

CALIFORNIA COASTAL COMMISSION

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**STAFF REPORT:
 COASTAL DEVELOPMENT PERMIT APPLICATION**

CDP Application No.: E-00-004

Consistency Certification No. CC-078-00

Project Applicant: AT&T Corporation

Location: State and federal waters offshore of Manchester State Beach, Mendocino County (Exhibit 1); State and federal waters offshore of Montana de Oro State Park, west-southwest of the City of Los Osos, San Luis Obispo County (Exhibit 2).

Project Description: Bore five conduits under the seabed from shore to terminate at seafloor portals one kilometer west of mean high tide line; bury two fiber-optic cables to the 1,000-fathom depth contour; and install one fiber optic cable offshore Montana de Oro State Park to the 1,000-fathom depth contour.

Related Approvals: State Lands Commission. Approved leases and rights-of-way on June 27, 2000.
California Regional Water Quality Control Board Waste water quality certification pending.
U.S. Army Corps of Engineers. Nationwide Permit 12 pending.

Substantive File Documents: Appendix B

SYNOPSIS

AT&T Corporation (hereinafter "the applicant") proposes to (a) bore five conduits under the seabed from shore to terminate at seafloor portals one kilometer offshore of Manchester State Beach, Mendocino County; (b) install one transoceanic fiber optic cable offshore of Manchester State Beach; and (c) install one fiber optic cable from offshore of Manchester State Beach to land at Montana de Oro State Park, west-southwest of the City of Los Osos in the County of San Luis Obispo. The two cables have the following name identifiers: segments S8 and S9 of the Japan-U.S. Cable Network System. One cable, S8, is designed to connect the United States with Japan, while the other, S9, is designed for domestic service.

From the 1,000-fathom depth contour to the entry boreholes, the applicant proposes to bury each cable to a target depth of 1.0-meter (3.3 feet). Cable S9 is then proposed to be pulled into the northernmost of the existing cable conduits previously permitted by the Coastal Commission, (CDP 4-91-61) located in the Sandpit parking lot at Montana de Oro State Park. The existing conduit is part of the MCI/Worldcom consortium project previously permitted by the Coastal Commission (CDP E-99-011). At Manchester, the S9 cable would be pulled into the southernmost conduit, S8 would be pulled into the third to the north, and the remaining three conduits at Manchester would be left for future, and as yet unplanned cable projects.

The portion of the proposed project lying within the Coastal Commission's retained coastal permit jurisdiction, and which is the subject of coastal development permit application E-00-004, is the burial of the S9 cable from a location approximately 0.8 mile offshore of the Sandspit parking lot in Montana de Oro State Park to the territorial extent of California State waters, and the burial of S8 and S9 from locations 0.6 miles offshore of Manchester State Beach to the territorial extent of California State waters.

The project also requires a federal permit from the United States Army Corps of Engineers ("USACE") and therefore requires a consistency certification pursuant to Section 307(c)(3)(A) of the Coastal Zone Management Act. For the portion of the project that lies in State waters, the consistency certification is redundant; the coastal development permit serves as a consistency certification. On July 20, 2000, the applicant submitted a consistency certification to the Coastal Commission certifying that the proposed activity complies with California's approved coastal management program ("CCMP") and will be conducted in a manner consistent with the CCMP. This staff report is a combined coastal development permit and consistency certification.

Major Coastal Act issues associated with this project include potential impacts to marine resources and commercial fishing. Please see Table 1 for a summary of potential impacts and proposed mitigation measures. The applicant has committed in its consistency certification to implement the proposed mitigation measures (conditions of permit approval) for the portion of the cable project constructed in federal waters.

Commission staff recommends approval of the proposed project, as conditioned.

Table 1. Issue Summary: Potential Impacts and Proposed Conditions and Measures

Significant Issue Area	Proposed Special Conditions and Mitigation Measures
<p>Marine Resources: Marine Mammals</p>	<p>Issue: Whales may become entangled with project cables during feeding activities if cables are insufficiently buried or exposed on the seafloor. Abandoned trawl nets may entangle and drown marine mammals or other marine wildlife.</p> <p>Mitigation Measures:</p> <p>Special Condition 4 requires both cables to be buried to a depth of 1.0 meter except where precluded by seafloor substrates. Where a 1.0-meter burial depth cannot be achieved, the applicant shall bury the cables to the maximum depth feasible.</p> <p>Special Condition 5 requires that within 30 days of cable installation, the applicant shall submit to the Executive Director the as-built plans, including the depth of burial, of both cables. Cable locations 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.</p> <p>Special Condition 6 requires that every 18 to 24 months for the life of project, the applicant shall survey those portions of the S8 and S9 cable route from the mean high tide line to the seaward limit of the territorial waters of the State of California to verify that the cables have remained buried consistent with the as-built cable burial plan required by Special Condition 5. The survey shall be conducted with a remotely operated vehicle ("ROV") equipped with video and still cameras and by a third party approved by the Executive Director. Within 30 days of survey completion, the applicant shall submit to the Executive Director a report describing the results of the survey. If the survey shows that a segment(s) of a cable is no longer buried consistent with the as-built cable burial plan required by Special Condition 5, the applicant shall, within 30 days of survey completion, submit to the Executive Director for approval a plan to re-bury those cable segments.</p> <p>Special Condition 7 requires that within 90 days of taking either the cable out of service or after the expiration or sooner termination of the applicant's State Lands Commission lease(s) or permit(s), the applicant shall apply for an amendment to this permit to remove the cables from the seafloor. Cable removal shall occur from the mean high tide line to the seaward limit of the territorial waters of the State of California.</p>

<p>Marine Resources: Marine Mammals (cont.)</p>	<p>Special Condition 9 requires that a trained marine mammal observer, to be approved by the Executive Director in consultation with the National Marine Fisheries Service, shall be on the cable lay or support vessel to monitor marine mammals that approach the project work area. In the event that, in the opinion of the observer, project operations have the potential to threaten the health or safety of marine mammals or have the potential to take, as defined by the Endangered Species Act, a marine mammal, the observer shall have the authority to terminate all project activities until the observer determines there is no longer a threat.</p> <p>Special Condition 10 requires that within 30 days of completion of cable installation activities, the applicant shall submit to the Executive Director a copy of the marine mammal monitoring report required by the related State Lands Commission lease.</p> <p>Special Condition 11 requires that in the event that trawlers snag and cut their trawl gear due to entanglement with either cable, or that any other type of entanglement occurs, the applicant shall use all feasible measures to retrieve the entangled object as soon as possible but no later than six weeks after discovering or receiving notice of the incident. The applicant shall provide notice to the Executive Director within seven days of repair or object retrieval efforts. The notice shall include a full description of the nature of the entanglement, as well as any recorded cable failures.</p>
<p>Marine Resources: Hard Bottom</p>	<p>Issue: Because sensitive, rare, and slow-growing epifaunal species reside on rocky substrates in the project area, disturbance to these species from cable laying and repair activities can permanently destroy them.</p> <p>Mitigation Measures:</p> <p>Special Condition 12 requires that within 30 days of project completion, a video survey (displaying real-time position and water depth of the ROV) of the seafloor along the construction corridor shall be completed by a consultant approved by the Executive Director. Still-photographs of representative habitat shall be taken in any areas of rocky substrate traversed by the cables. The survey shall quantify the extent of exposed rocky substrate, including type and relief, if any, impacted by offshore operations out to the seaward limit of the territorial waters of the State of California. Within 45 days of completing the survey, the applicant shall submit to the Executive Director a written report describing the results of the survey to derive net project impacts to rocky substrate. The survey report shall identify the location and quantify the extent of any disturbance to hard bottom caused by project operations.</p> <p>Special Condition 13 requires the applicant to compensate for all project-related impacts to hard bottom habitat through payment of a compensatory hard bottom mitigation fee (\$27.31/square foot) to be used to construct a new artificial reef or augment an existing artificial reef in State waters within the Southern California Bight. The construction of a new artificial reef, or augmentation of an existing reef, shall be carried out pursuant to a Memorandum of Agreement by and between the Coastal Commission, the California Department of Fish and Game and the United Anglers of Southern California (Exhibit 3).</p>

<p>Marine Resources: Water Quality</p>	<p>Issue: Subsurface boring and installation of conduit can result in the release of bentonite, a drilling lubricant, to the marine environment.</p> <p>Mitigation Measures: Special Condition 15 requires that the applicant submit for Executive Director approval prior to permit issuance a project-specific drilling fluid spill contingency plan that includes (a) an estimate of a reasonable worst case release of drilling fluid into marine waters caused by project operations; (b) a clear protocol for monitoring drilling, including criterion for identifying a frac-out (<i>i.e.</i>, an unanticipated bentonite release due to boring operations) as it occurs; (c) a response and clean-up plan in the event of a marine spill; (d) a list of all clean-up equipment that will be maintained on-site; and (e) the specific designation of the onsite person who will have responsibility for implementing the plan.</p>
<p>Commercial Fishing</p>	<p>Issue: Trawlers may snag their gear on project cables that are insufficiently buried or exposed and thus experience significant economic losses from abandoned gear and lost fishing time.</p> <p>Mitigation Measures: The Commission is requiring Special Conditions 4, 5, 6, and 7, as defined above under the Marine Resources issue area.</p>

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1.0 STAFF RECOMMENDATION

1.1 Approval with Conditions

The staff recommends conditional approval of Coastal Development Permit Application No. E-00-004.

Motion:

I move that the Commission approve Coastal Development Permit Application No. E-00-004 subject to the conditions set forth in the staff recommendation.

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

Resolution:

The Commission hereby approves coastal development permit E-00-004 and adopts the findings set forth below on grounds that the development as conditioned will be in conformity with the policies of Chapter 3 of the Coastal Act and will not prejudice the ability of the local government having jurisdiction over the area to prepare a Local Coastal Program conforming to the provisions of Chapter 3. Approval of the permit complies with the California Environmental Quality Act because either 1) feasible mitigation measures and/or alternatives have been incorporated to substantially lessen any significant adverse effects of the development on the environment, or 2) there are no further feasible mitigation measures or alternatives that would substantially lessen any significant adverse impacts of the development on the environment.

1.2 Concurrence

The staff recommends the Coastal Commission adopt the following resolution:

Motion:

I move that the Commission concur with consistency certification CC-078-00 that the project described therein is 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 in 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:

The Commission hereby concurs in the consistency certification by AT&T Corporation on the grounds that the project described therein is consistent with the enforceable policies of the CCMP.

2.0 STANDARD CONDITIONS Appendix A.**3.0 SPECIAL CONDITIONS**

This permit is granted subject to the following special conditions:

General Conditions

1. **Scope of Project Approval.** This permit authorizes those project activities specifically described in the applicant's February 17, 2000 coastal development permit application submittal, as amended by a draft Mitigated Negative Declaration dated March, 2000, and by electronic mail and correspondence as indicated in Appendix B, except as otherwise modified by the conditions of this permit. Any modifications of or additions to the project, as described in the referenced documentation, shall require an amendment to this permit.
2. **Indemnification.** In addition to any immunities provided for by law, in exercising this permit, the applicant agrees to hold harmless and indemnify the Coastal Commission, its officers, employees, agents, successors and assigns from any claims, demands, costs, expenses and liabilities for any damage to public or private properties or personal injury that may result directly or indirectly from the project.
3. **Liability for Costs and Attorneys Fees.** The applicant shall reimburse the Coastal Commission in full for all costs and attorneys fees --- including (1) those charged by the Office of the Attorney General, and (2) any court costs and attorneys fees that the Coastal Commission may be required by a court to pay --- that the Coastal Commission incurs in connection with the defense of any action brought against the Coastal Commission, its officers, employees, agents, successors and assigns challenging the approval or issuance of this permit, the interpretation and/or enforcement of permit conditions, or any other matter related to this permit.

Mitigation Measures

4. **Cable Burial Depth.** The cables shall be buried to a depth of 1.0 meter except where precluded by seafloor substrates. Where a 1.0-meter burial depth cannot be achieved, the applicant shall bury the cables to the maximum depth feasible.
5. **Cable Installation Documentation.** Within 30 days of cable installation, the applicant shall submit to the Executive Director of the Coastal Commission (hereinafter "Executive Director") the as-built plans, including the depth of burial, of both cables. Cable locations 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.

6. **Cable Surveying.** Every 18 to 24 months for the life of project, the applicant shall survey those portions of the S8 and S9 cable route from the mean high tide line to the seaward limit of the territorial waters of the State of California to verify that the cables have remained buried consistent with the as-built cable burial plan required by Special Condition 5. The survey shall be conducted with a remotely operated vehicle ("ROV") equipped with video and still cameras and by a third party approved by the Executive Director. Within 30 days of survey completion, the applicant shall submit to the Executive Director a report describing the results of the survey. If the survey shows that a segment(s) of a cable is no longer buried consistent with the as-built cable burial plan required by Special Condition 5, the applicant shall, within 30 days of survey completion, submit to the Executive Director for approval a plan to re-bury those cable segments.
7. **Cable Removal.** Within 90 days of taking either the cable out of service or after the expiration or sooner termination of the applicant's State Lands Commission lease(s) or permit(s), the applicant shall apply for an amendment to this permit to remove the cables from the seafloor. Cable removal shall occur from the mean high tide line to the seaward limit of the territorial waters of the State of California.
8. **Marine Discharge.** There shall be no marine discharge of sewage or bilge/ballast water from vessels either installing or repairing the cables.
9. **Marine Mammals.** A trained marine mammal observer, to be approved by the Executive Director in consultation with the National Marine Fisheries Service, shall be on the cable lay or support vessel to monitor marine mammals that approach the project work area. In the event that, in the opinion of the observer, project operations have the potential to threaten the health or safety of marine mammals or have the potential to take, as defined by the Endangered Species Act, a marine mammal, the observer shall have the authority to terminate all project activities until the observer determines there is no longer a threat.
10. **Marine Mammal Report.** Within 30 days of completion of cable installation activities, the applicant shall submit to the Executive Director a copy of the marine mammal monitoring report required by condition 12 of the applicant's State Lands Commission lease(s).
11. **Ghost Nets.** In the event that trawlers snag and cut their trawl gear due to entanglement with either cable, or that any other type of entanglement occurs, the applicant shall use all feasible measures to retrieve the entangled object as soon as possible but no later than six weeks after discovering or receiving notice of the incident. The applicant shall provide notice to the Executive Director within seven days of repair or object retrieval efforts. The notice shall include a full description of the nature of the entanglement, as well as any recorded cable failures.

12. **Hard Bottom Seafloor Survey.** Within 30 days of project completion, a video survey (displaying real-time position and water depth of the ROV) of the seafloor along the construction corridor shall be completed by a consultant approved by the Executive Director. Still-photographs of representative habitat shall be taken in any areas of rocky substrate traversed by the cables. The survey shall quantify the extent of exposed rocky substrate, including type and relief, if any, impacted by offshore operations out to the seaward limit of the territorial waters of the State of California. Within 45 days of completing the survey, the applicant shall submit to the Executive Director a written report describing the results of the survey to derive net project impacts to rocky substrate. The survey report shall identify the location and quantify the extent of any disturbance to hard bottom caused by project operations.
13. **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 construct a new artificial reef or augment an existing artificial reef in State waters within the Southern California Bight. The construction of a new artificial reef, or augmentation of an existing reef, shall be carried out pursuant to a Memorandum of Agreement by and between the California Coastal Commission, the California Department of Fish and Game and the United Anglers of Southern California (Exhibit 3).

The amount of the hard bottom mitigation fee shall be calculated by multiplying the total square footage of impacted hard bottom (as determined in the survey conducted under Special Condition 12) by a compensation rate of \$27.31 per square foot. The fee shall be paid to the United Anglers of Southern California within 30 calendar days of the results of the hard bottom survey required by Special Condition 12.

14. **Oil Spill Contingency Plan.** Prior to commencement of cable laying operations, the applicant shall submit to the Executive Director: (a) evidence that the California Office of Oil Spill Prevention and Response ("OSPR") has approved the non-tank oil spill contingency plan ("OSCP") for the project's cable laying vessels, pursuant to the non-tank vessel OSCP regulations found at 14 CCR Sections 825.03 – 827.02; and (b) a copy of the project-specific geographic oil spill plan supplement for the applicant's cable laying operation areas in State waters offshore Pt. Arena and Morro Bay that, pursuant to information requirements of 14 CCR Sections 827.02 (g – i), the applicant will submit to the OSPR as part of its OSCP.
15. **Drilling Fluid Spill Contingency Plan.** Prior to issuance of this permit, the applicant shall submit for Executive Director approval a project-specific drilling fluid spill contingency plan that includes: (a) an estimate of a reasonable worst case release of drilling fluid into marine waters caused by project operations; (b) a clear protocol for monitoring drilling, including criterion for identifying a frac-out (*i.e.*, an unanticipated bentonite release due to boring operations) as it occurs; (c) a response and clean-up plan in the event of a marine spill; (d) a list of all clean-up equipment that will be maintained on-site; and (e) the specific designation of the onsite person who will have responsibility for implementing the plan.

4.0 FINDINGS AND DECLARATIONS

4.1 Project Description

AT&T Corporation (hereinafter "the applicant") proposes to construct and operate two telecommunications fiber optic cables, one of which is a transoceanic cable extending from near Manchester State Beach, Mendocino County, to Japan, and the other of which is domestic, and will extend from near Manchester State Beach to Montana de Oro State Park, west-southwest of the City of Los Osos in the County of San Luis Obispo (Exhibits 1 and 2). The cables will connect to AT&T's existing fiber optic cable terminal buildings located near Manchester State Beach and the City of San Luis Obispo respectively, forming a "ring" system. The cables will then extend to established fiber optic cable networks.

At Point Arena, both S8 and S9 would be installed in the same general cable corridor as two operational and three out-of-service AT&T cables extending from the northern California coast to various destinations.¹ The applicant proposes to bury S8 and S9 to a target depth of 1.0-meter (approximately 3.3 feet), where feasible, from where they surface from the seafloor conduit portals to the 1,000-fathom water depth.

At Morro Bay, S9 is proposed for installation in the same general cable corridor as ten existing or proposed cables, including the proposed S9.²

Both the proposed S8 and the S9 will experience several cable crossings. The proposed S8 will cross the existing TPC-4 and HAW-4 cables approximately two kilometers offshore of Point Arena. S8 will also cross TPC-5, PC-1 and China-US all in deep water off the continental shelf of the United States. The proposed S9 cable will have four crossings over two HAW-1 cables off Manchester. These crossings are located approximately 1 km offshore (15m depth), 2 km offshore (25m depth), 5 km offshore (50m depth), and 50 km offshore (3200m depth). S9 will also cross the China-US E1 cable in the sand channel area 2 km offshore of Morro Bay, and it would cross TPC-5 T1 about 15 km offshore. E1 and TPC-5 T1 would be crossed again about 110 km offshore of Morro Bay.

Cable crossings are typically conducted by laying the new cable perpendicularly over the existing cable and then retroburying the new cable with a ROV. In the case of the out-of-service HAW-1 cables, owned by AT&T, a section of the old cables may be cut and removed as necessary to facilitate installation of the S9 cable.

Near Manchester, the S8 and S9 cables would be pulled into two of the five proposed conduits near Manchester State Beach. S9 is proposed to be pulled into the northernmost, proposed, MCI/Worldcom, cable conduit (previously permitted by the Coastal Commission, CDP 4-91-61)

¹ This includes the TPC-4 cable, which extends from Point Arena out to sea, where it bifurcates, half going to Canada, and half going to Japan.

² These include a) one existing conduit (AT&T SLO-03); b) three existing AT&T fiber optic cables (TPC-5 to Bandon, Oregon, TPC5-G to Japan, and HAW-5 to Hawaii); c) two existing MCI/Worldcom cables, and d) three proposed MCI/Worldcom cables.

located in the Sandpit parking lot at Montana de Oro State Park (located within the County of San Luis Obispo's coastal permit jurisdiction).

The proposed project will require the use of two cable laying vessels, the *CS Seaspread* or similar vessel (within 3 miles of the mean high tide line), and the *CS Global Sentinel* or similar vessel (from 3 miles offshore to 1,000 fathoms). Additional vessels and equipment that may also be required include a vessel to support ROV and dive operations, a secondary work vessel, an ROV, and a cable burial machine.

4.1.1 Fiber Optic Cable Installation Procedures

There are six phases of the cable installation process for the proposed project: (1) route surveys; (2) horizontal directional drilling; (3) pre-lay grapnel runs, in which the route is cleared of debris; (4) conduit exposure and cleaning; (5) cable laying or burying; and (6) post-lay cable burial. The type of cables proposed for use includes single-armored, double-armored, and lightweight designs, all containing 3-12 optical fibers. They measure 1.51 inches, 2.01 inches, and 1.5 inch in diameter, respectively.

Route Surveys

The applicant surveyed the proposed cable routes in the project areas in 1998 and August 1999. Surveys consisted of side scan sonar imagery, sediment core samples from the seabed, and cone penetration tests. Based on this information, the applicant contends that the selected routes avoid hard bottom habitat to the maximum extent feasible, and provide for 100% burial for S8, near 100% burial of S9 at Point Arena, with the possible exception of 1 km, and 97% burial of the S9 at Morro, where an area of low relief and shallow sediments 1.6 km offshore renders complete burial impossible.

Horizontal Directional Drilling

At Manchester, where conduits do not already exist, the applicant proposes to install five cable conduits (steel casings) by horizontal directional drilling (HDD), connect the steel casings to the existing AT&T manhole and pull the proposed S8 and S9 cables into two of the steel casings.

Conduits would be directionally drilled from shore past the surf zone, approximately one-kilometer (km) distance with a minimum depth of approximately 16 meters below the ocean floor, and a maximum depth of approximately 25 meters from the entry-point. The conduit would be advanced in 9.3-meter sections through the boreholes. The staging area for the drilling will be approximately 150 square meters.

HDD support entails the stationing of a support vessel such as the *M/V American Endeavor* to anchor and serve as a diver support platform. The divers are deployed to retrieve the drill heads, excavate around the exit point and install one-way valves at the pipe ends. Approximately 8-12 cubic meters of floor sediment would be jetted to expose each of the pipe ends.

Noise generated by drilling may disturb the Point Arena Mountain Beavers (PAMB) residing

nearby. In order to mitigate this impact, the applicant will construct a sound deflector around the drilling equipment. As an additional protection for the PAMB, the applicant is prohibited by the US Fish and Wildlife Service to conduct work between December 15 and April 15. Thus, it will be necessary for the applicant to conclude the work within its projected time frame.

At Morro Bay, the conduit already exists, so HDD is unnecessary.

Pre-Lay Grapnel Run

In order to clear the routes of obstacles previously undetected by sidescan sonar (e.g., discarded trawl gear) that a cable plow or ROV may encounter, a grapnel (typically a flat fish type measuring 3x2 feet), fitted with blade (approximately 4 inches wide), will be pulled along both cable routes. The grapnel, to be pulled by a workboat, can penetrate approximately 0.4 meters (1.3 feet) into the seabed. If the grapnel arms hook debris, the towing will cease and the grapnel and associated debris will be retrieved and stowed on the vessel for proper disposal onshore. Grapnel operations will not take place in rocky substrates. This operation will last approximately one week for both routes and will take place before cable installation.

Conduit Exposure and Cleaning

Prior to installation of the S8 cable, boreholes will be exposed via jetting of sediments. Approximately 8-12 cubic meters of floor sediment would be jetted to expose the pipe ends.

The S9 cable will be housed in a conduit to be drilled by MCI/WorldCom. The existing conduit will be ready for cable pulling, having been cleaned and prepared for cable pulling. No additional excavation is required. This operation will take approximately one or two days. The cable ship, having laid cable landward from the outer continental shelf, will establish a position 100-200 meters from the bore pipe. Divers will ease the cable into the conduits via chutes, cables and pulleys.

Cable Laying

Cable laying will occur first at Manchester and then at Morro Bay. At Manchester, cable installation will proceed as follows: When the cable ship arrives from Japan to the continental shelf, the cable will be cut and buoyed off for approximately one week while the ship proceeds to the borepipe (one day); lands the S8 cable in the bore pipe (one day); lays the S8 cable to the splice point off the shelf (three to four days); and splices the cable.

When the S9 cable is laid from Manchester to Morro Bay, the cable ship will land the cable at the Manchester bore pipe (one day); the cable ship will lay the cable seaward off the continental shelf (three to four days) and proceed to Morro Bay. Off the shelf at Morro Bay, the cable will be cut and buoyed and then the ship would proceed to the borepipe (one day); the cable would be landed in the bore pipe (one day); the cable would be laid seaward to the splice point off the continental shelf (three to four days); the cable would be spliced (one day).

S8 and S9 will be threaded through the conduit portals to the onshore beach manhole. Divers will attach the cables to a wire pull rope previously installed in the conduit. An onshore winch will then pull the cables through the conduit and into the beach manhole onshore, where they will be spliced to onshore cables.

Offshore laying operations (beyond three miles) will take place on a 24-hour basis and last a total of approximately ten days at Manchester and five days at Morro Bay.

Cable anchoring is necessary at two locations at Morro Bay where significant changes in direction occur. In the nearshore areas within State waters (up to the 35 meter depth), five temporary anchors will be installed at two locations along the routes. The presence of altercourses makes the task of installing the cables in the required degree of precision more difficult and introduces the possibility that the cables can move across the seafloor before they are buried. The process will generally entail the insertion of an anchor, measuring about 17 inches by 12 inches, into soft sediments roughly 1.5 to 2 meters deep and the attachment of 115 foot straps to the anchors. After the vessel lays the cable at the altercourses, divers will attach the cable to the anchors with the straps. Articulated pipe will be installed on the cables at the altercourses to protect and stabilize the cables and to minimize movement across the seafloor.

The sediment transport study initiated last winter for AT&T's United States to China project (E-98-029/CC-059-00) has not indicated substantial movement of sand in the sand channel area to date. It is presumed that this implies no cable movement, as well.

Cable Burial

There are three methods to burying the cables to a target depth of 1.0 meter: diver-assisted hand-jetting, ROV-assisted jetting and plowing with a cable burial machine (plow). From the conduit exits to the 25 meter water depth (located offshore at 1.9 miles for S8, 1.4 miles for S9 Manchester, and 0.8 miles for S9 SLO), they will be retroburied by hand-jet equipped divers. From the 25-meter water depth to the 100 meter depth (located offshore at 7 km for S8, 12 km for S9 Manchester, and 10 km for S9 at SLO) an ROV will be deployed to bury both cables. An ROV is also proposed for burial where use of a plow is infeasible (*e.g.*, one-kilometer stretch of S9 off Point Arena in low relief outcrop area, or where sharp bends occur, in the nearshore adjacent to rocky areas, and in water depths greater than 1,200 meters). A plow will bury both cables from approximately the 100-meter depth to 1,200 meters. A ROV will be used from depths of 1,200 meters to a depth of 1,800 meters (located 65 km for S8, 37 km for S9 and 90 km for S9 at SLO). Beyond this point, the cable will be laid on the seafloor. All three burial methods will attempt to achieve the target burial depth depending on the type of bottom sediments encountered. These burial techniques are described below.

Hand-Jetting

For a small segment of the cable routes (2 km for S8, 1.3 km for S9 Manchester, and 0.5 km for S9 SLO), the cables will be buried by divers equipped with hand jets, consisting of pressurized water emitted from a nozzle. The jets will use seawater under pressure to displace seafloor sediments. From the end of the conduit bore holes to the 25-meter water depth, divers will jet a

narrow trench beneath the cables allowing them to drop into the trench. The disturbed sediments will naturally settle and fill in the excavation to the original grade. This task will last approximately five days.

Hydroplow

The applicant proposes to bury the S8 and S9 cable segments to a target burial depth of 1.0 meter by a cable burial machine or hydroplow (plow) from approximately the 100-meter water depth to 1,200 meters at which time an ROV will be used out to the 1,800 meter depth (offshore distance of 65 km for S8, 37 km for S9 and 90 km for S9 SLO).

The plow is designed with a six-inch thin coulter wheel to cut the seafloor soil and a thin-blade plow with a small horizontal wedge at the lower end of a blade. The wedge lifts the soil while the cable is inserted under it. The soil then falls back into the trench, covering the cable. The plow rides on skis in the front and wheels on the back, preventing it from sinking into the substrate. The plow is able to confirm the depth at which the cable has been buried by acoustically or electronically measuring the length of the blade in the sediment. This method has a 1.0 to 1.5 inch measure of uncertainty.

Before being launched by the cable ship, the plow is first loaded with cable while on board and then lowered to the seafloor. Upon entry into the water, the plow tow wire is subsequently paid out as the cable ship proceeds on the cable route. As it follows the route, the ship feeds the cable to the machine as it is being buried. The plow is towed at speeds of up to one kilometer per hour, depending on the strength of the sediment. The estimated time period for cable plowing is four days.

Cable Burial Method- Sediment Jetting by ROV/Post-Lay Burial

A free-swimming ROV will be used to bury both cables from the 25-meter to the 100-meter water depth and from the 1,200 to the 1,800-meter water depth.

To bury cable, the ROV (with 300-400 horsepower) will utilize two water-jetting tools, which discharges seawater at a high volume and low pressure, and a depressor. The ROV straddles the cable and with the jetting tool liquefies the seabed below the cable to a depth of 1.0 meter, generally with two passes, depending on the sediment type, causing the cable to sink into the resultant trench. The depressor takes the form of an arm at the rear of the ROV that presses down the cable into the sediment that has been liquefied. Multiple passes over the cable can achieve deeper burial depths. The sediments in the trench re-consolidate or re-densify over time, depending on the nature of the material. In sandy sediments, this process occurs in a matter of several days; muddy sediments may take up to several weeks. In most cases, burial by ROV does not leave an open trench.

Where successful burial has not been achieved during installation operations, an ROV will bury or re-bury those segments to a target depth of 1.0 meter. A real-time video recorder installed on the plow or ROV will allow the applicant to monitor burial operations and note segments that need to be re-buried.

4.1.2 Cable Maintenance and Repair

The proposed project also includes repair and maintenance of damaged cable, if necessary. The applicant does not anticipate that any cable maintenance and repair will be required over the life of the cables (25 years) since they are designed to operate maintenance-free. Nonetheless, if the cables were damaged, that portion of the cable length would be lifted from the seafloor to the surface for repair.

For the proposed project the applicant has estimated a failure rate of zero, based on an estimated failure rate of zero for submarine fiber optic cables that are buried along the West Coast of North American. A failure rate of 0.22 faults for the 25-year project life made for its China-US fiber optic cable project off of Morro Bay (Morro Group, 2000) appears to be based on an analysis which did not distinguish between buried and unburied cables, which are prone to failure.

The three existing AT&T fiber optic cables landing at Montana de Oro State Park (*i.e.*, TPC5 T1, TPC5 G, and HAW5) have been buried to a target depth of 0.6 to 1.0 meter and have not experienced any faults since they were installed between 1989 to 1993. Of the five existing cables at Manchester and Point Arena, three are unburied: The two HAW-1s (coaxial) and the unnamed abandoned coaxial. The other two, HAW-4 and TPC-4, are fiber optic cables, and are buried from 0.6 to one meter deep.

Unburied cables experience a much higher rate of failure. Since the installation of the TPC-4 fiber optic cable in 1992, that cable has experienced three faults in U.S. waters near Canada due to fishing boat entanglement with unburied cable and one fault at 5,000 meters depth in the Sea of Japan due to an underwater avalanche caused by a large underwater earthquake. Faults typically result from fishing or anchoring activities, normally causing the cable to be kinked or crushed, instead of completely breaking.

If a buried cable has become unburied due to a fault, it can normally be hooked using a grapnel, ROV, or divers, depending on water depth. Typically, in soft substrates a grapnel is deployed about two water depths to one side of the cable and then pulled perpendicular toward the cable. After the cable is secured, the damaged section is cut either on the seabed with a special grapnel or raised to the surface. If the cable has remained buried or if adjacent cables are too close, an ROV with a jetting tool can be used to unbury the cable. Near hard bottom areas, either an ROV or a grapnel dragged in adjacent soft bottom areas is utilized. Once found, the damaged cable section would be cut on the seafloor and then raised to the surface. After a series of tests and inspections, new cable is spliced to both ends and the final splice is lowered so that it lies flat on the seabed. ROV jetting will then re-bury the new cable section and any cable on the seafloor that was disturbed by repair operations to the target depth of 1.0 meter. The resultant repaired section will follow a curved path on the seafloor.

4.1.3 Cable Abandonment

The applicant estimates the operational life of each cable to be about 25-years. Upon the expiration of the applicant's State Lands Commission lease or when the cables are taken out of

service, whichever is sooner, the applicant will submit a plan for cable removal so as not to interfere with commercial fishing activities in areas where such cables were previously installed. Removal operations are not proposed in this application.

4.2 Prior Fiber Optic Cable Projects Approved by Coastal Commission

Three existing fiber optic cables and three AT&T cables under construction extend from a landing site at the Montana de Oro State Park Sandspit Road parking lot. In addition, two MCI WorldCom cables extend from the same spot. Of the existing cables, two extend to Hawaii. The third cable travels north along the California coastline to Bandon, Oregon before heading west to Japan. The Coastal Commission approved the installation, operation, and maintenance of one cable and four conduits (#4-91-61)³, HAW-5, in January 1992, and the remaining two cables, TPC5-T1 and TPC5-G (#4-91-006-A1), in September 1994. In April 2000, the Coastal Commission approved the installation of two fiber optic cables by MFS Globenet and MCI WorldCom (E-99-011) off of Montana de Oro State Park.

In June 2000, the Coastal Commission approved the installation of two fiber optic cables within State waters by AT&T (E-98-029).

Five existing and two pending undersea AT&T cables extend from landing sites at Point Arena and Manchester State Beach. Only the unnamed, abandoned, coaxial cable lands at Point Arena. The others land at Manchester State Beach. The following table highlights their status:

Cable	Destination	Type	Date Installed	Permitted
Unnamed	None	Coaxial	?	NA
HAW-1 (abandoned)	Hawaii	Coaxial	1956	NA
HAW-1 (abandoned)	Hawaii	Coaxial	1957	NA
HAW-4	Hawaii	Fiber Optic	1988	?
TPC-4	Canada/Japan	Fiber Optic	1992	?
JUS-S8	Japan	Fiber Optic	Proposed 2000	Pending
JUS-S9	Morro Bay	Fiber Optic	Proposed 2000	Pending

Through its federal consistency authority, the Coastal Commission has also concurred with consistency certifications, consistency determinations, and negative determinations for a number of submarine fiber optic cable-related projects by, for example, the Navy, Coast Guard, Federal Aviation Administration, MCI/WorldCom, and AT&T.

4.3 The Coastal Commission's Permit and Federal Consistency Jurisdiction

The Coastal Commission retains coastal permit jurisdiction over project areas on public trust lands, tidelands, and submerged lands from the mean high tide line to three nautical miles offshore. Therefore, that portion of the project that involves the burial of cable within State waters (*i.e.*, seaward of the mean high tide line to three nautical miles offshore) requires issuance

³ In exchange for the granting of cable easements through Montana de Oro State Park, AT&T agreed to construct the Sandspit Road parking lot and day use amenities. These facilities are owned and maintained by the California Department of Parks and Recreation.

of a permit from the Coastal Commission and is the subject of coastal development permit application E-00-004.

The project also requires a federal permit from the United States Army Corps of Engineers ("Corps") and therefore requires a consistency certification pursuant to Section 307(c)(3)(A) of the Coastal Zone Management Act. For the portion of the project that lies in State waters, the consistency certification is redundant; the coastal development permit serves as a consistency certification. For the portion of the project that lies outside the coastal zone in federal waters, the applicant has submitted a consistency certification to the Coastal Commission (received July 20, 2000). The applicant has certified that the proposed activity complies with California's approved coastal management program ("CCMP") and will be conducted in a manner consistent with the CCMP. This staff report is a combined coastal development permit and consistency certification.

4.4 Related Approvals

4.4.1 County Approvals: Mendocino

On July 20, 2000, the County of Mendocino issued approved Coastal Development Use Permit ("CDU") CDU-9-2000 for the land-based portion of the proposed project.

4.4.2 California State Lands Commission ("SLC")

Because the proposed project cables will be operated as private carriers with no obligation to provide services to the public, the SLC required a new lease and an amended lease for those portions of the project within State waters and submerged lands.

On June 27, 2000, the California State Lands Commission ("SLC") (i) certified a Mitigated Negative Declaration (SCH #2000031062/MND#702), and (ii) approved leases for the proposed cable project.

4.4.3 U.S. Army Corps of Engineers ("ACOE")

The U.S. Army Corps of Engineers ("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 4(f) of the Outer Continental Shelf Lands Act (OCSLA), as amended. Section 10 of the Rivers and Harbors Act regulates the diking, filling and placement of structures in navigable waterways. Section 4(f) of the OCSLA requires a permit for the construction or artificial islands, installations, and other devices on the seabed to the seaward limit of the outer continental shelf. According to the Corps, laying of a cable on the seafloor beyond the three-mile limit is considered an "installation" and "other device" on the seabed.

The Corps has indicated that it will process the proposed project in its jurisdiction under nationwide permit #12 for discharges of dredged or fill material associated with excavation, backfill or bedding for utility lines.

Pursuant to Section 307(c)(3)(A) of the Coastal Zone Management Act, any applicant for a required federal permit to conduct an activity affecting any land or water use or natural resource in the coastal zone must obtain the Coastal Commission's concurrence in a certification to the permitting agency that the project will be conducted consistent with California's approved coastal management program. As discussed above in section 4.3 of this report, the applicant submitted a consistency certification on July 20, 2000.

4.4.4 California Regional Water Quality Control Board – North Coast, and Central Coast Regions (“RWQCB”)

The California Regional Water Quality Control Board regulates waste discharges into receiving waters in the project area. Previously, Regional Boards have issued waivers for fiber optic projects within their jurisdictions. However, the State Water Resources Control Board is processing the certification for the proposed project because the project passes through the jurisdiction of two regions. The State Board is working on several fiber optic cable projects at the same time and plans to issue standard conditions. The certification for the proposed project was issued August 11, 2000 as an Order for Technically-Conditioned Certification.

4.4.5 Mendocino County Air Quality Management District (“MCAQMD”)

The Mendocino County Air Quality Management District (“MCAQMD”) is the local air district responsible for implementing federal and State air quality standards in the northern project area. No air quality offsets are proposed, although the applicant must obtain an Authority to Construct permit from the MCAQMD prior to construction, pursuant to a County CDU permit condition. See Section 4.5.7. of this report for additional information.

4.4.6 San Luis Obispo Air Pollution Control District (“SLOAPCD”)

The San Luis Obispo Air Pollution Control District (“SLOAPCD”) is the local air district responsible for implementing federal and State air quality standards in the southern project area. Since there will be no boring activity at Montana De Oro, quarterly air emission thresholds would not be exceeded by project activities. No air district permits will be required by the SLOAPCD for the proposed project.

4.5 Coastal Act Issues

4.5.1 Dredging and Placement of Fill in Coastal Waters

Coastal Act Section 30108.2 defines “fill” as “earth or any other substance or material, including pilings placed for purposes of erecting structures thereon, placed in a submerged area.” The fiber optic cables that will be placed on the seafloor constitute fill as defined in Coastal Act Section 30108.2. Burying the cables will require dredging a 2.4-meter wide trench from a location about one-half mile west of the mean high tide line to the 1,000-fathom depth contour in federal waters (In offshore length approximately 41 miles for S8, 23 miles for S9 and 57 miles for S9 at SLO).

Coastal Act Section 30233(a) states in part:

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 wetland areas only, entrance channels for new or expanded boating facilities; and in a degraded wetland, identified by the Department of Fish and Game pursuant to subdivision (b) of Section 30411, for boating facilities if, in conjunction with such boating facilities, a substantial portion of the degraded wetland is restored and maintained as a biologically productive wetland. The size of the wetland area used for boating facilities, including berthing space, turning basins, necessary navigation channels, and any necessary support service facilities, shall not exceed 25 percent of the degraded wetland.*
- (4) *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.*
- (5) *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.*
- (6) *Mineral extraction, including sand for restoring beaches, except in environmentally sensitive areas.*
- (7) *Restoration purposes.*
- (8) *Nature study, aquaculture, or similar resource dependent activities.*

Coastal Act Section 30233(a) restricts the Coastal Commission from authorizing a project that includes dredging and open coastal water fill unless it meets three tests. The first test requires that the proposed activity must fit into one of eight categories of uses enumerated in Coastal Act Section 30233(a)(1)-(8). The second test requires that there be no feasible less environmentally damaging alternative. The third and last test mandates that feasible mitigation measures be provided to minimize the project's adverse environmental effects.

S8 Fiber Optic Cable

One of the eight allowable uses of fill under 30233(a)(1), of which the portion of the proposed project consisting of the S8 cable is defined as, is a coastal-dependent industrial facility. The proposed S8 transoceanic cable, whose purpose is to directly connect the United States with 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 S8 portion of the proposed project meets the allowable use test of Coastal Act Section 30233(a).

The Commission must further find that there is no feasible less environmentally damaging alternative to the proposed project, particularly with respect to the impacts of submarine cables on marine organisms and hard bottom habitat. According to the applicant, the S8 route will not encounter hard bottom habitat, thereby ensuring 100% burial in soft sediments up to the 1,000-fathom water depth.

The proposed landing site (within Mendocino County's permit jurisdiction) represents the least environmentally damaging alternative due to the presence of a cable terminal on AT&T property near Manchester State Beach. Although new conduits are proposed, and these will have potentially significant impacts (e.g., water quality, geology) due to the drilling, alternative locations would experience similar impacts without the benefit of an existing terminal.

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 other sections of this report, the Commission has identified feasible mitigation measures that will minimize the adverse environmental effects of that portion of the proposed project consisting of the S8 cable. With the imposition of the conditions of this permit, the Commission thus finds that the third test of Coastal Act Section 30233(a) has been met. The Commission therefore finds that the portion of the proposed project consisting of the S8 fiber optic cable is consistent with Coastal Act §30233(a).

S9-Manchester to San Luis Obispo Fiber Optic Cable

Coastal-Dependency

The proposed S9 cable would link telecommunication facilities in Manchester with San Luis Obispo County, so the route parallels the California coastline. As stated in the MND, "... Installation of new fiber optic cable overland from Point Arena to Morro Bay could potentially be accomplished on existing AT&T right of way, public road right-of-ways and possibly bridge attachments where feasible..." (AT&T 2000)

This cable could be placed on land and inland of the coastal zone and is therefore not coastal-dependent since it does not "...require(s) a site on, or adjacent to, the sea to be able to be able to function at all..." as defined in Coastal Act §30101. Although a land-based system is not the applicant's preference, it is feasible to locate the cable on land. Thus, the Commission finds that the S9 cable does not qualify as a coastal-dependent industrial facility pursuant to §30233(a)(1).

Incidental Public Service Purposes

Coastal Act section 30233(a)(5) allows the filling of open coastal waters for "*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.*" The two tests that must be met to qualify under this subsection include: (1) the use must be for incidental purposes including the burying of cables and; (2) the use must offer a public service.

The applicant proposes to bury the S8 and S9 cable to a target depth of 1.0 meter out to the 1000-fathom water depth. As expressly defined by section 30233(a)(5), the burying of the S8 and S9 cable can be considered an "incidental public service." Therefore, the Commission finds that the proposed S9 cable meets the first test under section 30233(a)(5).

According to the applicant, the proposed project will provide telecommunication services to the public. Strictly speaking, this is true. An international consortium of telecommunication companies owns the Japan-U.S. (JUS) cable network of which AT&T is one of fourteen investors. Other members of the consortium include, for example, British Telecommunications, Korea Telecom, MCI/WorldCom, Inc., Pacific Gateway Exchange (Bermuda), Ltd., SBCI-Pacific Networks, Sprint Communications, Japan Telecom, and Singapore Telecommunications. As a member and principal investor in this consortium, AT&T has secured the network's permits and landing rights, but the cable network facility itself will be owned and operated by the consortium, all of whom are common carriers.

The FCC issued the consortium a Landing License (FCC 99-167), authorizing the Japan-U.S. network to be operated as a *non-common carrier*, with no obligation to offer its capacity or provide services to the public. Their decision was based primarily on the principal that "...the public interest is best served by promoting the rapid expansion of capacity in order to promote facilities-based competition that will result in innovation and lower prices to consumers of international telecommunications services...."

Secondly, the FCC issued the license in light of consortium amendments to the construction and maintenance agreement, adjustments designed to reduce the risk that the cable network facilitate the exercise of market powers by some or all of the network owners. The FCC further reasoned that the consortium's status under the FCC's regulatory authority does not necessarily define the character of the individual members of the consortium, all of whom are common carriers.

In the United States, the consortium is comprised entirely of common carriers that intend to use the network to provide their common carrier services indifferently to the public. A common carrier is defined by FCC rules as "any person engaged in rendering communication for hire to the public"⁴ (AT&T, 1998). Specifically, the contract by which the JUS co-owners come together to create the project requires that all JUS owners be common carriers, and that any other person with a right to use capacity on the system be a common carrier.

⁴ In general, a private cable license holder enjoys greater price flexibility than a common carrier cable license holder. Pricing flexibility amounts to how much volume discount is given to investors who buy larger ownership shares in the system, or to other common carriers that buy capacity on the system from the owners.

In practical terms, a member of the public can make use of telecommunication services through the JUS network by buying such services from a common carrier that owns capacity in the system. For example, by using AT&T for an international long-distance call, as a co-owner of JUS, AT&T could use its allocated capacity in JUS to carry that telephone call.

The FCC's determination that the proposed project is not anti-competitive in nature provides a clear indication that the proposed project provides a public service. Therefore, the Commission finds that the S9 cable will provide a public service and therefore, meets the second "incidental public service" test. By satisfying both tests, the Commission finds that the proposed project consisting of the S9 cable is an allowable use under section 30233(a)(5).

No Feasible Less Environmentally Damaging Alternative

After qualifying as an allowable use under section 30233(a), the Commission must find that there is no feasible, less environmentally damaging alternative to the proposed project. This question involves three issues; alternative landing sites, onshore routes and offshore routes. The S8 and S9 routes, as proposed, appear to be the least environmentally damaging alternatives for cable alignment due to greater potential impacts elsewhere to hard bottom habitat, on-shore environmentally sensitive habitat areas, water quality, and commercial fishing operations.

The MND did not evaluate alternative landing sites, but the Commission findings for the MCI/WorldCom project demonstrate that other landing sites at Morro Bay are less environmentally preferable. Moreover, the Montana De Oro site has now been established as a major conduit for fiber optic cables, and is therefore a clear consolidation of industrial use within the coastal zone. Similarly, in Point Arena, the Manchester facility is a well-established, communications link which has existed since the 1950s, and the selection of that site clearly represents the desirable consolidation of permitted industrial activity within the coastal zone.

Responding to staff concerns with the coastal dependency of S9, the applicant submitted, and staff has reviewed, a July 19, 2000 filing entitled "Expanded Analysis of Land Alternative to Segment 9," as well as revised maps received by staff July 21, 2000. The analysis addresses two issues: the feasibility of a land-based alternative, and the ecological impacts of land-based alternatives versus a marine cable.

With regards to the first issue, the feasibility of a land-based alternative, the applicant has clearly demonstrated that a land-based project is feasible. As the applicant states, "... Installation of new fiber optic cable overland from Point Arena to Morro Bay could potentially be accomplished on existing AT&T right of way, public road right-of-ways and possibly bridge attachments where feasible..." (AT&T 2000) However, the applicant expresses feasibility concerns based upon structural limitations of existing project components. The applicant found that 240 miles of the 450 miles from Point Arena to Morro Bay would require new conduit to accommodate the unusually heavy cable already manufactured for the marine environment.

Ninety miles of this would be required from Point Arena to Cloverdale. Conduit installation can be extremely disruptive from an environmental and a public access perspective.⁵

The Commission disagrees with the applicant's feasibility conclusion. The applicant has clearly assumed the eventual receipt of permits for the placement of fill in coastal waters. Subsequently, the applicant then chose to order the manufacture of project components in advance of obtaining appropriate permits. It cannot be assumed that the environmental impacts associated with attempting to install marine cable in a terrestrial environment are the only feasible alternative in this case. The applicant could simply order terrestrial cable for easier installation to existing cable corridors.

Nevertheless, the applicant estimates that 200 USGS-mapped streams would have to be crossed by a land-based route. Some of these streams would require boring operations, possibly impacting sensitive and endangered species, such as steelhead trout and coho salmon. As indicated in the applicant's proposed land-based route analysis, installation of the S9 cable "would likely have significant adverse environmental impacts that could be mitigated only with a comprehensive plan for addressing effects on air and water quality, biological resources...cultural resources, temporary traffic disruptions, local land uses, and other related impacts" (AT&T, 2000).

These impacts include effects on protected species, tidal marsh habitat, sensitive freshwater aquatic habitat, and cultural resources. For example, in order to minimize significant impacts to water quality, stream crossings by the cable would need to be bored by horizontal directional drilling. In this event, the possibility of bentonite "frac-outs" or unanticipated releases due to directionally drilling under streams and wetlands and the resultant impacts to riparian vegetation and habitat may adversely affect protected anadromous fish and other species.⁶ No sensitive or protected species should be impacted by the proposed project in the offshore route. Additionally, according to the applicant, kelp beds are not crossed, cultural resources are not placed at risk, aesthetic impacts will not result, and wetlands will not be effected by the landing operation.

The analysis concludes that: "Even assuming that these impacts could be mitigated to a level of insignificance, it would come at a cost to the environment that is significantly greater than the relatively benign impacts associated with a marine route..." (AT&T, 2000).

The dilemma faced by the Commission is that, in the absence of route specific information (e.g., biological surveys, alternative stream crossing methods, sharing of existing cable "corridors"), it is impossible for the Commission to determine that there is a "feasible, environmentally less

⁵ Generally, installation involves the installation of conduit, vaults (approximately five cubic meters) constructed approximately every 0.6 km to 1.5 km to assist in pulling the cable through conduit, signal regeneration facilities every 80 to 120 km, and cable markers every 152 to 304 meters. Construction methods generally involve trenching or boring and where available, the attachment of cable to bridges. Trenching involves the creation of a ditch measuring four feet deep by one foot wide, installation of conduit, backfilling of the trench, and surface restoration. When sensitive habitat or streams are encountered, the cable would be directionally bored. These activities typically require a minimum 10 to 15 foot wide construction right-of ways.

⁶ AT&T experienced such a frac-out in 1985 during its boring operation under the Garcia River. The resulting bentonite spill killed a significant number of juvenile steelhead and coho salmon.

damaging alternative” to the ocean alignment of the cable. Thus, in this case the Commission relies on the general information provided by the applicant.

With respect to offshore routes, the applicant’s sea-bottom surveys described in the project description indicate that the proposed route is the environmentally preferable alternative. The impacts of these routes are discussed under section 4.5.2, below.

The Coastal Act section 30108 defines “feasible” as “...capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, social, and technological factors.” The applicant argues that its land-based route is not feasible due to environmental considerations, relying on its overland route analysis in concluding, “...comparative environmental impacts are much greater for an overland route.” Based on the above information regarding greater potential environmental impacts to resources along the proposed onshore route as compared to potential impacts to offshore resources, the Commission finds that the onshore route is feasible, but likely more environmentally damaging.

Therefore, the Commission has determined that there is no feasible less environmentally damaging alternative to the proposed project. Accordingly, the Commission finds that portion of the proposed project consisting of the S9 cable is consistent with Coastal Act section 30233.

4.5.2 Marine Resources and Water Quality

Coastal Act Section 30230 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.

Coastal Act Section 30231 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.

The MND identified the following potential marine biological resource and water quality impacts possibly caused by cable installation activities; (1) disturbance of soft bottom habitats and destruction of benthic invertebrates, (2) disturbance of hard-bottom habitat and destruction

of epibenthic organisms, and (3) increased turbidity or particulate loads that may be deleterious to marine organisms.

Additionally, the Commission identifies the following potential impacts: (a) cable segments that are insufficiently buried or become exposed may result in entanglement impacts to whales migrating in the project area, and (b) drilling for the installation of cable conduit requires the use of bentonite as a drilling lubricant. Bentonite is generally considered to be inert and non-toxic, though it has the potential to smother aquatic organisms if released in significant volumes.

4.5.2.1 Potential Whale Entanglement with Project Cables

Whales that migrate through coastal waters in the project area may become entangled in unburied or insufficiently buried. Although, to date, whale entanglement with fiber optic cables has not been reported offshore California, Heezen (1957) documents fourteen examples of sperm whale entanglements worldwide⁷. Of the whale species that are known to migrate past the project area, at least two species--the California gray whale (*Eschrichtius robustus*) and sperm whale (*Physeter macrocephalus*--have the potential to become entangled due to their feeding behavior of excavating bottom sediments (from 0.15-0.25 meters below the seafloor). Of these two species, the gray whale has a higher risk of entanglement because it is far more common and numerous off the California coastline (Imamura, 2000a). The majority of sperm whale sightings by Dohl et al. (Morro Group, 2000) occurred in open water where water depths exceed 2000 meters. Because of their rarity within project waters, impacts to sperm whales are considered unlikely to occur (Imamura, 2000a).

Whales are protected by the Marine Mammal Protection Act of 1972. In addition, the sperm whale is federally listed as endangered species and therefore protected by the federal Endangered Species Act. Gray whales have been delisted from the federal endangered species list due to increased population numbers. Cable entanglement with other marine mammals such as pinnipeds (*e.g.*, sea lions, harbor seals) and fissipeds (*e.g.*, sea otters) is not expected to occur because these animals do not exhibit similar feeding behaviors in bottom sediments.

In the only study on whale entanglement, Heezen (1957) details fourteen examples of whale entanglement in areas around the world. Heezen's study consisted of a search of all available cable failure records of four cable companies; the record is only considered complete for those companies for the years 1930-1955. No comparable search of cable failure records has been made since Heezen, thus limiting risk assessment of the potential impacts which partially buried cables might have on whales.

Most of the entanglements evaluated by Heezen involved cases of deep-diving, bottom-feeding sperm whales that, he postulated, became entangled "...while swimming along in search of food,

⁷At 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). By 1928, 21 separate cables crossed the Atlantic to Canada and the United States. At present, 658,375 km of fiber optic cable is expected to be installed and operational by the year 2003 (Rampal 1998). That figure equates roughly to an additional 514,050 miles of cable in the marine environment, making a total of more than 1 million miles of cable in the marine environment, not including that which was installed between 1957 and the advent of fiber optic cable installation, and any which may have been removed since then.

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 documented fourteen instances of whales entangled in submarine cables that led to death. All whales positively identified were sperm whales, with possible entanglements of baleen (e.g., gray) whales in shallower water, and one humpback whale reported entangled in Alaskan waters.

The scope of the Heezen study was somewhat limited by the fact that, prior to 1930, cable failure reports generally lacked detail or were incomplete. Our current knowledge of whale entanglements is further limited by the lack of any contemporary and comparable analysis of this topic since Heezen. Moreover, since many cables have been abandoned since first laid, and since the only basis for discovering entanglement --- interruptions to service -- is not possible for abandoned cables, and since no examination of failure rates for operational cables has been made since 1957, the present rate of whale entanglement is unknown. Interpretation of entanglement risk amounts to speculation, but entanglement risk may be affected by these factors: oceanic depth of the cables; burial depth of the cables; presence of suspended cables over submarine trenches or rocky substrates; and the relative tautness of unburied cables (more specifically, shallow, unburied, looped or suspended cables pose more of a hazard than deeply buried cables).

Approximately 20,000 gray whales migrate through California waters each year. Due to their abundance off the Pacific coast, their tendency to hug the shoreline during migration, and their bottom feeding patterns, gray whales may face the highest risk of entanglement with insufficiently or exposed cables.

While resident populations of gray whales have been reported off the northern California coast, the majority of the population off of the central California coast occurs during late fall and spring as they migrate between Alaskan waters and Baja California. It has been reported that the majority of southbound (November to January) gray whales migrate within 2 nautical miles (nm) from shore (Morro Group, 2000). The northbound migration occurs much closer to shore with mother and calves reported within kelp beds and sometimes only yards from the shoreline.

Primarily a bottom feeder, the gray will dive from 150 to 200 meters, but prefers shallower water. One study observed that off of British Columbia, during feeding activities, gray whales created excavations through bottom sediments ranging from 15 to 25 cm in depth (Morro Group, 2000). Benthic suction feeding behavior by gray whales has been widely documented (ibid.).

However, gray whales are not known to be intense feeders during migration (Imamura, 2000a) and are not known to feed on hard bottom substrates. Experienced biologists who have conducted gray whale monitoring studies off central California locations report that they have never seen, nor heard of, gray whales bottom feeding during migration through this area (SAIC, 2000). However, this anecdotal report contrasts with other anecdotal observations of gray whales feeding opportunistically on krill at the surface during migration.

While gray whales in the project area may face the highest risk of cable entanglement, they are not expected to feed heavily in project areas during migration. Assuming that entanglement is a direct result of bottom feeding, which is strictly hypothetical, the risk of entanglement is low. The WorldCom EIR does report that possible interactions with unburied or suspended cables

placed in areas of high relief rocky substrate "appears to be extremely low, based on the ability of marine mammals to detect and navigate around natural and human-made structures in the marine environment" (SAIC, 2000). Clearly, previously entangled whales were not so capable.

The project will not involve the laying of cable on high relief rocky substrate. This will minimize the potential for cable suspensions between sections of high relief and the potential for whale entanglement in these areas. According to the applicant, both cable routes avoid areas of high relief, and S8 will be completely buried. However, the S9 segment may be unburied at Point Arena for a distance of one km, and will likely be unburied at Morro Bay for two km. Both segments lie within the migratory corridor for marine mammals, and therefore pose a hazard.

Furthermore, during the 18-24 month period between cable inspections cable portions can become unburied, further increasing the risk of entanglement. The applicant's project provides no system for monitoring and reporting potential marine mammal entanglements.

Partly due to the protection of marine mammals under the Endangered Species Act or the Marine Mammal Protection Act, the MND found that entanglement or injury impacts due to insufficiently buried cables are adverse and significant (AT&T, 2000). As such, several conditions have been incorporated as a part of this permit to minimize any potential for whale interaction with the project cables, and to document any future entanglements.

During cable laying, **Special Condition 9** requires a trained marine mammal observer, approved by the Executive Director in consultation with the National Marine Fisheries Service, be on the cable lay or support vessel to monitor the presence of marine mammals that approach the project area during cable installation. In the event that, in the opinion of the observer, project operations have the potential to threaten the health or safety of marine mammals or have the potential to take, as defined by the Endangered Species Act, a marine mammal, the observer shall have the authority to cease all project activities until the observer determines there is no longer a threat. **Special Condition 10** requires the applicant to submit within 30 days of completion of the installation activities a copy of a marine mammal monitoring report that the SLC is requiring as part of its lease approval.

Special Condition 4 requires the applicant to bury both cables to a depth of 1.0 meter except where precluded by seafloor substrates. Where a 1.0-meter burial depth cannot be achieved, the applicant shall bury the cables to the maximum depth feasible. This depth represent a protection factor of roughly 300% when compared with the depth (15-25 cm) at which gray whales are believed to trench into bottom sediments. The applicant has indicated that a 1.0-meter burial depth can be achieved for almost 100% of the route (through State waters to the 1,000-fathom water depth). The factors influencing whether the 1.0-meter burial depth may not be achieved include localized higher sediment resistance, abrupt changes in bottom slope, and variations in cable ship speed. Most of these burial anomalies can be avoided through pre-lay surveys and a detailed burial plan, which the applicant has conducted. In addition, in areas where a 1.0-meter burial depth is not achieved, the applicant has committed to re-bury those sections to 1.0 meter with an ROV.

In order to ensure that cable installation consistent with Special Condition 4 is carried out, **Special Condition 5** requires the applicant to submit to the Executive Director the as-built plans, including burial depth, of both cables.

In order to ensure the future monitoring of marine mammal entanglements, and to develop an up-to-date risk assessment of this potential impact, **Special Condition 11**, described in greater detail below, provides a system for monitoring cable impacts to marine mammals by requiring that if any other type of cable entanglement occurs, the applicant shall use all feasible measures to retrieve the entangled object as soon as possible but no later than six weeks after discovering or receiving notice of the incident. AT&T shall provide notice to the Executive Director within seven days of repair or object retrieval efforts. The notice shall include a full description of the nature of the entanglement, as well as any recorded cable failures.

As a preventive measure against potential entanglement impacts, **Special Condition 6** requires that every 18 to 24 months for the life of project, the applicant shall survey the S8 and S9 cable routes in State waters to verify that the cables have remained buried consistent with the as-built cable burial plan. The survey shall be conducted by an ROV equipped with video and still cameras and by a third party approved by the Executive Director. Within 30 days of survey completion the applicant shall submit to the Executive Director a report describing the results of the survey. If the survey shows that a segment(s) of a cable is no longer buried consistent with the as-built cable burial plan required by Special Condition 5 the applicant shall, within 30 days of survey completion, submit to the Executive Director for approval a plan to re-bury those cable segments.

With these measures in place, the Commission believes that the project will minimize any risk of harm to marine mammals and that healthy populations of the species will be maintained as required by section 30230 of the Coastal Act.

Further, **Special Condition 7** requires that within 90 days of taking either the cable out of service or after the expiration or sooner termination of the applicant's State Lands Commission lease(s) or permit(s), the applicant shall apply for an amendment to this permit to remove the cables from the seafloor. At a minimum, cable removal shall occur from the shoreline to the 1,000-fathom depth contour. This condition will ensure that any potential whale impacts are eliminated after the useful life of the cables.

Entanglements and Ghost Nets

Fishermen may snag gear on cables. When this occurs, fishermen generally abandon their gear, thereby creating a risk to marine mammals and other species. Pursuant to an Interim [Fishing] Agreement ("IA") signed by the applicant and trawlers (Interim Agreement available on file), 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 trawling procedures, the cable companies will reimburse the fisherman for the lost gear. This abandoned gear and particularly the nets, however, then becomes a hazard to marine life, potentially entangling marine mammals and fish, preventing them from feeding and causing them to drown, over the long term (Morro Group, 2000).

Special Condition 11, therefore, requires that in the event that trawlers snag and cut their trawl gear due to entanglement with either cable, or that any other type of cable entanglement occurs, the applicant shall use all feasible measures to retrieve the entangled object as soon as possible but no later than six weeks after discovering or receiving notice of the incident. The applicant shall provide notice to the Executive Director within seven days of repair or object retrieval efforts. The notice shall include a full description of the nature of the entanglement, as well as any recorded cable failures.

4.5.2.2 Hard-Bottom Impacts

Hard substrate (or hard bottom) areas are exposed rocky substrates that provide habitat for a diverse group of plants and animals. The applicant surveyed possible cable routes via side scan sonar, a method that helps determine the geological make up of the sea floor and gives an indication where hard bottom habitats and rock outcroppings are located. These surveys led to proposed cable routes which, according to the MND, entirely avoid high-relief hard bottom, and minimize to the maximum extent feasible areas of low-relief hard bottom. In so doing, the proposed project achieves a projected burial rate of 100% for S8 at Manchester, and approximately 97% burial of the proposed S9 cable extending from Manchester to Morro Bay. In addition, the State Lands Commission has required that the applicant avoid any damage to high relief areas by designating no-anchoring zones in identified high relief areas.

The S9 cable off Point Arena will traverse an area approximately one kilometer ("km") in distance of mixed sediment and low-relief outcrops where cable burial will be more difficult than usual. The length is approximately one kilometer over a five-kilometer distance at depths of 55-70 fathoms (100-128 meters), and the estimated acreage of disturbance is 0.07 acre (0.03 hectare). This portion is located in fishing block 403. Cable burial will be attempted by a combination of steering the sea plow to place the cable in pockets of sediment between rocks, and then by post-lay burial with ROV.

The S9 segment at Morro Bay will traverse a two km disconnected segment of low relief hard bottom, primarily flat bedrock, and shallow sediments, which begins approximately 1.6 km offshore. This topography will impair full burial, thereby increasing the risk of impacts to hard bottom habitat, as well as increasing the risk of marine mammal entanglement as described above. Approximately 453 meters of the cable would cross low relief, hard bottom habitat, with an estimated hard bottom disturbance area of .0336 acres (.0136 hectares). The following table summarizes the areas of cable affected:

CABLE	UNBURIED LENGTH	OFFSHORE DISTANCE	DEPTH	AREA
S8	0	NA	NA	0
S9-PA	1 km over 5 km	4.1 km	100-128 m	.07 acre
S9-SLO	2 km over 10.5 km	1.5 – 12 km	26-126 M	.036 acre

In all instances, burial in difficult areas will be maximized by a combination of plow steering to place the cable in pockets of sediment, and post-lay burial with ROV, with a target of 100% burial.

Two areas of high relief hard bottom near Morro Bay will be approached during cable laying operations (approximately 300 meters east and northeast of the S9 route). The applicant has indicated that project vessels will not anchor in or near hard bottom habitat, and therefore will not impact rocky substrates and their biological communities. As a mitigation measure, the MND recommends the designation of high relief rocky substrates on final approved plans and maps for cable installation as "no-anchor zones". These zones will be shown on as-built and project maps that could be used in future repair or abandonment activities. The applicant has incorporated the above mitigation measure in the proposed project as well as a commitment to avoid the placement of anchors in all rocky substrate areas. A smaller workboat will set the anchors on soft bottom substrates and retrieve them vertically so as to avoid dragging them across the seafloor.

In **Special Condition 12**, the Commission is requiring the applicant to survey the cable routes for impacts to rocky substrate and their biological communities caused by project operations. Within 30 days of project completion, the survey of the seafloor along the construction corridor is to be completed by a consultant approved by the Executive Director. The survey is to quantify the extent of exposed rocky substrate, including type and relief, impacted by offshore operations out to the furthest extent of rocky substrate areas and wherever the seafloor is predominately mud (approximately the 170-meter water depth contour at Point Arena and Morro Bay. Within 45 days of completing the survey, the applicant shall submit to the Executive Director a written report describing the results of the survey to derive net project impacts to rocky substrate. The survey report shall identify the location and quantify the extent of any disturbance to rocky substrate caused by project operations.

Additionally, **Special Condition 13** requires the applicant to compensate for all project-related impacts to hard bottom habitat, if any, through payment of a compensatory hard bottom mitigation fee to be used to construct a new artificial reef or augment an existing artificial reef in State waters within the Southern California Bight.

A hard bottom mitigation fund is currently in place to accept hard bottom mitigation fees from oil companies that received coastal development permits (E-95-09, E-95-10, E-95-11, E-95-12, E-95-13, E-95-14 and E-95-17) in 1996 to abandon 23 subsea oil and gas completion wells in the Santa Barbara Channel ("the Santa Barbara Channel Subsea Well Abandonment Program"). The well abandonment program caused some unavoidable damage to hard bottom and resulted in the permittees paying about \$13,000 to the hard bottom mitigation fund.

Table 2. Compensatory Hard Bottom Mitigation Fee

TASK	MITIGATION FEE ESTIMATE	COMMENT
Construction of Hard Bottom Habitat (year 2000 dollars) Cost of Materials (quarry rock, engineering, transportation, deposition, and insurance)	\$19.10	Assumptions: a) Estimate based on actual construction costs for one meter high artificial reef b) Cost = \$198/ton
Project Administration for UASC	\$1.91	Overhead to UASC not to exceed 10% of total funds collected.
SUB-TOTAL	\$21.01	
Project Contingency	\$6.30	Contingency of 30% for unanticipated project-related changes in cost of design/planning/permitting, materials, labor, or transportation
TOTAL	\$27.31	

The construction of a new artificial reef, or augmentation of an existing reef, will be carried out pursuant to a Memorandum of Agreement ("MOA") by and between the California Coastal Commission, the California Department of Fish and Game (CDFG) and the United Anglers of Southern California (UASC) (Exhibit 3). The amount of the hard bottom mitigation fee will be calculated by multiplying the total square footage of impacted hard bottom (as determined in the survey conducted under Special Condition 12) by a compensation rate of \$27.31 per square foot (see Table 2). This rate is the sum of individual costs associated with the construction of a one-meter high artificial reef. The costs include: purchasing artificial reef materials, transportation, engineering and placement of materials, insurance, a 10% project administration fee, and a 30% project contingency fee for unanticipated project-related changes in cost. The resultant fee shall be paid to the United Anglers of Southern California within 30 calendar days of the results of the hard bottom survey required by Special Condition 12.

The CDFG administers the California Artificial Reef Program in part for the purposes of (1) placing artificial reefs in State waters, and (2) determining the requirements for reef siting and placement. The CDFG has agreed to assume the lead responsibility for the planning, siting, design and permit requirements for the construction of any new artificial reef or augmentation of

an existing artificial reef using the monies in the hard bottom mitigation fund. The UASC, a volunteer group of recreational anglers interested in preserving, protecting and enhancing marine resources and fishing opportunities, agreed in the 1996 MOA to accept any hard bottom mitigation fees. The funds are in an interest-bearing account. These funds including all earned interest are to be expended solely for reef materials, construction costs, and the UASC's administration of the fund (not to exceed 10% of the total collected fees). The CDFG will absorb any costs associated with the planning, siting, design, and permit requirements to construct a new artificial reef or augment an existing reef.

4.5.2.3 Soft-Bottom 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.

ROV surveys of the bottom fishes and epifaunal (surface-living) invertebrate species that characterize areas of the continental shelf off Point Arena were conducted from August 13-20, 1999. Additionally, diver assessments of nearshore areas of S8 and S9 were conducted in September 1998 and November 1999. As part of the WorldCom China-US EIR, an ROV video survey of epifaunal invertebrates and algae species was conducted in May 1999, June 1999 and August 1999.

Areas along or adjacent to the proposed routes, including soft-bottom habitats, were surveyed from the 23 meter to 105 meter water depth (S8), and 12-146 meter depth (S9) and covering a distance of approximately 6 to 8 miles at Point Arena and twelve miles at Morro Bay.

No soft bottom species of special concern were identified in the survey. Overall, epifaunal organisms inhabiting soft-bottom areas of the proposed project area near Point Arena consist of brittlestars, Ophiura, hermit crabs, seastars, *Pisaster brevispinus*, flatfishes, various sanddabs, and sea pens. At Morro Bay, species generally consist of sea pens, tube-dwelling ploychaetes, seastars, cerianthid anemones, and flatfishes.

While infaunal organisms were not surveyed as part of the proposed project, the WorldCom EIR included a survey of benthic sediments out to the 3-mile state waters limit conducted in March 1999 to determine representative infauna organisms and their density, and grain size. Intensive sampling was conducted in the nearshore (10 to 30 meter depths) around the conduit portals where they surface on the seafloor. The other subregions sampled included the mid-depth (50 to 60 meter) and offshore (65 to 70-meter depth).

The WorldCom infauna survey data allowed the quantification of potential impacts to infaunal species due to project-related activities. Infauna along the cable corridors are of concern because: (1) the proposed burial of cables 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. Grain size distribution was quantified because infauna resides within sediment interstices and their spatial

distribution is directly related to sediment properties. Secondly, grain size determines the erosion potential and whether a buried section of cable will be re-exposed on the seafloor.

Some examples of the most abundant taxa in the offshore (silts and clays) included: annelid worms (*Paraprionospio pinnata*) and red brittlestar (*Amphiodia urtica*). Bivalves, anemones, sea stars, urchins, sea cucumbers, and ribbon worms are other examples. In the mid-depth subregion (coarse sediments), six taxa had high abundance compared to other samples. These included: gammarid amphipod (*Desdimelita desdichada*), sipunculoid peanut worms (*Nephasoma diaphanes* and *Thysanocardia nigra*), burrowing worm-like sea cucumber (*Leptosynapta*), and the annelids (*Chaetozone* and *Pholoe glabra*). A different set of species was found in the nearshore, where fine sand predominated in a harsh, wave-dominated environment. Common species included annelid worms (*Scoloplos armiger*, *Nephtys caecoides*), crustacean species (*Eohaustorius sencillus*, *Majoxiphalus major*, *Mandibulophoxus gilesi*), and the sand dollar (*Dendraster excentricus*).

Impacts to soft bottom sediments and their biological communities will occur during cable installation (including pre-lay grapneling), repair and re-burial operations, and from the use of vessel anchors. Cable installation and vessel anchoring in soft-bottom areas will cause localized, temporary disturbance of the habitat and mortality to resident infaunal and slow-moving epifaunal species.

In order to bury the cables within the seafloor, a hand-jetter, cable plow and a ROV equipped with sediment jets will be used to create a trench for cable burial. From the 100-meter depth contour to 1200 meters, a plow will be used to bury each cable for a total distance of 60-km (38 miles). The applicant has estimated that the plow will disturb bottom sediments within a corridor up to 2.4 meters (8 feet) wide (based on the combined effects of the furrow made by the plow shank plus the tracks of skis and wheels) and 1 meter deep. Burial by ROV and hand jets will disturb a similar area of soft bottom (over roughly 20 miles and 0.3 miles, respectively). Repair operations in the nearshore and adjacent to hard bottom areas, will require an ROV to jet the damaged section from the seafloor, assuming it is buried. In deeper waters, a detrenching grapnel will be used to snag the cable and raise it to the surface. Both repair activities are also expected to disturb a 2.4-meter width of soft bottom. During periodic surveying of the cable routes, if any cable segments have become exposed, the applicant will re-bury those segments, pursuant to an approved re-burial plan, with an ROV jetter.

Soft-bottom impacts will also occur during the anchoring of the dive support vessel. The vessel, from 100 to 200 feet in length, will serve as a dive platform and may need to anchor from the end of the cable conduits to water depths of 25 to 30 meters. The vessel will use a four-point mooring with an anchor spread of approximately 330 feet. As a part of the applicant's commitment to avoid the placement of anchors on all rocky substrates, a smaller workboat will set the anchors on soft bottom substrates and retrieve them vertically so as to avoid dragging them across the seafloor.

Based on the above estimates of disturbance to soft-bottom areas due to the proposed project (excluding areas to be impacted by anchoring), the applicant calculated a total potential area of impact of 8.72 hectares or approximately 21.5 acres.

The WorldCom EIR concludes that damage to the marine invertebrate community from cable trenching and burial activities in soft-bottom habitats will be less than significant for the following reasons: The disturbed area will be very small; no species of special concern occur in soft bottom habitats; and due to the typically rapid recolonization and recovery of most soft bottom communities following a short-term, localized disturbance (EPA 1993), potential impacts to these communities would be less than significant. It is expected that invertebrates would recolonize the disturbed corridor primarily by immigration from adjoining areas. The area impacted will be limited to a 2.4-meter width during burial activities and less during repair of damaged cable.

In making the same case, the WorldCom EIR cited studies highlighting determining factors for recolonization rates at disturbed sites. Two studies found that a "mobile adult stage of nearby species and small areas of disturbance allow for faster recolonization" (Morro Group, 2000). When compared to sand and gravel mining and dredging operations, the width disturbed by burial and repair activities will be very small and thus will be conducive to rapid recolonization. The EIR also reports that the "recolonization process is highly influenced by the similarity of the new altered substrate to nearby unaltered sediments". In the project area, the soft bottom sediments to be impacted are very similar (if not identical) in nature to adjacent areas. Other studies of sand and gravel mining and dredging operations have found rapid infaunal recovery within 18 months to 3 years. In this case, because cable burial and repair operations will impact a significantly smaller area than sand or gravel mining, the EIR estimated that recovery could occur on a time scale of months rather than years.

4.5.2.4 HDD Drilling

Drilling for the installation of cable conduit requires the use of bentonite as a drilling lubricant. Bentonite, a type of mud, is generally considered to be inert and non-toxic, though it has the potential to smother aquatic organisms when released in significant quantities.

The applicant proposes to avoid or minimize potential releases of bentonite ("frac-outs") to the marine environment with these measures: (a) continuous monitoring of drilling fluid pressure to detect losses; (b) initial use of smaller drills to minimize potential frac-outs; (c) application of inert, non-toxic, fluorescent dye to drilling fluid in order to accurately monitor potential releases of bentonite; (d) thickening of fluid viscosity during any losses of pressure to seal areas of release; (e) availability and use of inert additive sealant (cedar fiber) to seal areas of release when frac-outs occur, and; (f) drilling the last few meters section of the borehole using potable water as a drilling fluid to avoid direct release of bentonite to the marine environment. Spent drilling fluids that return to the landward borehole would be disposed at a permitted landfill.

With these preventive measures in place, any accidental frac-outs that occur will probably release small quantities of bentonite, if any. Furthermore, any release will be easily detectable through the use of fluorescent dye, enabling a rapid response to marine spills. Nevertheless, frac-outs occur with some frequency, and have in fact occurred on both the MCI/WorldCom project (E-99-011/CC-028-00), and the PC/PAC project (E-98-027/CC-041-00).

In anticipation of potential frac-outs, the Commission requires in **Special Condition 15** that the applicant submit for Executive Director approval prior to permit issuance a drilling fluid spill contingency plan that includes (a) an estimate of a reasonable worst case release of drilling fluid into marine waters caused by project operations; (b) a clear protocol for monitoring drilling, including criterion for identifying a frac-out (*i.e.*, an unanticipated bentonite release due to boring operations) as it occurs; (c) a response and clean-up plan in the event of a marine spill; (d) a list of all clean-up equipment that will be maintained on-site; and (e) the specific designation of the onsite person who will have responsibility for implementing the plan.

With these prevention and response measures in place, the Commission believes that marine resources will be protected, as required by section 30230 of the Coastal Act.

4.5.2.5 Marine Water Quality Impacts

The proposed project lies, in open waters off Point Arena and Estero Bay. Water quality offshore both areas are relatively pristine, though coastal water quality within Estero Bay is more affected by human-induced factors such as waste discharge and coastal runoff. The WorldCom EIR states that "petroleum development, commercial vessel traffic, natural hydrocarbon seeps, river runoff, municipal wastewater outfalls, and minor industrial discharge all contribute to slightly increased levels of nutrients, trace metals, and synthetic organic contaminants in marine waters. However, compared to more industrialized coastal regions to the north in Monterey Bay and to the south within the Southern California Bight, contaminant input into the waters of Estero Bay is small and, thus, the waters of Estero Bay are relatively pristine and unpolluted." Agricultural and urban runoff contributes significant levels of pollutants only during isolated events of high rainfall.

The outer layers of the armored cables consist of galvanized steel wires and a polyethylene sheath, which contain no additives harmful to marine life. The outermost layer is coated with bitumen (asphalt) that adheres to the outer polypropylene covering.

The principal impact on marine water quality due to the proposed project is increased turbidity due to the suspension of surficial sediments during installation of the cables, and hand-jetting operations to expose the cable conduits as they approach the seafloor.

Turbidity Increases Due To Cable Burial and Conduit Cleaning/Jetting

Project activities causing sediment suspension within the water column immediately above the seafloor include: 1) pre-lay grapnel run to clear the plow path of debris; 2) cable burial by plow and ROV; and 3) cable repair and re-burial. The pre-lay grapnel run will disturb sediments along the planned cable routes to be plowed to the extent of the size of the grapnel, roughly two feet wide, and its subsurface penetration depth of approximately 0.4 meters (1.3 feet). In contrast, the cable plow, ROV, and hand-jetter will all disturb an area 2.4 meters wide and 1.0 meters deep. Repair operations by ROV will re-suspend sediments over a similar area. As previously identified, the applicant calculated a total potential area of project-related impacts, including installation, to soft-bottom habitat of roughly 10 hectares at Point Arena, and 4.3 hectares at Morro Bay.

To prepare for the landing of the cables, the existing conduits will be cleaned and flushed using air pressure and potable water. This activity will disturb bottom sediments, resulting in their suspension and deposition around the opening of the conduit. No lubricants or chemicals will be used during this activity. The only materials expected in the conduit are seafloor sediments that may have entered the conduit during installation and a small amount of rust (insoluble iron oxide) from the inner surface of the pipe. Because these materials are non-toxic, no adverse effects on marine organisms or water quality are expected beyond the immediate area of sediment suspension.

In order to expose the conduit opening where it surfaces from the seafloor, divers will hand-jet the overlying sediments. The applicant estimates that 10-15 cubic yards of sediment will need to be dispersed from a shallow pit surrounding the opening at Manchester. At Morro, less sediment will need to be dispersed due to the recent clearing of that bore. Sediments in both areas are comprised of sand and are expected to resuspend within a few feet and settle out within a minute. The MND concluded that because the impacts from sediment re-suspension will be brief and localized, they are less than significant. Specifically, the above activities will be transient, short in duration and of minor localized impact (AT&T 2000).

The California Ocean Plan, the only water quality standard applicable to ocean turbidity impacts, defines unacceptable reductions in natural light in terms of changes to mean conditions that exceed 95% confidence limits. However, based on measurements of ambient suspended-solids in comparison with this standard, the WorldCom EIR found that wide fluctuations in turbidity exist near the portal area in Morro Bay. The same is likely true at Point Arena. Thus, the WorldCom EIR concluded that "Project-related increases in suspended particulate loads near the portal area are likely to meet with Ocean Plan standards because they will probably fall within the large natural variation in nearshore turbidity" (Morro Group, 2000). This same reasoning is readily applied to this project.

Project-related turbidity increases will last for a short time period. The MND estimates that the sediments stirred up along the cable corridor would exhibit the following characteristics: (a) remain near the bottom, probably within one meter, and gradually settle back down (CSLC 1999b; Morro Group 1999); (b) the finer fractions could remain suspended for several minutes to hours, but their concentrations would diminish rapidly with distance from the source, and; (c) the effect on turbidity would be transient, lasting a few seconds as the plume drifts and diffuses downcurrent in the near-bottom water.

The Morro Group found that sands found nearshore would settle 15 meters in 15 minutes and very fine sands farther offshore would settle 15 meters in 45 minutes under similar ambient conditions. With naturally occurring turbulence and increased particle concentrations, actual settling times would be greater. Nonetheless, the WorldCom EIR estimated that the maximum height to which sediments are expected to re-suspend would be a few meters from the seafloor for a short period of time due to the rapid settling velocity of sand-sized particles.

Finally, the WorldCom EIR stated that the lateral extent of turbidity increases would not be extensive despite the fact that locations 44 meters from the cable corridor could experience

slightly increased turbidity levels within the seafloor boundary layer. With coarser sediments in the nearshore, smaller areas of impact are anticipated. In general, the width of the expected impact area would be less than the water depth. Thus, the WorldCom EIR finds that "...the turbidity plume is not likely to violate Ocean Plan prohibitions on aesthetically undesirable discoloration of the ocean surface or significant reductions in the penetration of ambient light." Similarly, the MND finds that the turbidity increases are insignificant.

Marine Vessel Discharge

Discharge of sewage or bilge/ballast water could result from marine vessels operating in state waters as part of the proposed project. The MND did not address the effect that intentional discharges would have on ambient coastal water quality offshore Montana de Oro State Park, or Manchester State Beach. Federal and state regulations prohibit the discharge of sewage waste and other sanitary wastes that disperse rapidly in the water column. Resultant water quality impacts would primarily consist of an increase in organic suspended solids and the associated biological oxygen demand. Discharge of bilge/ballast water could result in the introduction of non-native species into the local marine ecosystem.

In response to the above concerns, **Special Condition 8** requires there to be no marine discharge of sewage or bilge/ballast water from vessels either installing or repairing project cables.

Federal Consistency Certification

The applicant has committed in its consistency certification to carry out the same requirements of Special Conditions 4, 5, 6, 7, 8, 9, 10, 11, 12, and 13 where project operations extend into federal waters out to the 1,000-fathom depth contour.

4.5.2.6 Conclusion - Marine Resource and Water Quality

The Commission finds that the requirements of Special Conditions 4, 5, 6, 7, 9, 10, and 11 will substantially minimize the potential for marine mammals to become entangled with or adversely impacted by project cables or ghost nets. Special Conditions 12 and 13 provide for the mitigation of impacts from cables that are laid on hard bottom habitat. Special conditions 14 and 15 will substantially minimize the potential for potential releases of oil or bentonite into marine waters.

Based on the reasons discussed above, the Commission finds that, as conditioned, the proposed project will be carried out in a manner that maintains marine resources and sustains the biological productivity and quality of coastal waters and therefore is consistent with Coastal Act sections 30230 and 30231.

4.5.3 Oil Spills

Coastal Act Section 30232 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 proposed project does not involve the transport, use, or disposal of hazardous materials other than the marine fuel oil, lubricants, and petroleum products that are part of the normal cable laying vessel maintenance and operation. Nonetheless, the proposed project operations could potentially increase the chance of a vessel collision and a release of oil into the marine waters. However, the risk of an oil spill due to project-related activities is very low.

The MND concludes that the cable laying and the support vessels will not present a navigational hazard to fishing, recreational, or other vessels in the project area and that the likelihood an accident is very low. Under the federal Submarine Cable Act (47 USC 21), fishing vessels and other ships must keep their equipment or vessels at the distance of one nautical mile from a vessel engaged in laying or repairing cable or at least one-quarter of a nautical mile from buoys intended to mark the position of a cable when being laid. The cable laying vessel(s) will be well marked and will be well lighted during the night so that other mariners can easily see them.

Coastal Act §30232 requires an applicant to undertake measures to prevent an oil spill from occurring. In order to minimize the chance of a vessel collision, the applicant has committed that at least 15 days in advance, it would post notification, in the 11th District USCG *Local Notice to Mariners* about the pending offshore cable laying operations to ensure that mariners on commercial and military vessels as well as recreational boaters would have prior notice of the cable laying operations. This notification would include such information as: the vessel name and radio call sign, size of vessel, timeframe for project operations for specific areas, daily work hours of vessel operations, and 24-hour telephone numbers for on-site project representatives. The applicant will also follow any local guidelines for public notification for each of the landing areas at Pt. Arena and the Fort Bragg area, and Morro Bay and Port San Luis.

Notwithstanding all efforts to avoid a collision, there is always the possibility of an accident that could result in a spill. To provide protection against the spillage of petroleum products, the applicant has provided, as part of its project application, a project specific oil spill contingency plan to the California State Lands Commission and the Shipboard Oil Pollution Emergency Plans (SOPEPs) for the proposed cable laying vessels. These documents contain preventive measures as well as procedures to be followed in the event of a spill, including hydraulic fluids as well as fuel and other types of oil spills, either onshore or offshore. The applicant has also provided that the primary work vessel will carry on board: 400 feet of sorbent boom, five bales of sorbent pads at least 18" x 18" square, and a small powered boat for rapid deployment to contain and clean up any small spill or sheen on the water surface.

The applicant is also required to submit to the California Department of Fish and Game Office of Oil Spill Prevention and Response ("OSPR") a non-tank vessel oil spill contingency plan for its work vessels, because these vessels are larger than 300 gross tons, pursuant to the requirements set forth in 14 CCR Sections 825.03-827.02. **Special Condition 14** requires the applicant to submit evidence to the Executive Director that the OSPR has approved the required non-tank oil spill contingency plan.

Special Condition 14 also requires the applicant to provide a copy to the Coastal Commission of its project-specific geographic oil spill contingency plan supplement submittal to the OSPR. This supplement shall specifically address the potential oil spill risks and impacts for the applicant's cable laying operation areas in State waters offshore Pt. Arena and Morro Bay. It shall include the following: (a) an estimate of the reasonable worst case spill from the project vessel, including trajectories, and a shoreline assessment/environmental consequence analysis (pursuant to the requirements of 14 CCR Sections 827.02 (g)); and (b) evidence of a contract with an oil spill response organization(s), that is capable of providing both on-water containment and recovery and shoreline protection from the reasonable worst-case spill, in the event the spill exceeds the cleanup capability of the onsite work force (pursuant to the requirements of 14 CCR Sections 827.02 (h) and (i)).

The applicant has agreed in its consistency certification, that the oil spill contingency plan prepared for the OSPR, and its companion project-specific geographic oil spill contingency plan supplement, prepared pursuant to Special Condition 14, will also cover project-related activities in federal waters.

With these measures in place, and the imposition of Special Condition 14, the Commission finds the project consistent with the requirements of Coastal Act Section 30232.

4.5.4 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 both Mendocino and San Luis Obispo counties. In Mendocino County it is conducted out of Fort Bragg, and Bodega Bay to the south (Sonoma County). In San Luis Obispo County, commercial fishing is conducted out of two ports: Morro Bay, and Port San Luis.

At all ports, the bulk of the catch is derived from trawling, but the fishing fleets are composed largely of non-trawl vessels. The commercial fleets operating out of these harbors consist primarily of salmon/albacore trollers, long-liners, pot and trap fishermen and various combinations of these.

PORT	NON TRAWLERS	TRAWLERS	RECREATIONAL
Fort Bragg-Noyo	90	15	7
Albion	23	0	1
Arena Cove	19	0	4
Bodega Bay/Spud Pt.	179/400	2-6	9
Morro-Port San Luis	23	237	6-10

Overall, rockfish and dover sole accounted for more than half of the total catch in the area for the last four years. Other commercially important species include urchins, prawns, shrimp, rock crab, sablefish, salmon, albacore tuna, halibut, swordfish and cabezon.

In 1998, approximately 2,565 tons of fish were landed in Mendocino County. For the period 1994-1998, total ex-vessel landings in Mendocino County ranged from \$5 million to \$10 million, with Fort Bragg/Noyo accounting for 75-80% of the total. Bottom trawling has accounted for 15-20% of the total ex-vessel value of landings at Fort Bragg. Hook and line, urchin diving, and crab fishing are the other major types of fishing that occur.

During the last four years, on average, fish landing of 3,740 tons reported for Morro Bay and Port San Luis/Avila had a value of \$6.8 million. Catch from trawls for both Morro Bay and Port San Luis/Avila made up approximately 76% and 78% of landings by weight and 57% and 60% of dollar value, respectively.

The average commercial fisherman (non-trawler) fishes 188 days/year, has fished commercially for twenty-one years and has a net operating annual income of \$31,200. The average trawler fishes 115 days/year, has fished commercially for thirty-four years and has a net operating annual income of \$59,541. Five trawlers represent the interests of the Mendocino County fleet. The Morro Bay Commercial Fishermen's Association and the Port San Luis Commercial Fishermen's Association represent the interest of fishermen in the project area.

Secondary economic effects of commercial and recreational fishing are substantial, and include tourism, seafood processing and the aesthetic and visitor-drawing qualities of working fishing ports.

Recreational fishing in the project areas mostly occurs on charter or privately owned vessels. An individual charter boat can make approximately 100 trips per year. Recreational fishing is seasonal in nature, with peak seasons falling in April-July (salmon), all year (rockfish) and July - December (albacore tuna). The contribution of this economic sector is unknown, though sportfishing typically equals or exceeds the economic contribution of commercial fishing on a statewide basis. The majority of recreational fishing is accomplished by "jigging" or trolling baited hooks or lures, depending on the species targeted.

According to the MND, commercial trawlers face an adverse, significant impact due to the fact that their bottom trawls may snag cable segments that are insufficiently buried or exposed on the seafloor (this impact is discussed in more detail below). Recreational fishermen, on the other hand, are less likely to experience the same impact because their gear, if it contacts the bottom at all, is unlikely to dig into the bottom. Entanglement resulting in recreational gear loss is possible especially if the cables are suspended or exposed in hard bottom areas. However, the high proportion of buried cable renders gear contact unlikely.

The MND also determined that cable installation would have a minimal adverse impact on fishery resources or habitat. This is based on the assumption that the two cables together will disturb 54 acres (21.8 hectares) of soft bottom habitat, thus a loss of benthic organisms relied upon as food for commercial fish species, that would last for one year. Harvest of dependent

species could decrease in proportion to the area affected. Assuming an ex-vessel price of \$0.80/lb the economic loss would be approximately \$165. At Morro, based on a percentage of relevant fishing blocks to be affected by the China-U.S. project, the average trawl catch in those blocks from 1993-1996, and an ex-vessel price of \$0.50 per pound, the EIR calculated the economic loss to trawlers of approximately \$33.25 for that year. The EIR stated that "[t]his loss would have negligible effects on the economic viability of the local commercial fisheries," and the short-term impact on benthic organisms would be less than significant.

Temporary economic impacts to trawlers and recreational fishermen may result during installation of the cables. 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 order⁸. However, de facto preclusion created by all cable installation activities (including the buoying of cables for 2 to 4 weeks) out to 1,000 fathoms will be temporary (approximately 66 days) and in constant motion as the cables are being laid and/or buried so there will be sufficient access to other fishing and boating areas in the project area. Moreover, once the cables are buried, the exclusion zone becomes ineffective, allowing unrestricted access to these areas. Fishing could occur at locations within the route, but away from the vessel, throughout the installation period. Therefore, a temporary fishing preclusion zone is not a significant impact to commercial and recreational fishermen.

To further minimize any potential conflicts with commercial and recreational fishing activities, at least 15 days prior to commencement of offshore construction activities, the applicant will file an advisory of pending offshore construction operations, including all vessel activities, work locations, and schedules, with the local U.S. Coast Guard District Office for publication in the Local Notice to Mariners. The applicant will also provide the same notice directly to the harbor masters in ports near the affected areas, such as Noyo/Fort Bragg, Arena Cove, Albion, Bodega Bay, Morro Bay and Port San Luis and the Morro Bay and Port San Luis Commercial Fishermen's Associations, and other local fishermen who request it so that mariners and recreational fishing vessels will be informed of offshore project activities and vessels at all times.

Bottom Trawl-Cable Entanglement

As indicated above, commercial trawlers face potential adverse, significant impacts due to the fact that their bottom trawls may snag cable segments that are insufficiently buried or exposed on the seafloor. Bottom trawls are designed to maintain contact with the seafloor. As they are towed over the seafloor, a rope or chain that precedes the net opening startle prey off the ocean bottom and into the net. However, the size of the trawl boards used to spread the trawl net on the largest vessels is such that they would normally skim the surface of the seafloor with a maximum estimated penetration of 0.15 to .3 meters (6 to 12 inches) in the softest sediments (*e.g.*, mud); in firmer sediments, the maximum penetration is approximately .06 meters (3.5 inches). Thus, the project's target cable burial depth of 1.0 meter provides a protection factor of over 300%.

⁸ Fishermen who willfully or negligently snag and damage cables can be imprisoned or be subject a maximum fine of \$5,000 under the federal Submarine Cables Act (47 U.S.C. 21).

Nonetheless, if trawl gear is snagged and lost, fishermen would incur financial losses from abandoned gear and lost fishing time. As previously mentioned, up to three kilometers of cable will potentially be exposed in trawling zones. Therefore, the applicant has agreed, through the Fishing Agreement, to compensate fishermen for 100% of the gear equipment replacement costs, and 50% of those gear replacement costs to compensate the fishermen for loss of catch and fishing opportunity.

Measures to Reduce Fishery Conflicts

The applicant proposes to mitigate the potential economic impacts of gear entanglement through a number of measures. Most importantly, the applicant proposes to bury the cables to a target depth of one meter in State waters and out to the 1,000-fathom water depth in federal waters. The applicant believes a burial depth of 1.0 meter can be achieved along 100% of the S8 route and 97% of the S9 route. Buried cable will minimize potential gear entanglement and resultant loss experienced by fishermen. Burial of cables will also allow fishermen to continue to fish over project areas. The applicant believes that cable burial has been effective in protecting cables from damage by bottom trawling and in avoiding gear entanglement and loss. According to the applicant, no loss of fishing gear has ever occurred with buried cable.

As indicated above, a 1.0-meter burial depth constitutes a cable protection factor of over 300 percent. **Special Condition 4** of this permit requires each cable to be buried to a depth of 1.0 meter except where precluded by seafloor substrates. Where a 1.0-meter burial depth cannot be achieved, the applicant shall bury the cables to the maximum depth feasible. **Special Condition 5** requires the applicant within 30 days of cable installation to submit to the Executive Director an as-built cable burial plan for both cables.

The Commission is also requiring in **Special Condition 6** that every 18 to 24 months for the life of the project, the applicant shall survey the cable routes from the mean high tide line to the seaward limit of state waters to verify that the cables have remained buried consistent with the as-built cable burial plan required by Special Condition 5. The survey shall be conducted with a remotely operated vehicle ("ROV") equipped with video and still cameras and by a third party approved by the Executive Director. Within 30 days of survey completion, the applicant is required to submit a report describing the results of the survey. If the survey shows that a segment(s) of a cable is no longer buried consistent with the as-built cable burial plan, the applicant shall, within 30 days of survey completion, submit to the Executive Director for approval a plan to re-bury those cable segments.

Within 90 days of either taking a cable out of service or after the expiration or termination of the applicant's SLC lease and permits, whichever is earlier, the Commission is also requiring the applicant in **Special Condition 7** to apply for an amendment to this permit to remove the cables from the seafloor.

The applicant proposes in its consistency certification to implement the requirements of Special Conditions 4, 5, 6, and 7 in federal waters to the 1,000-fathom water depth.

The applicant is also a signatory to an "Interim Agreement" (IA) with individual trawlers operating out of Fort Bragg, Morro Bay and Port San Luis, and two mutual benefit associations: The Morro Bay Commercial Fishermen's Organization, and the Port San Luis Commercial Fishermen's Association. As stated in the IA, "It is the intent of the parties to achieve [project] objectives with minimal impacts upon the viability of the commercial fishing industry and [to] minimally affect the extent and traditional areas in which the commercial fishing industry is able to operate, and the practices and procedures used by the commercial fishing industry." The IA covers the applicant's activities in State waters and federal waters out to the 1,000-fathom water depth (the seaward limit of trawling along this section of the coast).

In Mendocino County, five trawlers have signed the agreement, all from Fort Bragg. According to Jody Giannini, chair of the Joint Cable/Fisheries Liaison Committee, that will oversee the implementation of the IA in the Morro Bay area, all trawlers operating out of either Morro Bay or Port San Luis have signed the IA.

The Morro Bay IA, dated July 22, 1999, provides a host of preventive and mitigation measures designed to avoid conflicts between the two industries. The Mendocino County IA is virtually identical. For example, the applicant agrees to:

- Distribute documentation of cable location and burial depth after installation to assure that accurate positions and depths are known to fishermen and other interested parties;
- Establish a Joint Cable/Fisheries Liaison Committee (JCFLC), comprised of four fishermen and four cable company representatives to "... facilitate inter-industry communication, coordination and cooperation between the commercial fishing industry of Central California and undersea fiber optic telecommunications companies operating in California";
- Fund a Committee/Liaison Office Fund to the amount of \$50,000 annually per cable company, with funds in excess of \$150,000 being transferred to the Commercial Fishing Industry Improvement Fund. This fund will be used to reimburse Committee members for participation, to compensate any segments of the commercial fishing industry damaged as a result of the act of installing, repairing, replacing or maintaining the cable project;
- Establish a 24-hour hotline to take calls from fishermen who believe they have snagged their gear on the telecommunications cables owned or operated by the particular cable company;
- Pay 100% of the costs of gear sacrificed by fishermen as a result of snagging cable and 50% of the gear's value to settle claims for loss of business incurred by the fishermen provided 1) the fisherman has informed the 24-hour toll-free telephone hotlines of its situation; and 2) the fisherman conduct was consistent with the Fishing Vessel Operating Procedures established pursuant to the IA;
- 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 IA;

- 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;
- Abandon and remove out-of-service cables, as a condition of any government approvals, so as not to interfere with commercial fishing activities in the areas where such cables were previously installed;
- Annually deposit \$100,000 per project in a special fund for the enhancement of commercial fisheries and the commercial fishing industry and support facilities. The payment of such ordered mitigation shall be offset by funds paid pursuant to this paragraph;
- Pay \$500 to each licensed fisherman who signs the Independent Agreement for use in upgrading communication and navigation equipment;

Additionally, in its lease approval, the SLC has required the following measures:

- Fishermen complying with the Operating Procedures as referenced in the IA will be held harmless for damage to buried cables in the project area. The cable operator shall establish a procedure through a Joint Cable-Fishermen Liaison Committee (JCFLC) or similar organization for making contact with "itinerant" fishermen to advise them of the Operating Procedures and offer the opportunity to sign the "Interim Agreement." This procedure shall include information on who to contact regarding the JCFLC to obtain details on the "Interim Agreement" and its provisions. This information shall be made available through Harbor Masters and in locations as deemed necessary by the JCFLC or required by staff of the California State Lands Commission.

Accordingly, the Commission finds with mitigation measures proposed by the applicant and the Interim Agreement in place, in combination with Special Conditions 4, 5, 6, and 7, the project is consistent with Coastal Act §30234.5 since the "economic" and "commercial" importance of fishing activities will be protected.

4.5.5 Public Access and Recreation

Coastal Act Section 30211 states that:

Development shall not interfere with the public's right of access to the sea where acquired through use or legislative authorization, including, but not limited to, the use of dry sand and rocky coastal beaches to the first line of terrestrial vegetation.

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.

The portions of the proposed project that lie within the Coastal Commission's permit jurisdiction at Manchester State Beach and Morro Bay start seaward of the mean high tide line and continue to three nautical miles offshore. Since the proposed project will take place offshore, well beyond most beach-based recreational activities, no beach access or beach recreation impacts are anticipated.

Recreational activities common to State waters in the Point Arena area include fishing and diving, but are more limited than Morro Bay, due in part to the relative isolation of the Point Arena area. One small charter boat operates out of Albion, and up to four out of Point Arena. Charter boats from Fort Bragg travel to the Point Arena area. Charter and private boats target salmon, rockfish, halibut, and occasional albacore tuna.

Recreational activities common to State waters in the Morro Bay area are recreational boating, fishing, and diving. Six to ten charter recreational fishing vessels, making roughly 1,000 to 1,200 trips per year, operate out of Morro Bay Harbor and Port San Luis. Several hundred private recreational fishing vessels operate out of the area with most activity occurring during the summer and fall. Charter and private vessels target rockfish, lingcod, surf perches, flatfish, halibut, salmon, and tuna. Recreational fishing is by hook-and-line and takes place primarily within 3 nautical miles of shore. Salmon trolling occurs parallel to the shore out to depths of just over 50 fathoms from near Point Sal to Cayucos.

Pursuant to the federal Submarine Cable Act (47 U.S.C. 21), the master of any vessel must keep a distance of at least one nautical mile from a vessel engaged in laying or repairing a cable. In addition, the master of any vessel must also remain at least one-quarter nautical mile from a buoy intended to mark the position of a cable when being laid or when out of service.

These short-term restrictions will apply for less than 18 days to recreational fishing vessels and boaters in the project area during nearshore cable installation activities. According to the applicant, the area near the cable conduit boreholes is of shallow-water and sandy-bottom and it is not, in itself, an important location for recreational fishing.

The preclusion zones created by cable installation activities will be temporary or in constant motion as the cables are being laid and/or buried so there will be sufficient access to other fishing and boating areas in the project area. Moreover, once the cables are buried, the exclusion zone becomes ineffective, allowing unrestricted access to these areas. Fishing could occur at locations within the route, but away from the vessel, throughout the installation period. Because of the temporary and short-term nature of the cable preclusion zones, and the IAs, the MND found that the disruption of fishing and boating is considered to be a mitigated impact.

Notwithstanding the above finding, to further minimize any potential conflicts with recreational boating, fishing or diving activities, at least 15 days prior to commencement of offshore construction activities, the applicant will file an advisory of pending offshore construction operations, including all vessel activities, work locations, and schedules, with the local U.S. Coast Guard District Office for publication in the Local Notice to Mariners. The applicant will also provide the same notice directly to the harbor masters in Fort Bragg/Noyo, Albion, Point Arena and Bodega Bay, as well as Morro Bay and Port San Luis and the Morro Bay and Port San

Luis Commercial Fishermen's Associations, and other local fishermen who request it so that mariners and recreational fishing vessels will be informed of offshore project activities and vessels at all times.

For the above reasons, the Commission finds that the project will not interfere with the public's ability to access and recreate at the coast and is therefore consistent with Coastal Act Sections 30211 and 30220.

4.5.6 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.

Historical and cultural resources are defined as those areas of the marine environment that possess historical, cultural, archaeological or paleontological significance, including sites, structures, or objects significantly associated with, or representative of earlier people, cultures and human activities and events. Of concern here is the potential for cable-laying activities to disturb or damage shipwrecks of potential cultural resource value. This is of particular concern in Mendocino County.

Available data indicates 254 shipwrecks reported along the Mendocino Coast, 60 of which were lost near Point Arena. Thus, project operations could impact cultural resources. Sidescan sonar and magnetometer testing done at Manchester showed unidentified targets within approximately 200 meters of the cable. These could be miscellaneous debris, traces of existing cable or shipwrecks. Testing also indicated potential shipwreck locations, but not in proximity to the cable route. In order to mitigate this potentially significant impact, the SLC has required: (a) work stoppage in the event of any unanticipated onshore cultural resource discovery; (b) provision of detailed analysis of side scan sonar and magnetometer data by a qualified marine archaeologist prior to the pre-lay grapnel run and cable installation, and; (c) modification of the cable route to avoid any previously unknown shipwrecks of potential cultural resource value discovered as a result of the study.

Morro Bay has fewer known shipwrecks -- only 21 reported lost off of San Luis Obispo County, five of which are near Morro Bay -- but has a higher potential for submerged prehistoric sites. Sidescan sonar, sub-bottom profiling, and magnetometer data sets conducted as part of the Worldcom EIR in August 1999 discovered 19 bottom features of potential cultural resource significance within the 1.0 km survey swathe. These features have been located in soft-bottom substrates, where route adjustments can feasibly be made.

The SLC, as part of its lease approval, has required: (a) work stoppage in the event of any unanticipated onshore cultural resource discovery; (b) provision of detailed analysis of side scan sonar and magnetometer data by a qualified marine archaeologist prior to the pre-lay grapnel run and cable installation, and; (c) modification of cable route to avoid any previously unknown

shipwrecks of potential cultural resource value discovered as a result of the study.

The Commission thus finds that the project will be consistent with Coastal Act Section 30244, which requires that mitigation measures be in place in the event that a development would adversely impact a cultural resource.

4.5.7 Air Quality

Coastal Act Section 30253(3) states:

New development shall:

(3) Be consistent with the requirements imposed by an air pollution control district or the State Air Resources Control Board as to each particular development.

For regulatory purposes, air pollutants are generally recognized as "criteria pollutants" or as toxic air pollutants. Criteria pollutants include carbon monoxide ("CO"), nitrogen oxide ("NO₂"), sulfur dioxide ("SO₂"), particulate matter with a diameter of up to 10 microns ("PM₁₀"), lead, sulfates and hydrogen sulfide. Toxic air pollutants are those known or suspected to cause cancer, genetic mutations, birth defects, and other serious illness to people. Reactive organic gases ("ROG") are also of concern because of their role in forming ozone, a secondary pollutant.

Emissions of ROG, NO_x, SO₂, CO, and PM₁₀ will be generated from the following offshore construction activities: pre-lay surveys; grapnel runs; cable-laying; post-lay burials with ROV and jetting; and post-lay surveys. Of particular concern is the release of NO_x emissions due to construction activities. Nitric oxide is a colorless gas formed during combustion processes, which rapidly oxidizes to form NO₂, a brownish gas.

The Mendocino County Air Quality Management District ("MCAQMD") is the local air district responsible for implementing federal and State air quality standards in the Point Arena project area. The main source of project emissions would be the cable laying vessel and the HDD equipment. The applicant must obtain an Authority to Construct permit from the MCAQMD prior to construction.

The San Luis Obispo Air Pollution Control District ("SLOAPCD") is the local air pollution control district responsible for implementing federal and state air quality standards in the project area in San Luis Obispo County. The MND indicates that NO_x emissions will exceed the SLOAPCD threshold of 185 pounds per day for offshore cable installation (two days), for one day during nearshore cable installation and for one day during cable retroburial within State waters. All emissions will meet the quarterly limitations. SLOAPCD is not requiring an air district permit or offsets for this project.

Emission reductions achieved through the mitigation measures (including the retardation of the injection timing on diesel-powered vessels, use of low-sulfur fuel, and the proper maintenance of

diesel-powered construction equipment) identified in the EIR will reduce the project's potential air quality impacts to less than significant levels.

The Commission thus finds that the proposed project will be carried out consistent with the rules and requirements of the local air district and therefore is consistent with Coastal Act Section 30253(3).

4.6 California Environmental Quality Act

As "lead agency" under the California Environmental Quality Act ("CEQA"), the State Lands Commission on June 27, 2000 certified a Mitigated Negative Declaration (MND) and approved leases for the proposed project.

The Commission's permit process has also been designated by the State Resources Agency as the functional equivalent of the CEQA environmental impact review process. The Commission's permit review process identified numerous impacts that were not resolved in the mitigated negative declaration. Pursuant to section 21080.5(d)(2)(A) of the CEQA and section 15252(b)(1) of Title 14, California Code of Regulations (CCR), the Commission may not approve a development project "if there are feasible alternatives or feasible mitigation measures available which would substantially lessen any significant adverse impact which the activity may have on the environment." The Commission finds that only as conditioned are there no feasible less environmentally damaging alternatives or additional feasible mitigation measures that would substantially lessen any significant adverse impact which the activity may have upon the environment, other than those identified herein. Therefore, the Commission finds that the project as fully conditioned is consistent with the provisions of the CEQA.

APPENDIX A: 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.

APPENDIX B: SUBSTANTIVE FILE DOCUMENTS***Coastal Development Permit Application Materials***

Application for Coastal Development Permit E-00-004 dated February 16, 2000.

California Coastal Zone Management Program

Federal Consistency Certification submitted by AT&T Corporation July 20, 2000, as amended August 22, 2000.

Agency Permits and Orders

Order for Technically-Conditioned Certification: AT&T Fiber Optic Project, Issued by State Water Resources Control Board, August 11, 2000.

Coastal Development Permit/Development Plan CDU 9-2000, issued by Mendocino County, August 2, 2000.

Federal Communications Commission, Cable Landing License for the Japan-United States Cable Network. Adopted July 8, 1999. SCL-LIC-19981117-00025.

Federal Communications Commission, Cable Landing License for the PAC Landing and PC Landing Corp. Cable Network. Adopted November 19, 1998. SCL-98-006.

Environmental Documents/Reports

SAIC. March 2000. Mitigated Negative Declaration: AT&T Japan – U.S. Cable Network Segments S8 and S9 Mendocino County and San Luis Obispo County, California. Prepared for the California State Lands Commission.

SAIC. January 10, 2000. Draft Environmental Impact Report: AT&T China-U.S. Cable Network. Prepared for the California State Lands Commission.

Morro Group. January 2000. Final Environmental Impact, "MFS Globenet Corp./WorldCom Network Services Fiber Optic Cable Project, Vols. I & II. County of San Luis Obispo.

Lease Documents

State Lands Commission Fiber Optic Cable/Conduit Lease File No.s PRC 8203.1 (Manchester), PRC 8204.1 (SLO), and State Lands Commission Fiber Optic Cable/Conduit Lease-Amendment PRC 8154.1 (AT&T Corp.)

Letters and Electronic Mail

Letter from Chris Brungardt to Dan Chia, CCC re: AT&T Japan US Cable Network landing in San Luis Obispo County Additional Information. April 24, 2000.

Letter from Kleinfelder, Inc. (Wayne Lamber, Project Geologist) to Bill Brungardt, providing: geological profiling for the project site in Mendocino County; an investigation regarding dune and bluff movement, and; Bore pipe plan, profile and details. July 24 and 25th, 2000.

AT&T. 2000. *Expanded Analysis of Land Alternative to Segment S9*. Submitted to the California Coastal Commission on July 19, 2000.

AT&T 2000. Revised maps appended to *Expanded Analysis of Land Alternative to Segment S9*. Submitted to the California Coastal Commission on July 21, 2000.

Letter from Karen Donovan, Allen, Matkins, Leck, Gamble & Mallory LLP to Michael Bowen: July 19, 2000 re: Additional information attachments: Land route analysis; coastal consistency determination; Air pollution status report; hard bottom cable crossings; distribution and contact lists; easement documentation; title reports at Manchester site. July 19, 2000.

Letter from Robin Blanchfield, California Coastal Commission to Karen Donovan, Allen, Matkins, Leck, Gamble & Mallory LLP re: Request for Additional Oil Spill Information. July 31, 2000.

Letter from Michael Bowen to Mr. Eric Koyanagi, AT&T re: Incomplete Application for AT&T's Japan-US Cable Network Project. March 17, 2000.

Notice of Intent to Adopt Negative Declaration, Japan – U.S. Cable Network, State Lands Commission. June 16, 2000.

Letter from Daniel Gorfain, State Lands Commission to Michael Bowen, California Coastal Commission, re: California Coastal Commission comments on AT&T Japan – U.S. Draft Mitigated Negative Declaration. June 20, 2000.

Letter from Greg Picard, California Department of Parks and Recreation, to Daniel Gorfain, State Lands Commission, re: Cable project environmental mitigation and easement issues. April 17, 2000.

Letter from Daniel Gorfain, State Lands Commission to Greg Picard, California Department of Parks and Recreation, re: Cable project easement issues. June 21, 2000.

Letter from Chris Brungardt, Brungardt Honomichi & Company to Greg Picard, California Department of Parks and Recreation, re: Cable project easement issues. April 4, 2000.

Letter from Michael Bowen to Daniel Gorfain, State Lands Commission, re: Need for land based alternatives analysis, detailed marine surveys and fishing agreement. May 12, 2000.

Letter from Michael Bowen to Daniel Gorfain, State Lands Commission, re: Comments on DMND. April 20, 2000.

Email from Karen Donovan, Allen, Matkins, Leck, Gamble & Mallory LLP to Michael Bowen: August 11, 2000 re: status report on information request.

Email from Karen Donovan, Allen, Matkins, Leck, Gamble & Mallory LLP to Michael Bowen: July 18, 2000 re: July 21 mtg. & request for August Agenda/December deadline.

Email from Bill Brungardt to Michael Bowen July 24, 2000 re: slope stability and geological profile information for subsurface areas at risk of "frac-outs." Autocad file attached, hard copy to follow.

Emails from Karen Donovan, Allen, Matkins, Leck, Gamble & Mallory LLP to Michael Bowen: July 21, 2000 re: bore pipe configuration clarification.

Emails from Karen Donovan, Allen, Matkins, Leck, Gamble & Mallory LLP to Michael Bowen: August 3, 2000 re: Permit numbers and cable crossing clarifications.

Emails from Karen Donovan, Allen, Matkins, Leck, Gamble & Mallory LLP to Michael Bowen: July 27, 2000 re: Permit updates, project details and clarifications.

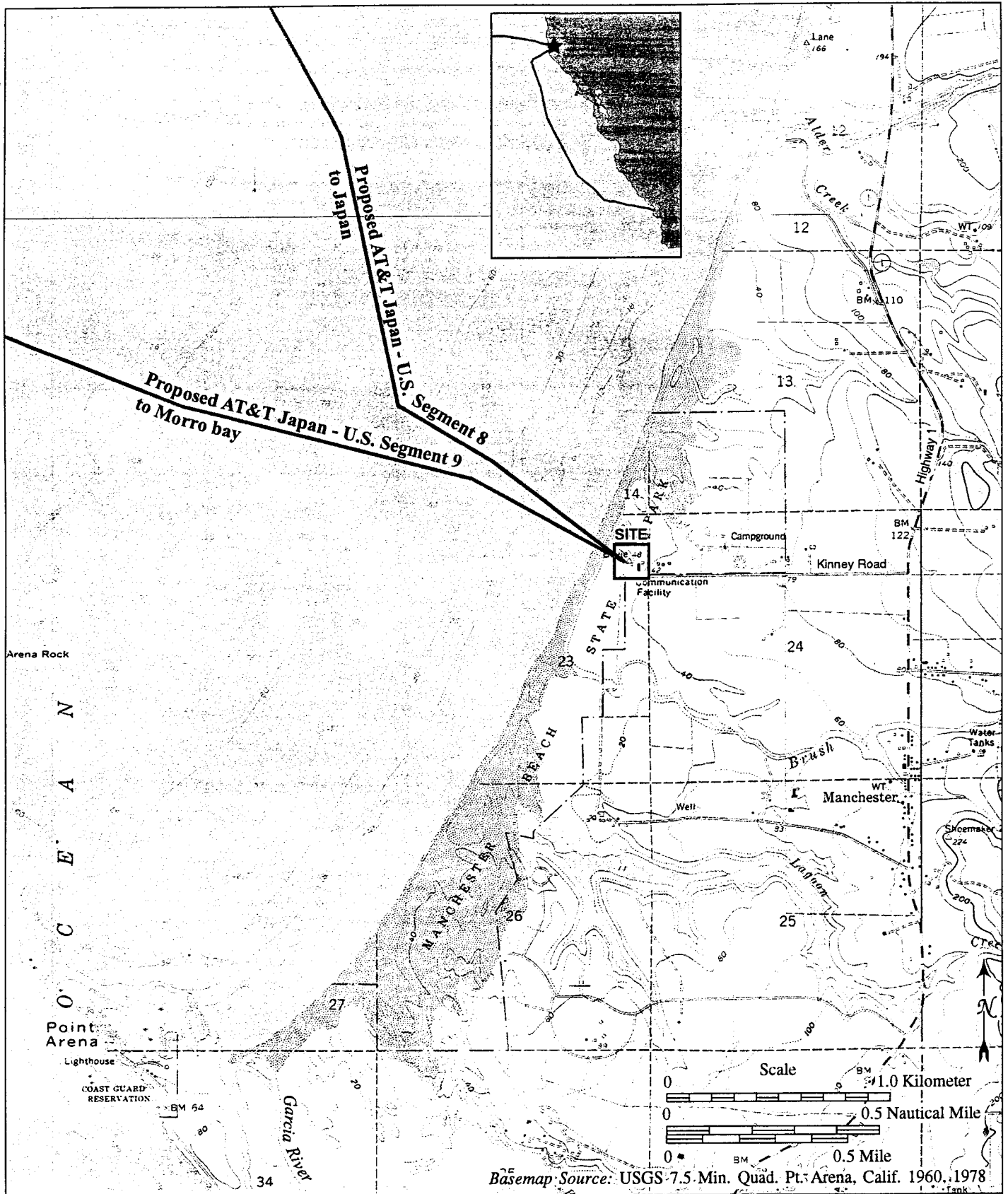
Email from Michael Bowen to Daniel Gorfain, State Lands Commission June 16, 2000 re: concerns with incomplete responses to prior questions.

Other

AT&T Corp. et al. 1998. Cable Landing License, File No. SCL-LIC-19981117-00025
Federal Communications Commission Order DA 99-167.

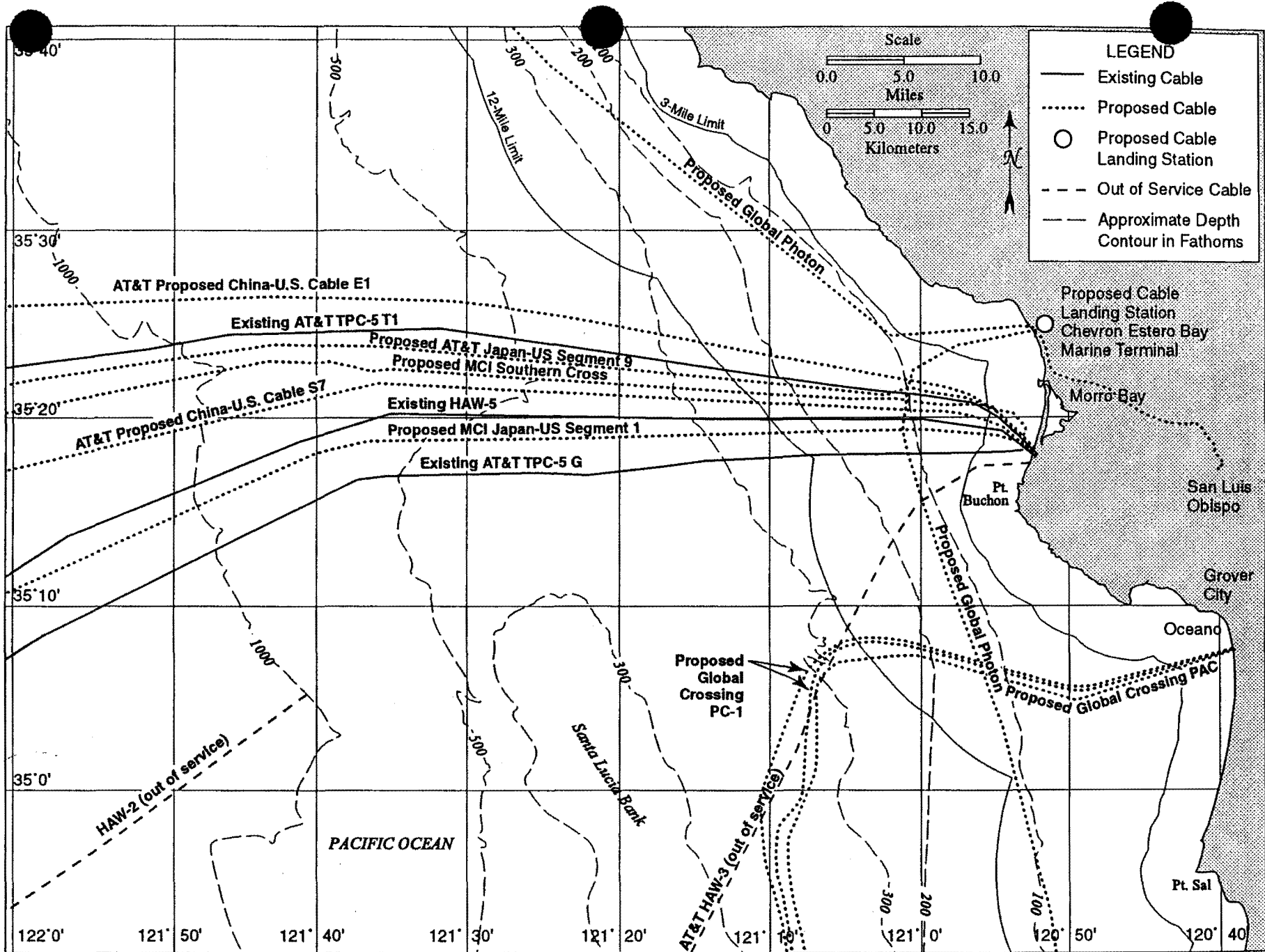
Heezen, B.C. 1957. *Whales entangled in deep sea cables*. Deep-Sea Research 4:105-115.





Project Location at Point Arena

Exhibit 1
 E-00-004
 CC-078-00



Proposed Japan-U.S. Segment 9 in Relation to Existing and Proposed Cables off Morro Bay

Exhibit 2
 E-00-004
 CC-078-00

CALIFORNIA COASTAL COMMISSION

45 FREMONT, SUITE 2000
SAN FRANCISCO, CA 94105-2219
PHONE AND TDD (415) 904-5200
FAX (415) 904-5400



DRAFT
Memorandum of Agreement
Between the
California Coastal Commission,
California Department of Fish and Game
and
United Anglers of Southern California

This Memorandum of Agreement (Agreement or MOA) is by and between the California Coastal Commission (the Commission), the California Department of Fish and Game (DFG), and the United Anglers of Southern California (UASC), sometimes referred to as the Parties. The Parties agree as follows:

WHEREAS, _____ (hereinafter referred to as "the Applicant") has applied to the Coastal Commission to obtain a coastal development permit to install fiber optic cables offshore California.

WHEREAS, on _____, the Commission granted to the Applicant a coastal development permit _____ to install fiber optic cables offshore _____.

WHEREAS, as a condition (Special Condition __) of their approvals, the Commission has required the Applicant to compensate for all project-related adverse impacts to hard bottom habitat through payment of a compensatory mitigation fee (hereinafter "the fee") which will be used to fund the construction of a new artificial reef or augmentation of an existing artificial reef in state waters within the Southern California Bight. The condition provides that the amount of the fee shall be calculated by multiplying by a compensation rate of \$27.31 per square foot the total area of disturbed or lost hard bottom.

WHEREAS, the condition further requires that, should impacts occur, the Applicant shall pay their fee to the UASC within 30 calendar days of review and written determination by the Commission's Executive Director of the results of the Hard Bottom Seafloor Survey.

WHEREAS, the DFG is the principal State agency responsible for the establishment and control of fishery management programs. The DFG is the State trustee agency with jurisdiction over the conservation, protection and management of fish, and habitat necessary for biologically sustainable populations of fish species (Fish and Game, section 1802, 711.7).

WHEREAS, the DFG administers the California Artificial Reef Program for the purposes of (1) placing artificial reefs in state waters; (2) studying existing artificial reefs and all new reefs to determine the design criteria needed to construct artificial reefs capable of increasing fish and invertebrate production in waters of the state; and (3) determining the requirements for reef siting

and placement (Fish and Game Code, sections 6420-6425).

WHEREAS, the DFG desires to assume the lead responsibility for the planning, siting, design and permit requirements for the construction of any new artificial reef or augmentation of an existing artificial reef in state waters using the fee(s) obtained from the Applicants.

WHEREAS, the UASC are a volunteer group of recreational anglers interested in preserving, protection and enhancing marine resources and fishing opportunities.

WHEREAS, the UASC desires to secure and enter into construction contract with a contractor to construct any new artificial reef or augment an existing artificial reef using the fee(s) obtained from the Applicants.

NOW, THEREFORE, in consideration of the benefits to marine resources of the State of California, the Commission, the DFG and the UASC agree as follows:

1. The UASC agrees to receive any fee paid by the Applicants. Within 30 calendar days of receipt of any fee, the UASC shall deposit the funds in an interest-bearing account ("the compensatory hard bottom mitigation fund" or "fund"). These funds including all earned interest shall be expended by the UASC solely for reef materials, construction costs, and the UASC's administration of the fund (not to exceed 10% of the total collected fees).
2. Within 180 days of the date on which all fees have been paid to the UASC, the DFG shall develop and submit for review and approval by the Commission's executive director, a plan to spend the monies within the fund on either the construction of a new artificial reef or augmentation of an existing artificial reef within the Southern California Bight.
3. Within one year of approval by the Commission's executive director of a plan to spend the compensatory hard bottom mitigation fund, the DFG shall secure all necessary governmental approvals, including a coastal development permit, to construct a new artificial reef or augment an existing artificial reef within the Southern California Bight.
4. Within 90 days of either: (1) the granting of all necessary governmental approvals to construct a new artificial reef or augment an existing reef, or (2) approval by the Commission's Executive Director of a plan to spend the monies in the fund, whichever occurs later, the UASC shall secure and enter into a construction contract (the "Contract") with a contractor to construct either a new artificial reef or augment an existing artificial reef within the Southern California Bight. The Commission's executive director may for good cause grant an extension of the time deadline imposed by this section.
5. The Contract shall: (1) provide that the contractor will assume all liability for the reef material (e.g., quarry rock) until its placement in the designated location(s), and (2) specify that when the reef material touches the ocean floor at such location(s), the reef material shall become the property of the DFG.

6. Within two years of approval by the Commission's executive director of a plan to spend the monies in the fund, the UASC shall spend these monies to complete the construction of either a new artificial reef or augmentation of an existing artificial reef within the Southern California Bight.
7. The UASC and the contractor(s) must maintain Generally-Accepted Accounting Principles (GAAP), financial management, and accounting system and procedures which provide for (1) accurate, current and complete disclosure of all financial activity for the reef project, (2) effective control over, and accountability for all funds, property and other assets, related to the project, (3) comparison of actual outlays with budgeted amounts, and (4) accounting records supported by source determination. Annual financial reports showing current and cumulative financial activity must be provided to the Commission. All project records must be made available at any time for examination by the Commission.

The UASC shall retain all pertinent books, documents and papers, including financial transactions and supporting documents, and policies and procedures for the general accounting system, internal controls, and management practices for a period of three years following the date(s) of all final payment(s) under the Contract.

8. A failure on the part of any of the Parties to carry out the terms of this Agreement shall result in the following process. The party that believes another party is failing to carry out the terms of the Agreement shall bring the issue to the Executive Director of the Commission. If the Executive Director of the Commission cannot resolve the issue, the matter shall be referred to the Commission for resolution. The Commission may choose to seek (1) judicial enforcement of the terms of this MOA; (2) a full refund of any unexpended funds; or (3) other appropriate remedies.
9. This Agreement may be amended only in writing executed by all Parties.

IN WITNESS WHEREOF, the Parties have executed this MOA to this effect as of the date last signed below.

CALIFORNIA COASTAL COMMISSION

By: _____
PETER M. DOUGLAS
Executive Director

Date

CALIFORNIA DEPARTMENT OF FISH AND GAME

By: _____
ROBERT HIGHT
Executive Director

Date

UNITED ANGLERS OF SOUTHERN CALIFORNIA

By: _____

Date