



ecology and environment, inc.

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April 30, 2004

Ms. Mandy Allen
Operations Administrator
Monterey Bay Aquarium Research Institute
7700 Sandholdt Road
Moss Landing, CA 95039

Re: Proposal to Provide Permitting and Agency Consultation Support to Monterey Bay Aquarium Research Institute (MBARI) for the Monterey Accelerated Research System (MARS)

Dear Ms. Allen:

Expediting the permitting process for the proposed MARS project is vital to installing the system so that you can conduct important research. As experts in environmental permitting for fiber optic cables, Ecology and Environment, Inc., (E & E) has the right experience, agency relationships, and strategic approach to helping the Monterey Bay Aquarium Research Institute achieve its goal. Having permitted similar fiber optic cables projects in the same geographic area and with many of the same agencies, E & E can cost-effectively help you to apply for and acquire all the permits needed to construct and operate this project.

In our scope of work, we propose to provide permitting and agency consultation for the project from this point forward. The following sections discuss our understanding of MBARI's current permit status and needs, describe our proposed scope of work/technical approach, highlight our relevant experience, summarize the roles/responsibilities and credentials of our proposed team of experts, and provide our cost assumptions and cost estimate.

1. PROJECT UNDERSTANDING

MBARI is planning to design and install an advanced cabled observatory or Monterey Accelerated Research System (MARS) offshore of the research institute in Monterey Bay. MARS will consist of 51 kilometers of submarine cable and a science node located approximately 891 meters below the ocean surface. The node will have eight separate docking stations for oceanographic instruments. The undersea cable and node will provide power and high-speed data links for a variety of oceanographic devices. MARS will provide a continuous monitoring presence in the Monterey Bay National Marine Sanctuary (MBNMS), as well as serve as the test bed for a state-of-the-art regional ocean observatory.

MBARI has already submitted an application to the California State Lands Commission (CSLC) for a Lease of State Lands and to the MBNMS for a Special Use Permit. However, we understand that MBARI is requesting assistance in agency consultation and directly obtaining federal and state permits or approvals from the US Fish and Wildlife Service (USFWS), United States Army Corps of Engineers (USACE), State Historic Preservation Office (SHPO), and for other applicable State and local County requirements, as further described below in our proposed scope of work.

2. FIRM OVERVIEW

Corporate and Staff Experience

Our team has completed more than over 50,000 miles of fiber-optic cables off the coast of California and around the world, including the submarine Global West Cable Project, which runs along the Coast of California from San Francisco to San Diego and crosses through the Monterey Bay National Marine Sanctuary. For this project, we assisted in agency consultation and mitigation planning. For the Pacific Crossing Project in Grover Beach, California we obtained all necessary permits for the construction of a fiber optic cable landing, back-haul fiber installation (including cable laying and plowing on the sea floor), and buildings associated with a trans-Pacific fiber optic network. Our team's expertise includes all aspects of cable projects, including vessels, submarine cables and installation methods, and onshore landings. E & E also completed permitting for the Hermosa Beach Cable Project. As such, E & E has been through the entire planning process for permitting of a cable project with current California agency representatives. The project team knows the issues and, more importantly, the questions to ask.

Working Relationships with the Agencies

For those projects mentioned above, and numerous other cable projects, we have met directly with the agencies to discuss the project, potential impacts, and mitigation to obtain the necessary permits. We have worked with all of the key agencies with permitting or approval authority over the MARS project, notably the CSLC, California Coastal Commission (CCC), USACE, and the USFWS. In fact, we are currently working directly with the CSLC to write the EIS/EIR for the Cabrillo LNG Project off the coast of California. We also have excellent relationships with federal and California agencies from our experience on the Hermosa Beach Cable Project. We have consulted with all of these agencies regarding how they regulate cable projects in California, so our team already knows the key agencies' issues and concerns.

Understanding of Key Project Issues

Through these recent projects, E & E has gained an understanding of key environmental issues pertinent to cable projects, including issues that can affect schedules. We are thoroughly aware of cultural resource and T/E species issues that are common to varying degrees on nearly all cable projects, as well as pollution prevention issues that may affect proposed projects. For example, on the Global West Project, one of the mitigation measures included planning construction of the segments running through the MBNMS from mid-July to mid-August. On the Hermosa Beach Project issues included impacts on fisheries, reef substrate and reef organisms, marine mammals, sea turtles, and migratory marine birds. Having completed permitting for

controversial and sensitive cable projects, the E & E team understands the key issues and has developed ways to avoid delays and expedite permitting. For example, on the Hermosa Beach Project, we met with the CCC early in the process to ensure that the marine survey plan would provide all environmental information needed for project permitting. By seeking CCC's approval in the planning phase, we avoided omissions that could have led to significant technical comments later in the process.

3. PROPOSED SCOPE OF WORK/TECHNICAL APPROACH

Based on our understanding of MBARI's current needs, E & E proposes to complete two initial tasks as outlined below. Given the nature of this potential assignment, we can work with MBARI to adapt these tasks to best meet your current needs.

Task 1: Kickoff Meeting and Data Review

As part of Task 1, E & E will meet with appropriate MBARI staff to further discuss the specific project needs, current permit status, and tentative schedule. We will also review MBARI's applications to the CSLC and MBNMS, including the Biological Survey Report, which will be particularly relevant to consultation and permitting with the USACE, USFWS, and NOAA Fisheries. Based on the preliminary review of the project documents, we anticipate that no additional cultural or biological (T/E, marine or other) surveys would be required.

Task 2: Agency Consultation and Assistance with Permitting

E & E will coordinate with all involved agencies prior to and after submitting permit applications in order to anticipate any potential request for additional information. MBARI has already completed extensive surveys, analyzed alternative routes, and planned mitigation. When meeting with these agencies, we will emphasize that MBARI has developed measures to avoid, minimize, and mitigate impacts in the MBNMS to the extent possible, including selecting the shortest route, planning cable installation in July, reducing the speed when traveling near the mouth of the Moss Landing Harbor entrance, installing a trawl resistant bottom on the node, and developing an SPCC Plan. In light of the current project status, and based on the RFP and our experience with cable projects, E&E anticipates the following permits and approvals presented in Table 1 below will be required for this project.

Table 1: Permits, Licenses, Approvals, and Certifications Anticipated for the MARS Project

Permit/Authorization/Consultation	Administering Agency
<i>Federal</i>	
National Environmental Policy Act (California Environmental Quality Act) Review	National Oceanic and Atmospheric Administration (NOAA)
Letter of No Objection	United States Minerals Management Service (MMS)
Nationwide 12 Permit (Section 10 of Rivers and	United States Army Corps of Engineers

Table 1: Permits, Licenses, Approvals, and Certifications Anticipated for the MARS Project

Permit/Authorization/Consultation	Administering Agency
Harbors Act and Section 404 of Clean Water Act [CWA])	(USACE)
Letter of Concurrence (under Section 7, Endangered Species Act [ESA])	United States Fish and Wildlife Service (USFWS)
Letter of Concurrence (under Section 7, ESA)	NOAA Fisheries
State Agencies	
Lease of State Lands	California State Lands Commission (CSLC)
Coastal Development Permit Federal Consistency Certification	California Coastal Commission (CCC)
National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Construction Activity	State Resources Control Board (SWRCB)
Letter of Concurrence (under Section 7, ESA) Pollution Prevention Plan	California Department of Fish and Game
Consultation and Memorandum of Understanding (MOU) (under Section 106 of the National Historic Preservation Act [NHPA])	California Department of Parks and Recreation (CDPR) Office of Historic Preservation
Air Quality Authorization	Air Resources Board or Monterey Bay Unified Air Pollution Control District
Regional/County Jurisdictional Agencies	
Special Use Permit	Monterey Bay National Marine Sanctuary (MBNMS)
Quality Certificate (under Section 401 of the CWA)	Central Coast Regional Water Quality Control Board (RWQCB)
Consultation and Historic Resources Update	Northwest Information Center
Special Activities Use Permit or similar	Moss Landing Harbor District
Building Permit, if necessary	Monterey County Planning and Building Department

We will coordinate with each of the agencies listed above to obtain the necessary permits and authorizations for project approval as further described in the section below.

CSLC

MBARI has already submitted an application to the CSLC for a Lease of State Lands. To assist in obtaining this permit, E & E will assist MBARI with any requests for information, follow-up calls, or meetings. Using our excellent working relationship with the CSLC as a current client and our recent past experience consulting with the CSLC on the Hermosa Beach Cable Project, we will resolve any outstanding issues to expedite CEQA review and approval.

Monterey Bay National Marine Sanctuary

While no part of the cable route falls within an Area of Special Biological Concern, the entire route lies within the MBNMS. As mentioned earlier, MBARI has already submitted an application to the MBNMS for a Special Use Permit and developed mitigation measures to minimize impacts to the sanctuary. To assist MBARI in obtaining this permit, E & E will respond to any requests for information, conduct follow-up calls, and attend meetings, as necessary. We found that clear communication with the Channel Islands National Marine Sanctuary for the Hermosa Beach Cable Project facilitated project approval. We have also consulted with the Olympic Coast National Marine Sanctuary in Washington regarding the valuation of a fiber optic cable lease and cable burial assessment report with NOAA Fisheries as part of negotiations on behalf of a bankrupt fiber optic cable system.

USACE

At the landing, the cable route and alternative will be installed in existing conduits. In addition, because the shore landing already exists, there will be minimal construction associated with installation. However, during plow operations to install the cable seaward from the landing, a 2-meter wide area will be disturbed along the installation route. From our experience on the Grover Beach Fiber Optic Cable Landing project, where the cable was installed using cable laying and plowing on the sea floor, we understand that this activity will require Section 404 and Section 10 authorizations from the USACE. In support of the USACE permit application for the Grover Beach Project, E & E predicted the impacts of cable installation and operation on nearshore and offshore essential fish habitat (EFH).

MBARI has already provided a brief summary of the project to the USACE. To assist in obtaining the Section 404 and 10 authorizations, E & E will prepare an application to the USACE, respond to requests for additional information, and attend meetings to discuss the project and appropriate mitigation measures. Requirements for assessing EFH are further described under NOAA Fisheries.

SWRCB

As required for all construction projects, MBARI must submit an application for a NPDES General Permit for Storm Water Discharges Associated with Construction Activity to the SWRCB. As part of the NPDES permit, a Storm Water Pollution Prevention (SWPP) Plan is generally required for the project as well. Our water quality experts have completed numerous NPDES permits and SWPP Plans for projects in California. We are familiar with SWRCB guidelines and requirements, and will prepare and submit the NPDES Permit Application, Notice of Intent, SWPP Plan, and existing project SPCC Plan to the state office.

Central Coast RWQCB

As with the USACE, MBARI has submitted a brief summary of the project to the Central Coast RWQCB. Because the project has the potential to affect water quality, a Section 401 Water Quality Certification will be required in conjunction with the USACE permits. We have completed these for past projects, including the Grover Beach Fiber Optic Cable. To obtain this permit, we will prepare and submit the Section 401 Application to the RWQCB along with

materials from the USACE permit application. We will also be available to meet with the RWQCB to discuss construction and pollution control measures.

USFWS and CDFG

The Moss Landing Marine Laboratories prepared a report on marine impacts, titled "Potential Impacts to Marine Mammals During Cable-Placement Activities for the MARS Project (MBARI) off Monterey Bay, California." According to this report, two federal and state protected marine mammals occur off the coast of central California: the federally threatened Steller sea lion (*Eumetopias jubatus*) and the state threatened Guadalupe fur seal (*Arctocephalus townsendi*). The northern fur seal (*Callorhinus ursinus*), which is listed as depleted under the Marine Mammal Protection Act Special Status, also occurs in this area. In addition, the MBARI CSLC Application states that while cable placement will not likely cause entanglement or collision to marine mammals during construction, the presence of the vessel will cause some minor amounts of physical and acoustical disturbance.

In accordance with Section 7 of the ESA, the project must consult with the USFWS and CDFG regarding impacts to these species and obtain a Letter of Concurrence. MBARI has provided a brief project description to these agencies. E & E will meet with these agencies to discuss the project, potential impacts, and appropriate mitigation measures. After sufficient consultation, we will develop a mitigation plan and submit a letter requesting concurrence with the project. In addition, we will provide the Project SPCC that has already been prepared to the CDFG as the Pollution Prevention Plan.

NOAA Fisheries

MBARI hired a consultant to write a "General Overview of Commercial and Sport Fishing in Monterey Bay," which provides an overview of fishery resources in the project area based on current literature. In addition, MBARI has provided a brief summary of the project to NOAA Fisheries. From our experience on the Grover Beach and Hermosa Beach Cable Projects, all projects obtaining permits from the USACE, like the MARS Project, must consider adverse impacts to EFH. According to the Pacific Fishery Management Council (PFMC), the entire continental shelf may be considered to be EFH.

For the Grover Beach Project, E & E prepared an EFH Report addressing potential project impacts within California state waters and extending about 200 nautical miles. Using our familiarity with NOAA requirements and existing information to the extent possible, we will prepare and submit an EFH Report for submission to NOAA Fisheries. We will also meet with the agencies as well as with MBARI General Counsel to discuss potential project impacts and develop reasonable mitigation for impacts to fisheries.

CCC

To continue our consultation with agencies regarding marine resources, we will contact the CCC. We worked extensively with this agency on the Hermosa Beach project, and have existing relationships with their marine biologists. To obtain the Coastal Zone Management Federal Consistency Determination and the Coastal Development Permit, we will prepare and submit an

application for the Coastal Development Permit to the CCC. Knowing from past experience that early consultation with the CCC can expedite permitting, we will coordinate with the CCC early and often to ensure that the project's report on marine impacts and proposed mitigation measures are acceptable. A key aspect of this work is consultation with fisherman, which is a prerequisite for CCC approvals.

California Air Resources Board

Cable installation will require the use of heavy construction equipment, trucks, and vessels and would produce combustive emissions. Appropriate air quality authorizations and permits will be obtained either the California Air Resources Board under the State Portable Equipment Registration Program or from the Monterey Bay Unified Air Pollution Control District for activities that exceed those permitted under the State program. Our project director for this project has served on advisory committees for the California Air Resources Board, and therefore has a strong working relationship with this agency and understands the key issues pertinent to CEQA documents.

CDPR

As required by NHPA, we would consult with the CDPR Office of Historic Preservation for significant historic, architectural, archaeological, and cultural resources in the project area. According to the CSLC Application, one shipwreck is located within 260 meters of route, but should not be affected by cable laying operations. We would also contact the Northwest Information Center to obtain a Historic Resources Update from the California Historical Resources Information System. Our staff members have worked with cultural resource experts at California Information Centers and the Archaeological Information Center to determine whether project sites have known or unknown cultural resources.

Moss Landing Harbor District

We will contact the Moss Landing Harbor District regarding the Special Activities Use Permit for the MARS project. Based on our research, this permit requires appropriate CEQA review and an application fee. We assume it would be sufficient to provide the Moss Landing Harbor District with a copy of the CSLC Application, a letter requesting concurrence, and the application fee.

Monterey County Planning and Building Inspection

MBARI provided a brief summary of the project to the County Planning and Building Department. We assume that no remodeling or additional stations would be necessary for this project. Therefore, no city permits from the Monterey County Planning and Building Inspection Department would be required for installation or construction of MARS. As such, no costs for these permits have been estimated for this proposal.

3. EXPERIENCE SUMMARY

E & E has extensive experience in developing permitting strategies and obtaining permits and approvals for cable projects. On the federal level, E & E routinely prepares USACE Section 10

and 404 permits for crossing of wetlands and waterways and consults with the USFWS and NOAA Fisheries. We have completed a range of required state permit documents, including State Section 401 Certifications, State CZMA Consistency Certifications and NPDES permits. Brief descriptions for key projects are provided below.

Grover Beach Point Arena Fiber Optic Cable Landing, California. For TYCO Submarine Systems Ltd., E & E obtained all necessary permits for the construction of a fiber optic cable landing, back-haul fiber installation, and buildings associated with a trans-Pacific fiber optic network landing in Grover Beach (San Luis Obispo), California. The project entailed directional drilling through the surf zone, cable laying and plowing on the sea floor, and construction of the cable station. We obtained permits from the CSLC, CCC, USACE, and City of Grover Beach. In support of the USACE permit application, E & E predicted the impacts of cable installation and operation on nearshore and offshore EFH. NOAA Fisheries had identified EFH for species covered by three fishery management plans (FMPs): the Coastal Pelagics FMP, the Pacific Salmon FMP, and the Pacific Groundfish FMP—all under jurisdiction of the PPMC. E & E's EFH report addressed potential project impacts within California state waters and extending about 200 nautical miles to the outer limit of the Exclusive Economic Zone.

Because existing rights-of-way were used for most of the routes, our analysis focused on avoiding impacts, thereby eliminating the need for a costly compliance and mitigation program. Throughout the work, E & E staff successfully worked with the applicant and engineering firms to quickly identify key environmental impacts and permitting requirements that could cause delays and developed construction avoidance strategies.

Tycom Transpacific Cable Landing, Hermosa Beach, CA. E & E prepared the environmental impact report under the California Environmental Quality Act for a transpacific submarine fiber optic cable system proposed to extend from the edge of the Continental Shelf, about 250 km from shore, to a cable landing in Hermosa Beach (Redondo Beach). E & E team members participated in consultation and meetings with representatives of key participants including the CSLC, Channel Islands National Marine Sanctuary, City of Los Angeles, Los Angeles County Department of Beach and Harbors, City of Manhattan Beach, and City of Hermosa Beach. To assist Tycom Ltd., we prepared a precise development plan outlining the design criteria used in project planning and the initial project description. We also completed the Initial Study Checklist required by the CEQA. By developing an effective environmental review strategy, E & E facilitated the ambitious schedule and achieved EIR certification in less than half the time normally required for a project of this type. Through early agency consultation, we expedited the permitting process by identifying an advantageous lead agency (Hermosa Beach) and obtaining advance approval for resource surveys and impact assessment methodology.

Global West Fiber Optic Cable, California Coast. For Global Photon Systems, E & E identified permit requirements and developed strategies to expedite the permitting process for installation of a fiber optic cable line running along the coast of California, connecting to the central downtown regions of San Francisco, San Jose, Monterey, San Luis Obispo, Santa Barbara, Los Angeles, and San Diego. To identify permitting constraints, we consulted with key

regulatory agencies, including the USACE, CDFG, and RWQCB, and Municipal Planning and Engineering Departments. We also worked in the office of the project engineer and assisted in the preparation of permit applications. One of the mitigation measures developed for this project included planning construction of the segments running through the MBNMS from mid-July to mid-August.

AT&T Point Arena Fiber Optic Cable Landing, California. E & E conducted route feasibility studies and supported AT&T International in its acquisition of necessary permits for the construction of the cable landing and associated facilities. We completed field surveys to evaluate alternate cable landing locations to avoid triggering the need for endangered species permits and achieve a greater level of compliance with CEQA Review. We completed cultural resource surveys, conducted field investigations, and developed the resource avoidance strategy. We also developed all appropriate NEPA documentation.

Sprint Fiber Optic Cable System, Northern California. For the Sprint Fiber Optic Cable System in Northern California, E & E completed the environmental permitting for the 200-mile Manchester to Oakland and 200-mile Manchester to Sacramento lines in northern California. Although both lines were proposed for installation within existing rights-of-way, the planned construction activities would temporarily disturb resources along the route. We prepared the environmental documentation needed to satisfy requirements of both NEPA and CEQA for the entire route of the two lines. The environmental approval process involved consultation with reviewing agencies including USFWS, NOAA Fisheries, USACE, CDFG, and the RWQCB.

Refer to Appendix A for further details on the projects described above. We have also included a table of additional fiber optic cable experience as an attachment with this proposal.

4. PROPOSED PROJECT TEAM

E & E will provide MBARI with a senior level team of experienced environmental professionals. Each team member has significant permitting experience on cable projects in California and internationally. The key qualifications and roles/responsibilities of the proposed staff are summarized below. Brief biographies for the key team members also are attached in Appendix B.

Cheryl Karpowicz, Project Director

Ms. Karpowicz Leads E & E's telecommunications practice. She has directed the environmental permitting process for five major projects in California, including the Grover Beach(PC-1), Global West, Sprint, and Hermosa Beach projects. She has also directed several projects ringing Latin America, the Caribbean, and the Pacific Rim. She is the author of four papers describing strategic approaches to environmental permitting for submarine fiber optic cables.

Ms. Karpowicz has served on advisory committees for the California Department of Toxic Substances Control, the California Air Resources Board, and the Governor's Office. As a result,

she has established strong working relationships with California state agencies; understands the key issues pertinent to Successful permit acquisition strategies..

Patti Murphy, Project Manager

In her 17 years' experience, Ms. Murphy has managed and prepared many environmental evaluations and obtained environmental permits for numerous cable and other development sites. For a Tycom Fiber Optic Cable Landing in Hermosa Beach, California, Ms. Murphy assisted Tycom Ltd. in permitting and planning for the installation/operation of a submarine fiber optic cable and managed the third-party EIR for the City of Hermosa. For this project, she addressed two separate trans-Pacific routes and project-induced impacts in 14 environmental resource areas. She also led consultation with USACE, NOAA Fisheries, the CSLC, the CCC, and other agencies. For the Sprint Fiber Optic Cable System in Northern California, Ms. Murphy managed the preparation of a CEQA environmental evaluation for the 172-mile fiber optic cable system. She led the team of experts that evaluated potential project impacts on threatened and endangered species, water quality, and cultural resources. She consulted with officials of several local land use and resource agencies, including the CSLC, concerning the proposed activities. She also identified measures to mitigate/reduce project impacts and monitored construction activities. She also managed preparation of the Bureau of Land Management right-of-way application for the Level 3 Communications Fiber Optic Cable Project which included developing mitigation measures to reduce impacts on several threatened and endangered species and contained extensive right-of-way restoration plans.

Dave Trimm

With 25 years' experience, Mr. Trimm is an expert in the evaluation of impacts to terrestrial, aquatic, and marine organisms. He has assessed essential habitat, prepared permits, and developed mitigation programs for many fiber optic cable and other projects. For example, Mr. Trimm managed the EFH assessment for the closure and disestablishment of the Underwater Tracking Range in St. Croix, US Virgin Islands and its associated infrastructure. For a 152-mile AT&T fiber optic cable replacement project, from Manchester to Dunnigan, California, Mr. Trimm wrote the biological report (a requirement under CEQA) assessing impacts on salmonids in the Central California Coast. He also prepared a biological report evaluating the impacts of construction methods on cold-water fish species such as coho and Chinook salmon and steelhead trout communities for the Sprint Fiber Optic Cable, California. For TYCO Submarine Systems Ltd., in support of the application for a USACE permit, Mr. Trimm predicted the impacts of fiber optic cable installation and operation on nearshore and offshore EFH at Grover Beach.

Adrienne Fink

Ms. Fink specializes in NEPA, California Environmental Quality Act (CEQA), and environmental assessment compliance for cable and other projects in California. For the Tycom Fiber Optic Cable Landing Project in Hermosa Beach, California, she was the marine biological task leader and consulted with representatives of USFWS, NMFS, the CDFG, and the CCC. She met with CCC marine biologists early in the process to ensure that E & E's marine survey plan would provide all environmental information needed for project permitting. By seeking CCC's

approval in the planning phase, we avoided omissions that could have led to significant technical comments later in the process. Ms. Fink also evaluated the impacts of cable installation and operation on benthic and pelagic species, coordinated with involved agencies to ensure project compliance with regulations, and assisted the client in agency negotiations regarding mitigation measures. Controversial project issues included impacts on fisheries, reef substrate and reef organisms, marine mammals, sea turtles, and migratory marine birds.

Louise Flynn

Since 1991, Ms. Flynn has been assisting with permit acquisition. For Global Photon Systems, she identified permit requirements and developed strategies to expedite the permitting process for installation of the cable in Monterey Bay and between San Francisco and San Jose, California. To identify permitting constraints, she consulted with key regulatory agencies, including the USACE, CDFG, and RWQCB, and Municipal Planning and Engineering Departments. She also worked in the office of the project engineer and assisted in the preparation of permit applications. For Tycom Fiber Optic Cable Project, she addressed water quality and vessel hazard issues for the cable landing at Hermosa Beach, California and evaluated other alternatives to the proposed action. She also provided coordination with involved agencies to ensure project compliance with regulations, and assisted the client in agency negotiations regarding mitigation measures. For the Trans-Pacific Fiber Optic Cable Landing in the Aleutian Islands, Alaska, Ms. Flynn helped identify permit requirements for the project, which involved potential crossings of Native American, national wildlife refuge, and military property.

Elke Rank

Ms. Rank assists with agency consultation and project permitting for on- and offshore energy and fiber optic cable facilities. For the Tycom Fiber Optic Cable Landing in Hermosa Beach, California, she analyzed bathymetric and geomorphologic charts, investigated potential on- and offshore geologic hazards and environmental impacts, and communicated with agencies regarding offshore oil leases and mitigation measures. For a Sprint Fiber Optic Cable, Ms. Rank managed and conducted permitting analyses and due diligence investigations for the construction of six fiber optic “ring” builds in the greater Los Angeles area. She led the report preparation, as well as numerous in-person interviews with city and county planners and the USFWS and the CDFG. Ms. Rank also worked with cultural resource experts at the South Central Coast Information Center and the Archaeological Information Center to investigate whether any of the construction areas might be “hot spots” for known or unknown cultural resources. She is also well versed in coastal regulations and best management practices.

Sara McMahon

Ms. McMahon specializes in environmental permitting of cable and linear projects. For the ARCOS-1 Submarine Fiber Optic Cable, she managed the submittal of environmental permits for the Puerto Rico submarine cable and beach landing, which included traveling to San Juan, P.R. to present the project to USACE, USFWS, and local agencies. For the Alcatel Submarine Networks submarine cable system also in Puerto Rico, Ms. McMahon assessed the environmental feasibility of two fiber optic cable landings at Isla Verde, PR and the Dominican Republic and met with the USACE and Puerto Rico agencies to discuss permitting and agency

concerns. In California for the Kern River Expansion Project, Ms. McMahon conducted agency consultation and prepared the applications for the USACE Section 404 permit, RWQCB Section 401 water quality certification and NPDES permits, and state stream alteration permits. She also consulted with the USFWS and CDFG under the ESA Section 7, and developed mitigation for several threatened and endangered species.

5. REFERENCES

As requested in the RFP, Table 5-1 presents a list of references that may be contacted to verify the qualifications and previous performance of E & E, the proposed project director, Cheryl Karpowicz and our key staff. We have worked with these references on recent projects and they are available to provide information relating to our ability to meet schedules and budgets, and to deliver high quality service.

Table 5-1. References for Firm and Key Staff				
Project Name and Location	Contact Name, Company and Title	Address	Phone Number	E & E Contact
Cable Experience				
Sprint Fiber Optic Cable System, Northern California.	Michael Rutledge Sprint, Network Real Estate Negotiator	Mailstop KSOPHK0210-2A600 6100 Sprint Parkway Overland Park, KS 66251	(913) 315-4863	Cheryl Karpowicz Patti Murphy\Elke Rank
Cabrillo Port Deepwater Port LNG EIS/EIR	Steve Jenkins California State Lands Commission, Assistant Division Chief, Division of Environmental Planning and Management	100 Howe Avenue, Suite 100- South Sacramento, CA 95825	(916) 574-1833	Cheryl Karpowicz Patti Murphy Elke Rank Adrienne Fink Dave Trimm
Trans- Pacific Cable Landing, Hermosa Beach, CA	Sol Blumenfeld City of Hermosa Beach Community Development	1315 Valley Drive Civic Center Hermosa Beach, CA 90254-3885	(310) 318-0235	Cheryl Karpowicz Patti Murphy
Point Arena Fiber Optic Cable Landing, CA	Paul E. Shorb,III AT&T International	AT&T Corporation One AT&T Way Bedminster, N.J.	908-532-1992	Cheryl Karpowicz Patti Murphy
Cabazon Wind Farm, Riverside County, CA	Kimberly McCormick Legal Counsel for Cabazon Wind Project	833 West Fifth Street, Suite 4000 Los Angeles, CA 90071	(206) 780- 9064	Patti Murphy Elke Rank

6. COST ESTIMATE AND ASSUMPTIONS

Based on available information, E & E's planning level estimate for this task is \$50,192 including labor and direct costs. The cost estimate is broken down by different areas of consultation and permitting in the table below.

Cost Estimate		
Agency	Permit/Authorization/Consultation	Cost
Moss Landing Harbor District, MBNMS	Special Activities Use Permit, Special Use Permit	\$2,500
CCC	Coastal Development Permit Federal Consistency Certification	\$10,000
USACE	Section 10 and Section 404 Permits	\$15,192
CDFG, USFWS, NOAA Fisheries	Letter of Concurrence (under Section 7, ESA)	\$15,000
Air Resources Board CDPR Office of Historic Preservation, Northwest Information Center	Air Quality Authorization Consultation and MOU Historic Resources Update	\$2,500
SWRCB Central Coast RWQCB	NPDES Permit Section 401 Water Quality Certificate	\$5,000
Total		\$50,192
Optional Task:	Biological Assessment	\$10,000

Work will be completed on a time and material basis not to exceed the stipulated amount without prior authorization. Any additional work would be budgeted and performed only as requested and authorized by MBARI.

Our cost estimate is based on the following assumptions:

- No fieldwork would be necessary;
- E & E would attend several face-to-face meetings with key agencies to discuss the project, potential impacts, permitting requirements, and mitigation measures. To minimize travel and other direct costs, we would suggest scheduling these meetings concurrently during one week prior to submitting permit applications. We would also coordinate with key agencies via telephone, mail, fax, and/or e-mail to resolve other questions and issues. Our San Francisco location is ideal for efficient communication with the CCC and other key agencies.
- We would prepare and provide an EFH Report to accompany the USACE permit application.
- We would also prepare the NPDES General Permit and associated SWPP Plan.

Ms. Mandy Allen

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- Only minimal follow-up with the CSLC would be required, as MBARI has already submitted the Application to the agency.
- MBARI and their appointed attorney would be responsible for reaching an agreement between MBARI and local fishermen regarding potential impacts of the MARS cable installation. This is key to acquiring the CCC approvals.
- Permit/waiver fees are not included in the cost estimate.
- We have also included the additional optional task of preparing a Biological Assessment (BA) for the project. If a BA is required as part of the USACE Section 404 application and Section 7 ESA consultations with the USFWS, we estimate that preparing this document would cost approximately \$10,000.

Should other unforeseen items beyond this current scope require our assistance, we would be more than willing to provide our services. Our hourly rate depends on the nature of the additional work and the experience and skills required to assist in the effort and we would be happy to provide more specific information as needed.

We hope that you will agree that we offer you a great team with all the right knowledge and experience to successfully acquire the permits required for this project. We are very enthusiastic about the project and look forward to working with you.

If you have any questions/comments or require additional information, please feel free to contact me at 415/ 981-2811 or by e-mail at ckarpowicz@ene.com.

Thank you for this opportunity to be of service.

Sincerely,

ECOLOGY AND ENVIRONMENT, INC.

Cheryl Karpowicz, AICP
Vice President

CK/____
Enclosures

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