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STAFF REPORT: REGULAR CALENDAR

Application No.:	**9-18-1211**
Consistency Certification No.:	**CC-0010-18**
Applicant:	**RTI Infrastructure, Inc.**
Location:	In state and federal waters offshore of Hermosa Beach to the edge of the continental shelf; and at an existing landing site at Longfellow Avenue in the City of Hermosa Beach, Los Angeles County, connecting to the existing conduit system underlying the street network.
Project Description:	Install and operate a submarine fiber optic cable extending from Hermosa Beach, through state and federal waters, and connecting to Japan. Connect cable to terrestrial infrastructure at landing site previously approved by the Commission (9-16-0160/CC-0001-16), construct an ocean ground bed, and use existing manholes and duct structure underlying the street network to connect to the cable landing station at 1601 PCH (**Exhibits 1, 2 and 3**).
Staff Recommendation:	Approval with conditions (CDP); Concurrence with conditions (Consistency Certification).

SUMMARY OF STAFF RECOMMENDATION

RTI Infrastructure, Inc. (RTI Infrastructure) proposes a fiber optic cable as part of a multi-phase project to install and operate up to four trans-Pacific submarine fiber optic cables. The purpose of the project is to connect the United States to various locations on the western rim of the Pacific Ocean (**Exhibit 1**). The proposed project includes installation and operation of a submarine fiber optic cable using previously constructed shore-side landing infrastructure (including a landing manhole and steel bore pipe underneath the beach and extending offshore) at Longfellow Avenue within the City of Hermosa Beach, Los Angeles County. In addition to construction and operation of the cable, which will connect to Japan, the project will include the construction of an ocean ground bed either at the beach seaward of the landing manhole or at the seaward end of the 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 RTI Infrastructure to submit a Marine Wildlife Monitoring and Contingency Plan (MWMCP), **Special Condition 5** that requires the cable to be buried to a depth of one meter, and **Special Condition 6** requiring RTI Infrastructure to avoid and eliminate cable suspensions. **Special Condition 12** requires RTI Infrastructure to eventually remove the cable from state waters. In addition, **Special Conditions 14** and **15** require RTI Infrastructure 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 18 and 19** require RTI Infrastructure 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 with and impacts to commercial and recreational fishing activities. To minimize this potential, **Special Conditions 7, 8**, and **9** require RTI Infrastructure to notify fisherman of the location of the installed cable and any areas of exposed or suspended cable. In addition, **Special Condition 20** requires RTI Infrastructure to adhere to the requirements included in an existing Fishing Agreement between fiber optic cable companies and the fishing industry (**Exhibit 11**). 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 9-18-0211, as conditioned, and **conditionally concur** with consistency certification CC-0010-18.

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APPENDICES

EXHIBITS

MOTION AND RESOLUTION

1. Coastal Development Permit

Motion:

*I move that the Commission **approve** Coastal Development Permit No. 9-18-1211 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 9-18-1211 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-0010-18 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-0010-18 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

RTI Infrastructure 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 (CDP) No. 9-18-1211 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 CDP No. 9-18-1211 and Consistency Certification (CC) No. CC-0010-18 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 Commission (hereinafter "Executive Director"), for $500,000, and naming the 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.
   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. City of Hermosa Beach: Planned Development Permit/Precise Development Plan, approved April 19, 2016.

3. **Environmental Impact Report Mitigation Measures.** This permit incorporates those mitigation measures identified in the March 2016, *Final EIR for the Transpacific Fiber-Optic Cables Project* (State Clearinghouse No. 2015041004) concerning marine habitats, biological resources, fishing, public access, cultural resources and hazards that are attached to this report as **Exhibit 10.** The Permittee shall provide the Executive Director copies of reports prepared pursuant to mitigation measure BIO-1.

4. **Marine Wildlife Monitoring and Contingency Plan (MWMCP**). AT LEAST 60 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, cable-laying vessel speeds shall be limited to less than two nautical miles per hour (knots), with the speed of Project support vessels while assisting the cable-laying vessel limited to three to five 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 one meter in waters up to 1200 meters, except where precluded by seafloor substrates. Where a one-meter burial depth cannot be achieved, the Permittee shall bury the cable to the maximum depth feasible.

6. **Avoid and Eliminate Cable Suspensions**. AT LEAST 60 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 an ROV to reposition and/or bury to one 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 20**), 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 20**) the following: (a) as-built plans in writing (Route Position List) and alignment or strip charts depicting bathymetry, seafloor substrates or features, seabed profile, depths of cable (and ocean ground bed, if located at the seaward end of the bore pipe) 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 one 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 one 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 1200-meter depth contour to verify that the cable has remained buried consistent with the cable installation report required by **Special Condition 10**. The survey shall be conducted by a third party, approved by the Executive Director, using an 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 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 cable 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 ten days of the reporting or other identification of a qualifying event. This notification shall describe the location and nature of the qualifying event and the proposed survey, including survey location and timing. Following Executive Director approval of the proposed survey, the applicant 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 cable installation report required by **Special Condition 10**, 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 Hermosa Beach 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. **Anchoring Plan**. AT LEAST 30 DAYS PRIOR TO THE COMMENCEMENT OF OFFSHORE ACTIVITIES, the Permittee shall prepare and submit an Anchoring Plan to the Executive Director for review and approval that describes how the Permittee will avoid placing anchors on sensitive ocean floor habitats and pipelines. The Plan shall include at least the following information:
    - A list of all vessels that will anchor during the Project and the number and size of anchors to be set;
    - Detailed maps showing proposed anchoring sites that are located at least 40 feet (12 meters) from rocky habitat identified during the geophysical survey;
    - A description of the navigation equipment that would be used to ensure anchors are accurately set; and
    - Anchor handling procedures that would be followed to prevent or minimize anchor dragging, such as placing and removing all anchors vertically.

14. **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 one meter from the seafloor.

15. **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 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 twice its width. 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 14**. The applicant shall provide evidence of this payment to the Executive Director in the same time frame.

16. **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 also shall 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.

17. **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 five-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.

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

19. **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 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.

20. **Compliance with Fishing Agreement Requirements**. AT LEAST 30 DAYS PRIOR TO THE COMMENCEMENT OF OFFSHORE ACTIVITIES, the Permittee shall provide proof of having formally joined the existing Fishing Agreement (**Exhibit 11**). In a manner consistent with the requirements of Section 1 of the Fishing Agreement (see **Exhibit 11**), 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.

21. **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.

22. **Cable 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.

23. **Onshore Construction Limitations.** Onshore project construction related to the installation of the ocean ground bed is prohibited on Hermosa Beach from the Memorial Day weekend (beginning the preceding Friday) through Labor Day.

24. **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

RTI Infrastructure proposes a fiber optic cable (the Jupiter cable) which is part of a multi-phase project to install and operate up to four transpacific submarine fiber optic cables landing at Hermosa Beach, Los Angeles County with the purpose of connecting the United States to Japan (**Exhibit 1**). The proposed project includes installation and operation of the Jupiter cable from a landing site located at Longfellow Avenue in the City of Hermosa Beach out to the edge of the continental shelf (**Exhibit 2**). The Jupiter cable would use existing shore-side infrastructure installed as part of a previous project (CDP 9-16-0160/CC-0001-16), including a steel bore pipe underneath Hermosa Beach that will serve as a conduit for the cable from the marine environment onshore and a manhole for the connection into the terrestrial fiber optic cable system (**Exhibits 3 and 4**). To facilitate operation of the Jupiter cable, the proposed project includes placement of an ocean ground bed. This ocean ground bed may be located as part of the terrestrial component of the proposed project, in which case it would consist of anodes installed into holes drilled in the beach to sea water level (**Exhibit 5**). Alternatively, the ocean ground bed could be installed adjacent to the cable under the sea floor seaward of the marine terminus of the steel bore pipe (**Exhibit 5**). The marine and terrestrial components of the project are described in additional detail below.

Submarine fiber optic cable system

RTI Infrastructure proposes to install the Jupiter cable along the alignment shown in **Exhibit 2**. This alignment was selected to avoid marine features such as the Santa Monica and Redondo Canyons, the Channel Islands National Marine Sanctuary, explosives dumping areas, fisheries associated with Tanner Bank, Habitat Areas of Particular Concern (such as mapped sea grass, rocky reefs, kelp beds, and particularly designated areas—see **Exhibit 6**) contaminated sediments in Santa Monica Bay associated with the Palos Verdes Shelf and the Hyperion sewerage outfall, and commercial vessel anchoring and pilot boarding areas (**Exhibits 7 and 8**).

Before installing the submarine fiber optic cable on the seafloor, RTI Infrastructure would conduct a pre-lay grapnel run to clear debris from the cable corridor. Anything snagged on the grapnel, such as discarded fishing gear, would be retrieved and disposed of onshore. The grapnel would not be pulled over areas of hard bottom or in the vicinity of existing buried cables. Once the pre-lay grapnel run is complete, RTI Infrastructure would begin laying the fiber optic cable. Depending on the risk of damage to the cable (due to substrate conditions or fishing activity, e.g.), two types of cable design, both less than 2 inches (5 centimeters) in diameter, would be used: a double-armored design with two layers of polypropylene sheathing, and a light-weight armored cable with a single surrounding polypropylene sheath. Beginning at the seaward extent of the existing bore pipe, the cable would be payed out by the cable lay vessel and temporarily laid on the seafloor. Up to water depths of about 98 feet (30 meters), divers using hand jets would then open up a small furrow under the cable, allowing the cable to drop into the furrow. Sediments disturbed by the jets would then settle back over the cable, burying it to an optimal

depth of 3.28 feet (one meter) where feasible. From water depths of 98 feet to 328 feet (30 – 100 meters), a Remotely Operated Vehicle (ROV) would use water jets to bury the cable. Several passes by the ROV may be required to reach the target depth of three to four feet (1-1.2 meters).

From 328 feet (100 meters) to 3,937 feet (1200 meters) at the edge of the continental shelf, the cable would be installed using a cable plow (**Exhibit 9**). The plow, as it is pulled by the cable-laying ship, slices through ocean floor sediments while feeding the cable into the newly created furrow. As the sled continues to move forward, the weight of the sled coupled with the weight of the soil, closes and compacts the furrow, effectively burying the cable to a target burial depth of 3.28 feet (one meter). In areas where the plow is not able to achieve the targeted burial depth due to bottom conditions, an ROV would be used to attempt to bury the cable as described above. Deeper than 3,937 feet (1200 meters) feet, the cable will be laid directly on the seafloor.

Terrestrial Conduit System

The terrestrial conduit system links the marine fiber optic cable to existing and future fiber optic infrastructure. For the Jupiter cable project, RTI Infrastructure proposes to pull the cable through the terrestrial conduit system previously installed at Longfellow Avenue in Hermosa Beach. According to RTI Infrastructure, no staging areas would be needed for this project since the materials and equipment needed to install the cable and the ocean ground bed (if located at the beach landing) would be delivered directly to the work site.

Ocean Ground Bed

An ocean ground bed would be installed for the proposed Jupiter cable to provide cathodic protection to control corrosion; it would be located either at the terrestrial landing site or at the seaward end of the existing steel bore pipe. If located at the terrestrial landing site at Hermosa Beach, construction of the ocean ground bed would involve drilling holes down to seawater and inserting an anode in each hole with the tops of the anodes approximately 10 feet below grade (**Exhibit 5**). Up to six anodes would be installed in this case, with each anode constructed of cast iron and encased in a magnesium canister 10 inches (25 cm) in diameter and up to 84 inches (2.1 feet) in length. A copper ground cable would connect the tops of the anodes to one another and then to the landing manhole and would be protected by placing sacks of concrete on top of the cable to form a concrete cap. The ground bed would then be covered with sand.

If located at the seaward end of the steel bore pipe, the ground bed would consist of anodes installed at the same time as the cable. In this case, the tubular anodes would be mixed-metal oxide rods approximately 0.3 meters (11.8 inches) in diameter and approximately 1.5 meters (4.9 feet) in length. Three to five anodes would be connected in a linear fashion to create the array assembly, with each anode separated by a distance of approximately 3 meters (9.8 feet) and connected by an insulated copper conductor (**Exhibit 5**). The anode array would be installed by diver jet burial in the same operation as the marine cable burial. The array would be placed beginning at approximately 15 meters (50 feet) beyond the end of the HDD landing pipe and installed alongside the cable as it extends away from the landing pipe.

RTI Infrastructure estimates that construction of the proposed project would take approximately 30 days in total. Once begun, installation of the marine portion of the cable would occur 24 hours

per day and seven days per week. Terrestrial work would occur between the hours of Monday through Friday from 8:00 AM through 6:00 PM.

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, where 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.

RTI Infrastructure 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 lease approved by the City of Hermosa Beach, RTI Infrastructure 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, RTI Infrastructure proposes to abandon 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 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 a 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/CC-0001-16).
- In February 2018, the Commission approved a fiber optic cable and 4-cable landing site at Dockweiler State Beach (9-17-0389/CC-0004-17).
- In November 2018, the Commission approved a second fiber optic cable at Dockweiler State Beach (9-18-0647/CC-0006-18).
- In February 2019, the Commission approved a second fiber optic cable at Hermosa Beach (9-18-0593/CC-0008-18).

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

C. Other Agency Approvals and Tribal Consultations

City of Hermosa Beach

The City of Hermosa Beach (City) is the lead agency under the California Environmental Quality Act (CEQA) for the proposed project. On April 19, 2016, the City certified the final Environmental Impact Report (EIR) for the project and issued a Precise Development Permit for the proposed project. Ownership and management of the tidelands offshore of the City was granted to the City by the State Lands Commission. On May 24, 2016, the City Council voted to approve granting an easement to construct and operate the proposed project in the granted tidelands offshore of the City. The City does not have a certified Local Coastal Program, and thus the Commission will consider both the onshore and offshore portions of the project as part of this CDP.

Regional Water Quality Control Board – Los Angeles Region (RWQCB)

The RWQCB regulates waste discharges into receiving waters in the project area. On August 9, 2016, the RWQCB issued a Section 401 water quality certification for the proposed project.

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 (CWA) (*33 U.S.C. 1344*). The Applicant requested federal authorization from the Corps, who processed the request under Nationwide Permit #12 (Utility Line Activities) and issued a permit on February 28, 2018 (contingent upon Commission authorization).

Tribal Outreach and Consultations
During the process of reviewing RTI Infrastructure's 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 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 concerns had been brought to the attention of Commission staff by representatives of these Tribes (project clarifications regarding the proposed location and project purpose were requested). Any concerns raised subsequent to the publication of this report will be brought to the attention of the Commission through 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 and placement of a marine cable on the seafloor. This activity constitutes fill of open coastal waters that is subject to Coastal Act Section 30233(a), which imposes three tests on such an activity. 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 transoceanic cable, the purpose of which is to provide direct ocean connectivity between the United States and Japan, 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 the submarine cable 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 investigate two types of alternatives: (1) alternatives to the proposed landing sites, and (2) alternative offshore routes.

Alternatives to the Proposed Landing Sites

The Project EIR for both phases of the proposed project examined alternative landing sites in Hermosa Beach, Morro Bay, and other Los Angeles basin sites. Results of this analysis are summarized in the staff report for CDP 9-16-0160/CC-0001-16. As discussed in that staff report, the Commission found that there was no less environmentally damaging alternative to the proposed landing site at Hermosa Beach, and the Commission approved construction at that location. This proposed project would land at the already approved landing site. An alternative 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, a new alternative landing site would be more damaging environmentally than the proposed use of the existing landing site at Hermosa Beach. Use of a different landing site would involve the same construction activities and impacts associated with the proposed project, and therefore would 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

RTI Infrastructure sited the proposed Jupiter cable to minimize or avoid sensitive marine habitats and other known marine features, including: rocky substrates, marine sanctuaries, proposed

marine sanctuary boundary expansion, 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 6, 7, and 8** show the proposed cable route and several hazards and habitat areas that were avoided. In addition, RTI Infrastructure worked with local fishing organizations to choose routes with minimal potential to affect fisheries. Specifically, the following areas were avoided:

- Santa Monica and Redondo Canyons
- Habitat Areas of Particular Concern
- the Channel Islands National Marine Sanctuary
- Explosives dumping areas
- Fisheries associated with Tanner Bank
- Contaminated sediments in Santa Monica Bay 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. RTI Infrastructure conducted a geophysical survey of seabed features that concluded that the majority of hard bottom habitat in the cable corridor consisted of low relief rocks or sub-cropping rocks (defined as rock covered by a layer of loose sediment less than five 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 typical of the 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 Jupiter cable. These mitigation measures include: requiring RTI Infrastructure to bury the cable to a depth of one 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 to assess and mitigate for impacts to hard bottom habitat caused by incurred 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 Hermosa Beach, through the Santa Monica Basin and outer Santa Barbara Channel and out to the edge of the outer continental shelf (**Exhibit 2**). 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 alignment is in the vicinity of the Channel Island National Marine Sanctuary, Point Vicente State Marine Conservation Area (SMCA), several SMCAs on Catalina Island, and the Santa Barbara Island State Marine Reserve (SMR) (**Exhibit 8**). 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 involves the installation of a fiber optic cable on the seafloor from the shoreline out to the edge of the outer continental shelf 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 observed in the Southern California Bight 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 types of marine mammals such as pinnipeds (*e.g.,* sea lions, harbor seals) and 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. Because of 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 migrates within two nautical miles (nm) from shore, while the northbound migration occurs much closer to shore, with mother and calves reported within kelp beds and sometimes only yards from the shoreline. These distances, however, vary seasonally over time, particularly due to 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 also 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). NMFS has therefore determined the risk of sperm whale entanglement 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*

[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).

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 cables. In addition, the potential for entanglement is present during initial project installation 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 federal Endangered Species Act and the Marine Mammal Protection Act, entanglement or injury impacts resulting from insufficiently buried or exposed cables or from cable-laying would be significant. RTI Infrastructure estimates that along approximately 30 percent of the total cable distance to the edge of the continental shelf (approximately 44.7 miles), the cable will not be buried and will instead be placed on the ocean floor, thus creating the potential for cable suspensions.

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

- The vast majority (i.e., approximately 70% or 105 miles for this project) 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 kept to a very low profile off the seafloor (i.e., one to several inches).
- Cable slack would be stabilized to a level within the range of two to three percent in areas where the cable cannot be buried to ensure that the cable conforms to the slopes and peaks of the seabed and is not more than one foot off the bottom, thus preventing spans from developing.

Furthermore, the Project EIR also states:

Of the 11 known commercial fiber-optic cable landings in coastal California waters installed since 2000, no known or reported entanglements between whales and fiber optic cables have occurred (AMS, 2015). While there remains a small risk of marine mammal entanglement (Read et al., 2006), unlike fishing nets and other gear, fiber optic cables are thicker (approximately 2 inches [5 centimeters] in diameter) and consist of a single thread which reduced the likelihood of entanglement.

To ensure that the proposed project minimizes the potential for whale and other marine wildlife interaction with the project cable, and to document any future entanglements, the Commission requires that several conditions be met by the applicant. **Special Condition 3** requires RTI

Infrastructure to implement the mitigation measures related to marine resources included in the final EIR (**Exhibit 10**). To further reduce the potential for entanglement during cable laying, **Special Condition 4** requires RTI Infrastructure to submit a Marine Wildlife Monitoring and Contingency Plan (MWMCP) to the Executive Director for review and approval. The MWMCP will incorporate the marine protection elements of EIR mitigation measures BIO-10a, 10b and 10c but goes farther to include provisions for marine wildlife training for project personnel, reduced vessel speed during cable-laying activities and minimization of propeller noise. In addition, the MWMCP also must describe a marine wildlife monitoring program that includes two NMFS-approved marine mammal observers responsible for monitoring a 500-1640 foot radius around the Project vessels. 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 RTI Infrastructure to bury the cable to a depth of one meter except where precluded by seafloor substrates. Where a one-meter burial depth cannot be achieved, RTI Infrastructure 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 RTI Infrastructure to submit to the Executive Director and the signatories to the Fishing Agreement (included in **Special Condition 20**) the as-built plans, including burial depth, of the project cable. To minimize the occurrence of suspended cable, **Special Condition 6** requires RTI Infrastructure to submit to the Executive Director for review and approval a Cable Slack Management Plan that describes the steps RTI Infrastructure 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 RTI Infrastructure 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 RTI Infrastructure's easement in state waters off of Hermosa Beach.

In order to ensure compliance with these and other conditions, **Special Condition 1** requires RTI Infrastructure to post a performance bond in the amount of $500,000 to cover its cable operations in State and federal waters.

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 the Southern California Cable and Fishing Agreement executed by cable companies and various fishermen and their representatives (see **Exhibit 11**), that RTI Infrastructure (specifically for the Jupiter cable) will be joining as required by **Special Condition 20**, when it appears that a fisherman has snagged a cable, he or she is expected to cut the gear instead of risking damage to the cable. If the fisherman was operating consistent with established procedures, RTI Infrastructure 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 one meter will ensure that the vast majority of the cable is buried beneath the surface and does not create a potential hazard for fisherman. RTI Infrastructure estimates that only 30% of the cable length will be laid on the surface and thus potentially available to snag fishing gear. To further minimize the likelihood that fisherman come into contact with the cable, **Special Condition 8** requires RTI Infrastructure 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 RTI Infrastructure to provide NOAA with the information necessary to update its nautical charts to reflect the position and burial status of the installed cable.

Although fishing gear entanglement 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 22** has been added to require RTI Infrastructure 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, RTI Infrastructure will remove as much gear as practicable to minimize harm to wildlife. Within two weeks of completing a recovery operation, RTI Infrastructure 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

Impacts to marine mammals and sea turtles could result 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 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 states that impacts from noise and vessel movement have the potential to result in behavioral changes or disruptions in migration routes. 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 describes three mitigation measures intended to reduce the impact to marine mammals and sea turtles to a less than significant level: monitoring by a qualified biologist, modification of vessel operations when marine mammals or sea turtles are present, and reporting any collisions to appropriate Federal and State agencies. **Special Condition 3** requires RTI Infrastructure to implement these mitigation measures. Although these measures are likely to decrease collision risk, additional measures are necessary to enable the proposed project to be found consistent with the requirement to protect marine species as required by Section 30230 of the Coastal Act. For previous cable-laying projects of similar scope, the Commission generally has required two marine wildlife monitors to ensure adequate coverage of the project area. In addition, EIR mitigation measures do not identify an avoidance zone, require reduced vessel speeds to avoid collisions, or provide for vessel crew awareness training. Thus, consistent with previous fiber optic submarine cable project approvals, the Commission has included an additional 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 RTI Infrastructure to submit a Marine Wildlife Monitoring and Contingency Plan to the Executive Director for review and approval. This plan includes provisions for a minimum of two marine wildlife observers, the establishment of a 500-1640 foot avoidance zone, project vessel speed limits, and training for project personnel. With these conditions in place, potential 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 fishes in Santa Monica Bay, like the rest of the California coast, is influenced by depth, substrate type, temperature, and ocean currents. According to the 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 sanddabs (*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 of Hermosa Beach. 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.

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 17** requires RTI Infrastructure to submit a Critical Operations and Curtailment Plan which describes the sea and weather conditions under which project activities can safely occur, 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 National Marine Fisheries Service (NMFS), United States Fish and Wildlife Service (USFWS) and the California Department of Fish and Wildlife (CDFW) set threshold-type benchmarks 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, and for marine vessels underwater noise is generally correlated with vessel speed. One study measured sound levels from a tug travelling at eleven knots at 160dB at a distance of two 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, **Special Condition 4** requires RTI Infrastructure to limit the speed of project vessels to two nautical miles per hour (knots), further reducing noise levels associated with project activities.

Finally, 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, installation of the ocean ground bed (if placed at the seaward terminus of the steel bore pipe), 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 (three inches; 7.6 centimeters) is assumed."

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

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, as stated in the EIR, the proposed project is not likely to lead to any measurable reduction in the capacity of these environments to support fishes identified in the Fishery Management Plans.

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 (656 feet) deep, algae, including giant kelp, eelgrass and anemones such as *Corynactis californica* are present. At these depths (and deeper), depending on the presence of 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, and ophiuroids, brittle stars, and seastars also are present.

Hard substrate (especially high-relief substrate) and its associated biota are rare, 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, RTI Infrastructure will not deploy the grapnel in areas of rocky seafloor substrate. Impacts to hard bottom habitat from anchors would be temporary, and would be removed as soon as the vessel has completed its work**.** However, studies have shown that hard bottom ecosystems are relatively slow to recover from direct impacts (e.g., as compared to soft bottom ecosystems). Thus, it is likely that areas impacted by project anchors could take many years to recover, even though the impact itself is short-lived. Thus, to further reduce the potential for impacts to hard substrate from project anchors, **Special Condition 13** requires RTI Infrastructure to submit for Executive Director review and approval an anchoring plan demonstrating that hard bottom substrate areas would be avoided and listing equipment and procedures to be used to ensure anchors would be placed accurately.

However, RTI Infrastructure 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, RTI Infrastructure estimates the length of cable to be laid over hard substrate to be 6.45 miles (10.38 kilometers). Multiplying this distance by double the width of the cable results in a potential hard substrate impact area of 6,984 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 applicants have 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. 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 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.

Derelict fishing gear likely is 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.

Commission staff recently 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 has 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 show 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 2016 or more recently, the Commission 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, the proposed project could impact approximately 6,984 square feet of hard bottom substrate. This impact area was determined using data from a geophysical survey, conducted in 2018, that used sonar to determine substrate type within the cable corridor. These data were 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 14** requires RTI Infrastructure to conduct a post-lay burial survey of the installed cable to quantify the extent of actual hard bottom impacts. The survey also will quantify the height and length of any cable suspended at heights greater than one meter from the seafloor. Within 45 days of

completing the survey, RTI Infrastructure will submit to the Executive Director a written report describing the results of the survey for review and approval.

Additionally, **Special Condition 15** requires RTI Infrastructure 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 laid down at the particular location.

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 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, but based on the estimated impact amount and the resultant fee, it is likely that the final mitigation fee will provide sufficient funding to accomplish work under both priorities described above.

The Commission finds that removing lost fishing gear, abandoned tires 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 Section 30230 of the Coastal Act 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 routes 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*), and 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 anemones, 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. However, 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. In near-island habitats, which comprise a significant portion of the proposed cable routes, the above communities become diverse and abundant. The proposed cable route passes 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 70 percent of the proposed cable route crosses soft-bottom habitat. In 2018, RTI Infrastructure completed a geophysical survey of the proposed cable route corridor between the offshore terminus of the landing borepipe at a depth of 40 feet (12 meters) out to a water depth of 607 feet (185 meters). Additionally, in 2018 Applied Marine Science prepared a summary report examining and summarizing previous surveys of benthic habitats in the region (Applied Marine Science 2018). This summary and data collected during the geophysical 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, diver support vessel anchoring, and the laying and burial of the cable and ocean ground bed if located offshore). In addition, during post-installation 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:

> *Any effects to soft sediment biota during cable installation, operation, or abandonment can be expected to be minimal and short term. The use of a cable plow to create a temporary furrow along the seafloor into which the fiber-optic cable is placed and immediately buried would result in a temporary disturbance of benthic infauna (animals living in the sediments of the seafloor) and epifauna (animals living on the surface of the seafloor). It is estimated that the actual area of disturbance is less than 8 meters wide, the size of the plow itself, with the most severe effects being limited to the 3.3-foot- (1-meter-) wide trench. Most mobile invertebrates and fish can be expected to avoid the plow and return to the area shortly after the plow has left. Any benthic infauna inhabiting the upper biotic sediment layers disturbed by the plow and then replaced into the furrow on top of the cable can be assumed would be smothered and killed. The loss would be minimal, based on the extremely small area of the seafloor affected relative to the surrounding area… In addition to being a relatively small area of disturbance, the benthic infauna that would be affected in the soft-bottom areas are common species that would readily repopulate the disturbed area after the cable is laid…Recolonization would occur both by migration from adjoining, undisturbed seafloor areas and by natural recruitment.*

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 required for benthic organisms to recover (Applied Marine Science 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 Hermosa 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 Hermosa 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 west 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. In the project area, DDT and PCBs are the contaminants of highest concern in the sediments of Santa Monica Bay.

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. At the conduit terminus, water jetting operations to expose the newly installed conduit will result in localized increases in turbidity. However, the EIR states that the majority of nearshore sediments consist largely of sand, which is expected to settle rapidly within the immediate area of the conduit, resulting in only minor impacts to marine water quality. The pre-lay grapnel run, laying of the cable, jetting of sediments during cable installation, and use of the sea plow farther offshore will result in local and temporary increases in turbidity. According to the EIR:

> *Project activities would be expected to suspend sediments and increase turbidity for 4 hours at any one location (E&E, 2001). The greatest concentrations would be in the immediate vicinity of the Project activities. Dilution through dispersion by currents and settling of heavier particles would greatly reduce impacts beyond the immediate vicinity. The duration of increased turbidity would be short, and most suspended sediments would not be visible at the water surface and would also settle out of the water column within hours of any activity.*

Thus, due to the 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, it could disturb sediments contaminated with DDT, PCBs, and metals, 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. Thus, any unknown contaminated areas encountered along the cable route are likely to be characterized by low contaminant concentrations. In addition, the proposed construction methods are not likely to result in significant redistribution of sediments. However, cable

installation activities could still result in water quality impacts associated with exposure to contaminated sediments. The EIR states:

> *The pre-lay grapnel run, cable installation, and cable repair would result in the temporary suspension and dispersal of potentially contaminated toxic sediments. Impacts on organisms could occur if high levels are encountered, with sub-lethal effects if lower concentrations are encountered, or possibly an increased potential for bioaccumulation of contaminants in organisms through the food chain. Sediments are naturally re-suspended and dispersed by wave action and ocean floor currents throughout very large areas of Santa Monica Bay. The volume of contaminated sediments potentially re-suspended and dispersed via natural processes is far more than that anticipated to be caused by the very small-scale Project construction activities (Table 3.3-8). Project activities are isolated to a very small footprint and, therefore, can only generate very small amounts of re-suspended sediment. Also, the Project avoids heavily contaminated areas and re-suspended sediment in areas of cable laying would be far below levels of re-suspended sediment from natural processes that would occur in larger areas. This impact would not be significant (Class III) because the proposed Project would not add contaminants to the area, the area affected is relatively small, and suspended sediments are expected to disperse within 1 day with a low likelihood of reaching toxic levels to wildlife…*

Project Vessel Releases

The proposed project requires the use of several different marine vessels and equipment to support the construction and operation of the Jupiter 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 EIR includes several mitigation measures to further reduce the risk of a spill from a project vessel. For example, EIR mitigation measures HWQ-2a, 2b and 2c require RTI Infrastructure to develop a Spill Prevention Plan, a Vessel Waste Management Plan and a Shipboard Oil Pollution Emergency Plan, respectively. In addition, **Special Condition 16** requires RTI Infrastructure to submit a project-specific Spill Prevention and Response Plan to the Executive Director for review and approval. In addition to the requirements of HWQ-2a and HWQ-2c, the Spill Prevention and Response Plan is required to identify the worst-case spill scenario and demonstrate that adequate spill response equipment is available. In addition, this Plan is required to 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 17** requires RTI Infrastructure 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 18** requires implementation of a zero discharge policy for all project vessels.

Erosion from Terrestrial Activities
Installation of the ocean ground bed in Hermosa Beach has the potential to result in water quality impacts due to storm water discharges, accelerated soil erosion, and sedimentation. **Special Condition 2** requires RTI Infrastructure 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 19** requires RTI Infrastructure 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, the EIR includes mitigation measures HAZ-1a, HAZ-1b, HAZ-1c, and HAZ-1d (incorporated into this permit through **Special Condition 3**) that require RTI Infrastructure to develop a Spill Prevention and Contingency Plan for terrestrial construction activities, conduct worker training related to recognizing and responding to spills, maintain equipment to avoid leaks, and practice 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 through 22**, will be carried out in a manner that maintains marine resources and 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(b) states:

> *(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 are located largely in public right-of-ways, and land use surrounding the terrestrial conduit routes is mainly residential, commercial and recreational and does intersect any native terrestrial habitats. The proposed project includes the potential installation of an ocean ground bed beneath the beach, approximately 250 feet landward of mean high water. Although the beach areas within the project footprint are heavily used for recreational purposes and are not considered ESHA, nearby sandy beach areas have been observed to provide habitat for special status species, such as the state and federally listed western snowy plover (*Charadrius niviosus nivosus*) and the California least tern (*Sternula antillarum browni*). California brown pelican (*Pelecanus occidentalis californicus*) (fully protected in California), black skimmer (*Rynchops niger*) (a California Species of Special Concern), and double-crested cormorant (*Phalacrocorax auritus*) (a California Species of Special Concern), are likely to fly over the project area, but no nesting or roosting habitat for these species are located within or adjacent to project impact areas. Additionally, project activities are not expected to interfere with foraging behaviors. Black skimmers nest on sandy beaches, but high levels of recreation and beach management disturbance make the project area unlikely to support nesting.

The project component with the greatest potential to impact these special status species is the potential installation of the ocean ground bed. If the beach location is chosen for the ocean ground bed, RTI Infrastructure anticipates that installation of the ground bed would take approximately 3 days and would involve drilling holes into the sand down to sea level, placing the anodes in the holes, connecting the tops of the anodes and finally covering the anodes with sand. Equipment needed to install the ocean ground bed would include a backhoe and a small water well drilling unit. These project activities could result in disturbance to snowy plovers or least terns roosting or nesting nearby. To minimize the potential for any impacts to these species, the EIR included mitigation measure BIO-1:

> ***BIO-1: Avoid Disturbing Roosting Western Snowy Plovers or California Least Terns***. *If the beach landing sites are selected, the directional bore and facility installation activities will be conducted outside of the roosting period for western snowy plovers (September through March) as feasible, to avoid impacts on roosting snowy plovers. If the beach landing sites will be established, and construction activities at the bore sites must occur during the roosting season, a qualified biologist approved by the City will contact USFWS and CDFW to determine if the site(s) are within a Special Protection Zone for roosting western snowy plovers. If the landing site(s) are within a Special Protection Zone, construction activities will not be allowed until western snowy plovers are no longer present. If the area is not within a Special Protection Zone, a qualified biologist will survey the area for western snowy plovers using established protocols and in coordination with USFWS and CDFW to determine if plovers are present. If present, no work will occur until after snowy plovers leave the roost site for the season. The qualified biologist will also survey the area for California least terns using established protocols and in coordination with USFWS and CDFW to determine if California least terns are present. If surveys are negative for western snowy plovers or California least terns, work may proceed during the roosting period and the biologist will be present to monitor the establishment of the beach landing sites to ensure that no western snowy plovers or California least terns are injured or killed, should they arrive in the area*

> *subsequent to work commencing. The sites will include fencing/walls that will prevent western snowy plovers or California least terns from entering the work areas. The biologist will conduct weekly site visits to ensure that fence/walls are intact until construction activities are finished at the sites and all equipment is removed from the beach. The results of the preconstruction survey will be submitted to the City prior to the establishment of beach landing sites. All biological monitoring efforts will be documented in monthly compliance reports to the City.*

RTI Infrastructure, Inc. clarified that the above condition would apply to any work conducted on the beach, regardless of the landing site selected (MC Global, personal communication 6/22/16) and would thus be applicable to work associated with installation of the ocean ground beds at Hermosa Beach. Implementation of this measure will ensure that potential snowy plover and least tern habitat located adjacent or near to the project site is not degraded by project-related activities and continues to be available for use by snowy plovers and least terns. **Special Condition 3** incorporates the mitigation measures included in the EIR that relate to biological resources into this CDP, including BIO-1. Thus, with the above measure in place, special status species will be protected against disturbance-related impacts associated with the proposed project in the event that the ocean ground bed is installed at the beach location.

In addition to special-status species, the proposed project has the potential to result in adverse impacts to nesting birds. Native birds could nest in ornamental plantings, on buildings or other structures or on the ground within the project area. Biological surveys conducted by RTI Infrastructure observed a red-shouldered hawk (*Buteo lineatus*) and a Cooper's hawk (*Accipter cooperii*), species which are protected under the Migratory Bird Treaty Act and California Fish and Game Code Sections 3503 and 3513. According to the EIR:

> *If present adult birds would flee from equipment during Project construction/ installation. However, nestlings and eggs of ground-nesting birds or birds nesting in ornamental trees, landscaping, or equipment and facilities would be vulnerable to injury during Project construction. Construction and demolition activities conducted during the nesting season could destroy bird nests, including eggs or nestling birds, or could disturb nesting birds to the point of nest failure. Project activities would occur in small, localized areas at the two landing sites, at periodic access points for underground boring, and at the PFE facilities. Installation activities would occur within a developed, urbanized area and would be generally consistent with current human activity levels from recreationists, traffic, and other sources of noise and disturbance. Any birds nesting in the Project area are expected to be acclimated to and tolerant of human disturbance, and Project activities are not expected to result in substantial adverse impacts. Nonetheless, noise and vegetation removal in the Greenbelt and Valley Park may result in loss of nests, eggs, or nestlings without mitigation.*

To address these potential impacts, the EIR includes mitigation measure BIO-2 which requires RTI Infrastructure to hire a qualified biologist to conduct preconstruction surveys for nesting raptors and other birds within 100 feet of all work areas. If an active nest is identified, a 50-foot

buffer will be established around the nest to minimize potential impacts from vegetation trimming and construction noise. These buffers may be adjusted by the biologist based on conditions around the nest, planned construction activities, tolerance of the species and other pertinent factors. The full text of the condition is in **Exhibit 10**. Implementation of this measure reduces the potential for direct or indirect impacts to nesting birds. **Special Condition 3** incorporates the mitigation measures included in the EIR that relate to biological resources into this CDP, including BIO-2. Thus, with the above measure in place, nesting birds will be protected against disturbance-related impact associated with the proposed project.

With the incorporation of mitigation measures BIO-1 and BIO-2 under **Special Condition 3,** the Commission finds that habitat supporting special-status species and roosting and nesting birds would be protected against any disruption of habitat values, and thus, that the proposed project would be 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, 18 miles southeast of Hermosa Beach. 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 million pounds) and 62nd by dollar value ($18.6 million) (CDFW 2016, NOAA 2016). Other nearby fishing ports include Port Hueneme, Redondo Beach, and Newport Beach. The most common fishing gear types used in the project area include nets, trawls, pots and traps, trolling, and hand lines.

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 cable, 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.

[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.

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, project construction is anticipated to last up to 30 days. Temporary 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. However, de facto preclusion created by all cable installation activities will be temporary and in constant motion as the cable is being laid and/or buried so there will be sufficient access to other fishing and boating areas in the project area. Moreover, once the cable is 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.

As required by **Special Condition 20**, to minimize potential conflicts and impacts to fishing from cable installation, operation, and repair, RTI Infrastructure will join the Southern California Cable & Fishing Agreement between fiber optic cable companies representing the UNITY (Cable Segment 4), PLCN, Curie, Tata Communications (Cable Segment 4), and SEA US cables, and the Southern California Trawlers Association, the Los Angeles Commercial Fishermen's Association, the Southern California Commercial Fishing Association, and individual fishermen (hereinafter referred to as the Fishing Agreement – See **Exhibit 11** for the full text). The Fishing Agreement includes the following provisions:

- 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.

Special Condition 20 requires RTI Infrastructure to comply with the provisions of the Fishing Agreement. To further minimize potential conflicts with fishing during cable repairs, **Special Condition 21** requires RTI Infrastructure 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, RTI Infrastructure 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. RTI Infrastructure will minimize potential fishing conflicts and effects through a number of measures. Most importantly, **Special Condition 5** requires RTI Infrastructure to bury the cable to a depth of one meter in waters up to 1200 meters, except where precluded by seafloor substrates. Where a one-meter burial depth cannot be achieved, RTI Infrastructure will bury the cable to the maximum depth feasible. RTI Infrastructure estimates it can bury the cable along 70% of the cable route. Buried cable will minimize the potential for fishing gear entanglement and gear damage or loss. RTI Infrastructure will lay the cable on the seafloor and will not attempt to bury it in waters greater than 1200 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 cable on the seafloor.

To minimize the potential 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 RTI Infrastructure 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 the Fishing Agreement, weekly notices containing preliminary as-built coordinates of any unburied or exposed sections of cable. RTI Infrastructure 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 RTI Infrastructure 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 RTI Infrastructure 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 one meter above the seafloor; an evaluation of the consistency of cable installation with RTI Infrastructure'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 RTI Infrastructure, within 60 days of completion of cable installation, to submit evidence to the Executive Director that the company 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 RTI Infrastructure to submit a Cable Slack Management Plan to the Executive Director for review and approval. This Plan will describe the steps RTI Infrastructure 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 after any event that has the potential to affect the cable, the applicant 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 would be to verify that the cable has 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 cable 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 is required to be conducted with an ROV equipped with video and still cameras and by a third party approved by the Executive Director. Within 30 days of survey completion, RTI Infrastructure is required to 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, RTI Infrastructure is required to 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 21** requires RTI Infrastructure 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 RTI Infrastructure's lease agreement with the City, **Special Condition 12** requires RTI Infrastructure to apply for an amendment to this permit to remove the cable from the seafloor.

In order to ensure compliance with these and other conditions, **Special Condition 1** requires RTI Infrastructure to post a performance bond in the amount of $500,000 to cover its cable operations in State and federal waters.

With implementation of these measures, the Commission finds that project-related impacts to commercial and recreational fishermen will be minimized, and that 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 cable is being laid and/or buried so there will be sufficient access to other fishing and boating areas in the project area. Moreover, once the cable is laid, full access will be restored. Because of the short-term nature of the preclusion zones, the disruption of fishing and boating would not be significant.

If located at the beach, the onshore installation of an ocean ground bed may inconvenience beach users in the short-term, since installation at that location will require up to three days of work.

However, according to RTI Infrastructure no construction staging areas would be needed, and the area needed to install the ocean ground bed would be approximately 20 feet (6 meters) wide and 50 feet (15.2 meters) long.

To address concerns related to traffic circulation, the EIR requires RTI Infrastructure to submit a Construction Traffic Control Plan (mitigation measure TT-1a). The Plan will include feasible measures to reduce Project-related truck trips and reduce temporary traffic delays, notify affected property owners about the timing and duration of obstructions, coordinate with emergency service providers and local transit authorities, and ensure the safe passage of pedestrians and bicycles through the project site. **Special Condition 3** incorporates mitigation measures included in the EIR that relate to public access, including TT-1a, into this CDP.

To further minimize any impacts to beach users due to project activities, **Special Condition 23** prohibits onshore project construction associated with installation of the ocean ground beds during Hermosa Beach's peak beach use season, Memorial Day weekend through Labor Day.

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 that the project is consistent with Sections 30210 and 30220 of the Coastal Act.

I. CULTURAL 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.

Onshore Resources
The EIR and an archeological survey report completed for the proposed project in January 2018 document several potential cultural resources within the project vicinity. A cultural resources record search, archival research and a pedestrian survey identified 13 different historic resources within the Project vicinity, all of which are part of the built environment.

The EIR also documents a consultation with the Native American Heritage Commission that failed to identify any Native American cultural resources. In addition, a paleontological

resources records search revealed that the likelihood of encountering buried paleontological deposits is considered low in this area. Furthermore, according to the EIR:

> *The City of Hermosa General Plan Existing Conditions Report…makes the argument that the area of Hermosa Beach is not considered sensitive for prehistoric resources, especially in the low-lying areas near the beach. This assertion is based on the statement that shifting beach sands and sand dunes are too dynamic to preserve prehistoric sites and on evidence that the Gabrieleno/Tongva generally located their settlements away from beaches…While this is likely accurate for the potential for encountering sites dating to the later prehistoric period, there is still potential for encountering prehistoric archaeological deposits that date to before the stabilizing of the modern shoreline around 5000 years BC and for encountering historic era archaeological deposits, especially those dating to the early 20th Century.*

The proposed project includes ground disturbing activities associated with installation of the ocean ground bed, if located at the beach, which could adversely impact buried archeological or paleontological resources. To minimize the potential for damage to these resources, the EIR includes several mitigation measures that require RTI Infrastructure to monitor for and evaluate any discovered resources. Mitigation measures CR-1b, CR-2a, CR-2b, CR-4a, CR-4b and CR-5 require RTI Infrastructure to develop Archeological, Cultural and Paleontological Resource Monitoring Plans that includes provisions for archeological, paleontological and Native American monitoring of all ground-disturbing activities, procedures to follow in the event that previously unknown resources or human remains are discovered, and a process for collection and reporting of any appropriate artifacts. These mitigation measures are incorporated into this CDP under **Special Condition 3** (see **Exhibit 10).**

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, according to the EIR, "result in the loss of integrity, loss of structural and compositional information that could have addressed important research questions." Additionally, an initial inventory and mapping of shipwrecks and downed aircraft within ten miles (16 km) of the study area was also conducted (MacFarlane Archaeological Consultants 2018) by consulting state and federal agency sources and databases, including information from the State Lands Commission, the Bureau of Ocean Energy Management (BOEM), NOAA, the National Register of Historic Places, California Historical Landmarks, and several museums and libraries. Based on this initial assessment, a total of 64 shipwrecks and two aircraft were estimated to fall within 18.5 km (11.5 miles) of the proposed cable route, although many of the locations of these shipwrecks are not precisely known. A subsequent geophysical survey of the proposed cable route was conducted in May of 2018. The survey resulted in no areas indicative of older channels or associated buried paleo-environments along the proposed cable route, and no potential shipwrecks within the proposed cable corridor (MacFarlane Archaeological Consultants 2018).

The Commission finds that based on these factors and with the above-referenced measures in place, the project would 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:*
>
> *(2) Assure stability and structural integrity, and neither create nor contribute significantly to erosion, geologic instability, or destruction of the site or surrounding area or in any way require the construction of protective devices that would substantially alter natural landforms along bluffs and cliffs.*

The onshore portions of the project do not cross any active fault, 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. Liquefaction of the upper several meters of sediments on the sea floor in which the cable is to be installed is possible at various locations. The bulk density of the fiber optic cable is greater than that of the liquefied sediments, and so the cable may sink within the liquefied sediments. Such sinking will serve to bury the cable to a greater depth than its installation depth and may remove some cable slack and increase cable tension.

RTI Infrastructure selected the marine route to avoid several significant geologic features that could impact the cable, including submarine canyons, unstable substrates, and rocky substrates. From the bore pipe location offshore, the marine cable passes through gravel areas through which petroleum seeps may occur, and then through sandy and clay sediments in Santa Monica Bay. After descending the slope of the Santa Monica Basin (where the potential for liquefaction exists), the marine routes cross other ridges and basins that alternately are underlain by soft and firm sediments and bedrock; ridges contain bedrock outcrops and firm sediments, and basins are floored by soft to firm sediments.

There are no active faults within the proposed project footprint or within one mile of the terrestrial portions of the project. The closest known active faults are the Palos Verdes Fault Zone, approximately 2.7 miles south, and the Newport-Inglewood fault, approximately eight miles northeast, of the Longfellow St. landing site.

Stability of Landing Site
As described in more detail in the staff report for CDP 9-16-0160/CC-0001-16, there are no significant concerns with the geological stability of the landing site at Hermosa Beach in terms of shoreline retreat associated with coastal erosion or sea level rise, since no coastal bluff is present at Hermosa Beach. A Sea-Level Rise Vulnerability Assessment prepared by the City in 2014 notes that the City has gained an additional 250 feet of beach sand width between 1935 and 1990, primarily due to opportunistic beach replenishment programs conducted elsewhere in

Santa Monica Bay. If these beach projects continue, Hermosa Beach is likely to add additional beach width into the future, thereby reducing the potential effect of sea level rise on the proposed project. In addition, the Vulnerability Assessment indicates that the central and southern portions of Hermosa Beach shoreline are the most vulnerable to sea level rise, rather than the northern portion of the shoreline where the proposed project would be located. However, should any of the project components become exposed, RTI Infrastructure will be responsible for reburying the exposed project components as described in **Special Condition 24**.

Geologic Processes and the Submarine Cable

The safety of the submarine cable along its route offshore is of concern because, as described in Section E, repair operations have the capacity to adversely impact marine organisms. Accordingly, 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 RTI Infrastructure 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. RTI Infrastructure estimates that it can bury the cable along approximately 70% of the route. The project EIR also included mitigation measure GEO-1, incorporated into this CDP under **Special Condition 3**, which requires RTI Infrastructure to conduct a geotechnical study to evaluate seafloor conditions (including characterization and grain size analysis of subsurface sediments) and identify geologic hazards. RTI Infrastructure is then required to use this information to realign the cable where feasible to avoid unstable areas or hazards.

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 one-meter depth may not be sufficient in all locations to prevent exposure of the cable by scouring. Further, areas of relatively steep slopes (up to 15 % grade) on which the cable is to be installed could be subject to slumping and/or sliding, which could expose or break the cable. 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 after any event that has the potential to affect the cable, the applicant 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 cable has remained buried consistent with the as-built cable burial plan required by **Special Condition 8**. If the surveys show that previously buried portions of the cable have become exposed, RTI Infrastructure is required to submit to the Executive Director a plan to assure re-burial of those cable segments.

With implementation of **Special Conditions 3, 5, 8, 11, and 24**, 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, 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 Hermosa Beach, acting as lead CEQA agency, certified an Environmental Impact Report for the proposed project on April 19, 2016.

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, commercial and recreational fishing, geologic hazards, public access and cultural resources 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 RTI Infrastructure'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 … 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 Subpart… D), … 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 Subpart…D) 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 RTI Infrastructure does not agree, RTI Infrastructure 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 RTI Infrastructure 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 Commission and the U.S. Army Corps of Engineers. The Secretary may collect fees from RTI Infrastructure for 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 9-18-01211, dated November 28, 2018.

Personal communication from Chris Brungardt, RTI Infrastructure Inc., to John Weber, California Coastal Commission, dated January 31, 2019 and February 7, 2019.

RTI Infrastructure, Inc., response to Notice of Incompleteness, submitted January 17, 2019.

Revised Consistency Certification CC-0010-18, dated January 29, 2019.

Staff report for Coastal Development Permit 9-16-0160, dated June 24, 2016.

Environmental Documents:

Applied Marine Sciences, Coastal Offshore Subtidal Habitats and Associated Macrobenthic and Fish Communities in Santa Monica Bay Along the Jupiter Fiber Optic Cable Route, September 2018.

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