EXHIBIT A:
SECTION 1 – INTRODUCTION

We are pleased for the opportunity to submit a proposal to the San Mateo County Parks Department providing final design and permitting services for the 0.25 mile multi-use segment of the California Coastal Trail from the Fitzgerald Marine Reserve Visitor Center to the intersection of California Ave and North Lake Street, including a free span bridge crossing over Vicente Creek. In addition we will improve to ADA requirements (to the extent reasonably possible) the existing ramp to the beach, and crossing of San Vicente Creek at the main entrance of the reef. We look forward to working with the County of San Mateo to make this a successful project.

Design Team

WRA will be the prime consultant for the project and will be responsible for the overall work production and delivery of work products. WRA has engaged several subconsultants to assist us in the work production. Each of these parties will enter a subconsultant agreement with WRA to perform specific tasks and prepare specific work products.

We have brought together an interdisciplinary Design Team with the expertise required to complete a successful project. In addition, the Design Team is very familiar with conditions that are relevant to the Moss Beach area. Team members include firms with a broad range of both local and technical experience that will greatly benefit the project. The table below introduces the Design Team as well as lists roles and responsibilities of the prime consultant and each of the sub-consultants.

Prime Consultant	*Roles/Responsibilities*
WRA, Inc.	Project management Biological assessment Trail design Wetland/riparian delineation Regulatory permit applications Site plan Site grading and drainage Landscape design and irrigation
Sub-consultants	*Roles/Responsibilities*
Kamman Hydrology & Engineering	Hydrologic modeling
Miller Pacific Engineering Group	Geotechnical evaluation and design Civil engineering
Wilsey Ham	Civil surveying
Basin Research Associates	Archaeology

The following list summarizes the specialized expertise and experience that our team brings to the project.

- WRA, Inc. (WRA) landscape architects specialize in providing public access within and around sensitive habitats. We have experience working with engineers to incorporate bridges, boardwalks and other structures that facilitate access in challenging locations. Our biologists and permit specialists have comprehensive knowledge of coastal flora and fauna and have successfully acquired permits from the California Coastal Commission, U.S. Army Corps of Engineers, Regional Water Quality Control Board, and California Department of Fish and Game in the San Mateo County coast region.
- Kamman Hydrology & Engineering, Inc. (KHE) specializes in the analysis and restoration of coastal streams in northern California and has experience providing hydrological data to guide the construction of bridges without adversely impacting stream flow in flood conditions.
- Miller Pacific Engineering Group, Inc. (MPE) specializes in coastal engineering and has extensive experience designing foundations in areas with coastal soils.
- Basin Research Associates, Inc. (BASIN) archaeologists are familiar with the area's cultural resources and are well-informed of the processes involved in working with the State of California and the federal government on cultural resource issues.

Planning and Design Guidelines

In addition to the Request for Proposal, we will use the following planning documents as guidelines for the project:

- Fitzgerald Marine Reserve Master Plan
- San Mateo County Trail Plan Design
- California Coastal Conservancy's 'Standards and Recommendations for Access Way Location and Coastal Development'

We are also familiar with federal and state guidelines for trails, including but not limited to the following:

- Designing Sidewalks and Trails for Access, Part 2: Best Practices Design Guide, Federal Highway Administration (September 2001)
- Chapter 1000 of the Highway Design Manual, California Department of Transportation
- Uniform Federal Accessibility Standards (guidelines which interpret ADA, the Americans with Disabilities Act)

SECTION 2 – PRELIMINARY ASSESSMENT OF THE KEY ISSUES

The Design Team performed a preliminary assessment of the key issues, which are summarized in the list below. We have intentionally assembled a team with the expertise and experience to handle these key issues. Given our specific areas of expertise and experience, many of these issues are straight forward and easily accomplished. The Design Team has experience evaluating and designing these types of project components in similar site conditions. This proposal contains a description of the Design Team's qualifications specifically addressing these key issues. In addition, the proposal contains a description of our technical approach to the project, which outlines how we will address each of these fundamental project concerns.

Key Project Issues

- Characterize stream and coastal geomorphic processes in order to successfully design the free span bridge
- Design a free span bridge that safely passes 100-year flood waters and debris
- Evaluate and design the appropriate level of improved access to the beach through an understanding of the stream hydrology and the dynamic forces at the mouth of the creek
- Design bridge abutments for the free span bridge, trail cross-sections, and any permanent improvements such as a pedestrian bridge at the beach access point
- Identify the appropriate level of accessibility in the context of site opportunities and constraints, the high number of annual visitors, and the surrounding sensitive habitats
- To the extent that is feasible, significantly improve accessibility down to the beach, across Vicente Creek, and onto the Marine Reserve
- Draw upon understanding of natural resources to design a project that can avoid impacts to natural resources or provide mitigation if necessary for minor, unavoidable impacts to resources
- Avoid impacts to significant archeological and historical resources through knowledge of local cultural history and archeology
- Design a project that complies with the requirements of regulatory permitting agencies including the Coastal Commission and the U.S. Army Corps of Engineers (Army Corps) through experience in meeting permit requirements for these agencies in the past
- Implement a project that will comply with all of the requirements of funding organizations
- Design a project that can be completed with available funding

It is our opinion that the goal of improving beach access will require specific site analysis and an evaluation of the feasibility of several alternatives. The site analysis will focus on quantitative and qualitative information that describes the potential flood conditions from the creek and the impact of high surf on the beach access point. The evaluation of alternatives will focus on feasibility and include such factors as accessibility, safety, environmental impact, cost, long term maintenance, and the potential to be damaged by high creek discharge or high surf. The alternatives will also be evaluated in the context of regulatory agency permitting requirements.

SECTION 3 – TECHNICAL APPROACH

Section 4 outlines our technical approach for designing the key elements of the project. The items discussed in this section are organized loosely by relative importance. In many cases,

these items represent the key project issues. Our technical approach will give you an outline of how we intend to successfully resolve each of these key issues.

Hydrological Analysis

KHE will complete the necessary hydrologic and coastal process assessments to support the free span bridge and beach access designs. For the bridge design, KHE will complete the necessary field work and technical analyses to identify water levels and creek flow velocities for a wide variety of flood events (flood events with recurrence intervals ranging from 2- to 100-years) at the proposed crossing site. KHE will complete the necessary field surveys (creek cross-section and longitudinal profiles) to develop a hydraulic model that will be used to estimate water surface levels and flow velocities. KHE will also complete the necessary hydrologic and flood frequency analyses to quantify the flood flow rates that are input into the hydraulic model. Model output will provide information to guide the sighting of bridge footings and develop free-board requirements to pass water and debris. In addition, KHE will provide guidance on any other necessary bank protection requirements.

KHE will also complete a focused analysis of the creek outfall and beach access location. This analysis will utilize findings from the hydraulic modeling to characterize flood conditions (areas and depths of potential impact) at the associated beach access locations. KHE will also review available wave and wave energy information available from off-shore buoys in order to characterize the frequency and distribution of wave power within the project area. The findings from both of these analyses will be used to develop quantitative and qualitative constraints to beach access design alternatives.

Civil Site Surveying

Wilsey Ham and the Design Team will focus our surveying efforts on a few critical areas. The following is a list of the type and extent of surveying that will be required.

- Trail alignment to be staked in the field and then a 20’ wide corridor to be surveyed, note locations of the trail junctions with the pedestrian only trails within the Marine Reserve
- Topographic survey in the creek and vicinity of the abutment for the free span bridge
- Topographic survey from the trailhead down to the beach access point
- Topographic survey in the vicinity of the beach access point including both sides of the mouth of Vicente Creek

Geotechnical Analysis and Foundation Design

Miller Pacific will perform a geotechnical investigation to explore subsurface conditions, evaluate geologic hazards and provide appropriate foundation design for the site conditions. Some of the primary tasks include:

- Subsurface exploration with portable equipment to evaluate geologic conditions;
- Laboratory testing to define the soil engineering properties;
- Analysis and design for the abutments for the free span pedestrian/equestrian bridge;
- Development of alternatives for beach access;
- Analysis and design for the multi-use trail.

Free Span Bridge

The Design Team recommends that the project utilize a pre-fabricated bridge. There are many excellent companies that design pre-manufactured pedestrian and equestrian bridges. The advantage of this approach is a tremendous cost savings as compared with a custom-designed bridge. This approach saves money by eliminating the cost of design services and reducing the cost of installation. The pre-manufactured bridges can be craned into place with minimum disturbance to the existing riparian vegetation or can be brought onto the site in pieces and assembled. Pre-manufactured bridges come in several styles. This approach is used routinely by the National Park Service, State Parks, and Municipalities. Our preliminary assessment of the site indicates that site conditions are appropriate for this approach.

Improved Beach Access

Part of this task will be to work with the County and identify the level of accessibility that is required for beach access. This will include a review of the activities that are available on the beach and within the Marine Reserve, and a determination of the level of ability required to participate safely in these activities. It may be reasonable to match the level of access to the beach with the level of accessibility required on the beach and within the Marine Reserve. This evaluation will be summarized in a project technical memorandum and serve as a guideline for developing improved access to the beach.

The Design Team will evaluate the feasibility of several alternatives for providing improved beach access to the Marine Reserve. This will be a collaborative effort between our hydrologist, geotechnical engineer, civil engineer and landscape architect. The feasibility analysis will include such factors as safety, ADA accessibility, constructability, durability, maintenance, cost, and the ability to acquire permits from the regulatory agencies that have jurisdiction over the beach access area. The improvements will include grading the ramp down to the beach access point, developing a scheme for the descent down to beach elevation, and crossing the creek in order to access the beach. The alternatives may include some of the preliminary ideas that are listed below.

Preliminary Ideas for Improved Beach Access

- A seasonal bridge or boardwalk to be utilized in the summer and removed during the winter;
- Alternative foundation designs for a bridge or boardwalk including helical piers, natural stone, wood piles;
- Alternatives for descending down to beach elevation including an earth ramp, wood ramp, wood stairs, natural stone stairs.

Multi-Use Trail

WRA will develop a multi-use trail for pedestrians, equestrians, and bicyclists. We will design trail alignment that (1) provides ADA accessibility to the maximum extent possible; (2) minimizes biological resource impacts requiring permitting; (3) eliminates or minimizes impacts and public access to significant archeological or historical resources; and (4) facilitates safety requirements associated with pedestrians, equestrians, and bicyclists. Each of these modes of transportation has different requirements for visibility, trail steepness, and trail curvature. We will also ensure the trail is graded to ensure proper drainage so that it will not be damaged by rainwater runoff. In order to ensure that the trail is constructed in a manner that is durable, low maintenance, and

accessible, Miller Pacific will perform geotechnical evaluation of the soil conditions and develop cross sectional designs for the trail.

Jurisdictional Wetland Delineation

Similar to our successful approach on the MacKerricher State Park, Glass Beach project, WRA proposes to complete a single jurisdictional determination report that identifies the various jurisdictional boundaries within the project area. The report will have all the required information for each agency to review and approve the jurisdictional boundaries mapped by WRA. The jurisdictional boundaries that will be identified within the report include the U.S. Army Corps of Engineers, Regional Water Quality Control Board, California Department of Fish and Game, San Mateo Local Coastal Program, and California Coastal Act.

To determine the extent of federal jurisdiction within the project area, WRA wetland scientists will utilize the latest wetland delineation manual published by the Army Corps known as the Arid West Wetland Delineation Manual. In addition, we will incorporate the latest wetland delineation requirements published by the San Francisco Army Corps District in November 2007. The new delineation requirements include identifying the watershed boundary of each stream within the project area, stream flow duration, stream order, as well as, physical, biological, and chemical characteristics of the stream and associated wetlands. Furthermore, we will identify any isolated wetlands within the project area that would potentially be disclaimed by the Army Corps but regulated by the Regional Water Quality Control Board.

The report will also identify habitat regulated by the California Department of Fish and Game. Such habitat includes lakes and streams and is defined by the top of bank or edge of riparian vegetation as determined by edge of drip line, whichever is further.

The San Mateo Local Coastal Program and California Coastal Act have different wetland definitions. As a result, WRA will identify wetlands within the project area according to both definitions, if required. If it is assumed that the project will be reviewed at the County level with no appeal to the Coastal Commission, only the San Mateo Local Coastal Program wetland definition will be utilized. The California Coastal Act wetland delineation may only be required if the California Coastal Commission intends to review the application or if it is presumed that the project will be appealed to the Coastal Commission.

A draft wetland delineation report will be prepared and submitted to the County Parks Department for review and approval; it will then be finalized and submitted to the Corps with a request for a final jurisdictional determination. A WRA wetland scientist will attend the site visit in order to describe the wetland delineation methodology, answer any questions that the Corps may have, guide the Corps staff member through the project site, and incorporate any modifications that the Corps may require into the final wetland delineation report and map. A final map will be prepared following the site inspection by the Corps to reflect any modifications agreed to in the field. The final map will be incorporated into the report for use by the Army Corps and other agencies during the processing of their respective permit applications.

Biological Resources Assessment

WRA biologists will conduct a literature review, site visit, and prepare a biological resources assessment report that will provide general biological information needed for preparation of permit applications.

The biological resources assessment will identify sensitive habitats identified in the San Mateo Local Coastal Program including: riparian corridors, wetlands, marine and estuarine habitats, sand dunes, sea cliffs, rare and endangered species, and unique species.

Potential adverse impacts to biological resources will also be assessed and recommendations for ways to mitigate impacts will be determined. The report will be suitable for inclusion in the County Coastal Permit application since we intend to cover all of the items requested in the San Mateo County Biological Impact Form. The report will also be suitable for inclusion in the California Department of Fish and Game Section 1602 permit application. In addition, the report will address the potential for federally-listed species to be present within the project area. Therefore, if required, much of the information in the report could be utilized in the Section 7 Biological Assessment submitted to the Army Corps as part of the permitting process. A draft biological resources assessment report will be prepared for review and comment by the County Parks Department. A final report will be prepared that incorporates comments received.

Archaeological Evaluation

The project may be required to meet both federal and state regulatory requirements for historic properties (cultural resources) which require the identification and evaluation of resources that could be affected by the project. The project may have to comply with the regulatory and permitting requirements of the U.S. Army Corps of Engineers (or other federal agency) in regard to cultural resources and the California Environmental Quality Act (CEQA). The San Mateo County Parks Department is required to complete the federal regulatory requirements for cultural resources pursuant to Section 106 of the National Historic Preservation Act (NHPA) of 1966 (as amended) (16 U.S.C., Section 470f) and its implementing regulations 36 CFR Part 800. The regulations require a federal agency with jurisdiction over a federal, federally assisted or federally licensed undertaking to take into account the effort of the undertaking on properties listed on or eligible for the National Register of Historic Places (National Register) and to afford the Advisory Council on Historic Preservation an opportunity to comment on the undertaking. In addition, the Parks Department, as the lead state agency, is required to determine the potential impacts of the construction on both historical and archaeological cultural resources and mitigate impacts on any significant resources located that may be affected by the project to a less than significant effect.

The area appears to have a moderate to high sensitivity for both prehistoric and historic archaeological resources based on the available information. One prehistoric shell mound, CA-SMa-133 and the remains of a historic building are near the trail.

Basin Research Associates will prepare a *Historic Properties Survey Report/Finding of Effect* (HPSR/FOE) report documenting the identification of cultural resources within the project's Area of Potential Effects and provide an analysis of the trail's effect on any significant cultural resources. This report will provide an introduction, project description, background context, an archival and literature review, results of communication with various entities including the Native American Heritage Commission and local Native Americans, an archaeological field review, and provide a finding of effect in accordance with federal regulations (36 CFR Part 800).

Regulatory Permit Applications

Subsequent to completion of wetland delineation and biological resource assessment studies, WRA staff will consult with County Parks Department staff and regulatory agencies to establish a permitting strategy for the proposed project based on the planned project design. WRA will discuss the findings of the delineation and biological studies, provide information on project impacts and mitigation options, and seek agency consensus on the project plans. Our broad experience on projects in areas with sensitive habitats has enabled us to develop a permitting approach that meets our client's scheduling and budgetary requirements. During project design phases, we always review potential resource impacts in the context of developing a permitting strategy that will reduce overall impacts and mitigation requirements.

During initial agency consultation, the need for mitigation will be evaluated and project impacts will be assessed in support of permit application preparation. Based on our interpretation of the current project description, the following permits may be required for the proposed project: Section 404, Section 401, and Section 1602 permits from the Army Corps, Regional Water Quality Control Board, and California Department of Fish and Game, respectively. In addition adverse project-related effects to federal-listed species may occur. Therefore, Section 7 consultation with the United States Fish and Wildlife Service and/or National Marine Fisheries Service may be required.

At this time it appears that the project could obtain a Nationwide Permit from the Army Corps of Engineers. A Nationwide Permit application is less costly to prepare and requires much less review time. If the project cannot comply with Nationwide Permit conditions, an Individual Permit application must be submitted. An Individual Permit application requires much more information including an alternatives analysis and final habitat mitigation and monitoring plan. Furthermore, an Individual Permit application must be sent out to the public for review and comment prior to receiving authorization. As a result, our goal would be to design the project to meet the Nationwide Permit conditions so that the more timely and costly Individual Permit scenario could be avoided.

There are two Nationwide Permits that could be potentially utilized to authorize the proposed project. Nationwide Permit #42 – Recreational Facilities allows an applicant to impact non-tidal waters of the U.S. for the construction or expansion of recreational facilities such as hiking trails, bike paths, horse paths, nature centers, etc. Nationwide Permit #14 – Linear Transportation Projects authorizes the construction, expansion, modification, or improvement of linear transportation projects (e.g. roads, highways, railways, trails, etc.) in waters of the U.S. The major difference between the two permits is that Nationwide Permit #14 allows impacts to tidal waters whereas Nationwide Permit #42 prohibits such impacts.

General Condition #19 of both Nationwide Permits prohibits impacts to waters of the U.S. that are within National Marine Sanctuaries or wetlands adjacent to National Marine Sanctuaries. Our discussions with the Section Chief of the San Francisco Army Corps revealed that it is possible that the Army Corps may not be able to authorize Nationwide Permit #42 or #14 for the proposed project due to the proximity of the Monterey Bay National Marine Sanctuary.

However, Nationwide Permit #18 – Minor Discharges and #25 - Structural Discharges could be authorized in National Marine Sanctuaries or wetlands adjacent to the sanctuary. Nationwide Permit #18 authorizes the placement of fill in waters of the U.S. if the volume of material within Army Corps jurisdiction does not exceed 25 cubic yards and the discharge does not cause the loss of more than 0.1 acres of waters of the U.S. Nationwide Permit #25 does not have an

acreage limit but only authorizes the discharge of material such as concrete, sand, rock, etc. into tightly sealed forms or cells where the material will be used as a structural member for standard pile supported structures, such as bridges, walkways, etc.

Our strategy will be to set up a pre-application meeting with the Army Corps once the jurisdictional boundaries and preliminary trail design are completed. Our goal will be to convince the Army Corps that the proposed project could be authorized by Nationwide Permit #14 or #42. In doing so, there will be much more freedom in designing the trail system. However, if the Army Corps determines that the proposed project could not be authorized by Nationwide Permits #14 or #42, we will develop a conceptual plan that could comply with Nationwide Permit #18 or #25. If these designs did not meet the requirements of the County Parks Department, we will prepare the necessary information required for an Individual Permit. In addition, there may be opportunities for the proposed project to completely avoid Army Corps jurisdiction; thereby, eliminating the need for permit authorization. WRA will discuss all potential scenarios with the County Parks Department once the jurisdictional boundaries are identified.

WRA will prepare and submit all necessary draft permit applications for the project to the County Parks Department for review and approval. WRA will prepare a Pre-construction Notification (PCN) for the Section 404 Nationwide Permit, an application requesting Section 401 Water Quality Certification and an application for Section 1602 Streambed Alteration Agreement. All permit applications will contain information on the proposed activities, the anticipated impacts to federal and state jurisdiction, the environmental impacts associated with the proposed project, and a detailed description of any necessary mitigation measures. Figures will be included that show site location and proposed project impacts.

After County Parks Department review and comment on draft permit applications, WRA will revise and re-submit all necessary permit application materials. WRA will coordinate all aspects of permit procurement and follow up with applicable agencies for each permit application to ensure timely response and processing of applications. During the permitting phase, WRA will maintain documentation of all meetings, phone calls, and other related contacts. Additionally, WRA will provide professional recommendations as the project moves through the permitting process.

WRA will coordinate with the County Parks Department on all aspects of the permit work throughout the process until permits are obtained. Additional meetings and coordination with agency staff, including attendance at inter-agency meetings may be required to address permit issues. Deliverables will consist of the following initial draft agency permit applications:

Section 404 Permit – As described above, an Army Corps Section 404 permit will be required for any waters of the U.S. (including wetlands) filled as a result of the proposed project. Nationwide Permits can be utilized for minor impacts that meet all of the Army Corps' conditions. Assuming there would be impacts to Army Corps jurisdictional areas, and depending upon the project design and discussions with the Army Corps, the project may be able to utilize one of four different Nationwide Permits. If the project cannot avoid Army Corps jurisdiction and cannot meet the Army Corps Nationwide Permit conditions, WRA will prepare an Individual Permit application. At this time it is assumed that the project can comply with Nationwide Permit conditions; therefore, if an Individual Permit is required, WRA will provide a revised Scope and budget.

Section 401 Water Quality Certification - The Regional Water Quality Control Board must provide its approval of all permits issued by the Army Corps. Therefore, if an Army Corps

permit is required for project approval, a Section 401 Water Quality Certification application must also be submitted to the RWQCB. WRA will submit a draft permit application and supplemental information to the RWQCB after client review. This application will be prepared concurrently with the Corps permit application.

Section 1602 Streambed Alteration Agreement - The California Department of Fish and Game requires any person who may affect the bed or bank of a perennial, intermittent, and ephemeral river, stream, or lake to request a Section 1602 Streambed Alteration Agreement. The Streambed Alteration Agreement notification requires completion of an application form and project environmental questionnaire, and inclusion of supplemental data regarding issues covered in the project environmental questionnaire. WRA will compile the necessary information required to submit the permit application to CDFG. The complete Section 1602 permit application will be submitted to the CDFG after client review.

NOAA/USFWS Section 7 Biological Assessment and Consultation – Several federal-listed marine mammals are known to occur within the Fitzgerald Marine Reserve including Stellars Sea Lion and Southern Sea Otter. In addition, the federal-listed California red-legged frog has been documented in the San Vicente watershed, east of Highway 1 and near Pillar Point Marsh. Furthermore, another federal-listed species, San Francisco garter snake was determined to have a potential to occur within the Reserve according to the Fitzgerald Marine Reserve Master Plan. The Army Corps is required under Section 7 of the Endangered Species Act to consult with the National Marine Fisheries Service and/or United States Fish and Wildlife Service when its approval of a project may affect federal-listed species. As a result, the Corps would likely initiate Section 7 consultation with National Marine Fisheries Service and/or United States Fish and Wildlife Service during processing of the Nationwide Permit application. The consultation process requires the applicant to provide a description of the project (specifically any actions which may have an effect on federally-listed species), a description of the specific areas which may be affected, the manner in which impacts may occur, an analysis of cumulative impacts, and a description of the listed species or critical habitats that may be affected.

WRA will utilize field survey data collected during the completion of the biological resources assessment to prepare a Section 7 biological assessment report. This more focused biological assessment report will describe the suitability of on-site habitat conditions for federal-listed species such as California red-legged frog and San Francisco garter snake. In addition, the report will discuss any impacts which may occur to these species as a result of the project, and any mitigation measures recommended to offset potential impacts.

We anticipate that design and construction measures to mitigate potentially significant adverse effects to federal-listed marine mammal species could likely be developed during an informal consultation with National Marine Fisheries Service. If during informal consultation, National Marine Fisheries Service concurs that the project may affect but is not likely to adversely affect federal-listed marine mammals, formal consultation with United States Fish and Wildlife Service may only be required for potential impacts to California red-legged frog and San Francisco garter snake. Therefore, WRA will try to incorporate measures into the proposed project that will reduce impacts to federal-listed marine mammals. These measures include but are not limited to conducting work during specific work windows and avoiding habitat areas critical to marine mammals.

County Coastal Development Permit - At this time it is assumed that a coastal development permit will be required from the County and that the project will not be appealed to the Coastal Commission. WRA will compile the necessary information for a complete coastal development

permit application to the County of San Mateo. This information includes: 1) topographic survey, application companion page, proof of ownership, owner's concurrence, environmental information form, biological impact form, erosion/sediment control plans, permanent storm water control plan, and site plans.

Stream and Riparian Mitigation Plan – WRA will prepare a stream and riparian mitigation plan as part of the permit applications to the Army Corps, Regional Water Quality Control Board, and California Department of Fish and Game. The plan will discuss the creation and enhancement of the stream and associated riparian habitat. The location, extent, and vegetation composition of the created and enhanced habitats will be discussed as well as the monitoring methods and success criteria required to enable the agencies to certify that the project is completed.

Riparian and Wetland Habitat Mitigation

The Design Team will incorporate wetland or riparian mitigation measures into the site plan to provide any necessary mitigation for potential impacts related to implementing the trail, free span bridge and improved beach access. These measures will be included in a stream and riparian mitigation plan for inclusion in permit application packages.

Opinion of Construction Cost

We will develop and maintain an opinion of construction cost for the trail, free span bridge and beach access improvements throughout the design phases of the project. We are dedicated to assisting the County in completing this project within the project budget limitations. In order to meet this goal, we will develop and maintain an opinion of construction cost throughout the project planning and design phase. This will enable the City to make decisions about project elements and project phasing.

We will prepare a preliminary construction budget at the end of the Concept Design phase of the project so the County can review and evaluate the program elements and project alternatives in the context of currently available funding for construction. The County may also use this information to decide if a phased implementation is desirable and identify project elements to include in the construction phase of this project.

We will also revise the opinion of cost during the preparation of the final construction documents. We will review the opinion of construction costs with the County to receive input in design decisions that affect the cost of construction. It is our experience that maintaining an opinion of cost throughout the design phases of a project is an effective way to manage the overall cost of the project.

SECTION 4 - WORK PLAN

The following section includes a concise work plan for the Design Team for the length of the contract. The headings and tasks below match the work plan spreadsheet included in Appendix A, which outlines the major tasks and includes time allocations for each of the key personnel. Billing rates for all key personnel on the Design Team are included in Appendix B. The proposed project schedule and list of deliverable items is included at the end of this section.

This work plan represents our initial allocation of key personnel and man-hours. We based the plan on our current understanding of the project. We are confident that we can balance the cost of construction with design and planning services to implement a successful project and comply with all grant requirements.

Project Management and Contract Administration

George Salvaggio will be the project manager for the project. He has experience managing public trail projects and large wetland and riparian restoration projects, including grant-funded work. He will provide the overall project technical coordination between the hydrologic engineers, geotechnical and civil engineers, biologists, and permit specialists. Mr. Salvaggio has demonstrated his ability to successfully collaborate with clients, stakeholders, sub-consultants, and the public. He will be the primary contact point between the Design Team and the County. He will also manage the contract and provide budget and progress reports to the County on a regular basis. George Salvaggio is a licensed landscape architect in the state of California.

Tom Fraser will be the principal-in-charge of the project and has authority, as a principal owner of the corporation, to negotiate and sign contracts on behalf of WRA, Inc.

Site Evaluation and Data Collection

The Design Team will perform several site evaluations to support the development of the conceptual plan, preparation of environmental documents, design of key project elements, and the preparation of permit applications for the regulatory agencies. The Design Team will participate in a kick-off meeting with the County and other stakeholders to review the project goals, constraints, and approach. This meeting will provide the opportunity to receive all of the existing hydrological, topographic, geomorphic, GIS relevant project data sets. The following list summarizes the subtasks included in the evaluation phase:

- Biological resources assessment
- Wetland delineation and riparian mapping
- Special status species surveys, if necessary
- Archaeological evaluation
- Civil site surveying
- Geotechnical analysis, including geotechnical borings
- Hydrological analysis for bridge design and improved access to the beach
- Site assessment and trail alignment, including field staking of preliminary trail alignment alternatives
- Bridge alignment

Schematic Design and Preliminary Estimate of Construction Cost

The Design Team will work with the County to develop a schematic plan for the project. During this phase, we will develop the design to the point that we can demonstrate the feasibility of each component, identify any potential impacts to biological, cultural or historic resources, identify any required mitigation measures and develop an accurate preliminary estimate of the cost of construction. The schematic design will include a site plan, preliminary grading plan, and schematic drawings for the construction of the major components such as the free span bridge and the improved beach access. The schematic design will be formatted as figures for use in the permit applications. We recommend using figures instead of preliminary construction drawings for all permit applications, since, in our experience, the design often needs to be changed during negotiations with the agencies, and it is much easier and less expensive to make changes to design figures than revise and resubmit construction drawings.

During this phase we will evaluate several alternatives for improving access to the beach. We will also prepare a preliminary estimate of the cost of construction for review by the County during this phase. This will provide an opportunity to make changes to the project at an early stage to ensure that it can be built with available funding.

Regulatory Permit Applications

Subsequent to completion of wetland delineation and biological resource assessment studies by WRA and development of conceptual project designs by WRA landscape staff, WRA permitting biologists will confer with County Parks Department staff and regulatory agencies to establish a permitting strategy for the proposed project based on the planned project design. WRA will discuss the findings of the delineation and biological studies, provide information on project impacts and mitigation options, and seek agency consensus on the project plans. Our wide-ranging experience working on projects in areas with sensitive habitats has enabled us to develop a permitting approach that meets our clients' scheduling and budgetary requirements.

As discussed in Technical Approach (Section 4), based on our current understanding of the project description, the following permits and associated documents will be required for the proposed project:

- Coastal Development Permit
- Section 404 Army Corps Permit
- Section 401 Regional Water Quality Certification
- Section 1602 Streambed Alteration Agreement from California Department of Fish and Game
- Section 7 Biological Assessment Report
- Section 7 Consultation with National Marine Fisheries Service and/or United States Fish and Wildlife Service
- Stream and Riparian Mitigation Plan

WRA will prepare and submit all necessary draft permit applications for the project to the County for review and approval prior to timely submission to the resource agencies as described in detail in the Technical Approach permitting section.

Design Development

After the County has approved the schematic plans for the project, the Design Team will develop detailed designs for each of the major components of the project. The following is a list of the types of detailed design activities that will take place during the design development phase:

- Free span bridge and abutments
- Beach access
- Refine the site plan with topographic information
- Develop grading and drainage for the trail
- Finalize trail layout

During this time we will coordinate with the County for participation in design decisions. At the end of this phase, we will have a design review meeting with the County to review the detailed designs and opinion of construction cost.

Construction Documents and Final Opinion of Construction Cost

The Design Team will prepare construction documents for the project. These documents may include an existing conditions and demolition plan, site plan, grading and drainage plan, riparian or wetland mitigation planting plans if required, seeding and erosion control plan for disturbed areas, construction details, and construction specifications for all of the project elements and facilities. We will make the following submittals and revisions of plans and specifications for review by the County and the California Coastal Commission: 65% completion (plans only); 90% completion; and 100% completion.

WRA will specify appropriate Best Management Practices (BMPs) to be implemented during construction to protect existing biological, cultural, and historical resources present on the site. This would include pre-construction nesting bird surveys, protective fencing, and any monitoring activities required by regulatory agencies as identified during the permitting process.

We will revise the construction cost estimate once during the development of the construction documents for review by the County. This will allow County staff to re-evaluate the project cost in the context of available funding and make changes to the project as needed. Changes may include modifications to reduce the cost of the project, identification of as-alternative project components, or project implementation phasing.

Scheduled Meetings

The Design Team will prepare for and participate in the following meetings:

- Kick-off meeting with Design Team and County staff
- Review of Schematic Design and Preliminary Project Budget
- Public Presentation

Project Schedule and Deliverable Items

The Design Team will work with County staff throughout the project to develop and maintain a detailed work schedule. We have prepared a preliminary work sequence and schedule for the project. The work sequence is based on our understanding of the project. The task duration column includes an estimate of how long it will take to complete the task, and takes into account our overall project workload and anticipated team coordination time. The project schedule is preliminary and, at your request, we will modify the schedule based on your input. The project schedule and deliverable items are presented in the following table.

SECTION 5 – COST PROPOSAL

Appendix A includes the cost proposal for the project. The cost proposal provides the maximum cost for the Design Team to perform the work and provide the County with the deliverables that are listed in this proposal. The County will be billed on a time and materials basis for the work, including reimbursable expenses, with a not to exceed total cost of $174,979. WRA reserves the right to reallocated funds between tasks based on the actual expenses for each task. WRA also reserves the right to renegotiate bill rates if the project schedule extends more then 12 months past the project completion date as specified in our proposed schedule. In the event that WRA elects to increase our billing rates, WRA will not increase billing rates by more than 4% per year for the duration of this contract.

FITZGERALD MARINE RESERVE COASTAL TRAIL FINAL DESIGN

WORK SEQUENCE AND PROJECT SCHEDULE

TASK TASK DESCRIPTION **Revised: June 2, 2008**

2	**Site Evaluation and Data Collection**	**Days**	**Duration**	**Start**	**Stop**	**Critical Path Due Date**
	Biological Resource Assessment	31	1 month	July 1, 2008	August 1, 2008	**August 1, 2008**
	Wetland Delineation and Riparian Mapping	31	1 month	July 1, 2008	August 1, 2008	
	Archaeology Evaluation and Report	92	3 months	July 1, 2008	October 1, 2008	
	Civil Site Surveying	31	1 month	July 1, 2008	August 1, 2008	
	Geotechnical Analysis	31	1 month	July 1, 2008	August 1, 2008	
	Hydrological Analysis & Reports	31	1 month	July 1, 2008	August 1, 2008	
	Assessibiliby Evaluation	31	1 month	July 1, 2008	August 1, 2008	
	Site Assessment/ Trail Alignment/Bridge Alignment	14	2 weeks	July 1, 2008	July 15, 2008	
	Deliverables					
	Archeology Report					**October 1, 2008**
	Technical Memorandum - Hydrology Report					**August 1, 2008**
	Technical Memorandum - Accessibility Evaluation					**August 1, 2008**
	Wetland Delineation Report					**August 1, 2008**
	Biological Resources Assessment					**August 1, 2008**
	Project Milestones					
	Approved Jurisdictional Wetland Delineation	92	3 month	August 1, 2008	November 1, 2008	**November 1, 2008**
3	**Schematic Design**	**Days**	**Duration**	**Start**	**Stop**	**Critical Path Due Date**
	Schematic Design	31	1 month	August 1, 2008	September 1, 2008	**September 1, 2008**
	Preliminary Cost Estimate	17	2 weeks	August 15, 2008	September 1, 2008	
	Project Descriptions and Figures for Permits	14	2 weeks	September 1, 2008	September 15, 2008	
	Deliverables					
	Schematic Design					**September 1, 2008**
	Preliminary Cost Estimate					**September 1, 2008**
	Project Milestones					
	Schematic Design and Cost Estiamte Approved by County	14	2 weeks	September 1, 2008	September 15, 2008	**September 15, 2008**
4	**Regulatory Permit Applications**	**Days**	**Duration**	**Start**	**Stop**	**Critical Path Due Date**
	Agency Coordination	30	1 month	September 1, 2008	October 1, 2008	**October 1, 2008**
	Coastal Development Permit with County	30	1 month	September 1, 2008	October 1, 2008	
	United States Fish and Wildlife Service - Section 7	30	1 month	September 1, 2008	October 1, 2008	
	Army Corps of Engineers	30	1 month	September 1, 2008	October 1, 2008	
	Regional Water Quality Control Board	30	1 month	September 1, 2008	October 1, 2008	
	California Department of Fish and Game	30	1 month	September 1, 2008	October 1, 2008	
	Deliverables					
	Coastal Development Permit Application					**October 1, 2008**
	US Arm Corps. Section 404 Permit Application					**October 1, 2008**
	Section 401 Water Quality Certification Application					**October 1, 2008**
	Section 1602 Streambed Alteration Aggrement					**October 1, 2008**
	Section 7 Biological Opinion					**October 1, 2008**
	Habitat Mitigation Plan					**October 1, 2008**
	Project Milestones					
	Informal Approval of Design by Agencies	30	1 month	October 1, 2008	October 31, 2008	**October 31, 2008**
	Regulatory Permits Approval	123	3.5 months	October 1, 2008	February 1, 2009	**February 1, 2009**
5	**Design Development**	**Days**	**Duration**	**Start**	**Stop**	**Critical Path Due Date**
	Detailed Design	30	1 month	September 15, 2008	October 15, 2008	**October 15, 2008**
	Project Milestones					
	Approval of Detailed Design by the County	31	1 week	October 15, 2008	November 15, 2008	**November 15, 2008**
6	**Construction Documents**	**Days**	**Duration**	**Start**	**Stop**	**Critical Path Due Date**
	Construction Drawings	31	1 month	October 31, 2008	December 1, 2008	
	60% Submission	14	2 weeks	December 1, 2008	December 15, 2008	**December 15, 2008**
	Subplemental Specifications	14	2 weeks	January 1, 2009	January 15, 2009	
	Compile General Specifications	14	2 weeks	January 1, 2009	January 15, 2009	
	Revised Cost Estimate	14	2 weeks	January 1, 2009	January 15, 2009	**January 15, 2009**
	90% Submission	14	2 weeks	January 1, 2009	January 15, 2009	**January 15, 2009**
	100% Submission	7	1 week	January 31, 2009	February 7, 2009	**February 7, 2009**
	Deliverables					
	60% Construction Drawings					**December 15, 2008**
	90% Construction Drawings & Technical Specifications					**January 15, 2009**
	Construction Cost Estimate - Final					**January 15, 2009**
	100% Construction Drawings & Technical Specifications					**February 7, 2009**
	Project Milestones					
	Approval of 60% Construction Drawings	17	2 weeks	December 15, 2008	January 1, 2009	**January 1, 2009**
	Approval of 90% Construction Drawings & Specs - Draft	16	2 weeks	January 15, 2009	January 31, 2009	**January 31, 2009**
	Approval of 100% Construction Drawings & Specs - Final	14	2 weeks	February 7, 2009	February 21, 2009	**February 21, 2009**

SECTION 6 - NOTATIONS

Summary of Insurance Coverage

WRA, Inc. carries $1,000,000 with an aggregate of $2,000,000 Professional (E & O) and General Liability Insurance, plus $2,000,000 in excess liability; $1,000,000 Auto insurance including non-owned vehicles; and $1,000,000 Worker's Compensation insurance.

Discrimination Policy

It is WRA's policy that employment practices shall be based on non-discrimination of the applicant's race; color; religion; national origin; age; gender; sexual orientation; disability or any other characteristic protected by state or federal law.

WRA will take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, color, religion, national origin, age, gender, sexual orientation or disability. This shall include, but not be limited to: employment, promotion, demotion, transfer, recruitment or recruitment advertising, layoff or termination, rates of pay or other forms of compensation, and selection for training.

Notice of Landscape Architectural Services

Landscape architectural services shall be performed under the direct supervision of George J. Salvaggio Jr., Landscape Architect, California License #4707. Landscape Architects are licensed in the State of California.

APPENDIX A
WORK PLAN AND COST PROPOSAL

PROJECT WORK PLAN
Fitzgerald Marine Reserve Coastal Trail Final Design
June 2, 2008

		Staff Allocation Estimate in Man-Days																												Budget Estimate						
	FIRM:	WRA, Inc.						Kamman Hydrology							Miller Pacific Engineering Group							Wisley Ham			Basin					EFS						
Task	Description	Salvaggio	DeGraff	Goulette	LA Designer	GIS Technician	Technician	Kamman, R.	Kamman, G.	Beahan	Staff Engineer	Staff Geomorphologist	Field Tech	CAD Tech	Stephens	Pappas	Swanson	Arend	Fern	Driller	Administrative Asst.	Civil Engineer	2 Person Survey Crew	Administrative Asst.	Busby	Garaventi	Canzonieri	Graphics	Staff	Fielder	TOTAL MAN-DAYS	WRA TOTAL BUDGET ESTIMATE	KH TOTAL BUDGET ESTIMATE	MPEG TOTAL BUDGET ESTIMATE	WISLEY HAM TOTAL BUDGET ESTIMATE	BASIN TOTAL BUDGET ESTIMATE	EFS TOTAL BUDGET ESTIMATE	TOTAL BUDGET ESTIMATE
1	**Project Management & Meetings**																																			
1.1	Project Management/ Contract Administration	3.5						1																						4.5	$3,696	$1,320	$0	$0	$0	$0	$5,016
1.2	Meeting - Project Kickoff with County	0.5	0.5		1				0.5						0.5															3	$1,836	$660	$520	$0	$0	$0	$3,016
1.3	Meeting - Review Schematic Design & Cost Budget			0.5	1										0.5															2	$1,216	$0	$520	$0	$0	$0	$1,736
1.4	Meetings - Public Presentation	1			2.8																									3.8	$3,206	$0	$0	$0	$0	$0	$3,206
	Subtotal	**5**	**0.5**	**0.5**	**4.8**	**0**	**0**	**1**	**0.5**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**13.3**	**$9,954**	**$1,980**	**$1,040**	**$0**	**$0**	**$0**	**$12,974**
2	**Site Evaluation and Data Collection**																																			
2.1	Biological Resource Assessment		1			1	6																							8	$6,360	$0	$0	$0	$0	$0	$6,360
2.2	Wetland Delineation and Riparian Mapping		0.5			2	8																							10.5	$8,092	$0	$0	$0	$0	$0	$8,092
2.3	Archaeology Evaluation and Report																								4.5	6	3.5	2	0.75	16.75	$0	$0	$0	$0	$11,042	$0	$11,042
2.4	Civil Site Surveying																				2.5	3	0.5							6	$0	$0	$0	$8,708	$0	$0	$8,708
2.5	Geotechnical Analysis														1	1.8	2.7		2	2	0.5									10	$0	$0	$7,292	$0	$0	$0	$7,292
2.6	Hydrological Analysis & Reports							2	3	3.5		2	1																	11.5	$0	$12,880	$0	$0	$0	$0	$12,880
2.7	Assessibiliby Evaluation			1.5																										1.5	$1,344	$0	$0	$0	$0	$0	$1,344
2.8	Site Assessment/ Trail Alignment/Bridge Alignment	1		1																										2	$1,952	$0	$0	$0	$0	$0	$1,952
	Subtotal	**1**	**1.5**	**2.5**	**0**	**3**	**14**	**2**	**3**	**3.5**	**0**	**2**	**1**	**0**	**1**	**1.8**	**2.7**	**0**	**2**	**2**	**0.5**	**2.5**	**3**	**0.5**	**4.5**	**6**	**3.5**	**2**	**0.75**	**0**	**66.25**	**$17,748**	**$12,880**	**$7,292**	**$8,708**	**$11,042**	**$0**	**$57,670**
3	**Schematic Design**																																			
3.1	Multi-use Trail			2	2																									4	$3,328	$0	$0	$0	$0	$0	$3,328
3.2	Free-span Bridge of Vicente Creek								0.5						0.3	1		1												2.8	$0	$660	$1,752	$0	$0	$0	$2,412
3.3	Ramp down to Beach-Access Point			2																										2	$1,792	$0	$0	$0	$0	$0	$1,792
3.4	Alternatives for Beach Access	2							1						0.6															3.6	$2,112	$1,320	$624	$0	$0	$0	$4,056
3.5	Wetland/Riparian Mitigation				2																									2	$1,536	$0	$0	$0	$0	$0	$1,536
3.6	Project Descriptions and Figures for Permits				2										0.2	0.5														2.7	$1,536	$0	$658	$0	$0	$0	$2,194
3.7	Preliminary Cost Estimate	0.5		2	1										0.2	0.5		0.5												4.7	$3,088	$0	$928	$0	$0	$0	$4,016
	Subtotal	**2.5**	**0**	**6**	**7**	**0**	**0**	**0**	**1.5**	**0**	**0**	**0**	**0**	**0**	**1.3**	**2**	**0**	**1.5**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**21.8**	**$13,392**	**$1,980**	**$3,962**	**$0**	**$0**	**$0**	**$19,334**
4	**Regulatory Permit Applications**																																			
4.1	Agency Coordination		2																											2	$2,160	$0	$0	$0	$0	$0	$2,160
4.2	Coastal Development Permit		1			0.5	5																							6.5	$5,224	$0	$0	$0	$0	$0	$5,224
4.3	United States Fish and Wildlife Service - Section 7		1			1	8																							10	$7,864	$0	$0	$0	$0	$0	$7,864
4.4	Army Corps of Engineers		1			2	6																							9	$7,128	$0	$0	$0	$0	$0	$7,128
4.5	Regional Water Quality Control Board		1			0.5	4																							5.5	$4,472	$0	$0	$0	$0	$0	$4,472
4.6	California Department of Fish and Game		1			0.5	4																							5.5	$4,472	$0	$0	$0	$0	$0	$4,472
4.7	Habitat Mitigation and Monitoring Plan	0.5	1		0.5	0.5	5																							7.5	$6,136	$0	$0	$0	$0	$0	$6,136
	Subtotal	**0.5**	**8**	**0**	**0.5**	**5**	**32**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**46**	**$37,456**	**$0**	**$0**	**$0**	**$0**	**$0**	**$37,456**
5	**Design Development**																																			
5.1	Free-span Bridge								1						0.2	0.4														1.6	$0	$1,320	$568	$0	$0	$0	$1,888
5.2	Bridge Abutments/ Bridge Installation														0.2	0.4		1												1.6	$0	$0	$1,108	$0	$0	$0	$1,108
5.3	Site Plan			1																										1	$896	$0	$0	$0	$0	$0	$896
5.4	Grading and Drainage			2																										2	$1,792	$0	$0	$0	$0	$0	$1,792
5.5	Beach Access	2							1						0.3	0.5		0.5												4.3	$2,112	$1,320	$1,032	$0	$0	$0	$4,464
	Subtotal	**2**	**0**	**3**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0.7**	**1.3**	**0**	**1.5**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**10.5**	**$4,800**	**$2,640**	**$2,708**	**$0**	**$0**	**$0**	**$10,148**
6	**Construction Documents**																																			
6.1	Bridge Abutments/ Bridge Installation														0.2															0.2	$0	$0	$208	$0	$0	$0	$208
6.2	Beach Access			2											0.2	0.2														2.4	$1,792	$0	$388	$0	$0	$0	$2,180
6.3	Site Plan	1		2																										3	$2,848	$0	$0	$0	$0	$0	$2,848
6.4	Grading and Drainage			2																										2	$1,792	$0	$0	$0	$0	$0	$1,792
6.5	Trail Cross Sections														0.1	0.2		0.2												0.5	$0	$0	$392	$0	$0	$0	$392
6.6	Site Furnishings				1																									1	$768	$0	$0	$0	$0	$0	$768
6.7	Riparian Mitigation/ Habitat Enhancement				2																									2	$1,536	$0	$0	$0	$0	$0	$1,536
6.8	Subplemental Specifications				2										0.2	0.2		0.2												2.6	$1,536	$0	$496	$0	$0	$0	$2,032
6.9	Compile General Specifications				2																									2	$1,536	$0	$0	$0	$0	$0	$1,536
6.10	60% Submission	0.5		2	3										0.5	1		1												8	$4,624	$0	$1,960	$0	$0	$0	$6,584
6.11	90% Submission	0.5		2	3										0.2	0.3		0.3												6.3	$4,624	$0	$640	$0	$0	$0	$5,264
6.12	100% Submission	0.5		2	3										0.1	0.2		0.2												6	$4,624	$0	$392	$0	$0	$0	$5,016
6.13	Revised Cost Estimate			0.5	2										0.2	0.2		0.2												3.1	$1,984	$0	$496	$0	$0	$0	$2,480
	Subtotal	**2.5**	**0**	**12.5**	**18**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1.7**	**2.3**	**0**	**2.1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**39.1**	**$27,664**	**$0**	**$4,972**	**$0**	**$0**	**$0**	**$32,636**
	TOTAL MAN-DAYS	**13.5**	**10**	**24.5**	**30.3**	**8**	**46**	**3**	**7**	**3.5**	**0**	**2**	**1**	**0**	**5.7**	**7.4**	**2.7**	**5.1**	**2**	**2**	**0.5**	**2.5**	**3**	**0.5**	**4.5**	**6**	**3.5**	**2**	**0.75**	**0**	**196.95**	**$111,014**	**$19,480**	**$19,974**	**$8,708**	**$11,042**	**$0**	**$170,218**
9	**Reimbursable Expenses**																																			
9.1	Reimbursable Expenses																															**$1,800**	**$974**	**$999**	**$435**	**$552**	**$0**	**$4,760**
	PROJECT TOTAL																															**$112,814**	**$20,454**	**$20,973**	**$9,143**	**$11,594**	**$0**	**$174,979**
	PERCENT BREAKDOWN																															**64%**	**12%**	**12%**	**5%**	**7%**	**0%**	

APPENDIX B
RATE SCHEDULES

ENVIRONMENTAL CONSULTANTS

RATE SCHEDULE
Effective: January 1, 2008

PRINCIPALS:

Michael Josselyn, ***President*** $230/HR
Douglas Spicher, ***Senior Wetland Ecologist*** 166/HR
Thomas Fraser, ***Senior Plant Ecologist*** 155/HR
Jeffrey Dreier, ***Senior Wildlife Ecologist*** 140/HR
Philip Greer, ***Senior Plant Ecologist*** 140/HR
Sherry Maloney, ***Project Administrator*** 151/HR
George Salvaggio, ***Senior Landscape Architect*** 132/HR
Timothy DeGraff, ***Senior Wetland Scientist*** 135/HR

ASSOCIATES:

Gretchen Coffman, ***Biologist*** 123/HR
Giselle Goulette, ***Landscape Architect*** 112/HR
Justin Semion, ***Biologist*** 110/HR
Dana Riggs, ***Wildlife Biologist*** 110/HR
Geoff Smick, ***Botanist/Wetland Biologist*** 110/HR

SCIENTISTS:

Bill Stagnaro, ***Wildlife Biologist*** 100/HR

GEOGRAPHIC INFORMATION SYSTEMS:

Chris Zumwalt, ***GIS Manager*** 102/HR
Michael Rochelle, ***Senior GIS Technician*** 96/HR
Sundaran Gillespie, ***Senior GIS Technician*** 96/HR
Derek Chan, ***GIS Technician*** 86/HR

LANDSCAPE DESIGN:

Ingrid Morken, ***Senior Landscape Designer*** 96/HR
Mark Brandi, ***Senior Landscape Designer/Ecologist*** 96/HR
Jeanna Menze, ***Landscape Designer*** 86/HR
Kate Tollefson, ***Landscape Designer*** 86/HR

TECHNICIANS:

Jennifer Adler, ***Biologist*** 94/HR
Spencer Badet, ***Biologist*** 94/HR
John Doudna, ***Biologist*** 94/HR
Amy Langston, ***Botanist/Wetland Biologist*** 94/HR
Leslie Lazarotti, ***Biologist*** 94/HR
Leslie Mace, ***Contract Administrator*** 94/HR
Becky Miller, ***Biologist*** 94/HR
Julie Rentner, ***Biologist*** 94/HR
Rosie Wilson, ***Biologist*** 94/HR
Liza Wozniak, ***Biologist*** 94/HR
Aaron Arthur, ***Biologist*** 84/HR
Stacie Auvenshine, ***Biologist*** 84/HR
Nate Bello, ***Biologist*** 84/HR
Dan Chase, ***Wildlife Biologist*** 84/HR
Rob Schell, ***Wildlife Biologist*** 84/HR
Morgan Trieger, ***Biologist*** 84/HR
Cheryl Vann, ***Biologist*** 84/HR
Jason Yakich, ***Wildlife Biologist*** 84/HR
Field Staff 59/HR

CLERICAL SUPPORT 70/HR

2169-G East Francisco Blvd., San Rafael, CA 94901 (415) 454-8868 tel (415) 454-0129 fax info@wra-ca.com www.wra-ca.com

Kamman Hydrology & Engineering, Inc.
7 Mount Lassen Drive, Suite B-250, San Rafael, CA 94903
Telephone: (415) 491-9600
Facsimile: (415) 680-1538
E-mail: info@KammanHydrology.com

2008 Standard Rate Schedule

(Effective January 1, 2008)

Staff Labor:

Standard Consulting Services

Principal Engineer	$ 172/hr
Principal Hydrologist	$ 172/hr
Senior Associate Engineer	$ 161/hr
Senior Associate Scientist	$ 161/hr
Associate Engineer	$ 146/hr
Associate Scientist	$ 146/hr
Staff Engineer	$ 114/hr
Staff Hydrologist/Geomorphologist	$ 114/hr
Field Technician	$ 78/hr
CADD Design / GIS Support	$ 78/hr
Administrative Assistant	$ 57hr

KHE uses a multiplier of 1.75 applied to hourly rates for litigation support. This includes time for depositions and court appearances. There will be a 6-hour minimum per-day charge for depositions and court appearances. Travel time over 2 hours will be charged at standard rates.

Reimbursable Expenses, Outside Services and Mileage

A 10% markup will be applied to reimbursable expenses and subcontractors. Common outside services include, but are not limited to: drilling services; laboratory testing; surveyors; other outside consultants (subconsultants); graphics production; travel and transportation; long-distance communications and vehicle rental. Unless expressly provided for within the contract, rates are subject to increase on January 1, 2006. Reimbursement for mileage using privately owned vehicles is limited to those rates specified by Federal Travel Regulations (FTR) (e.g., $0.485 per mile as of 2007).

Invoices

Pursuant to current California “prompt payment” legislation, invoice balances not paid within 30 days after receipt may be subject to a late payment penalty of 0.25% of the amount due, per calendar day, for undisputed invoices.

Equipment Rental Direct Charges

Continuous water level monitoring equipment	$ 200/week ($400/month)
Stream flow measurement equipment	$ 100/day
General water quality monitoring equipment	$ 75/day
Sediment sampling equipment	$ 75/day
Groundwater sampling equipment	$ 75/day
Groundwater sounder	$ 30/day
Survey equipment (Total Station)	$ 200/day
Boat rental (canoe)	$ 100/day
Boat rental (16-foot Boston Whaler)	$ 250/day
Staff Plates	$ 50/each
10-foot groundwater piezometer	$ 85/each

MILLER PACIFIC ENGINEERING GROUP
a California corporation

SCHEDULE OF CHARGES
PROFESSIONAL ENGINEERING AND GEOLOGICAL CONSULTING SERVICES

Professional and Technical Personnel	Hourly Rate
Staff Engineer/Geologist – Level 1-3	$66 - $82
Project Engineer/Geologist – Level 1-3	$86 - $102
Senior Engineer/Geologist – Level 1-3	$112 - $132
Associate Engineer/Geologist – Level 1-2	$142 - $162
Principal	$180
Project Assistant/Word Processor	$54
Technician Level 1-3	$64- $72
Senior Technician Level 1-2	$76- $82

Other Inside Charges

Mileage	$ 0.70 per mile
Vehicle (Field)	$9 per hour
Nuclear Density Gage	$8 per test
Inclinometer	$150 per day / $85 per half day
Laser Level	$50 per day
Sampling Equipment	$50 per day / $30 half day

Outside Services ..... Cost + 20%
Rental of exploration equipment, instrumentation, photography, public transportation, per diem, shipping, courier/delivery services, long distance telephone, outside reproduction, and other services and supplies not normally provided.

*NOTES:

1. Field site visits, 2-hour minimum. Travel time is normal hourly rates, portal to portal.

2. Labor Surcharge:

Prevailing wage projects	add $5/hr
Overtime – Weekday & Saturday	add $25
Overtime – Sunday/Holiday/Night	add $35

3. Rates are for normal Geotechnical Engineering and Geological services. Rates for depositions and testimony are $350 per hour for Principal; $300 per hour for Associate and Senior. All other personnel are $200 per hour. These fees are due and payable at the time of service.

4. Schedule of charges is effective as of January 2007. It is subject to revision annually and at other times without notice.

WILSEY HAM
2007/2008 CHARGE RATE FEE SCHEDULE

I. CHARGE RATE FEE SCHEDULE

The compensation of Wilsey Ham for work done will be on the basis of an hourly charge rate, plus incurred expenses and will be the sum of all the items set forth below:

A. PERSONNEL SERVICES

Principal	$ 200	Per Hr	Designer/Technician II	$ 112	Per Hr
Supervising Engineer	190	Per Hr	Designer/Technician I	104	Per Hr
Managing Engineer	168	Per Hr	Cad Operator/Drafter II	92	Per Hr
Senior Engineer	150	Per Hr	Designer/Technician	84	Per Hr
Associate Engineer	136	Per Hr	Word Processor	77	Per Hr
Engineer II	127	Per Hr	Technical Assistant	52	Per Hr
Engineer I	117	Per Hr	2 Person Survey Crew	225	Per Hr
Assistant Engineer	109	Per Hr			
Junior Engineer	86	Per Hr	Contract Personnel	2x	Invoice
Senior Designer/Technician	118	Per Hr	Outside Survey Specialist	$ 136	Per Hr

Effective Through December 31, 2008 and subject to revision annually thereafter.

B. REIMBURSABLE EXPENSES

1. TRAVEL & TRANSPORTATION EXPENSES

a) Reimbursement for actual travel and subsistence expenses paid to or on behalf of employees on business connected with the project, plus a handling charge of 15%.

b) Fifty cents (.50¢) per mile, or current rate allowable set by the Internal Revenue Service for use of company passenger vehicles, and fifteen dollars ($15.00) per hour for use of vehicles carrying field survey equipment or used for field inspection and supervision.

2. MISCELLANEOUS EXPENSES

a) The cost of materials, supplies, reproduction work, agency filing fees, and other services, including communication expenses, plus a handling charge of 15%.

C. OUTSIDE SERVICES

a) Invoice cost of services and expenses charged to Wilsey Ham by outside consultants, professional, or technical firms engaged in connection with the order, plus 15% handling charge.

(See reverse side)

FEE EXHIBIT
BASIN RESEARCH ASSOCIATES, INC.
PERSONNEL AND MATERIAL RATES
Effective to December 31, 2008

PERSONNEL[1]

Principal Investigator	$94.00 hr
Research Scientist	$88.00 hr
Preservation Planner	$78.00 hr
Archaeologist	$68.00 hr
Technician/Research Assistant	$60.00 hr
Graphics/GIS	$75.00 hr
Administrative/Clerical	$55.00 hr

LOGISTICS

Transportation - $0.55 per mile for company 2WD trucks; IRS rate per mile for company automobiles; or vehicle charges + applicable mileage, fuel, etc. costs for rental.

Per Diem/Lodging - reimbursement of reasonable and actual costs depending on location.

OTHER DIRECT COSTS (at cost + materials fee)

Architectural Historian - $100 per hour

Native American Consultants - rate as negotiated with Native Americans. Est. $65 per hour (4 hour minimum) + expenses.

Archive Fees - as billed by archive. Anticipated minimum fee for California Historical Resources Information System (CHRIS) is $150.00 per hour (billed in hourly increments; special surcharges apply for telephone searches, rapid response; extra map review, etc.) plus any labor and reproduction costs of any requested documents and maps. UC Museum of Paleontology fees not less than $100 per consultation and dependent on extent of records use. Nevada State Museum Anthropological Archive Repository as billed by archive.

Curation/Museum Fees - as billed by repository accepting collection. Costs can range from $500 to $1500 per cubic foot not including preparation costs for curation (e.g., special packing, acid-free containers, etc.).

Other Costs - heavy equipment, reproduction (including in-house copy at 0.10 page; color copy in-house $1.00, plots 0.75 per square foot), photographic (film and processing), expendable field supplies, lab materials; postage/courier fees; special insurance requirements; etc.

SPECIAL SERVICES

Expert Witness Testimony (Principal) - minimum $1200 partial day/day charge + preparation time at standard billing rates.

Public Meeting Attendance (Principal) – surcharge of 50% on base rate + preparation time at standard billing rates.

MATERIALS FEE

10% of Other Direct Costs.

TERMS OF PAYMENT

Net 30 Days

NOTES

1. Due to scheduling demands and logistical considerations involved with providing less than full-time monitoring, inspection or other client requested field services, field time is charged in four-hour (standard half-day) increments. Overtime (if required) will charged as appropriate for non-exempt employees in accordance with federal and State of California regulations.