

Exhibit CAW-032B

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28

**BEFORE THE PUBLIC UTILITIES COMMISSION**  
**OF THE STATE OF CALIFORNIA**

In the Matter of the Application of  
California-American Water Company (U  
210 W) for a Certificate of Public  
Convenience and Necessity to Construct  
and Operate its Coastal Water Project to  
Resolve the Long-Term Water Supply  
Deficit in its Monterey District and to  
Recover All Present and Future Costs in  
Connection Therewith in Rates

Application No. 04-09-019

**STEEFEL, LEVITT & WEISS**  
A PROFESSIONAL CORPORATION  
ONE EMBARCADERO CENTER · 30TH FLOOR · SAN FRANCISCO, CA 94111-3719  
Telephone: (415) 788-0900 · Facsimile: (415) 788-2019

**TESTIMONY OF LAWRENCE GALLERY, P.E. ON LATE-FILED EXHIBIT**

**STEEFEL, LEVITT & WEISS**  
A Professional Corporation  
**LENARD G. WEISS**  
**LORI ANNE DOLQUEIST**  
**SARAH E. LEEPER**  
One Embarcadero Center, 30th Floor  
San Francisco, CA 94111-3719  
Telephone: (415) 788-0900  
Facsimile: (415) 788-2019

Attorneys for Applicant  
**CALIFORNIA-AMERICAN WATER  
COMPANY**

Date: August 3, 2006

1  
2  
3  
4  
5  
6  
7  
8

**BEFORE THE PUBLIC UTILITIES COMMISSION**  
**OF THE STATE OF CALIFORNIA**

In the Matter of the Application of  
California-American Water Company (U  
210 W) for a Certificate of Public  
Convenience and Necessity to Construct  
and Operate its Coastal Water Project to  
Resolve the Long-Term Water Supply  
Deficit in its Monterey District and to  
Recover All Present and Future Costs in  
Connection Therewith in Rates

Application No. 04-09-019

9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28

**TESTIMONY OF LAWRENCE GALLERY, P.E. ON LATE-FILED EXHIBIT**

Q1. Please state your name, business address and telephone number.

A1. My name is Lawrence E. Gallery. P.E. My business address is RBF Consulting, 3180  
Imjin Rd., Suite 110, Marina, CA 93933. My telephone number is (831) 883-8187.

Q2. Have you previously provided your credentials as part of this proceeding?

A2. Yes. I provided my credentials in my Direct Testimony.

Q3. Do you have any changes to that information?

A3. No, I do not.

Q4. What is the purpose of your testimony?

A4. The purpose of my testimony is to address the costs from RBF Consulting ("RBF") on the  
late-filed exhibit summarizing the costs charged to the Coastal Water Project through the  
end of 2005 ("CWP Charge Summary").

- 1 Q5. The RBF entries on the CWP Charge Summary refer to numbered phases and numbered  
2 tasks. Please explain these phases and tasks.
- 3 A5. At this point, there have been three phases of work performed by RBF: Phase One of the  
4 Environmental Assessment and Permitting of the Coastal Water Project – Near Term  
5 Project (attached as Exhibit A), Phase Two of the Environmental Assessment and  
6 Permitting of the Coastal Water Project (attached as Exhibit B) and the Post-Proponent’s  
7 Environmental Assessment Phase of Miscellaneous Environmental and Engineering  
8 Services (draft attached as Exhibit C). Each Phase includes a list of numbered tasks, such  
9 as Engineering and Environmental Studies or Preliminary Design. The CWP Charge  
10 Summary references these tasks.
- 11
- 12 Q6. How did RBF allocate its charges between the three Coastal Water Project Components  
13 (desalination, aquifer storage and recovery, and pipeline)?
- 14 A6. RBF did not originally allocate its charges to these categories. In order to assist with the  
15 preparation of the CWP Charge Summary, RBF reviewed its invoices and made its  
16 allocation based on the tasks described in the invoices. If a task dealt primarily with a  
17 certain individual component, RBF allocated the costs for that task to the component.  
18 Since, however, a large portion of RBF’s work during this period consisted of preliminary  
19 engineering studies, the environmental review for the Proponent’s Environmental  
20 Assessment, and conceptual design layouts, the bulk of RBF’s charges fall into the “all”  
21 category.
- 22
- 23 Q7. In your opinion, is specific expertise in desalination required to be able to review the RBF  
24 charges for reasonableness?
- 25 A7. No. As stated above, RBF’s work during this period consisted of preliminary engineering  
26 studies, work for the PEA and conceptual design layouts. Many of the tasks performed by  
27 RBF are common to any water treatment project. I believe that the RBF charges could be  
28

1 reviewed for reasonableness by a person generally familiar with water supply and/or water  
2 treatment projects.

3  
4 Q8. Did RBF prepare a proposal for its work for California American Water?

5 A8. Yes, RBF did prepare a proposal. A copy of the proposal is attached as Exhibit D. One  
6 company provided a lower proposal and three companies provided higher proposals. The  
7 analysis of RBF and the other companies is attached as Exhibit E. This proposal covered  
8 work through the Phase One and Phase Two. RBF provided California American Water a  
9 suggested budget for the Post-PEA Phase and the contract was extended to address that  
10 work.

11  
12 Q9. Does this complete your testimony?

13 A9. Yes, it does.  
14  
15  
16

17 Dated: August 3, 2006  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28

**EXHIBIT A**



---

**SCOPE A**  
**CALIFORNIA-AMERICAN WATER**  
**ENVIRONMENTAL ASSESSMENT AND PERMITTING OF THE COASTAL WATER PROJECT**  
**NEAR-TERM PROJECT (PHASE I)**

**Work Tasks / Scope of Work**

General: The scope of work included herein includes this initial phase of the project and has been established for the purpose of identifying scope items which will assist in removing uncertainties and risks for the California-American Water Company (Cal-Am) in the Coastal Water Project (CWP).

**Task 1 – Project Description**

**1.1 Obtain, Review and Summarize Existing Data**

RBF will coordinate with Cal-Am and other local and governmental agencies to identify and collect available relevant existing data on the project, related and alternative projects, and the project area, as relevant to the preliminary design and Proponent's Environmental Assessment needs. Data will include available engineering reports, environmental documents, regulatory agency permits and orders, aerial and land use maps, local planning documents, and other pertinent information. Data will be catalogued and summarized in a library and web-based format for ready access throughout the project.

**1.2 Establish Primary Design Criteria and Project Needs**

RBF will coordinate with Cal-Am to clarify the project goals and objectives, and the primary design criteria, to ensure focus on these items throughout the project. These items will include, but are not limited to, necessary capacity and water quality requirements, schedule, pipeline design criteria (including allowable external loads, operation pressure requirements, alignment, construction, and appurtenances, based upon agency coordination, reference standards such as American Water Works Association (AWWA), equipment requirements, interconnections with existing Cal-Am facilities, and other criteria.

**1.3 Field Reconnaissance**

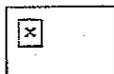
The RBF team will conduct a field reconnaissance of relevant project facilities and locations, including the identified alternative desalination plant sites, tank sites, and identified alternative pipeline alignments. The field reconnaissance will identify key issues regarding land use, topography, drainage, land features, existing facilities, crossings, and environmental conditions. RBF will prepare a photographic record of the field tour.

**1.4 Analyze Existing Cal-Am Water System**

RBF will review available information and previous analyses characterizing hydraulics, capacity, and pressures within the existing Cal-Am distribution system to identify pressure and capacity deficiencies. Using Cal-Am's existing hydraulics model, RBF will simulate future CWP operation and will investigate alternative operational and configuration alternatives that will improve pressures and capacity within the existing distribution system.

**1.5 Preliminary Agency Coordination**

RBF will conduct preliminary discussions with local, state and federal agencies and affected water agencies, which will assist in the early stages of the analysis and issue delineation. Additional agency consultation will also be provided as part of Tasks 4 and 5.

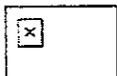




## 1.6 Base Water Supply Alternative Analysis

As part of this task RBF Consulting (RBF) will identify and analyze the Coastal Water Project (CWP) alternatives. The CWP will consist of analysis of water supply of 10,730 afy for use by Cal-Am only and includes as a base the following:

- 9 mgd desalination plant operating at 95% availability factor delivering 9,430 afy
  - Seaside Basin aquifer storage and recovery operation, for storage of excess winter flows from the Carmel River and excess desalination plant production, for delivery of 1300 afy
  - Water distribution pipeline and appurtenances
- a. Cal-Am Average and Peak Demand Analysis**  
RBF will analyze historical demand in the Cal-Am system to develop peak and average day demand for the year and each month of the year under dry and wet year scenarios. Alternative strategies will then be developed and analyzed for meeting these demands using different combinations and capacities for the Plan B water supply elements (Carmel River water, ASR wells, seaside wells, and desalinated sea water).
- b. Preliminary Identification of Alternative ASR Sites**  
RBF will utilize the results of Task 1.4 (Analyze Existing Cal-Am System) to identify alternative ASR sites that could be used to increase distribution system pressure and capacity in key locations.
- c. Analysis of Alternative Desalination Site Layouts at Moss Landing Power Plant (MLPP) National Refractories and Minerals Corporation Plant (NRMCP) and Granite Rock (GR) sites.**
1. **Develop Baseline Information for Moss Landing Power Plant (MLPP) and National Refractories and Minerals Corporation Plant (NRMCP) and Granite Rock (GR) Sites** - RBF would obtain site plans for the three sites and would evaluate and compare the sites with respect to topography, geology, vehicular access, availability of utilities, security, and proximity to the inlet and outlet connection at the MLPP waste cooling water system, land use restrictions, ownership agreements, and anticipated land costs. It is assumed that the owners will be cooperative with the exchange of information.
  2. **Define Seawater Pumping and Conveyance Facilities** - RBF would identify a logical method and location for obtaining desalination plant inlet water from the MLPP waste cooling water system, analyze cooling system hydraulic conditions at the point of connection, size and configure inlet pumping (if required) and pipeline facilities, and describe any required support elements (electrical service, access roads, SCADA, flow measurement facilities, etc.) This analysis would be conducted for the MLPP, NRMCP and GR sites, unless one of the sites has been eliminated for some other reason.
  3. **Define Facilities for Pumping and Conveyance of Return Flows** - Return flows (UF process waste washwater and RO concentrate) may be returned untreated to the MLPP waste cooling water system downstream of the inlet connection. RBF would identify a logical method and location for discharging return flows from the desalination plant to the MLPP waste cooling water system; analyze cooling system hydraulic conditions at the point of connection, size and configure return flow pumping (if required) and pipeline facilities, and describe any required support elements (electrical service, access roads, SCADA, flow measurement facilities, etc.) This analysis would be conducted for the MLPP, NRMCP and GR sites, unless one of the sites has been eliminated for some other reason. Analysis of return flow treatment facilities is not included in the scope of work at this time.



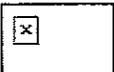


4. **Receive and Incorporate Treatment Process Information from Pridesa** - RBF assumes that initial treatment process information provided from Pridesa will include the following:
  - Inlet hydraulic requirements for UF pretreatment units, hydraulic profile from UF process inlet to RO post treatment process outlet, and available head in return flow streams at process outlet
  - Number, capacity, dimensional and modular layout data, and electrical power requirements for UF Pretreatment units; pretreatment process filtrate storage units; RO Feed pumps, RO vessel array, and energy recovery equipment; RO permeate post treatment units; product water clear well, Clean-in-place (CIP) units; and treatment and post treatment chemical storage and feed equipment
  - Floor space requirements for electrical switchgear and Motor Control Centers (MCCs), and control room
  - Process and Instrumentation Diagrams (P&IDs) for entire treatment process.
5. **Prepare Desalination Plant Layouts** - Working with Pridesa, RBF will prepare a plan view layout of the process equipment. We have assumed that Pridesa will develop the interconnecting process piping suitable to confirm the viability of the layout and to develop more accurate estimates of interconnecting piping costs. RBF will develop structural, architectural, lighting, HVAC, and utilities service criteria for the buildings. Once the building layout is established, RBF will prepare a site plan for the (MLPP, NRMCP and GR) sites, unless one site has been eliminated for some other reason. The site plan will illustrate site-grading requirements, and will also show the location of the product water pump station, as well as non-process buildings, site roads, yard piping, and utilities.

#### 1.7 Analysis of Salinas River Rubber Dam Alternative

The purpose of this task is to analyze the potential synergies between the Monterey County's Salinas River Project (Rubber Dam) and the proposed Coastal Water Project (CWP). The Salinas River Project has been developed to provide supplemental water supply to the agricultural irrigators in Northern Monterey County who currently receive recycled water from the Castroville Seawater Intrusion Project (CSIP). The Salinas River Project would allow irrigators to further reduce their use of groundwater which is indented to assist the underlying basin to further recover from the effects of seawater intrusion. Included within the Salinas River Project is a Phase II alternative that if constructed would reserve as much as 10,000 AFY of additional capacity for municipal uses.

- **Coordination** - RBF will meet with representatives of the Monterey County Water Resources Agency (MCWRA) to discuss the status of the ongoing engineering design for the Salinas River Project. Specific issues to be discussed include current project schedule, availability of lands in the current project footprint, status of regulatory agency permitting, changes to the project that have occurred since the completion of the final project EIR and results of regional groundwater modeling. The purpose of the coordination effort is to identify potential commitments, fatal flaws and opportunities that could be used to develop facilities that are complementary to both the Salinas River and Coastal Water Projects. Additional coordination efforts with representatives of the Marina Coast Water District (MCWD) would be completed to integrate the status of the progress on the Water Augmentation Project with a focus on the groundwater option alternative.
- **Development of Alternatives** - Based on the objectives and status of the planning for the CWP (Task 1.2) a list of potential opportunities for collaboration with the Salinas River Project will be developed for review and discussion with Cal-American. In a workshop / meeting format RBF will work with representatives of Cal-American to brainstorm a more complete list of potential alternative projects and project components that appear to have potential merit for further consideration. Additionally, RBF





will suggest a list of evaluation criteria that will be used for a more detailed evaluation of each alternative and obtain input from Cal-American on modifications / additions to this list of criteria.

- **Analysis of Alternatives** - RBF will conduct an analysis of the potential use of the Salinas River Project (and its component facilities) from the perspective of potential risks to Cal-American and the reduction of related uncertainties. RBF will refine the project alternatives and develop a conceptual project description for each. Using the previously identified evaluation criteria RBF will screen and rank each alternative for further consideration. RBF will present the results of the screening analysis to Cal-American for discussion and refinement. Based on the results of the final screening evaluation RBF will recommend additional investigation of the top 3 candidate projects (or use of component facilities proposed in the Salinas River Project) that best meet the objectives of the Coastal Water Project. The additional investigations will consist of the following activities:
  - Identification and categorization of risks posed by each alternative
  - Identification of actions recommended to reduce uncertainties
  - Identification of regulatory agency requirements, opportunities and or objections
  - Preliminary evaluation of anticipated planning level construction costs
  - Identification of necessary agreements and permits from Monterey County
  - Anticipated impacts to the Salinas River Project (planning and design schedule, environmental, regulatory, legal, administrative, financial)
  - Administrative requirements including contracts, authorities and legal approvals
  - Coordination with Cal-American's public affairs consultant to gain input on key political concerns
- **Reporting** - RBF will prepare a letter report of the Analysis of Salinas River Rubber Dam Alternative. This report will include the basis, background, method of investigations, conclusion and recommendations used in our analysis. RBF will include supporting graphics to illustrate the alternatives and our recommendations, as appropriate. RBF will meet with Cal-American to discuss our recommendations and obtain input for needed modifications. RBF will revise as necessary the letter report and will develop an Implementation Plan. The Implementation Plan will provide a list of the actions needed to further the consideration and development of the recommendations of this analysis including specific actions recommended in later tasks of this scope of work.

#### 1.8 Additional Alternative Analysis to Reduce Costs

As part of the phase RBF Consulting will perform services to review methods to reduce overall project costs. As our efforts proceed, items will present themselves that could benefit the project. These items could include consideration of the following modifications to the facilities of the Base-Case scenario:

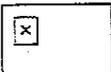
- Alternative Desalination Sites
- Additional pipeline alignment alternatives
- Alternative ASR site location(s) close to existing Cal-Am facilities
- Alternative Operational Scenarios

We have therefore allocated a budget of 250 hours for this task.

#### 1.9 Conveyance System Alternatives

Alternative water conveyance systems will be identified for analysis to include the following component facilities:

- a. **Define Product Water Pumping Facilities**





RBF will develop a preliminary system head curve (i.e., Total Dynamic Head (TDH) versus system flow (Q)) and preliminary pump selection based on use of variable speed pumps. Information will be developed on electrical requirements, energy consumption, and surge protection facilities. A preliminary layout of the pump stations will be developed and incorporated into the site plan referenced above. This analysis of product water pumping requirements will be provided for the three sites (unless one site has been eliminated for other reasons) and for two different pipeline alignment alternatives.

**b. Define Pipeline Alignment Alternatives**

RBF will develop sizing, configuration, and other pertinent details for two different pipeline alternatives. The first alternative is similar to the Plan B report, and consists of approximately 127,000 lineal feet of Production Conveyance Pipeline, ranging from 24-inches to 36-inches in diameter, which connects the desalination plant with the existing Cal-Am distribution system, using a route through Fort Ord. An additional 17,000 lineal feet of inch pipeline ranging from 18-inch to 36-inch would be required to connect the injection/recovery wells to each other and to the Production Conveyance Pipeline.

The second alternative would involve approximately the same length of pipelines, however, the Production Conveyance Pipeline would be routed along an abandoned railroad corridor along US Highway 1. For this second alternative, RBF would develop up to three sub-alternative routing schemes.

RBF would prepare a plan view base map depicting all pipeline routing alternatives on aerial photomaps.

**c. Define Fort Ord Reservoir Facilities**

For each of the two pipeline alternatives, RBF will perform hydraulic analysis to confirm the size and elevation requirements for the proposed Fort Ord Reservoir, and will identify and analyze three potential sites for the facility. Consideration will be given to co-location of the Fort Ord reservoir with future Marina Coast Water District Reservoirs. A preliminary layout of the reservoir tank, yard piping, and yard valves will be developed for each site.

**d. Define Del Rey Oaks Pump Station Facilities**

The proposed Del Rey Oaks Pump Station would deliver Carmel River Water from the existing and proposed Segunda pipelines during the winter diversion season to the injection/recovery well system. RBF will develop a preliminary system head curve (i.e., Total Dynamic Head (TDH) versus system flow (Q)) and preliminary pump selection based on use of variable speed pumps. Information will be developed on electrical requirements, energy consumption, and surge protection facilities. RBF will identify and analyze three potential sites for the facility. A preliminary layout of the pump station, yard piping, and yard valves will be developed for each site.

**e. Define Segunda Reservoir No. 2 Facilities**

RBF will perform hydraulic analysis to confirm the size and elevation requirements for the proposed Segunda No. 2 Reservoir, and will identify and analyze three potential sites for the facility. A preliminary layout of the reservoir tank, yard piping, and yard valves will be developed for each site.

**f. Define Injection/Recovery Well Facilities**

RBF would perform desktop hydrogeologic investigations, using existing available data, to identify spacing, depth and capacity criteria for the proposed Injection/Recovery system, consisting of a total of three injection/recovery sites (six total wells) in the general vicinity recommended by the Plan B Report. Up to six 1-acre sites will be investigated. A preliminary layout of the well, yard piping, and yard valves will be developed for each site. Alignments for interconnecting pipelines (between well sites) will be prepared for each logical combination of alternative sites.



### 1.10 Coastal Water Project Alternative Cost Estimates

**a. Prepare Capital Cost Estimates**

Capital cost estimates will be prepared for all facilities discussed in the above items. Prior to performing the estimating work, capital cost estimating assumptions and methodology will be developed in a written memorandum and presented to Cal-Am for review and comment.

**b. Prepare Operations and Maintenance (O&M) Cost Estimates**

O&M cost estimates will be prepared for all facilities discussed in the above items. Prior to performing the estimating work, energy usage and O&M cost estimating assumptions and methodology will be developed in a written memorandum and presented to Cal-Am for review and comment.

**c. Evaluate Base Case Alternatives**

Complete base-case alternatives will be developed using all logical combinations of the above facilities. Evaluation of the alternatives will then be performed using monetary and non-monetary criteria. Prior to doing the evaluation, evaluation criteria and methodology will be developed in a written memorandum and presented to Cal-Am for review and comment.

### 1.11 Project Schedule

Project schedules will be prepared for the alternatives and will be utilized as part of our analysis.

### 1.12 Prepare, Submit, Finalize "Project Description and Alternatives" Report

Upon completion of the above tasks, RBF will prepare a Project Description and Alternatives Report, which will present a summary of the base case project and identified alternatives, including design parameters, cost estimates, and exhibits. The report will focus on providing adequate information for the project description portion of the environmental document, incorporating an engineering review of the project elements with the objective of making the project more reliable, efficient, cost effective, environmentally safe, and publicly acceptable, as well as incorporating any changes imposed as the result of Cal-Am's stakeholder outreach activities. RBF will provide electronic copies of the draft report, as well as fifteen (15) hard copies for review. After Cal-Am has reviewed and approved the draft, comments will be incorporated and fifteen (15) final copies of the final Project Description and Alternatives Report will be provided to Cal-Am.

## Task 2 – Preliminary Design and Permitting of Pilot Plant Facility (PPF)

**a. Alternative Site Location**

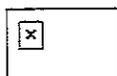
Under this task RBF will coordinate with Cal-Am on location of proposed PPF. This includes coordination on piping connection and for supply and discharge of the PPF.

**b. Coordination with Cal-Am/Pridesa on Preliminary Design**

It is our understanding that Cal-Am and Pridesa has prepared preliminary for the PPF. This task therefore includes review of drawings and drafting for the preparation of three flow diagrams.

**c. Summarize Permitting Requirements and Coordinate Coastal Commission Approval**

RBF will review and analyze permits and coordinate required for the PPF. We will also process approval through the Coastal Commission.





### **Task 3 – Engineering and Environmental Studies**

The following tasks will be initiated during Phase I in support of the identified Phase I objectives, to the extent that the engineering and environmental studies will facilitate achieving the goals:

- Assist in Obtaining Community Support
- Define Moss Landing Desal Plant Mission
- Define Raw Water Intake Options
- Select a Brine Disposal Method
- Desalination Plant Site Location
- Pilot Plant Facility Permit
- Biological Data Collection
- Resolve Additional Project Uncertainties and Reduce Project Implementation Risks

The following engineering/environmental study tasks will include review of previous technical studies, including those conducted as part of the Plan B process, Sand City studies, and Duke Energy studies. These prior studies will be reviewed and data utilized where appropriate, although the intent of this Phase I work effort is to produce independent stand-alone technical studies to support the Coastal Water Project preliminary design, community outreach and environmental/permitting process. In addition, as part of this Phase I work effort, RBF will assemble a GIS database to begin mapping existing data and recording new data developed as part of the Phase I and Phase II work efforts, in order to facilitate alternatives review and analysis.

#### **3.1 Horizontal Directional Drilling (HDD) Feedwater Supply Investigation**

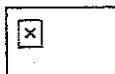
The purpose of Task 3.1 will be to investigate the feasibility of constructing horizontal directionally drilled wells (HDD) which will serve as the intake supply for the Moss Landing Seawater Reverse Osmosis (SWRO) plant. It is understood that the supply requirement from the wells will be approximately 20 mgd. The work will investigate well design strategies and technology needed to adapt traditional horizontal well drilling methods, which are currently used for oil and gas production, to construction of near-shore intake wells for the Moss Landing SWRO plant. The work will focus on novel well design and completion techniques that will optimize well and filter pack design methods. Also included is an exploratory boring in the vicinity of the HDD wells which will help characterize the aquifer materials in the area. Specific subtasks are described below:

##### **a. Background Data Collection and Assessment**

Collect and assess all available reports and data pertaining to geohydrologic characteristics in the vicinity of the Moss Landing SWRO plant. Data review will include, but not limited to data on existing wells, borings, pumping tests, geologic maps, cross sections, water levels, published reports, informal reports, technical memorandums and any other relevant data.

##### **b. Field Site Investigation**

A field investigation will be made of potential HDD well sites. Potential sites will consider both HDD production potential as well as identify any site issues which may prove problematic in construction of horizontal wells or proximity to the SWRO plant. During the field reconnaissance, a location for the exploratory/test boring will also be determined.





**c. Exploratory Test Boring**

This task will characterize near-shore subsurface materials and hydraulic properties through construction of an exploratory test boring. The purpose of the test boring will be to obtain information on aquifer materials which would be encountered in the HDD wells. For example, mechanical grading analyses of the test boring materials will determine the preliminary design criteria for the aquifer, filter pack, well screen relationships that the HDD wells need to adhere to. The exploratory well/boring will also have the provision for undisturbed core samples to further help characterize aquifer materials. In addition to sampling and coring, geophysical borehole logging will be conducted. Additionally, initial estimates of horizontal well production capacity will be made based on the geohydrologic survey (Task 3.1 and results from the exploratory test boring).

**d. Investigate Technology Needed to Drill and Complete HDD Wells**

This task will involve a collaborative effort between petroleum industry technology, ground water well drilling technology; well casing and screen companies and leading horizontal well construction firms. The key to developing HDD technology as a viable source for SWRO supply is to develop a method which can:

- stabilize boreholes in unconsolidated materials which are typically found at shallow depths beneath the sea floor and enable completion of pre-packed (or post-packed) screens in a horizontal bore;
- design and construct long-horizontal wells which can provide sufficient flow to meet SWRO intake demand.

This task will evaluate and recommend the best drilling and completion technology which may be subsequently evaluated in a follow-up investigation where a pilot horizontal well would be drilled and completed. Potential methods include:

- Use of petroleum drilling "mud motor" technology followed by enlarging the borehole prior to placing casing and screen string.
- Develop a methodology for placement of filter packed screens to long distances in a horizontally drilling borehole.
- Test the effectiveness of pre or post-packed screens in meeting intake requirements.
- Work with well-screen manufactures to develop a cost-effective technology for producing a filter-packed well screen capable of being placed in a horizontal well beneath the sea bed.

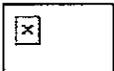
**e. Summary Report**

The results from all the tasks will be summarized into a comprehensive report discussing the feasibility of using HDD wells as the 20 mgd source for the Moss Landing SWRO plant. Essential sections of the report will include:

- Background data assessment
- Geohydrologic characterization of aquifers in the vicinity of the Moss Landing SWRO plant
- HDD construction and completion technology
- Feasibility of using HDD wells for supply at Moss Landing
- Estimated production from each HDD well
- Recommendations for further work and verification

**3.2 Coordination Study for Feedwater Supply and Concentrate Disposal with MLPP**

RBF will prepare a analysis of the feasibility of coordinating the feedwater supply and concentrate disposal from the desalination plant with the cooling water system and cooling water discharge ocean outfall for the





Moss Landing Power Plant. The analysis will include the following items, summarized in a technical memorandum.

**a. Coordination and Data Collection from MLPP**

RBF will coordinate with MLPP to obtain and summarize necessary data regarding the MLPP supply, cooling, and discharge facilities, including location, size, materials, pressures, water quality and chemical usage, operating and maintenance procedures, flow rates and flow variations, and other pertinent information. Include in data collection and analysis, consideration of either or both cooling systems.

**b. Assess Feasibility of Pipeline Connections**

RBF will analyze the optimal connection points to the piping system, both for the feedwater and the brine discharge, and prepare preliminary cost estimates for the facilities.

**c. Analyze Water Quality Impacts to Feedwater**

Analyze data collected regarding cooling water quality (temperature variations, potential contaminants from internal process, chlorination, heat treatment, etc.) to evaluate potential impacts to the desalination process.

**d. Analyze Water Supply Impacts to Feedwater**

Analyze data collected regarding flow rates and maintenance procedures to assess availability of feedwater to the desalination plant, including impacts of daily and seasonal flow variations, routine and major maintenance procedures, and minimum flow rates.

**e. Evaluate Recommended Desalination Plant Capacity**

Based upon identified water quality and water supply impacts, identify recommended capacity of desalination plant above the nominal capacity to meet annual production.

**f. Analyze MLPP Cooling Water Discharge Line Capacity and Dilution Capability**

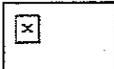
Based upon identified water quality and flow rates in the MLPP ocean discharge, assess the capacity of the pipeline to handle desalination plant brine flow and the available dilution rates to support assessment of potential environmental impacts.

**3.3 Receiving Water Hydrodynamic Modeling**

RBF will initiate data collection and screening-level modeling, focusing on various Moss Landing desalination plant alternatives. This task includes sufficient research and data gathering to create preliminary model runs, including Moss Landing intake and outfall data, harbor and Elkhorn Slough data, source water data, and ocean and climate data. As part of this screening level effort, RBF will initiate data collection associated with the Watershed Sanitary Survey as it relates to hydrodynamic modeling. The objective of this task will be to produce a technical memorandum that summarizes the data research and collection results, model set up and calibration, and results of model runs of various plant flow and operational scenarios, including appropriate exhibits and tables to represent findings. Of particular emphasis will be the effects of different desalination plant flow volumes, varying power plant outfall volumes, typical, average and worst-case operational conditions, and pilot plant operations. Detailed hydrodynamic modeling will be reserved as part of Phase II.

Specific tasks to be accomplished in this phase include the following:

The RBF Team will analyze impacts to the receiving water (Monterey Bay and Elkhorn Slough) due to the intake and discharge of feedwater and brine from the desalination plant alternatives, in order to assess impacts for inclusion in the PEA. Initial data research and model creation will





be utilized for both Phase I alternatives/constraints evaluation, as well as detailed modeling to be conducted as part of Phase II.

**a. Gather and Analyze Existing Data and Reports**

The following data specific to the receiving water analysis will be compiled in spreadsheets and analyzed to determine the data's salient features:

**Power and Desalination Plant Data**

- Intake and outfall details (drawings, locations, etc.)
- Plant inflow data (flow rate, salinity, temperature, other)
- Plant outflow data (flow rate, salinity, temperature, other)
- NPDES monitoring records of plant data
- Plant pumping capacity and pump station details (maximum flows, number of pumps, etc.)
- Characterization of the desalination plant residue or any other flow from the plant that will be discharged into the ocean (flow rate, salinity, temperature, etc.)
- Characterization of the desalination plant wastewater that may be permitted to be discharged into the ocean
- Reports or studies characterizing the flow and mixing in the vicinity of the effluent discharge of the power plant

**Source Water Data**

- Details and flow rates of the streams in the vicinity – collect stream historic flows, coliform levels, and other water quality data etc. Determine the variability of the flows as a function of both seasons and wet/dry years.
- Details and flow rates of any flows from ocean outfalls within the computational domain (flow, salinity, temperature, coliforms).
- Results of the watershed sanitary survey analysis will also be used in this analysis.

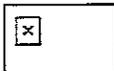
**Ocean and Climate Data**

- Tidal and wave data from the discharge, as well as any existing tidal monitoring locations in the vicinity of the discharge
- Ocean salinity data
- Ocean floor topography data
- Weather data including wind speed, air temperature, solar radiation, and humidity

It is assumed that readily available data will be sufficient for this analysis. Based on the collected data, an analysis to determine the fraction of ocean and fresh water that is pumped to the power plant will be performed. It is anticipated that the water salinity and temperature data from the intake will provide valuable information regarding the composition of the source water. The variability of source water composition as a function of tide will be determined. Furthermore, the effects of storm events will be evaluated. It is anticipated that large storms may have a significant impact on the composition of the source water.

Another work product of this data analysis will be a characterization of the mixing of the discharge water in the vicinity of the outfall. It is believed that an examination of currents and tidal data will provide a first-order evaluation of the availability of mixing water in the vicinity of the discharge.

The product from this effort will be a data analysis report detailing the collected data and the conclusions derived from data analyses.





**b. Receiving Water Modeling**

Preliminary hydrodynamic analysis of the mixing of the flows will be performed within a domain that is approximately ten miles by ten miles in the horizontal direction. The model will encompass about 2 miles of Elkhorn Slough and extend in a westwardly direction to the edge of the continental shelf. In a north-south direction, the model domain will extend approximately 5 miles south and north of the intake location. The preliminary analysis is intended to support the Phase I objectives of project definition, issue identification/resolution, and Pilot Plant permitting. Detailed modeling will be conducted as part of Phase II.

In particular, the following specific model runs will be performed.

- "Worst" case scenario based on tranquil, dry weather (La Niña summer conditions with minimal power plant flow rates and maximum desalination facility flow in order to determine the maximum potential impact of the desalination plant when ocean mixing and available dilution are low). This worst-case condition will also include MLPP reduce outflow rates at night.
- "Average" case scenario based on low net current winter ocean conditions and average plant flow rates to determine the most likely degree of mixing of the desalination plant discharge in the ocean. This scenario will be based on average daytime MLPP outfall rates.
- "Wet weather" scenario when significant volumes of storm water runoff from the Old Salinas River may impact the water quality entering the desalination plant.

For each model run, the following tasks will be performed:

1. Assemble the current and wave records, in conjunction with the tide data, to generate the boundary conditions for the hydrodynamic model.
2. Use the results from Part 1 above (data collection) to establish the boundary conditions for the three-dimensional stratified flow model ELCOM.
3. Set-up the ELCOM model.
4. Run the model for the specified conditions.
5. Tabulate and plot the data for the modeled parameters (temperature, salinity, fraction of effluent (i.e., dilution)).

The work product will consist of plan views of the salinity and dilution contours (in color) in the computational domain for each of the modeled conditions at three different elevations. The report will identify the maximum increase in salinity (Zone of Initial Dilution) and the area where total salinity will increase by up to 10%.

Model runs will be conducted for various desalination plant capacities and operational scenarios. All model runs will be based on using the MLPP outfall. Additional outfall modeling can be provided under separate scope and fee.

**c. Source Water Modeling**

Phase I is assumed to focus on brine discharge modeling. Preliminary analysis of source water modeling can be conducted on a limited basis if necessary. Detailed receiving and source water modeling will be conducted as part of Phase II.





**d. Reports and Meetings**

The results of the work will be incorporated in a preliminary Phase I brine discharge analysis report that discusses the data used and details the modeling approach. A description of the software used will be provided. Also, the modeling results and their interpretation will be presented and discussed as outlined above. The following tasks will be performed:

1. Produce five copies of a draft report as well as a version in PDF format.
2. Provide a second draft of the report based on the comments of the client. Five copies of the report will be produced.
3. Provide a final copy of the report based on the comments of the client and/or regulators. Five copies of the report will be produced.
4. Attend up to two meetings related to these tasks. PowerPoint presentations of the salient results and issues will be prepared to present at the meetings.

**3.4 Marine Biological Resources Assessment**

A Marine Biological Resources Assessment will be prepared to address potential direct and indirect effects, including an increase in salinity, changes in temperature, and introduction of desalination process byproduct chemicals into the brine discharge. This analysis will be based on the MLPP existing 316(b) study and results and does not include new impingement/entrainment studies or benthic surveys. This scope assumes that no new ocean intake/discharge structures will be required.

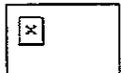
The potential impacts to marine biological resources will be assessed due to the Coastal Water Project. Impingement and entrainment effects to fish, plankton, and larvae will be assessed in the context of the changes from the existing impacts from power plant practices. These impacts would include additional losses due to removal and treatment of the seawater, and the return of the brine discharge. Assessments will also be made of potential impacts to fish, birds, and mammals of this coastal development and of its planned operations, with emphasis on impacts to sensitive or endangered species. The proposed project will be reviewed to determine if the National Marine Fisheries Service (NMFS) requirements of not adversely affecting essential fish habitat are met and whether Monterey Bay National Marine Sanctuary regulatory prohibitions will be addressed as to any new project impacts. Water quality impacts to marine organisms will be assessed with respect to Ocean Plan requirements of the Regional Water Quality Control Board.

The above impact assessments will be made based upon existing literature of the Moss Landing site, including the recent Moss Landing Power Plant Modernization Project 316(b) resource assessment along with technical study products produced by the project team. No new marine biological field studies are planned.

A technical summary report will be produced and delivered that will document the potential marine biological impacts of the Coastal Water Project.

**3.5 Terrestrial Biological Resources Assessment**

A Terrestrial Biological Resources Assessment will address the off-site terrestrial components of the proposed project, which include approximately 24 miles of pipelines, three pump stations, two storage tanks, and six ASR wells. An analysis of impacts on potential biological resources will be provided for portions of





the CWP facilities proposed to occur within undeveloped areas. This section will focus on potentially significant impacts to biological resources, particularly with respect to any state or federally listed species and sensitive habitat. The technical reports will include a literature/records search/update, site visit by qualified biologists, vegetation mapping, and recommended mitigation measures. Focused species surveys, if required, shall be provided under separate scope and fee. The section will include the results of the jurisdictional wetlands delineation, as well as a conceptual mitigation plan developed through early agency consultation. The study will also document any federal Section 7 consultation that has been initiated with U.S. Fish and Wildlife Service.

### **3.6 Cultural Resources Assessment**

RBF will prepare a Cultural Resources Assessment of the proposed project, including the proposed desalination facility, pump station sites, pipeline alternatives and ASR well fields. The study will address archaeological, paleontological and historic resources. This report will include a site reconnaissance focusing on facilities that would involve disturbing native terrain, a formal literature/records search (including review of available cultural resource studies prepared by the Client or others), and recommendations for project mitigation where applicable. The report will also generally describe the history of the project area, including Native American populations, and project site history, which dates back to the 1940's. A historical records/background search will be conducted, and field records will be taken for any artifacts, features, sites, or structures greater than 50 years of age (assumed to be no more than five total California Department of Parks and Recreation (CDPR) forms). This scope excludes Phase II cultural resource evaluations.

### **3.7 Surface Drainage and Water Quality Assessment**

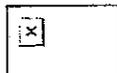
RBF will provide a description of existing conditions in regards to hydrology and water quality for the proposed desalination facility (desalination plant and associated on-site facilities) and any off-site components of the project. RBF will review existing data provided by the Client or others to identify potential changes in absorption rates, drainage patterns, and amount of surface runoff. This section will also discuss the potential for the project to substantially degrade water quality, or expose people to water-related hazards. Construction-related water quality issues will be addressed, including NPDES/BMP issues. A characterization of storm water drainage facilities within and surrounding the proposed desalination facility site will be provided. In addition, based upon available information, a summary of drainage characteristics for the off-site pump stations and storage tanks will be included. Potential long-term operational impacts in regards to hydrology and water quality will be analyzed for both the desalination facility site and off-site components, including impacts to Monterey Bay and Elkhorn Slough. Based on this analysis, regulatory requirements will be discussed (such as NPDES/SWPPP and Best Management Practices) and applicable mitigation measures will be included.

## **Task 4 – Permitting and Agency Coordination**

### **4.1 Permit Coordination Center**

RBF will institute a Permit Control Center (PCC) to initiate a collaborative information sharing forum with representatives of each of the regulatory agency representatives. RBF will identify key staff representatives for attendance, secure a meeting location, coordinate meeting schedules, facilitate meetings, develop meeting packets including agenda, maps and relevant project information. For purposes of this proposal and the associated estimate of professional fees RBF assumes a total of two meeting of the PCC. Individual permit applications and coordination with regulatory agencies will tier off of the efforts and activities of the PCC.

### **4.2 Long Lead Permit Application Summary**





As part of this task item RBF will review and analyze permits which require long lead studies and processing. This identification of studies will include scope, durations and processing time requirements. This analysis will be included as an update to monthly reports.

#### **4.3 Agency Coordination**

During its near-term project phase detailed individual meetings will be required for numerous agencies. It is anticipated that two meetings will be required for each of the following agencies:

- Coastal Commission
- State Department of Health Services
- Monterey County Water Resources Agency
- California Public Utilities Commission
- Regional Water Quality Control Board
- Monterey Peninsula Water Management District

### **Task 5 – Meetings**

The project will require numerous meetings both internally and with outside governmental agencies and with the public. RBF will attend necessary meetings and prepare agendas and meeting minutes to facilitate the meetings. Final dates for meetings will be established a minimum of two weeks in advance. This scope assumes the following project meetings, in addition to those budgeted in other areas of the scope of work will be required for the near-term project phase.

#### **5.1 Planning and Review Meetings**

Two planning and review meetings with Cal-Am at their Monterey office or other offices are budgeted each month for the near-term project phase for a total of 12 meetings. This task also includes assisting Cal-Am in formation of an Independent Advisory Panel (IAP). Other key meetings such as coordination with Duke Energy are also included.

#### **5.2 Periodic High Level Meetings**

One periodic high-level meeting with Cal-Am in their corporate office in Chula Vista is budgeted every two months (three total).

#### **5.3 Milestone Meetings**

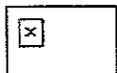
At key milestones, additional meetings focused on technical issues and review of deliverables will be conducted, with participation of high level technical representations of the RBF team and Cal-Am. This scope assumes two such meetings.

#### **5.4 Public and Community Meetings**

This scope assumes that Cal-Am will manage public outreach and conduct all public meetings. RBF will provide technical data and project status reports to Cal-Am as requested to support the public outreach effort, and will provide a representative to attend each meeting (assumes 1 per month) and make a technical presentation for a total of six meetings.

#### **5.5 Community Outreach Plan**

RBF will assist Cal-Am and their public relations team with coordination of the Community Outreach Plan. With data provided by others RBF will assist in this plan preparation.





## **Task 6 – Project Planning and Control**

### **6.1 Project Kick-off Meeting**

RBF will coordinate and provide a project kick-off meeting at Cal-Am's Monterey offices at the beginning of the project. In addition to providing a presentation and leading discussion at the meeting, RBF will prepare the draft and final agenda and will prepare and distribute the meeting minutes.

### **6.2 Project Management Plan**

RBF will prepare a Project Management Plan for the Near-Term Project. The plan will reduce project goals and objectives, project description, scope of work, deliverables, work breakdown structures, project organization, roles and responsibilities, resource loaded project schedule, contract and construction budget, communication plan, quality plan, document control plan, project controls, and billing procedures.

### **6.3 Project Administration**

Consistent with the procedures that will be established in the Project Management Plan, RBF will provide continuous planning, management, coordination and quality control of the contracted work throughout the Near-Term Project. This task also includes setting up project library and web-based project site.

### **6.4 Monthly Status Reports**

RBF will prepare and submit monthly status reports to Cal-Am. The monthly progress reports will be in a concise customized format which will depict project progress in a narrative and graphical format focusing on costs incurred and earned value, schedule status, contract and construction cost trends, and problem identification and resolution. The status reports will also include discussion on risk assessment.

### **6.5 Develop, Maintain, and Control Project Schedule**

RBF will prepare and maintain two separate (contract and overall project) schedules through the duration of the project. The schedule will be in Gantt chart form, prepared using CPM methodology in Microsoft Project, and shall identify critical meetings and milestones. The schedule shall compare actual to scheduled activities with monthly updates. The schedules shall include an archival feature that will be used for trend analysis.

### **6.6 Develop, Maintain, and Control Project Development Budget**

RBF will develop, Maintain, and Control the project budget estimate for all phases of the project development phase, including:

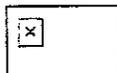
- All tasks and activities that are covered under the RBF's work scope;
- Cal-Am's and other consultant's costs based on Cal-Am input;
- Detailed design and construction inspection costs;
- Land acquisition costs; and
- And other non-construction related costs.
- Provide trend analysis of project development costs.

### **6.7 Develop, Maintain, and Control Project Construction Estimate**

Develop, maintain and control Project Construction Cost Estimates for the entire Coastal Water Project, including cost estimating input from Cal-Am and other Cal-Am consultants. Develop standardized construction cost estimating assumptions and methodologies and proactively distribute to all cost estimating participants. Develop and distribute methodology for trend analysis of construction cost estimates.

### **6.8 Develop, Maintain, and Control Estimated Facility Operation and Maintenance (O&M)**

RBF will develop, maintain, and control the operating cost model for the entire Coastal Water Project, taking into account all cost impacts and cost trade-offs of changes to facility design. Develop standardized





---

O&M cost estimating assumptions and methodologies and proactively distribute to all cost estimating participants. Develop and distribute methodology for trend analysis of O&M cost estimates.

**6.9 Develop and Maintain QA/QC Program**

RBF will develop and maintain a quality assurance and quality control (QA/QC) program throughout the project. This QA/QC program will be coordinated with the activities of the IAC which will be provided by Cal-Am. RBF's services under this subtask include attending three (3) meetings with the IAC during the Near-Term Project.



**EXHIBIT B**



---

**SCOPE B**  
**CALIFORNIA-AMERICAN WATER**  
**ENVIRONMENTAL ASSESSMENT AND PERMITTING OF THE COASTAL WATER PROJECT**  
**PHASE II**

**Work Tasks / Scope of Work**

The purpose of Scope 'B' is to forward the development, conclusions and recommendations from Scope 'A'. For simplicity in presentation, the Moss Landing Power Plant (MLPP) is assumed herein to be representative of the Scope 'A'; analysis, however is subject to modifications based on Scope 'A' recommendations.

**Task 1 – Project Description – Completed as part of Near-Term Phase**

**Task 2 – Preliminary Design and Permitting of Pilot Plant Facility (PPF) – Completed as part of Near-Term Phase**

**Task 3 – Engineering and Environmental Studies**

**3.1 Horizontal Directional Drilling (HDD) Feedwater Supply Investigation**  
Completed as part of Near-Term Phase

**3.2 Coordination Study for Feedwater Supply and Concentrate Disposal with MLPP**  
Completed as part of Near-Term Phase

**3.3 Receiving Water Hydrodynamic Modeling**

This task consists of preparing a formal technical report for inclusion in the PEA. The detailed modeling will be based on using the MLPP outfall, and will evaluate various operational scenarios. Hydrodynamic modeling of other outfall locations, if needed, can be provided under separate scope and fee. The Phase II work effort will draw upon data research and initial modeling developed as part of Phase I.

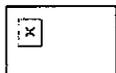
**a. Gather and Analyze Existing Data and Reports**  
Completed as part of Near-Term Phase

**b. Receiving Water Modeling**

A hydrodynamic analysis of the mixing of the flows will be performed within a domain that is approximately ten miles x ten miles in the horizontal direction. The model will encompass about 2 miles of Elkhorn Slough and extend in a westwardly direction to the edge of the continental shelf. In a north-south direction, the model domain will extend approximately 5 miles south and north of the intake location.

In particular, the following specific model runs will be performed.

- "Worst" case scenario based on tranquil, dry weather (La Niña summer conditions with minimal power plant flow rates and maximum desalination facility flow in order to determine the maximum potential impact of the desalination plant when ocean mixing and available dilution are low). This scenario will assume MLPP minimum night outfall rates.





- "Average" case scenario based on low net current winter ocean conditions and average plant flow rates to determine the most likely degree of mixing of the desalination plant discharge in the ocean. This scenario will assume typical MLPP daytime outfall rates.
- "Wet weather" scenario when significant volumes of storm water runoff from the Old Salinas River may impact the water quality entering the desalination plant.

For each model run, the following tasks will be performed:

1. Assemble the current and wave records, in conjunction with the tide data, to generate the boundary conditions for the hydrodynamic model.
2. Use the results from Part 1 above (data collection) to establish the boundary conditions for the three-dimensional stratified flow model ELCOM.
3. Set-up the ELCOM model.
4. Run the model for the specified conditions.
5. Tabulate and plot the data for the modeled parameters (temperature, salinity, fraction of effluent (i.e., dilution)).

The work product will consist of plan views of the salinity and dilution contours (in color) in the computational domain for each of the modeled conditions at three different elevations. The report will identify the maximum increase in salinity (Zone of Initial Dilution) and the area where total salinity will increase by up to 10%.

**c. Source Water Modeling**

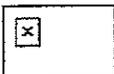
A hydrodynamic analysis of the mixing of the flows will be performed within the domain used in the Receiving Water Analysis.

In particular, the following specific model runs will be performed.

- A wet weather El Niño winter condition to determine the quantity of ocean water and storm water from surrounding rivers and streams reaching the intake.
- A summer El Niño condition when net transport by waves and currents is northward to determine if the modeled flows will reach the intakes.

For each model run, the following tasks will be performed:

1. Assemble the current and wave records, in conjunction with the tide data, to generate the boundary conditions for the hydrodynamic model.
2. Use the results from Task 1 above (data collection) to establish the boundary conditions for the three-dimensional stratified flow model ELCOM.
3. Set-up the ELCOM model.
4. Run the model for the specified conditions.





5. Tabulate and plot the data for the modeled parameters (temperature, salinity, coliforms, effluent tracer).

This will incorporate the results of the watershed sanitary survey in the source modeling. The work product will include plan views of the coliforms, dilution, and temperature distribution contours (in color) of the stream (and/or other significant discharges) in the computational domain for each of the modeled conditions at three different elevations. We will also determine the percentage of the plant's influent attributable to each of the streams and/or other significant sources.

**d. Report and Meetings**

The results of the work will be incorporated in a detailed report that discusses the data used and details the modeling approach. A description of the software used will be provided. Also, the modeling results and their interpretation will be presented and discussed as outlined above. The following tasks will be performed:

1. Produce five copies of a draft report as well as a version in PDF format.
2. Provide a second draft of the report based on the comments of the client. Five copies of the report will be produced.
3. Provide a final copy of the report based on the comments of the client and/or regulators. Five copies of the report will be produced.
4. Attend up to four meetings related to these tasks. PowerPoint presentations of the salient results and issues will be prepared to present at the meetings.

**3.4 Marine Biological Resources Assessment**

Completed as part of Near-Term Phase

**3.5 Terrestrial Biological Resources Assessment**

Completed as part of Near-Term Phase

**3.6 Cultural Resources Assessment**

Completed as part of Near-Term Phase

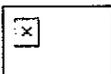
**3.7 Surface Drainage and Water Quality Assessment**

Completed as part of Near-Term Phase

**3.8 Evaluation of Power Supply Alternatives**

This task will evaluate the availability, reliability, environmental impact, and present and projected costs associated with supplying power for the project. Included in the task will be evaluation of the feasibility of utilizing alternative power generation technologies including solar, wind, geothermal, and wave. Each of these options will consider cost, availability, and reliability.

Of significant interest is the potential for on site power generation which uses waste heat for either combined thermal/RO desalination or thermal preheating of the influent stream to maximize RO efficiencies. These technologies offer the potential for producing net power at a lower cost than even direct purchased power from MLPP. Part of this task will also examine the feasibility of sale of excess waste heat to offsite clients.





A sensitivity analysis will be performed to evaluate the impact of fuel pricing relative to on site power generation, purchased power, and alternative power sources. On site generation analysis will also evaluate the potential for peak shaving for demand reduction.

### 3.9 Aquifer Storage and Recovery (ASR) Project

The RBF Team will evaluate the feasibility, environmental impact, and present project costs of an aquifer storage and recovery system. From a current list of over 25 different potential objectives for ASR programs nationwide, the RBF Team will identify and prioritize those applicable to the Cal-Am service area. This exercise is critical to effective siting of wells, selection of storage zones, and other aspects of ASR program development. This will be accomplished following a proven, successful approach that has been developed over the past 25 years, and includes an analysis of the following components:

#### a. Source Water

Details of flow rates of the Carmel River will be collected from historic and other water quantity and quality data. The variability of the flows and available diversions as a function of seasonality and wet/dry years will be determined. Any variability in source water quality and treatability requirements will also be evaluated.

#### b. Treatment and Conveyance

Treatment options for diverted Carmel River water to current water quality standards will be determined. Details of a conveyance system to the Seaside Basin, including pipeline and pump station sizing, will be determined.

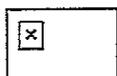
#### c. Storage and Recovery – Hydrogeologic Analysis

##### 1. Review Existing Reports:

The RBF Team will review reports, documents and other information pertaining to ASR elements of Plan B. We will visit proposed sites for various project elements. Preliminary review of these investigations will address ASR unit costs, storage zone selection, locations of ASR wells, design of ASR wells, backflushing requirements, areas suitable for ASR storage, water quality, facilities requirements, peak demand distribution, effective integration of seawater desalination and ASR, ownership and control of the stored water, and several other factors. In addition, the following issues and technical opportunities will be considered to provide a firm foundation for an early project decision by Cal-Am regarding whether to base the environmental assessment efforts upon Plan B as currently envisioned, or upon a possible enhancement of Plan B that may achieve or exceed program objectives at reduced cost and reduced environmental impact:

- Stacking of ASR wells vertically in multiple wells at a single site, including both freshwater and brackish water storage zones, can substantially reduce pipeline and ASR wellfield development costs.
- Utilization of horizontal directional drilling technology can increase recharge and recovery rates in thin, shallow aquifers at a preferred site
- Use of appropriate unit cost criteria for ASR, in comparison to other water supply and storage options, can substantially impact component sizing and associated cost for the overall plan
- Reevaluation of basic ASR design criteria and the associated geographic area suitable for ASR operations can improve ASR operating performance and reduce costs.

A draft and final technical memorandum will be produced summarizing the information contained in the existing reports, suggestions regarding possible improvements, and outlining additional information that should be gathered to complete the PEA and additional studies. If the data





included in the reports have not been adequately analyzed, we propose to complete the data analyses in an optional task discussed below.

**2. Develop Local Groundwater Model**

Utilizing existing data, an accurate and reasonable groundwater model will assist with defining the ASR operations, identifying possible environmental impacts, and addressing regulatory constraints. The groundwater model will be developed to a level appropriate for the necessary analyses. It is assumed that no supplemental field investigations are required and that existing field investigations are sufficient to support task completion. To the extent possible, we will use natural groundwater boundaries as model boundaries. We do not anticipate simulating the seawater/freshwater interface at this stage, however the model will be constructed such that the seawater/freshwater interface can be simulated in the future if necessary. The model will be developed with publicly available software, so that any future consultant can utilize the data.

**3. Calibrate Model to Existing ASR Tests**

The groundwater model will first be calibrated to background flow conditions, if appropriate data exists. Further calibration will be undertaken to match the results of the initial ASR tests that have taken place. This calibration will demonstrate the model's ability to simulate ASR operations, and establish the model's credibility as a tool for identifying the impacts and effectiveness of an ASR operational plan.

**4. ASR Model Report**

The model report will detail all of the data and assumptions that form the basis of the groundwater model. The report will be written such that future consultants will be able to recreate the model from the report.

**5. Simulate ASR Operation**

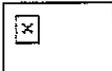
The groundwater model will be used to simulate up to 5 potential ASR operations. Details of the ASR operations will be developed in coordination with Cal-Am, and other interested parties. Results from the simulations will include estimated recovery percentages, water levels at key locations over time, and extent of injected water plume over time.

The RBF Team will produce technical memorandum detailing the assumptions and results of each simulation.

**6. ASR Regulatory Analysis**

Regulatory approval and public acceptance are essential aspects of a successful ASR program. RBF will coordinate with representatives of the following regulatory agencies that influence the proposed ASR project:

- California Department of Health Services;
- Monterey County Health Department;
- Monterey County Water Resource Agency;
- California Regional Water Quality Control Board;
- California State Water Quality Control Board;
- Monterey County Planning Department;
- California Department of Fish and Game;
- U.S. Environmental Protection Agency.





We will contact each agency, review the appropriate regulations, and produce a letter memorandum outlining the regulatory requirements for the ASR project. If possible, we will additionally discuss the proposed ASR project with regulators and identify any additional requirements or testing that the regulators would like performed prior to approving the ASR system.

**7. Analyze Existing Test Data (optional task)**

If it is determined that the data included in the existing documents are insufficiently analyzed, we will further analyze the data. Potential analyses may include additional aquifer test analyses, geologic interpretations, or water quality interpretations. A technical memorandum will be prepared presenting outcomes of these tests. No budget is currently included for this task, as the task can only be defined as necessary. Therefore a separate scope of work and budget will be prepared for approval by Cal-Am.

**8. Drill Monitoring Well Near Existing ASR Well (optional task)**

We will drill one or more additional monitoring wells near the existing ASR test well, or at such other location as may be selected, if needed for collection of supplemental data or for interpretation of additional ASR tests. These additional wells may provide important information concerning the injection zone lithology, geochemistry and the hydrologic parameters of the proposed injection zone. Furthermore, the wells may allow us to track the injection front in future ASR tests. A technical memorandum will be prepared presenting outcomes of these tests. No budget is currently included for this task, as the task can only be defined after the project begins. Therefore a separate scope of work and budget will be prepared for approval by Cal-Am.

**d. Operational Analysis**

The RBF team will evaluate the operation and maintenance requirements of the ASR system including power, staff, and equipment maintenance needs, and associated costs.

**e. Environmental Analysis**

For those elements of Plan B, or any subsequent Plan B adjustments that are accepted by Cal-Am pursuant to hydrogeologic analysis above, provide an assessment of environmental impacts that may be expected due to ASR operations at 1300 af/yr and up to two other sustainable higher production rates. It is assumed that no supplemental field investigations are required and that existing field investigations are sufficient to support task completion. Environmental impacts and related analyses will include the following:

**Water Quantity**

- Carmel River flow distribution with time, and water availability for diversion, using existing MPWMD computer model
- Treatment and conveyance alternative plans
- storage zone(s) potentiometric surface regional impacts during recharge, storage and recovery, as to be determined from a new hydrogeologic computer simulation model
- effective storage capacity of storage zone(s)
- lateral direction of movement; velocity of stored water underground, and recoverability of water stored for many years
- sustainable yield
- ASR testing and operational plans and guidelines

**Water Quality**

- source water quality and variability



- recharge water quality
- recovered water quality
- ambient groundwater quality
- water quality changes during ASR storage

#### **Other Issues**

- Hydrogeology and well inventory
- Potential subsidence due to ASR cyclic operations
- Downstream estuarine impacts (quality, biology) due to ASR operations
- Legal, regulatory and institutional issues associated with ASR operations

A Draft and Final Technical Memorandum will be prepared outlining these issues.

#### **f. Legal Analysis**

The legal analysis is to be performed by Cal-Am

### **3.10 Toxicology Analysis of Waste Streams**

The proposed desalination plant will produce two waste streams that will need to be discharged. One stream is the plant concentrate or brine, which primarily consists of highly elevated concentrations of sea salts. The other stream consists of membrane cleaning solutions and membrane flush waters. Both of these waste streams will contain materials that are potentially toxic to aquatic organisms and, therefore, must be considered in the disposal options to ensure that water quality objectives are met at the point of compliance and harm to aquatic communities is minimized.

The general approach in evaluating the toxic potential of each of these streams consists of the following three components:

- Identify toxic constituents;
- Estimate the concentration of toxic constituents in the waste streams that will meet both narrative and numeric water quality objectives (i.e., prohibition against toxicity and compliance with specified chemical concentrations);
- Interface with three dimensional receiving water modeling to ensure that the threshold concentrations are not exceeded at the regulatory defined point of compliance (i.e., point of discharge, edge of zone of initial dilution, or edge of mixing zone).

#### **a. Evaluation of Plant Concentrate**

The plant concentrate will be composed primarily of concentrated sea water with dissolved salts being perhaps an order of magnitude higher than ambient sea water. This waste stream may be directly discharged to the ocean in combination with a power plant effluent through a pre-existing or modified outfall structure.

**Chemical Composition** - The first step in the evaluation of this waste stream will be to determine its chemical concentration. Of particular importance will be the concentration of the dissolved salts and heavy metals and a determination of whether the ionic balance of the brine stream is the same as that observed in sea water. This evaluation will be made based on currently available data collected from either bench-scale models, pilot-scale models, or other currently operating RO plants. If sufficient data are not available, then chemical analysis from, at least, bench-scale models would be required which, however, is not part of this proposal and would be dealt with as an amendment to the contract.



**Toxic Potential** – The second step in the evaluation will be to estimate the potential toxicity of the plant concentrate discharge. This estimate will specify how much dilution the plant concentrate will require in the receiving waters in order to meet both narrative and numeric water quality objectives as specified in the applicable Water Quality Control Plans (i.e., Ocean Plan and Regional Basin Plans). Evaluation of compliance with the numeric objectives will be made on a chemical-by-chemical basis, considering concentrations in both the plant concentrate and the receiving waters. Evaluation of compliance with the narrative objective will primarily be concerned with the prohibition against toxicity and will consider potential impacts from elevated salinity, ionic imbalance, and other toxicants (e.g., metals and organics).

The evaluation of potential toxicity will be made based on available data collected from either bench-scale models, pilot-scale models, or other currently operating RO plants. If sufficient data are not available, then toxicological analyses (e.g., bioassay testing) may be required on plant discharge generated from either bench-scale models or obtained from an operating plant. If such analyses are required, they are not part of this proposal and would be dealt with as an amendment to the contract.

**Modeling Interface** – Once the dilution of the plant concentrate required to meet applicable water quality objectives has been determined, the final step of the evaluation will be to ensure that the currently configured discharge scenario will attain compliance with each of the numeric and narrative objectives at their regulatory defined locations (i.e., point of discharge, edge of zone of initial dilution, edge of mixing zone). This will be accomplished by integrating the 3-dimensional receiving water modeling results with the toxic potential results. Any predicted compliance problems will be identified and used as targets for modifying the discharge scenario.

**b. Evaluation of Membrane Cleaning Solutions and Flushing Waters**

The membrane in the RO plant will require routine cleaning and flushing in order to operate properly. The waste stream produced from these operations will contain the cleaning solutions used in the maintenance as well as residual plant concentrate present on the membrane during the cleaning operation. This waste stream will either be directly discharged to the ocean in combination with the plant concentrate waste stream or to a municipal wastewater treatment facility.

**Chemical Composition** - The first step in the evaluation of this waste stream will be to determine its chemical concentration. Of particular importance will be the concentrations of the toxic constituents of the cleaning solutions. This evaluation will be made based on currently available data collected from either bench-scale models, pilot-scale models, or other currently operating RO plants. In addition, information from the manufacturer of the cleaning solutions will be reviewed. If sufficient data are not available, then chemical analysis from, at least, bench-scale models would be required which, however, is not part of this proposal and would be dealt with as an amendment to the contract.

**Toxic Potential** – The second step in the evaluation will be to estimate the toxic potential of the waste stream generated from the cleaning and flushing of the RO membrane.

For direct ocean discharge, this estimate will specify how much dilution this combined waste stream will require in the receiving waters in order to meet both narrative and numeric water quality objectives as specified in the applicable Water Quality Control Plans (i.e., Ocean Plan and Regional Basin Plans). Evaluation of compliance with the numeric objectives will be made on a chemical-by-chemical basis, considering concentrations in both the waste stream and the receiving waters. Evaluation of compliance with the narrative objective will primarily be concerned with the prohibition against toxicity and will consider potential impacts from cleaning agents, elevated salinity, and ionic imbalance.



For discharge to a treatment facility, the estimate of toxic potential will specify whether pre-discharge standards established by the treatment facility will be met. These standards may include both numeric and toxicity limits and are set by the treatment facility to ensure proper operation of their facility as well as compliance with effluent limits.

The evaluation of toxic potential will be made based on available data collected from either bench-scale models, pilot-scale models, or other currently operating RO plants. If sufficient data are not available, then toxicological analyses (e.g., bioassay testing) may be required on membrane cleaning and flushing discharge generated from either bench-scale models or obtained from an operating plant. If these analyses are required, it is not part of this proposal and would be dealt with as an amendment to the contract.

**Modeling Interface** – For a direct ocean discharge, once the dilution of the membrane cleaning and flushing waste stream that is required to meet applicable water quality objectives has been determined, the final step of the evaluation will be to assure that the currently configured discharge scenario will ensure compliance of each of the numeric and narrative objectives at their regulatory defined locations (i.e., point of discharge, edge of zone of initial dilution, edge of mixing zone). This will be accomplished by integrating the 3-dimensional receiving water modeling results with the toxic potential results. Any predicted compliance problems will be identified and used as input for modifying the discharge scenario.

### 3.11 Product Water Analysis

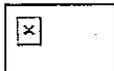
A corrosion analysis of the product water from the proposed Moss Landing desalination facility will be performed. The analysis will include the following tasks:

- Evaluate key water quality parameters and corrosion indices, including Larson's ratio, the Langelier Index, and pH;
- Work with the Project Team and pipe manufacturers to identify solutions and/or piping materials to minimize corrosion problems;
- Prepare a technical memorandum summarizing the results of the corrosion analyses and related recommendations.

### 3.12 Geology and Soils Investigation

The scope of work to be performed in support of the Project and CEQA process for the PEA will focus on establishing a baseline assessment of existing geologic/geotechnical conditions, and evaluating potential impacts and mitigating measures associated with the Project. Based on our understanding of the Project, the major geologic/ geotechnical constraints include soil settlement, seismic exposure including strong seismically-induced ground shaking and other secondary seismic hazards such as liquefaction and lateral spread, and slope stability. Specifically, the scope of work for the Project will include the following:

- Compile and review pertinent published geologic data/ maps of the area including previous geotechnical reports for the Plan B project, published reports and geologic maps prepared by the U.S. Geological Survey and California Division of Mines and Geology, and other readily available geotechnical consultants' reports in the vicinity of the project area. Various geologic researchers from the U.S. Geological Survey, California Division of Mines and Geology Seismic Hazards Working Group, Cal Tech, as well as other institutions that have performed assessments of faulting in the vicinity of the Project will also be contacted.
- Review historic, stereo-paired black & white aerial photographs in order to identify areas within the site that have been modified over the years.
- Perform reconnaissance-level geologic mapping of the Project area at an appropriate scale to be determined by RBF, and vehicle reconnaissance of pipeline routes.





- Drill, log and sample up to six (6) exploratory borings at the NRMCP and MLPP sites to depths of up to 50 feet. The location of the borings will serve to provide relevant subsurface data on the soil conditions for our analyses regarding liquefaction susceptibility, soil settlement, and other geotechnical engineering parameters to be determined via laboratory testing.
- Laboratory testing of selected soil samples, including the following:
  - Moisture/ density
  - Hydrocollapse
  - Grain size
  - Relative compaction
- Seismic risk/stability evaluation, based on guidelines set forth in CDMG Special Publication 117.
- Via review of previous studies, assess geological/ geotechnical constraints/hazards for CWP pipelines, pump stations, storage tanks and well components of the Project.
- Analyze all data obtained from the study outlined above and prepare a written report summarizing our findings, anticipated impacts and mitigating measures associated with the geologic/ geotechnical analysis for the Project.

### 3.13 Watershed Sanitary Survey

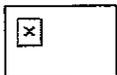
The Department of Health Services (DHS) Surface Water Treatment Rule requires a watershed sanitary survey and the Drinking Water Source Assessment Program (DWSAP) requires a source water assessment for all surface water supplies and groundwater under the influence of surface water. A desalination plant that derives its source water from the cooling water of a power plant poses unique challenges. First the watershed must be properly defined and, second the plumbing and potential contaminants to the cooling water system of the power plant must be understood. Our proposed approach is to work collaboratively with the Department of Health Services (DHS) engineers to define the watershed and the scope of work for the sanitary survey and source water assessment.

An ocean intake poses the challenge of properly defining the watershed so that all potential sources of contaminants that could impact water quality at the intake are captured. The potential sources of water for the Moss Landing Desalination Plant are the Pacific Ocean, including Moss Landing Harbor, Elkhorn Slough, Moro Cojo Slough, the Old Salinas River Channel, the Salinas River, and the Pajaro River. In addition, the cooling water discharge from the power plant may be recirculated back to the intake. The proposed hydrodynamic modeling will identify the sources of water at the intake. The watershed and delineate protection zones will then be cooperatively identified with DHS.

There are potentially a number of sources of contamination at the Moss Landing Power Plant (MLPP). MLPP site storm water discharged to Elkhorn Slough and Moro Cojo Slough can potentially reach the intake. In addition, discharges of cycle water to the cooling water system could reach the desalination plant intake, depending upon where the desalination plant intake is located in the cooling water system. The proposed Coordination Study will identify which intake(s) will be tapped and help to identify the contaminants entering the cooling water system. There are numerous hazardous substances used and stored at a power plant site that may spill and reach the intake. It will be important to clearly understand the contaminant sources at the power plant site.

#### a. Define the Watershed for the Moss Landing Desalination Plant

The watershed for the desalination plant must be defined based on the hydrodynamic modeling of the sources of water at the intake to the power plant. Potential sources of water include Elkhorn Slough, Moro Cojo Slough, the Salinas River, the Pajaro River, and the discharge from the power plant. For the purpose of preparing this scope of work and cost estimate, the following assumptions are made:





- The sources of water to the intake are Moss Landing Harbor and the water bodies that drain to it (Elkhorn Slough, Moro Cojo Slough, and the Old Salinas River) and the area of the Pacific Ocean within 2500 feet of the entrance to Moss Landing Harbor.
- Intake water quality is not affected by the Salinas River, the Pajaro River, or the cooling water discharge from the power plant (outfall 002). This assumption is based on the experience of the modeling consultant but will be verified during the study.

We will work with the modeling consultant to ensure that the model results provide the necessary information for defining the watershed. If the modeling consultant determines that the Salinas River and/or the Pajaro River are significant sources of water to the MLPP intake, the watershed area will be expanded by over 3 million acres. Once the modeling consultant has determined the sources of water to the MLPP intake, the watershed for the sanitary survey will be defined.

**b. Review Existing Water Quality Data**

Existing water quality collected by Duke at the MLPP, the volunteer monitoring data and data collected on Elkhorn Slough, Moro Cojo Slough, and the Old Salinas River by the Elkhorn Slough National Estuarine Research Reserve System (ESNERR), and the ESNERR continuous monitoring data on Elkhorn Slough will be reviewed, along with data collected by Cal-Am and any additional data that are identified. The data will be summarized for presentation to DHS and to determine the need for additional monitoring.

**c. Complete Source Water Assessment Checklist and Meet with DHS**

The DHS source water assessment checklist will be completed for all potential sources of contamination in the watershed based on one day of field work in the watershed. It is important to note that the source water assessment only requires that potential contaminating activities be identified. It does not require any additional information such as the precise location in the watershed, the volume of the discharge or water quality of the discharge. After completing the checklist, we propose to meet with DHS staff to reach agreement on the scope of work for the sanitary survey. Based on past experience on sanitary surveys for desalination plants and other surface water sources, we believe the level of effort proposed will be adequate to address all DHS' concerns, unless the watershed is expanded as a result of the modeling task. We also propose keeping DHS staff involved in the sanitary survey work as it progresses so that we all have a common understanding of the watershed and the potential risks it poses to the Moss Landing Desalination Plant.

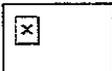
**d. Describe the Water Supply System and Treatment Plant**

The water supply system and hydrology of the watershed will be described for the sanitary survey report. The water supply system description is necessary to evaluate contaminant source impacts, Surface Water Treatment Rule compliance, and the ability of the treatment plant to satisfy existing and anticipated future drinking water quality regulations. This task is based on the following assumptions:

- The hydrology of the area and the sources of water to the treatment plant will be provided by modeling consultant.
- The water treatment plant description will be provided by Cal-Am.

**e. Identify and Evaluate Potential Contaminant Sources in the Watershed**

This task will be accomplished through a review of literature and agency files, interviews with staff knowledgeable about the watershed, and through a driving survey of the watershed. The first step will be to gather general information on the land uses and types of activities in the watershed through review of Elkhorn Slough Foundation reports, storm water program reports, general plans, the Basin Plan and other California Regional Water Quality Control Board (Regional Board) reports and files. The





objective will be to provide an overall description of the watershed and the types of discharges that could affect intake water quality.

We will then spend one to two days driving through the watershed noting information on activities and discharges on the maps and on field survey forms. The purpose of this task is to relate activities in the vicinity of the intake to raw water conditions at the intake. Based on our current understanding of the watershed, the primary contaminant sources appear to be:

- Power plant storm water discharges to Elkhorn and Moro Cojo sloughs
- Cycle water discharges to the power plant cooling water system
- Hazardous materials spills at the power plant
- Agricultural land use practices
- Dairies
- Tidal erosion (within Elkhorn Slough)
- Commercial and pleasure boating
- Urban runoff
- Domestic and wild animals

**f. Evaluate Expanded Water Quality Data**

Upon completion of the monitoring program, the water quality data will be evaluated to characterize intake water quality conditions for compliance with maximum contaminant levels (MCLs) and to determine the recommended log removals for *Giardia* and viruses. Based on a preliminary review of existing water quality data it appears that the primary constituents to address in the sanitary survey are microbial contaminants, nitrate, turbidity, and total dissolved solids (TDS). Conductivity or TDS data will be used to evaluate the mix of seawater and freshwater present at the intake when other water quality constituents are measured. Due to the extensive agricultural activities in the watershed, pesticides will also be evaluated, although it is unlikely that they will be found at levels exceeding MCLs or at levels that would pose problems for RO membranes. Based on our experience with a proposed desalination plant in Long Beach and a preliminary review of data on Elkhorn Slough, the log removal requirements will likely be based on storm event (worst case conditions). We will work with Cal-Am to determine if desalination plant operations can be ceased during storm events to allow for lesser log removal requirements if the plant only operates during dry weather conditions.

**g. Develop Strategies for Tracking and Influencing Activities in the Watershed**

Best management practices and watershed management activities will be identified that Cal-Am can implement or track to ensure that degradation in intake water quality does not occur. It will be particularly important to identify operations at the Moss Landing Power Plant that must be coordinated with the operation of the desalination plant, such as the scheduling of heat treatments or unusual discharges to the cooling water system. The Elkhorn Slough Foundation (ESF) currently owns or controls over 2000 acres of watershed land and has plans to acquire a total of 4000 acres in the next several years. It will be important to work with ESF to identify water quality concerns that are unique to drinking water (e.g. organic carbon) so that drinking water constituents can be factored into their management activities.

**h. Prepare Sanitary Survey Report and Source Water Assessment and Participate in Meetings**

The sanitary survey information will be included in a concise report that clearly describes the findings of the survey. The report will also contain all of the forms and information needed to satisfy the DWSAP source water assessment requirements. This task is based on the following assumptions:

- A preliminary draft will be submitted to Cal-Am for review



- A draft report will be submitted to DHS
- A final report will be prepared, incorporating DHS comments
- One hard copy and an electronic copy of each version of the report will be submitted to Cal-Am
- Three meetings will be held with Cal-Am and DHS

**i. Water Quality Monitoring Program**

In the event adequate data is not available for preparation of the Watershed Sanitary Survey, a minimum of one year's worth of monitoring data is to be collected for inclusion in the Watershed Sanitary Survey. Such data will be gathered at various points of the Moss Landing Power Plant's cooling system, prior to the point at which the proposed desalination plant would draw its intake water. Data will also be gathered throughout the year to reflect seasonal weather variations, during storm events, light rain events, and during the dry season. This task is limited to eight (8) separate samplings throughout the entire year (one storm event, two light rain events, one tidal cycle, and four dry season samplings). Sampling for storm and light rain events would occur over an extended period of time. Precise sampling locations will be determined subsequent to study of the power plant's cooling system diagrams. However, it is anticipated that the vast majority of sampling would occur at the plant's intake well. Samples will be analyzed for contaminants such as total dissolved solids (TDS), fecal coliform bacteria, radiological constituents, metals, organics, *Enterococcus*, and *E. Coli*. It should be noted that not all constituents will be analyzed during every sampling (certain constituents will only be analyzed during certain times of the year).

**3.14 Phase I hazardous Assessment**

RBF will review previous studies and available data from the MLPP and NRMCP sites to prepare a Phase I Environmental Site Assessment of the project, including the desalination plant, pipelines, pump stations, wells and related CWP project facilities. The Phase I will include a literature/records search, site reconnaissance, review of historical aerial photos, and review of agency records for open/unresolved environmental conditions that may adversely affect the project. This scope excludes laboratory testing, field sampling or operational inventory analyses of existing facilities. A chain of title will also be reviewed, if provided by the Client. The section will also address the potential discovery of contaminated soils during short-term construction operations based on available information, particularly for the NRMCP site.

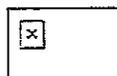
This section will also address the transport, use, and storage of hazardous materials at the proposed desalination facility (desalination plant and associated on-site facilities) and any off-site components of the project, including sodium hypochlorite, ferric chloride, sulfur dioxide, carbon dioxide, anti-scalant, and caustic soda. The section will also address any incompatibility between chemicals proposed for use at the desalination facility and chemicals currently in use at the existing power plant. The study will analyze the potential impacts of such chemicals during reverse-osmosis operations and other potential risk of upset issues, based on information provided by the Client or others.

**Task 4 – Permitting and Agency Coordination – Additional Services**

**4.1 Permit Coordination Center**

RBF will continue to coordinate the Permit Control Center (PCC), a collaborative information sharing forum with representatives of each of the regulatory agency representatives. RBF will identify key staff representatives for attendance, secure a meeting location, coordinate meeting schedules, facilitate meetings, develop meeting packets including agenda, maps and relevant project information.

**4.2 Long Lead Permit Application Summary**





- **Jurisdictional Delineation and Report Preparation** - RBF will perform a jurisdictional delineation to determine jurisdictional "waters of the United States," including wetlands (if present), located within the boundaries of the proposed project. The delineation will result in a determination of the ordinary high water mark(s) (OHWM) within the project site and indicate the existence of any adjacent wetlands not within the jurisdictional ordinary high water mark. The actual presence or absence of wetlands on-site will be verified through the determination of the presence of hydrologic conditions, hydrophytic vegetation, and hydric soils pursuant to the 1987 Army Corps of Engineers (ACOE) Wetland Delineation Manual.

Using detailed mapping of the project area, RBF shall prepare a jurisdiction delineation map and technical report detailing the results of the field delineation. RBF will provide an assessment of acreage considered by the ACOE, California Department of Fish and Game (CDFG), and California Coastal Commission (CCC) to be jurisdictional "waters of the United States" and "waters of the State."

- **Pre-Application Field Meeting** - RBF shall coordinate an on-site meeting with the ACOE, CDFG, Regional Water Quality Control Board (RWQCB), and CCC to discuss potential permitting strategies available for the proposed project, including mitigation expectations. RBF has found these Pre-Application Field Meetings to be extremely beneficial with regards to streamlining the permitting process.
- **Army Corps of Engineers 404 Permit Application** - Assuming the Project will require an Individual Permit, RBF will prepare a submittal package for a ACOE Permit to satisfy the requirements of Section 404 of the Clean Water Act (CWA). An Alternatives Analysis will be completed as required under Section 404(b)(1) for an Individual Permit (IP), based on engineering/planning alternatives discussed within the PEA. The 404(b)(1) Alternatives Analysis is required to identify possible alternatives that could avoid, reduce, or mitigate for impacts caused by the proposed action while still accomplishing the objectives of the project. When considering if an alternative is superior to the proposed action, several factors will be considered, including economic impacts. RBF assumes the client will provide any economic data and preliminary engineering information to include within the alternatives analysis.

The submittal package will include: a) 404 permit application standard form, b) vicinity map, c) project description (i.e., Alternative 1: Preferred Project), d) jurisdictional delineation report, e) biology report, f) cultural resources report, g) geology report, h) site photos, and i) Section 404(b)(1) Alternatives Analysis.

RBF will coordinate the development of an application to the Army Corps of Engineers for their regulation of facilities for impacts to navigable waters of the US through their authority under Section 10 of the Rivers and Harbors Act. Anticipated facilities requiring Section 10 permitting are those that impact coastal waters and the Moss Landing Harbor.

Pursuant to the Federal Coordination Act requirements RBF will facilitate the coordination efforts initiated by the USACOE with the federal services for Endangered Species Act compliance. RBF will prepare supplemental materials describing the specific extent and magnitude of the impacts to navigable waters. RBF will meet with federal agency representatives to identify their concerns and issues with the proposed facilities and will assist the USACOE in the facilitating the review and approval of the Section 10 and Section 404 permit applications.

- **California Department of Fish and Game 1600 Permit Application** - Prepare application submittal package for a CDFG 1601 also known as a Streambed Alteration Agreement. The submittal package



will include: (a) Form FG 2023, (b) vicinity map, (c) project description, (d) jurisdictional delineation map, and (e) site photos.

- **Regional Water Quality Control Board Section 401 Water Quality Certification** - Prepare submittal to secure a Water Quality Certification or waiver as appropriate from the State pursuant to Section 401 of the CWA. It is assumed that the project engineer will identify post construction Best Management Practices (BMPs) to be included in the application. This certification is necessary prior to the issuance of the ACOE 404 Permit.
- **Resources Agency Permit Processing** - Provide regulatory services for the processing of the permits through the ACOE, CDFG, and RWQCB. The processing shall include required correspondence or telephone calls between the reviewing staff related to the permit or points of clarification and coordination with the biological consultant, if necessary. This item includes up to two (2) meetings with the reviewing staff of the resource agencies and/or the Client during the review process. The fee associated with this work is a budget amount since it is difficult to anticipate the processing requirements. A budget amount of 125 manhours has been allocated for this work item. Should this amount be exceeded, especially due to the ACOEs' or CDFG's requirement for mitigation, then the Client shall be notified and work shall continue based on a separate addendum or a time and materials basis, subject to Client approval.
- **Graphics** - The Delineation and permit packages will include a maximum of five (5) exhibits to enhance the written text and clarify the Project and potential jurisdictional impacts. Exhibits are anticipated to include: Regional Vicinity Map, Site Vicinity Map, Site Plans (or aerial), site photographs, and a Jurisdictional Map.
- **Geographic Information Systems Data** - RBF technical staff will prepare data layers representing mapped resources on-site. Such resources will be limited to those identified by RBF field personnel during the site investigation. A budget amount of 40 manhours has been allocated for this work item. Should this amount could be exceeded, the Client shall be notified and work shall continue based on a separate addendum or a time and materials basis, subject to Client approval.
- **Regional Water Quality Control Board NPDES Permit** - RBF will prepare an application to the RWQCB for an NPDES permit for the discharge from the seawater desalination plant. RBF will prepare a Report of Waste Discharge pursuant to California Water Code Section 13260. RBF will complete and file Form 200 pursuant to the requirements of the RWQCB.

RBF will work closely with Cal-Am and Pridesa to determine the discharge characterization including the design flows, discharge constituents and concentrations, description and schematic of treatment processes, and a narrative of the proposed disposal methods. RBF will prepare appropriate graphics and maps to support the application package.

RBF will assist the RWQCB in answering questions and providing information as required by the EPA for their review of the NPDES. RBF will assist the RWQCB in providing information needed for public review and hearing in this process.

#### 4.3 Coastal Development Permit Processing

RBF will prepare and process a Coastal Development Permit Application through the California Coastal Commission. The first key task of this step will be a "Pre-application Meeting" with the Coastal Commission and key stakeholder agencies (see Task 6-2b). The primary objective of this pre-application process is to identify Commission issues, present to Commission staff our approach in addressing these issues, and to gain



consensus on preparing a single CDP application rather than a separate application for the County, City and State.

RBF will prepare the application with the appropriate exhibits, radius lists, and notices, relying upon data developed through the PEA studies and the preliminary design study. RBF will meet with Coastal Commission staff as needed, and will work closely with Cal-Am's Coastal Processing team to facilitate Coastal Commission processing of the application. This task includes responses to the Coastal Commission staff requests as well as follow-up meetings with commission staff toward obtaining staff report recommendations for approval. RBF will prepare for and provide presentations at Coastal Commission hearings and will represent Cal-Am at the hearings.

### **Task 5 – Meetings – Additional Services**

The project will require numerous meetings both internally and with outside governmental agencies and with the public. RBF will attend necessary meetings and prepare agendas and meeting minutes to facilitate the meetings. Final dates for meetings will be established a minimum of two weeks in advance. This scope assumes the following project meetings, in addition to those budgeted in other areas of the scope of work will be required for the long-term project phase.

#### **5.1 Planning and Review Meetings**

Two planning and review meetings with Cal-Am at their Monterey office are budgeted each month.

#### **5.2 Periodic High Level Meetings**

One periodic high-level meeting with Cal-Am in their corporate office in Chula Vista is budgeted every two months.

#### **5.3 Milestone Meetings**

At key milestones, additional meetings focused on technical issues and review of deliverables will be conducted, with participation of high level technical representations of the RBF team and Cal-Am.

#### **5.4 Public and Community Meetings**

This scope assumes that Cal-Am will manage public outreach and conduct all public meetings. RBF will provide technical data and project status reports to Cal-Am as requested to support the public outreach effort, and will provide a representative to attend each meeting (assumes 1 per month) and make a technical presentation.

### **Task 6 – Project Planning and Control**

#### **6.1 Project Kick-off Meeting**

Completed as part of Near-Term Phase

#### **6.2 Project Management Plan**

RBF will update the Project Management Plan prepared in the Near-Term Phase as required to address Phase II.

#### **6.3 Project Administration**

Consistent with the Phase II Project Management Plan, RBF will provide continuous planning, management, coordination and quality control of the contracted work throughout the Phase II Project.





#### **6.4 Monthly Status Reports**

RBF will prepare and submit monthly status reports to Cal-Am. The monthly progress reports will be in a concise customized format which will depict project progress in a narrative and graphical format focusing on costs incurred and earned value, schedule status, contract and construction cost trends, and problem identification and resolution.

#### **6.5 Develop, Maintain, and Control Project Schedule**

RBF will prepare and maintain two separate (contract and overall project) schedules through the duration of the project. The schedule will be in Gantt chart form, prepared using CPM methodology in Microsoft Project, and shall identify critical meetings and milestones. The schedule shall compare actual to scheduled activities with monthly updates. The schedules shall include an archival feature that will be used for trend analysis.

#### **6.6 Develop, Maintain, and Control Project Development Budget**

RBF will develop, Maintain, and Control the project budget estimate for all phases of the project development phase, including:

- All tasks and activities that are covered under the RBF's work scope;
- Cal-Am's and other consultant's costs based on Cal-Am input;
- Detailed design and construction inspection costs;
- Land acquisition costs; and
- And other non-construction related costs.
- Provide trend analysis of project development costs.

#### **6.7 Develop, Maintain, and Control Project Construction Estimate**

Develop, maintain and control Project Construction Cost Estimates for the entire Coastal Water Project, including cost estimating input from Cal-Am and other Cal-Am consultants. Develop standardized construction cost estimating assumptions and methodologies and proactively distribute to all cost estimating participants. Develop and distribute methodology for trend analysis of construction cost estimates.

#### **6.8 Develop, Maintain, and Control Estimated Facility Operation and Maintenance (O&M)**

RBF will develop, maintain, and control the operating cost model for the entire Coastal Water Project, taking into account all cost impacts and cost trade-offs of changes to facility design. Develop standardized O&M cost estimating assumptions and methodologies and proactively distribute to all cost estimating participants. Develop and distribute methodology for trend analysis of O&M cost estimates.

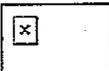
#### **6.9 Maintain QA/QC Program**

RBF will continue to maintain the QA/QC program established in the Near-Term Phase throughout Phase II. RBF's services under this subtask include attending six (6) meetings with the TAC.

### **Task 7 – Preliminary Design**

#### **7.1 Topographic Survey and Mapping**

RBF will perform topographic survey mapping work required for the preliminary design of the project facilities. This scope assumes the facilities will be equivalent to those described in the Plan B Project. Topographic survey work will be provided for the selected sites and alignments as determined in the project description phase, and will include the desalination plant site, feedwater and concentrate piping, product water conveyance piping, pump stations, tank, and connection points. This will include providing topographic mapping from aerial photogrammetry for the plant site and strip mapping covering a width of





100 feet for the pipelines at 1" = 100' with 1' contour interval. Mapping will meet the requirements in "ASPRS Accuracy Standards for Large Scale Maps", dated March 31, 1993. Topographic data will be provided in AutoCAD format and will include a digital terrain model in AutoCAD format.

### 7.2 Overall System Hydraulic Analysis

RBF will perform a hydraulic analysis of the proposed facilities, taking into consideration proposed project flows, facility sizing, alignments, and system operation. Hydraulic design, including pipeline and pump sizing, valve locations, materials and pressure classes, etc., will emphasize operational flexibility of the overall system and successful integration of proposed facilities with the existing Cal-Am distribution system.

### 7.3 Surge Analysis

Based on the current project concept for the Plan B project, it is our understanding that under summer operations, the Moss Landing Pumping Plant (MLPP) will pump nine (9) mgd of product water from the desalination plant through an approximately 58,000 foot long, 30-inch diameter pipeline to the Relay Booster Pump Station (RBPS). From here, the RBPS will boost the water to the Fort Ord Tank HGL for delivering to the Segunda Tanks via approximately 32,000 feet of 30-inch, 19,000 feet of 36-inch, and 10,500 feet of 24-inch pipe. Flow will also be delivered to the Del Rey Oaks Regulator Station for delivering into the existing Cal-Am system. The proposed injection/recovery well system will extract water and deliver it through an 11,000 ft long, 36-inch diameter pipeline into the proposed pipelines at the Fort Ord Tank HGL to meet peaking demands.

Under winter operations, the proposed Del Rey Oaks Booster Pumping Station (DROBPS) will take water from the distribution system at both the Del Rey Oaks Regulator Station via a 6000 foot long, 24-inch diameter pipeline and the Segunda Tanks and deliver it up to the Fort Ord Tank where it will be injected at the proposed well system. In addition, the MLPP and RBPS will continue to deliver water through the pipelines except it will be diverted to the well system for storage.

The source of pressure surges in the CWP will be the three pump stations, (MLPS, RBPS, and DROBPS), the well pumps, the injection flow control valves at the wells, and any valving associated with these facilities that could open or close rapidly. Their operation will have impacts on not only the proposed CWP piping and facilities, but also the existing facilities downstream of the Del Rey Oaks Regulator.

It will be assumed that the Fort Ord and Segunda Tanks will be online at all times. Based on this information, the following Scope of Work is anticipated as necessary to complete the pressure surge analyses of the system.

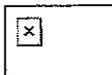
#### a. Model Construction

The RBF Team will review available reports, plans, etc. related to the Cal-Am Coastal Water Project (CWP) and coordinate with Cal-Am on existing system operations. Assemble data for the project including information for the: 1) three pump stations (pumps, valves, piping, etc.), 2) pipelines (profiles, materials, sizes, pressure classes), 3) tanks (operating levels), 4) well system (well pumps, valves, piping, etc.), and 5) existing distribution system (existing hydraulic model). Create a computer model of the CWP under both summer and winter operation conditions.

#### b. Steady State Simulations

Perform steady state flow simulations for the CWP under both summer and winter operating conditions. Review the results of the steady state analyses for reasonableness.

#### c. Pressure Surge and Water Hammer Simulations





Using the results from the steady state simulation, simulate the loss of power to the three pump stations and well pumps under both summer and winter operating conditions for various failure scenarios of the three pump stations and well pumps. These will include the simultaneous loss of power to all the pumps in the CWP and the loss of power to individual pump stations and wells in the CWP.

If necessary, recommend surge protection measures for any of the CWP facilities where pressure surge problems are created or where they adversely impact the system. This may include, but is not limited to, pressurized surge tanks, pressure/surge relief valves, vacuum relief valves, flywheels, etc. Perform simulations analyzing the opening and closing of any system valves, including the injection flow control valves located at the well fields, and determine safe operating times for each.

**d. Report Preparation**

RBF will prepare a detailed report describing methods and results of the analyses and any recommendations for the safe operation of the system.

**7.4 Preliminary Plans**

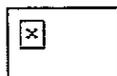
RBF will prepare preliminary design drawings depicting the base-case project. This scope assumes that the base-case facilities for preliminary design are equivalent in scope to those included in the Plan B Project. Pipeline drawings will be plan view at 1"=100' scale. Profiles will be prepared at congested or conflicted areas. Facility drawings will be prepared at plan views at 3/16"=1' scale for buildings and structures and 1"=30' scale for site plans. The scope assumes Pridesa will provide preliminary process, mechanical and I&C drawings for their areas of responsibilities at the desalination plant. An estimated list of drawings is included in Section 3.1 of the proposal. An electronic copy as well as Fifteen (15) 11"x17" hardcopy sets of preliminary plans will be submitted with the Preliminary Design Package.

**7.5 Outline Specifications**

RBF will prepare outline technical specifications for the project, for inclusion in the Preliminary Design Package. It is assumed that Pridesa will provide information for its desalination plant. The outline specifications will list and describe the relevant technical sections that will be required for the project contract documents, including, but not limited to:

- Submittals
- Site Work
- Earthwork
- Tanks
- Pumps
- Piping
- Valving
- Electrical
- General Operations
- Instrumentation
- Well Drilling
- Well Equipping
- Coordination with the Pridesa
- Other

**7.6 Design Basis Document**





RBF will prepare a Design Basis Document, summarizing the preliminary design analysis of the base-case project facilities. This will include the project description, a description of assumptions and methods, analysis, calculations, and other pertinent information, including summaries as follows:

- **Site Design** – Basis of design, design criteria assumptions, and layouts for the desalination plant, pump stations, reservoirs and injection/recovery wells.
- **Pipeline Design** – Design criteria, sizing calculations, material selection, and alignment selection for the pipeline.
- **Injection/Recovery Well Design** - Design criteria and civil, site and mechanical layout.
- **Structural Design Criteria** – Design criteria for design of the process building and pump station structures, as well as interior layouts of these facilities, in accordance with local codes, alternative methods of construction.
- **Architectural and Landscaping Design Criteria** - Process building architectural treatment, landscape plan for facilities.
- **Electrical Design Criteria** – Equipment and loading data for facilities.
- **Mechanical Design Criteria** – HVAC system design requirements for process building, structural and electrical system components.
- **Instrumentation and Control System Design Criteria** – Field instrumentation, local and central controls, description of the treatment system control strategy, general operations.
- **Preliminary Cost Estimates** – Cost assumptions, vendor coordination, cost index, and other cost data.
- **Functional and Operational Description of Facilities** – Complete description of all facilities.

#### 7.7 Compile, Submit, and Finalize Preliminary Design Package

Upon completion of the above tasks, RBF will incorporate and submit the preliminary design documents to Cal-Am for review and comment (fifteen (15) hard copies of the draft package for review). After Cal-Am has reviewed and approved the draft, comments will be incorporated and fifteen (15) final copies of the final Preliminary Design Package Report will be provided to Cal-Am.

### Task 8 – Proponents Environmental Assessment

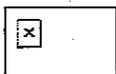
RBF will prepare a PEA for the subject project, in accordance with CPUC requirements, with the intent to satisfy CPUC CEQA requirements. In addition, the PEA will be prepared, as directed by the Client, with particular attention toward addressing the regulatory issues and environmental compliance requirements of applicable local, state and federal agencies.

#### 8.1 Project Initiation

##### a. Research and Investigation

RBF will obtain applicable reference material and will obtain research and field data necessary to prepare the PEA. This will include information from local agencies, County of Monterey (County), the Air Pollution Control District (APCD), State and Federal Agencies, affected water agencies, and other agencies or organizations which may be affected by the Project. This initial research for the PEA will be conducted concurrently with Task 1, building upon the extensive previous studies and reports developed through the Plan B process. Existing data sources will be mapped in Geographic Information Systems (GIS) to facilitate alternatives analysis and PEA evaluations. The GIS data will also reflect available data, particularly GIS data, from other local, regional, state and federal agencies. As new technical studies are completed, relevant data will be incorporated into GIS to maintain a current environmental database for the PEA.

##### b. Agency Consultation





In addition to the Notice of Preparation public review period and public participation organized by the Client, RBF will conduct additional discussions with local, state and federal agencies and key stakeholders, as necessary and as authorized by the Client. Additional agency consultation, including a pre-application field visit with regulatory agency staff, will be provided as part of Task 6, Permitting. The intent of early agency consultation and coordination is to ensure that the PEA adequately addresses regulatory agency issues, provide input into project design, alternatives and mitigation, and expedite the regulatory permitting process.

**c. Field Reconnaissance**

As a part of the early scoping for the Project, RBF will conduct a field study of the proposed project, focusing on the Plan B facilities. This task will be initiated as part of Task 1, in order for the RBF environmental planning staff and technical specialists to provide constraints-level information as part of the alternatives evaluation and Plan B refinement. As results of new technical studies become available, they will be provided to the Client and design team. This task includes reviewing existing land use and environmental conditions and conducting a photographic recording of on-site and surrounding uses. Field visit data will be used to update the GIS data where necessary. This task is based on site-specific field surveys for two alternate desalination plant sites, two alternate conveyance facility alignments, three booster/pump stations, two 2.25 MG storage tanks, three ASR well areas (with six total wells), and related pipelines totaling approximately 130,000 lineal feet.

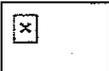
**d. Notice of Preparation (NOP)**

In order to expedite the PEA process, RBF proposes to prepare an Expanded NOP rather than a formal Initial Study checklist. This will allow NOP distribution immediately following completion of Task 1. The NOP process will commence concurrent with Task 1, and will be submitted for Client and CPUC review upon completion of Task 1 and selection of the project alternatives, using a CPUC-approved format. The NOP will include all CEQA and CPUC required data, including a project summary, project location, project objectives, phasing, related regulatory agency approvals, and a summary of anticipated environmental issues to be addressed in the PEA.

RBF will prepare a Notice of Preparation (NOP) for review and approval by the Client and CPUC. Once approved, RBF will send the NOP to CPUC and the State Clearinghouse, post the NOP at the County Clerk's Office, and distribute the document to responsible, trustee, and other interested/relevant agencies, including local libraries or other locations designated by CPUC. Distribution will be based on a Client-approved distribution list to be prepared and maintained by RBF in conjunction with the Client. This task includes certified mailing of notices to affected agencies and interested parties, including property owners of land immediately adjacent to or directly affected by (easement or acquisition is needed) the project facilities. RBF will also provide posting in the local newspaper. The NOP will also be provided to the CPUC, Office of Planning and Research (OPR) and Client in portable document format (pdf), which will allow it to be posted to appropriate web sites and/or distributed electronically to reduce time and costs. Comments received in response to the NOP will be evaluated during the preparation of the PEA.

**8.2 Preparation of Administrative Draft PEA**

The PEA will address the Plan B project as set forth above, as well as the No Project alternative and Carmel River Dam alternative. The Plan B analysis will include evaluation of two Moss Landing desalination sites (MLPP and NRMCP), two alternative pipeline alignments, three booster/pump stations, two 2.25 MG storage tanks, three ASR well areas (with six total wells), and related pipelines totaling approximately 130,000 lineal feet. Should additional alternatives be determined by the Client to warrant detailed evaluation





in the PEA, these can be included under a separate scope and fee. The PEA will follow CPUC Rules and will comply with CEQA.

**a. Cover Sheet**

The Cover Sheet will be a single sheet containing the title "Proponent's Environmental Assessment", the caption of the proceeding for which the PEA has been prepared, the docket number of the proceeding, and the name, address, and telephone number of the project proponent.

**b. PEA Summary**

RBF will provide a PEA Summary including a Project Summary, an overview of project impacts, mitigation and levels of significance after mitigation, unavoidable significant impacts, summary of project alternatives and areas of controversy and issues to be resolved.

**c. Project Purpose and Need**

This section will include a detailed discussion of the Coastal Water Project's objectives, including a discussion of the project history, regional water supply, and need for the project. This section will include the regulatory framework leading to the Coastal Water Project, a summary of public scoping and component screening efforts that refined the project's goals and objectives, and a discussion of how the currently proposed project alternatives relate to regional water supply, Coastal Water Project goals and SWRCB Order 95-10.

**d. Project Description**

The Project Description section of the PEA will detail the project location and setting, regional and local planning context, and Project alternatives, based on the results of Task 1. The section will include appropriate graphics and tables, including the results of research, field reconnaissance, and GIS exhibits developed in Task 1. The "No Project" and "Carmel River Dam" alternatives will be discussed based on data developed through the Carmel River Dam Draft EIR, as updated through the Plan B process and Task 1. RBF will also discuss the project's economic implications as they relate to the CPUC proceeding. As the PEA will be coordinated closely with various local, regional, state and federal agencies, this section will also describe related regulatory permitting programs, required permits, agreements and approvals, and the PEA's relationship to the required CEQA and NEPA review processes of other agencies.

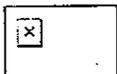
**e. Environmental Setting**

The PEA will describe the local and regional environmental setting for project facilities. This section will focus on existing setting information most pertinent to the project's identified potentially significant impacts. The discussion will, at minimum, address topography, land uses, and biological resources.

**f. Environmental Impact Assessment Summary**

The PEA will include an Environmental Impact Assessment Summary using a CPUC-approved form. This form will allow the PEA to focus on potentially significant project impacts. A brief response will be provided for all issues that are not considered significant. These responses will be prepared in a manner to satisfy CEQA Guidelines relating to "Effects Found not be Significant". All questions for which the response is "yes", "potential" or "unknown" shall be addressed in detail within the PEA (see Task 2.7 below).

**g. Environmental Analysis**





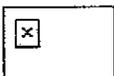
RBF will evaluate the necessary information with respect to existing conditions, potential adverse and beneficial effects of Project implementation (both individual and cumulative), and measures to mitigate such effects. The PEA will address the No Project, Carmel River Dam, and CWP, including two MLPP site alternatives and two conveyance alignment alternatives. The PEA will address primary and secondary effects, and will distinguish between project design features that reduce, avoid or offset impacts, as well as existing regulations and proposed mitigation measures. Environmental issues raised during the scoping process (Notice of Preparation responses, Public Scoping Meeting, and any other relevant and valid informative sources) will also be evaluated. The analyses will be based upon all available data and previously prepared reports, results from additional research, and an assessment of existing technical data. The PEA will consider impacts of the Project on local general plans, local coastal programs and zoning ordinances. The PEA will also provide information to support the issuance of any discretionary permits applicable to the Project.

The PEA will identify the existing baseline environmental conditions of the power plant as related to the proposed desalination plant. Existing conditions discussion for the power plant will be relatively brief, and will be based on available data either developed as part of this scope of work or provided by others (the Client, CPUC). The summary will cite additional data sources where more detailed existing conditions information can be found. The PEA will not examine potential impacts or propose mitigation measures associated with existing or future power plant operations, except as they relate to the proposed desalination plant or with respect to cumulative impacts, pursuant to the applicable task(s) described below. The PEA will provide detail commensurate with the anticipated significance of the impact. Where appropriate, to the extent practical, the PEA will utilize incorporation by reference of technical studies and previous environmental documents.

**Aesthetics/Light and Glare** – RBF will characterize the existing aesthetic environment and visual resources, including a discussion of views within the site and views from surrounding areas to the site, particularly from adjacent public recreation and scenic vista areas. Site photographs will be provided which will show on-site and surrounding views. Project impacts will be addressed based on changing the existing on-site aesthetics visible from surrounding roadways, railways and business, residential and recreational locations, including evaluation of the effect of replacement of the existing structures with the desalination plant structures. The PEA will note project design features and existing regulations that reduce or avoid impacts. Due to the project requiring approval from the Coastal Commission and Energy Commission, and based on each agency's practice to prepare formal Visual Impact Assessments, this section will be prepared to meet CEC requirements regarding visual impacts. This includes renderings from Key Observation Points (KOPs) for up to five renderings. Each computer-generated rendering will show existing conditions, project conditions at 5 years, and project conditions with mature landscaping. The renderings will be survey-controlled using GPS technology, and will be prepared consistent with CEC protocol. The KOPs will be selected in coordination with the Client, CPUC and CEC staff. In addition, this section will provide a detailed discussion of Laws, Ordinances, Regulations and Standards relating to visual impacts and aesthetics, including County and City General Plans, zoning ordinances, Local Coastal Plans, and the Coastal Act.

Mitigation measures such as building design modification, perimeter landscaping, screening and setbacks, as determined necessary, will be recommended to reduce the significance of potential impacts. RBF will also address impacts due to the introduction of light and glare associated with the development of the proposed Project, including construction, facility and security lighting.

The aesthetic analysis as described above will be provided by RBF for both the proposed desalination facility (desalination plant and associated on-site facilities) and, as applicable, any off-site components of the project.





**Air Quality** – The existing setting discussion will provide a description of the local climate, Air Basin, monitored pollutants and their levels, the attainment status of criteria pollutants and a summary of the applicable air quality and growth documents from the air district. Significance criteria as established by the Monterey Bay Air Pollution Control District (APCD) will also be described. The impact analysis will include quantified emissions for both short-term (construction) and long-term (operation) project impacts based on the URBEMIS computer model or other model approved for use by the APCD. Stationary source emissions will be discussed based on data provided by the Client or others, including APCD or equipment manufacturer(s). The project's energy demands as it relates to power plant air emissions will be discussed, as well as the project's relationship to regional air quality plans and policies. The PEA will also discuss the effectiveness of recommended mitigation measures, which will be quantified and the residual emissions after mitigation described.

**Biological Resources** – The PEA will summarize the results of the Marine and Terrestrial Biological Resources Assessments, focusing on potential effects to sensitive resources and permitting issues. The PEA will discuss construction related issues such as “frac-outs” and identification of sensitive resource locations where tunneling should be considered.

**Geology and Soils** – The PEA will summarize the results of the Preliminary Geotechnical Investigation, focusing on potential site constraints and seismic hazards.

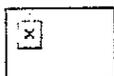
**Hazards and Hazardous Materials** – The PEA will summarize the results of the Phase I Site Assessment, focusing on potential existing site hazards that may limit, delay or add cost to project construction.

**Surface Hydrology and Water Quality** – The PEA will summarize the results of the Preliminary Drainage Study, focusing on surface drainage and water quality issues.

**Source Water Quality** – RBF will summarize the results of the Watershed Sanitary Survey to provide both a discussion of existing water quality conditions nearby the MLPP intake structure and potential impacts of source water quality on reverse osmosis operations and product water quality.

**Receiving Water Quality** – RBF will provide an analysis of potential impacts of the proposed desalination facility's brine discharge on the local marine/coastal environment, based on the hydrodynamic modeling conducted by Flow Science. RBF will utilize dispersion and dilution modeling data to include a description of existing ocean characteristics in comparison to conditions in which the desalination plant is operating, including an analysis of salinity. The PEA will also address other receiving water quality concerns, including cumulative impacts upon Monterey Bay, and desalination byproduct chemicals. This section will describe marine water quality objectives per the California Ocean Plan and will graphically depict salinity discharge plumes. The NPDES monitoring and regulatory framework applicable to the proposed project will also be described.

**Product Water Quality** – RBF will utilize the Product Water Quality Characterization Study to provide an impact analysis of the proposed project's product water in regards to supply, compatibility with existing water supplies and facilities, water quality consistency, and operational hydraulics. The PEA will address product water quality relative to Department of Health Services (DHS) standards, hydraulic/surge control issues, and corrosion issues. Mineralization of desalinated water will be addressed as it relates to changing the water quality in the local distribution system, and associated potential effects upon Monterey Bay and local treatment plant NPDES permits. This section will





include potential effects of product water quality on industrial, commercial, or residential end users. A general overview of existing local and regional water supply facilities will be provided.

**Water Supply** – The PEA will summarize and update the extensive water supply information contained in the Plan B documents, including a summary of existing supply sources. The section will focus on Carmel River Dam and groundwater supplies, incorporating the results of the ASR feasibility studies in Task 4.6. This section will discuss the proposed ASR facilities and associated changes in surface and groundwater supply conditions, as well as potential effects upon groundwater quality.

**Land Use** – RBF will analyze the potential land use compatibility issues and the relationship of the project to all applicable ordinances and planning policies. The review will be based, in part, upon reports provided by the Client or others regarding the seawater desalination plant, as well as local ordinances and policies. The policy review will include relevant goals and objectives contained in the General Plans, Local Coastal Plans, and zoning ordinances.

RBF will evaluate the appropriateness of the proposed project relative to land use compatibility with surrounding uses, in particular any sensitive land uses such as public beaches, wildlife refuges, and residential areas. Impacts of the proposed water delivery system on both a local and regional scale will be analyzed, if necessary. RBF intends to utilize information available from the client, local agencies, CPUC, County of Monterey or others, as well as the NOP process and Public Scoping Session to identify particular concerns and any potential for public controversy. RBF will recommend mitigation measures to reduce potential impacts to the extent feasible.

**Noise/Vibration** – A technical evaluation will evaluate potential noise and vibration impacts of the proposed Project, focusing on short-term construction-related impacts and long-term sources associated with desalination plant and pump station operations. RBF will identify relevant existing conditions, including review of applicable planning documents such as the General Plan, Zoning Code, and Noise Ordinance. RBF will conduct ambient noise measurements at up to four (4) locations within the desalination plant vicinity to establish the present average sound levels for potentially affected areas (15-minute Leq readings will be taken using a Type I rated sound level meter). RBF will conduct up to two (2) ambient noise measurements at each transmission route alternative and one (1) at each of up to three (3) pump stations and three (3) well field areas, as directed by the Client in consultation with CPUC and local agencies. The project team will review applicable noise control and vibration standards by the State of California and local jurisdiction(s) affected by the proposed project.

Noise and vibration levels associated with on-site equipment will be calculated for areas located along the boundary of the project site, particularly adjacent to residential development and public beaches. Calculations will also be made for the immediate vicinity of the pump station locations. These calculations will be derived from accepted industry interpretations of noise and vibration propagation and will be entirely based on reasonably expected design specifications provided by the Client. Given the relatively small scale of the project, mobile noise sources are not anticipated to result in significant impacts.

Project noise impacts will be assessed based on total increases in the ambient noise level and potential to exceed local agency noise standards. RBF will provide tables to identify potential Project noise and vibration impacts, and identify mitigation measures necessary to comply with local noise and vibration standards. This mitigation will consist of preliminary design recommendations, and is not intended as a design-level analysis.



**Traffic / Circulation** – This section will identify existing traffic conditions in the affected areas, including pipeline alignment routes, and potential short-term construction-related impacts in regards to transportation / circulation, access and safety (associated with truck traffic and construction worker trips). The section will also include potential impacts of trucks carrying hazardous materials to and from the desalination plant, trucks carrying filter backwash solids to landfill disposal, and long-term employee traffic. RBF will recommend mitigation, such as a standard Traffic Management Plan and jack/bore locations at major intersections. Detailed traffic modeling and intersection capacity analysis is not proposed for construction-related or operational traffic analyses, due to the anticipated small number of trucks/trips involved.

**Cultural Resources** – The PEA will summarize the results of the Cultural Resources Assessment, focusing on potential impacts to archaeological, paleontological and historic resources.

**Filter Backwash Solids Disposal** – RBF will examine how the waste discharge from the desalination plant will be handled. A discussion of potential impacts to existing infrastructure, treatment plant or landfill capacity will be included. RBF will also identify mitigation measures, if warranted, to reduce impacts to the extent feasible. This analysis will be based on information provided by the Client, CPUC and/or applicable utility/service providers, and excludes additional engineering studies. Other service/utility issues are anticipated to be addressed within Environmental Impact Assessment Summary section of the PEA.

**h. Growth Inducement**

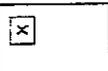
RBF will discuss potential growth-inducing impacts pursuant to CEQA Guidelines Section 15126.2. The analysis in this section will be based primarily on data developed through the Carmel River Dam and Plan B processes, updated to reflect the project. The discussion will include regulatory context as it relates to local growth planning and SWRCB Order 95-10. The PEA will summarize current local and regional growth planning programs, including the relationship of the proposed Coastal Water Project facilities to future growth. This section will also include data from the local cities, County of Monterey, California Department of Finance, and U.S. Census data. Particular attention will be given to discussing the project's relationship to existing and planned development, and whether or not the project may foster new or accelerated development.

**i. Alternatives to the Proposed Action**

Pursuant to CEQA Guidelines Section 15126.6, RBF will provide an analysis of a “reasonable range” of alternatives per the direction of the Client, based on the results of Tasks 1.1. A detailed alternatives analysis is also necessary to facilitate regulatory agency permitting. In addition to the Project Alternatives addressed throughout the PEA, the alternatives section is anticipated to address the following:

- Alternative Desalination Plant Sites
- Salinas Rubber Dam
- Carmel River Dam
- Water Importation
- Conservation
- Recycling/Reclamation
- Groundwater Development
- Additional Alternatives
- CEQA “Environmentally Superior Alternative”

**j. Additional Sections**





RBF will provide additional sections in the PEA to meet CEQA and the Client requirements including the following: Significant Irreversible Environmental Changes That Would Be Involved In the Proposed Action Should It Be Implemented, Organizations and Persons Consulted, and References.

**k. Graphic Exhibits**

The PEA will include a maximum of 30 exhibits to enhance the written text and clarify the proposed Project and environmental impacts. Using state-of-the-art computer design equipment and techniques, our in-house graphic design team will create professional quality, black and white, dividers and covers for the PEA and Appendices. All exhibits will be black and white and 8.5" x 11" in size, unless otherwise approved by the Client. RBF will utilize GIS data developed in Task 1 to create project-specific GIS exhibits.

**l. Submittal of Draft PEA**

RBF will submit the PEA to the Client for review and comment, as sections are completed. RBF will provide one "check copy" for client approval prior to CPUC submittal. RBF will provide an original and twelve (12) copies of the PEA to CPUC for review and comment.

**8.3 Preparation of Revised Draft PEA**

RBF will respond to up to three (3) rounds of revisions to the Draft PEA, based on the Client and CPUC comments. This task assumes concurrent submittal to the Client and CPUC, and that subsequent comments focus on PEA revisions.

**8.4 Draft PEA/EIR**

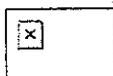
This task assumes that the CPUC will utilize the revised Draft PEA as the Draft EIR. RBF will prepare the Draft PEA/EIR for the required 45-day public review period within two weeks of approval of the Administrative Draft EIR. In addition, RBF will prepare the Notice of Completion (NOC) for review and approval by the Client and CPUC. Once approved, RBF will send the NOC and fifteen (15) copies of the Draft EIR to the State Clearinghouse, and an original and twelve (12) copies to the CPUC. RBF will distribute the EIR to responsible, trustee, and other interested/relevant agencies, including local libraries or other locations designated by CPUC. Distribution will be based on a Client-approved distribution list to be prepared and maintained by RBF in conjunction with the Client. This task includes certified mailing of notices to affected agencies and interested parties, including property owners of land immediately adjacent to or directly affected by (easement or acquisition is needed) the project facilities. RBF will also provide posting in the local newspaper. The EIR will also be provided to the CPUC, OPR and Client in portable document format (pdf), which will allow it to be posted to appropriate web sites and/or distributed electronically to reduce time and costs.

**8.5 Final EIR**

**a. Responses to Comments / Administrative Final EIR**

The Final EIR will consist of the revised Draft EIR text, as necessary, and the Responses to Comments section. The Draft EIR will be revised in accordance with the responses to public comments on the EIR. To facilitate the Client and CPUC review, RBF will format the Final EIR with shaded text for any new or modified text, and "strike out" any text that has been deleted from the Draft EIR. RBF will respond to all written and verbal comments received during the Draft EIR public review period. The Draft Responses to Comments will be prepared for review by the Client and CPUC. Following review of the Draft Responses to Comments, RBF will finalize this section for inclusion in the Administrative Final EIR.

**b. Preparation of Revised Administrative Final EIR**





RBF will respond to up to three (3) rounds of revisions to the Administrative Final EIR, based on the Client and CPUC comments. This task assumes that CPUC and Client reviews are concurrent, and each set of comments focus on EIR revisions.

**c. Final EIR**

RBF will prepare the Final EIR, and will print and mail the Final EIR with appendices and exhibits to commenting agencies pursuant to CEQA Section 21092.5 and interested parties. In addition, RBF will prepare and file the Notice of Determination (NOD) within five (5) days of Final EIR certification with the County Clerk and State Clearinghouse. The Final EIR will also be provided in portable document format (pdf), which will allow it to be posted to appropriate web sites and/or distributed electronically to reduce time and costs

**d. Findings of Fact and Statement of Overriding Considerations**

RBF will provide administrative assistance to facilitate the CEQA process including the preparation of the Notice of Determination, Environmental Findings of Fact, and Statement of Overriding Considerations, if necessary, for use in the CPUC certification and project approval process. RBF will prepare the Findings and Statement in accordance with the provisions of Section 15091 and 15093 of the State CEQA Guidelines and in a form specified by the CPUC. RBF will submit the Draft Findings and Statement for the Client and CPUC review and will respond to one (1) set of staff comments.

**e. Mitigation Monitoring and Reporting Program**

To comply with the Public Resources Code Section 21081.6, RBF will prepare a Mitigation Monitoring and Reporting Program to be defined through working with the Client and CPUC to identify appropriate monitoring steps/ procedures and in order to provide a basis for monitoring such measures during and upon Project implementation. The Mitigation Monitoring and Reporting Program will identify, discuss, and develop appropriate monitoring programs for any impacts that may be associated with the short-term construction and/or long-term operation and maintenance of the Project. RBF will prepare a Draft Mitigation Monitoring and Reporting Program to be submitted to the Client for review at the Administrative Final EIR milestone submittal. RBF will respond to one (1) set of staff comments on the Draft Mitigation Monitoring and Reporting Program.

**8.6 NEPA Compliance**

As noted, the EIR will address federal agency issues, laws, and regulations, including applicable Executive Orders. RBF, as part of previous tasks, will meet with BLM, FORA and Army staff to discuss the appropriate NEPA compliance process for obtaining easements and/or land acquisition for project facilities. The precise federal compliance process will depend upon the final alignments and facility locations, federal resource issues identified (particularly ESA and SHPO), as well as current/projected federal ownership status through FORA. This task is based on facilitating preparation of two separate NEPA documents, one for BLM lands and one for Fort Ord Army lands. The NEPA document is assumed to be based on the Draft PEA, and that an Environmental Assessment/Finding of No Significance (EA/FONSI) or Categorical Exclusion is determined to be appropriate. RBF assumes that the federal agency will prepare any necessary supporting documents, such as a FOST or FOSL.

**8.7 PEA Management**

RBF will provide review and management of the PEA work effort, including coordination of the PEA team and technical experts. This task includes providing Cal-Am with weekly email updates, preparation for and follow-up for each PEA meeting, preparation of meeting minutes, preparation of formal status reports, internal review of PEA studies and PEA work products, coordination with Cal-Am and CPUC regarding PEA preparation and processing, and related items. The PEA Task Manager will provide ongoing input to





---

the RBF Program Manager and Cal-Am regarding PEA issues, schedule updates, technical study findings/coordination, and regulatory permit coordination.



**EXHIBIT C**



August 15, 2005

JN 70-100045.999

John Klein, P.E.  
Senior Operations Engineer  
California American Water  
50 Ragsdale Dr., Ste. 100  
Monterey, CA 93940

**SUBJECT      PROPOSAL FOR THE COASTAL WATER PROJECT (CWP) POST PROPONENTS  
ENVIRONMENTAL ASSESSMENT (PEA) MISCELLANEOUS ENVIRONMENTAL AND  
ENGINEERING SERVICES**

Dear John,

Attached for your processing per our recent discussions and meetings, is our proposed scope and budget for the CWP Post-PEA Miscellaneous Environmental and Engineering Services.

Attachment A includes the scope of work, and attachment B is the proposed budget, which can be summarized as follows:

I.	Additional Items During PEA Phase	\$ 195,000
II.	Pilot Plant Laboratory Office Project	46,180
III.	Pilot Plant Program Management Services	342,140
IV.	Meetings and Presentations	163,000
V.	Right-of-Way Acquisition Services	88,750
VI.	CPUC Coordination and Clarifications	203,500
VII.	Amended Application Data Requests	53,000
VIII.	Watershed Sanitary Survey	138,800
IX.	Receiving Water Modeling and Flow Science Modeling	99,800
X.	Permitting Coordination (not including Coastal Commission)	99,250
XI.	Focused Surveys	106,800
XII.	Unidentified Scope of Services	103,000
		<u>\$ 1,639,220</u>

We look forward to continuing work with California American Water on the Coastal Water Project. Please call if you have any questions.

Sincerely,

Lawrence E. Gallery, P.E.  
Senior Vice President

## SCOPE OF WORK

### COASTAL WATER PROJECT (CWP) POST PROPONENTS ENVIRONMENTAL ASSESSMENT (PEA) MISCELLANEOUS ENVIRONMENTAL AND ENGINEERING SERVICES

#### I. Additional Services During PEA Phase

Additional services during the PEA phase of the CWP were performed that will result in exceeding the initial approved budgets. We are therefore requesting additional budget. Also please note that during May, June, and July of 2005, an extraordinary amount of effort was required to answer data requests from the CPUC, Office of Rate Payer Advocate, and Administrative Law Judge. In addition, preparation of the amended application testimonies was also required. The following summarizes additional tasks conducted during the preliminary engineering and PEA phase of the project:

1. Modeling of new California American Water (CAW) well into network
2. Field water quality measurements and equipment
3. Fire hydrant pressure testings
4. Right-of-way acquisition services
5. Administrative Law Judge response to questions
6. Office of Rate Payer Advocates data requests
7. Application Amendment Testimonies
  - i. Lawrence Gallery testimony
  - ii. Review and coordinate others testimonies
8. Santa Margarita Well ASR DSWAP
9. NOAA Fishery / Status Report
10. Internal CAW White Paper
11. CAW technology expo presentation board
12. Evaluation of Additional Alternatives in PEA
13. Expedited PEA submittal and two intensive "PEA Review Workshops"
14. Regional Project/Town Hall Meetings and Presentations

#### II. Pilot Plant Laboratory Office Project

1. RBF will coordinate with Monterey County and other agencies and will coordinate with DENA-MLPP throughout the design and installation process.
2. RBF will develop a list of laboratory analyses required for the pilot plant program, including analyses required before and after delivery of pilot plant equipment, and will estimate the frequency and total number of each laboratory analysis to be conducted.
3. RBF will estimate the cost to do each type of laboratory analysis on-site versus having the analysis done off-site, and will develop a list of recommended list of analysis to be done on-site. Cost of on-site analysis will consider capital equipment, reagents, waste disposal, any required certification of laboratory technicians, and effective use of on-site labor (pilot plant operating personnel.)

4. RBF will develop an estimate of the number of pilot plant personnel, including laboratory technicians and a corresponding estimate of office requirements, including desk space, file storage, lavatory, and work/meeting areas.

RBF will contact mobile modular office/laboratory suppliers to determine available configurations for combined laboratory and pilot plant office. Prepare space plan and interior layout drawings to accommodate required offices, lavatory, laboratory bench space, ventilation hoods, sinks, and storage (corrosive, flammable, cold, etc.). Determine water requirements (utility, potable, distilled) and design required facilities. Determine waste storage requirements and design-required facilities.

5. Prepare a site plan for the initial laboratory/office, considering future pilot plant facilities. Site plan will include provisions for utility service (electrical, water), walkways, and parking. Prepare details for access ramps and walkways, and structural support of laboratory/office, if required.
6. Coordinate with PG&E to obtain electrical power service to the site sufficient for initial laboratory/office facilities as well as the future pilot plant facilities. Design on-site electrical facilities to receive and distribute electrical power to the laboratory/office and future pilot plant facility.
7. RBF will coordinate and oversee installation of the laboratory/office at the project site. This will include reviewing and approving submittals from suppliers/contractors, coordinating the deliveries of materials, and overseeing construction activity by contractor(s).
8. Items not included:
  - Laboratory startup
  - Laboratory certification
  - Analyses or testing of water samples
  - Permit Fees
  - Expenses associated with Materials or supplies that will be incorporated into the laboratory/office.
  - Laboratory operating expenses

### **III. Pilot Plant Program Management Services**

#### **Sub-Task 1 - Pilot Plant Study Plan**

RBF will develop a complete testing protocol for use in operating the pilot plant, including comparison runs with multiple processes, conditions and materials. The protocol will define the objective of the testing program, and will outline the operating strategies and operating parameters to be tested and the data to be collected. The protocol will define the sampling and routine monitoring schedules to be followed during the testing. The protocol will define the water quality parameters that are to be tested and the frequency of the tests.

#### **Sub-Task 2 - Preliminary Site Design of Pilot Plant Facility (PPF)**

RBF shall coordinate with Duke Energy to investigate the proposed location of the PPF on the MLPP site. RBF will prepare a preliminary design of site facilities necessary for

integrating the PPF with the MLPP cooling water system. RBF will perform preliminary design of the equalization tank and associated pumps and piping systems that will be used in conjunction with the PPF.

### **Sub-Task 3 - Design of PPF Equalization Facilities**

Following review of the Preliminary Design (Task 1) by CAW and Duke MLPP staff, RBF will prepare a final design of the equalization tanks and associated pumps and piping systems. The design will include technical specifications and full size drawings, for all associated civil, structural, mechanical, electrical and instrumentation components; but will not include any bid forms, contract forms, or special conditions since it is assumed that these specifications and drawings will be included in a larger bid set for the overall PPF installation, which will be prepared under separate contract.

### **Sub-Task 4 - Coordination with PPF Suppliers and Contractors**

American Water-Pridesa (AWP) will prepare and provide engineering documentation for the PPF for CAW's approval. RBF will provide review and comment on these submittals and will coordinate and meet with AWP throughout the preparation of their engineering documentation. However, any installation design services for AWP's pilot equipment are not included here, but may be provided as additional services.

RBF will meet with AWP in Tampa, Florida on two separate occasions to collect relevant information from AWP's operating pilot plant at that seawater desalination facility.

RBF will provide a recommendation to CAW regarding the selection of a second pretreatment membrane system vendor for incorporation into the PPF. Following CAW's selection of the vendor, RBF will coordinate with the selected vendor in similar fashion as with AWP. However, any installation design services for the selected vendor's pilot equipment are not included here, but may be provided as additional services.

RBF will make three trips to the PPF site during the course of PPF installation, and will participate in three PPF installation coordination meetings, to be held at RBF's Marina Office.

### **Sub-Task 5 - Pilot Plant Permitting and Coordination with Duke**

RBF will coordinate with Monterey County to obtain necessary permits for pilot plant installation at DENA-MLPP, and will coordinate with DENA-MLPP throughout the installation process.

### **Sub-Task 6 - Pilot Plant Study Supervision and Report**

RBF will analyze the data collected by the PPF operator and will evaluate the processes as tested, offering guidance for further development or large-scale feasibility. RBF will analyze the monthly data reports provided by the PPF operator and will provide monthly analysis of pilot test results and pilot test progress summary.

During the course of PPF operation, RBF will attend 15 progress meetings, to be held at RBF's Marina Office.

RBF will prepare and present a draft and final technical report to document all aspects of the pretreatment and desalination pilot plant operating results and water quality information.

### **Sub-Task 7- Water Quality Monitoring**

RBF will design, build and install a water quality monitoring station at the proposed diversion point to the proposed PPF. The purpose of this monitoring station is to measure pH, turbidity, temperature, and conductivity (salinity) on a continuous basis prior to the installation of the PPF. Until the PPF is operational (assumed 6 month period), RBF will check the status and operation of the Water Quality monitoring station on a weekly basis and download data from the monitoring instrumentation. The monitoring station will also be utilized to obtain necessary additional water quality data for incorporation into the Watershed Sanitary Survey and additional brine modeling (see Tasks VIII and IX below). RBF will prepare a monthly report summarizing the data.

RBF will coordinate with DENA-MLPP Plant staff on all aspects of water quality station installation and data collection.

### **IV. Meetings and Presentations**

During the PEA phase of the CWP, monthly team meetings, over 50 community presentations, and numerous individual meetings with elected officials was required. We anticipate that this will continue and are therefore proposing a budget as follows:

1. Monthly Team Meetings through December 2006 (17 months) for up to four RBF staff.
2. Monthly (17 assumed) community presentations, including preparation of PowerPoint presentations, attendance, and presentation.
3. Miscellaneous meetings as directed, assuming 17 total.
4. This excludes specific meetings identified in other tasks, such as PCC meetings and CPUC meetings.

### **V. Right-of-Way Acquisition Services**

It is anticipated that ongoing right-of-way acquisition services will be required for the conveyance and aquifer storage and recovery facilities. The services will include coordination, approvals and negotiations. As previously directed by CAW, RBF will be using the following subconsultants for a portion of this work, including:

- Appraiser – Arthur Gimmy International
- Negotiations – Brian Rianda, Inc. Real Estate Services

#### **Appraiser**

"Market Rate" appraisal for a 20-foot wide permanent pipeline easement and a 50 to 100 foot temporary construction easement from the proposed desalination plant adjacent to the Duke Energy Power Plant in Moss Landing, California (CA), through Castroville, CA, onto Seaside, CA (via the Transportation Agency for Monterey County (TAMC) branchline.

#### **Negotiations**

Property negotiation services for pipeline easement between the proposed California American Water desalination plant in Moss Landing, California, to Castroville, CA. Services include negotiation between California American Water and the property owners to put in place a construction easement and an approximately 20-foot wide permanent easement over the planned pipeline alignment and assessing or valuing the easement.

## **VI. CPUC Coordination, Clarification and Technical Support**

It is anticipated that during the Environmental Impact Report (EIR) phase of the project (which we assume at 12 months), coordination with the CPUC and their environmental consultant(s) will be required. The following is anticipated:

1. Assistance to CAW and/or CPUC through the current RFQ process, including responding to RFQ questions and one pre-proposal meeting.
2. Meetings with CPUC and their consultants. For this item we have assumed up to six meetings in San Francisco for three RBF staff.
3. Assistance at public meetings, including attendance by up to four RBF staff. It is anticipated that the CPUC will have two public meetings in the Monterey area.
4. Preparation of responses to CPUC Data Requests. This task assumes a maximum budget of 400 hours for this effort, including revisions, supplements, and technical responses from our subconsultant team.
5. CPUC EIR Assistance. In addition to Data Requests, RBF will provide assistance to CAW and/or CPUC, with respect to Draft EIR distribution, Final EIR responses to comments, and related items. This task assumes a maximum budget of 200 hours.

## **VII. Amended Application Data Requests**

In the past, RBF has provided technical assistance on numerous occasions, including preparation of CPUC Office of Rate Payer Advocate data request responses. It is anticipated that for the CWP amended application filed on July 14, 2005, that additional data requests will be forthcoming and our assistance will be requested.

It is not known how many or how detailed these requests will be. We have therefore budgeted 300 hours at this time.

## **VIII. Watershed Sanitary Survey**

During the PEA phase of the project, a Preliminary Source Water Assessment was prepared and summarized in the PEA. Only limited water quality has been available during the PEA process as a result in coordination delays with Duke Energy. RBF has prepared a water quality monitoring sample station and will install at the Duke site in August 2005. In addition, the proposed pilot plant will also provide water quality data.

It is now proposed to finish the Watershed Sanitary Survey using the Preliminary Source Water Assessment as a base, with the following tasks:

- a. **Define the Watershed for the Moss Landing Desalination Plant**  
The watershed for the desalination plant must be defined based on the hydrodynamic modeling of the sources of water at the intake to the power plant. Potential sources of water include Elkhorn Slough, Moro Cojo Slough, the Salinas River, the Pajaro River, and the discharge from the power plant.
- b. **Review Existing Water Quality Data**  
The data will be supplemented by additional water quality data obtained from the MLPP monitoring station and the PPF. The data will be summarized for presentation to DHS and to determine the need for additional monitoring.
- c. **Complete Source Water Assessment Checklist and Meet with DHS**

The DHS source water assessment checklist will be completed for all potential sources of contamination in the watershed based on one day of field work in the watershed. It is important to note that the source water assessment only requires that potential contaminating activities be identified. It does not require any additional information such as the precise location in the watershed, the volume of the discharge or water quality of the discharge.

*NOTE: This task requires site access to MLPP and interviews with MLPP staff.*

After completing the checklist, we propose to meet with DHS staff to reach agreement on the scope of work for the sanitary survey. Based on past experience on sanitary surveys for desalination plants and other surface water sources, we believe the level of effort proposed will be adequate to address all DHS' concerns, unless the watershed is expanded as a result of the modeling task. We also propose keeping DHS staff involved in the sanitary survey work as it progresses so that we all have a common understanding of the watershed and the potential risks it poses to the Moss Landing Desalination Plant.

**d. Describe the Water Supply System and Treatment Plant**

The water supply system and hydrology of the watershed will be described for the sanitary survey report. The water supply system description is necessary to evaluate contaminant source impacts, Surface Water Treatment Rule compliance, and the ability of the treatment plant to satisfy existing and anticipated future drinking water quality regulations. This task is based on the following assumptions:

- The hydrology of the area and the sources of water to the treatment plant will be provided by modeling consultant.
- The water treatment plant description will be provided by Cal-Am.

**e. Identify and Evaluate Potential Contaminant Sources in the Watershed**

The existing watershed condition and available data will be updated from that described in the Preliminary Source Water Assessment, including obtaining any additional relevant data from RWQCB or local entities. As part of this task, the "Source Water Modeling" report (described under Task IX) will be reviewed to determine potential contaminant sources of the intake water.

- We will then spend one to two days driving through the watershed noting information on activities and discharges on the maps and on field survey forms. The purpose of this task is to relate activities in the vicinity of the intake to raw water conditions at the intake.

**f. Evaluate Expanded Water Quality Data**

Upon completion of the monitoring program, the water quality data will be evaluated to characterize intake water quality conditions for compliance with maximum contaminant levels (MCLs) and to determine the recommended log removals for *Giardia* and viruses. Based on a preliminary review of existing water quality data it appears that the primary constituents to address in the sanitary survey are microbial contaminants, nitrate, turbidity, and total dissolved solids (TDS). Conductivity or TDS data will be used to evaluate the mix of seawater and freshwater present at the intake when other water quality constituents are measured. Due to the extensive agricultural activities in the watershed, pesticides will also be evaluated, although it is unlikely that they will be found at levels exceeding MCLs or at levels that would pose problems for RO membranes. Based on our experience with a proposed desalination plant in Long Beach and a preliminary review of data on Elkhorn Slough, the log removal

requirements will likely be based on storm event (worst case conditions). We will work with CAW to determine if desalination plant operations can be ceased during storm events to allow for lesser log removal requirements if the plant only operates during dry weather conditions.

**g. Develop Strategies for Tracking and Influencing Activities in the Watershed**

Best management practices and watershed management activities will be identified that CAW can implement or track to ensure that degradation in intake water quality does not occur. It will be particularly important to identify operations at the Moss Landing Power Plant that must be coordinated with the operation of the desalination plant, such as the scheduling of heat treatments or unusual discharges to the cooling water system. The Elkhorn Slough Foundation (ESF) currently owns or controls over 2000 acres of watershed land and has plans to acquire a total of 4000 acres in the next several years. It will be important to work with ESF to identify water quality concerns that are unique to drinking water (e.g. organic carbon) so that drinking water constituents can be factored into their management activities.

**h. Prepare Sanitary Survey Report and Source Water Assessment and Participate in Meetings**

The sanitary survey information will be included in a concise report that clearly describes the findings of the survey. The report will also contain all of the forms and information needed to satisfy the DWSAP source water assessment requirements. This task is based on the following assumptions:

- A preliminary draft will be submitted to CAW for review
- A draft report will be submitted to DHS
- A final report will be prepared, incorporating DHS comments
- One hard copy and an electronic copy of each version of the report will be submitted to CAW
- Three meetings will be held with CAW and DHS

**i. Continued Water Quality Monitoring Program**

In the event adequate data is not available for preparation of the Watershed Sanitary Survey, a minimum of one year's worth of monitoring data is to be collected for inclusion in the Watershed Sanitary Survey. Such data will be gathered from the MLPP monitoring station (initially) and the PPF (as soon as the PPF is operational). Data will also be gathered throughout the year to reflect seasonal weather variations, during storm events, light rain events, and during the dry season. This task is limited to eight (8) separate samplings throughout the entire year (one storm event, two light rain events, one tidal cycle, and four dry season samplings). Sampling for storm and light rain events would occur over an extended period of time. Precise sampling locations will be determined subsequent to study of the power plant's cooling system diagrams. However, it is anticipated that the vast majority of sampling would occur at the plant's intake well. Samples will be analyzed for contaminants such as total dissolved solids (TDS), fecal coliform bacteria, radiological constituents, metals, organics, *Enterococcus*, and *E. Coli*. It should be noted that not all constituents will be analyzed during every sampling (certain constituents will only be analyzed during certain times of the year).

**IX. Receiving Water Modeling and Flow Science Modeling**

Flow Science is preparing an additional report in response to comments provided by Jeff Paduan during peer review. Additional receiving water model runs will be prepared in response to new MLPP data provided by Lee Genz at DENA in August, 2005. New data will also be developed during the Watershed Sanitary Survey that may

also require revised modeling. This task assumes that no further modeling will be conducted until RBF is in receipt of Independent Advisory Group (IAP) comments and comments from the CPUC and their EIR consultant, with the intent of producing one revised modeling report rather than multiple iterations. Based on currently identified data gaps and requests from Jeff Paduan, we have established a maximum budget for this task of 300 hours.

### Source Water Modeling

During the PEA phase, the focus of ocean modeling was on the "Receiving Water" or brine modeling. However, in order to support the Watershed Sanitary Survey, it will also be necessary to conduct a "Source Water Modeling" report to identify oceanographic influences in the vicinity of the MLPP intakes, to identify potential contaminant sources of the MLPP intake water. A hydrodynamic analysis of the mixing of the flows will be performed within the domain used in the Receiving Water Analysis.

In particular, the following specific model runs will be performed.

- A wet weather El Niño winter condition to determine the quantity of ocean water and storm water from surrounding rivers and streams reaching the intake.
- A summer El Niño condition when net transport by waves and currents is northward to determine if the modeled flows will reach the intakes.

For each model run, the following tasks will be performed:

1. Assemble the current and wave records, in conjunction with the tide data, to generate the boundary conditions for the hydrodynamic model.
2. Use the results from Task 1 above (data collection) to establish the boundary conditions for the three-dimensional stratified flow model ELCOM.
3. Set-up the ELCOM model.
4. Run the model for the specified conditions.
5. Tabulate and plot the data for the modeled parameters (temperature, salinity, coliforms, effluent tracer).

This will incorporate the results of the watershed sanitary survey in the source modeling. The work product will include plan views of the coliforms, dilution, and temperature distribution contours (in color) of the stream (and/or other significant discharges) in the computational domain for each of the modeled conditions at three different elevations. We will also determine the percentage of the plant's influent attributable to each of the streams and/or other significant sources.

The results of the work will be incorporated in a detailed report that discusses the data used and details the modeling approach. A description of the software used will be provided. Also, the modeling results and their interpretation will be presented and discussed as outlined above. The following tasks will be performed:

1. Produce five copies of a draft report as well as a version in PDF format.
2. Provide a second draft of the report based on the comments of the client. Five copies of the report will be produced.

3. Provide a final copy of the report based on the comments of the client and/or regulators. Five copies of the report will be produced.
4. Attend up to four meetings related to these tasks. PowerPoint presentations of the salient results and issues will be prepared to present at the meetings.

## X. Permitting Coordination

RBF has been coordinating with numerous permitting agencies throughout the PEA portion of the project. In addition, RBF set up and coordinated the Permit Coordination Center. At least one meeting with the PCC is recommended as a follow-up action to the PEA submittal to the CPUC, to ensure that all permitting agencies understand the CPUC CEQA process and subsequent permitting activities.

Permits for the Pilot Plant have been completed and submitted to Monterey County, the California Coastal Commission, and the Regional Water Quality Control Board. Some additional work and coordination with the permitting agencies may be required to complete these permit approvals.

Long-lead permit applications from key regulatory agencies are recommended to be initiated during the CPUC environmental review process, while construction-related permitting activities (such as easements, encroachment permits, leases, Drinking Water Permit, permits to construct/operate) would be deferred to the final design phase. *It is important to note that, although these long-lead permits can be initiated now, preliminary engineering details will be required in order to complete the applications and file them with the regulatory agencies (precise pipeline alignments and facility locations, grading estimates, haul routes, staging areas, and specific proposals for arterial/drainage crossings such as jack/bore pit locations).* These long-lead permitting activities include:

- Formal Jurisdictional Delineation and Report Preparation
- Pre-Application Field Meetings
- CA Department of Fish and Game Streambed Alteration Agreement
- Army Corp of Engineers 404 Permit Application (Salinas River Crossing) – including USFWS Section 7 Consultation and SHPO Section 106 Consultation
- Regional Water Quality Control Board Section 401 Water Quality Certification
- Regional Water Quality Control Board NPDES Permit (brine discharge)
- Regional Water Quality Control Board WDR (ASR)

It should be noted that the long-lead permit activities identified above does not include the California Coastal Commission Coastal Development Permit, which would occur after completion of the CPUC Final EIR.

However, this task will include ongoing informal discussions to identify permit/approval issues and potential project design/mitigation requirements from the agencies listed in Table 3-7 of the PEA, particularly:

- Coastal Commission
- MBNMS
- NOAA Fisheries
- FOR A
- U.S. Coast Guard
- SWRCB

- CA State Lands Commission
- CA Energy Commission
- CA DOHS
- Caltrans
- MCWRA
- MPWMD
- County and Cities
- Monterey Bay APCD
- TAMC

## **XI. Focused Surveys**

Focused biological surveys will be required, as identified in PEA Section 5.8, Terrestrial Biological Resources. Activities that will need to be completed prior to a CPUC certified FEIR would include the following (*NOTE – in order to initiate a portion of these surveys, additional preliminary engineering may be required to more precisely define facility locations such as ASR sites, Terminal Reservoir and stream crossings*):

- A Habitat Restoration Plan shall be developed in consultation with the U.S. Fish and Wildlife Service (USFWS) and the California Department of Fish and Game (CDFG), and submitted to the California Public Utilities Commission (CPUC) and the resource agencies. The Plan shall include the following elements: specific location of restoration site, details on soil preparation, seed collection, planting, maintenance, and monitoring, and quantitative success criteria.
- A wetland delineation per the USACE *Wetland Delineation Manual*, and using the one-parameter approach in areas within the Coastal Zone, shall be conducted prior to construction. A delineation report shall be prepared and submitted to the USACE and CCC for verification.
- Formal assessment of riparian habitat impacts to satisfy the requirements of the California Department of Fish and Game (CDFG) 1601 (Streambed Alteration Agreement) requirements.
- Comprehensive survey to identify, measure, and map trees subject to County tree removal ordinances (oak trees greater than 6 inches in diameter) and *North County Area Plan* and *Carmel Valley Master Plan* ordinances (all native trees greater than 6 inches in diameter), as well as landmark trees.
- Floristic surveys of all suitable habitat for special-status plants shall be conducted prior to the permitting phase of the Project. Maps depicting the results of these surveys shall be prepared for use in final siting design.
- Formal consultation with the U.S. Fish and Wildlife Service (USFWS) and the California Department of Fish and Game (CDFG) on listed plants species, including Seaside bird's-beak, Yadon's wallflower, sand gilia, Monterey spineflower, and Yadon's rein orchid and listed animal species, including Smith's Blue Butterflies and in aquatic habitat for California red-legged frogs, California tiger salamanders, or Santa Cruz long-toed salamanders, Burrowing Owls, and other Special-Status Birds.

## **XII. Unidentified Scope of Services**

This task item budget is \$103,000 for items currently unforeseen in this scope. Client will authorize individual sub-tasks as required.

**EXCLUSIONS**

1. Preparation and processing of a NEPA document, if required. RBF will continue to coordinate with FORA through Task X, and work with FORA and Seaside in expediting the transfer of affected parcels into the City.
2. Preliminary Engineering, Construction Bid Packages, Construction Management and related services will be addressed in a separate scope and fee if directed by CAW.
3. Any services not expressly identified above.

**EXHIBIT D**

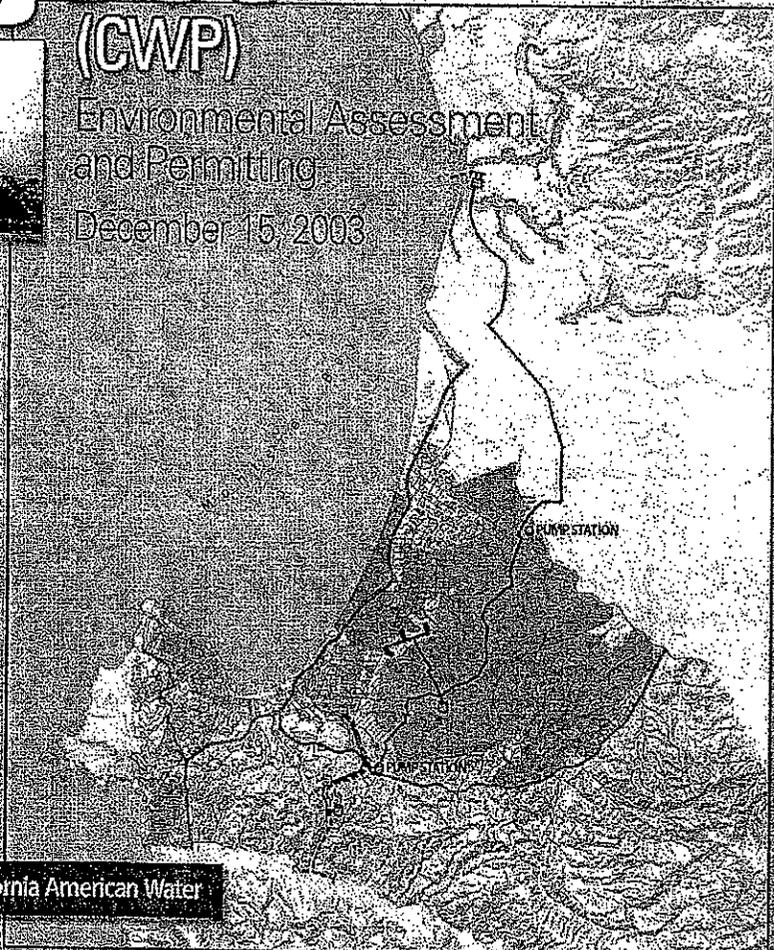
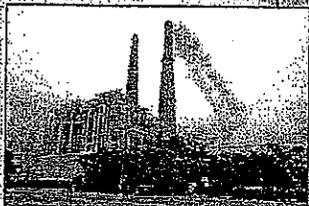
Commercial Proposal

# Coastal Water Project

(CWP)

Environmental Assessment  
and Permitting

December 15, 2003





December 15, 2003

Mr. Fred Feizollahi, P.E.  
Technical Project Manager  
CALIFORNIA AMERICAN WATER COMPANY  
50 Ragsdale Drive, Suite 100  
Monterey, CA 93940

**Subject: Commercial Proposal:  
Environmental Assessment and Permitting for the Coastal Water Project  
Proponent's Environmental Assessment**

Dear Mr. Feizollahi:

RBF Consulting (RBF) is pleased to submit our Cost Proposal to the California American Water Company (Cal-Am) for the preparation of Proponent's Environmental Assessment (PEA) for the Moss Landing Desalination Project. We have carefully prepared our proposed [Not-to-Exceed] price for performing the work identified in Cal-Am's Request For Proposal dated November 5, 2003 and addendums.

On behalf of the Project Team, we appreciate the opportunity to submit this proposal to Cal-Am and are available to begin this priority work effort immediately. Please do not hesitate to call me at (949) 855-3615 or email me at [gallery100@rbf.com](mailto:gallery100@rbf.com) if you have any questions.

Sincerely,

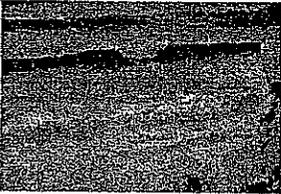
A handwritten signature in black ink, appearing to read "Lawrence E. Gaffery", written over a horizontal line.

Lawrence E. Gaffery, P.E.  
Senior Vice President, Water Resources

H:\P\data\65100093\Admin\proposal\Cost\_Comm proposal\cover letter Cost.doc

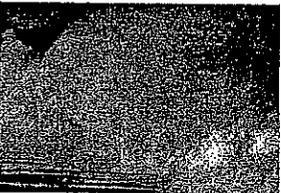


# Table of Contents



## Section 1: Financial Stability and Accounting Resources

- 1.1 Dunn and Bradstreet Rating ..... 1-1
- 1.2 Financial Statement ..... 1-1
- 1.3 Accounting / Billing System ..... 1-1



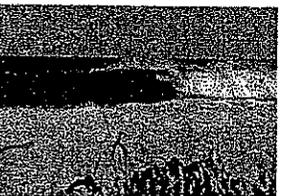
## Section 2: Price

- 2.1 Fixed Fee/Not To Exceed Price ..... 2-1
- 2.2 Detailed Breakdown of Fee Costs ..... 2
- 2.3 Detailed Breakdown of Fee Component By Firm ..... 3
- 2.4 Proposed Labor Hours / Costs ..... 2-4



## Section 3: Alternates and Exceptions

- 3.1 Consultant Agreement ..... 3-1



## Section 4: Project Alternates

- 4.1 Proposed Alternates ..... 4-1
- 4.2 Alternate Labor Hours / Costs ..... 4-1
- 4.3 Schedule Impacts ..... 4-1





## Financial Stability and Accounting Resources



## Section 1: Financial Stability and Accounting Resources

### 1.1 Dunn and Bradstreet Rating

RBF does not subscribe to Dunn and Bradstreet and therefore does not have a D&B rating.

### 1.2 Financial Statement

This year marks RBF's 59th year of continuous operation and the firm is ranked number 76th in ENR's Top 500 Design Firms. RBF is a strong, financially stable, planning, civil engineering and land surveying firm employing nearly 750 technical and support personnel from twelve offices located throughout the West. The firm has no bankruptcy, pending litigation, closures or mergers that would impede our ability to complete this Project. Through our dedication to client satisfaction, we maintain a consistent, healthy growth rate year after year.

As a privately held firm, RBF does not disclose financial information except to our stockholders and our bank. Attached is a letter signed by Mr. Steve Fraddin, RBF Controller, providing financial information for RBF Consulting.

### 1.3 Accounting / Billing System

RBF's complete Project Control System has evolved over years of application and testing and encompasses:

- A planned approach;
- A common database;
- Accurate and timely reporting of both capital expenditure and progress;
- Early warning system of cost and schedule deviations;
- Positive action to correct deviations; and
- Active participation by all team members.

**Accounting System.** RBF utilizes the Advantage Financial Management System that provides detailed cost control reports for engineering and design assignments. This system provides reports that are organized by labor accounts and task codes to show each type of deliverable or activity for a project. In addition, a cost system has been integrated which produces reports for various levels of the engineering and accounting functions. The most detailed report identifies man-hour expenditures, by task, by labor account, and by discipline. More summary-level reports may be produced which identify man-hour and labor dollar expenditure by discipline. This system can be utilized for any type or size of assignment and not all the system must be employed to obtain the desired results.

**Billing System.** RBF captures labor costs through weekly timecard entry and posting. Our accounts payable department enters direct expenses on a daily basis. (i.e. vendor invoices, subconsultant invoices, employee expense reports). The Project Manager, on a weekly or monthly basis, dependent upon project size, reviews all project costs. The Project Manager determines if all costs are appropriate for billing and submits a mark-up invoice to his/her project accountant to prepare a monthly invoice to the client.



December 4, 2003

Mr. Fred Feizollahi, P.E.  
Technical Project Manager  
**CALIFORNIA AMERICAN WATER COMPANY**  
50 Ragsdale Drive, Suite 100  
Monterey, CA 93940

Dear Mr. Feizollahi:

**SUBJECT: FINANCIAL CAPABILITY**

RBF Consulting is a professional planning, design and construction management consulting firm. The Firm was established in 1944 and has remained profitable. As a privately-held firm, we prefer not to disclose specific financial information regarding our company. Any inquiries as to the credit worthiness or financial condition and stability of RBF may be directed to our banking officer, Ms. Paula Harris, Vice President, Bank of America, 675 Anton Boulevard, 2<sup>nd</sup> Floor, Costa Mesa, CA 92626.

This year marks RBF's 59<sup>th</sup> year of continuous operation. RBF is a strong, financially-stable firm employing over 700 professional and support personnel in twelve offices located throughout the West and is currently ranked number 76 in ENR's Top 500-Design Firms. There are no financial or other situations that would impede RBF's ability to complete this project.

Please call me at 949-472-3505 if additional information is needed.

Sincerely,

A handwritten signature in black ink that reads 'Steven Fradin'.

Steven Fradin  
Corporate Controller

SSF/jes

G:\OFF\CEWPWIN\financialcapability2.doc

PLANNING ■ DESIGN ■ CONSTRUCTION

14725 Alton Parkway, Irvine, CA 92618-2027 ■ P.O. Box 57057, Irvine, CA 92619-7057 ■ 949.472.3505 ■ Fax 949.472.8373

Offices located throughout: California, Arizona & Nevada ■ [www.RBF.com](http://www.RBF.com)

printed on recycled paper

6: 11/17/11



Section 2  
Price

Section 2

Section 2

Section 2



## Section 2: Price

### 2.1 Fixed Fee / Not to Exceed Price

This section provides RBF's fixed fee / not-to-exceed price for performing the Scope of Work presented in Section 2 of the Technical proposal. Included are the proposed not-to-exceed price summary as required by Table 5 of the RFP, as well as detailed breakdowns of fees by firm, labor rates and multiplier information, and a detailed breakdown of labor hours by task.

As requested, the following table provides Cal-Am with RBF's proposed Not-To-Exceed price summary:

Task	Description	Not-To-Exceed Price (includes labor, material, ODC including OH, G&A and profit)	Average Labor Unit Rate (\$/hr) (total Price divided by total task man- hours)
1	Project Description	\$362,210	\$127
2	Proponent's Environmental Assessment	\$843,135	\$121
3A	Preliminary Design, Excluding Item 5 in Table 3	\$514,156	\$158
3B	Preliminary Design for Item 5 in Table 3	\$50,152	\$158
4	Engineering and Environmental Studies (CONSULTANT to List each study and its cost)	\$1,301,759	\$123
4.1	Selection of Desalination Technology	\$(Pridesa)	\$(Pridesa)
4.2	Beachwell Feedwater Supply Investigation	\$143,352	\$171
4.3	Coordination Study for Feedwater Supply and Concentrate Disposal with MLPP	\$67,580	\$137
4.4	Watershed Sanitary Survey	\$177,170	\$147
4.5	Evaluation of Power Supply Alternatives	\$32,580	\$131
4.6	Aquifer Storage and Recovery (ASR) Project	\$174,240	\$120
4.7	Receiving Water Hydrodynamic Modeling	\$484,015	\$108
4.8	Toxicology Analysis of Waste Streams	\$37,712	\$181
4.9	Product Water Analysis	\$8,380	\$168
4.10	Marine Biological Resources Assessment	\$36,116	\$120
4.11	Terrestrial Biological Resources Assessment	\$30,186	\$107



Task	Description	Not-To-Exceed Price (includes labor, material, ODC including OH, G&A and profit)	Average Labor Unit Rate (\$/hr) (total Price divided by total task man- hours)
4.12	Cultural Resources Assessment	\$33,028	\$109
4.13	Phase I Hazardous Materials Assessment	\$23,000	\$86
4.14	Surface Drainage and Water Quality Assessment	\$6,400	\$114
4.15	Geology and Soils	\$48,000	\$120
5	Analysis of Alternatives	Included in Task 1	Included in Task 1
5.1	Siting Alternatives	Included in Task 1	Included in Task 1
5.1.a	Desalination plant Site at the MLPP	Included in Task 1	Included in Task 1
5.1.b	Production Conveyance Transmission Alternative	Included in Task 1	Included in Task 1
5.2	Other Alternatives (CONSULTANT to List each alternative and its cost separately)	Included in Task 1	Included in Task 1
6	Permitting	\$221,680	\$147
7	Meetings	\$308,070	\$166
8	Project Planning and Control	\$267,800	\$180
	<b>Total Project</b>	<b>\$3,868,962</b>	<b>\$134</b>

## 2.2 Detailed Breakdown of Fee Costs

As requested, the table below outlines the fee breakdown by firm:

FIRM	LABOR COSTS	FRINGE / OVERHEAD	PROFIT	OTHER DIRECT COSTS	TOTAL
RBF	\$748,896	\$1,239,423	\$220,924	\$401,942	\$2,611,185
Flow Science, Inc.	\$197,866	\$300,756	\$55,403	\$540	\$554,565
Geoscience Support Services	\$30,758	\$51,458	\$9,136	\$52,000	\$143,352
Archibald & Wallberg	\$144,900	0	0	\$7,800	\$152,700
Ninyo & Moore	\$16,216	\$26,984	\$4,800	0	\$48,000
Derrick Williams	\$87,120	0	0	0	\$87,120
ASR Systems, Inc.	\$87,120	0	0	0	\$87,120
Kinnetics Lab	\$8,130	\$24,035	\$3,278	\$673	\$36,116
H.T. Harvey	\$15,372	\$33,324	\$5,410	\$9,108	\$63,214
Nancy Lucast	\$30,000	0	0	0	\$30,000
URS Consultants	\$4,405	\$6,695	\$1,234	0	\$12,334
Ian Watson	\$12,333	0	0	0	\$12,333
Michael Johnson	\$12,333	0	0	0	\$12,333
MBC Environmental			Included in Kinnetics Lab		
J.R. Conkey	\$10,158	\$8,432	0	0	\$18,590
<b>Total Project</b>	<b>\$1,405,607</b>	<b>\$1,691,107</b>	<b>\$300,185</b>	<b>\$472,063</b>	<b>\$3,868,962</b>



### 2.3 Detailed Breakdown of Fee Component By Firm

As requested, labor rates and multiplier information is provided below for each Project Team member:

FIRM / CLASSIFICATION	DIRECT LABOR	LABOR	MULTIPLIER FRINGE/OH	PROFIT	TOTAL	COST
<b>RBF</b>						
Principal	\$71.00	1.00	1.7	9%	2.95	\$210.00
Engineering Manager	\$64.00	1.00	1.7	9%	2.95	\$190.00
Environmental Manager	\$59.00	1.0	1.7	9%	2.95	\$175.00
Senior Engineer	\$51.00	1.00	1.7	9%	2.95	\$150.00
Environmental Specialist	\$42.00	1.00	1.7	9%	2.95	\$125.00
Project Engineer	\$34.00	1.00	1.7	9%	2.95	\$100.00
Design/Drafter	\$32.00	1.00	1.7	9%	2.95	\$95.00
Planner/Analyst	\$29.00	1.00	1.7	9%	2.95	\$85.00
Env. Aide / Clerical	\$22.00	1.00	1.7	9%	2.95	\$65.00
<b>FLOW SCIENCE, INC.</b>						
Principal	\$75.00	1.00	1.54	10%	2.80	\$210.00
Senior Manager	\$56.00	1.00	1.54	10%	2.80	\$156.00
Manager	\$49.00	1.00	1.54	10%	2.80	\$139.00
Senior Engineer	\$46.00	1.00	1.54	10%	2.80	\$129.00
Senior Modeler	\$43.00	1.00	1.54	10%	2.80	\$119.00
Staff Modeler	\$38.00	1.00	1.54	10%	2.80	\$105.00
Assistant Modeler	\$29	1.00	1.54	10%	2.80	\$81.00
Assistant Engineer	\$26	1.00	1.54	10%	2.80	\$72.00
Clerical	\$19.00	1.00	1.54	10%	2.80	\$53.00
<b>GEO SCIENCE SUPPORT SERVICES</b>						
Principal Hydro	\$85.00	1.00	1.7	10%	2.97	\$252.00
Senior Hydro	\$50.25	1.00	1.7	10%	2.97	\$149.00
Staff Hydro	\$26.5	1.00	1.7	10%	2.97	\$79.00
Graphics	\$26.74	1.00	1.7	10%	2.97	\$79.00
Clerical	\$17.53	1.00	1.7	10%	2.97	\$52.00
<b>ARCHIBALD &amp; WALLBERG CONSULTANTS</b>						
Elaine Archibald	\$150.00				incl.	\$150.00
<b>NINYO &amp; MOORE</b>						
Principal Engr/Geologist	\$52.88	1.00	1.69	10%	2.96	\$157.00
Senior Engr/Geologist	\$40.38	1.00	1.69	10%	2.96	\$120.00
Project Engr/Geologist	\$35	1.00	1.69	10%	2.96	\$104.00
Staff Engr/Geologist	\$27.88	1.00	1.69	10%	2.96	\$83.00
<b>DERRIK WILLIAMS</b>						
Hydrogeologist	\$120.00				incl.	\$120.00
<b>ASR SYSTEMS, LLC</b>						
Hydrogeologist	\$120.00				incl.	\$120.00
<b>KINNETICS LABORATORY, INC.</b>						
Scientist V	\$34.86	1.00	2.982	9.25%	4.36	\$152.00
Scientist IV	\$30.26	1.00	2.982	9.25%	4.36	\$132.00
Scientist III	\$24.30	1.00	2.982	9.25%	4.36	\$106.00
Scientis II	\$20.25	1.00	2.982	9.25%	4.36	\$88.00
Editor	\$18.39	1.00	2.982	9.25%	4.36	\$80.00



FIRM / CLASSIFICATION	DIRECT LABOR	LABOR	MULTIPLIER FRINGE/OH	PROFIT	TOTAL	COST
<b>H.T. HARVEY &amp; ASSOCIATES</b>						
Principal	\$60.35	1.00	2.2	10%	3.52	\$212.00
Associate Ecologist	\$39.49	1.00	2.2	10%	3.52	\$139.00
Ecologist 3	\$28.33	1.00	2.2	10%	3.52	\$100.00
Ecologist 2	\$25.61	1.00	2.2	10%	3.52	\$90.00
Ecologist 1	\$23.42	1.00	2.2	10%	3.52	\$82.00
Clerical	\$18.08	1.00	2.2	10%	3.52	\$64.00
<b>NANCY LUCAST</b>						
Regulatory Specialist	\$250.00				incl.	\$250.00
<b>URS CONSULTANTS</b>						
Blue Ribbon Panel	\$66.00	1.00	2.52	10%	2.80	185.00
<b>IAN WATSON (AEPI RosTek)</b>						
Blue Ribbon Panel	\$185.00				incl.	185.00
<b>MICHAEL JOHNSON</b>						
Blue Ribbon Panel	\$185.00				incl.	185.00
<b>MBC ENVIRONMENTAL</b>						
Principal	\$50.00	1.00	2.7	10%	3.0	\$151.84
Senior Scientist	37.00	1.00	2.7	10%	3.0	\$92.62
Project Scientist	\$30.50	1.00	2.7	10%	3.0	\$118.43
Senior Technician	\$21.00	1.00	2.7	10%	3.0	\$63.77
Technician	\$18.00	1.0	2.7	10%	3.0	\$54.66
<b>J.R. CONKEY</b>						
Cost Estimator	\$60.00	1.00	1.83	10%	Inc.	\$109.80
Scheduler	\$60.00	1.00	1.83	10%	Inc.	\$109.80

## 2.4 Proposed Labor Hours / Costs

The spreadsheet located on the following pages (Table 2-1) represents the RBF Team's proposed labor hours and costs, as requested in Cal-Am's RFP. Please note that there are no multiplication or markups of subconsultant rates, including no markups of second tier subconsultants. In addition, a detailed list of preliminary design drawings with associated hours and fees is included as Table 2-2.







TABLE NO. 2-2 - LIST OF PRELIMINARY DESIGN DRAWINGS  
 ENVIRONMENTAL ASSESSMENT AND PERMITTING OF COASTAL WATER PROJECT (CWP)  
 CALIFORNIA AMERICAN WATER

Task Description	Approximate Person Hours					Total Labor Costs
	RBF					
	Principal	Mgr	Senior Engr	Engr	Des(gn/ Draft)	
	\$ 210	\$ 190	\$ 180	\$ 100	\$ 95	
<b>3.5 PRELIMINARY DESIGN PLANS</b>						
General						
1. Title Sheet	1	2	4	8	16	\$ 3,510
2. List of Drawings, Index Sheet 1 and Notes	1	2	4	8	16	\$ 3,510
3. Index Sheet 2	1	2	4	8	16	\$ 3,510
4. System Flow and Mass Balance Diagrams	1	2	4	8	16	\$ 3,510
Seawater Conveyance Line (2 lines of 800' each)						\$ -
5. Plan and Profile No. 1	1	2	4	8	16	\$ 3,510
6. Pipeline and Connection Details	1	2	4	8	16	\$ 3,510
Rhine Conveyance System (600')						\$ -
7. Plan and Profile No. 1	1	2	4	8	16	\$ 3,510
8. Pipeline and Connection Details	1	2	4	8	16	\$ 3,510
Desalination Facility						\$ -
9. Site Plan	1	2	4	8	16	\$ 3,510
10. Grading Plan	1	2	4	8	16	\$ 3,510
11. Utility Plan	1	2	4	8	16	\$ 3,510
12. Yard Piping	1	2	4	8	16	\$ 3,510
13. Civil Details	1	2	4	8	16	\$ 3,510
14. Building Floor Plan	1	2	4	8	16	\$ 3,510
15. Building Elevations	1	2	4	8	16	\$ 3,510
16. Site Electrical	1	2	4	8	16	\$ 3,510
Product Water Pump Station						\$ -
17. Site Plan	1	2	4	8	16	\$ 3,510
18. Building Layout and Mechanical Plan	1	2	4	8	16	\$ 3,510
19. Electrical Plan	1	2	4	8	16	\$ 3,510
Product Water Transmission Line to Booster Station (68,000 ft at 1"=200')						\$ -
20. Pipeline Plan and Profile No. 1	1	2	4	8	16	\$ 3,510
21. Pipeline Plan and Profile No. 2	1	2	4	8	16	\$ 3,510
22. Pipeline Plan and Profile No. 3	1	2	4	8	16	\$ 3,510
23. Pipeline Plan and Profile No. 4	1	2	4	8	16	\$ 3,510
24. Pipeline Plan and Profile No. 5	1	2	4	8	16	\$ 3,510
25. Pipeline Plan and Profile No. 6	1	2	4	8	16	\$ 3,510
26. Pipeline Plan and Profile No. 7	1	2	4	8	16	\$ 3,510
27. Pipeline Plan and Profile No. 8	1	2	4	8	16	\$ 3,510
28. Pipeline Plan and Profile No. 9	1	2	4	8	16	\$ 3,510
29. Pipeline Plan and Profile No. 10	1	2	4	8	16	\$ 3,510
30. Pipeline and Appearance Details	1	2	4	8	16	\$ 3,510
Relay Booster Pump Station						\$ -
31. Site Plan	1	2	4	8	16	\$ 3,510
32. Building Layout and Mechanical Plan	1	2	4	8	16	\$ 3,510
33. Electrical Plan	1	2	4	8	16	\$ 3,510
Booster Station Transmission Line to Fort Ord Tank (32,000 ft at 1"=200')						\$ -
34. Pipeline Plan and Profile No. 1	1	2	4	8	16	\$ 3,510
35. Pipeline Plan and Profile No. 2	1	2	4	8	16	\$ 3,510
36. Pipeline Plan and Profile No. 3	1	2	4	8	16	\$ 3,510
37. Pipeline Plan and Profile No. 4	1	2	4	8	16	\$ 3,510
38. Pipeline Plan and Profile No. 5	1	2	4	8	16	\$ 3,510
39. Pipeline Plan and Profile No. 6	1	2	4	8	16	\$ 3,510
40. Pipeline and Appearance Details	1	2	4	8	16	\$ 3,510
Fort Ord Tank						\$ -
41. Site Plan	1	2	4	8	16	\$ 3,510
42. Grading Plan	1	2	4	8	16	\$ 3,510
43. Reservoir Plan and Section	1	2	4	8	16	\$ 3,510
44. Inlet/Outlet Piping and Details	1	2	4	8	16	\$ 3,510
45. Utility Plan (Electrical)	1	2	4	8	16	\$ 3,510
Transmission Line from Fort Ord Tank to Hwy 68 (19,000 ft at 1"=200')						\$ -
46. Pipeline Plan and Profile No. 1	1	2	4	8	16	\$ 3,510
47. Pipeline Plan and Profile No. 2	1	2	4	8	16	\$ 3,510
48. Pipeline Plan and Profile No. 3	1	2	4	8	16	\$ 3,510
49. Pipeline Plan and Profile No. 4	1	2	4	8	16	\$ 3,510
Transmission Line from Hwy 68 to Del Rey Oaks Station (6,000 ft at 1"=200')						\$ -
50. Pipeline Plan and Profile No. 1	1	2	4	8	16	\$ 3,510
51. Pipeline Plan and Profile No. 2	1	2	4	8	16	\$ 3,510
Transmission Line from Hwy 65 to Segunda Tank (10,500 ft at 1"=200')						\$ -
52. Pipeline Plan and Profile No. 1	1	2	4	8	16	\$ 3,510
53. Pipeline Plan and Profile No. 2	1	2	4	8	16	\$ 3,510
Segunda Tank						\$ -
54. Site Plan	1	2	4	8	16	\$ 3,510
55. Grading Plan	1	2	4	8	16	\$ 3,510
56. Reservoir Plan and Section	1	2	4	8	16	\$ 3,510
57. Inlet/Outlet Piping and Details	1	2	4	8	16	\$ 3,510
58. Utility Plan (Electrical)	1	2	4	8	16	\$ 3,510
Del Rey Oaks Booster Station						\$ -
59. Site Plan	1	2	4	8	16	\$ 3,510
60. Building Layout and Mechanical Plan	1	2	4	8	16	\$ 3,510
61. Electrical Plan	1	2	4	8	16	\$ 3,510
Transmission Line from Fort Ord Tank to Well Sites (11,000 ft at 1"=200')						\$ -
62. Pipeline Plan and Profile No. 1	1	2	4	8	16	\$ 3,510
63. Pipeline Plan and Profile No. 2	1	2	4	8	16	\$ 3,510
Injection and Recovery Wells (6 wells)						\$ -
64. Civil Site Plan	1	2	4	8	16	\$ 3,510
65. ASR Wellhead Foundation	1	2	4	8	16	\$ 3,510
66. Site Plan and Monitor Well Locations	1	2	4	8	16	\$ 3,510

**TABLE NO. 2-2 - LIST OF PRELIMINARY DESIGN DRAWINGS  
 ENVIRONMENTAL ASSESSMENT AND PERMITTING OF COASTAL WATER PROJECT (CWP)  
 CALIFORNIA AMERICAN WATER**

Task Description	Approximate Person Hours					Total Labor Costs
	RBF					
	Principal	Mgr	Senior Engr	Engr	Design/ Draft	
67. Yard Piping Plan	1	2	4	8	16	\$ 3,510
68. ASR Wellhead Piping- Plan & Notes	1	2	4	8	16	\$ 3,510
69. ASR Wellhead Piping Section & Notes	1	2	4	8	16	\$ 3,510
70. ASR Wellhead Details	1	2	4	8	16	\$ 3,510
71. ASR and Monitor Well Details	1	2	4	8	16	\$ 3,510
72. Well Construction Notes	1	2	4	8	16	\$ 3,510
73. Chemical Feed System	1	2	4	8	16	\$ 3,510
74. P&ID of ASR Well System	1	2	4	8	16	\$ 3,510
75. P&ID of Chemical Feed System and Residual Analyzers	1	2	4	8	16	\$ 3,510
<b>SUBTOTAL TASK 3.5 PRELIMINARY DESIGN PLANS</b>	<b>75</b>	<b>150</b>	<b>300</b>	<b>600</b>	<b>1200</b>	<b>\$ 263,250</b>



Section 3  
Alternates and Exceptions



---

## Section 3: Alternatives and Exceptions

### 3.1 Consultant Agreement

RBF has reviewed the proposed Consulting Agreement provided as an attachment to the RFP and has no exceptions to this Agreement.

(-)

(-)

(-)

(-)



**Project Alternates**

(-)

(-)

(-)

Section 4  
Project Alternates



---

## Section 4: Project Alternates

### 4.1 Proposed Alternates

RBF proposes no alternatives to Cal-Am for the Coastal Water Project.

### 4.2 Alternate Labor Hours / Costs

Not Applicable.

### 4.3 Schedule Impacts

Not Applicable.

TABLE NO. 2-2 - LIST OF PRELIMINARY DESIGN DRAWINGS  
 ENVIRONMENTAL ASSESSMENT AND PERMITTING OF COASTAL WATER PROJECT (CWP)  
 CALIFORNIA AMERICAN WATER

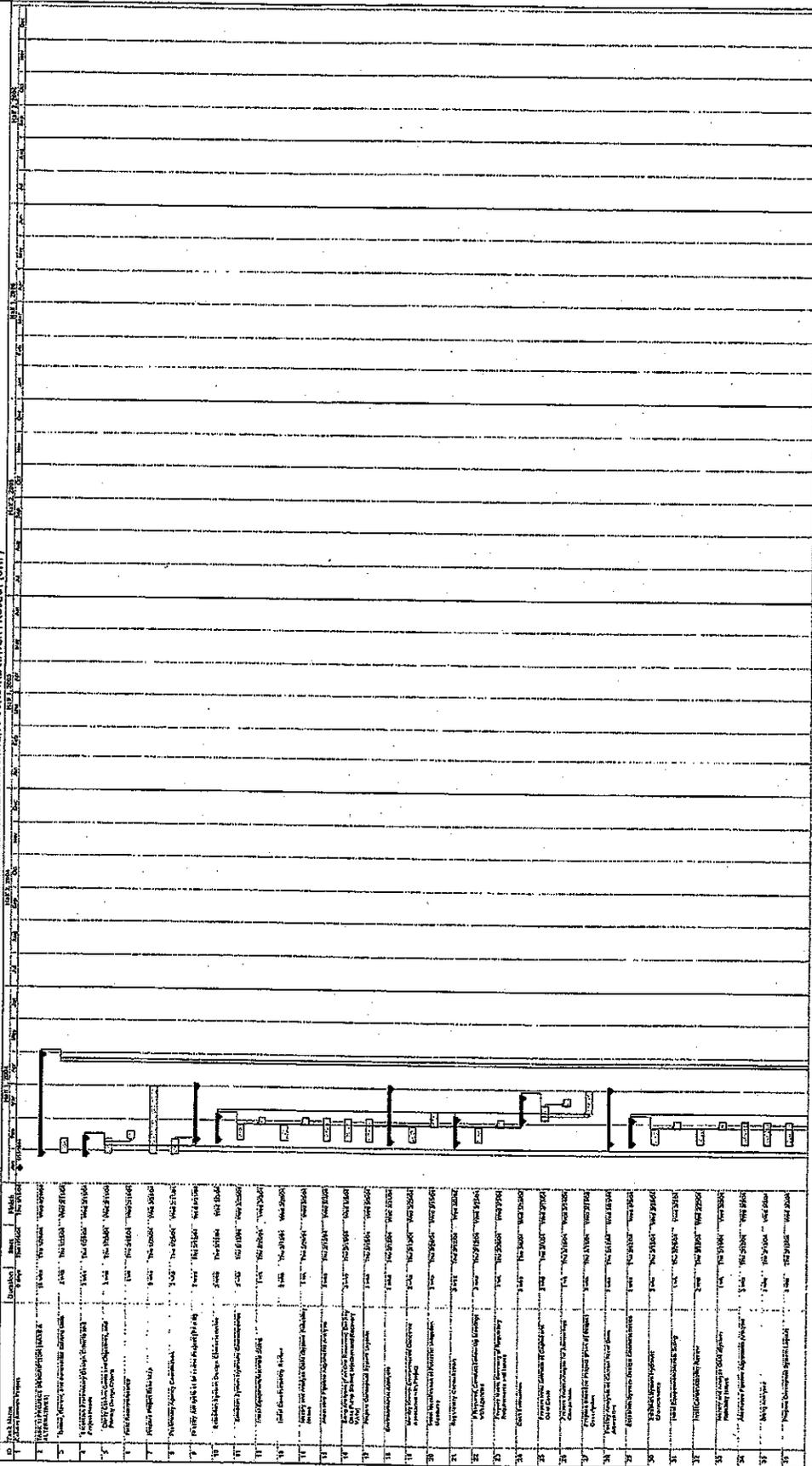
Task Description	Approximate Person Hours					Total Labor Costs
	RBF					
	Principal	Mgr	Senior Engr	Engr	Design/ Draft	
	\$ 210	\$ 160	\$ 150	\$ 100	\$ 95	
<b>3.5 PRELIMINARY DESIGN PLANS</b>						
General						
1. Title Sheet	1	2	4	8	16	\$ 3,510
2. List of Drawings, Index Sheet 1 and Notes	1	2	4	8	16	\$ 3,510
3. Index Sheet 2	1	2	4	8	16	\$ 3,510
4. System Flow and Mass Balance Diagrams	1	2	4	8	16	\$ 3,510
Seawater Conveyance Line (2 lines at 800' each)						\$ -
5. Plan and Profile No. 1	1	2	4	8	16	\$ 3,510
6. Pipeline and Connection Details	1	2	4	8	16	\$ 3,510
Brine Conveyance System (800')						\$ -
7. Plan and Profile No. 1	1	2	4	8	16	\$ 3,510
8. Pipeline and Connection Details	1	2	4	8	16	\$ 3,510
Desalination Facility						\$ -
9. Site Plan	1	2	4	8	16	\$ 3,510
10. Grading Plan	1	2	4	8	16	\$ 3,510
11. Utility Plan	1	2	4	8	16	\$ 3,510
12. Yard Piping	1	2	4	8	16	\$ 3,510
13. Civil Details	1	2	4	8	16	\$ 3,510
14. Building Floor Plan	1	2	4	8	16	\$ 3,510
15. Building Elevations	1	2	4	8	16	\$ 3,510
16. Site Electrical	1	2	4	8	16	\$ 3,510
Product Water Pump Station						\$ -
17. Site Plan	1	2	4	8	16	\$ 3,510
18. Building Layout and Mechanical Plan	1	2	4	8	16	\$ 3,510
19. Electrical Plan	1	2	4	8	16	\$ 3,510
Product Water Transmission Line to Booster Station (55,000 ft at 1"=200')						\$ -
20. Pipeline Plan and Profile No. 1	1	2	4	8	16	\$ 3,510
21. Pipeline Plan and Profile No. 2	1	2	4	8	16	\$ 3,510
22. Pipeline Plan and Profile No. 3	1	2	4	8	16	\$ 3,510
23. Pipeline Plan and Profile No. 4	1	2	4	8	16	\$ 3,510
24. Pipeline Plan and Profile No. 5	1	2	4	8	16	\$ 3,510
25. Pipeline Plan and Profile No. 6	1	2	4	8	16	\$ 3,510
26. Pipeline Plan and Profile No. 7	1	2	4	8	16	\$ 3,510
27. Pipeline Plan and Profile No. 8	1	2	4	8	16	\$ 3,510
28. Pipeline Plan and Profile No. 9	1	2	4	8	16	\$ 3,510
29. Pipeline Plan and Profile No. 10	1	2	4	8	16	\$ 3,510
30. Pipeline and Appurtenance Details	1	2	4	8	16	\$ 3,510
Reley Booster Pump Station						\$ -
31. Site Plan	1	2	4	8	16	\$ 3,510
32. Building Layout and Mechanical Plan	1	2	4	8	16	\$ 3,510
33. Electrical Plan	1	2	4	8	16	\$ 3,510
Booster Station Transmission Line to Fort Ord Tank (32,000 ft at 1"=200')						\$ -
34. Pipeline Plan and Profile No. 1	1	2	4	8	16	\$ 3,510
35. Pipeline Plan and Profile No. 2	1	2	4	8	16	\$ 3,510
36. Pipeline Plan and Profile No. 3	1	2	4	8	16	\$ 3,510
37. Pipeline Plan and Profile No. 4	1	2	4	8	16	\$ 3,510
38. Pipeline Plan and Profile No. 5	1	2	4	8	16	\$ 3,510
39. Pipeline Plan and Profile No. 6	1	2	4	8	16	\$ 3,510
40. Pipeline and Appurtenance Details	1	2	4	8	16	\$ 3,510
Fort Ord Tank						\$ -
41. Site Plan	1	2	4	8	16	\$ 3,510
42. Grading Plan	1	2	4	8	16	\$ 3,510
43. Reservoir Plan and Section	1	2	4	8	16	\$ 3,510
44. Inlet/Outlet Piping and Details	1	2	4	8	16	\$ 3,510
45. Utility Plan (Electrical)	1	2	4	8	16	\$ 3,510
Transmission Line from Fort Ord Tank to Hwy 88 (19,000 ft at 1"=200')						\$ -
46. Pipeline Plan and Profile No. 1	1	2	4	8	16	\$ 3,510
47. Pipeline Plan and Profile No. 2	1	2	4	8	16	\$ 3,510
48. Pipeline Plan and Profile No. 3	1	2	4	8	16	\$ 3,510
49. Pipeline Plan and Profile No. 4	1	2	4	8	16	\$ 3,510
Transmission Line from Hwy 88 to Dal Rey Oaks Station (6,000 ft at 1"=200')						\$ -
50. Pipeline Plan and Profile No. 1	1	2	4	8	16	\$ 3,510
51. Pipeline Plan and Profile No. 2	1	2	4	8	16	\$ 3,510
Transmission Line from Hwy 88 to Segunda Tank (10,500 ft at 1"=200')						\$ -
52. Pipeline Plan and Profile No. 1	1	2	4	8	16	\$ 3,510
53. Pipeline Plan and Profile No. 2	1	2	4	8	16	\$ 3,510
Segunda Tank						\$ -
54. Site Plan	1	2	4	8	16	\$ 3,510
55. Grading Plan	1	2	4	8	16	\$ 3,510
56. Reservoir Plan and Section	1	2	4	8	16	\$ 3,510
57. Inlet/Outlet Piping and Details	1	2	4	8	16	\$ 3,510
58. Utility Plan (Electrical)	1	2	4	8	16	\$ 3,510
Dal Rey Oaks Booster Station						\$ -
59. Site Plan	1	2	4	8	16	\$ 3,510
60. Building Layout and Mechanical Plan	1	2	4	8	16	\$ 3,510
61. Electrical Plan	1	2	4	8	16	\$ 3,510
Transmission Line from Fort Ord Tank to Well Sites (11,000 ft at 1"=200')						\$ -
62. Pipeline Plan and Profile No. 1	1	2	4	8	16	\$ 3,510
63. Pipeline Plan and Profile No. 2	1	2	4	8	16	\$ 3,510
Injection and Recovery Wells (6 wells)						\$ -
64. Civil Site Plan	1	2	4	8	16	\$ 3,510
65. ASR Wellhead Foundation	1	2	4	8	16	\$ 3,510
66. Site Plan and Monitor Well Locations	1	2	4	8	16	\$ 3,510

TABLE NO. 2-2 - LIST OF PRELIMINARY DESIGN DRAWINGS  
 ENVIRONMENTAL ASSESSMENT AND PERMITTING OF COASTAL WATER PROJECT (CWP)  
 CALIFORNIA AMERICAN WATER

Task Description	Approximate Person Hours					Total Labor Costs
	RBF					
	Principal	Mgr	Senior Engr	Engr	Design/Draft	
67. Yard Piping Plan	1	2	4	8	16	\$ 3,510
68. ASR Wellhead Piping- Plan & Notes	1	2	4	8	16	\$ 3,510
69. ASR Wellhead Piping Section & Notes	1	2	4	8	16	\$ 3,510
70. ASR Wellhead Details	1	2	4	8	16	\$ 3,510
71. ASR and Monitor Well Details	1	2	4	8	16	\$ 3,510
72. Well Construction Notes	1	2	4	8	16	\$ 3,510
73. Chemical Feed System	1	2	4	8	16	\$ 3,510
74. P&ID CIASR Well System	1	2	4	8	16	\$ 3,510
75. P&ID Chemical Feed System and Residual Analyzers	1	2	4	8	16	\$ 3,510
<b>SUBTOTAL TASK 3.5 PRELIMINARY DESIGN PLANS</b>	<b>75</b>	<b>150</b>	<b>300</b>	<b>600</b>	<b>1200</b>	<b>\$ 283,250</b>

**PROJECT SCHEDULE**

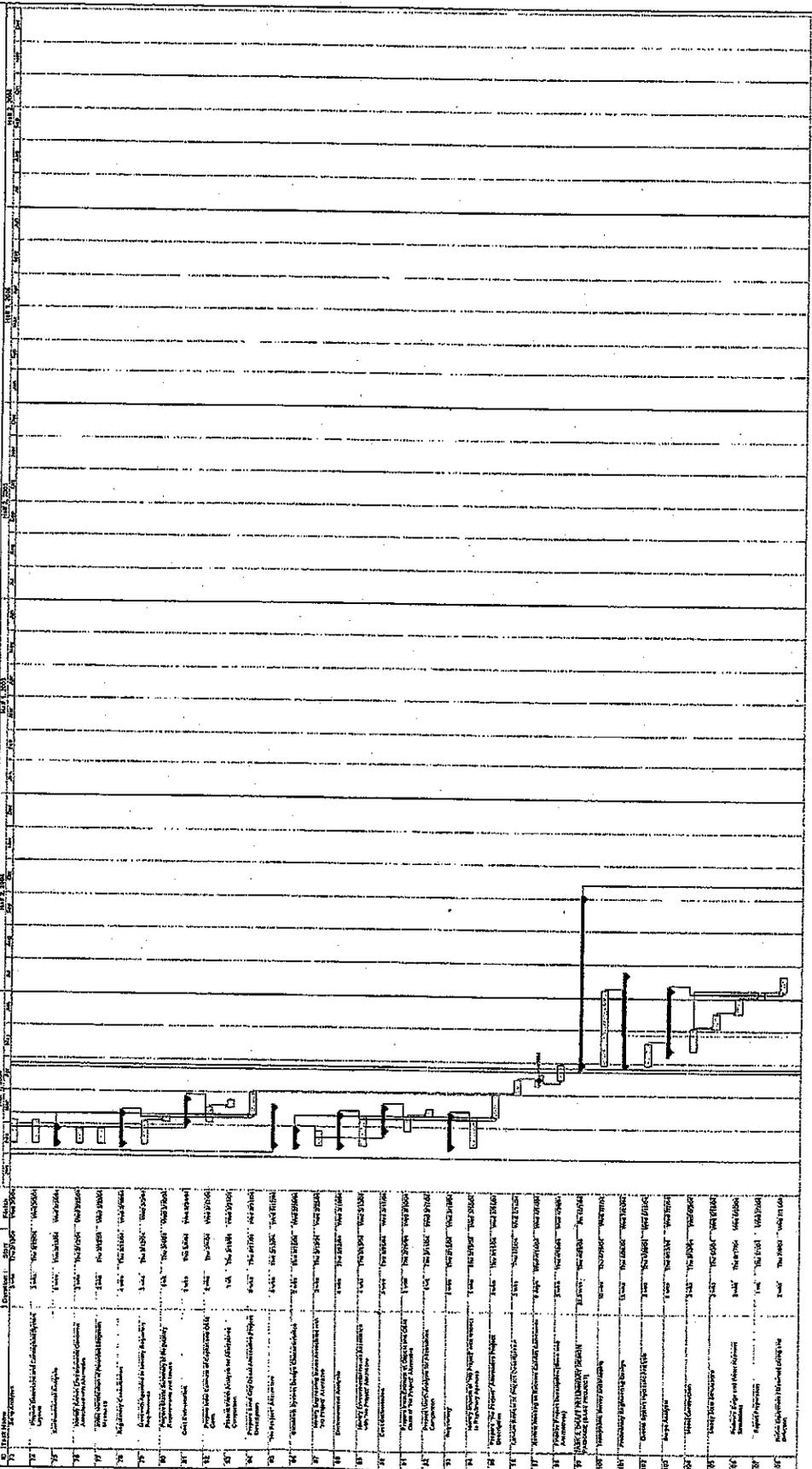
PROPOSED ENVIRONMENTAL CALIFORNIA AMERICAN WATER PRELIMINARY DESIGN, AND RELATED TASKS FOR CALIFORNIA AMERICAN WATER'S LOCAL WATER PROJECT (CWP)



**PROJECT SCHEDULE**  
**CALIFORNIA AMERICAN WATER**  
**PROPOSER'S ENVIRONMENTAL ASSESSMENT / PEAL, PRELIMINARY DESIGN, AND RELATED TASKS**  
**FOR CALIFORNIA AMERICAN WATER'S COASTAL WATER PROJECT (CWP)**

Task No.	Task Name	Start	End	Duration	Predecessors
1	Project Initiation	01/15/00	01/15/00	1	
2	PEAL Study	01/15/00	03/15/00	60	1
3	PEAL Report	03/15/00	03/15/00	1	2
4	PEAL Review	03/15/00	04/15/00	30	2
5	PEAL Approval	04/15/00	04/15/00	1	4
6	PEAL Implementation	04/15/00	05/15/00	30	5
7	PEAL Monitoring	05/15/00	06/15/00	30	6
8	PEAL Reporting	06/15/00	07/15/00	30	7
9	PEAL Review	07/15/00	08/15/00	30	8
10	PEAL Approval	08/15/00	08/15/00	1	9
11	PEAL Implementation	08/15/00	09/15/00	30	10
12	PEAL Monitoring	09/15/00	10/15/00	30	11
13	PEAL Reporting	10/15/00	11/15/00	30	12
14	PEAL Review	11/15/00	12/15/00	30	13
15	PEAL Approval	12/15/00	12/15/00	1	14
16	PEAL Implementation	12/15/00	01/15/01	30	15
17	PEAL Monitoring	01/15/01	02/15/01	30	16
18	PEAL Reporting	02/15/01	03/15/01	30	17
19	PEAL Review	03/15/01	04/15/01	30	18
20	PEAL Approval	04/15/01	04/15/01	1	19
21	PEAL Implementation	04/15/01	05/15/01	30	20
22	PEAL Monitoring	05/15/01	06/15/01	30	21
23	PEAL Reporting	06/15/01	07/15/01	30	22
24	PEAL Review	07/15/01	08/15/01	30	23
25	PEAL Approval	08/15/01	08/15/01	1	24
26	PEAL Implementation	08/15/01	09/15/01	30	25
27	PEAL Monitoring	09/15/01	10/15/01	30	26
28	PEAL Reporting	10/15/01	11/15/01	30	27
29	PEAL Review	11/15/01	12/15/01	30	28
30	PEAL Approval	12/15/01	12/15/01	1	29
31	PEAL Implementation	12/15/01	01/15/02	30	30
32	PEAL Monitoring	01/15/02	02/15/02	30	31
33	PEAL Reporting	02/15/02	03/15/02	30	32
34	PEAL Review	03/15/02	04/15/02	30	33
35	PEAL Approval	04/15/02	04/15/02	1	34
36	PEAL Implementation	04/15/02	05/15/02	30	35
37	PEAL Monitoring	05/15/02	06/15/02	30	36
38	PEAL Reporting	06/15/02	07/15/02	30	37
39	PEAL Review	07/15/02	08/15/02	30	38
40	PEAL Approval	08/15/02	08/15/02	1	39
41	PEAL Implementation	08/15/02	09/15/02	30	40
42	PEAL Monitoring	09/15/02	10/15/02	30	41
43	PEAL Reporting	10/15/02	11/15/02	30	42
44	PEAL Review	11/15/02	12/15/02	30	43
45	PEAL Approval	12/15/02	12/15/02	1	44
46	PEAL Implementation	12/15/02	01/15/03	30	45
47	PEAL Monitoring	01/15/03	02/15/03	30	46
48	PEAL Reporting	02/15/03	03/15/03	30	47
49	PEAL Review	03/15/03	04/15/03	30	48
50	PEAL Approval	04/15/03	04/15/03	1	49
51	PEAL Implementation	04/15/03	05/15/03	30	50
52	PEAL Monitoring	05/15/03	06/15/03	30	51
53	PEAL Reporting	06/15/03	07/15/03	30	52
54	PEAL Review	07/15/03	08/15/03	30	53
55	PEAL Approval	08/15/03	08/15/03	1	54
56	PEAL Implementation	08/15/03	09/15/03	30	55
57	PEAL Monitoring	09/15/03	10/15/03	30	56
58	PEAL Reporting	10/15/03	11/15/03	30	57
59	PEAL Review	11/15/03	12/15/03	30	58
60	PEAL Approval	12/15/03	12/15/03	1	59
61	PEAL Implementation	12/15/03	01/15/04	30	60
62	PEAL Monitoring	01/15/04	02/15/04	30	61
63	PEAL Reporting	02/15/04	03/15/04	30	62
64	PEAL Review	03/15/04	04/15/04	30	63
65	PEAL Approval	04/15/04	04/15/04	1	64
66	PEAL Implementation	04/15/04	05/15/04	30	65
67	PEAL Monitoring	05/15/04	06/15/04	30	66
68	PEAL Reporting	06/15/04	07/15/04	30	67
69	PEAL Review	07/15/04	08/15/04	30	68
70	PEAL Approval	08/15/04	08/15/04	1	69
71	PEAL Implementation	08/15/04	09/15/04	30	70
72	PEAL Monitoring	09/15/04	10/15/04	30	71
73	PEAL Reporting	10/15/04	11/15/04	30	72
74	PEAL Review	11/15/04	12/15/04	30	73
75	PEAL Approval	12/15/04	12/15/04	1	74
76	PEAL Implementation	12/15/04	01/15/05	30	75
77	PEAL Monitoring	01/15/05	02/15/05	30	76
78	PEAL Reporting	02/15/05	03/15/05	30	77
79	PEAL Review	03/15/05	04/15/05	30	78
80	PEAL Approval	04/15/05	04/15/05	1	79
81	PEAL Implementation	04/15/05	05/15/05	30	80
82	PEAL Monitoring	05/15/05	06/15/05	30	81
83	PEAL Reporting	06/15/05	07/15/05	30	82
84	PEAL Review	07/15/05	08/15/05	30	83
85	PEAL Approval	08/15/05	08/15/05	1	84
86	PEAL Implementation	08/15/05	09/15/05	30	85
87	PEAL Monitoring	09/15/05	10/15/05	30	86
88	PEAL Reporting	10/15/05	11/15/05	30	87
89	PEAL Review	11/15/05	12/15/05	30	88
90	PEAL Approval	12/15/05	12/15/05	1	89
91	PEAL Implementation	12/15/05	01/15/06	30	90
92	PEAL Monitoring	01/15/06	02/15/06	30	91
93	PEAL Reporting	02/15/06	03/15/06	30	92
94	PEAL Review	03/15/06	04/15/06	30	93
95	PEAL Approval	04/15/06	04/15/06	1	94
96	PEAL Implementation	04/15/06	05/15/06	30	95
97	PEAL Monitoring	05/15/06	06/15/06	30	96
98	PEAL Reporting	06/15/06	07/15/06	30	97
99	PEAL Review	07/15/06	08/15/06	30	98
100	PEAL Approval	08/15/06	08/15/06	1	99
101	PEAL Implementation	08/15/06	09/15/06	30	100
102	PEAL Monitoring	09/15/06	10/15/06	30	101
103	PEAL Reporting	10/15/06	11/15/06	30	102
104	PEAL Review	11/15/06	12/15/06	30	103
105	PEAL Approval	12/15/06	12/15/06	1	104
106	PEAL Implementation	12/15/06	01/15/07	30	105
107	PEAL Monitoring	01/15/07	02/15/07	30	106
108	PEAL Reporting	02/15/07	03/15/07	30	107
109	PEAL Review	03/15/07	04/15/07	30	108
110	PEAL Approval	04/15/07	04/15/07	1	109
111	PEAL Implementation	04/15/07	05/15/07	30	110
112	PEAL Monitoring	05/15/07	06/15/07	30	111
113	PEAL Reporting	06/15/07	07/15/07	30	112
114	PEAL Review	07/15/07	08/15/07	30	113
115	PEAL Approval	08/15/07	08/15/07	1	114
116	PEAL Implementation	08/15/07	09/15/07	30	115
117	PEAL Monitoring	09/15/07	10/15/07	30	116
118	PEAL Reporting	10/15/07	11/15/07	30	117
119	PEAL Review	11/15/07	12/15/07	30	118
120	PEAL Approval	12/15/07	12/15/07	1	119
121	PEAL Implementation	12/15/07	01/15/08	30	120
122	PEAL Monitoring	01/15/08	02/15/08	30	121
123	PEAL Reporting	02/15/08	03/15/08	30	122
124	PEAL Review	03/15/08	04/15/08	30	123
125	PEAL Approval	04/15/08	04/15/08	1	124
126	PEAL Implementation	04/15/08	05/15/08	30	125
127	PEAL Monitoring	05/15/08	06/15/08	30	126
128	PEAL Reporting	06/15/08	07/15/08	30	127
129	PEAL Review	07/15/08	08/15/08	30	128
130	PEAL Approval	08/15/08	08/15/08	1	129
131	PEAL Implementation	08/15/08	09/15/08	30	130
132	PEAL Monitoring	09/15/08	10/15/08	30	131
133	PEAL Reporting	10/15/08	11/15/08	30	132
134	PEAL Review	11/15/08	12/15/08	30	133
135	PEAL Approval	12/15/08	12/15/08	1	134
136	PEAL Implementation	12/15/08	01/15/09	30	135
137	PEAL Monitoring	01/15/09	02/15/09	30	136
138	PEAL Reporting	02/15/09	03/15/09	30	137
139	PEAL Review	03/15/09	04/15/09	30	138
140	PEAL Approval	04/15/09	04/15/09	1	139
141	PEAL Implementation	04/15/09	05/15/09	30	140
142	PEAL Monitoring	05/15/09	06/15/09	30	141
143	PEAL Reporting	06/15/09	07/15/09	30	142
144	PEAL Review	07/15/09	08/15/09	30	143
145	PEAL Approval	08/15/09	08/15/09	1	144
146	PEAL Implementation	08/15/09	09/15/09	30	145
147	PEAL Monitoring	09/15/09	10/15/09	30	146
148	PEAL Reporting	10/15/09	11/15/09	30	147
149	PEAL Review	11/15/09	12/15/09	30	148
150	PEAL Approval	12/15/09	12/15/09	1	149
151	PEAL Implementation	12/15/09	01/15/10	30	150
152	PEAL Monitoring	01/15/10	02/15/10	30	151
153	PEAL Reporting	02/15/10	03/15/10	30	152
154	PEAL Review	03/15/10	04/15/10	30	153
155	PEAL Approval	04/15/10	04/15/10	1	154
156	PEAL Implementation	04/15/10	05/15/10	30	155
157	PEAL Monitoring	05/15/10	06/15/10	30	156
158	PEAL Reporting	06/15/10	07/15/10	30	157
159	PEAL Review	07/15/10	08/15/10	30	158
160	PEAL Approval	08/15/10	08/15/10	1	159
161	PEAL Implementation	08/15/10	09/15/10	30	160
162	PEAL Monitoring	09/15/10	10/15/10	30	161
163	PEAL Reporting	10/15/10	11/15/10	30	162
164	PEAL Review	11/15/10	12/15/10	30	163
165	PEAL Approval	12/15/10	12/15/10	1	164
166	PEAL Implementation	12/15/10	01/15/11	30	165
167	PEAL Monitoring	01/15/11	02/15/11	30	166
168	PEAL Reporting	02/15/11	03/15/11	30	167
169	PEAL Review	03/15/11	04/15/11	30	168
170	PEAL Approval	04/15/11	04/15/11	1	169
171	PEAL Implementation	04/15/11	05/15/11	30	170
172	PEAL Monitoring	05/15/11	06/15/11	30	171
173	PEAL Reporting	06/15/11	07/15/11	30	172
174	PEAL Review	07/15/11	08/15/11	30	173
175	PEAL Approval	08/15/11	08/15/11	1	174
176	PEAL Implementation	08/15/11	09/15/11	30	175
177	PEAL Monitoring	09/15/11	10/15/11	30	176
178	PEAL Reporting	10/1			

**PROJECT SCHEDULE**  
**CALIFORNIA AMERICAN WATER**  
**PROPOSED ENVIRONMENTAL ASSESSMENT (PEA), PRELIMINARY DESIGN, AND RELATED TASKS**  
**FOR CALIFORNIA AMERICAN WATER'S COASTAL WATER PROJECT (CWP)**

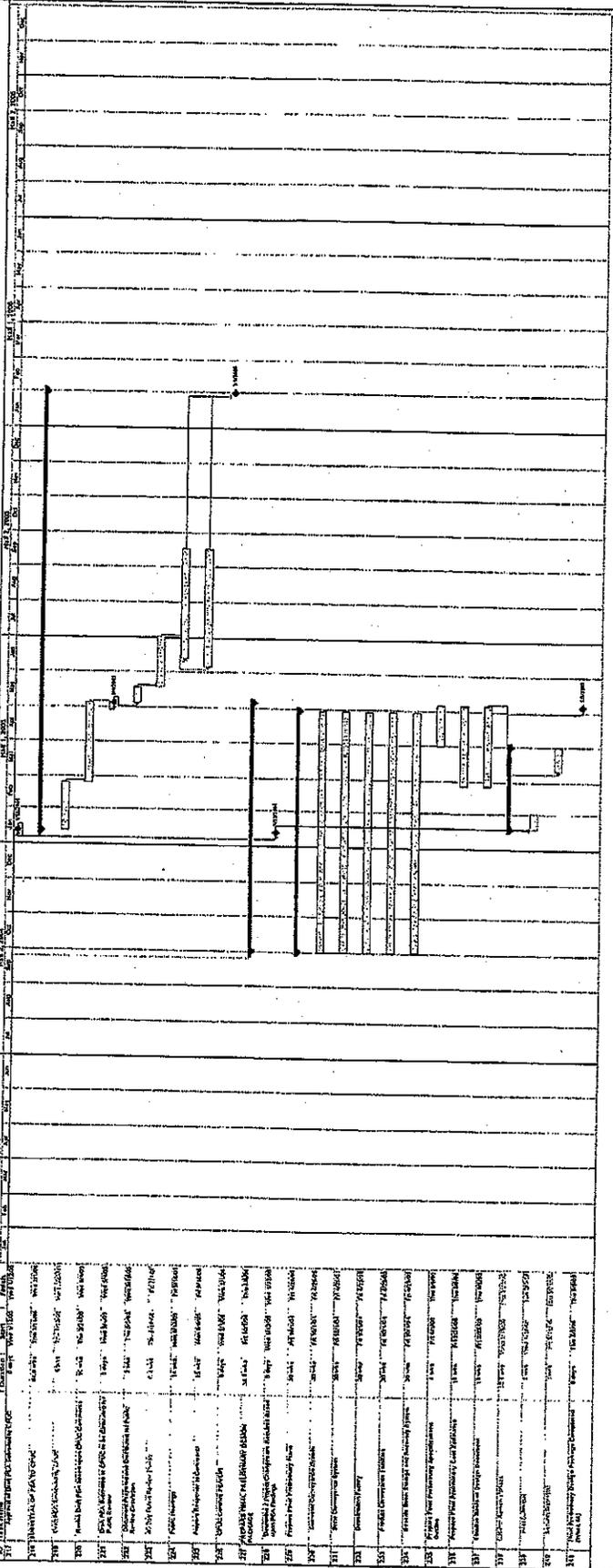








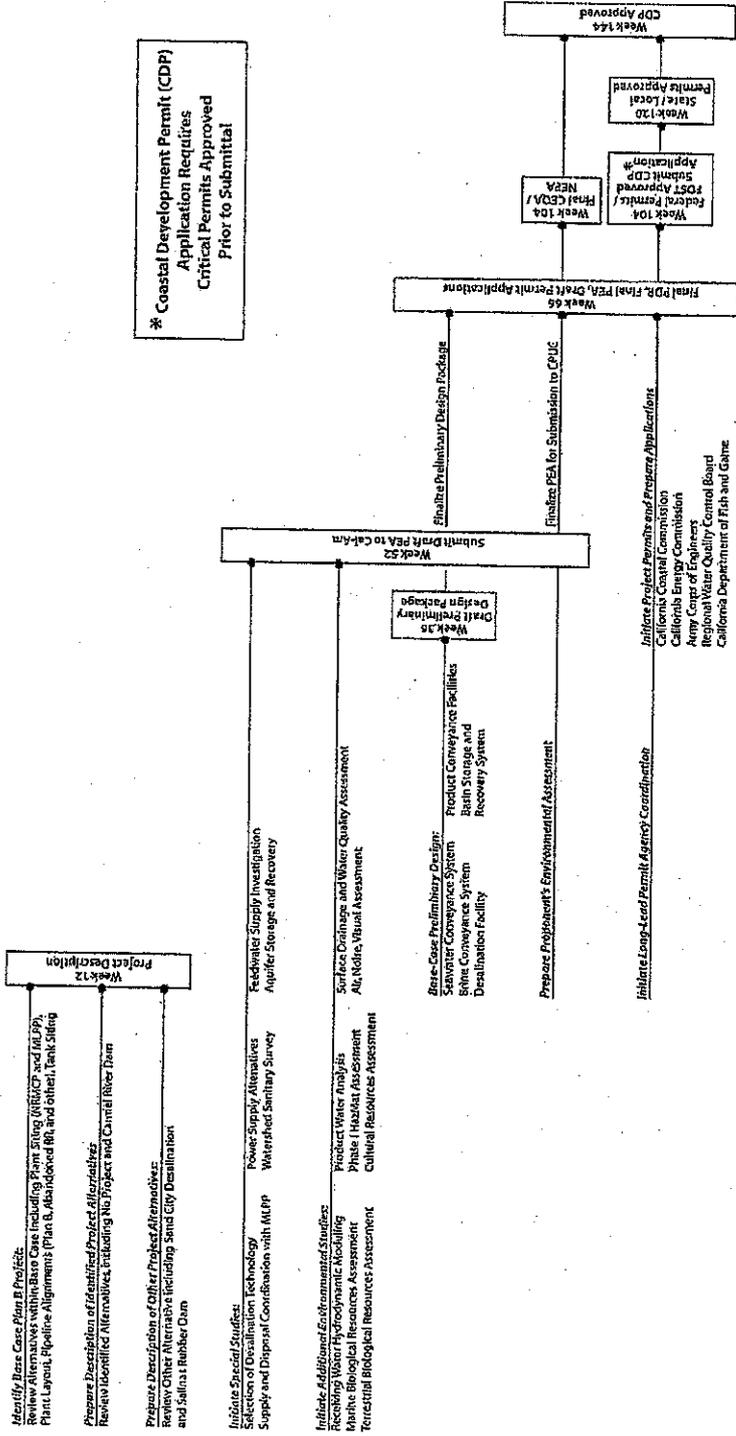
**PROJECT SCHEDULE**  
**SECONDARY WATER TREATMENT FACILITY DESIGN AND RELATED TASKS**  
**FOR CALIFORNIA AMERICAN WATER'S COASTAL WATER PROJECT (CWP)**



Task No.	Task Description	Start Date	End Date	Duration
200	Final Design	1987-01-01	1987-12-31	12 Months
201	Final Design	1987-01-01	1987-12-31	12 Months
202	Final Design	1987-01-01	1987-12-31	12 Months
203	Final Design	1987-01-01	1987-12-31	12 Months
204	Final Design	1987-01-01	1987-12-31	12 Months
205	Final Design	1987-01-01	1987-12-31	12 Months
206	Final Design	1987-01-01	1987-12-31	12 Months
207	Final Design	1987-01-01	1987-12-31	12 Months
208	Final Design	1987-01-01	1987-12-31	12 Months
209	Final Design	1987-01-01	1987-12-31	12 Months
210	Final Design	1987-01-01	1987-12-31	12 Months
211	Final Design	1987-01-01	1987-12-31	12 Months
212	Final Design	1987-01-01	1987-12-31	12 Months
213	Final Design	1987-01-01	1987-12-31	12 Months
214	Final Design	1987-01-01	1987-12-31	12 Months
215	Final Design	1987-01-01	1987-12-31	12 Months
216	Final Design	1987-01-01	1987-12-31	12 Months
217	Final Design	1987-01-01	1987-12-31	12 Months
218	Final Design	1987-01-01	1987-12-31	12 Months
219	Final Design	1987-01-01	1987-12-31	12 Months
220	Final Design	1987-01-01	1987-12-31	12 Months
221	Final Design	1987-01-01	1987-12-31	12 Months
222	Final Design	1987-01-01	1987-12-31	12 Months
223	Final Design	1987-01-01	1987-12-31	12 Months
224	Final Design	1987-01-01	1987-12-31	12 Months
225	Final Design	1987-01-01	1987-12-31	12 Months
226	Final Design	1987-01-01	1987-12-31	12 Months
227	Final Design	1987-01-01	1987-12-31	12 Months
228	Final Design	1987-01-01	1987-12-31	12 Months
229	Final Design	1987-01-01	1987-12-31	12 Months
230	Final Design	1987-01-01	1987-12-31	12 Months
231	Final Design	1987-01-01	1987-12-31	12 Months
232	Final Design	1987-01-01	1987-12-31	12 Months
233	Final Design	1987-01-01	1987-12-31	12 Months
234	Final Design	1987-01-01	1987-12-31	12 Months
235	Final Design	1987-01-01	1987-12-31	12 Months
236	Final Design	1987-01-01	1987-12-31	12 Months
237	Final Design	1987-01-01	1987-12-31	12 Months
238	Final Design	1987-01-01	1987-12-31	12 Months
239	Final Design	1987-01-01	1987-12-31	12 Months
240	Final Design	1987-01-01	1987-12-31	12 Months
241	Final Design	1987-01-01	1987-12-31	12 Months
242	Final Design	1987-01-01	1987-12-31	12 Months
243	Final Design	1987-01-01	1987-12-31	12 Months
244	Final Design	1987-01-01	1987-12-31	12 Months
245	Final Design	1987-01-01	1987-12-31	12 Months
246	Final Design	1987-01-01	1987-12-31	12 Months
247	Final Design	1987-01-01	1987-12-31	12 Months
248	Final Design	1987-01-01	1987-12-31	12 Months
249	Final Design	1987-01-01	1987-12-31	12 Months
250	Final Design	1987-01-01	1987-12-31	12 Months
251	Final Design	1987-01-01	1987-12-31	12 Months
252	Final Design	1987-01-01	1987-12-31	12 Months
253	Final Design	1987-01-01	1987-12-31	12 Months
254	Final Design	1987-01-01	1987-12-31	12 Months
255	Final Design	1987-01-01	1987-12-31	12 Months
256	Final Design	1987-01-01	1987-12-31	12 Months
257	Final Design	1987-01-01	1987-12-31	12 Months
258	Final Design	1987-01-01	1987-12-31	12 Months
259	Final Design	1987-01-01	1987-12-31	12 Months
260	Final Design	1987-01-01	1987-12-31	12 Months
261	Final Design	1987-01-01	1987-12-31	12 Months
262	Final Design	1987-01-01	1987-12-31	12 Months
263	Final Design	1987-01-01	1987-12-31	12 Months
264	Final Design	1987-01-01	1987-12-31	12 Months
265	Final Design	1987-01-01	1987-12-31	12 Months
266	Final Design	1987-01-01	1987-12-31	12 Months
267	Final Design	1987-01-01	1987-12-31	12 Months
268	Final Design	1987-01-01	1987-12-31	12 Months
269	Final Design	1987-01-01	1987-12-31	12 Months
270	Final Design	1987-01-01	1987-12-31	12 Months
271	Final Design	1987-01-01	1987-12-31	12 Months
272	Final Design	1987-01-01	1987-12-31	12 Months
273	Final Design	1987-01-01	1987-12-31	12 Months
274	Final Design	1987-01-01	1987-12-31	12 Months
275	Final Design	1987-01-01	1987-12-31	12 Months
276	Final Design	1987-01-01	1987-12-31	12 Months
277	Final Design	1987-01-01	1987-12-31	12 Months
278	Final Design	1987-01-01	1987-12-31	12 Months
279	Final Design	1987-01-01	1987-12-31	12 Months
280	Final Design	1987-01-01	1987-12-31	12 Months
281	Final Design	1987-01-01	1987-12-31	12 Months
282	Final Design	1987-01-01	1987-12-31	12 Months
283	Final Design	1987-01-01	1987-12-31	12 Months
284	Final Design	1987-01-01	1987-12-31	12 Months
285	Final Design	1987-01-01	1987-12-31	12 Months
286	Final Design	1987-01-01	1987-12-31	12 Months
287	Final Design	1987-01-01	1987-12-31	12 Months
288	Final Design	1987-01-01	1987-12-31	12 Months
289	Final Design	1987-01-01	1987-12-31	12 Months
290	Final Design	1987-01-01	1987-12-31	12 Months
291	Final Design	1987-01-01	1987-12-31	12 Months
292	Final Design	1987-01-01	1987-12-31	12 Months
293	Final Design	1987-01-01	1987-12-31	12 Months
294	Final Design	1987-01-01	1987-12-31	12 Months
295	Final Design	1987-01-01	1987-12-31	12 Months
296	Final Design	1987-01-01	1987-12-31	12 Months
297	Final Design	1987-01-01	1987-12-31	12 Months
298	Final Design	1987-01-01	1987-12-31	12 Months
299	Final Design	1987-01-01	1987-12-31	12 Months
300	Final Design	1987-01-01	1987-12-31	12 Months
301	Final Design	1987-01-01	1987-12-31	12 Months
302	Final Design	1987-01-01	1987-12-31	12 Months
303	Final Design	1987-01-01	1987-12-31	12 Months
304	Final Design	1987-01-01	1987-12-31	12 Months
305	Final Design	1987-01-01	1987-12-31	12 Months
306	Final Design	1987-01-01	1987-12-31	12 Months
307	Final Design	1987-01-01	1987-12-31	12 Months
308	Final Design	1987-01-01	1987-12-31	12 Months
309	Final Design	1987-01-01	1987-12-31	12 Months
310	Final Design	1987-01-01	1987-12-31	12 Months
311	Final Design	1987-01-01	1987-12-31	12 Months
312	Final Design	1987-01-01	1987-12-31	12 Months
313	Final Design	1987-01-01	1987-12-31	12 Months
314	Final Design	1987-01-01	1987-12-31	12 Months
315	Final Design	1987-01-01	1987-12-31	12 Months
316	Final Design	1987-01-01	1987-12-31	12 Months
317	Final Design	1987-01-01	1987-12-31	12 Months



# Exhibit 2.2 Project Work Plan



**EXHIBIT E**

Coastal Water Project (CWP)  
Recommendations for Hiring PEA Consultant

The purpose of this memorandum is to document post procurement debriefing of consultants Regarding Cal-Am's procurement process for hiring a PEA consulting firm for CWP.

As a first step, American Water Engineering-Voorhees' staff conducted an initial screening of several candidate firms which resulted in the following short list:

1. CH2M Hill, Oakland California
2. RBF Consultants, Irvine CA
3. Kennedy Jenks, San Francisco, CA
4. PBS&J, San Diego, CA
5. RMC, Walnut Creek, CA

On December 15, 2003, Cal-Am received detailed proposals from the offerors.

Evaluation of the proposals began by assembling a five-member source selection board (SSB). Four of the SSB members were Cal-Am/American Water employees (Kent Turner, Mark Schubert, Steve Leonard, and Steve Creel) and the fifth member, Jan Driscoll, served as Cal-Am's Corporate Counsel for six years and continues as a member of the CWP's legal team.

These five individuals were selected based on their intimate knowledge of Cal-Am's needs as well as the specifics of the CWP requirements. Fred Feizollahi, CWP Technical Project Manager, was assigned as the facilitator for the procurement process and moderator for the SSB meetings.

During its first meeting on December 19, 2003, the SSB evaluated the technical and commercial merits of the five proposals.

Technical evaluation showed that while all proposals were impressive and highly detailed, there were no significant discriminators that dictated the selection or rejection of a given proposal.

Each proposal was strong in some areas while weak in others.

From commercial perspective, the budgets proposed for the given scope ranged from \$3.0 to \$5.9 million, the proposed multipliers on direct labor ranged from 2.6 to 2.9 and the proposed profits ranged from 9% to 12%.

The medium (competitive range) for the proposed budgets was about \$4.58 million. If we throw away the lowest and the highest, the medium was about \$4. million.

From technical and commercial perspectives, no single offeror was superior in all areas. Therefore, SSB decided to invite all of the offerors for an oral presentation.

The SSB met again on January 8 and 9, 2004, and listened to a 45-minute oral presentations made by each of the five offerors. After each oral presentation, a 30-minute time was allowed for questions and answers period.

Upon listening to the five oral presentations, SSB conducted another evaluation of the information submitted and presented by each offeror.

As a result of this evaluation, the SSB voted to select the RBF and PBS&J teams for further questioning and evaluations.

To this end, a questionnaire, containing 11 questions, was prepared and sent to the short listed firms on January 12, 2004.

The questions were formulated to obtain additional information in areas where SSB needed further clarification.

On January 28, 2004, the SSB met via teleconference and evaluated RBF' and PBS&J's responses to the SSB questionnaire.

Based on a detailed review of all previous submittals, including the response to the questionnaire, SSB concluded that RBF team's proposal best suited the overall CWP's requirements.

In particular, RBF's initial proposal and the subsequent submittals articulated a high degree of knowledge relative to CWP's issues and concerns.

Generally, RBF demonstrated that they have experience in dealing with challenges that are similar to those that will be faced by CWP.

Also, an evaluation of RBF's commercial proposal indicated that their proposed budget of \$3.9 million and the labor unit rate multiplier of 2.7, plus 9% profit, are in the competitive range.

While ranking RBF's proposal the highest, however, SSB felt that RBF needed further explanation and clarification of its proposal in two areas, project management and hydrological modeling.

In conclusion, SSB unanimously recommended that RBF be selected for final negotiations and that the project management and hydrological modeling ambiguities be discussed and satisfactorily resolved during the final negotiations.

Evaluation Score Sheet  
Coastal Water Project  
PEA Proposals

Prepared By:

Date:

B. Commercial Proposals		Ken-Jen	RBF	E.H.M.H.W.	R.M.C.	R.B.F.
1. Financial Stability (Pass or Fail). Evaluate Consultant's financial stability and determine if the proposed accounting system promotes accurate tracking and invoicing of the project cost.		By Cal-Am Attorney	5A2, \$266MM Sale	5A2 Over \$2.2BB Sale, 250 staff in Oakland	1R3% \$7mm Sales; 50 Employee (30 in Center)	No D&B Sales ????
2. Proposed Not-to-Exceed Price (50%). Evaluate the proposed N-T-E price and determine if it is credible, accurately reflects the cost of proposed work, and competitive.	50.0%	\$3.1 mm	\$4.9 mm	\$5.1 mm	\$5.9mm	\$3.9mm
3. Labor Rates (20%). Evaluate direct labor rates (salary plus fringe) and determine if they are within the average for the given industry. Also calculate average labor rate (total labor budget divided by the total number of hours) and determine if it is competitive.	20.0%	Average is \$140		\$112	\$148	Average is 134.26 9123 w/o ODC)
4. Multipliers (20%). Evaluate the proposed multiplier/s (e.g., overhead, G&A and profit, etc.) and ensure that they are commensurate with the average for the given industry.	20.0%	2.88 +10% profit 2.78 +12% Profit Todd 2.81+12% profit, TOWILL 160% +10% Profit	2.63 +% 14% Profit	2.721 plus 12% profit	2.17 to 2.95 plus 10% profit	2.7 plus 9% profit
5. Handling of Sub consultant Costs (10%). Evaluate handling of the sub-consultant's costs and determine if there are any double mark-ups.	10.0%	5% markup	Zero Markup	Zero Mark up	5% markup	Zero Markup
<b>Total Commercial Score</b>	<b>100.0%</b>					

2.1 Evaluate CONSULTANT's understanding of the project and the related issues and ensure that project plans address the environmental, permitting and design issues associated with a desalination and a complex water supply project (10%).	10.0%	9.00%	9.50%	7.00%	9.00%	10.00%
2.2 Evaluate CONSULTANT's grasp of technical, environmental, permitting, public acceptance and cost/schedule risks associated with a new source of water supply in the coastal region of California (10%).	10.0%	9.00%	9.00%	6.00%	8.00%	9.80%
2.3 Evaluate the proposed work breakdown structure and determine if the organization and breakdown of the various tasks promote an efficient and cost effective execution of the project (3%).	3.0%	2.50%	3.00%	2.50%	2.00%	2.50%
2.4 Evaluate the proposed deliverables list for its completeness and clarity (4%).	4.0%	3.00%	3.50%	3.00%	3.00%	4.00%
2.5 Evaluate the completeness and adequacy of the budgets and schedules assigned to each task (3%).	3.0%	1.50%	3.00%	2.50%	2.50%	2.50%
<b>3. Project Team (50%)</b>	<b>50.0%</b>	<b>41.0%</b>	<b>44.0%</b>	<b>37.0%</b>	<b>38.0%</b>	<b>42.5%</b>
4.1 Evaluate the proposed organization to determine if it promotes an efficient communication within the project as well as an effective control of the quality of work both by internal staff and sub-consultants (10%).	10.0%	7.00%	9.00%	8.00%	5.00%	9.50%
4.2 Evaluate the completeness of the responsibility and reporting relationship and assignments described in the proposal for each staff member and each sub-consultant (5%).	5.0%	4.00%	4.00%	3.00%	4.00%	

4.3 Evaluate the experience and qualifications of the proposed project members and determine if they have the education, experience and capability required to carry out their responsibilities (20%).	20.0%	18.00%	19.00%	18.00%	17.00%	19.00%
4.4 Evaluate the individuals proposed for "Key Positions" and determine their experience in working together in a team (10%).	10.0%	7.00%	7.00%	5.00%	9.00%	9.00%
4.5 Evaluate CONSULTANT's commitment relative to ensuring that the individuals assigned to "Key Positions" are not over-committed and will not be replaced after award (5%).	5.0%	5.00%	5.00%	3.00%	3.00%	5.00%
<b>Total Technical Score</b>	<b>100.0%</b>	<b>82.3%</b>	<b>89.8%</b>	<b>75.2%</b>	<b>76.3%</b>	<b>90.5%</b>

Coastal Watershed Project  
PEA Commercial Proposals  
Cost Summary

Task	Description	RMC		Kennedy - Jenks		CH2MHILL Avg Labor Including ODC	PBS&J		RBF		
		Total Cost	Avg Labor Including ODC	Total Cost	Avg Labor Including ODC		Total Cost	Avg Labor Including ODC			
1.0	Project Description	\$205,332	\$159	\$126,039	\$137	\$216,261	\$168	\$195,644	\$104	\$362,210	\$127
2.0	Proponent's Environmental Assessment	\$1,124,201	\$113	\$1,190,453	\$148	\$1,086,182	\$141	\$789,360	\$101	\$843,135	\$121
3A	Preliminary Design, Excluding Item 5 in Table 3	\$1,257,907	\$136	\$602,541	\$121	\$1,568,829	\$147	\$888,932	\$103	\$514,156	\$158
3B	Preliminary Design for Item 5 in Table 3	\$408,344	\$116	\$19,026	\$117	\$116,445	\$149	\$330,876	\$105	\$50,152	\$158
4.0	Engineering and Environmental Studies (CONSULTANT to List each study and its cost)	\$1,056,464	\$139	\$275,804		\$787,544		\$1,060,809		\$1,301,759	\$123
	Desalination Technology			\$5,728	\$159	\$9,780	\$175	\$12,256	\$116		
	Beechwell Study	\$343,444	\$204	\$64,924	\$136	\$212,216	\$155	\$251,120	\$161	\$143,352	\$171
	Coordination Study for freshwater Supply and Concentrate Disposal Method	\$147,056	\$153	\$41,826	\$149	\$109,685	\$144	\$112,016	\$104	\$67,580	\$137
	Watershe Sanitary Survey	\$112,371	\$116	\$53,566	\$153	\$27,631	\$111	\$201,632	\$131	\$177,170	\$147
	Evaluation of Power Supply	\$79,353	\$110	\$23,507	\$126	\$31,554	\$158	\$104,206	\$165	\$32,580	\$131
	ASR Project	\$374,241	\$116	\$86,353	\$140	\$332,392	\$130	\$379,580	\$128	\$174,240	\$120
	Evaluate Routes and Sites Receiving Water Hydrodynamic Modeling					\$84,286	\$161			\$484,015	\$108
	Toxicology Analysis of Waste Streams									\$37,712	\$181
	Product Water Analysis									\$8,380	\$168
	Marine Biological Resource Assessment									\$36,116	\$120
	Terrestrial Biological Resource assessment									\$30,186	\$107
	Cultural Resource Assessment									\$33,028	\$109
	Phase I Hazardous Material Assessment									\$23,000	\$86
	Surface drainage and Water Quality Assessment									\$6,400	\$114
	Geology and Soils									\$48,000	\$120
5.0	Analysis of Alternatives	\$102,845	\$199	\$35,287		\$75,854		\$147,048		Included in task 1	Included in task 1
5.1	Siting Alternatives	\$72,021	\$139							Included in task 1	Included in task 1

Coastal Water Project  
PEA Commercial Proposals  
Cost Summary

Task	Description	RMC		Kennedy - Jenks		CH2MHILL		PBS&J		RBF	
		Total Cost	Avg Labor Including ODC	Avg Labor Excluding ODC	Total Cost	Avg Labor Including ODC	Total Cost	Avg Labor Including ODC	Total Cost	Avg Labor Including ODC	Total Cost
5.1.a	Desalination plant Site at the MLPP	\$41,197	\$132	\$132	\$12,145	\$127	\$37,927	\$152	\$29,728	\$108	Included in task 1
5.1.b	Production Conveyance Transmission Alternative	\$30,824	\$150	\$148	\$11,571	\$126	\$37,927	\$152	\$117,320	\$99	Included in task 1
5.2	Other Alternatives (CONSULTANT to List each alternative and its cost separately)	\$30,824	\$150	\$148	\$11,571	\$126	N/A	N/A			Included in task 1
6.0	Permitting	\$478,682	\$115	\$110	\$198,984	\$122	\$409,621	\$161	\$443,020	\$106	\$221,680
7.0	Meetings	\$427,050	\$203	\$194	\$348,815	\$153	\$400,082	\$198	\$531,154	\$131	\$308,070
8.0	Project Planning and Control	\$804,514	\$158	\$152	\$290,896	\$151	\$472,118	\$141	\$273,952	\$116	\$267,800
9.0	Project Management & QC	\$5,865,339	\$134	\$124	\$3,087,846	\$140	\$5,122,943	\$148	\$284,318	\$133	\$3,868,962
	Total Project				\$3,121,899	\$632			\$4,945,113	\$112	\$134
	Options										