea pens, several species of anenomes, the sea slug (*Pleurobranchea californica*), and the leafy flat star (*Petalaster [Luidia] foliolata*), and flatfish are also present. At 125-600 meter (410-1,968 feet) depths, most of the epibenthic fauna are sea urchins. At deeper depths, soft substrates are generally inhabited by sea pens, octopus, sea stars, and multiple species of small polychaetes and crustaceans. In deep basin areas (*e.g.*, below roughly 600 meters or 1,968 feet), low oxygen conditions contribute to decreased abundance and biomass of invertebrates. However, in near-island habitats such as the Santa Barbara Channel, which comprise a significant portion of the proposed cable route, the above communities become diverse and abundant. The proposed cable routes pass outside the current boundaries of the Channel Islands National Marine Sanctuary. According to the EIR, no threatened or endangered soft-bottom benthic species were identified during surveys or are known to exist in the project area.

Approximately 60 percent of the proposed cable route crosses soft-bottom habitat (TE SubCom 2018). In 2018, TE SubCom completed a geophysical survey of the proposed cable corridor between the proposed offshore terminus of the landing borepipe extending seaward approximately 270 km. Data collected during that survey were used to characterize the seafloor habitat and associated biota.

The EIR states that potential impacts to marine habitats and associated biota could occur throughout the cable laying operation, including those resulting in seafloor disturbance (i.e., pre-lay grapnel clearance and the laying and burial of the cable). In addition, following surveying of the cable route as required by **Special Condition 11**, any cable segments that have become exposed will be reburied with an ROV jet pursuant to an approved re-burial plan.

In evaluating the significance of potential project impacts on soft-bottom habitat and associated biota, the EIR states that:

> *The scale and duration of disturbance caused by Project activities, however, are limited, resulting in localized and temporary disturbance to the seabed. As described in environmental analyses for similar projects in California, the maximum width of the disturbance area caused by the sea plow would be approximately 26 ft (8 m), but the furrow or trench would be approximately 3.3 ft (1 m) (AMS 2015, as cited in City of Hermosa Beach 2016).*
>
> *Motile invertebrates, fish, and other wildlife in the vicinity are anticipated to avoid the plow and recolonize the area after the plow has left. Species that inhabit the upper layer of the soft-bottom sediments may be displaced, smothered or crushed by cable placement and burial. As discussed in Section 3.1.1.3, these organisms are accustomed to the dynamic conditions of soft bottom habitats and as such the populations are resilient. The area disturbed by cable installation would be small relative to available habitat, and species in*

> *the soft bottom habitats are expected to repopulate rapidly. In addition to being a relatively small area of disturbance, the benthic infauna that would be impacted in the soft-bottom areas are common species that would readily repopulate the disturbed area after the cable is laid (City of Hermosa Beach 2016). An example of this recovery was observed during a routine ROV survey of a fiber optic cable along the central coast of California in 2007. Several other buried fiber optic cables were crossed, and there were no detectable differences in benthic macrofauna observed at these locations (AMS 2015).*

Studies have shown that additional factors, including the fact that the disturbance to benthic habitat does not involve the removal of sediment, and the proximity of the disturbed sediments to undisturbed sediments, will also serve to minimize the amount of time needed for benthic organisms to recover (AMS 2015). Thus, impacts to soft bottom habitat from the proposed project would be minor and temporary for the following reasons: (1) the area of impact is relatively small compared to the geographical extent of this habitat type offshore of Dockweiler State Beach; (2) the species that are likely to be impacted are common and will readily repopulate; and (3) studies have shown that recolonization and recovery of most soft-bottom communities is rapid following short-term and localized disturbance.

5. Marine Water Quality Impacts

The proposed project offshore lies in open coastal waters off of Santa Monica Bay and the Southern California Bight. The Dockweiler State Beach landing site is located in Santa Monica Bay, a coastal embayment between Point Dume and the Palos Verdes peninsula, located in one of the most densely populated areas on the California coast. Water quality conditions within the bay are affected by general oceanographic conditions as well as point and non-point sources of pollutants, including wet and dry weather flows through storm drains and urban runoff, and municipal and industrial wastewater discharges, the latter representing the largest source of pollutants to the bay. The Hyperion Treatment Plant alone discharges an average of 352 million gallons per day of treated sewage. Other point sources are the Joint Water Pollution Control Plant with outfalls off the Palos Verdes peninsula, the Chevron Refinery in El Segundo, the El Segundo and Scattergood Generating Stations, and the Redondo Beach L.L.C. Generating Station. According to the EIR, pollutants of concern for the Santa Monica Bay include pesticides (specifically DDT and chlorane), PCBs, PAHs, TBT, metals, pathogenic bacteria and viruses, total suspended solids, nutrients, trash and debris, chlorine, biological oxygen demand, and oil and grease. Dockweiler State Beach and Santa Monica Nearshore and Offshore are considered impaired water bodies under Section 303(d) of the Clean Water Act.

The principal potential impacts on marine water quality due to the proposed project are: (1) impacts to filter-feeding benthic organisms due to increased turbidity during cable installation (including grapnel, burial, re-burial, repair, and water-jetting operations) and the suspension and resettling of contaminated sediments within Santa Monica Bay; (2) the release of fuel, hazardous material, sewage or bilge/ballast water from project vessels; and (3) increased erosion, sedimentation, and other potential water quality impacts related to terrestrial construction activities.

Turbidity and Redistribution of Contaminated Sediments

The size of the turbidity plume caused by cable installation activities (*i.e.*, grapnel, jetting, and burial) depends on the grain size of the bottom sediments, rates at which the suspended particles settle to the bottom or are dispersed by bottom currents, and the energy produced by the trenching equipment. Increases in turbidity can degrade water quality by reducing light penetration, discoloring the ocean surface, or interfering with filter-feeding benthic organisms sensitive to increased turbidity. In addition to impacts associated with turbidity, if suspended sediment is contaminated, it can lead to further impacts associated with increased exposure rates for marine organisms.

At the conduit terminus, water jetting operations to expose the newly installed conduit will result in localized increases in turbidity. Similarly, the pre-lay grapnel run, laying of the cable, jetting of sediments during cable installation, and use of the sea plow farther offshore also will result in local and temporary increases in turbidity. The EIR states that the majority of sediments along the proposed cable route consist largely of clay with some sand and silt. Sand particles are expected to settle rapidly within the immediate area of the impact, whereas clay particles will settle more slowly and have the potential to drift farther from the impact site. The most significant potential turbidity impacts will occur at the bore terminus where water jetting will occur. Because of the predominance of sand particles in this area, suspended sediment is expected to settle rapidly resulting in only minor, short-lived and localized impacts to marine organisms. In areas of the project further offshore, there is a greater potential for suspended particles to remain suspended for longer periods of time. However, the project activities in these areas are less energetic and are expected to result in significantly less suspension of bottom sediments. Thus, the concentration of suspended sediment in the surrounding water column will be small, and any resulting impacts will be minor. Thus, due to the localized, minor and short-term nature of the increase in turbidity, impacts to filter-feeding and other benthic organisms will not be significant.

As the proposed cable is laid through Santa Monica Bay, there is potential to disturb sediments contaminated with DDT, PCBs, metals, and other contaminants, resulting in dispersal and potential uptake of these contaminants by benthic organisms. The degree of sediment contamination in Santa Monica Bay is dependent on location and depth. The proposed cable route avoids known locations of contaminated sediments. However, sampling conducted in the project area did indicate that sediments in this area contain elevated levels of DDT, PCBs and mercury (CDP Application for 9-17-0389). Specifically, individual soils samples contain contaminant levels above Effects Range Low but do not exceed Effects Range Median. Effects Range Median is defined by NOAA as the “concentration above which effects are frequently or always observed among most species of biota.” Thus, concentrations are below levels at which impacts would be expected. Furthermore, studies conducted by the U.S. Coast Guard’s Coastal and Marine Group in coordination with the Southern California Water Research Project and the City of Los Angeles, Bureau of Sanitation have found that contaminant levels in Santa Monica Bay sediments are lowest in the surface sediments where project-related disturbance would occur (CDP Application for 9-17-0071). In addition, as discussed above, the proposed construction methods are not likely to result in significant suspension and/or redistribution of sediments. Project activities are confined to a small footprint and would thus be expected to generate small amounts of resuspended sediment, especially compared to natural dispersion through wave action or ocean currents. Thus, water quality impacts associated with resuspension of contaminated sediments would be minor.

Project Vessel Releases

The proposed project requires the use of several different marine vessels and equipment to support the construction and operation of the proposed cable. It is possible that marine vessels could discharge fuel or other hazardous fluids, sewage water, bilge water, debris, or ballast water into the marine environment. Depending on the size and contents of the release, impacts to marine organisms could be significant. Although the likelihood of a spill occurring is low, the applicant included a measure to develop an Oil Spill Contingency Plan as part of the project. To ensure that this plan is consistent with Coastal Act Requirements, **Special Condition 15** requires TE SubCom to submit a project-specific Spill Prevention and Response Plan to the Executive Director for review and approval. The Plan shall identify the worst-case spill scenario and demonstrate that adequate spill response equipment is available. In addition, the Plan shall clearly identify responsibilities, list and identify the location of oil spill response equipment, and include a plan for conducting training and response drills. Further, **Special Condition 16** requires TE SubCom to implement an Executive Director-approved Critical Operations and Curtailment Plan (COCP). The COCP defines the limiting conditions of sea state, wind, or any other weather conditions that would hinder safe operation of vessels and equipment or a potential spill cleanup. Finally, consistent with previous fiber optic cable projects, **Special Condition 17** requires implementation of a zero discharge policy for all project vessels.

Erosion from Terrestrial Activities

Terrestrial construction activities at Dockweiler State Beach Parking Lot 3 and terrestrial cable installation activities have the potential to result in water quality impacts due to storm water discharges, accelerated soil erosion, and sedimentation. TE SubCom is in the process of seeking a 401 Certification from the Regional Water Quality Control Board that will address these issues. **Special Condition 2** requires TE SubCom to submit evidence of approval of the 401 Certification to the Executive Director. To further ensure that impacts associated with stormwater runoff and erosion are minimized, **Special Condition 18** requires TE SubCom to submit a Stormwater Management Plan to the Executive Director for review and approval that identifies Best Management Practices to control erosion and stormwater runoff from the project site.

In addition, inadvertent releases of oil or other hazardous material from construction-related vehicles or equipment has the potential to degrade water quality of nearby ground or surface waters. To minimize the likelihood of a spill, **Special Condition 15** requires TE SubCom to develop a Spill Prevention and Contingency Plan for terrestrial construction activities (as well as marine activities as described above). The Plan shall include provisions to identify the worst-case spill scenario and demonstrate that adequate spill response equipment is available. In addition, the Plan shall clearly identify responsibilities, including provisions to conduct worker training related to recognizing and responding to spills, maintain equipment to avoid leaks, and implement safe refueling practices. Implementation of these measures will minimize the potential for an inadvertent release of hazardous materials during terrestrial construction activities.

To summarize, with the inclusion of the Special Conditions described above, the Commission finds the proposed project will minimize the potential for adverse impacts associated with increased turbidity, resuspension of contaminated sediments, inadvertent release of hazardous substances, discharges from project vessels and runoff from terrestrial activities. The project will

therefore maintain the biological productivity and quality of coastal waters and ensure that the project does not adversely impact existing populations of marine organisms.

6. Conclusion

For the reasons discussed above, the Commission finds that the proposed project, as conditioned by **Special Conditions 1, 2, 3, 4, 5, 6, 8,9,11, 12, 13, 14, 15, 16, 17, and 18** will be carried out in a manner that maintains marine resources, sustains the biological productivity and quality of coastal waters, and protects against the spillage of hazardous substances into the marine environment, and is therefore consistent with Coastal Act Sections 30230, 30231 and 30232.

F. ENVIRONMENTALLY SENSITIVE HABITAT

Coastal Act Section 30240 states:
(a) Environmentally sensitive habitat areas shall be protected against any significant disruption of habitat values, and only uses dependent on those resources shall be allowed within those areas.
(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.

The terrestrial components of the proposed project within the Coastal Zone are located largely in Dockweiler State Beach and the public right-of-ways along South Marine Avenue and West Imperial Highway (see **Exhibit 3**). Land use surrounding the terrestrial conduit routes includes public beach, open space dune habitat, a public utility (Hyperion Water Reclamation Plant) and LAX Airport. The cable landing itself will be located beneath a paved parking lot that is adjacent to southern foredune habitat, and the cable will be pulled along existing roadways that are bordered also by similar habitat. The proposed project has the potential to impact protected habitats and special status species as described in detail below.

1. Southern foredune habitat and the El Segundo Blue Butterfly

Southern foredune habitat is considered a sensitive natural community by CDFW. Dune systems are considered one of the most dynamic habitat types on earth and are dependent upon, and highly influenced by, wind and wave action. These forces cause sand accretion or erosion, depending on their strength, which tends to follow seasonal patterns. Dunes form parallel to the prevailing winds and support an array of native plants and animals uniquely adapted to this transition zone between land and sea. In addition to their habitat and aesthetic values, dune ecosystems provide important protection to inland structures and lands from storm events. The dunes behind Dockweiler Beach are generally characterized by low, often succulent, perennial subshrubs and herbs and can support several species of reptiles, birds and mammals. To the east of the conduit, between Vista Del Mar Rd. and LAX, is approximately 300 acres of disturbed southern foredune habitat that is designated as the El Segundo Dunes ESHA. Small remnants of this habitat exist on the landward edge of Dockweiler Beach, outside of the designated ESHA

area, where the applicant has proposed to install a terrestrial portion of the fiber optic cable. The terrestrial conduit passes under an area of restored southern foredune (**Exhibit 3**).

The Coastal Commission has determined in past actions that southern foredune habitat, regardless of the level of disturbance, is considered Environmentally Sensitive Habitat Area (ESHA). According to a memo on Biological Resources at Broad Beach, written by Commission biologist Dr. Jonna Engel, California dune ecosystems have suffered a disproportionately high amount of human impact because the coast is a highly desirable area for industry, tourism, recreation, and residential settlements. As a result, dune ecosystems are listed as very rare by the CDFW Natural Diversity Database. Section 30107.5 of the Coastal Act defines environmentally sensitive habitat (ESHA) as "*any area in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which could be easily disturbed or degraded by human activities and developments.*" Consistent with prior Commission action, the vegetated areas of southern foredunes at Dockweiler Beach rise to the level of ESHA because they are rare and are easily disturbed and degraded by human activities and development as shown by the significant loss of dune habitat and the high cover of non-native and invasive species. Non-vegetated areas in the project area do not rise to the level of ESHA; however, these areas would be prime targets for restoration and could develop into ESHA in the future.

As part of Phase I of the project, the applicant conducted biological surveys of the project area to characterize the vegetation communities and identify any special status species. These surveys generally found that the area surrounding the cable route was heavily disturbed by human use and contained little vegetation. Vegetation that was present consisted largely of invasive species, including iceplant, crystalline ice plant (*Mesembryanthemum crystallinum*), saltgrass, Bermuda grass (*Cynodon dactylon*), Mexican fan palm (*Washingtonia robusta*), tree tobacco (*Nicotiana glauca*), sea lavender (*Limonium perezii*), and other landscaping species. No special status species plant or wildlife species was observed. In the restored southern foredune habitat, field surveys observed several plant species that are both typical and atypical of this vegetation community: ragweed (*Ambrosia artemisiifolia*), mulefat (*Baccharis salicifolia*), dune buckwheat (*Eriogonum parvifolium*), California sagebrush (*Artemisia californica*), brittlebush (*Encelia californica*), lemonade berry (*Rhus integrifolia*), and telegraph weed (*Heterotheca grandiflora*).

Although no special status species were observed in this area during the biological surveys, the El Segundo blue butterfly, federally listed as endangered, has been documented in this area. The butterfly is solely dependent on dune buckwheat at all stages of its lifecycle. Field surveys conducted for the project found several small patches of vegetation including dune buckwheat in the restored habitat area west of South Marine Drive.

The proposed project includes installation of cable adjacent to areas considered both potential and documented El Segundo blue butterfly habitat: vegetated southern foredune habitat and un-vegetated sandy beach areas. Potential impacts include both direct impacts to critical habitat for the butterfly (i.e., individual plants or patches of dune buckwheat) and vegetated foredune habitat, and indirect impacts from dust, noise and other disturbance associated with construction vehicles, terrestrial cable installation, and equipment staging. To minimize the potential for

impacts to the El Segundo blue butterfly, the EIR requires Mitigation Measure TBIO-1 that requires the applicant to retain a qualified biologist to conduct pre-construction presence/absence protocol survey of the conduit alignment including a 300 foot buffer. The biologist would map all areas where dune buckwheat is present and project-related activities including parking, staging, storage and access would occur outside this buffered area. The measure also states that where feasible, installation of terrestrial conduit within 300 feet of suitable butterfly habitat should occur between September and June, outside the flight period of adult El Segundo blue butterflies. Mitigation measure TBIO-2 requires that the applicant provide environmental awareness training for all project personnel that includes the location of all sensitive biological resources, identification of special status species that could be present, and how to avoid impacts to these resources.

Mitigation measures included in the EIR will be important in minimizing impacts to the El Segundo butterfly, but these measures do not go far enough to ensure that impacts to this species and the surrounding habitat are avoided and the project is consistent with Section 30240 of the Coastal Act. The EIR identifies the restored southern foredune habitat as ESHA and the applicant has proposed to avoid direct impacts to this habitat by requiring that certain project activities, including staging, parking, and equipment storage be conducted outside the 300 foot buffer around suitable butterfly habitat.

The Recovery Plan for the El Segundo blue butterfly, developed by the U.S. Fish and Wildlife Service in 1998 (USFWS 1998), states that loss of native dune habitat and the introduction of invasive plant and wildlife species led to the near extinction of the butterfly. However, efforts in the last 40-50 years to preserve remaining dune habitat and expand the population of dune buckwheat have been successful in increasing the butterfly population from a low of approximately 500 in 1984 (Center for Biological Diversity) to 25,000 in 2015 (Watson, 2016). According to the Recovery Plan, the "centerpiece of any effort," to delist the butterfly "…must be the Airport Dunes, as this site contains not only the largest fragment, but the closest approximation to the prehistoric El Segundo Dune ecosystem." Based on this statement, the El Segundo Dunes ESHA adjacent to the project site is ground zero for recovery of the butterfly. Thus, any suitable butterfly habitat in the vicinity of the El Segundo Dunes ESHA should be considered ESHA and should be protected against any significant disruption of habitat values as required by Section 30240 of the Coastal Act. Furthermore, as discussed earlier, the Coastal Commission has, in past actions, determined that any southern foredune habitat is ESHA.

To ensure that ESHA is adequately protected and that the project does not significantly disrupt adjacent ESHA, consistent with the Coastal Act, **Special Condition 19** requires TE SubCom to implement the El Segundo Blue Butterfly Avoidance and Southern Foredune Protection Plan that was approved by the Executive Director for Phase I of the Cable Hub project. This Plan, required as Special Condition 21 of CDP A-5-DRL-17-0071/9-17-0389/CC-0004-17, builds on TBIO-1 but includes several additional measures. Consistent with TBIO-1, the Plan stipulates that a qualified biologist conduct surveys of the terrestrial conduit route on or adjacent to beach or dune habitat and delineate a 300 foot and 100 foot buffer around vegetated areas. Parking, lay down, storage and staging areas, and site access shall not occur within 300 feet of suitable El Segundo blue butterfly habitat, including any individual or patches of dune buckwheat observed by the biologist. These activities shall also avoid any vegetated foredune habitat and maximize

the buffer around these areas, as feasible. Project activities related to installation of the terrestrial cable shall be conducted between late September and early June, outside of the active period for adult El Segundo blue butterflies, where feasible, and shall not occur within 100 feet of the mapped butterfly habitat or within 5 feet of vegetated southern foredune habitat, except where project activities will occur in paved areas. Given the high level of regular disturbance and isolated nature of the southern foredune vegetation not associated with the restored butterfly habitat or dune buckwheat plant, the smaller 5 foot buffer around these areas is adequate to ensure impacts to these areas are avoided. This Plan also requires a post-construction biological survey to verify that all identified habitat remains intact after construction has concluded. With the inclusion of **Special Condition 19**, impacts to the El Segundo blue butterfly and southern foredune habitat will be avoided and these ESHAs will be protected against the significant disruption of habitat values.

The proposed project also has the potential to result in indirect impacts to southern foredune ESHA from noise, dust and general disturbance. However, project-related impacts are not expected to be substantially different from impacts associated with the routine use of South Marine Avenue, Vista Del Mar and LAX. Furthermore, according to the EIR, impacts on the El Segundo blue butterfly associated with fugitive dust emissions will be avoided with the implementation of best available control measures, such as site watering, required under SCAQMD Rule 403. In addition, implementation of the Plan as required by **Special Condition 19** mandates that the applicant maintain a 100 to 300 foot buffer around any suitable butterfly habitat. Finally **Special Condition 21** requires that night lighting be minimized to the extent feasible and that any necessary artificial lighting be shielded and directed downward and away from nearby dune and beach habitat which will ensure that indirect impacts to these areas from construction-related activities will be minor.

2. Birds

In addition to the El Segundo blue butterfly, the area surrounding the terrestrial conduit system has the potential to provide habitat for other special status species and migratory birds, such as the state and federally protected western snowy plover (*Charadrius niviosus nivosus*), California least tern (*Sternula antillarum browni*), loggerhead shrike (*Lanius ludovicianus*) and burrowing owl (*Athene cunicularia*). Approximately 850 feet to the north of the project site on Dockweiler State Beach is an area that has been designated as critical habitat for snowy plovers. This area is called the Dockweiler North Critical Habitat Unit. To the south of the project area, is another area designated as critical habitat for snowy plovers. This area is called the Dockweiler South Critical Habitat Unit. Both of these areas would be avoided during all project-related activities. Least terns generally prefer to nest in undisturbed sandy areas and have been observed in Ballona Wetlands, less than a mile to the north. Loggerhead shrikes nest in dune areas and have been observed in the El Segundo Dunes ESHA. Wintering burrowing owls have also been observed in the El Segundo Dunes ESHA, but not in close proximity to the project area.

Although the proposed project avoids designated critical habitat for western snowy plover, California least terns, loggerhead shrikes, burrowing owls and other migratory birds, the project area does include potentially suitable nesting and/or foraging habitat for these bird species.

Ground disturbance and other construction-related impacts including noise and dust could disturb or displace any nesting birds that are present. To address this concern, the EIR included Mitigation Measure TBIO-5, incorporated into this CDP through **Special Condition 3**, which requires that the applicant conduct pre-construction nesting bird surveys within 500 feet of the project area if project-related activities occur during the migratory bird season (February 1 – August 31). If an active nest is found, the biologist will establish a no-disturbance buffer that cannot be breached until the nest is deemed inactive. The size of the buffer will be determined by the biologist based on the bird's behavior, nest location, landscape features and proposed site activities in the vicinity. To ensure that impacts to western snowy plover, California least tern and other nesting birds are avoided, **Special Condition 20** further requires that pre-construction surveys for nesting birds be conducted year-round to ensure that surveys are also conducted during the western snowy plover roosting season (September through March). If an active nest is found any time during the year, TE SubCom shall notify all appropriate State and Federal agencies and develop an appropriate action plan. If the active nest is located within 300 feet of construction activities (or 500 feet for raptors), TE SubCom shall submit a plan, for review and approval by the Executive Director, describing how construction activities will be modified to avoid impacts to nesting birds.

To further reduce opportunities for disturbance to birds and other wildlife, the EIR included TBIO-6 that requires the applicant to minimize artificial lighting during nighttime hours and to implement glare screening measures and the use of downward cast lighting. **Special Condition 21** further requires TE SubCom to shield any necessary lighting and direct it away from beach and dune areas. With incorporation of **Special Conditions 3, 20 and 21,** the proposed project will avoid impacts to nesting and migratory birds.

3. Reptiles

Other special status species that could be present in the project area are the silvery legless lizard (*Anniella pulchra pulchra*) and coast horned lizard (*Phrynosoma blainvilli*), both designated as CA species of special concern. These species are known to inhabit foredune and vegetated beach communities and have been observed in the nearby El Segundo Dunes ESHA. To avoid impacts to these species, the EIR included Mitigation Measures TBIO-3 and 4. TBIO-3 requires that a qualified biologist survey all potential habitat within 250 feet of the project area for silvery legless lizard and coast horned lizard on a daily basis before the start of construction activities. If either reptile is discovered, the biologist shall actively move or passively encourage the lizard away from the project area. Measure TBIO-4 requires that in the event that a trench is left open overnight, the applicant, under the guidance of the biologist, shall incorporate a ramp to provide an escape route to any trapped wildlife. Both of these measures are incorporated into this CDP through **Special Condition 3**. The El Segundo Blue Butterfly Avoidance and Southern Forefune Protection Plan required by **Special Condition 19** also requires that the applicant maintain buffers around suitable habitat for the El Segundo blue butterfly and vegetated southern foredune habitat. This measure will also provide additional protection to the silvery legless lizard and coast horned lizard. With these measures in place, impacts to silvery legless lizard and coast horned lizard will be avoided.

With the incorporation of **Special Conditions 3, 19, 20, and 21**, the Commission finds that habitat supporting special-status species and nesting birds will be protected against any disruption of habitat values, and thus the proposed project is consistent with Section 30240 of the Coastal Act.

G. COMMERCIAL AND RECREATIONAL FISHING

Coastal Act Section 30234.5 states:

> *The economic, commercial, and recreational importance of fishing activities shall be recognized and protected.*

Commercial fishing is an important component of the regional economy in southern California. The major fishing ports in the project area are San Pedro and Terminal Island at the Port of Los Angeles near Long Beach, approximately 24 miles southeast of the proposed cable landing site. In 1999, commercial fishery landings at the Port of Los Angeles were ranked 8th by poundage (194.7 million pounds) and 16th by dollar value ($36.1 million) nationwide. In 2016, the Port of Los Angeles's nationwide ranking had dropped to 23rd by poundage (36.5 pounds) and 62nd by dollar value ($18.6 million) (CDFW 2016, NOAA 2016). Other nearby fishing ports includes Port Hueneme, Redondo Beach, and Newport Beach. Common fishing gear types used in the project area include nets, trawls, pots and traps, trolling, and hand lines.

Recreational fishing in the area is predominantly by hook-and-line. Rocky headland areas in the Point Buchon area are fished for rockfish, lingcod, and cabezon. Other target species in this area include barracuda, bonito, and white sea bass. Trolling for salmon occurs parallel to shore out to depths just over 300 feet from near Point Sal to Cayucos. Fishers on charter boats also troll for albacore farther offshore.

Potential Project-Related Impacts

The gear types with the greatest potential for interacting with cables are bottom trawls.[3] Fishing may still occur over the cables, whether buried or unburied, but in areas where the cable is not buried (*e.g.*, over rocky substrates or on steep slopes), is insufficiently buried, or becomes exposed, and where trawling occurs, the gear may be snagged, damaged, or abandoned if the fisherman is forced to cut gear. Fishing will also be temporarily precluded during cable installation and repair operations. The principal impacts to fishing due to the proposed project therefore are: (1) preclusion from the project area during cable installation and repair; (2) fishing gear-cable conflict or entanglement; (3) and economic losses due to fishing-cable conflicts, including preclusion and gear loss.

Commercial fishing will be precluded from the cable installation corridor and safety zone during marine activities associated with cable installation. While the duration of these activities will vary along the cable corridor, in-water activities could take a total of four weeks. Temporary

[3] Bottom longlines also have a high potential for interacting with cables on the seafloor, but this type of fishing gear is now prohibited in California.

economic impacts to fishermen therefore could result during cable installation. Pursuant to the federal Submarine Cable Act (47 U.S.C. 21 §24), all vessels are required to maintain a distance of at least one nautical mile from a vessel laying or repairing a cable and one-quarter mile from the buoy of a vessel intended to mark the position of a cable when being laid or out of order. This de facto fisheries preclusion created by all cable installation activities will be temporary and in constant motion as the cables are being laid and/or buried so there will be sufficient access to other fishing and boating areas in the project area. Moreover, once the cables are buried, there will be unrestricted access to these areas. Fishing could occur at locations within the route, but away from the cable-laying vessel(s), throughout the installation period. Therefore, a temporary fishing preclusion zone should not be a significant impact to commercial and recreational fishermen.

To minimize potential conflicts and impacts to fishing from cable installation, operation, and repair, TE SubCom is a party to an existing agreement called the Southern California Cable & Fishing Agreement dated June 8, 2002 between fiber optic cable companies representing the UNITY (Cable Segment 4), Tata Communications (Cable Segment 4), and SEA-US cables, and the Southern California Trawlers Association, Los Angeles Commercial Fishermen's Association, the Southern California Commercial Fishing Association, and individual fishermen not represented by a fishing association (hereinafter referred to as the "Fishing Agreement" – See **Exhibit 9** for the full text). The Fishing Agreement includes the provisions summarized below:

- Distribute as-built cable installation information in writing, electronically, and on navigational charts of cable location and burial depth after installation to assure that accurate positions and depths are known to fishermen and other interested parties;
- Establish and fund a Cable Committee with fishermen and cable company representatives to "…reduce potential conflicts between the installation, continuation, and maintenance of the Cable Projects and commercial fishing activities along the California Coast";
- Fund and hire, through the Cable Committee, a Cable Committee Liaison Officer to carry out Cable Committee activities;
- Approval by the Cable Committee of all future cable alignments;
- Allow a representative of the fishing community to observe all cable-laying activities;
- Fund a Commercial Fishing Industry Improvement Fund in the amount of $25,000 annually, for enhancement of commercial fisheries and the commercial fishing industry and support facilities. The funds are intended to be used for fisheries research, education, management, safety, and socioeconomic purposes;
- Establish a 24-hour hotline to take calls from fishermen who believe they have snagged their gear on fiber optic cables;
- Pay 100% of the costs of gear sacrificed by fishermen as a result of snagging cable, provided: 1) the fisherman has informed the 24-hour toll-free telephone hotlines of its situation; and 2) the fisherman's conduct was consistent with the Fishing Vessel Operating Procedures established in the Fishing Agreement; and pay additional claims according to Cable Committee guidelines based on the principle of "making the fisherman whole for his economic loss resulting from the Covered Cable snag";
- Pay "reasonable compensation" to fishermen economically impacted by cable installation or repair activities;

- Release any claims they might otherwise have against individual fishermen and refrain from taking any administrative, legal, or other action to sanction and/or recover damages against fishermen who comply with terms and conditions of the Fishing Agreement;
- Assume all liability, responsibility, and risk for any damage which may occur to their cables resulting from their inability to construct, maintain, place, and continue those cables in a manner which does not interfere with traditional fishing operations;
- Pay $500 for each vessel engaged in trawl fishing in the project area that is owned or operated by a fisherman who signs the Fishing Agreement for use in upgrading communication and navigation equipment; and
- Resolve disputes with fishermen according to Dispute Resolution procedures.

This agreement was amended in November 2017 to acknowledge that the South Bay Cable/Fisheries Liaison Committee, Inc. (SBCFLCI) is the successor to the Southern California Trawlers Association, the Los Angeles Commercial Fishermen's Association and the Southern California Commercial Fishing Association and that SBCFLCI has represented that it has assumed all rights and obligations of the individual fisherman who had signed the original agreement. The amended agreement increases the amount of required funding for the Commercial Fishing Industry and Improvement Fund for cables to $40,000 annually. **Special Condition 22** requires TE SubCom to abide by the provisions of the Fishing Agreement. To further minimize potential conflicts with fishing during cable repairs, **Special Condition 23** requires TE SubCom to provide notice in writing to the Executive Director and in a U.S. Coast Guard *Notice to Mariners* 15 days prior to any cable repair or maintenance activity, or as soon as possible for emergency repairs.

To address the economic impacts of preclusion from the project area, in Section 1.2(f) of the Fishing Agreement, TE SubCom agrees to "provide reasonable compensation to Fishermen who suffer damage as a result of the acts of installing, repairing, replacing, or maintaining of the Cable Projects, or any incidental activities in connection therewith. The amount of such compensation, as well as those entitled to receive it, shall be determined by the Cable Company, implementing guidelines approved by the Committee prior to installation." This portion of the Fishing Agreement does not specify the amount of compensation to fishermen; it allows for Cable Committee input into the quantity and recipients of the compensation through "guidelines."

Once a cable is laid, fishing gear could snag cable segments that are insufficiently buried or exposed on the seafloor, resulting in gear damage or loss. If gear is snagged and lost, fishermen would incur financial losses from abandoned gear and lost fishing time. TE SubCom will minimize potential fishing conflicts and effects through a number of measures. Most importantly, **Special Condition 5** requires TE SubCom to bury the cable to a depth of 1.0 meter in waters up to 1200 meters, except where precluded by seafloor substrates. Where a 1.0-meter burial depth cannot be achieved, TE SubCom shall bury the cables to the maximum depth feasible. TE SubCom estimates it can bury the cable along 93% of the cable route. Buried cable will minimize the potential for fishing gear entanglement and gear damage or loss. TE SubCom will lay the cable on the seafloor and will not attempt to bury it in waters between 1200 meters and 1800 meters in depth. However, according to local fisherman (pers.com. Halmay and McCorkle, 6/28/16), there is minimal, if any, fishing below a depth of 1200 meters in this area, and the types

of equipment that could be used in areas deeper than 1200 meters are not expected to interact with the cables on the seafloor.

To minimize the potential that that fishing gear is snagged on exposed cable, several conditions have been added to ensure fisherman and other interested parties are notified of the as-built location of the cable as well as the location of exposed sections of the cable. **Special Condition 7** requires TE SubCom to notify fishermen of areas of exposed cable during the marine cable installation phase of the project by submitting to (a) the Executive Director, (b) the U.S. Coast Guard (for publication in a *Notice to Mariners*), and (c) the signatories of Fishing Agreement, weekly notices containing preliminary as-built coordinates of any unburied or exposed sections of cable. TE SubCom is also required to make radio broadcast announcements on the local fishers' emergency radio frequency that provide the current cable installation location and a toll-free number that can be called for additional information. **Special Condition 8** requires TE SubCom to submit to the signatories of the Fishing Agreement electronic and hard copy as-built plans overlaid on NOAA navigation charts. Further, **Special Condition 10** requires TE SubCom to submit to the Executive Director a final cable installation report that includes a summary of cable installation and cable slack methods used; identification of any areas of cable suspension greater than 1.0 meter above the seafloor; an evaluation of the consistency of cable installation with TE SubCom's project description and conditions of this permit; and a description of any observed fishing activity during the pre-lay and cable installation project phases. In addition, **Special Condition 9** requires TE SubCom, within 60 days of completion of cable installation, to submit evidence to the Executive Director that TE SubCom has submitted to NOAA the geographical coordinates of the cable as-built plans using a Differential Geographic Positioning System unit or comparable navigational equipment so that NOAA can update its navigational charts for this area of coast.

In areas where the cable is suspended over the seafloor, there is a greater chance of fishing gear snags and entanglements. To minimize cable suspensions, **Special Condition 6** requires TE SubCom to prepare and implement a Cable Slack Management Plan. The Plan will describe the steps TE SubCom will take during cable installation to identify and eliminate, where feasible, segments of cable that are suspended above the seafloor.

To make sure that the cable remains buried, **Special Condition 11** requires that five years after initial cable installation the applicant shall survey the cable route; thereafter, following any event that has the potential to affect the cables, the applicant shall survey those potentially affected portions of the cable route from the mean high tide line to the seaward limit of the territorial waters of the State of California. The purpose of this survey will be to verify that the cables have remained buried consistent with the as-built cable burial plan required by **Special Condition 8**. An "event" is defined as an incident or activity (such as a gear snag), the circumstances of which indicate the likelihood that previously buried cable has become unburied; an act of God, such as a severe earthquake in the vicinity of the cables that could cause deformation of the sea floor or underwater landslides; or any other significant event that could cause excessive ocean floor scouring. The survey shall be conducted with a remotely operated vehicle (ROV) equipped with video and still cameras and by a third party approved by the Executive Director. Within 30 days of survey completion, the applicant shall submit to the Executive Director a report describing the results of the survey. If the survey indicates that there has been significant change to the burial

status of the cable, TE SubCom shall submit to the Executive Director a plan to re-bury those cable segments.

To address potential impacts during cable repairs or cable re-burial, **Special Condition 23** requires TE SubCom to provide notice of such proposed repair or re-burial to the Executive Director and in a US Coast Guard Notice to Mariners 15 days prior to any cable repair or maintenance activity, or as soon as possible for any emergency repairs. In addition, within 90 days of either taking a cable out of service or after the expiration or termination of TE SubCom's lease agreement with the City, **Special Condition 12** requires TE SubCom to apply for an amendment to this permit to remove the cables from the seafloor.

In order to ensure compliance with these and other conditions, **Special Condition 1** requires TE SubCom to post a performance bond in the amount of $500,000 to cover its cable operations in State and federal waters out to the 1,200-meter water depth

With implementation of **Special Conditions 1, 5, 6, 7, 8, 9, 10, 11, 12, 22, and 23** the Commission finds that project-related impacts to commercial and recreational fishermen will be minimized, and the proposed project is consistent with Section 30234.5 of the Coastal Act.

H. PUBLIC ACCESS AND RECREATION

Coastal Act Section 30210 states:

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

Coastal Act Section 30220 states:

> *Coastal areas suited for water-oriented recreational activities that cannot readily be provided at inland water areas shall be protected for such uses.*

Proposed project activities may result in short-term disruption to recreational boaters and beach users. During marine cable installation, recreational fishers and other boaters must avoid the cable installation ship. Pursuant to the federal Submarine Cable Act (47 U.S.C. 21), the master of any vessel must maintain a distance of at least one nautical mile from a vessel engaged in laying or repairing a cable and at least 0.25 mile from buoys intended to mark the position of a cable when it is being laid. Therefore, the project may cause recreational vessels to change their course. However, the preclusion zones created by cable installation and repair activities will be temporary or in constant motion as the cables are being laid and/or buried so there will be sufficient access to other fishing and boating areas in the project area. Moreover, once the cables are laid, full access will be restored. Because of the short-term nature of the preclusion zones, the disruption of fishing and boating is not significant.

Project related activities would temporarily occupy a portion of one of the Dockweiler State Beach Parking Lots as well as a small area of beach during cable tie-in to existing infrastructure. Project staging and construction would occupy approximately 58 parking spaces in Dockweiler

State Beach Parking Lot #3 for approximately one week. This represents 4.5 percent of the parking spaces available from the three closest parking lots at Dockweiler State Beach (the farthest lot located approximately a third of a mile away from the project site). In addition, construction and security personnel working on the project may take up additional parking spaces in Lot #3. Beach access would be maintained at all times.

Although project activities would occupy some parking spaces available to Dockweiler State Beach users, impacts to public access would be minor. Approximately 87 percent of the parking spaces, or 374 spots, would remain available in Parking Lot #3. Additional beach parking is available in Lots #1 and #2 (approximately 846 spaces) and along Vista Del Mar Avenue just to the east of the beach. Furthermore, project-related activities are expected to occur outside of the peak summer months. In the event that construction activities do extend into peak beach use season, the EIR included Mitigation Measure LU-1 requiring TE SubCom to coordinate with the County of Los Angeles, Department of Beaches and Harbors to arrange for a shuttle to transport construction workers onto the project site from a location away from the beach, to avoid use of additional parking spaces in the Dockweiler State Beach parking lot, if needed. This measure is incorporated into this CDP by **Special Condition 3**. Incorporation of this measure ensures that impacts on beach parking from project-related activities will be minor.

With these above-described measures in place, the Commission finds that any project-related impacts to public access and beach users will be minimal and temporary and therefore concludes the project is consistent with Sections 30210 and 30220 of the Coastal Act.

I. CUTURAL RESOURCES

Coastal Act Section 30244 states:

> *Where development would adversely impact archaeological or paleontological resources as identified by the State Historic Preservation Officer, reasonable mitigation measures shall be required.*

Historic and cultural resources are places or objects that possess historical, cultural, archaeological or paleontological significance and include sites, structures, or objects significantly associated with, or representative of earlier people, cultures and human activities and events. Project-related activities have the potential to disturb or damage Native American artifacts and shipwrecks of potential cultural resources value. Disturbance of surface and subsurface soils both in the onshore and offshore environment could directly destroy a previously unrecorded historic or archaeological resource, including human remains, or disrupt the site such that the historic or archaeological context of the resource is altered adversely.

1. Onshore Resources

The EIR documents several potential cultural resources within the Project vicinity. A cultural resources record search, archival research and a pedestrian survey identified no known historic or archeological resources within the Project vicinity. The EIR also documents a consultation with the Native American Heritage Commission that failed to identify any Native American cultural resources. TE SubCom also contacted five Native American individuals and groups that the

NAHC identified as potentially interested parties. TE SubCom received two responses, one from Andrew Salas representing the Gabrieleno Band of Mission Indians – Kizh Nation and the second from Robert Dorame, representing the Gabrielino Tongva California Indians of California Tribal Council. Both commenters requested the presence of a Native American monitor and an archeological monitor during any ground disturbing activities. Mr. Dorame also stated that he had grown up in the area and was aware of cultural artifacts that may not be included in the South Central Cultural Resources Information Center database. In addition, a paleontological resources records search and analysis revealed that the likelihood of encountering buried paleontological deposits is considered low in this area.

The proposed project includes ground disturbing activities associated with installation of the cable tie-in that could adversely impact buried archeological or paleontological resources. To minimize the potential for damage to these resources, the EIR includes Mitigation Measure CR-1 that requires TE SubCom to develop a Cultural and Paleontological Resource Management Plan that includes provisions for awareness training, monitoring by an archeologist and a Native American monitor, procedures to follow in the event that previously unknown resources are discovered, and a process for collection and reporting of any appropriate artifacts. The EIR also required CR-3 that describes procedures to follow if human remains are recovered. These mitigation measures were implemented successfully for Phase 1 of the project and are incorporated again into this CDP under **Special Condition 3** (see **Exhibit 8**)**.**

2. Offshore Resources

In the offshore environment, project-related activities have the potential to disturb, disrupt or degrade prehistoric sites and watercraft and historic shipwrecks found on or within ocean sediments. Impacts from the pre-lay grapnel run and cable installation, burial and repair activities have the potential to displace or destroy elements of these resources that could result in the loss of important information about the historical or cultural context of the resource. A marine survey employing sidescan sonar and magnetometer technology identified no obstructions within the cable route.

The Commission finds that based on the results of these cultural resource investigations and with the measures described above in place, the proposed project, as conditioned, will not adversely impact cultural resources and is therefore consistent with Section 30244 of the Coastal Act.

J. GEOLOGY

Coastal Act Section 30253(2) states that:

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

Geologic conditions vary widely at Dockweiler State Beach and along the submarine cable routes. The onshore portions of the project do not cross any active fault and are not located in the Alquist-Priolo Earthquake Fault Zone, although the region is subject to strong ground shaking from faults in the region. Liquefaction of the unconsolidated beach sands may be expected during severe ground shaking. The Project itself, however, will not cause or increase the likelihood that liquefaction will occur. Onshore project components will be buried and will not expose people or structures to risk of injury.

In the offshore environment, the marine portion of the project is located in a seismically active area that may experience strong ground shaking due to activity on nearby faults. It is standard practice to cease installation activities, including returning divers to support vessels, in the event of an earthquake. For the most part, the offshore cable will be buried and won't contribute to increased risk of injury. Seismic activity could result in liquefaction of soils, although impacts associated with liquefaction are not expected to be significant.

1. Stability of Landing Site

There are no significant concerns with the geological stability of the landing site at Dockweiler State Beach in terms of shoreline retreat associated with coastal erosion or sea level rise, since no coastal bluff is present and project-related infrastructure is located outside of the tidal zone. Terrestrial construction activities including excavation and trenching could potentially aggravate erosion by exposing additional volumes of sediment to weather and the tides. However, construction activities are located outside of the tidal range, and should not be exposed to tidal flows. To minimize impacts associated with terrestrial erosion, **Special Condition 18** requires TE SubCom to submit to the Executive Director for review and approval a Stormwater Management Plan which incorporates erosion control measures for all activities.

The EIR for the first phase of the project included a sea level rise analysis prepared by TE SubCom. TE SubCom used the Coastal Storm Modeling System (CoSMos), developed by the USGS to model the effects of a conservative projection of 1.75 meters of sea level rise. This projection constitutes a worst case scenario of potential sea level rise expected by the year 2100 and does not take into account future beach replenishment projects that could be implemented to reverse beach loss. Modeling results indicated that project components seaward of the beach manholes and ocean ground beds would be inundated. All infrastructure at the landing site, including the beach manholes and ocean ground beds, are designed to withstand seawater. However, as sea level rises, wind and wave action under normal and extreme conditions will reach farther inland, leaving open the potential for increased erosion and deposition of beach sand on the landward edge of Dockweiler State Beach. Under these future ocean and weather conditions, there is a potential that project components buried under the beach could become unburied, resulting in a hazard to the public. To address this concern, **Special Condition 25** requires that for as long as the cable and associated infrastructure are present, should any of the project components become unburied, TE SubCom will be responsible for reburying the exposed project components. With **Special Conditions 18 and 25** in place, the proposed landing site will not contribute to erosion and will minimize the potential for future hazards.

2. Geologic Processes and the Submarine Cable

The safety of the submarine cables along their routes offshore is of concern because, as described in Section E, repair operations have the capacity to adversely impact marine organisms. Accordingly, to limit the need to conduct repair operations, the potential for breaks or damage to the cable related to erosion, scour, unstable soils, seismic activity or other hazards should also be minimized. To address these concerns, **Special Condition 5** requires TE SubCom to bury the cable to a depth of one meter where feasible. Burying the cable will protect it from scour and erosion associated with marine currents and waves. TE SubCom estimates that it can bury the cable along approximately 60% of the route.

Even with these measures in place, it is possible that the cable could sustain impacts associated with geologic processes. Given submarine currents present on the continental shelf, burial to the 1.0-meter depth may not be sufficient in all locations to prevent exposure of the cable by scouring. Further, the relatively steep slopes (up to 15 %) on which the cables are to be installed could be subject to slumping and/or sliding, which could expose or break the cables. Exposure of the cable on the seafloor could subject it to damage by anchoring or trawling operations. To identify areas of cable that may have been exposed, **Special Condition 11** requires that five years following initial cable installation and after any event that has the potential to affect the cables, the applicant shall survey those potentially affected portions of the cable route from the mean high tide line to the seaward limit of the territorial waters of the State of California. The purpose of this survey will be to verify that the cables have remained buried consistent with the as-built cable burial plan required by **Special Condition 8**. An “event” is defined as an incident or activity (such as a gear snag), the circumstances of which indicate the likelihood that previously buried cable has become unburied; an act of God, such as a severe earthquake in the vicinity of the cables that could cause deformation of the sea floor or underwater landslides; or any other significant event that could cause excessive ocean floor scouring. If the survey indicates that there has been significant change to the burial status of the cable, TE SubCom shall submit to the Executive Director a plan to assure re-burial of those cable segments.

With implementation of **Special Conditions 5, 8, 11, 18, and 25**, the Commission finds that the proposed project will minimize risks from geologic hazards to life and property and is therefore consistent with Section 30253 of the Coastal Act.

K. CALIFORNIA ENVIRONMENTAL QUALITY ACT

Section 13096 of the Commission's Code of Regulations requires Commission approval of Coastal Development Permits to be supported by a finding showing the permit amendment, as conditioned, to be consistent with any applicable requirements of the California Environmental Quality Act (CEQA). Section 21080.5(d)(2)(A) of CEQA prohibits a proposed development from being approved if there are feasible alternatives or feasible mitigation measures available which would substantially lessen any significant adverse effect which the activity may have on the environment.

The City of Los Angeles, acting as lead CEQA agency, certified an Environmental Impact Report for the proposed project on November 3, 2017. In June, 2018, the City issued an Addendum to the EIR and concluded that Phase II of the project would not result in new significant environmental effects or a substantial increase in the severity of previously identified significant effects.

The proposed development has been conditioned in order to be found consistent with the Chapter 3 policies of the Coastal Act. Mitigation measures, including conditions addressing marine resources, dredge and fill of coastal waters, water quality, ESHA, public access, cultural resources, and hazards will minimize all adverse environmental impacts. As conditioned, there are no feasible alternatives or feasible mitigation measures available which would substantially lessen any significant adverse impact which the activity may have on the environment. Therefore, the Commission finds that the proposed project is the least environmentally-damaging feasible alternative and is consistent with the requirements of the Coastal Act to conform to CEQA.

L. FEDERAL CONSISTENCY

The Commission's action in this case authorizes both a CDP for the proposed project and results in a conditional concurrence with TE SubCom's federal consistency certification. In the case of a conditional concurrence with a consistency certification, the following procedures are triggered under the federal consistency regulations (15 CFR Part 930):

> 930.4 Conditional Concurrences.
>
> *(a) Federal agencies, applicants, persons and applicant agencies should cooperate with State agencies to develop conditions that, if agreed to during the State agency's consistency review period and included in a Federal agency's …approval under subparts D [or] E … of this part, would allow the State agency to concur with the federal action. If instead a State agency issues a conditional concurrence:*
>
> > *(1) The State agency shall include in its concurrence letter the conditions which must be satisfied, an explanation of why the conditions are necessary to ensure consistency with specific enforceable policies of the management program, and an identification of the specific enforceable policies. The State agency's concurrence letter shall also inform the parties that if the requirements of paragraphs (a)(1) through (3) of the section are not met, then all parties shall treat the State agency's conditional concurrence letter as an objection pursuant to the applicable Subpart and notify, pursuant to §930.63(e), applicants, persons and applicant agencies of the opportunity to appeal the State agency's objection to the Secretary of Commerce within 30 days after receipt of the State agency's conditional concurrence/objection or 30 days after receiving notice from the Federal agency that the application will not be approved as amended by the State agency's conditions; and*

> *(2) The … applicant (for Subparts D and I), … shall modify the applicable plan, project proposal, or application to the Federal agency pursuant to the State agency's conditions. The Federal agency, applicant, person or applicant agency shall immediately notify the State agency if the State agency's conditions are not acceptable; and*
>
> *(3) The Federal agency (for Subparts D, E, F and I) shall approve the amended application (with the State agency's conditions). The Federal agency shall immediately notify the State agency and applicant or applicant agency if the Federal agency will not approve the application as amended by the State agency's conditions.*
>
> *(b) If the requirements of paragraphs (a)(1) through (3) of this section are not met, then all parties shall treat the State agency's conditional concurrence as an objection pursuant to the applicable Subpart.*

If the applicant were not to agree to the conditions, the federal consistency regulations require the Commission to notify the applicant as follows:

Right of Appeal.

Pursuant to subsection (a)(1) quoted in the prior section and Subpart H of the federal consistency regulations, within 30 days from receipt of notice of a Commission conditional concurrence to which TE SubCom does not agree, TE SubCom may request that the Secretary of Commerce override this objection. 15 CFR §§ 930.4(a)(1) & 930.125(a). In order to grant an override request, the Secretary must find that the proposed activity for which TE SubCom submitted a consistency certification is consistent with the objectives or purposes of the Coastal Zone Management Act, or is necessary in the interest of national security. A copy of the request and supporting information must be sent to the California Coastal Commission and U.S. Army Corps of Engineers. The Secretary may collect fees from TE SubCom administering and processing its request. [Note: This right of appeal does not apply to the CDP, but only to the activity authorized under the consistency certification.]

APPENDIX A: SUBSTANTIVE FILE DOCUMENTS

Coastal Development Permit Application and Federal Consistency Certification Materials:

Application for Coastal Development Permit 9-18-0647, dated June 18, 2018.

ERM on behalf of TE SubCom, Second Response to Notice of Incompleteness, submitted 9/21/2018.

ERM on behalf of TE SubCom, First Response to Notice of Incompleteness, submitted 08/16/2018.

Consistency Certification CC-0006-18, dated August 16, 2018.

Application for Coastal Development Permit 9-17-0389, dated May 2, 2017.

Staff report for Coastal Development Permit 9-17-0389, dated January 25, 2018.

Environmental Documents:

City of Hermosa Beach, *Final EIR for the Transpacific Fiber Optic Cable Project*, March 2016.

City of Los Angeles. *Final Environmental Impact Report (EIR) for the Los Angeles Trans-Pacific Telecommunications Cable Hub*, November 2017.

City of Los Angeles. *Addendum to the final EIR for the Los Angeles Trans-Pacific Telecommunications Cable Hub*, June 2018.

Ecology and Environment (E&E) for the City of Hermosa Beach. *Final Environmental Impact Report, prepared for the Tycom Transpacific Fiber Optic Cable and Hermosa Beach Landing Project*, November 2001.

Published Articles and Reports:

Cacchione, Drake, Field, and Tate. "Sea-floor gouges caused by migrating gray whales off northern California," Continental Shelf research, Vol. 7, No. 6, pp. 553-560.

Heezen, B.C. "Whales entangled in deep sea cables." Deep-Sea Research 4:105-115, 1957.

Kogan, Paul, Kuhnz, Burton, Von Thun, Greene, and Barry, 2006. *ATOC/Pioneer Seamount cable after 8 years on the seafloor: Observations, environmental impact*. Continental Shelf Research, Vol. 26, pp. 771-787.

Lissner, Andrew, Taghon, Gary, Diener, Douglas, Schroeter, Stephen, Dixon, John, 1991. Recolonization of Deep-Water Hard-Substrate Communities: Potential Impacts from Oil and Gas Development. Ecological Applications, Vol. 1, No. 3 (August 1991), pp. 258-267.

Minerals Management Service, Department of the Interior. *Gray Whale Monitoring Study: Final Report*, prepared by MBC Applied Environmental Sciences, August 1989.

Rampal, G. *Undersea Fiber-Optic Cable Systems Undergoing Unprecedented Growth*, Sea Technology, Vol. 39, No. 3, 10-19, 1998.

Wood, M.P. and Carter L. "Whale Entanglements with Submarine Communication Cables." IEEE Journal of Oceanic Engineering, Vol. 33, No. 4, October 2008.

Other:

California Department of Fish and Wildlife, Data on Final California Commercial Landings, 2016. https://www.wildlife.ca.gov/Fishing/Commercial/Landings#26004609-2016.

California Department of Fish and Wildlife electronic communication from Loni Adams , CDFW, to Kate Huckelbridge, California Coastal Commission, dated 8/6/2018.

Electronic communications from Nikki Payne, ERM, to John Weber, California Coastal Commission, dated 10/5/2018, 9/23/2018, 9/21/2018, 9/19/2018, 8/22/2018, and 8/24/2018.

National Oceanic and Atmospheric Administration (NOAA). 2009. Species of Concern: NOAA National Marine Fisheries Service: Cowcod (Sebastes levis). Retrieved from: http://westcoast.fisheries.noaa.gov/publications/SOC/cowcode_detailed.pdf.

NOAA Office of Science and Technology, Commercial Fishery Statistics, 2016. https://www.st.nmfs.noaa.gov/commercial-fisheries/index

Pacific Fishery Management Council (PFMF). 2016. Habitat and Communities: Habitat. What is Essential Fish Habitat (EFH)? Retrieved from https://www.pcouncil.org/habitat-and-communities/habitat/.

"Seadoc 2009-2014," spreadsheet developed by Cassidy Teufel and Kate Huckelbridge, California Coastal Commission, dated 6/17/16.

US Fish and Wildlife Service. 1988. Recovery Plan for the El Segundo Blue Butterfly. Region 1 US Fish and Wildlife Service, Portland Oregon. 67 p.