CONSULTANT

AGREEMENT FOR CONSULTING SERVICES
FOR THE
PREPARATION OF ENVIRONMENTAL IMPACT REPORT/ENVIRONMENTAL IMPACT STATEMENT

THIS AGREEMENT is entered into and effective this 22nd day of June, 1999, by and between Tetra Tech, Inc. (hereinafter called "Consultant") and the County of Santa Cruz (hereinafter called "County").

RECITALS

WHEREAS, MCI/Worldcom (hereinafter called Applicant) has filed with the County an application for the installation of the on-shore portion of a trans-Pacific fiber optic telecommunications cable that is proposed to begin in Australia and New Zealand, make landfall near La Selva Beach in Santa Cruz County and terminate in Pajaro in Monterey County (hereinafter called "project"); and,

WHEREAS, the County has determined that under the terms of the California Environmental Quality Act (CEQA) consideration of said application will require the preparation of an Environmental Impact Report (hereinafter "EIR"); and

WHEREAS, the Applicant has also made an application with the Monterey Bay National Marine Sanctuary for a permit for the off-shore portion said project within the Sanctuary boundaries and the staff of the National Oceanic and Atmospheric Administration/Monterey Bay National Marine Sanctuary (hereinafter called "NOAA/Sanctuary") have determined that the National Environmental Policy Act (NEPA) requires preparation of an Environmental Impact Statement for this project; and

WHEREAS, the staffs of the County and the NOAA/Sanctuary have agreed to prepare a combined CEQA/NEPA document to be administered by the County; and

WHEREAS, after appropriate conferences and negotiation between Consultant and County, the County desires to contract with Consultant to accomplish certain technical and professional results hereinafter described in connection with the preparation of said Environmental Impact Report/Environmental Impact Statement (EIR/EIS); and,

WHEREAS, Applicant and County have entered an agreement defining the responsibilities of the parties thereto with regard to the work and costs involved in the preparation and review of said EIR/EIS.

NOW, THEREFORE, the parties hereto do mutually agree as follows:

1. Results to be Accomplished by Consultant
The County hereby contracts with Consultant and Consultant hereby agrees to accomplish all of the results described in the attachment entitled Scope of Work attached hereto as Exhibit "A" and by reference made a part of this agreement. Such results shall include the preparation and publication of a EIR/EIS for the project in conformance with the California Environmental Quality Act and the National Environmental Policy Act, and

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in conformance with the Environmental Review Guidelines adopted by the County. Said results shall also include preparation of a complete Draft EIR/EIS as well as responses to comments received during the public and agency review periods. Consultant further agrees that said EIR/EIS shall be prepared for the County such that it will satisfy the County's obligation as the agency having primary responsibility for discretionary actions involved in said project. It is understood that in connection with the preparation of said EIR/EIS the Consultant shall fully consult with the Applicant to obtain information necessary for the preparation of the EIR/EIS but that the management of the Consultant's work shall be the responsibility of the County Planning Department and that of NOAA/Sanctuary. Accordingly, Consultant shall prepare said EIR/EIS with maximum accuracy and objectivity. It is further agreed that in all matters pertinent to the project for which the EIR/EIS is being prepared, the Consultant shall act solely as the Consultant to the County for environmental analysis and shall not act in any other capacity as consultant to, representative, or agent of the Applicant during the time the EIR/EIS is being prepared.

2. Meetings to be Attended

A representative (or representatives) of Consultant shall attend a start-up meeting with County staff, other key EIR/EIS team members and the Applicant. In addition, a representative of Consultant shall attend a public hearing on the Draft EIR/EIS conducted by NOAA/Sanctuary and at least one (1) additional public hearing on the final EIR/EIS conducted by the County. Consultant agrees to attend other meetings shall occur as specified under Task 10 of Exhibit A. Consultant further agrees that compensation for said attendance of meetings shall be deemed included in the amount of compensation as specified herein.

3. Responsible Consultant in Charue

Terry Witherspoon shall serve as the primary EIR/EIS team member of the Consultant principally responsible for execution of the Consultant's obligations under this Agreement and shall serve as principal liaison between County and Consultant. John King, Vice-President of Tetra Tech, Inc. shall be the Principal-in-charge and provide management oversight for the Consultant in the preparation of the EIR/EIS.

4. Time of Performance

The performance of the Consultant shall commence as soon as practicable and in no event later than ten (10) days after the effective date of this Agreement. The Consultant's effort in preparation of 5 copies of the Administrative Draft EIR/EIS shall be completed not later than August 23, 1999, contingent upon Consultant receipt of all information reasonably requested from County and Applicant within two weeks of the effective date of this Agreement. The County shall provide the following public agencies with copies of the Administrative Draft EIR/EIS for review and comment:

~ NOAA/Monterey Bay National Marine Sanctuary,
~ California State Lands Commission, and
~ California Coastal Commission.

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The County shall also review said document and shall incorporate all comments from other reviewing agencies into a single comprehensive set of review comments and shall approve or conditionally approve, or disapprove of the Administrative Draft EIR/EIS. The consultant shall, within twenty-eight (28) days of any conditional approval or disapproval, make all modifications and additions to said Administrative Draft EIR/EIS as deemed necessary by the County and other reviewing agencies to comply with the Terms of this Agreement. Upon completion of any modifications to the Administrative Draft EIR/EIS, Consultant shall furnish to County two (2) screen check copies of the Draft EIR/EIS. Upon approval of the screen check copy, the Consultant shall within five (5) days of written notification of this acceptance, furnish to County 50 (fifty) copies of the Draft EIR/EIS. After the close of the public review and comment period and receipt of all written comments on the Draft EIR/EIS, the Consultant shall submit 5 copies of an Administrative Final EIR/EIS to the County. This document shall be submitted to the County within 28 (twenty-eight) days of meeting with the County and other invited agency representatives to discuss comments made on the Draft EIR/EIS. Upon County's approval of the Administrative Final EIR/EIS, Consultant shall furnish to County two (2) screen check copies of the Final EIR/EIS. Upon approval of the screen check copy, Consultant shall furnish to County 40 (forty) copies of the Final EIR/EIS. A Mitigation Monitoring and Reporting Program consistent with the requirements of CEQA, shall be prepared by the Consultant according to Tasks 7-9 of Exhibit A.

5. Payment

a. The Consultant shall be paid for results satisfactorily accomplished under the terms of this Agreement in accordance with the rates and schedule specified in Exhibit "B" attached hereto and incorporated herein by reference; provided that the total amount payable under this Agreement shall not exceed $304,954.00.

b. Consultant shall be paid in monthly payments according to the tasks that are invoiced according to that shown in Exhibit B.

c. After approval of the Final EIR by the County and approval of the EIS by NOAA/Sanctuary and the Consultant's attendance at the necessary public hearings conducted by the County and NOAA/ Sanctuary, Consultant shall be paid the full amount owed, pursuant to Exhibit "B."

d. Compensation shall be paid within thirty (30) days of the Consultant's completion of the results to be accomplished and Consultant's submission thereafter to the County of an invoice, including an enumeration of the results accomplished and the amount due.

Notwithstanding the foregoing, no payment shall be made with respect to any invoice unless the same be approved by the Planning Director of the County, or in his/her absence, the Environmental Coordinator or Deputy Environmental Coordinator.

6. Presentation of Claims
Presentation and processing of any or all claims arising out of or related to this Agreement shall be made in accordance with the provisions contained in Chapter 1.05 of the Santa Cruz County Code, which by this reference is incorporated herein.

7. Time is of the Essence
Time is of the essence in this agreement, particularly in view of the time constraints imposed upon the County pursuant to Public Resources Code 21151.5, Government Code 65950, and Article 8 of the County Environmental Review Guidelines.

8. Indemnification for Damaaes. Taxes and Contributions

a. Consultant shall exonerate, indemnify, defend, and hold harmless County and NOAA/Sanctuary (which for the purposes of paragraph 8 shall include its officers, agents, employees, and volunteers) from and against, and shall assume full responsibility for payment of all Federal, State and Local taxes, contributions, charges, or fees imposed or required to be paid with respect to Consultant's performance under this Agreement (including without limitation unemployment insurance, social security, and payroll tax withholding).

b. As respects its operations under this Agreement other than the performance of professional services, Consultant shall, to the fullest extent permitted by law, defend, indemnify and hold harmless County, NOAA/Sanctuary and County's agents, employees, and volunteers against any and all claims, demands, losses, damages, injuries, liabilities, expenses and costs, arising out of injury to or death of persons, or damage to property as a result of, arising out of, or attributable to the negligent acts, errors or omissions of Consultant or its officers, employees, agents and consultants under this Agreement, excepting only those claims, demands, actions suits, losses, liabilities, expenses and costs caused by the sole negligence of the County.

c. Consultant's liability to County for all the aforesaid matters is limited to proceeds recovered from the insurance carried by Consultant and within the coverage limits specified in Exhibit C to this Agreement after settling claims of third parties.

9. County Responsibilities
County shall grant Consultant access to all existing information, data, records, and maps in the possession of the County which are related to the Consultant's work under this Agreement. County shall be responsible for making reasonable staff assistance available to the Consultant during the course of this Agreement; shall assist the Consultant in collecting information; shall promptly review Consultant's work prior to public release or publication; shall arrange for all such meetings and study sessions as may be in judgment of the County necessary to carry out this Agreement; and shall assume full responsibility for all liaison that may be required with the Applicant or with other interested parties.

In the event that circumstances beyond the control of the Consultant,

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such as absence of qualified County staff personnel or failure of Applicant to supply needed information to the Consultant, make it impossible for County to fulfill its responsibilities to Consultant or for Consultant to proceed in a timely manner to carry out the scope of work described herein, Consultant shall be entitled to reasonable compensation under paragraph five (5) above upon submission of an invoice for services rendered.

10. Termination Without Cause
County may terminate this Agreement without cause by delivery (in person or by first class mail) of written notice of said termination to the Consultant ten (10) days prior to the effective date of said termination.

In the event of such termination by County, Consultant shall be entitled to reasonable payment for all work done by Consultant, and all costs incurred prior to the effective date of said termination.

11. Modifications
No alterations or variations of terms of this Agreement shall be valid unless made in writing and signed by parties hereto.

12. Independent Contractor
In performing the services called for pursuant to this Agreement, Consultant is an independent contractor and not an employee or employees of County.

13 Equal Employment Opportunity
During and in relation to the performance of this Agreement, Consultant agrees as follows:

a. The Consultant shall not discriminate against any employee or applicant for employment because of race, color, religion, national origin, ancestry, physical or mental disability, medical condition (cancer related), marital status, sex, sexual orientation, age (over 18), veteran status, gender, pregnancy, or any other non-merit factor unrelated to job duties. Such action shall include, but not be limited to, the following: recruitment; advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training (including apprenticeship), employment, upgrading, demotion, or transfer. The Consultant agrees to post in conspicuous places, available to employees and applicants for employment, notice setting forth the provisions of this non-discrimination clause.

b. If this Agreement provides compensation in excess of $50,000 to Consultant and if Consultant employs fifteen (15) or more employees, the following requirements shall apply:

(1) The Consultant shall, in all solicitations or advertisements for employees placed by or on behalf of the Consultant, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, national origin, ancestry, physical or mental disability, medical condition (cancer related), marital status, sex, sexual orientation, age (over 18), veteran status, gender, pregnancy,

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or any other non-merit factor unrelated to job duties. In addition, the Consultant shall make a good faith effort to consider Minority/ Women/Disabled Owned Business Enterprises in Consultant's solicitation of goods and services. Definitions for Minority/Women/Disabled Business Enterprises are available from the County General Services Purchasing Division.

(2) The Consultant shall furnish County Affirmative Action Office information and reports in the prescribed reporting format (PER 4012) identifying the sex, race, physical or mental disability, and job classification of its employees and the names, dates and methods of advertisement and direct solicitation efforts made to subcontract with Minority-Women/ Disabled Business Enterprises.

(3) In the event of the Consultant's non-compliance with the non-discrimination clauses of this Agreement or with any of the said rules, regulations, or orders said Consultant may be declared ineligible for further agreements with the County.

(4) The Consultant shall cause the foregoing provisions of this Subparagraph 13B. to be inserted in all subcontracts for any work covered under this Agreement by a subcontractor compensated more than $50,000 and employing more than fifteen (15) employees, provided that the foregoing provisions shall not apply to contracts or subcontracts for standard commercial supplies or raw materials.

14. Nonassignment
Consultant shall not assign this Agreement without the prior written consent of the County.

15. Retention and Audit of Records
Consultant shall retain records pertinent to this Agreement for a period of not less than five (5) years after final payment under this Agreement or until a final audit report is accepted by County, whichever occurs first. Consultant hereby agrees to be subject to the examination and audit by the Santa Cruz County Auditor-Controller, the Auditor General of the State of California, or the designee of either for a period of five (5) years after final payment under this Agreement.

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IN WITNESS WHEREOF, the County and Consultant have executed this Agreement effective the date set forth in the Preamble hereof.

COUNTY OF SANTA CRUZ

BY_____

Alvin D. James
Planning Director

DATE_____

CONSULTANT

BY_____

For Tetra Tech, Inc.

DATE 4 June 1999

Address and Phone:

180 Howard Street
San Francisco, CA 94105

(415) 974-1221

Approved As To Form:

BY_____
County Counsel

Exhibits:

A - Scope of Services
B - Budget
C - Schedule of Insurance

fiberopticConsultEIR.wpd/pln453

APPROVED AS TO INSURANCE:

_____
Risk Manager

6-14-99
Date

EXHIBIT A

SECTION 3. PROJECT ORGANIZATION/MANAGEMENT APPROACH

PROJECT TEAM ORGANIZATION

Tetra Tech proposes an integrated organizational structure that is proven to be responsive, flexible, and cost-effective. The organization chart is on the following page. Key personnel in the project organization include the Project Manager, Technical Advisor, Deputy Project Manager, Legal Review/NEPA-CEQA Compliance Advisors, and a multidisciplinary technical staff of highly experienced scientists, engineers, and planners who have undertaken similar projects. These professionals have been designated to serve in three major environmental issues areas: onshore, offshore, and project-wide. This team of exceptionally qualified individuals can accomplish the work in a cost-effective, responsive, and technically sound manner. Personnel identified in the organization chart will not be reassigned or replaced on the project without the prior written approval of the County and the MBNMS. However, should a surge in workload require professional resources that are beyond the capacity of the individuals identified, Tetra Tech has direct access to a pool of over 2,000 additional qualified individuals, over 700 of whom are in California. In addition, the project organization will receive all necessary administrative support, such as clerical, graphics, cost tracking, contract administration.

Tetra Tech's experience has proven that the ability to assure performance, quality, and timeliness depends on a program organizational structure that has well-defined roles and responsibilities. Assigned roles and responsibilities for the key Tetra Tech personnel and our subcontractors, Eugenia Laychak and Alvin Franks, for each discipline on this project are indicated in the organization chart on the following page.

Highlights of key personnel roles are as follows:

Principal-in-Charge, ***John King***

- Resource allocation
- Technical review
- Point of contact for sensitive issues
- Electromagnetic Field Radiation (EMF) analysis

Project Manager, ***Terry Witherspoon***

- Primary point-of-contact with County and MBNMS
- Overall project management and control
- Problem identification/resolution
- Contractual and subcontractual matters
- Schedule and cost performance monitoring/reporting
- Monthly status reports

QA/QC, ***Karen Frye, AICP, and Richard Grassetti***

- Enforcing QA/QC program
- Technical review of proposed project and alternatives
- Advise and consult with technical staff

Technical Advisor, ***Steve Giannino, PE***

- Technical review of proposed project and alternatives
- Advise and consult with technical staff
- QA/QC

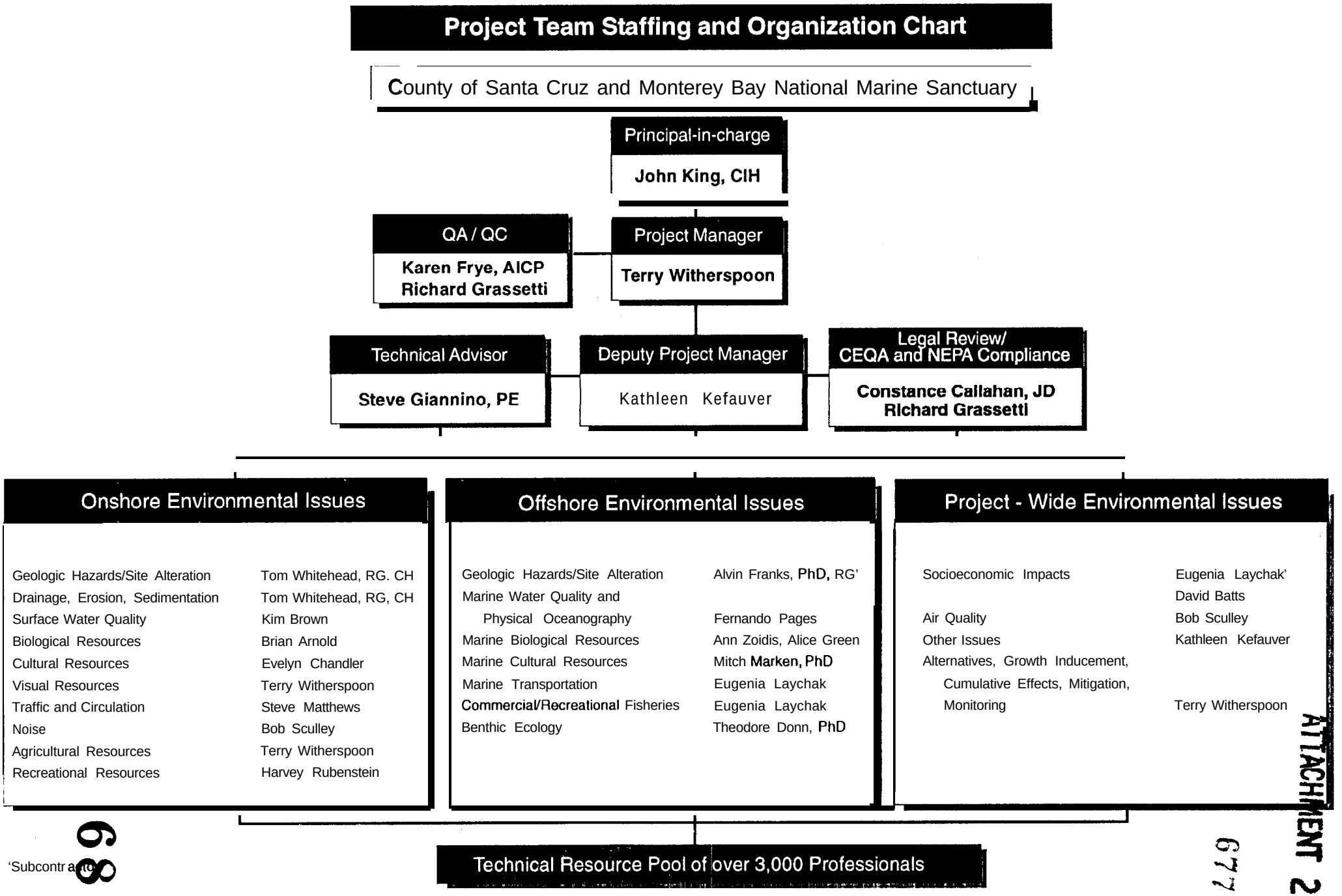
Deputy Project Manager, ***Kathleen Kefauver***

- Coordinate and manage technical staff
- Peer review

Legal Review/NEPA-CEQA Compliance Advisors, ***Constance Callahan, JD, and Richard Grassetti***

- Legal review
- Advise and consult with technical staff
- QA/QC

Project Team Staffing and Organization Chart



'Subcontractor

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PROPOSED MANAGEMENT PLAN

The strategic location of offices throughout the state of California gives Tetra Tech the capacity to perform cost-effectively, using personnel who are familiar with relevant environmental laws and requirements and who are knowledgeable of applicable environmental resources, conditions, and issues. The Project Manager, QA/QC staff, Legal Review/NEPA-CEQA Compliance Advisors, and key technical staff are in Tetra Tech's San Francisco office. Most of the remaining multidisciplinary technical staff are throughout California and are supplemented with key specialists in other parts of the county.

Good Communication: The Key to Project Success

Tetra Tech recognizes that effective communication and coordination among team members, as well as among the team and the client and regulators, is a critical element to the proposed project. The team's management system for this project will accomplish the following:

- Establish clearly defined communication lines with the County and MBNMS and within the team;
- Provide continuous feedback to the County and MBNMS throughout the project; and
- Establish and implement methods for continuous review, audit, and feedback of project performance.

The benefits to this approach are that mutual expectations are clearly understood, potential for delays are minimized, and the team assumes the role of a proactive partner to the County and MBNMS in completing its environmental documentation.

Tetra Tech believes that regular communication with the County and MBNMS is essential to the successful completion of the project. The following steps will be implemented to assure clear and responsive communication, reporting, technical direction and control on this project:

1. The Principal-in-Charge will be in charge of allocating resources to support the project. He will be the point-of-contact for any concerns the County or MBNMS may have which they consider too sensitive to raise with the Project Manager. He will conduct a technical review of the EIS, as well as perform analysis of EMF radiation for the Affected Environment and Impacts sections of the EIS.

2. The Project Manager will be the single-point focus of authority and responsibility. She will be the principal contact with the County and MBNMS

and will resolve any conflicts with the schedule, scope of work, and associated costs.

3. The Technical Advisor, QA/QC staff, Deputy Project Manager, and Legal Review/NEPA-CEQA Compliance Advisors will be directly responsible to the Tetra Tech Project Manager. These personnel are expected to continually interact with the Project Manager and technical staff to clarify and consult on technical, regulatory, and legal issues of concern. Technical direction received by any of the Tetra Tech Team staff, as well as the Project Manager, will be recorded on contact reports that will be distributed to project staff.

4. Electronic mail services are available at Tetra Tech for instantaneous exchange of written information and computer files. These capabilities are available to all Tetra Tech team members to ensure rapid communications while maintaining information consistency and integrity.

5. On the first Monday of each month, a progress report will be sent to the County and will include the following information:

   - A list of deliverables submitted during the past month;
   - A list of deliverables due in the coming month;
   - A table identifying budgets and costs; and
   - A compilation of outstanding issues that could affect schedule or budget.

   The level of detail provided by the report allows careful monitoring of project progress and schedule deviations by the Project Manager and the County and MBNMS.

Cost and Schedule Control

Tetra Tech has a proven, in-house management and cost control system that will ensure that the team accomplishes work in a cost-effective, timely manner. Budget control is achieved by closely monitoring project labor and direct expenses. All team members participate fully in implementing and maintaining the cost control approach. The Tetra Tech management system establishes task-specific budgets and closely tracks level of effort, costs, and schedules. Team members have their own tasks, budgets, and reporting requirements and monitor performance in a consistent manner. Tetra Tech's well-established recordkeeping system provides complete documentation of the financial status of each project task.

The project schedule will be controlled and monitored by the Project Manager, who will coordinate and maintain regular contact with the County and MBNMS to communicate project status and progress. The Project Manager will identify and justify any unforeseen proposed schedule changes and will establish internal due dates prior to the deliverable date for the County and MBNMS to provide ample

time for internal editorial and technical review and to further assure compliance with the overall project schedule.

The monthly status report is Tetra Tech's basic management reporting and analysis tool and provides cost and schedule performance data (including actual and potential deviations). The status report summarizes all critical cost and schedule parameters monthly and analyzes variances that exceed established thresholds and projections for at-completion budgets and cost variances. The monthly status report can be structured to provide whatever information is most useful to the County and MBNMS in reviewing project performance.

Quality Assurance and Subcontractor Monitoring

Systematic quality assurance and quality control (QA/QC) is a key aspect of the project team's management system. As professional scientists, engineers, and planners, the project team members understand that a systematic approach is the best means of ensuring the quality of work products and meeting the performance standards required by clients. Systematic QA/QC is accomplished by appropriate and timely review and oversight by assigned personnel of the project goals, contracted scopes of work, budgets and schedules, technical methods, and all work products.

The proposed QA/QC program for the MCI Worldcom Fiber Optic Cable Project is designed to:

- Include all levels of project management in the QA/QC program;
- Ensure that QA/QC is an integral part of the project and not just an "end of job" review;
- Consider quality objectives and standards as equal or superior to budget and schedule considerations in all project management decisions;
- Ensure that developed scopes of work are technically complete and workable in consideration of budgetary and scheduling constraints;
- Review adequacy of budgets and schedule to perform the work;
- Commit necessary resources to achieve the County and MBNMS objectives;
- Ensure frequent communication of the progress of work, problems, and accomplishments; and
- Provide period review of project performance related to the planned schedule and budget goals.

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Two subcontractors on our team will be Eugenia Laychak, of EJL & Associates, a specialist with expertise in commercial fishing and marine transportation issues, and Alvin Franks. Tetra Tech subcontractors know that cooperation is fundamentally important to the successful accomplishment of the project. The subcontractors have a clearly defined role and will be directly responsible to Tetra Tech's Project Manager. To maintain communication and understanding between Tetra Tech and the subcontractors, all contractual matters and points of concern will be referred to the Project Manager. Furthermore, contact between the subcontractors and County and MBNMS representatives will be handled in the same way as between the Tetra Tech staff and the County and MBNMS. All direct communication between the County and MBNMS and Ms. Laychak or Mr. Franks will be reported immediately to the Tetra Tech Project Manager. However, all efforts will be made to avoid roadblocks that may hinder the progress of work. Most communications with the County and MBNMS will flow through the Tetra Tech Project Manager.

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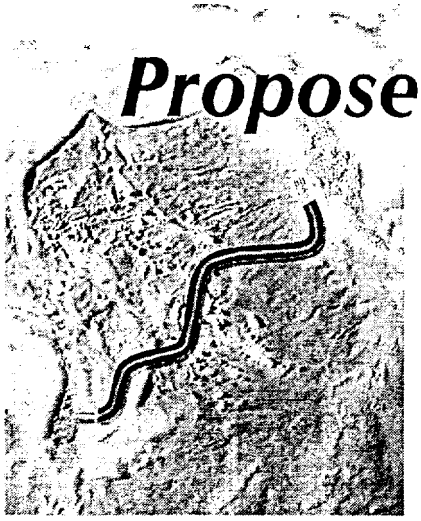
Proposed Project Work Plan



UNDERSTANDING OF THE PROJECT

The proposed project involves installing and operating a trans-Pacific fiber optic telecommunications cable from Australia and New Zealand to the existing MCI Worldcom network backbone near the community of Pajaro, California. The proposed cable system will include both offshore and onshore components and will come onshore on a private beach on Monterey Bay in Santa Cruz County.

Tetra Tech recognizes that the County and MBNMS's primary short-term objective is to conduct a thorough and timely assessment of the project's impacts and to develop a comprehensive administrative draft EIR/EIS by mid-August. To meet these ends, Tetra Tech has developed a technical and management approach that takes this time frame into account and relies on a project team that is experienced in telecommunication system planning and design, that is knowledgeable of offshore environmental issues along the California coast, and that has a track record of successful CEQA and NEPA document preparation.

With locations throughout coastal California, ranging from San Francisco south to San Diego, Tetra Tech is uniquely qualified to address environmental issues of concern in the project area, particularly coastal issues related to hydrologic process and marine and estuarine habitats. For example, under contract to the California State Lands Commission, Tetra Tech recently completed a third-party independent review of the Administrative Draft EIR for the Global West Fiber Optic Cable Project. The end product of this review was a table that included 642 comments on the EIR that addressed all resource topics, including the project purpose and need and project description.

Tetra Tech also prepared the EIR and technical studies for upgrades to a seawater intake and distribution system in Santa Barbara that involves constructing onshore structures and such offshore structures as pipelines and distribution supply lines. Tetra Tech also performed hydrologic, hydraulic, and scour analyses to assess drainage-related impacts and mitigation measures as part of an EIR for a pipeline that would carry crude oil from the Santa Barbara area to Long Beach. We also conducted four separate studies for the Morro Bay National Estuary Program involving stream flow and sediment loading, habitat characterization and assessment, bay bathymetry and tidal circulation, and bay nutrients. Details of these and other relevant projects that demonstrate our knowledge and understanding of the California coast and anticipated issues of concern for the proposed project are presented in our Statement of Qualifications section of this proposal.

GENERAL APPROACH

The County, MBNMS, and responsible agencies require an EIR/EIS that is in full compliance with both CEQA and NEPA and that meets the standards established by the CEQA Guidelines (California Code of Regulations, Title 14, Sections 15000-l 5387 [1999]) and by NOAA's NEPA Guidelines (48 Federal Register 14734 [1983]; NOAA Directives Manual 2-l 0, Environmental Review Procedures, July 23, 1984). Our experience in preparing, executing, and reviewing complex and controversial CEQA and NEPA programs, particularly for those involving offshore components, has given us a

full appreciation for the potential complexities and issues associated with preparing the MCI Globenet/Worldcom Fiber Optic Cable EIR/EIS. We understand the following elements will be an important part of the CEQA and NEPA compliance process:

- The EIR/EIS needs to respond to all issues developed from comments on the notice of preparation, issues raised during public comment meetings, and any comments received by the County and MBNMS prior to completing the document.
- The impact analysis must be based on sound and defensible science to support the legal adequacy of the EIR/EIS.
- The impact analysis must address the project's complete life cycle, encompassing not only construction and operations but also maintenance and eventual facility abandonment.
- Other regulations, such as the federal and state Endangered Species Acts, Coastal Zone Management Act, Marine Mammal Protection Act, Magnuson Fisheries Conservation Management Act, Clean Water Act, Rivers and Harbors Act, and Fish and Wildlife Coordination Act must be thoroughly addressed and integrated, where applicable, into the relevant EIR/EIS sections.
- The status of all necessary agency consultations (such as Section 7/10 of the Endangered Species Act and Section 106/1 10 of the National Historic Preservation Act) must be included, as well as any permitting requirements, such as those from the US Army Corps of Engineers.
- To meet or exceed the lead agencies' proposed schedule, it will be critical that the Tetra Tech project team have available at the time of contract award all materials previously prepared or being prepared by the Applicant, including background technical reports and undersea surveys. In particular, the high-resolution sidescan sonar survey and marine biological surveys will provide key information for the EIR/EIS analysis.

An EIR/EIS should be prepared with a sufficient degree of analysis to provide decision-makers with information to account for environmental consequences. The degree of environmental analysis needs to be considered in light of what would be feasible. The focus of the environmental analysis will be on legal and technical adequacy, completeness, and a good faith effort at full disclosure. With respect to adequacy, our overall approach for each environmental issue will be to consider the following:

- Reasonableness of potential impacts of the proposed project;
- Accuracy and completeness of data used to support impact analysis for each environmental issue;
- Defensibility of all impact conclusions;
- Relevance and applicability of mitigation to identified impacts and whether impacts are mitigated to less than significant levels;
- Ability of analysis to fully satisfy applicable regulatory requirements or satisfy them to the fullest extent possible; and
- Ability of analysis to consider all applicable laws and regulations.

SPECIFIC TASKS AND METHODOLOGIES

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PRELIMINARY PROJECT DESCRIPTION AND ALTERNATIVES SUBMITTAL

Tetra Tech will prepare a draft of Sections 1 and 2 of the DEIIUEIS for submittal to Santa Cruz County and MBNMS. This document will contain the project description and project alternatives for review and comment, and will allow the County and MBNMS to provide feedback to Tetra Tech on these sections prior to submittal of the DEIIUEIS.

TASK 1. ADMINISTRATIVE DRAFT EIR/EIS

The Administrative Draft EIR/EIS will include all the elements required under both CEQA (CEQA Guidelines, California Code of Regulations Title 14, Sections 15 120-l 5 132) and NEPA (40 Code of Federal Regulations Part 1502.10) and will focus the analysis on significant impacts and mitigations. Tetra Tech will prepare eight copies of the administrative draft EIR/EIS for review by the County, MBNMS, California Coastal Commission, and State Lands Commission. Key sections of the administrative draft EIR/EIS and Tetra Tech's proposed methodologies for completing these sections are described in greater detail below.

Subtask 1a. Project Description

Description of the project is one of the most important and fundamental tasks in the CEQA and NEPA processes because it introduces the reader to the subject being evaluated. The project description also serves as a foundation for consistently analyzing all the environmental issues and for evaluating potential impacts of the proposed project. The project description will be carefully crafted to be complete, clear, and concise and to be understandable to decision-makers and the public.

In preparing the project description, Tetra Tech will review all applicable information, including information supplied by the Applicant, that contained in County, State Lands Commission, and MBNMS files, and that from published sources, such as journal articles and relevant environmental documents. Tetra Tech also will undertake a careful independent systems and civil engineering evaluation of the proposed project to verify that it is realistic, appropriate, and complete in scope. Any concerns or recommendations regarding these aspects of the project will be identified immediately and discussed with the County and MBNMS. If necessary, Tetra Tech will consult with the Applicant to clarify any questions regarding the proposed project.

Key elements to be included in the project description are as follows:

- Clarification of the background of the project;
- Establishment and analysis of the purpose and need for the project, with respect to goals and objectives of the Applicant;
- Explanation and justification for the selecting the proposed landing site and a description of other potential landing sites and reasons why they were not seleaed;
- Characterization of construction techniques, including areas of disturbance, workforce, equipment requirements, and schedule;
- Identification of proposed maintenance activities anticipated after construction;
- Identification of any available information on future cable pulls into the proposed empty steel conduit;

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- Geographic description, including maps, of offshore and onshore segments of the proposed cable route along its entire length;
- Summary of areas where the cable likely will be buried less than two feet (0.6 meters);
- Description of the lengths of cable crossing low-, medium-, and high-profile hard-bottom habitats and other substrates where it may not be feasible to bury the cable two feet (0.6 meters) or deeper. This description will also address relevant seafloor features, such as slides, faults, and canyons; and
- In accordance with the CEQA Guidelines (Section 15124[d]), a list of all potential permits and review requirements from applicable federal, state, and local agencies that would likely be involved in the project approval and implementation process.

Subtask *1b. Summary*

In accordance with CEQA Guidelines Section 15123, the EIR/EIS will include a summary that provides the reader with an overview of the proposed project, project alternatives, and impacts. A complete and thorough synopsis of the project and its consequences is important because often the summary is the only section of the EIR/EIS that the reader reviews.

Tetra Tech will prepare a comprehensive impact and mitigation summary table, identifying the class of impact, whether the mitigations are proposed by the Applicant or are recommended by the lead agencies, and, whether there would be residual impacts after mitigation.

Subtask *1c. Environmental Setting/Land Use and Coastal Zone Consistency*

The EIR/EIS will include a chapter describing the regional and local setting for each environmental issue that could be affected by the proposed project. Environmental issues will be organized into three general categories: onshore environmental issues, offshore environmental issues, and project-wide environmental issues. The environmental setting for each environmental issue will provide a clear and definite analysis of the location, extent, and character of resources on and adjacent to the project site. The Tetra Tech project team will conduct a peer review of available survey data, as well as the Applicant's Constraints Analysis, and will incorporate relevant information into the applicable environmental setting sections.

In accordance with CEQA Guidelines Section 15 125(b), the EIR/EIS also will include a description of the project's consistency with applicable county, city, state, and federal plans and policies. Plans that we will review include the Santa Cruz and Monterey county general plans and the Monterey County Local Coastal Program. We anticipate that the project will require a federal Coastal Consistency Determination.

Subtask 1d. *Environmental Analysis*

This chapter of the EIR/EIS will begin with an introduction that clearly explains the scope and format of the environmental analysis. The analysis will consist of a systematic assessment of the impacts associated with each alternative for each identified issue. We will consider all phases of the project when evaluating its impacts on the environment. Topics to be addressed for each issue include the following:

- *Thresholds of Significance.* To help determine whether a project may have a significant environmental effect, thresholds used in the environmental analysis will be based, where applicable, on legal standards, studies, surveys, reports, or other data. Tetra Tech will consult with both the County and MBNMS early in the process to determine if either agency has adopted significance criteria or standards that could then be incorporated into this EIR/EIS.

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- *[illegible]* Project impacts will be described for four separate phases of each alternative: construction, operation, maintenance, and abandonment. Impacts from maintenance and abandonment are likely to be similar to but shorter in duration than impacts during construction. Impacts will be classified as direct or indirect, short- or long-term, and adverse or beneficial. Growth-inducing or unavoidable impacts will be clearly identified. All impacts also will be classified as Class I (significant adverse that cannot be mitigated to a less than significant level), Class II (significant adverse that can be mitigated to a less than significant level), Class III (adverse but not significant), or Class IV (beneficial).

- ***Cumulative Impacts.*** As required by both CEQA and NEPA, the EIR/EIS also will include a discussion of cumulative impacts associated with the proposed project in conjunction with other closely related past, present, and reasonably foreseeable future projects.

- ***Mitigation Measures.*** An important part of the draft EIR/EIS will be identifying the type, degree, feasibility, and effectiveness of potential mitigation measures. Where applicable, measures will be divided into those incorporated by the Applicant into the project and those recommended by Tetra Tech. The EIR/EIS will identify measurable performance standards by which the success and effectiveness of each mitigation can be determined and will describe how each measure avoids or substantially reduces the significant environmental effect. The EIR/EIS also will identify the responsible agency and the schedule for implementation.

Tetra Tech's proposed methodologies for each environmental issue to be addressed in the EIR/EIS are described below.

ONSHORE ENVIRONMENTAL ISSUES

Geologic Hazards/Site Alteration

Geologic hazards include slope stability and seismic hazards within the region and underlying the area of the proposed project. A description of these resources in the project area involves discussing elevation, underlying soils, including soil limitations that could affect the proposed project, underlying rock, and the location and characteristics of faults in the vicinity of the project area. The geologic processes active in the region, such as erosion, sedimentation, wind deposition, and seismicity, provide a pattern for the past influences on the project area and for likely future influences. Hazards that could result from these regional geologic processes include fault rupture, ground shaking, and unstable slopes.

The environmental setting section will include an assessment of the susceptibility of the onshore portion of the project area to geologic hazards. This assessment will take into consideration the proximity of active faults, such as the San Andreas and King City faults, frequency and types of seismic events, and the type of soils and their engineering properties. Tetra Tech will review the Applicant's constraints analysis and use it as a primary source of information for this environmental setting section. In addition, the US Geological Survey provides topographic and geologic maps and regional geologic studies identifying stratigraphy, locations and ages of faults, and landslide information.

The environmental consequences section will describe the effects of each alternative and evaluate the severity of these effects. The proposed project will require earthwork and will involve boring beneath a beach-side cliff to install the landing vault and associated cable, as well as to install the cable under Watsonville Slough and the Pajaro River. The effects of each of these alternatives on topography, soils and sediments, landforms, and slope stability will be evaluated based on the design

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of the alternative, volume of earthmoving and grading, and length of cable for both nearshore and onshore routes specified or estimated for each alternative. The probability of geologic hazards for each alternative will be evaluated by the project-area assessment of the proximity of active faults, frequency and types of seismic events, existing ground acceleration data and models, and the type of soils and their engineering properties. Mitigation measures that could reduce the severity of identified impacts and incorporate applicable regulatory requirements also will be identified, as appropriate.

DRAINAGE, EROSION, AND SEDIMENTATION

This section of the EIR/EIS will focus on potential impacts to the proposed onshore segment of the cable from drainage, erosion, and sedimentation. Tetra Tech will review the Applicant's Constraints Analysis, aerial photography, and USGS topographic maps to inventory and describe large-scale drainage patterns and surface water characteristics along the onshore portion of the cable route. Because the onshore portion of the route would be primarily along road and railroad rights-of-way, these issues are not anticipated to be significant. However, during project construction, heavy rains or wind could cause erosion or lead to sedimentation in nearby waterways. The analysis will identify potential impacts attributable to project construction activities such as trenching activities or after backfilling of cable trenches is completed. We will identify best management practices to reduce potential impacts and any special local or regional requirements to control erosion and sedimentation both during and after construction.

SURFACE WATER QUALITY

Installing the cable underneath Watsonville Slough and the Pajaro River, as well as crossing agricultural ditches, could temporarily degrade surface water quality. The indirect effects of erosion and sedimentation during construction could adversely affect the quality of these waterways. Furthermore, there may be accidental spills or releases of toxic or hazardous chemicals used in construction equipment, particularly when boring under waterways or riparian areas.

Tetra Tech will identify the likely types and sources of water pollution, along with potential surface water quality impacts attributable to erosion and sedimentation. We will describe potential adverse water quality effects, such as reduced dissolved oxygen and increased suspended particulates, and the potential for accidental releases of toxic chemicals, such as diesel fuel or bentonite. Mitigation measures for impacts related to accidental spills will be identified, and will focus on requirements that can be included as part of a spill prevention plan. Requirements from this plan could include designating separate equipment fueling areas, designating areas for fuel and petroleum product storage, and employee training in spill prevention and accidental spill clean up procedures.

BIOLOGICAL RESOURCES

The proposed fiber optic cable could have both short- and long-term impacts to biological resources along the onshore portion of the cable route. Most onshore construction will be on existing pavement or routinely disturbed habitat, and the likelihood of encountering special status plants and animals or critical habitat is not expected to be high. However, the beach and riparian areas to be traversed by the cable support numerous special status species, including the Western snowy plover, steelhead trout, California red legged frog, and Southwestern pond turtle, and there could be impacts from constructing auxiliary facilities in these areas.

Tetra Tech will prepare a list of dominant plant species, wildlife species likely to populate each habitat, any special status species, and any shorebirds and invertebrates that occur in the intertidal zone.

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Based on the information collected to prepare the environmental setting section, we will assess the potential for the project and its alternatives to affect biological resources throughout the project's life span, giving particular attention to special status species, animal species, and critical habitats, such as wetlands. In the biological resources analysis, we will identify any permitting needs, such as Endangered Species Act (federal and state) compliance issues, Sections 404/10 permitting, streambed alteration agreements, and project compliance with the Marine Mammal Protection Act and Migratory Bird Treaty Act. We will describe the process to resolve potential conflicts and will discuss modifications to the proposed cable route that could help avoid or mitigate potential impacts.

CULTURAL RESOURCES

Tetra Tech knows of no cultural resources within the project's area of potential effect (APE). Tetra Tech will review all cultural resources survey and evaluations completed by the Applicant prior to contract award to ensure their adequacy under CEQA and the National Historic Preservation Act (NHPA), and will review all records searches, content development, and evaluation methodologies. Because the project also falls under NEPA, it may be necessary to consult with the appropriate Native California Indian community if there are potential impacts on Native American resources.

In addition to a peer review of existing data, Tetra Tech will review agency consultation conducted for the project to insure that such agencies as the California State Historic Preservation Officer have been consulted. After reviewing the cultural resources reports, we will identify areas with the potential for subsurface sites and will develop a monitoring/mitigation plan. Tetra Tech also will produce a plan for unexpected discoveries encountered during construction for both cultural material and human remains.

VISUAL RESOURCES

In general, the visual effect of the cable would be only temporary; however, visual intrusion from even temporary construction activities could affect views of the Pacific Ocean from sensitive viewing locations, such as the residential area just north of the proposed landfall area, public beaches, and San Andreas Road, a county-designated scenic highway. Warning signs along the buried portion of the route could produce long-term visual effects. The proposed project will cross a variety of landscapes ranging from nearshore beach to agricultural areas. Information on visual resources will be derived from the Applicant's constraints analysis, USGS topographic maps, aerial photography, and local jurisdiction general plans., During site visits, Tetra Tech will identify the precise locations of potential visual receptors and will photograph views of the proposed construction areas from up to six viewpoints to document the existing visual quality and character of the project area. The analysis will qualitatively compare the visual characteristics of existing landscapes with those of proposed activities.

TRAFFIC AND CIRCULATION

The roads affected by this project, such as San Andreas Road, Thurwachter Road, and Trafton Road, are rural county roads. According to the County's March 1999 Initial Study for this project, these roads all operate above level of service (LOS) C, although San Andreas and Salinas roads experience heavy PM peak traffic.

The proposed project could alter existing traffic volumes and patterns in the project area during construction activities. The traffic and circulation impact analysis will encompass onshore automobile, truck, and rail transportation systems. Although the proposed land route for the cable will be

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within existing roads, roadside and railroad rights-of-way, construction activities could temporarily disrupt automobile circulation and railroad schedules if roads and rail lines are closed for an extended period.

Our traffic analysis will evaluate these potential impacts during the construction period, and we will recommend traffic safety measures, including those to prevent conflicts between vehicles and bicyclists. In consultation with applicable agencies such as the California Department of Transportation (Caltrans), the city of Watsonville, and Santa Cruz and Monterey counties, mitigation measures such as modified construction schedules, detours, and temporary lane closures will be identified.

RECREATION

Although the proposed onshore route for the cable traverses an area dominated by agriculture, the nearshore landfall area along the coast is only a few feet from Manresa State Beach. In addition, the public has lateral access to the landfall area at the mean high tide line.

The recreation analysis will first establish a list of existing and possible future recreation activities at and around the landfall area. The recreation analysis will focus on potential short-term impacts during project construction and any impacts during cable operation activities. For example, noise and dust generated during ground-breaking activities could interfere with swimming, surfing, and hiking and could create a safety hazard to persons engaged in nearby recreation. Mitigation measures to minimize potential conflicts such as temporary warning signs and fencing around the construction area will be identified.

AGRICULTURAL RESOURCES

The proposed project could result in short- and long-term agricultural compatibility impacts. Although the Applicant has obtained private easements over affected lands, other nearby agricultural lands could be adversely affected by cable construction and operation activities.

Tetra Tech will conduct a comprehensive inventory of the project area to identify the quantity and quality ofagricultura! resources, including prime and unique farmland, statewide and locally import farmland, and agricultural lands held in Williamson Act contracts. These resources will be mapped for the project area. Primary data sources that will be used in analyzing agricultural resources include the Applicant's constraints analysis, Soil Conservation Service soil surveys, Farmland Mapping and Monitoring Program data from the California Department of Conservation, Office of Land Conversion, aerial photography, and any data available from the Santa Cruz County Agricultural Commissioner's Office.

Tetra Tech will develop this impact assessment by consulting with the Santa Cruz County Agricultural Commissioner's Office and, if necessary, property owners whose property may be adversely affected. Our assessment will estimate the range of gross acreages of agricultural land (by typej potentially affected. Potential impacts could include a short-term decrease in agricultural productivity or temporary loss of agricultural lands. Then we will identify measures to reduce any impacts.

NOISE

Construction noise may temporarily adversely affect adjacent land uses, such as the residential area and Monterey Bay Academy classrooms near the directional bore staging area, or it may be inconsistent with local noise control ordinances. The affected environment section of our EIR/EIS will

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include a discussion on noise terminology and a description of land uses around the proposed cable route; any noise-sensitive land uses will be identified. The distances from the noise sources to sensitive land uses will be calculated, and the existing noise environment will be characterized using noise studies and planning documents. Federal, state, and local regulations pertaining to noise issues also will be discussed.

Tetra Tech will consult with the Applicant on the nature of construction equipment to be used for the project. For each alternative, we will calculate resultant noise levels using appropriate stationary source or mobile source modeling procedures and provided in tabular format and will describe noise levels at different distances from construction equipment. We will conduct noise modeling at up to three locations, including the landing site and one right-of-way trenching location, to compare noise levels to applicable noise criteria and to determine significance. Mitigation for noise impacts will be provided, as appropriate. Mitigation of noise impacts near sensitive land uses will likely include limiting activities to certain times of day or days of the week, where possible.

OFFSHORE ENVIRONMENTAL ISSUES

GEOLOGIC HAZARDS/SITE ALTERATION

The offshore portion of the project area extends seaward approximately 50 miles from the shore to waters 2,000 meters deep. Along the coast of Santa Cruz and Monterey Bay, a combination of emergent shoreline, active faults, variable rates of stream sediment deposition, varied rock materials, and topography that ranges from reefs to deep submarine canyons, provide a wide range of geologic environments from which to select a cable route. The principal geologic issues of concern to the project will probably be the ability of the cable to survive downslope movement of sediments and differential movement across active faults without breaking and to remain buried over the long term within the region subject to trawler fishing. The various aspects of the geologic environment that pertain to the selection of a cable route and the nature of the geologic threats to the integrity of the cable over its lifetime will be discussed so that the reader can better understand the tradeoffs associated with each of the alternatives.

The evaluation of offshore geologic hazards will be performed by Tetra Tech's subcontractor, Dr. Alvin Franks. Dr. Franks will review the high-resolution sidescan sonar survey of the offshore cable route and discuss the sediment thickness and topography in relation to efficacy of cable burial, potential for slope failure, and implications for snagging by trawler fishing equipment. Mineral resources and unique geologic features that may be affected by the proposed cable will also be discussed.

The nearshore environment includes the beach and surf zone, a high-energy environment in which a combination of wave action and long-shore currents moves sand perpendicular and parallel to the shore. Simultaneously, long-shore currents move the sand southward, where it is conveyed into one of the submarine canyons that dissect the region. Coastal geomorphic features and the type of rock exposed affect the rate of sand production and transport, the type of bottom, and the range of wave and current energy experienced within a given segment of coast. In addition, tidal range and the slope of the bottom influence the width of the zone in which wave energy is dissipated. Ultimately, these conditions may affect the choice of cable landing site and the methods used to prevent exposure and damage to the cable. In general, in the nearshore environment, it would be-preferable to place the cable deep enough in the sediment to avoid the erosive effects of waves and currents, and in an area with a relatively gradual slope where the potential for mass movement is low. How-

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ever, other consideration (proximity ofonshore facilities, existing uses of the seabed, public acceptance) may limit the available choices.

Further from shore, the effects of waves and currents are replaced in importance by slope, sediment thickness, and the potential for movement on active faults. The Monterey Canyon is the most prominent feature in the region, providing such a steep slope that great volumes of sand flow into it at times like an avalanche. But other, smaller canyons perform a similar sand disposal function. The choice of route should take into consideration the potential for slopes to fail, both gradually and suddenly, as when triggered by an earthquake.

MARINE WATER QUALITY AND PHYSICAL OCEANOGRAPHY

Bottom disturbance to the seabed during installation or repair activities, such as jetting bottom sediments, burying the cable with a hydroplow, or lateral drilling to install cable within the surfzone, could introduce suspended sediments or drilling fluids in the water column. Any boat or heavy equipment activity involves some degree of potential for the inadvertent introduction of contaminants, such as fuel or other compounds, into the water column,

The region of influence for the discussion of marine water quality will extend from the nearshore environment to the western offshore boundary of the project area. The marine water quality assessment will focus on describing the types of activities that could affect water quality and the range of conditions within the region of influence. In general, these impacts are expected to be less than significant, resulting in localized effects of short duration near the sea bottom that are within the range of existing conditions.

Tetra Tech will review all available data and materials, including the Applicant's constraints analysis, published data pertaining to the expected range of water quality conditions in the project area that may be affected, and data derived from comparable projects and construction methods. For example, the potential for stirring up bottom sediment will be described based on literature documenting the installation methods proposed in the alternatives. The effects of stirring up bottom sediment during cable installation or repair will be discussed in the context of the range of existing conditions, as indicated by direct measurements of turbidity or depth of light penetration. Potential for dispersion of suspended sediments will be discussed generally in terms of the amount of sediment disturbed relative to existing sediment suspending processes (trawling, wave action, inflows from streams), and the general process affecting dispersion (turbulence, grain size).

Tetra Tech will discuss spills or releases of contaminants in terms of the types, quantities, and physical and chemical properties of contaminants that might be used on the project, handling procedures, their fates in the environment, and mitigation measures used to minimize impacts, such as spill prevention control and countermeasure plans and other compliance with regulatory requirements. The potential for effects from the release of drilling fluids will be presented in the context of a brief description of pertinent aspects of the drilling process relating to the volume of a potential release, the constituents contained in the drilling fluid (pulverized rock, bentonite clay, and commercial additives, if any), anecdotal data from comparable projects, and any applicable regulatory requirements that may apply. In the absence of specific water quality standards, the significance of the effects will be presented in such a way that comparisons and inferences can be made relative to the effects on such other resources as biological and aesthetic.

The proposed fiber optic cable may have both short- and long-term biological impacts along the offshore portion of the cable route. The proposed cable will cross a wide variety of submerged habitats, including 58 miles within MBNMS jurisdiction, and will move through the continental shelf and the surf zone. Potentially affected offshore marine communities include marine benthic communities (soft- and hard-bottom infauna and epifauna), plankton, kelp, fish, marine birds, marine mammals (including the Gray whale and sea otters), and marine turtles.

Proposed project activities that could adversely affect sensitive offshore biological resources during construction, maintenance, repair, and abandonment activities include sediment jetting, drilling, work boat operations, and cable burial during construction, as well as potential disruption or damage during maintenance, repair, and abandonment activities. For example, construction activities could scour the sea bottom and disrupt sensitive biological habitats along the seabed (especially hard surface or rocky bottom habitats). In addition, release of antifouling agents used on cables, drilling fluids, and drill cuttings, as well as accidental releases of contaminants such as diesel fuel and lubricants used in construction equipment, could adversely affect marine life.

To address the full spectrum of potential impacts, Tetra Tech will describe the offshore biological resources of the cable corridor, including any known unique, fragile, or rare habitats and offshore benthic flora and fauna, and threatened or endangered species. We will describe the biodiversity of the high-relief hard-bottom habitat type that the cable will traverse, as well as the extent and nature of this habitat. Critical to this task will be the availability of the route-specific biological surveys and high resolution sidescan sonar surveys to be provided by the Applicant. Other sources to be used include the Applicant's Constraints Analysis and applicable data from agencies and organizations such as the Scripps Oceanographic Institute and State Lands Commission. Multiple phases of the proposed project, including construction, operation, maintenance, and abandonment can disturb or damage marine biological resources; impacts from each of these will be identified and evaluated in the EIR/EIS. All biological survey materials and technical background studies will be reviewed and evaluated in light of the proposed project and alternatives. The offshore biological resources evaluation also will require close coordination with other EIR/EIS sections, particularly the marine transportation and marine water quality and physical oceanography analyses.

Potential impacts during cable construction and removal activities include disturbances caused by boats anchoring, temporary increased turbidity, sediment contamination, boat and construction-related noise, discharged contaminated wastes or materials, and exotic species displacing native species. Operation, maintenance, and abandonment impacts could include: electro-magnetic radiation effects, potential entanglements with bottom-feeding Gray whales, cable conflicts with other marine species, impacts of the back and forth movement of unburied segments of the cable caused by undersea currents over rocky substrates (strumming), and any subsequent destruction of sensitive rocky substrate ecosystems. If there are identified impacts to benthic organisms or fish, secondary or indirect effects of the project, such as impacts to seabirds, also will be evaluated.

For identified potential impacts, Tetra Tech will describe mitigations, focusing on measures to reduce or minimize harm to sensitive resources, such as identifying alternative routes. The offshore biological resources analysis also will identify and describe the applicability of compliance issues related to relevant federal and state laws. This EIR/EIS also will describe processes required to resolve potential conflicts.

MARINE CULTURAL RESOURCES

The Applicant has completed some record searches for the proposed offshore route.. Tetra Tech will supplement this information by conducting additional consultation and record searches with appropriate agencies such as the State Lands Commission (using their Shipwreck Database). MBNMS, and other groups or institutions. such as the Monterey Bay Aquarium, that may know of resources near the proposed route. In addition, Tetra Tech will incorporate a literature review into the development of a historical context to examine the types of cultural resources (both historic and prehistoric) that are known to exist near the proposed cable route and to identify potential sites that may be encountered within the APE. The context will serve as the basis for site eligibility recommendations for the California Register of Historical Resources and the National Register of Historic Places.

Tetra Tech will review the high-resolution sidescan sonar survey and sub-bottom profiles to ensure that the locations of identified cultural resources are accurate so they can be avoided. We suggest a magnetometer survey be conducted simultaneously with the sonar survey to detect buried resources, such as shipwrecks. If a remote sensing survey is not feasible in areas where additional potential disturbance may occur (such as the installation of the cable into the conduit in shallow water), we suggest the area be surveyed by a qualified marine archaeologist. The marine survey data will be reviewed to determine the presence of submerged cultural resources or the potential of buried and submerged cultural resources. The results of the marine surveys pertaining to submerged cultural resources will be reported to the appropriate agencies. Construction techniques will also be addressed in the EIR/EIS, with suggestions on how to avoid accidental disturbance, such as using a remotely operated vehicle to view the seabed prior to plowing.

MARINE TRANSPORTATION

Vessels used to install the offshore cable could impede movement of commercial and recreational boats off the Santa Cruz County coast. The project area for the marine transportation analysis will extend from the coastline to the three-mile territorial limit in Monterey Bay, and the related regulatory environment will be described. If a decision is made later to expand the study area (for example, out to the western boundary of the Monterey Bay Marine Sanctuary) this scope of work may require revision. Tetra Tech's subcontractor, Eugenia Laychak, will provide expert services to evaluate potential project marine transportation impacts.

We will describe the existing conditions of the number of commercial and recreational vessels that are berthed in Monterey Bay area harbors and the volume of marine traffic accessing those harbors. Potential information sources include the Applicant's constraints analysis, as well as relevant marine traffic reports from the Moss Landing, Monterey, and Santa Cruz harbormasters' offices, US Coast Guard, and Army Corps of Engineers. Any anticipated displacement of commercial and recreational vessel berths by project work boats will be identified and the impacts will be assessed.

Tetra Tech will use information from the commercial and recreational fisheries analysis to assess project impacts on boats traversing the construction zone. As part of this analysis, we will identify, to the extent feasible, the number and type of proposed work vessels, anticipated duration of their presence, amount of area they will- occupy while they work, and traffic routes. We will pay particular attention to the potential for cable installation vessels to collide with other vessels. Limited visibility and adverse ocean conditions, combined with the slow moving work vessels, will likely pose a navigational hazard. Chances of an accident, while remote, can have great impact on the sensitive resources of the County and the Monterey Bay Marine Sanctuary. Impacts during operation, maintenance, and abandonment also will be assessed.

Based on the level of impacts, we will formulate mitigation measures, possibly including identifying work boat access corridors that avoid heavily used fishing areas, posting notices to alert boaters to construction and maintenance schedules, and using equipment and strategies to reduce navigational hazards and to respond to accidents.

COMMERCIAL AND RECREATIONAL FISHERIES

Commercial and recreational fisheries in the Monterey Bay area out to the 2,000 meter water depth (approximately 1,000 fathoms) target a variety of species with several different types of gear. Neither fish nor fishing activities are static; many fish spawning and feeding areas change from day to day and season to season. Therefore, fishing operators are very mobile as they follow the resource. Influences on fish populations include weather, ocean and seafloor conditions, natural predation, pollution, degradation of estuaries and overharvesting, and impacts of other commercial and industrial activities. All of these factors influence the health of the fishing industry,

Our subcontractor, Eugenie Laychak, will evaluate potential project impacts on commercial and recreational fisheries. This analysis will begin with a concise description of the regulatory framework for commercial and recreational fisheries and will focus on state and federal regulatory agencies.

The existing environment in the project area will be described in the context of the historical, current, and future status of the fisheries. We will describe the historical and current status of commercial fisheries using two California Department of Fish and Game (CDFG) statistical databases: 10 years (1989-1998) of reported catches from the catch blocks that the cable will be located in and 10 years of port landings (poundage and ex-vessel value) for the Monterey area ports. A ten-year database is suggested to account for annual fluctuations in fish abundance.

To determine the site-specific impacts of the cable, this data will be supplemented with existing maps of fishing activities (identified by species and fishing gear type). This data will be supplemented, when appropriate, by information from fishing experts. Agency biologists, local fishing operators and representatives, and others will likely be contacted. Fishing seasons and quotas;such as those required for groundfish, also will be described. We will include in our assessment current and future trends regarding the health of the fisheries, fish populations, and new or emerging fisheries.

Recreational fisheries will be described based on 10 years of catch block data (1989-1998) for CDFG Commercial Passenger Fishing Vessel (CPFV) catches in those catch blocks where the cable is laid. For proposed or alternative landfall sites that are on public property, shoreside fishing activities will be described, based on written sources of information, such as the California Coastal Access Guide. Fishing seasons will be noted as well. If appropriate, the information will be supplemented by RecFin data available from the Pacific States Marine Fisheries Commission, and by information obtained from area experts.

We will describe the footprint of the offshore work area, based on information developed in other sections of the EIR/EIS, along with harbor access routes of work boats. We will describe which fisheries will likely interact with the installation activities and equipment, how much of the fishing area will be affected (including buffer areas), and the amount of landings likely to be lost, focusing on sea cable and landing area construction. Impacts from potential accidents also will be assessed.

Based on information from other sections of the document, we will assess impacts to fisheries that will likely interact with the sea floor. This analysis will consider the extent of cable that will likely be

esposed and the possibility of exposed sections moving into known fishing areas. We will propose and assess different buffer areas for different fisheries for adverse impacts on fishing activities and beneficial impacts on the marine environment.

PROJECT-WIDE ENVIRONMENTAL ISSUES

SOCIOECONOMIC IMPACTS

The primary socioeconomic issues to be addressed in the EIR/EIS are the indirect economic effects the proposed project may have on the commercial fishing industry. The economic viability of the fishing industry may be jeopardized by voluntary avoidance of the project or other cable corridors. Spin-off effects from reductions in commercial fishing could adversely affect both private- and public-sector activities and resources in nearby communities that rely on this industry. Eugenie Laychak will analyze these issues, based on other sections of the EIR/EIS, including commercial and recreational fisheries, marine biological resources, and marine water quality and oceanography.

We will compare the extent of the area that would off-limits to fishing during project construction for each fishing method to the total amount of fishing area in each catch block. The result will be used to determine the potential loss in fish landings values, based on the IO-year averaged ex-vessel values for the catch block. Total economic impacts will be calculated by multiplying the ex-vessel preclusion values by economic multipliers used in previous reports. Direct (ex-vessel), indirect (calculated from an income multiplier), and induced (calculated from an output multiplier) values will be added together to generate total economic values of impacts. The number of jobs expected to be affected in all of these economic sectors also will be estimated. If multipliers for the central coast or Santa Cruz County are readily available, they will be used, if appropriate. We also will assess the effects of expected changes to the economies of Santa Cruz and Monterey counties, such as growth-inducing employment effects and decreased tax revenues due to the project's impacts on commercial fishing.

AIR QUALITY

Our air quality analysis will focus on the short-term effects related to construction vehicle and equipment emissions, such as those from the directional bore machine, supporting machinery, and rock-say trenchers, and any fugitive dust generation from onshore activities. This analysis will focus on the impact of emissions of ozone precursors, including nitrogen oxides (NO_x), reactive organic compounds (ROC), and particulate matter ($PM_{,,,}$).

In the affected environment section for air quality we will explain relevant air quality terminology, summarize relevant air quality planning and regulatory requirements, discuss federal and state air quality attainment and nonattainment designations for the project area, and summarize recent air quality monitoring data and relevant meteorological data (if dispersion modeling analyses are anticipated for impact assessment purposes).

The assessment of construction impacts will focus primarily on developing emission estimates for the proposed construction equipment. Projected emissions will be compared to the Santa Cruz County Air Pollution Control District (APCD) CEQA thresholds of 150 pounds per day of ROC and NO_x or 82 pounds per day of $PM_{,,,}$. Tetra Tech will use the CALINE4 model as an area source if dispersion modeling of construction-related emissions is necessary. Modeling will take into account the distance between any nearby sensitive receptors and proposed construction activities. Measures recommended for fugitive dust control or other requirements will be designed in consul-

tation with the Santa Cruz APCD. Regulatory evaluations for the EIR/EIS will focus on demonstrations of Clean Air Act conformity. Air quality permits are not anticipated.

ELECTROMAGNETIC RADIATION

The most significant concern related to human and ecological exposure (both onshore and offshore) to electromagnetic fields (EMF) is their potential for adverse health effects. It will be important to describe the technical aspects of EMF in clear and concise language, easily understood by the reader. Tetra Tech will review EMF research and published studies and will summarize the conclusions regarding potential health hazards and risks to plant and animal life associated with a fiber optic cable of similar size and type. In addition, Tetra Tech will calculate the probable EMF radiation produced by the cable in the project area, and compare that figure to exposures commonly experienced by people in everyday life. This will provide the public with a baseline for perceived risk from the project. This analysis will also fully describe the insulative properties of the cable conduit.

OTHER ISSUES

Tetra Tech will review the project initial study prepared by Santa Cruz County and will summarize other environmental issues that were determined to be either insignificant or mitigable to an insignificant level. This section will include the following issues: potential flooding or tidal waves, impacts to ground water, water consumption, odors, utilities and public services, parking, land use, and housing.

Because this joint document is to meet the requirements of both CEQA and NEPA, hvo other issues to be addressed in this section are derived from federal executive orders and address environmental justice (Executive Order No. 12898, Federal Actions to Address Environmental Justice in Minority and Low-income Populations) and protection of children from environmental health risks (Executive Order No. 13045, Protection of Children from Environmental Health Risks and Safety Risks).

To address environmental justice concerns, Tetra Tech will gather economic, racial, and demographic information to identify areas of low-income and high minority populations in the affected portions of Santa Cruz and Monterey counties potentially exposed to project impacts. Our analysis will assess the alternatives for disproportionate impacts resulting from construction and operation activities and will summarize all efforts undertaken to encourage community participation and input through public hearings, meetings, and public notification.

To comply with Executive Order No. 13045, Tetra Tech will identify locations with potentially high concentrations of children, such as schools, day care centers, recreation areas, and residential areas, in areas potentially exposed to project impacts. The analysis of potential risks will assess activities associated with project construction and operations for impacts that would disproportionately affect the health and safety of children.

PROJECT ALTERNATIVES

Another important aspect of the EIR/EIS process is identifying and assessing reasonable alternatives to avoid or minimize the impacts of a proposed project. Tetra Tech understands that no single factor establishes a fixed limit on the scope of reasonable alternatives, but the choice of alternatives should be guided by a variety of considerations, including site suitability, economic viability, regulatory limitations, jurisdictional boundaries, and the Applicant's control over alternative sites. Using our familiarity with CEQA and NEPA and our knowledge of the technical aspects of the project, we will define and analyze six alternatives for the proposed project, including the proposed project and

the required No Action Alternative. These alternatives will be required to meet most of the basic project objectives and to avoid or substantially lessen any of the project's significant environmental impacts. Our identification of alternatives also will include explanations of why other alternatives have been rejected from further evaluation.

The RFP has identified two specific project alternatives that will be evaluated-the North Coast Landing and Combined Landfall alternatives. The North Coast Landing Alternative would involve moving the landfall area to near the community of Davenport on the north coast of Santa Cruz County. This alternative was identified by the MBNMS in its May 3, 1999, comment letter in response to the County of Santa Cruz notice of preparation to prepare an EIR. According to MBNMS, this alternative would minimize the amount of cable within the sanctuary boundaries and could facilitate construction because, compared to the proposed route, the cable would traverse a more gradual slope along the sea bottom.

The Combined Landfall Alternative would combine into a common location the proposed landfall location at the Monterey Bay Academy and the Global Photon Fiber Optic Project landfall a few miles north at La Selva Beach. Tetra Tech is uniquely qualified to assist the County and MBNMS to identify a common location for the landfall site because of our involvement as third-party reviewers under contract with the State Lands Commission to review the 50% Administrative Draft EIR for the Global West Fiber Optic Cable Project. We understand the physical and environmental opportunities and constraints available along the Santa Cruz coastline and will apply this knowledge to identify this and other appropriate alternative landfall locations. Other possible alternatives include an alternative that would reroute the cable to minimize impacts to fisheries and an alternative to minimize encroachment on the hard bottom substrate.

CEQA requires an EIR to evaluate alternatives in lesser detail than under NEPA, where the degree of analysis devoted to each alternative must be substantially similar to that devoted to the proposed action. For the proposed EIR/EIS, the level of detail of the alternatives analysis will depend on the availability of reliable data and information for routes far outside the geographic range of the proposed project, but will be sufficient enough to meet the requirements of NEPA. NEPA also requires that the range of alternatives be comparatively analyzed; to meet that end, Tetra Tech will prepare a matrix table that summarizes significant environmental impacts and mitigations for the identified alternatives.

CUMULATIVE EFFECTS

As required by both CEQA and NEPA, Tetra Tech's EIR/EIS will include a discussion of cumulative environmental impacts associated with the project in conjunction with other closely related past, present, and reasonably foreseeable future projects. We will contact representatives of Santa Cruz and Monterey counties and the city of Watsonville to identify potential onshore projects to include as part of this cumulative analysis. For example, Tetra Tech is aware of recently completed and currently ongoing office and hotel development along West Beach Street in Watsonville, north of the proposed onshore cable route. We will also consult with the Applicant to identify other recently completed and proposed fiber optic cable projects along the California coast, such as the Global West Fiber Optic Cable Project. We will identify potential cumulative impacts for each resource category and for each potential cumulative impact, its severity, and likelihood of occurrence.

GROWTH INDUCEMENT

Analysis of growth-inducing effects includes those characteristics of the action that may encourage and facilitate activities that would either individually or cumulatively affect the environment. For example, improving access routes may encourage growth in previously undeveloped areas.

The analysis of potential growth inducement impacts will focus on the indirect effects of the projected work force required to implement and operate the project in the context of the available labor pool. The objective of this analysis will be to determine if the required work force would exceed the labor supply, thereby generating in-migration of workers. Another factor that we will consider is the extent that the project would generate demand for increased additional telecommunication services.

MITIGATION MONITORING

The CEQA guidelines provide a mechanism to ensure that mitigation measures and project revisions adopted through the CEQA process are implemented in a timely manner and in accordance with the terms of the project approval.. Tetra Tech will prepare a mitigation monitoring and reporting program (MMRP) in accordance with CEQA guidelines and NEPA practices after the final EIR/EIS is completed (see tasks 7 through 9 below). Monitoring is suited to complex mitigation measures that may exceed the expertise of the local overseeing agency, that are expected to be implemented over a long period, or that require careful implementation to assure compliance. Monitoring ensures that project compliance is checked regularly during and, if necessary, after implementation. Reporting is suited to mitigation measures that are readily measurable or quantifiable or that involve regular review. Reporting ensures that the approving agency is informed of compliance with mitigation requirements.

The first step in preparing the MMRP will be to organize all of the mitigation measures in the EIR/EIS into a table format. The MMRP will be organized by environmental issue area and will include only those impacts for which mitigation has been identified. The intent of formatting the MMRP as a table is to provide the reader with a concise and quick summary of the measures to be implemented, agencies involved, timing of implementation, and frequency of monitoring.

After developing the draft plan and identifying the monitoring procedures and actions, Tetra Tech will coordinate with the County, MBNMS, and responsible agencies to identify and assign responsibility for each of the monitoring and reporting actions. Coordination with these agencies will ensure that all parties involved are fully aware of their respective responsibilities up front and that agencies have an opportunity to provide input into the MMRP development process to ensure that the MMRP is a valuable and user-friendly stand-alone document.

Subfask 1e. Other Required Sections

Tetra Tech will consult with the County and MBNMS regarding any agency-specific requirements for content and organization of the EIR/EIS to ensure that this joint document meets the lead agencies' needs and expectations. We propose that, in addition to chapters that address project purpose and need, project description and alternatives, environmental setting, and environmental consequences, the EIR/EIS include 'an abstract, list of acronyms, introduction, list of agency contacts, references, list of preparers, glossary of defined technical terms, index, and applicable appendices. To enhance overall document readability, highly detailed information and technical data will be summarized in the applicable EIR/EIS section(s) and included in full in an appendix. We anticipate that the appendices will include copies of responses to the notice of preparation, detailed maps

of the proposed onshore and offshore cable route, including detailed surveys of undersea topography and sediment substrate depths, and any modeling data from the air quality and noise analyses.

Subtask 1f. Coordination

Tetra Tech understands that preparing a combined EIR/EIS requires the close coordination and cooperation of the involved local, state, and federal agencies. We recognize that effective communication and coordination among the project team and the County, MBNMS, California Coastal Commission, and State Lands Commission is a critical element throughout the entire project. Tetra Tech's proposed management system for this project will establish clearly defined communication lines with the County and MBNMS and within the project team and will provide continuous feedback to the County and MBNMS throughout the project. The benefits to this approach are that mutual expectations are clearly understood, potential for delays are minimized, and the team assumes the role of a proactive partner with the County and MBNMS in completing its environmental documentation.

Tetra Tech believes that regular communication is essential to the successful completion of the project. Electronic mail services are available at Tetra Tech for instantaneous exchange of written information and computer files. These'capabilities are available to all Tetra Tech team members to ensure rapid communications while maintaining information consistency and integrity. Tetra Tech's management team also will be available to attend meetings with the County, MBNMS, and other invited attendees to review work in progress and identify opportunities to expedite the completion schedule (also, please see Task IO).

Tetra Tech will coordinate with the Applicant's agent, North State Resources, as necessary, if there are concerns or questions on technical matters, such as data from the Applicant's constraints analysis or any of the undersea surveys provided for this analysis. However, Tetra Tech understands that in performing this scope of work, our ultimate responsibility is to the County and the MBNMS. Therefore, requests for consultation with the Applicant or its project team will first be cleared through the County and MBNMS, and written confirmation of all information requests and communications will be sent to the County and MBNMS to ensure that they are clearly informed of our efforts.

Subtask 1g. Report Preparation

The administrative draft EIR/EIS and all subsequent submittals will be prepared in compliance with County specifications. Tetra Tech's document production department can prepare the EIIUEIS in WordPerfect, as well as in a format compatible for posting on the County of Santa Cruz's intemet web site. Electronic, intemet-ready versions of the draft EIIUEIS and final EIREIS will be e-mailed directly to the County.

TASK 2. SCREEN CHECK DRAFT EIR/EIS

After the working group reviews the administrative draft EIIUEIS, Tetra Tech will review all comments and will revise the EIR EIS. We 'will then submit two screen check copies of the draft EIR/EIS for final review.

TASK 3. DRAFT EIR/EIS

Comments on the screen check draft EIIUEIS review will be incorporated into a draft EIIUEIS. It is anticipated that by this stage of the process, any necessary revisions will be fairly minor and easily resolved. During preparation of the draft EIR/EIS, Tetra Tech will consult with the County

and other applicable agencies via telephone to discuss any necessary revisions to the EIR/EIS. Tetra Tech's project team will arrange for printing and delivering 50 copies of the draft EIR/EIS to the County.

TASK 4. ADMINISTRATIVE FINAL EIR/EIS

A major issue associated with the preparation of the final EIR/EIS is to clearly demonstrate fair and reasoned consideration of the comments received on the draft EIR/EIS. This will be documented through a detailed summary of the comments on the draft EIR/EIS and responses to those comments. The Tetra Tech project team will read, categorize, and analyze comments received on the draft EIR/EIS during and immediately after the public comment period. A public comment database will provide the basis for the comment management system used for managing issues and responses during this public review. Tetra Tech will draft responses to all public comments for the County and MBNMS's consideration and use in the final EIR/EIS and will enter the information into the electronic database system.

Our experience in responding to public comments on CEQA/NEPA evaluations suggests that standardized responses can be prepared.for many comments, which will address issues that are beyond the scope of the EIR/EIS. Other comments, particularly those from state and other federal agencies, are likely to require close interaction among Tetra Tech, the County, and MBNMS in preparing appropriate responses.

The administrative final EIR/EIS will include the following sections: a summary of the major changes to the draft EIR/EIS that appear in the final document, annotation of the final EIR/EIS to indicate where changes have been made, and an appendix or a separate volume to the final EIR/EIS to include the comments received and responses. Eight copies of the administrative final EIR/EIS will be prepared and submitted to the County for distribution to the working group for review and comment.

TASK 5. SCREEN CHECK FINAL EIR/EIS

Similar to procedures described above for Task 2, Tetra Tech will revise the final EIR/EIS based on working group review comments. We will then submit two screen check copies of the final EIR/EIS for final review and comment.

TASK 6. FINAL EIR/EIS

Comments on the screen check final EIR/EIS review will be incorporated into a final EIIUEIS. Tetra Tech will consult with the County and other applicable agencies via telephone to discuss any necessary revisions to the EIIUEIS. The Tetra Tech project team will deliver 40 copies of the final EIR/EIS to the County.

TASK 7. ADMINISTRATIVE DRAFT MITIGATION MONITORING AND REPORTING PROGRAM

After the final EIR/EIS is complete and submitted, Tetra Tech will prepare an administrative draft MMRP for the County (see discussion above under Task 1 for the proposed MMRP scope of work). The administrative draft EIR/EIS will rely on the mitigation measures identified in the final EIR. Tetra Tech will submit eight copies of the administrative draft MMRP to the County.

ATTACHMENT 2, 1

TASK 8. SCREEN CHECK MITIGATION MONITORING AND REPORTING PROGRAM

Similar to procedures described above for tasks 2 and 5, Tetra Tech will revise the MMRP based on review comments. We will then submit two screen check copies of the final MMRP for final review and comment.

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TASK 9. FINAL MITIGATION MONITORING AND REPORTING PROGRAM

Any comments on the screen check final MMRP review will be incorporated into a final MMRP. Tetra Tech will deliver 40 copies of the final MMRP to the County in time for its first public hearing for approval of the project.

TASK 10. MEETINGS AND PUBLIC HEARINGS

Tetra Tech's Project Manager and Deputy Project Manager, Terry Witherspoon and Kathleen Kefauver, will attend up to six meetings with County and MBNMS staff during the course of preparing the EIR/EIS, inclusive of any progress meetings identified in Subtask If. Key project team members also will be available for these six meetings. The first meeting will be to obtain baseline data and to finalize the EIR/EIS scope and schedule. Tetra Tech proposes that Ms. Witherspoon and the project team attend a kick-off meeting as early in the schedule as possible with County and MBNMS staff to orient and guide the team on this project. Other meetings are anticipated to refine the project description and to define project alternatives, to review work in progress and comments on the administrative draft EIR/EIS, and to strategize on responses to comments on the draft EIR/EIS. Tetra Tech will prepare minutes of each meeting. In addition, Ms. Witherspoon, Ms. Kefauver, and other applicable key EIR/EIS team members will attend up to four public hearings on the project.

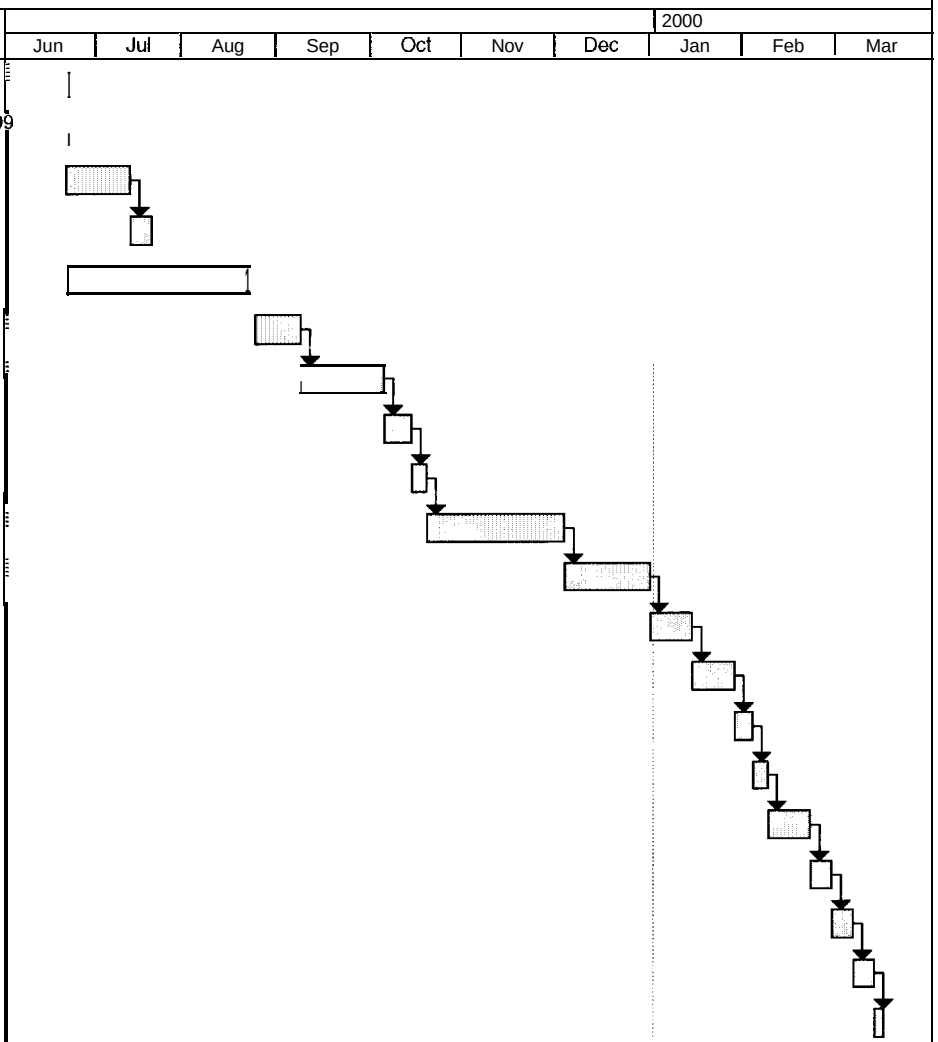
SCHEDULE

Tetra Tech recognizes the County's need to expeditiously prepare a thorough and adequate EIR/EIS, starting with submittal of the administrative draft EIR/EIS by mid-August. We feel that the timely completion and availability of undersea surveys and background technical reports prior to contract award will enable us to meet this aggressive schedule. In addition, it will be imperative that we define and finalize the proposed project and alternatives as early in the schedule as possible. Our proposed schedule assumes that the project and alternatives will be defined and finalized within two weeks of contract award. Although we recognize that alternatives can develop during preparation of the environmental document, any substantive changes to the proposed project and alternatives after week two may affect the overall project schedule as well as costs.

Tetra Tech has an excellent understanding of what is required in terms of critical and support disciplines derived from our long history of preparing environmental compliance documentation. The Tetra Tech team has the technical capability and ample capacity to devote to this project. We also have developed strong project management procedures designed to respond to strict agency schedules. Tetra Tech's Project Manager, Ms. Terry Witherspoon, will be responsible for ensuring completion of all tasks within the agreed upon schedule. Our proposed schedule for the entire project (tasks 1 through 10), is shown in the figure on the following page.

EIR/EIS - MCI Worldcom Transpacific Fiber Optic Cable

ID	Task Name	Duration	Start	Finish
1	Notification of contract award	1 day	Tue 6/22/99	Tue 6/22/99
2	Notice to proceed	1 day	Tue 6/22/99	Tue 6/22/99
3	**New Task Dratt Project Description and Alternatives**	21 days	Tue 6/22/99	Mon 7/1 2199
4	Client Review	**7** days	Tue 7/13/99	Mon 7/19/99
5	**Task 1: Administrative Draft EIR/EIS**	60 days	Tue 6/22/99	Fri 8/20/99
6	Client Review	**15** days	Mon 8/23/99	Mon 9/6/99
7	**Task 2: Screen Check Dratt EIR/EIS**	**28** days	Tue 9/7/99	Mon 1 0/4/99
8	Client Review	9 days	Tue 1 0/5/99	Wed 1 O/l 3/99
9	**Task 3: Dratt EIR/EIS**	**5** days	Thu 1 0/14/99	Mon 1 O/l 8/99
10	Public Review	**45** days	Tue 10/19/99	Thu 12/2/99
11	**Task4: Administrative Final EIR/EIS**	**28** days	Fri 12/3/99	Thu 12/30/99
12	Client Review	14 days	Fri 12/31/99	Thu 1 /13/00
13	**Task 5: Screen Check Final EIR/EIS**	14 days	Fri 1 /14/00	Thu 1/27/00
14	Client Review and Approval to Publish Final EIR/EIS	**6** days	Fri 1/28/00	Wed 2/2/00
15	**Task 6: Final EIR/EIS**	**5** days	Thu 2/3/00	Mon 2/7/00
16	**Task 7: Dratt Mitigation Monitoring and Reporting Program**	14 days	Tue 2/8/00	Mon 2/21/00
17	Client Review	**7** days	Tue 2/22/00	Mon 2/28/00
18	**Task 6: Screen Check Mitigation Monitoring and Reporting Program**	**7** days	Tue 2/29/00	Mon 3/6/00
19	Client Review	**7** days	Tue 3/7/00	Mon 3/13/00
20	**Task 9: Final Mltigatlon Monitoring and Reporting Program**	**3** days	Tue 3/1 4/00	Thu 3/16/00
21	**Task 10: Meetings and Public Hearings (to be arranged)**			



EIR/EIS Project Schedule

Tetra Tech, Inc. (1-877-Go-Tetra)

Task
Split
Progress
Milestone
Summary
Rolled Up Task
Rolled Up Split
Rolled Up Milestone
Rolled Up Progress
External Tasks
Project Summary

Page 1

ATTACHMENT 2.

EXHIBIT B

ATTACHMENT 21

COST

The following is a summary of our cost estimate broken down by task. A detailed cost estimate by task is found on the following page.

Summary by Task	
Task 1: Administratiw Draft EIR/EIS	***$158,790***
Task 2: Screen Check Draft EIR/EIS	$36,110
Task 3: Draft EIR/EIS	$7,782
Task 4: Administrative Final EIR/EIS	$36,656
Task 5: Screen Check Final EIR/EIS	$10,582
Task 6: Final EIR/EIS	$7,894
Task 7: Draft Mitigation Monitoring and Reporting Program	$6,022
Task 8: Screen Check Mitigation Monitoring and Reporting Program	$2,423
Task 9: Final Mitigation Monitoring and Reporting Program	$943
Task 10: Meetings	$37,752
	$304.9541

COST ASSUMPTIONS

1. Schedule will remain the same as presented in the RFP and technical approach. Any change in schedule, either longer or shorter, will increase costs.

2. The proposed project and alternatives will be defined and finalized within two weeks of contract award and there will be no subsequent substantive changes to them.

3. Tetra Tech will rely on undersea surveys provided by the Applicant and will not conduct any surveys of the offshore portions of the proposed cable route or any project alternatives.

4. The Project Manager, Deputy Project Manager, and three key project staff will attend six meetings and four public hearings.

5. Printing costs are based on the following assumptions:

Administrative Draft EIR/EIS: 8 copies (500 pages, 12 color graphics)
Screen Check EIR/EIS: 2 copies
Draft EIR/EIS: 50 copies

Administrative Final EIR/EIS: 8 copies (600 pages, 12 color graphics)
Screen Check EIR/EIS: 2 copies
Final EIR/EIS: 40 copies

Administrative Draft Mitigation Monitoring and Reporting Program: 8 copies (25 pages)
Screen Check Mitigation Monitoring and Reporting Program: 2 copies (25 pages)
Final Mitigation Monitoring and Reporting Program: 40 copies (25 pages)

6. Does not include costs for distributing/mailing the draft and final EIR/EIS to the public.

7. Meeting and public hearing costs do not include costs for advertising (e.g., newspaper notices) or for court reporting services.

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Task 1: Administrative Draft **EIR/EIS**			
Labor	Hours	Unit Price	Total
Principal	24	$125.00	$3,000.00
Project Management	160	$100.00	$16,000.00
Senior Scientist / Engineer	400	$90.00	$36,000.00
Staff Scientist / Engineer	750	$79.00	$59,250.00
Associate Scientist / Engineer	400	$68.00	$27,200.00
GIS	0	$60.00	$0.00
CADD / Drafting	64	$55.00	$3,520.00
Word Processing	120	$45.00	$5,400.00
Administrative	16	$40.00	$640.00
Labor Subtotal			$151,010.00
Other Direct Costs			
Reproduction			
b&w	4000	$0.06	$240.00
color	96	$1 .00	$96.00
Computer	240	$7.50	$1,800.00
Travel			$500.00
Telephone / Facsimiles			
Mailing (per document)			
US Mail	0	$4.00	$0.00
Express Mail	8	$18.00	$144.00
ODC Subtotal			$2,780.00
Subcontractors			
EJL & Associates			$3,000.00
Alvin Franks Associates			$2,000.00
Subcontractors Subtotal			$5,000.00
Task Total			**$158,790.00**

Task 2: Screen Check Draft **EIR/EIS**			
Labor	Hours	Unit Price	Total
Principal	*12*	*$125.00*	$1,500.00
Project Management	*80*	*$100.00*	$8,000.00
Senior Scientist / Engineer	*80*	*$90.00*	$7,200.00
Staff Scientist / Engineer	*120*	*$79.00*	$9,480.00
Associate Scientist / Engineer	*40*	*$68.00*	$2,720.00
GIS	*0*	*$60.00*	*$0.00*
CADD / Drafting	*24*	*$55.00*	$1,320.00
Word Processing	*56*	*$45.00*	$2,520.00
Administrative	*16*	*$40.00*	*$640.00*
Labor Subtotal			$33,380.00
Other Direct Costs			
Reproduction			
b&w	*1000*	*$0.06*	*$60.00*
color	*24*	$1.00	*$24.00*
Computer	*80*	*$7.50*	*$600.00*
Travel			*$10.00*
Telephone / Facsimiles			
Mailing (per document)			
US Mail	*0*	*$4.00*	*$0.00*
Express Mail	*2*	*$18.00*	*$36.00*
ODC Subtotal			*$730.00*
Subcontractors			
EJL & Associates			*$1,000.00*
Alvin Franks Associates			*$1,000.00*
Subcontractor Subtotal			$2,000.00
Task Total			$36,110.00

Task 3: Draft EIR/EIS			
Labor	Hours	Unit Price	Total
Principal	0	$125.00	$0.00
Project Management	24	$100.00	$2,400.00
Senior Scientist / Engineer	4	$90.00	$360.00
Staff Scientist / Engineer	0	$79.00	$0.00
Associate Scientist / Engineer	24	$68.00	$1,632.00
GIS	0	$60.00	$0.00
CADD / Drafting	0	$55.00	$0.00
Word Processing	4	$45.00	$180.00
Administrative	16	$40.00	$640.00
Labor Subtotal			$5,212.00
Other Direct Costs			
Reproduction			
b&w	25000	$0.06	$1,500.00
color	600	$1 .oo	$600.00
Computer	16	$7.50	$120.00
Travel			$10.00
Telephone / Facsimiles			
Mailing (per document)			
US Mail	40	$4.00	$160.00
Express Mail	10	$18.00	$180.00
ODC Subtotal			$2,570.00
Subcontractors			
EJL & Associates			$0.00
Alvin Franks Associates			$0.00
Subcontractor Subtotal			$0.00
Task Total			**$7,782.00**

Task 4: Administrative Final EIR/EIS			
Labor	Hours	Unit Price	Total
Principal	8	$125.00	$1 ,000.00
Project Management	80	$100.00	$8,000.00
Senior Scientist / Engineer	84	$90.00	$7,560.00
Staff Scientist / Engineer	96	$79.00	$7,584.00
Associate Scientist / Engineer	40	$68.00	$2,720.00
GIS	0	$60.00	$0.00
CADD / Drafting	24	$55.00	$1,320.00
Word Processing	40	$45.00	$1,800.00
Administrative	16	$40.00	$640.00
Labor Subtotal			$30,624.00
Other Direct Costs			
Reproduction			
b&w	7200	$0.06	$432.00
color	96	$1 .00	$96.00
Computer	180	$7.50	$1,350.00
Travel			$10.00
Telephone / Facsimiles			
Mailing (per document)			
US Mail	0	$4.00	$0.00
Express Mail	8	$18.00	$144.00
ODC Subtotal			$2,032.00
Subcontractors			
EJL &Associates			$2,000.00
Alvin Franks Associates			$2,000.00
Subcontractor Subtotal			$4,000.00
Task Total			**$36,656.00**

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Task 5: Screen Check Final EIR/EIS				
Labor		Hours	Unit Price	Total
Principal		4	$125.00	$500.00
Project Management		32	$100.00	$3.200.00
Senior Scientist / Engineer		4	$90.00	$360.00
Staff Scientist / Engineer		32	$79.00	$2,528.00
Associate Scientist / Engineer		24	$68.00	$1,632.00
GIS		0	$60.00	$0.00
CADD / Drafting		8	$55.00	$440.00
Nord Processing		24	$45.00	$1,080.00
Administrative		16	$40.00	$640.00
Labor Subtotal				$10,380.00
Other Direct Costs				
Reproduction				
	b&w	1200	$0.06	$72.00
	color	24	$1.00	$24.00
Computer		8	$7.50	$60.00
Travel				$10.00
Telephone / Facsimiles				
Mailing (per document)				
	US Mail	0	$4.00	$0.00
	Express Mail	2	$18.00	$36.00
ODC Subtotal				$202.00
Subcontractors				
	EJL & Associates			so.oc
	Alvin Franks Associates			so.oc
Subcon tractor ***Sub total***				$0.00
Task Total				$10,582.00

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Task 6: Final EIR/EIS			
Labor	Hours	Unit Price	Total
Principal	0	$125.00	$0.00
Project Management	24	$100.00	$2,400.00
Senior Scientist / Engineer	2	$90.00	$180.00
Staff Scientist / Engineer	0	$79.00	$0.00
Associate Scientist / Engineer	24	$68.00	$1,632.00
GIS	0	$60.00	$0.00
CADD / Drafting	0	$55.00	$0.00
Word Processing	16	$45.00	$720.00
Administrative	16	$40.00	$640.00
Labor Subtotal			$5,572.00
Other Direct Costs			
Reproduction			
b&w	24000	$0.06	$1,440.00
color	480	$1.00	$480.00
Computer	16	$7.50	$120.00
Travel			$10.00
Telephone / Facsimiles			
Mailing (per document)			
US Mail	32	$4.00	$128.00
Express Mail	8	$18.00	$144.00
ODC Subtotal			$2,322.00
Subcontractors			
EJL & Associates			$0.00
Alvin Franks Associates			$0.00
Subcontractor Subtotal			$0.00
Task Total			$7.894.00

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Task 7: Draft Mitigation Monitoring and Reporting Program			
Labor	Hours	Unit Price	Total
Principal	0	$125.00	$0.00
Project Management	8	$100.00	$800.00
Senior Scientist / Engineer	16	$90.00	$1,440.00
Staff Scientist / Engineer	40	$79.00	$3,160.00
Associate Scientist / Engineer	0	$68.00	$0.00
GIS	0	$60.00	$0.00
CADD / Drafting	4	$55.00	$220.00
Word Processing	4	$45.00	$180.00
Administrative	0	$40.00	$0.00
Labor ***Subtotal***			$5,800.00
Other Direct Costs			
Reproduction			
b&w	200	$0.06	$12.00
color	0	$1 .oo	$0.00
computer	16	$7.50	$120.00
Travel			$10.00
Telephone / Facsimiles			
Mailing (per document)			
US Mail	0	$4.00	$0.00
Express Mail	8	$10.00	$80.00
ODC Subtotal			$222.00
Subcontractors			
EJL & Associates			$0.00
Alvin Franks Associates			$0.00
Subcontractor Subtotal			$0.00
Task Total			$6,022.00

(712

Task 8: Screen Check Mitigation Monitoring and Reporting Program			
Labor	Hours	Unit Price	Total
Principal	0	$125.00	$0.00
Project Management	8	$100.00	$800.00
Senior Scientist / Engineer	16	$90.00	$1,440.00
Staff Scientist / Engineer	0	$79.00	$0.00
Associate Scientist / Engineer	0	$68.00	$0.00
GIS	0	$60.00	$0.00
CADD / Drafting	0	$55.00	$0.00
Word Processing	2	$45.00	$90.00
Administrative	0	$40.00	$0.00
Labor Subtotal			$2,330.00
Other Direct Costs			
Reproduction			
b&w	50	$0.06	$3.00
color	0	$1 .oo	$0.00
Computer	8	$7.50	$60.00
Travel			$10.00
Telephone / Facsimiles			
Mailing (per document)			
US Mail	0	$4.00	$0.00
Express Mail	2	$10.00	$20.00
ODC Subtotal			$93.00
Subcontractors			
EJL & Associates			$0.00
Alvin Franks Associates			$0.00
Subcontractor Subtotal			$0.00
Task Total			$2,423.00

(713

Task 9: Final Mitigation Monitoring and Reporting Program			
Labor	Hours	Unit Price	Total
Principal	0	$125.00	$0.00
Project Management	2	$100.00	$200.00
Senior Scientist / Engineer	4	$90.00	$360.00
Staff Scientist / Engineer	0	$79.00	$0.00
Associate Scientist / Engineer	0	$68.00	$0.00
GIS	0	$60.00	$0.00
CADD / Drafting	0	$55.00	$0.00
Word Processing	2	$45.00	$90.00
Administrative	0	$40.00	$0.00
Labor Subtotal			$650.00
Other Direct Costs			
Reproduction			
b&w	1000	$0.06	$60.00
color	0	$1 .oo	$0.00
Computer	2	$7.50	$15.00
Travel			$10.00
Telephone / Facsimiles			
Mailing (per document)			
US Mail	32	$4.00	$128.00
Express Mail	8	$10.00	$80.00
ODC Subtotal			$293.00
Subcontractors			
EJL & Associates			***$0.00***
Alvin Franks Associates			***$0.00***
Subcontractor Subtotal			***$0.00***
Task Total			$943.001

(714

Task 10: Meetings			
Labor	Hours	Unit Price	Total
Principal	0	$125.00	$0.00
Project Management	160	$100.00	$16,000.00
Senior Scientist / Engineer	224	$90.00	$20,160.00
Staff Scientist / Engineer	0	$79.00	$0.00
Associate Scientist / Engineer	0	$68.00	$0.00
GIS	0	$60.00	$0.00
CADD / Drafting	0	$55.00	$0.00
Word Processing	0	$45.00	$0.00
Administrative	0	$40.00	$0.00
Labor ***Subtotal***			$36,160.00
Other Direct Costs			
Reproduction			
b&w	0	$0.06	$0.00
color	0	$1.00	$0.00
Computer	0	$7.50	$0.00
Travel			$0.00
Mileage			$992.00
Per Diem			$600.00
Telephone / Facsimiles			
Mailing (per document)			
US Mail	0	$4.00	$0.00
Express Mail	0	$18.00	$0.00
ODC Subtotal			$1,592.00
Subcontractors			
EJL & Associates			$0.00
Alvin Franks Associates			$0.00
Subcontractor Subtotal			$0.00
Task Total			$37,752.00

EXHIBIT C

EXHIBIT C

INSURANCE

Consultant agrees that it now carries and will maintain in force, at its sole cost, during the performance of this Agreement as specified as follows:

a. Worker's Compensation - statutory limits and Employer's Liability - $1 ,OOO,OOO per occurrence.

b. General Liability - $1 ,OOO,OOO per occurrence $2,000,000 aggregate. This coverage shall include comprehensive form, premises, operations, XCU (underground, explosion and collapse hazard), products/completed operations, broad form contractual liability, independent contractors, property damage and personal injury.

c. Automobile Liability for owned, non-owned or hired vehicles - $1 ,000,000 per occurrence and $1 ,OOO,OOO aggregate. If work requires hauling or transportation of solid or hazardous waste, this policy shall include an MCS-90 Endorsement, which shall be reflected on the corresponding Certificate of Insurance.

d. Pollution Liability Insurance - $1 ,OOO,OOO per occurrence covering claims, damages and liabilities arising out of, or resulting from, contractor,s negligent acts, errors and omissions.

e. Consultant shall maintain insurance to cover loss or damage to equipment, materials and/or tools that are owned, leased or rented by , or for which consultant has responsibility.

f. All policies shall:

1. Include Tetra Tech, Inc. and its client as Additional lnsureds via endorsement (under b,c,d, and e above);

2. Contain a waiver of subrogation in favor of Tetra Tech, inc. and its client (under a,b,c,d,e, and f above);

3. Be primary coverage to any other insurance maintained by Tetra Tech, Inc. or its client;

4. Contain a severability of interest or cross liability provision; and

5. Provide 30 days advance notice to Tetra Tech, Inc. in the event of any non-renewal, cancellation, restriction or modification of insurance.

g. Subcontractors to the consultant, other than sole proprietorships, shall provide Tetra Tech, Inc. with certificates of insurance with coverages equal to those shown (under a,b,c,e and f) above or satisfactory evidence of the above stated coverages prior to commencement of the work. Sole proprietorships subcontracting with the consultant, which use only personal vehicles for the transportation of the individual subconsultant must have general liability automobile insurance coverage in the minimum amount of $1 ,000,000 combined single limit per accident. Obtaining and maintaining the above coverages and providing certificates of such insurance are conditions precedent to Tetra Tech. Inc.'s obligation to pay the subcontractor. In the event the subcontractor is unable to furnish said bonds, this agreement may be terminated for default at Tetra Tech Inc.'s sole discretion.

COUNTY OF SANTA CRUZ

REQUEST FOR APPROVAL OF AGREEMENT

ATTACHMENT 4 719

TO: Boord of Supervisors
'County Administrative Officer
County Counsel
Auditor-Controller

FROM: Planning (Dept.)
(Signature) 6/15/99 (Date)

The Board of Supervisors is hereby requested to approve the attached agreement and authorize the execution of the same.

1. Said agreement is between the County of Santa Cruz Planning Department -(Agency)
and TetraTech, 180 Howard Street, San Francisco, CA 94105 (Name & Address)
2. The agreement will provide a scope of work for the preparation of a joint Environmental Impact Report/ Environmental Impact Statement (EIR/EIS) for the MCI/WorldCom Trans-Pacific and onshore fiber optic cable project.
3. The agreement is needed to define the scope of work and responsibilities of the consultant in preparation of the EIR/EIS.
4. Period of the agreement is from June 22, 1999 to June 30, 2000
5. Anticipated cost is $ 304,954. (Fixed amount; ~~Monthly rate, Not to exceed~~)
6. Remarks:, Cost paid by applicant. No cost to County.
7. Appropriations are budgeted in 135454 (Index#) 3655 (Subobject)

NOTE: IF APPROPRIATIONS ARE INSUFFICIENT, ATTACH COMPLETED FORM AUD-74

Appropriations ~~are~~ available and ~~have been~~ will be encumbered.* Contract No. 91872 Date 6/15/99

* SUBJECT TO APPROVAL OF THE 1999 - 2000 BUDGET

GARY A. KNUTSON, Auditor - Controller
By Ronald J. Silva Deputy.

Proposal reviewed and approved. It is recommended that the Board of Supervisors approve the agreement and authorize the Planning Director to execute the same on behalf of the Planning Department (Agency).

Remarks:

(Analyst)

County Administrative Officer
By Date 6/15/

Agreement approved as to form. Date

Distribution:
Bd. of Supv. - White
Auditor-Controller - Blue
County Counsel - Green *
Co. Admin. Officer - Conary
Auditor-Controller - Pink
Originating Dept. - Goldenrod

'To Orig. Dept. if rejected.

ADM - 29 (6/95)

State of California)
County of Santa Cruz) ss

I _____ ex-officio Clerk of the Board of Supervisors of the County of Santa Cruz, State of California, do hereby certify that the foregoing request for approval of agreement was approved by said Board of Supervisors as recommended by the County Administrative Officer by an order duly entered in the minutes of said Board on _____ 19 _ _

County Administrative Officer
By _____ Deputy Clerk