

TO: James L. App, City Manager
FROM: Doug Monn, Public Works Director
SUBJECT: Water Treatment Plant Design
DATE: April 3, 2012

NEEDS: For the City Council to consider awarding a contract for a surface water treatment plant design.

- FACTS:
1. The City must design and construct a treatment facility to use Lake Nacimiento water.
 2. Delays in adoption of a water rate combined with decreased water sales and the expense of paying for the Nacimiento Pipeline have placed a heavy burden on the City's water fund.
 3. Due to strained financial circumstances, on November 15th, 2011 City Council reprioritized capital expenditures, settled on a reduced-capacity water treatment plant, and directed staff to begin contract negotiations with AECOM for final design of a 2-MGD water treatment plant.
 4. The Council Ad-Hoc Committee (Council members Hamon and Strong) were briefed on the AECOM proposal and the 2-MGD treatment plant concept on March 9, 2012.
 5. A key feature to the current approach is that the project site and engineering work already performed will be preserved for the future Phase-II facility.
 6. The funding requirement for the Phase-I 2-MGD treatment plant is \$12M.
 7. The City Council Ad-Hoc Committee reviewed AECOM's proposed treatment approach and fee proposal and concluded it to be sound and competitive, and recommended bringing the matter back to Council for consideration.

ANALYSIS &
CONCLUSION:

The Phase-1 2-MGD plant concept recommend by AECOM (a scaled version of the future Phase-II 4-MGD treatment process) will meet the City's treatment goals at significantly reduced construction costs compared to previous concepts.

Cost reductions are accomplished by modifying the pretreatment steps and adding post-membrane granular activated carbon (GAC). The revised pretreatment process eliminates ozonation of the raw lake water, and replaces plate settlers with dissolved air flotation (DAF). In addition to pre-treatment revisions, GAC will be added to enhance the taste of the water and limit the formation of disinfection byproducts. These changes will allow the City to meet all regulatory requirements. Another feature of this current proposal is the preservation of a project site and engineering work already performed for the future Phase-II plant.

Design on the Phase I facility is scheduled to be completed twelve months following contract execution.

AECOM's proposed design fee for the 2-MGD treatment plant is \$899,588. The preliminary opinion of cost to complete the design and construction of the project is \$12.1M.

POLICY

REFERENCE: Economic Strategy; Integrated Water Resource Plan; Nacimiento Water Project Entitlement Contract.

FISCAL IMPACT: AECOM proposes professional engineering-design services for a cost of \$899,588. Because of the scope of the Nacimiento Water Project, complexities involved in design of a public drinking water treatment facility, and the possibility of design amendments, particularly those that may come up during regulator reviews, design workshops, bidability and constructability reviews, a \$105,000 contingency should be included. After including inflationary adjustments and design contingency, the total funding requirement is currently estimated to be \$12.1 M.

Total Required to Fund Project:

\$1.0 M Design (April 2012 \$s)

\$11.1 M Construction (FY 14/15 \$s)

Total \$12.1M

Below are current account balances in Nacimiento Related funds as of February 28, 2012.

Nacimiento Water Development Fee Fund 226	\$1.92 M
Nacimiento Water User Fee Fund 606	\$12.2 M
Nacimiento Water Treatment Development Fee Fund 229	\$.079 M

- OPTIONS:
- a. Adopt Resolution No. 12-xx authorizing the City Manager to enter into a contract with AECOM in the amount not to exceed \$1,004,588 to provide professional engineering design services associated with the design of the 2-MGD treatment facility.
 - b. Amend, modify, or reject the above option.

Prepared by: Christopher Alakel, P.E.
Water Resources Manager

Attachments (4)

- 1) Resolution
- 2) Site Plan
- 3) March 5, 2012 memo from AECOM
- 4) AECOM Scope of Work

RESOLUTION NO. 12-xxx

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF PASO ROBLES
APPROPRIATING FUNDS AND AWARDDING A CONTRACT
TO AECOM FOR PROFESSIONAL ENGINEERING DESIGN SERVICES ASSOCIATED WITH
THE DESIGN OF A WATER TREATMENT PLANT

WHEREAS, the City of Paso Robles is a partner in securing water from Lake Nacimiento; and

WHEREAS, integration of Nacimiento Water into the City's distribution system will require the construction of a two million gallon per day treatment facility; and

WHEREAS, the design process will require a professional engineering firm to ensure its functionality; and

WHEREAS, because of their demonstrated depth of experience, understanding of the purpose of the treatment plant, direct experience with the Nacimiento Pipeline Project, and the needs of the City retain the service of AECOM to provide Professional Engineering Design Services for the design of the treatment facility at a cost not to exceed. \$899,588 plus a contingency of \$105,000 for unforeseen design amendments.

THEREFORE, BE IT RESOLVED AS FOLLOWS:

SECTION 2. The City Council does hereby award a contract to AECOM for Professional Engineering Design Services associated with the design of the treatment facility in an amount not to exceed \$1,004,588 and authorizes the City Manager to execute the contact.

PASSED AND ADOPTED by the City Council of the City of Paso Robles this 3rd day of April 2012 by the following votes:

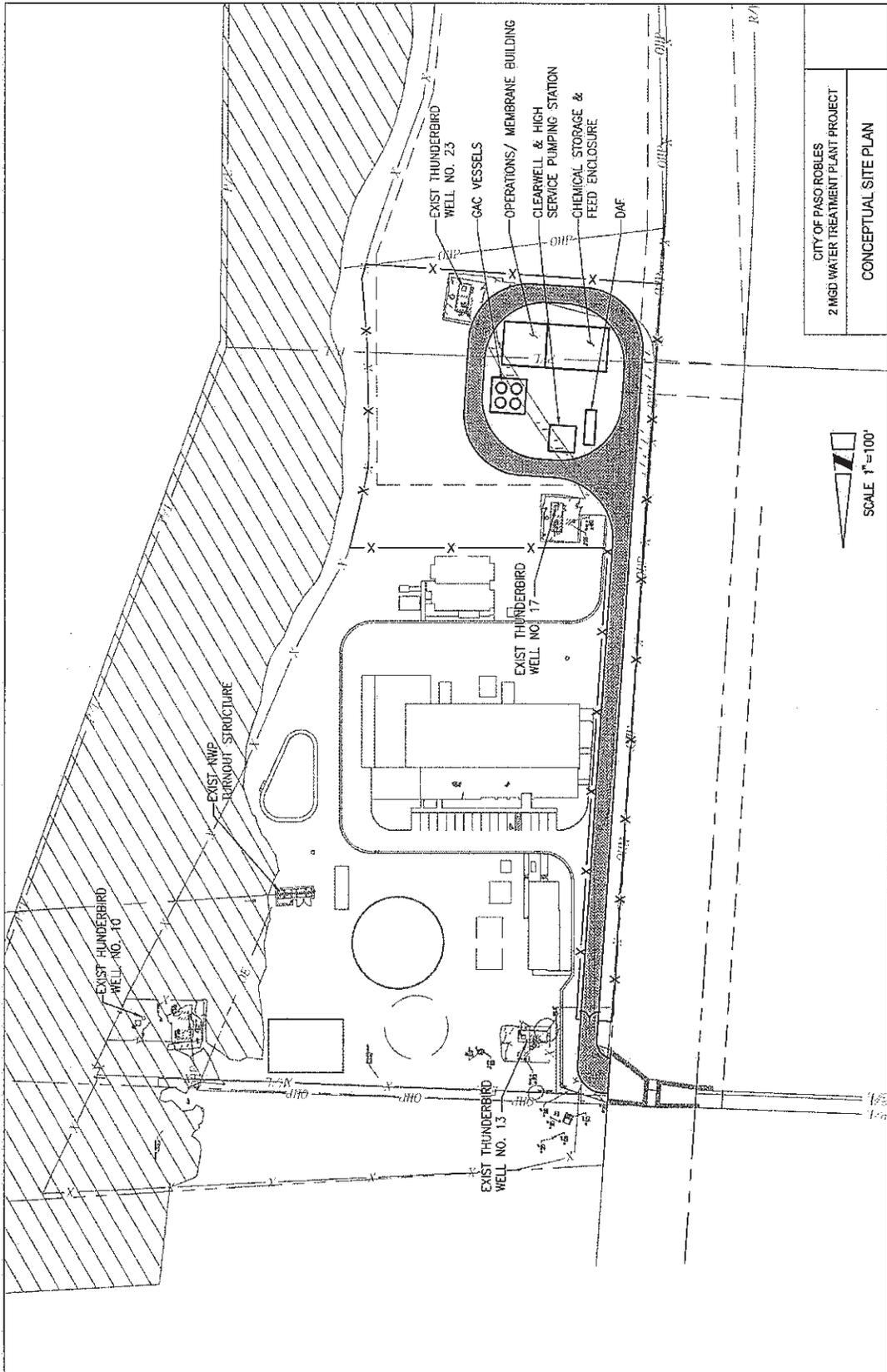
AYES:
NOES:
ABSTAIN:
ABSENT:

Duane Picanco, Mayor

ATTEST:

Caryn Jackson, Deputy City Clerk

DWG: V:\PASO ROBLES\12345678-WP\CAD\FIGURES\FIG 5-1.dwg USER: Thomae
 DATE: Jul 15, 2011 3:37pm XREFS: C-Y-BOUNDARY-E C-W-UTILITY-E 12-C-SITE C-Y-FEATURES-E A-0-SHELL C-Y-10P0-EX C-Y-FEATURES
 MAF05



CITY OF PASO ROBLES
 2 MGD WATER TREATMENT PLANT PROJECT
 CONCEPTUAL SITE PLAN

SCALE 1"=100'





AECOM
1194 Pacific Street, Suite 204
San Luis Obispo CA 93401

805.542.9840 tel
805.542.9990 fax

March 5, 2012

Christopher Alakel, PE
City of El Paso de Robles
1000 Spring Street
Paso Robles CA 93446

Re: AECOM Water Treatment Plant Scope and Fee

Introduction

On February 21, 2012, Paso Robles City Council was asked to approve a Professional Services Agreement under which AECOM Technical Services, Inc. (AECOM) would prepare the design of a 2 million gallon per day (MGD) capacity water treatment plant for the City. The proposed plant will treat water from the Nacimiento Water Project.

The presentation of the Agreement prompted discussion and questions regarding the similarities and differences between this Agreement and a prior version that the City Council had approved for completion of final design of a 4 MGD plant at an adjacent site.

Resulting from the discussion, AECOM was asked to prepare a brief memorandum providing a comparison between the services included in the two versions.

Comparison of 4 MGD vs. 2 MGD Design

On October 1, 2010, AECOM submitted a proposal for the completing the design of a 4 MGD surface water treatment (WTP or plant). The plant had already been designed by others to the 60% level of completion. Our 2010 proposal assumed that the treatment process, hydraulics, general site layout, and design concepts shown on the then existing 60% plans would remain viable for completion of the design. Included in our 2010 proposal package was a sheet-by-sheet drawing analysis showing how much our drawing costs were able to be reduced based on leveraging the design work that had already been completed. The estimated construction cost of the 4 MGD plant was approximately \$21 million.

The currently planned treatment plant will have a capacity between 2 and 2.5 MGD compared to the 4 MGD capacity assumed in 2010. The previous design was based on a campus-style layout that spread the individual facility elements out over a large area, and was designed for future capacity expansion. This configuration was determined to be expensive to construct. It was also determined that constructing the 2 MGD treatment plant in a spread-out configuration would preclude the City from constructing a phase two plant on the same site, as is currently planned. Our current proposed layout relocates and condenses the treatment facility into a densely packed layout that will not interfere with construction of the future phase two plant. The treatment plant we are designing will also be optimized for the 2 – 2.5 MGD design capacity with no equipment or piping being oversized for capacity expansion. A facility designed and built for the initial hydraulic capacity will be less expensive to construct than a facility in which pumps, pipelines, and other ancillary equipment must be oversized for hydraulic expansion.

In addition to the fundamental difference in the two projects described above, our current Scope of Services and corresponding fee is based on the addition of several tasks not included in our 2010 proposal. These include:

- Preliminary Engineering Work Necessary to Support the Relocation.
 - Geotechnical investigation performed by Fugro Inc., a subconsultant to AECOM.
 - SewerCAD modeling of the City sewer system to evaluate capacity.
 - Hydraulic surge analysis to evaluate hydraulic conditions at the high service pumping station.
- Capacity Evaluation
 - AECOM will perform an incremental capacity analysis to evaluate the ability to accommodate future development. It is our understanding that the cost of the analysis to the City will be borne by the developers requiring the analysis.
- Membrane Procurement Support
 - AECOM will support City staff in the procurement of the membrane filters for the project.
- Coordination with City staff
 - At the time of our 2010 proposal, pre-design studies for the project were essentially complete. To keep the City informed throughout the design process, AECOM will prepare three sequential technical memoranda during the design process and hold workshops with the City to inform and receive comments from staff.
- Extended Project Duration
 - We have estimated that the project duration will increase to 12 months from the 10 months assumed in our 2010 proposal, primarily because we no longer have a 60% head start on the design.

AECOM's approach to the WTP design provides a significant reduction in construction cost and operational risk compared to prior approaches. By optimizing the previously conceived process elements, and relocating and reconfiguring the phase one facilities, we are able to offer the City an improved treatment process design that meets the City's treatment goals at a reduced construction cost. Additionally, through our approach, the City will retain the physical site and the 60% complete design for the phase two plant.

We hope this addresses the issues raised at the February 21st Council meeting, and we look forward to further discussing and finalizing our approach with you.

Sincerely,



Jon Hanlon, PE
Managing Engineer

February 13, 2012

Mr. Christopher Alakel, PE
Water Resources Manager
City of El Paso de Robles
1000 Spring Street
Paso Robles, CA 93446

Dear Mr. Alakel,

Please find attached as Exhibit B AECOM's detailed Scope of Services for the design phase of the 2-MGD Nacimiento Water Treatment Plant Project (Project). This design is to be based on the studies and design efforts prepared during prior iterations of the project and the Feasibility Study prepared by AECOM in August 2011.

We hope this proposed scope meets your expectations. We look forward to working with you on this important project.

Sincerely,



Jon Hanlon, PE
Managing Engineer

Exhibit B
Scope of Services
Design of 2-MGD Nacimiento Water Treatment Plant
for the City of Paso Robles

Background

The City of Paso Robles (City) is a Project Participant in the Nacimiento Water Project (NWP) implemented by the San Luis Obispo County Flood Control and Water Conservation District. The NWP is a regional water supply system that conveys raw water from Lake Nacimiento to communities in San Luis Obispo County, including the City. The City plans on constructing a surface water treatment plant to treat surface water received from Lake Nacimiento, with the goal of utilizing this additional water source to increase supply reliability, particularly during the summer months.

In December 2010 AECOM Technical Services Inc. (AECOM) submitted a Scope of Services to the City for design of a 4 million gallon per day (MGD) surface water treatment plant expandable to 6 MGD. The City placed that water treatment plant project on hold shortly after AECOM's original Scope of Services was submitted. In August 2011, at the request of the City, AECOM submitted a 2.0-MGD Nacimiento WTP Feasibility Study (Feasibility Study) that evaluated the feasibility of constructing a 2-MGD treatment plant with a reduced project budget. The City has decided to proceed with design and construction of the 2-MGD treatment plant described in the Feasibility Study. However, prior to designing the treatment plant, the City wishes to evaluate the incremental cost of increasing the treatment plant capacity (up to an additional 0.5 MGD) to support development projects that are anticipated to be annexed into the City. This Scope of Services is for evaluation and design of a stand-alone water treatment plant with a daily treatment capacity of approximately 2.0-2.5 MGD.

The City currently owns the site for the treatment facility. The site which is approximately 18 acres in size contains four groundwater wells (the Thunderbird wells) and one monitoring well. The site is located between the Salinas River and US 101, northeast of the intersection of US 101 and Highway 46 West. A California Environmental Quality Act (CEQA) determination has already been completed by the City. A topographic survey has also been completed for this project. A geotechnical investigation of the site was previously completed for the 4-MGD project, but the field exploration did not adequately cover the portion of the site proposed for the new 2-MGD project. This Scope of Services includes supplemental geotechnical investigations of the specific project area proposed for the 2-MGD facility, and a new, stand alone geotechnical report for the proposed project. The City has provided existing boundary survey map, topographic survey map, and prior geotechnical reports to AECOM.

The treatment plant will have an average treatment capacity of between 2 and 2.5 MGD (3.1 to 3.9 cubic feet per second). It has been assumed that there will be no dedicated "standby/backup" pretreatment or membrane treatment trains. The water produced by this project will be distributed to the East distribution zone through existing infrastructure. The treated water pumping station shall have a pumping capacity of approximately 1,500 GPM, approximately equivalent to the treatment plant capacity. Treated water storage will be limited to that required to provide chlorine contact time.

The following sections present our detailed Scope of Services for the design phase of the 2-MGD Nacimiento Water Treatment Plant Project (Project). This design is to be based on the studies and design efforts prepared during prior iterations of the project and the Feasibility Study. It is anticipated that a separate Scope of Services or amendment to this Scope of Services will be submitted for construction phase services.

AECOM's detailed Scope of Services is as follows:

Project Description

Based on the prior design studies prepared by Black & Veatch Corporation, the August 2011 Feasibility Study prepared by AECOM, and information provided by the City, the project has been assumed to consist of the following major elements:

- Existing Nacimiento Pipeline turnout and metering structure
- New City-owned raw water flow control and metering equipment
- Potassium permanganate chemical pretreatment system
- Raw water flash mixer (static mixer)
- Commercially available packaged dissolved air flotation (DAF) treatment system (one or two trains)
- Pre-engineered metal enclosure for the DAF units
- Packaged membrane filtration system with chemical clean-in-place (CIP), chemical neutralization, and compressed air skids
- Features necessary to facilitate design and construction of an add-on ozone disinfection/oxidation system in the future
- In-line booster pumping station between the membrane and GAC processes
- Four granular activated carbon (GAC) pressure vessel contactors downstream of the membranes (with bypass) for post-treatment
- Sodium hypochlorite primary and residual disinfection
- Partially recessed cast-in-place concrete, baffled clearwell
- High-service booster pumping station connected to the City's distribution system
- Pre-engineered metal operations/membrane building
- Chemical storage and feed systems in a covered enclosure
- Residuals equalization structure with all process residuals discharged to a nearby sewer
- Piping between residuals equalization tank and nearby Templeton Sewer Interceptor
- Interconnecting yard piping
- Treatment plant electrical service
- Integration of treatment plant with existing 500 kW generator (if feasible)
- Treatment plant SCADA system, including specifications to allow the City to retain a contractor to provide integration services with the City's existing SCADA system .

- Specification for basic integration of treatment plant SCADA system with City's existing SCADA system.
- Perimeter chain link fence around treatment plant
- Provisions for ozone to be added in the future
- Site lighting
- Extension of gravel roads to new facilities
- On-site storm water detention basin

A general site plan of these facilities and process flow diagram are presented in Attachments 1 and 2 respectively.

Work Tasks

Task 100 – Project Management and Scheduling

This task provides for the oversight, both technical and administrative, of elements of the Design Phase of the project for up to the anticipated 12 month duration of this project phase. It encompasses the implementation of a communications plan, reporting protocols, and project controls (budget, schedule, and quality), and monthly invoicing for services rendered. It allows for the regular coordination between project team members and the City. Services under this task will include:

Task 110 Preparation and Maintenance of Project Critical Path Schedule

AECOM will prepare a task-based project critical path schedule in Microsoft Project. The schedule will be based on the submitted task breakdown, and will include the following overall project task categories:

- Remaining study tasks
- Pre-Design
- Design (broken down by discipline)
- Permitting
- Construction
- Start-up and commissioning

Task 120 Routine Project Progress Reporting

In addition to routine ad hoc phone calls, e-mails, and other correspondence provided to maintain communication and consensus, AECOM's Project Manager (PM) will conduct a regularly scheduled telephone conversation with the City's Project Manager to discuss project status and issues. For budgeting purposes, it is assumed that the project will be 12 months (52 weeks) in duration, with regularly scheduled calls 30 minutes in duration, conducted weekly. To facilitate communication and documentation, AECOM will prepare and maintain a Project Decision Log which AECOM's PM will review with City staff on a regular basis.

AECOM's PM and Principal-In Charge (PIC) will facilitate and attend a monthly progress meeting with the City. AECOM will prepare the agenda and update the decision log for each

meeting. For budgeting purposes for a 12-month project schedule, a total of 12 regular formal meetings are assumed. These meetings will be held either at the Client's office in Paso Robles.

Task 130 Design Workshops

Design review workshops will be conducted to present, discuss, and review the contract documents at each of the design stage submittals (Technical Memorandum 1 (TM1), TM2, TM3, TM4, 30%, 60%, and 90% design submittals). Each workshop will be conducted with City staff to present the information and findings of the design team and to summarize the current design. Input from City staff will be obtained and incorporated into the contract documents. Meeting minutes will be prepared and distributed to all attendees.

The workshops will be attended by the PM, PIC and up to two additional AECOM engineers.

Task 140 Quality Control

AECOM will provide ongoing internal quality control checks at each project milestone and deliverable. Experienced engineers assigned specifically to quality control on this project will conduct the reviews.

Task 150 CDPH Coordination

The AECOM PM will attend two (2) meetings with the California Department of Public Health at their Carpinteria office.

Task 200 – Supplemental Geotechnical Investigation

AECOM has reviewed the February 5, 2009 Geotechnical Data Report and Geotechnical Interpretative Report prepared by Fugro West, Inc. for the original 4 MGD project. The field exploration performed for the original project focused on the northern end of the Thunderbird Wellfield site. No testing was performed within the proposed boundaries of the current project. Additionally, the original geotechnical report presented seismic design parameters for use with the 2007 California Building Code. The City has now adopted the 2010 California Building Code.

This task consists of Fugro Consultants performing supplemental field exploration, laboratory testing, and analyses within the proposed footprint of this project. Fugro will prepare a stand-alone geotechnical report for the project taking advantage of previous work performed near the project site and will review the construction documents for general conformance with the recommendations presented in the new geotechnical report.

Task 300 – Pre-Design Technical Memoranda

AECOM will prepare four technical memoranda (TM) that together will summarize the critical project design parameters that must be established prior to proceeding with development of construction contract documents (drawings and specifications). For convenience, these TMs will summarize design parameters presented in previous project reports and studies as well as present new or revised design parameters where appropriate. Detailed background information and supporting documentation contained in previous reports will be referenced, but not reproduced.

Four hard copies of the TMs will be provided in Draft form for City review and comment. Four hard copies and electronic (MS Word and .PDF) versions of the final TMs incorporating City comments will be provided to the City.

Task 310 – Incremental Capacity Analysis (TM No. 1)

This scope of work for this task is outlined in AECOM's proposal dated December 22, 2011. The Scope of Work includes preparation of an Incremental Capacity Analysis Technical Memorandum (TM No. 1) identifying the additional Design, Capital, and ongoing Operations and Maintenance Costs associated with increasing the baseline treatment plant capacity to accommodate demands associated with annexation of a proposed project adjacent to the City limits. The project, consisting of 270 acres, is located at the northwest corner of Highway 46 West and US 101. The project is estimated to require approximately 71 acre feet per year of water. The TM will include the following topics:

- Evaluation of options for expanding the planned 2.0 MGD Baseline plant. AECOM will consult with the selected membrane manufacturer to identify expansion options to accommodate the additional capacity. The TM will identify the minimum capacity increment necessary to meet the additional demand as defined by the City (up to 71 acre feet per year).
- A summary of treatment processes and equipment potentially impacted by the incremental capacity. AECOM will evaluate each major treatment process to identify elements that would require expansion or modification to accommodate the expansion. This includes discussion of systems assumed to be deferred or added at a later time such as ozone.
- A revised process flow diagram.
- Engineer's Opinion of Probable Cost including:
 - Engineering design fee estimate to include the incremental capacity in the design of the base 2.0 MGD water treatment plant
 - Incremental capital costs.

AECOM will host and attend a kickoff meeting via teleconference to discuss the project. AECOM will attend one meeting upon completion of the draft TM to discuss the findings with City staff. Meetings or presentations not specifically described in our Scope of Work will be considered additional services.

Task 320 – Hydraulic and Water Quality Design Criteria (TM No. 2)

AECOM's Scope of Work includes preparation of a Hydraulic and Water Quality Design Criteria TM containing the following information:

- Raw water quality ranges and summary tables that will be incorporated into the contract document procurement specifications. AECOM will use Nacimiento Project water quality data obtained by the County of San Luis Obispo and previous studies prepared by Black & Veatch to develop the design ranges. No significant water quality degradation is anticipated in the pipeline, inclusive of algae growth.
- Treated water quality design requirements
- Preliminary process flow diagram
- Quantity and capacity of treatment units and pumps for each process

- Preliminary hydraulic profile
- City sewer model run to confirm the capacity of the nearby Templeton Interceptor Sewer directly to the west of the proposed project site. Our analysis will evaluate capacity under existing conditions.
- Surge analysis using City's existing surge model.

Task 330 – Disinfection and DBP Control (TM No. 3)

AECOM's Scope of Work includes preparation of a Disinfection and DBP Control TM containing the following information:

- Clearwell sizing calculations
- Residual chlorine design criteria for finished water
- CT calculations for the most critical water temperature and pH condition
- Potassium permanganate and sodium hypochlorite dosage and feed rate calculations
- GAC hydraulic loading and empty bed contact time calculations
- A summary of the treatment plant disinfection byproduct control strategy
- Description of features that will be included in the design to accommodate the future addition of ozone.

Task 340 – Instrumentation and Controls (TM No. 4)

AECOM's Scope of Work includes preparation of an Instrumentation and Controls TM containing the following information:

- List of the City's preferred instrument and control component manufacturers and models
- Preliminary communication block diagram and narrative description of control architecture
- Preliminary control loop descriptions
- Description of interface between treatment plant and City-wide SCADA system.

Task 400 – Membrane Selection and Procurement Assistance

AECOM will support the membrane system procurement by preparing one or more specifications covering the following elements:

- General project requirements including the influent water quality range and filtered water quality requirements
- Specification defining the membrane system manufacturer's meetings, submittals, and field services obligations
- General equipment requirements
- Shipping, handling, and storage requirements

- Startup and testing support requirements
- Operation and maintenance manuals
- Training services
- Technical provisions of warranty terms

It has been assumed that detailed specifications for specific equipment items (e.g. pumps, valves, interconnecting piping, coatings, etc.) will not be required. Instead, the City will identify a preferred membrane system supplier and negotiations will start from the preferred supplier's standard scope of supply. AECOM will review the preferred supplier's proposed, detailed scope of supply and make recommendations to the City regarding the suitability and general standard of quality of the proposed equipment. AECOM's recommendations for changes that are accepted by the City will then be forwarded to the preferred supplier for incorporation into their scope of supply prior to arriving at a final price proposal.

We have assumed that AECOM's PM will attend two (2) special meetings at the City's office in support of procurement negotiations with the preferred supplier. Assistance with development of legal agreements with the supplier, including agreements pertaining to the transition of equipment ownership between the City and the construction contractor, are not included in our Scope of Services. At the City's direction, we have not included pilot or membrane validation testing as part of our Scope of Work.

Task 500 – Construction Contract Documents

Construction documents will include civil, mechanical, electrical, process and instrumentation, plumbing, structural, and architectural design elements. AECOM anticipates the following construction drawings:

- General – 10 sheets
- Civil – 21 sheets
- Architectural, HVAC, and Plumbing – 19 sheets
- Structural – 24 sheets
- Process – 27 sheets
- Electrical – 46 sheets
- Instrumentation – 20 sheets
- Landscape – 0 sheets (landscaping will not be a part of this project)

Should significant additional effort be needed that could not be discerned under initial review, AECOM will alert the City to establish a strategy and determine if additional budget should be authorized.

AECOM will prepare technical specifications in the 2004 (6-digit) CSI format, utilizing AECOM's standard specifications as the basis. Front-end contract documents and general provisions shall be prepared and provided by the City.

The Project Team will submit five (5) copies of draft construction documents (plans, technical specifications, and opinion of probable construction cost) at the 30%, 60%, 90% and bid-level stages of completion for review and comment by the City. A workshop with the Project Team

will be held during each City review cycle. Following incorporation of comments from the 90% submittal, AECOM will prepare final bid documents. AECOM will provide the City one signed reproducible hardcopy and electronic versions (in AutoCAD and .pdf format) of the construction documents for bidding.

The fee estimate for Construction Contract Documents has been based on the schematic design description included in Attachments 1 and 2 to this Scope of Services and as described below. These descriptions assume a 2-MGD treatment plant. The treatment capacity may range from 2.0 to 2.5-MGD depending on the outcome of the Incremental Capacity Analysis described in Task 300.

Raw Water Control and Metering

The raw water pipeline to the treatment plant will originate at the existing on-site Nacimiento pipeline turnout and metering structure. It has been assumed that no modifications will be made to the existing structure and that control and monitoring of the existing structure will be by others. A new City-owned flow control valve and flow meter will be added downstream of the existing structure for use by the treatment plant SCADA system to regulate and monitor flow into the treatment plant.

Potassium Permanganate Chemical Pretreatment System

A potassium permanganate chemical storage and feed system will be included inside of the chemical storage and feed enclosure. The chemical feed line from the metering pump will connect to the raw water pipeline near the Nacimiento pipeline turnout and metering structure. Potassium permanganate feed rates will be based on dosage assumptions made by Black and Veatch during prior iterations of the project. We have not included pilot testing as part of this scope of work.

Raw Water Flash Mixing

It has been assumed that a static mixer will be used for coagulant flash mixing upstream of the DAF unit(s).

Packaged Dissolved Air Flootation (DAF) System

Physical pretreatment will be provided by a packaged DAF system. The system will either consist of one or two treatment trains, with a total treatment capacity of 2 MGD. The final number of DAF units will be evaluated in TM No. 2. The fee estimate accompanying this Scope of Services is applicable to a design including either one or two DAF trains. This scope is based on a design with the DAF unit(s) being located outdoors and either uncovered or enclosed within a simple pre-engineered, non-air conditioned metal enclosure designed to shield the units from wind gusts. The DAF unit(s) will be procured through the construction contractor using a performance based technical specification prepared by AECOM.

Membrane Filtration Skids

Filtration will be provided by packaged microfiltration membrane skids. The membrane skids and associated clean-in-place (CIP) skids, CIP neutralization skid, and compressed air system will be procured through direct negotiations between the City and the City's preferred supplier as described in Task 400.

Future Ozone Equipment Conceptual Layout

AECOM will prepare a preliminary assessment for an ozonation system that may be added to the treatment plant in the future. The ozone system will be conceptually described in the Design Criteria TM and shown schematically on the 30% construction document submittal. The future ozone system will not be included in the construction documents, and will not be developed beyond the preliminary assessment stage, or included the technical specifications. The intent of this task is to demonstrate the feasibility of adding an ozone system in the future and to identify the basic interfaces that may be anticipated, thereby reducing the cost of adding the system in the future. As part of this task, AECOM will consult with up to two ozone manufacturers to identify candidate equipment. Conceptual footprint will be provided on the 30% submittal. If substantial design modifications are ultimately required to facilitate the future addition of ozone, additional budget may be requested.

Granular Activated Carbon (GAC) Adsorption System

Residual pressure from the membrane skids will be boosted at an in-line pumping station to carry filtered water through 12-foot diameter GAC pressure-vessel contactors placed on an at-grade slab. Four contactors, operated in a 2x2 series/parallel configuration, will be included. The flow through the GAC system will be manually adjustable with all or a portion of the treatment plant flow able to bypass the GAC system. The vessels will also be configured to allow for backwashing into the residuals equalization sump. As described in the Feasibility Study, only very general assumptions can be made regarding carbon replacement frequencies. Testing to refine carbon usage rate assumptions is not included in this Scope of Services.

Clearwell & High Service Pumping Station

The only water storage included at the treatment plant will be the clearwell, which will primarily be used to meet chlorine CT requirements. A partially-recessed, baffled, cast-in-place concrete structure has been assumed. High service pumping will be accomplished using vertical turbine pumps mounted to the clearwell deck opposite the clearwell inlet. The pumps will discharge into the City's East distribution zone only. In April and May of 2008 AECOM (then Boyle Engineering) conducted surge analyses evaluating surge caused by introducing up to 9,000 GPM of treated surface water into the City's East Distribution zone. As part of this Scope of Services AECOM will modify the HAMMER surge model used in conducting these analyses to reduce the design flow rate to approximately 1,500 GPM and will evaluate the resulting surge predictions. This Scope of Services does not include any modifications to the distribution system portion of the model. Only the flow rate and modeling of on-site piping will be updated. This Scope of Services also assumes that the surge analysis will not determine that surge is a problem and that no surge suppression system (e.g. surge tank) will be required. This Scope of Services does not include design of a surge/hydropneumatic tank or surge mitigation features located outside of the project site. Standard surge mitigation measures such as the use of VFD-driven pumps and low velocity pipe sizing will be included in accordance with good engineering design practices.

Operations/Membrane Building

The site will include a pre-engineered metal building used to house operations staff and sensitive equipment. It is anticipated that the building will house the membrane skids and will also include a single office, a conference room sized for six people, a unisex restroom, approximately 150 square feet of shop space, and a small control room. The building will likely house some electrical switchgear. The building is anticipated to be approximately 2,500 square foot in size and approximately 15' in height. Architectural design of the building exterior will conform to a commercially available style.

Chemical Storage and Feed Area

The chemical storage tanks and metering pumps will be housed in a dedicated enclosure with spill containment berms around the perimeter and with berms between incompatible chemicals. It is assumed that sodium hypochlorite will be used for chlorination. The storage area will be separate from the Operations/Membrane building, will be enclosed with chain link fencing around the sides and will be covered by a pre-engineered metal awning. The chemical storage area will include a truck loading pad with spill containment and tank fill nozzles.

Residuals Disposal System

Process residuals generated by the DAF units, membrane skids, and periodic backwashing of the GAC vessels will be discharged into a sewer to the City's wastewater treatment plant. At the City's direction, no washwater reclaim system or residuals pumping system is planned. It is anticipated that in the future, the washwater from the 2 MGD water treatment plant will be conveyed and recovered at a future water treatment facility adjacent to the 2 MGD plant. It is anticipated that a recessed equalization sump will be needed to receive and equalize the waste flows discharged to the sewer. This Scope of Services includes connecting on-site waste sources to the nearby sewer. AECOM will use the City's SewerCAD model to assess the capacity of the sewer to accommodate the treatment plant waste flows. Any modifications that are required downstream of the water treatment plant point of connection are not included in this Scope of Services.

Controls and SCADA System

The City wishes to be able to operate and monitor the treatment plant primarily through the local control room. Radio telemetry will be used to transmit critical operating parameters back to the City's water yard. The City also wishes to have the ability to control the treatment plant via internet using "My PC" or a similar program. The City also intends to operate the treatment plant unattended in the future. AECOM will coordinate with CDPH early in the design-phase of the project to establish minimum requirements for process monitoring that will allow the plant to be operated unattended. The necessary instrumentation and controls features will be incorporated into the design.

AECOM will evaluate the compatibility of the City's existing master SCADA system hardware and software with the SCADA equipment proposed for use at the treatment plant. AECOM will also prepare specifications that can be used by the City to retain a contractor to provide basic integration services between the City's master SCADA system and the treatment plant SCADA system. Telemetry radio surveys is not a part of the scope of services. If requested by the City, AECOM's design will include the radio antenna support.

Electrical Facilities

It is anticipated that most of the pumping equipment at the treatment plant will be VFD-driven. The site will also include basic security lighting and door and window entry switches at the

building. This Scope of Services includes evaluating the feasibility of using the City's existing standby generator to provide standby power to the treatment plant. The City does not wish to install a new generator at the site. AECOM will submit a PG&E Rule 16 application for a new electrical service.

General Site Improvements

General site improvements are assumed to be minimal. The following items are included in the Scope of Services:

- Grading and drainage within the treatment plant boundaries
- Design of an unlined stormwater basin to accommodate storm runoff from the treatment plant site
- A site perimeter chain link fence with manually operated gates
- A gravel road to and within the treatment plant
- Yard piping, including interconnection to the east water distribution zone and nearby sewer

Task 600 – Permitting Support

There will be numerous regulatory agencies, utility companies, and local government agencies that will provide input into the final design of the project and in many cases must provide permits for the project. AECOM will organize and attend meetings with these agencies in order to expedite the application processes for the permits, lead time for issuance of permits, to obtain fee estimates, and identify design restrictions likely to be imposed by the respective agencies. AECOM has assumed attendance at a single meeting unless otherwise noted. AECOM will continue to work closely with these agencies throughout the project. AECOM will prepare permit applications and coordinate permitting requirements. All permitting fees will be paid directly by the City. It has been assumed that AECOM will support the City with the following permitting/approval activities:

- Planning Commission presentation
- CDPH Domestic Water Supply Permit Amendment
- Plancheck required for a City building permit
- RWQCB WDR waiver request (assumes no WDR is required)
- AQMD indirect source review application
- Stormwater NOI

Task 610 - Planning Commission Approval Support

AECOM will assist City staff with presenting the project to the local Planning Commission. The AECOM Project Manager and Principal-In-Charge will attend one meeting at the Planning Commission and will make available full-size elevation and plan drawings mounted on boards for ease of presentation.

Task 620 Water System Permit Amendment (CDPH)

In order to introduce treated surface water from the treatment plant into the water distribution system, the City must apply for and receive a new or amended water supply permit. AECOM

will provide ongoing coordination with CDPH throughout the design phase of the project as specified herein. AECOM will prepare and submit the necessary permit application forms and will make minor modifications to the Basis of Design report to satisfy CDPH pre-design documentation requirements. The following supporting documents, which may be required before the permit amendment is approved, are not included in the Scope of Services for this phase of the project.

- Sanitary survey of the raw water source. It has been assumed that a common sanitary survey has been completed for all of the Nacimiento project participants.
- Operations Plan. It has been assumed that an operations plan will be required by CDPH and prepared by AECOM during the construction phase of the project.

Task 630 Building Permit / Plancheck

AECOM will assist the City in obtaining approval for City and/or County building permits required for construction of the facility, including submitting the construction plans, specifications, and calculations for plan check and backcheck with responsible Development and Building Departments.

Task 640 Waste Discharge Requirements (RWQCB)

The conceptual design anticipates the discharge of all process residuals into the sewer. It is not anticipated that a RWQCB permit will be required for this project. AECOM will prepare a letter to the RWQCB describing the project elements in order to confirm that a permit is not required. If a RWQCB permit is required, it will be considered additional services.

Task 650 Construction Storm Water Pollution Permit Assistance

AECOM will perform a risk analysis and prepare an Exhibit Map for submittal to the State Water Quality Control Board to comply with the terms of the State of California's *General Permit to Discharge Storm Water Associated with Construction Activity*. AECOM will assist the City with completion and submittal of the Notice of Intent, but recently enacted changes to the regulations will require that the City complete most of the on-line form.

AECOM will incorporate a specification into the contract documents that requires the construction contractor to prepare a Storm Water Pollution Prevention Plan (SWPPP) and Construction Site Monitoring Plan for storm water discharges associated with construction activity as required by the State Water Resources Control Board, Water Quality Order 2009-0009-DWQ. This Scope of Services assumes that the City will not require erosion control plans prior to production of the SWPPP.

Task 700 – Contractor Prequalification

AECOM will assist the City with pre-qualifying prime contractors through the process authorized by Assembly Bill 574 and developed by the California Department of Industrial Relations. AECOM will attend a contractor pre-qualification kickoff meeting at the City; prepare a request for pre-qualification and questionnaire to be sent to prospective contractors; respond to contractor questions during the advertisement period; assist the City with review of the completed pre-qualification questionnaires (assumes 15 are received); and assist the City with preparing a response letter that can be sent to the contractors. Advertising costs and assisting the City with responding to contractor appeals will be considered additional services.

Task 800 – Bid Phase Services

AECOM will provide the following services to assist the City with bidding the project and selecting a construction contractor:

- Furnish one signed and stamped reproducible set of plans and specifications for use by the City in preparing bid sets for distribution. It has been assumed that all advertising and all printing and distribution of contract documents will be handled and paid for directly by the City.
- AECOM will participate in one prebid meeting and site visit to acquaint prospective bidders with the project.
- AECOM will answer bidders' questions during the bidding period. Bidders' questions will be formulated in writing and submitted to AECOM by the City. A written response by addendum to clarify the project plans and/or specifications will be prepared by AECOM and delivered to the City to send to plan holders. Up to four addenda have been assumed.
- AECOM will attend the bid opening at the City's offices
- AECOM will assist the City in evaluating the received bids for responsiveness to the approved contract documents and will prepare a bid tabulation summarizing the bid results.

Additional Engineering Services

The following additional services may be provided by AECOM upon written request of the City and execution by both parties of an amendment to this Scope of Services setting forth applicable scope, fee, and schedule provisions:

1. Assistance with obtaining environmental permits and clearances for the project, including through the CEQA and NEPA processes.
2. CEQA mitigation measures
3. Construction phase services
4. Start-up assistance
5. Pothole existing underground utilities.
6. Establishing traffic control criteria and preparation of traffic control plans

7. ROW or easement services
8. Surveying
9. Design of facilities within the 100-year flood plain
10. Support of water quality sampling and analyses
11. Off-site improvements except as specifically defined herein.
12. Organize or oversee pilot studies or membrane validation testing.
13. Contract documents for competitive bidding of membrane system.
14. Modifications to the Nacimiento water delivery system
15. Specialized detailed studies associated with noise or noise attenuation.
16. Services resulting from significant changes in extent of the project or its design including, but not limited to, changes in size, complexity (such as design of buildings), the City's schedule, or character of construction or method of financing. Revising previously accepted studies, reports, and design documents when such revisions are due to causes beyond AECOM's control.
17. Investigations involving detailed consideration of operations, maintenance, and overhead expenses, including pilot testing or other evaluations required to evaluate variable costs such as carbon or chemical usage; providing a separate formal value engineering process during the course of design; the preparation of cash flow and economic evaluations and rate schedules. Assistance in obtaining financing for the project.
18. Prepare to serve or serve as an expert witness for the City in any litigation, public hearing, or other legal or administrative proceeding involving the project.
19. Preparation of separate bid packages further subdividing the work or phasing of the project into multiple projects except as specifically defined herein.
20. Any other specific services requested by the City or AECOM not identified in this Agreement.
21. Provide or acquire water rights as needed for the project.

City's Duties and Responsibilities

The following work items will be the responsibility of the City:

1. Apply for and pay for all environmental clearances and permits.
2. Provide previous reports and studies related to the work.
3. Provide or acquire easements as needed for the project.
4. Apply for and secure approvals and permits from all governmental authorities having jurisdiction of the project and such approvals from other entities or agencies as may be necessary for the project, with the assistance of AECOM or as additionally authorized. Client shall pay all fees and charges associated with securing permits and approvals.
5. Provide financial consulting and legal services required for the project.

6. Provide drawings and other data relating to layout and design of existing facilities, easements, road right-of-ways, etc. that may relate to the project.
7. Uncover by excavation or otherwise expose and determine the depth of cover on all underground utilities or facilities for which drawings are not available showing the elevation and size of said facilities where such facilities may be in conflict with proposed project facilities.
8. Reproduction, distribution and advertising of bid documents and keeping a detailed list of plan holders.
9. Provide a copy of current dated Title Report for review relative to easements and other property encumbrances.

Asbestos & Other Hazardous Materials

In providing its services hereunder, AECOM shall not be responsible for identification, handling, containment, abatement, or in any other respect, for any asbestos or hazardous material if such is present in connection with the project. In the event that the City becomes aware of the presence of asbestos or hazardous material at the jobsite, the City shall be responsible for complying with all applicable federal and state rules and regulations, and shall immediately notify AECOM, who shall then be entitled to cease any of its services that may be affected by such presence, without any liability to AECOM arising therefrom.

Estimates of Probable Construction Cost

Any estimate of the Construction Cost prepared by AECOM represents a judgment as design professionals and is supplied for the general guidance of the City. Since AECOM has no control over the cost of labor and material, or over competitive bidding or market conditions, AECOM does not guarantee the accuracy of such estimates or opinions as compared to contractor bids of actual cost to the City.

Electronic Data

CADD/system disk files delivered to the City shall not include the professional stamp or signature of an engineer. The City agrees that AECOM shall not be liable for claims, liabilities, or losses arising out of, or connected with (a) the modification or misuse by the City, or anyone authorized by the City, of CADD files; (b) the decline of accuracy or readability of CADD files due to inappropriate storage conditions or duration; or (c) any use by the City, or anyone authorized by the City, of CADD files for additions to this project, for the completion of this project by others, or for any other project, excepting only such use as is authorized, in writing, by AECOM.

Right to Rely

Except as otherwise noted in the Scope of Services, consistent with the professional standard of care, AECOM shall be entitled to rely upon the accuracy of data and information provided by Client or others without independent review or evaluation. Survey mapping, and water quality data are examples.

Schedule

AECOM shall promptly pursue work tasks upon receipt of this signed Agreement and Notice to Proceed from the City. These tasks shall be completed in phases as follows:

Incremental Capacity Analysis:	21 calendar days following Notice to Proceed
Pre-Design TMs:	45 calendar days following establishing final treatment plant capacity and Notice to Proceed
30% Design Submittal:	75 calendar days following Notice to Proceed
60% Design Submittal:	75 calendar days following receipt of comments on 30% submittal.
90% Design Submittal:	75 calendar days following receipt of comments on 60% submittal.
Final Bid Documents Submittal:	45 calendar days following receipt of comments on 90% submittal.

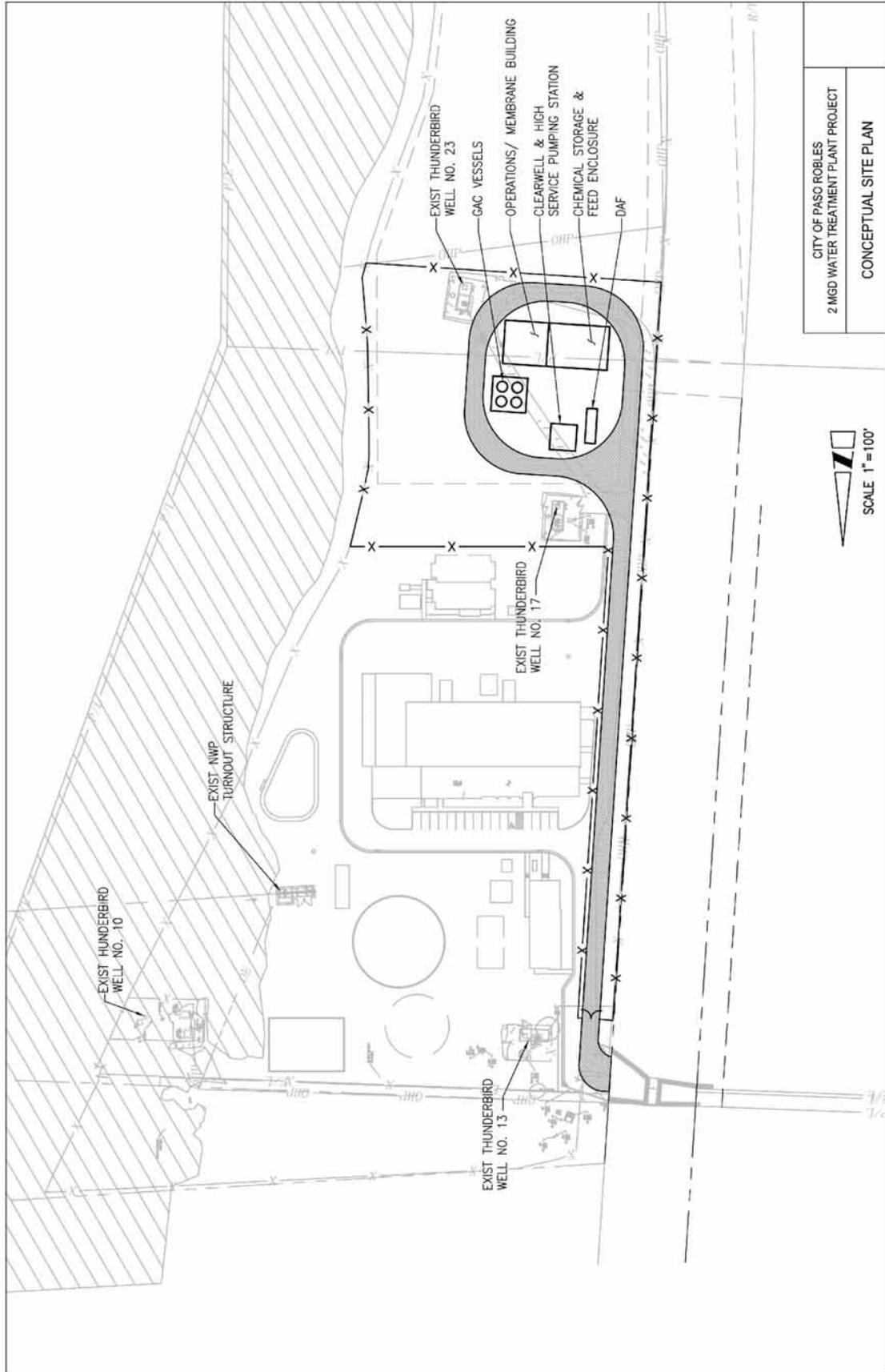
Compensation

AECOM shall be compensated monthly with progress payments by the City for services provided by AECOM during the previous month pursuant to this Agreement and in accordance with AECOM's Hourly Rate Schedule (Exhibit B), which is attached hereto and made a part of this Agreement. Payment of invoices approved by the City shall be made within 30 calendar days from receipt of invoice by the City.

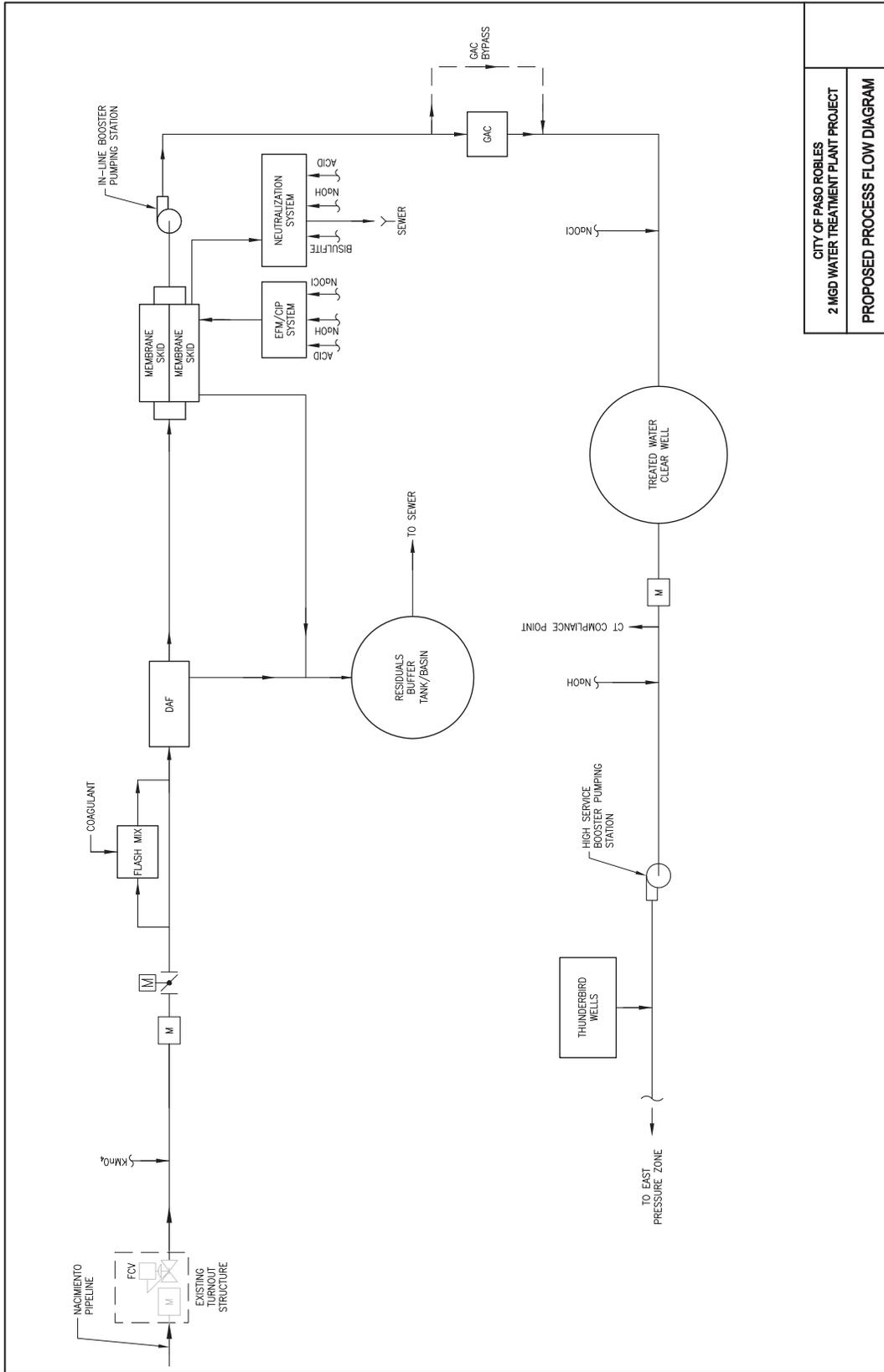
Compensation for AECOM's Basic Services, as described herein shall be made on a time-and-materials basis with a maximum not-to-exceed fee as identified below.

	Task	Fee (\$)
Task 100	Project Management	\$99,684
Task 200	Geotechnical	\$19,740
Task 300	Pre-Design TMs	\$54,215
Task 400	Membrane Procurement	\$18,312
Task 500	Construction Contract Docs	\$614,664
Task 600	Permitting Support	\$45,837
Task 700	Contractor Prequalification	\$16,546
Task 800	Bid Phase Services	\$30,590

Attachment 1 – Conceptual Site Plan



Attachment 2 – Conceptual Flow Diagram



CITY OF PASO ROBLES
 2 MGD WATER TREATMENT PLANT PROJECT
 PROPOSED PROCESS FLOW DIAGRAM

DWG: C:\Users\Freelichr\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.Outlook\6276x197\Fig 3-1.dwg
 DATE: Feb 10, 2012 12:20pm
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Attachment 3 – Project team

The AECOM Team



Attachment 4 – Fee Breakdown and Standard Rate Sheet

Project Budget

2-MGD Nacimiento Water Treatment Plant
Design Phase Services

City of Paso Robles

Task Description	Personnel Hours										Budget				Total						
	Project Manager/ME	Principal Engineer	Principal Elec/Str	Senior Electrical	Associate Engineer	Associate Elec/Str	Assistant Engineer	Drafter	Technical Typist	Total Hours	Labor	General Prof. Exp.	Subcontractant	Total Non-Labor							
Task 100 - Project Management																					
Scheduling	5	1																			
Weekly Telephone Status Update (0.5 hr/wk for 52 weeks)	26	26																			
Progress Meetings (12 total)	96	48																			
Workshops (7 total)	56	28	48	12	56																
CDPH Meetings (2 total)	18				16																
Monthly Progress Reports and Invoicing	45																				
Subtotal	246	103	48	12	72	-	4	-	45	530	92,300	7,384	-	7,384	-	-	-	-	-	-	99,684
Task 200 - Supplemental Geotechnical Investigation																					
Geotechnical Services by Puigrc	6				2																
Subtotal	6	-	-	-	2	-	-	-	-	8	1,370	-	18,370	18,370	-	-	-	-	-	-	19,740
Task 300 - Pre-Design TMS																					
310: Preparation of Incremental Capacity Analysis TM	20	5			60																
320: Preparation of Hydraulic and WO Design Criteria TM	16	4			40																
330: Preparation of Disinfection and DBP Control TM	16	4			40																
340: Preparation of Instrumentation and Controls TM	16	4			24																
350: SewerCAD Modeling of Templeton Interceptor	1	1			8																
360: Surge Analysis	1	1			6																
Subtotal	69	19	-	24	154	40	-	28	12	346	50,199	4,016	-	4,016	-	-	-	-	-	-	54,215
Task 400 - Membrane Selection & Procurement Assist																					
Membrane Procurement Assistance (Includes 2 Meetings)	48	16	16	2																	
Subtotal	48	16	16	2	-	-	4	8	8	94	16,956	1,356	-	1,356	-	-	-	-	-	-	18,312
Task 500 - Construction Contract Documents																					
General Plans and Specifications (10 Sheets)	50				80																
Civil Plans and Specifications (21 Sheets)	75				150																
Landscaping Plans and Specifications (Not Included)																					
Architectural/Mechanical Plans and Specifications (19 Sheets)	16	4			16																
Structural Plans and Specifications (24 Sheets)	16				180																
Process Plans and Specifications (27 Sheets)	180	60			272																
Electrical Plans and Specifications (46 Sheets)			210		160																
I&C Plans and Specifications (20 Sheets)			20	160	60																
QC Review at 30%, 60%, and 90%		100	96																		
Subtotal	337	164	416	160	518	400	460	1,366	24	3,845	535,273	39,391	40,000	79,391	-	-	-	-	-	-	614,664
Task 600 - Permitting Support																					
Building Permit Support	36		8		55																
CDPH Permit Application	28				40																
RWOCB Waiver Request	1				8																
Planning Commission Assistance	16	12			16																
Assist City With Filing Stormwater NOI	1				9																
CEQA Support (Not Included)																					
Army Corps Support (Not Included)																					



Project Budget

2-MGD Nacimiento Water Treatment Plant
Design Phase Services

City of Paso Robles

Task Description	Personnel Hours										Budget				Total
	Project Manager/ME	Principal Engineer	Principal Elec/Str	Senior Electrical	Associate Engineer	Associate Elec/Str	Assistant Engineer	Drafter	Technical Typist	Total Hours	Labor	General Prof. Exp.	Subsultant	Total Non-Labor	
U.S. Dept Fish and Game Support (Not Included)	82	12	8	-	128	-	-	48	16	294	\$ 42,442	\$ -	\$ -	\$ -	\$ -
Subtotal											\$ 3,395	\$ -	\$ -	\$ 3,395	\$ 45,837
Task 700 - Contractor Prequalification															
Prequalification Kickoff Meeting	8	4								12	\$ 2,320	\$ 186		\$ 186	\$ 2,506
Preparation of Prequalification Package	8				16				4	28	\$ 3,848	\$ 308		\$ 308	\$ 4,156
Responding to Contractor Questions	4				4				4	12	\$ 1,548	\$ 124		\$ 124	\$ 1,672
Review Pre-Qualification Proposals (15 Assumed)	16	8			16				40	40	\$ 6,720	\$ 538		\$ 538	\$ 7,258
Sending Responses to Contractors	4								2	6	\$ 884	\$ 71		\$ 71	\$ 955
Subtotal	40	12	8	8	36	-	-	48	10	98	\$ 15,320	\$ 1,226	\$ -	\$ 1,226	\$ 16,546
Task 800 - Bidding Assistance															
Attend Pre-Bid Meeting	8	4							1	13	\$ 2,392	\$ 191		\$ 191	\$ 2,583
Respond to Contractor Questions	14	4	8	8	4				4	42	\$ 7,278	\$ 582		\$ 582	\$ 7,860
Prepare Addendum	12	1			20			16	8	57	\$ 7,366	\$ 589		\$ 589	\$ 7,955
Assist City with Bid Review	8	4							1	13	\$ 2,392	\$ 191		\$ 191	\$ 2,583
Prepare Conforming Plans	8				12			48	8	76	\$ 8,896	\$ 712		\$ 712	\$ 9,608
Subtotal	50	13	8	8	36	-	-	64	22	201	\$ 28,324	\$ 2,266	\$ -	\$ 2,266	\$ 30,590
Construction Phase Services															
Not Included	-	-	-	-	-	-	-	-	-	-	\$ -	\$ -	\$ -	\$ -	\$ -
Subtotal	-	-	-	-	-	-	-	-	-	-	\$ -	\$ -	\$ -	\$ -	\$ -
Total	878	339	496	206	946	440	464	1,510	137	5,416	\$ 782,184	\$ 59,034	\$ 58,370	\$ 117,404	\$ 899,588

Personnel Category	\$/HR
Project Manager/ME	\$185.00
Principal Engineer	\$210.00
Principal Elec/Str	\$210.00
Senior Electrical	\$170.00
Associate Engineer	\$130.00
Associate Elec/Str	\$135.00
Assistant Engineer	\$110.00
Drafter	\$110.00
Technical Typist	\$72.00



AECOM
FEE SCHEDULE FOR PROFESSIONAL SERVICES
Effective January 1, 2011

Engineers, Planners, Architects, Scientists:

Assistant I	\$ 100.00 per hour
Assistant II	\$ 110.00 per hour
Associate	\$ 130.00 per hour
Senior I	\$ 155.00 per hour
Senior II	\$ 165.00 per hour
Managing Engineer	\$ 185.00 per hour
Principal	\$ 210.00 per hour

Construction Administration Personnel:

Resident Project Representative	\$ 115.00 per hour
Senior Resident Project Representative	\$ 125.00 per hour
Resident Engineer	\$ 150.00 per hour
Construction Services Manager	\$ 200.00 per hour

Technical Support Staff:

Clerical/General Office	\$ 75.00 per hour
Drafter/CADD Technician	\$ 72.00 per hour
Assistant CADD Operator	\$ 84.00 per hour
Designer/CADD Operator	\$ 95.00 per hour
Senior Designer/Design CADD Operator	\$ 110.00 per hour
Design/CADD Supervisor	\$ 125.00 per hour

General Project Expenses ^{1/}

8% of Labor

Direct Project Expenses

Other Reproduction (8 1/2 x11/11x17 Color)	\$1.15/1.50 per page
Plan Sheet Printing - In House Bond/Vellum/Mylar	\$3.00/4.00/7.00 per sheet
Subcontracted Services/Reproduction	Cost + 10%
Subcontracted or Subconsultant Services	Cost + 10%
Auto Mileage for Construction Phase Services	\$0.60 per mile
Travel & Subsistence (other than mileage)	Cost
Miscellaneous Materials	Cost + 10%

If authorized by the Client, an overtime premium multiplier of 1.5 may be applied to the billing rate of hourly personnel who work overtime in order to meet a deadline which cannot be met during normal hours.

Applicable sales tax, if any, will be added to these rates. Invoices will be rendered monthly. Payment is due upon presentation. A late payment finance charge of 1.5% per month (but not exceeding the maximum rate allowable by law) will be applied to any unpaid balance commencing 30 days after the date of the original invoice.

Fee schedule is subject to change annually.

^{1/} *Includes mail, telephone, fax, office photo copies, personal computers and mileage (except as noted).*