TO: **James L. App, City Manager**

FROM: **Joseph M. Deakin, Public Works Director**

SUBJECT: **Ladera Reservoir Design Contract**

DATE: **January 20, 2004**

NEEDS: For the City Council to adopt Resolution No. 04-xxx authorizing the City Manager to award the design contract for the Ladera Reservoir.

FACTS:

1. The 1995 Water Master Plan identifies constructing a 4 million gallon tank in the southeast quadrant of the City as a priority to meet existing and future demands.

2. In November 2003, the City Council adopted a revised Water Facilities Capital Improvement Project with the Ladera Tank construction listed as a top priority project.

3. The San Simeon Earthquake that occurred on December 22, 2003 critically impacted water storage in the City. The earthquake damaged 4-million-gallon Golden Hills Tank #1 significantly, with the possible result that the tank may be out-of-service and require replacement. This reservoir constitutes one-third of the City's total storage capacity.

ANALYSIS AND CONCLUSION: In the mid 1980's, the City acquired and annexed property at the corner of Cumbre and Ladera Road to reserve for installing a water reservoir. The property purchase included California Environmental Quality Act (CEQA) documentation, and a mitigation measure was adopted by the City Council, that the City would design the reservoir to minimize or avoid its projecting above the existing ridgeline, or otherwise decrease the reservoir's impact on the view shed.

The design proposal (attached) includes two designs: an above ground steel tank and a partially buried pre-stressed concrete reservoir. The partially buried reservoir will likely better mitigate the viewshed impacts. The design scope for a 4 million-gallon reservoir is proposed to not-exceed $221,704. As an expanded scope of work, the City Council could direct Boyle Engineering to consider designing a 6-8 million gallon tank for approximately 5% more in fees, the revised not-to-exceed would be $232,780.

Because the San Simeon Earthquake may result in the loss of one-third of the storage capacity for the short-term, the City needs to act expeditiously on water storage development projects. The staff provides this proposal, that was obtained through negotiation with the City main engineer for water projects, as meeting the need to be responsive to both technical issues as well as time.

FISCAL IMPACT: A budget of $5,000,000 is included in the Capital Improvement Program adopted by the City Council, for all cost elements associated with this project. The proposed design fee is within expected estimates under the budget.

OPTIONS:

a. For the City Council to adopt Resolution No. 04-xxx authorizing the City Manager to enter into a Service Agreement with Boyle Engineering to design a 4-8 million gallon reservoir, and prepare the construction documents for the Ladera Tank Reservoir in the amount of $232,780.

b. Amend, modify, or reject the above option.

Attachments: (2)

1) Resolution
2) Scope of work and fee proposal

RESOLUTION NO. 04-

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF PASO ROBLES AUTHORIZING THE CITY MANAGER TO ENTER A CONSULTANT SERVICE AGREEMENT WITH BOYLE ENGINEERING TO DESIGN THE LADERA TANK

WHEREAS, the 1995 Water Master Plan has identified the need to install a water tank at the southeast part of the City; and

WHEREAS, in the mid-1980's, the City acquired and annexed a property at the corner of Ladera and Cumbre Roads; and

WHEREAS, Boyle Engineering has submitted the attached scope of work and fee proposal to prepare the construction documents for this tank.

NOW THEREFORE, BE IT RESOLVED AS FOLLOWS:

SECTION 1. That the City Council of the City of El Paso de Robles does hereby authorize the City Manager to enter a Consultant Service Agreement with Boyle Engineering in the amount of $232,780.00.

PASSED AND ADOPTED by the City Council of the City of Paso Robles this 20th day of January 2004 by the following vote:

AYES:
NOES:
ABSTAIN:
ABSENT:

_____
Frank R. Mecham, Mayor

ATTEST:

_____
Sharilyn M. Ryan, Deputy City Clerk

BOYLE

973 Higuera Street, Suite C
San Luis Obispo, CA 93401
TEL: (805)542-9840
FAX: (805)542-9990
www.boyleengineering.com

City of Paso Robles
ATTN: Ditas Esperanza, PE
Capital Projects Engineer
1000 Spring St.
Paso Robles, CA 93446

January 6, 2004

Proposal for Design Plans, Specifications, and Estimates for Engineering Services for the Ladera Reservoir Project.

Boyle Engineering Corporation is pleased to submit our proposal to provide design engineering services for the Ladera Reservoir. We have prepared our proposal with the goal of demonstrating our ability to provide the City with the best value for its capital investment in consultant services. Boyle is a premier civil engineering firm with substantial reservoir design experience. This experience, coupled with our diligence in researching your project needs, has formed the basis for the preparation of this proposal.

The project team will be comprised of experienced professionals from Boyle Engineering, John L. Wallace & Associates (JLW&A), Firma and GSI Soils Inc. To best serve you, our team will be **managed by Christopher Alakel and assisted by Mike Nunley** of our San Luis Obispo Office. They will apply their experience in project management and design to the direction of the project team. In addition to having a track record of success in similar projects, all team members selected for this project have a thorough understanding of the special needs and requirements associated with the Ladera Reservoir Project.

Following are key points that make our team uniquely qualified for this project:

- Our **research and understanding** of the specific needs and requirements for this project. We have visited the site, are familiar with what is currently required, and understand the City's goals.
- **Specialized expertise** in reservoir and water system design. Our team's background allows us to design facilities that are efficient, reliable, safe, and operator friendly.
- **Communication and project coordination** will be directed from our local San Luis Obispo office.

January 6, 2004

We look forward to the opportunity to work with you on this important project. Please contact Christopher Alakel (805) 542-9840 should you have questions during your review of our proposal. Thank you for your consideration.

Sincerely,

Boyle Engineering Corporation

Mike Nunley, PE
Branch Manager

Christopher Alakel
Project Manager

LADERA RESERVOIR – SCOPE OF WORK

Project Understanding

The new reservoir is to be located on the Ladera Site located south of Charolais on the corner of Cumbre Rd. and Ladera Ln, within City Limits. In accordance with the City of Paso Robles 1995 Water Master Plan, the new reservoir is to have a storage capacity of approximately 4 million gallons and at this time it is assumed that the reservoir will be an above ground welded steel structure. If the future viewshed analysis identifies significant impacts relative to such a design, it may be advantageous to pursue the development of a buried or partially buried pre-stressed concrete reservoir.

In addition to the design and construction of the reservoir and site, the project will include the following:

- Perform hydraulic evaluation for the purpose of examining above ground, partially buried and fully buried options for the project
- Identify the necessary permitting and approvals required for the project
- Perform environmental evaluation in accordance with CEQA guidelines
- Perform geotechnical site assessment
- Prepare a topographical base map of the proposed reservoir site
- Design approximately 2000 LF of 24-inch diameter water main. The new main will connect the Ladera reservoir to the existing 16-inch main at intersection of Charolais Rd. and Ladera Ln.
- Prepare reservoir site plans to include site fencing, grading, lighting, and other appurtenances required to bring the new facility online.

The detailed scope of work for the described project is as noted below:

1.0 Kick-off Meeting and Site Walk

Prepare agenda and conduct a project kick-off meeting with City staff to review the project scope, schedule, responsibilities of the project team, available information, and the project deliverables. Upon completion of the meeting a site walk will be attended by the project team to identify any specific concerns prior to the initiation of work.

2.0 Preliminary Engineering

Preliminary engineering will include the following:

2.1 Information Review

Review existing information relative to the reservoir project

2.2 Permitting

Identify the required permits and approvals necessary for the successful completion of the reservoir project

2.3 Evaluate System Hydraulics

Perform evaluation of system hydraulics and assess impacts of burying or partially burying the new reservoir. In addition, measures to mitigate hydraulic impacts of a buried reservoir at the Ladera site will be evaluated. Such measures might include the implementation of specialty valves on the reservoir inlet or the creation of a new lower pressure zone that would be served by the new reservoir.

2.4 Preliminary Environmental Analysis

Identify environmental issues for compliance with the California Environmental Quality Act (CEQA)

2.5 Topographical Mapping (Conventional and Aerial)

The reservoir site will be topographically mapped with 1-foot contours in AutoCAD format. Utility Research will be conducted (based on available information) to identify existing utilities within the reservoir site and along the proposed alignment of the water main and access road. This research will rely on a review of available utility record drawings and mapping of indicators left by Underground Service Alert.

2.6 Geotechnical Exploration, Analysis and Report

GSI Soils Inc. of San Luis Obispo will identify the geological issues critical for the design of the Ladera Reservoir. The scope of work as provided by GSI is summarized below:

- 2.6.1 Characterization of the subsurface materials and groundwater conditions at the proposed water tank location
- 2.6.2 Evaluation of the seismic parameters necessary for design
- 2.6.3 Provide seismic response spectra and peak ground acceleration
- 2.6.4 Recommendations for the design of the reservoir foundations
- 2.6.5 Evaluation of setback distances between the reservoir and adjacent steep slopes
- 2.6.6 Characterization of the subsurface materials and groundwater conditions for construction, suitability of soils encountered for use as backfill, excavation characteristics of the soils encountered, need for dewatering, and stabilization of subgrade

Note: a detailed scope of work for GSI is included in the Appendices

2.7 Technical Memo

Prepare Technical Memo to summarize results of preliminary engineering efforts and to aid in city's assessment of the costs and benefits to the community of an above ground steel reservoir relative to a buried or partially buried prestressed concrete reservoir. Included in this memo will be an order of magnitude cost comparison of these alternatives. At such time, it will be necessary for the City to make a decision regarding the design direction of the new reservoir.

3.0 Preliminary Design Report

The preliminary design report will be in the form of a technical document addressed to the City's Public Works engineering staff. The preliminary design report will include:

3.2 General Site Plan

Boyle Engineering will prepare a general site layout of the reservoir site including site paving, fencing, and general facilities as a basis for discussions prior to final design. The preferred alignment of the access road will also be identified.

3.3 Environmental Assessment

- 3.3.1 prepare a mitigated negative declaration in accordance with CEQA
- 3.3.2 Biological Resource Survey
- 3.3.3 Cultural Resource Survey
- 3.3.4 Visual Resource Impact Study

3.3.5 Identification of required public hearings and permitting

3.4 Civil and Structural Requirements

The civil and structural components of the proposed project will be identified to facilitate the final design. This will include structural design criteria (including foundation bearing capacities, seismic design criteria and applicable codes and standards), piping, architectural elements, reservoir appurtenances, site fencing, earthwork, reservoir access and drainage.

3.5 Electrical Requirements

The electrical service requirements for site lighting, instrumentation, and other reservoir appurtenances will be identified to facilitate the acquisition of utility service at the project site. It is assumed that City staff will coordinate with PG&E to provide the required electrical service to the project site.

3.6 Instrumentation/Telemetry

The instrumentation, telemetry and communication requirements for the proposed reservoir will be provided. It is assumed that the City will provide the required telemetry software reprogramming at the main control facility if required. Boyle will not be responsible for the design of off-site telemetry modifications and/or changes, but will identify onsite equipment for monitoring and transmitting information from the reservoir to the City's control facility. It is assumed that no radio survey will be required.

3.7 Prepare Preliminary Design Report

Upon completion of the draft Preliminary Design Report (PDR), Boyle will supply four (4) copies of the draft PDR to City staff for review. At that time, Boyle will coordinate and attend a meeting with City staff to review the document. Four copies of the final PDR will then be submitted to the City.

3.8 Opinion of Cost

Boyle will prepare a preliminary opinion of probable construction cost for the reservoir, piping and site preparation.

4.0 Project Plans, Specifications, and Opinion of Costs

Upon approval/acceptance of the preliminary engineering report, Boyle will prepare the project drawings, specifications, and opinion of costs. The documents will include:

4.1 Utility Substructures, Water Main Alignment

Identify critical substructures as required to facilitate the selection of a suitable main alignment. If required, the City will provide potholing as recommended by Boyle to identify the location of existing facilities to be incorporated into final design

4.2 Project Plans

Boyle will provide reservoir site plans at a scale of 1" to 20". Piping plans shall include plan and profile at a scale of 1" to 40' horizontal and 1" to 4' vertical. Detail plans shall be provided at a scale that clearly indicates the work to be completed. All sheets will be 24" x 36" with City standard title block and border. Plans will be prepared in AutoCAD format with City conventional layering, symbols, and text format. The plans will include:

Option 1: Welded Steel Tank

4.2.1A Civil/Structural

..1A.1 Title sheet, drawing index, vicinity map – 1 Sheet
..1A.2 Grading and site plan – 1 Sheets
..1A.3 Reservoir plan, elevation, and details – 2 Sheet
..1A.4 Reservoir site piping and details – 2 Sheets
..1A.5 Ringwall foundation and details – 1 sheet
..1A.6 Overflow, inlet and outlet details – 1 Sheet
..1A.7 Miscellaneous details (ladder, access etc) – 3 Sheets
..1A.8 Piping plan and profile – 2 Sheets
..1A.9 Site access road alignment and profile– 1 Sheet

4.2.2A Electrical

..2A.1 Site Plan, single line diagram, electrical details – 1 Sheet

4.2.3A Instrumentation

..3A.2 Site Plan, single line diagram, instrumentation details –1 Sheet

Option 2: Prestressed Concrete Reservoir

If the City opts for a prestressed concrete reservoir the following sheets will be required:

4.2.1B Civil/Structural

..1B.1 Title sheet, drawing index, vicinity map – 1 Sheet
..1B.2 Grading and site plan – 2 Sheets
..1B.3 Reservoir sections and profiles – 1 Sheet

..1B.4 Reservoir site piping and bedding details – 3 Sheets
..1B.5 Reservoir structural floor and roof plans – 1 Sheet
..1B.6 Reservoir sections and details – 2 Sheets
..1B.7 Prestressing details and seismic cable details – 1 Sheet
..1B.8 Reservoir column and footing details – 1 Sheet
..1B.9 Reservoir Roof Reinforcing Details – 1Sheet
..1B.10Misc Details (Piping Ladder and vent etc) – 3 Sheets
..1B.11 Reservoir underdrain plan – 1 Sheet
..1B.12 Symbols abbreviation and site plan – 1 Sheet
..1B.13 Piping plan and profile – 2 Sheets

4.2.2B Electrical

..2B.1 Site Plan, single line diagram, electrical details – 1 Sheet

4.2.3B Instrumentation

..3B.1 Site Plan, single line diagram, instrumentation details –1 Sheet

- The basis for the detailed design will be determined during the preparation of the preliminary design report. Boyle's scope of work includes performance specifications for a design / build reservoir bid package.

4.3 Construction Specifications

Boyle will provide contract documents incorporating the City's standard contract language. The technical project specifications will be prepared in accordance with Boyle Engineering's standard specifications for construction. The City's standard contract documents are to be reviewed by Boyle Engineering to verify that the specific needs of the Ladera Reservoir Project are satisfied. The technical specifications will be prepared in CSI format in Word for Windows format unless requested otherwise noted by the City.

4.4 Opinion of Cost

Boyle will provide an opinion of probable construction cost to include detailed material quantity take-offs with current unit cost data. The opinion of probable construction cost will be provided in spreadsheet format.

- **Deliverables**

Boyle will provide the City with draft plans and specifications for City review at the 50 % and 95 % benchmarks. Upon approval of the 95 % submittal, Boyle will submit final plans, specifications, and opinion of probable construction cost. Original mylars and one set of reproducible specifications will be provided to the City for reproduction. In addition, an electronic copy of the above final documents will be submitted.

4.5 Permitting Assistance

Boyle and FIRMA will provide technical assistance to City staff as needed to obtain final construction permits. It is recommended that it be the responsibility of the City to obtain all permits required for construction.

5.0 Quality Control / Project Management

Boyle will provide internal quality control reviews by senior personnel not otherwise involved in the project prior to submittal of documents to the City.

6.0 Bid Phase Services:

Upon completion of the construction documents (Plans, Specifications, Opinion of Probable Cost) Boyle will:

- 6.1 Assist the City in compiling a list of bidders
- 6.2 Assist the City during the bidding period by responding to requests for information (RFI's) during the bidding period as well as prepare all required addenda for issuance to bidders by the City.
- 6.3 Assist the City in the review of submitted bids
- 6.4 Verify references
- 6.5 Prepare a recommendation for the award of the construction contract.

7.0 Construction Phase Services

The construction phase services to be offered are as follows:

- 7.1 Coordinate and attend a pre-construction meeting and site visit
- 7.2 Shop drawing review for conformance to the approved contract documents
- 7.3 Review and process requests for construction change orders as approved by the City
- 7.4 Review and respond to contractor's request for contract document clarifications
- 7.5 On-site construction observation not to exceed four (4) site visits. It is the assumption that the City will provide full time observation during construction.
- 7.6 Prepare record drawings in AutoCAD format from contractor maintained "as constructed" plan set.

8.0 Public Presentations and Meetings.

- 8.1 Prepare one public presentation. Presentation to be in PowerPoint for Windows format.
- 8.2 Attend and provide technical support for up to 2 public meetings.

Optional services not included under above scope of work, but can be provided at City's request for additional fee based on the attached fee schedule.

- Artist renderings of proposed site
- Aesthetic treatment
- Landscape Architecture
- Construction Management
- Full time Construction Observation

City's Responsibilities

- Provide access to existing reference material available within City files
- Provide access to existing horizontal and/or vertical control for use in preparing the base map
- Potholing to locate existing underground pipelines, conduits, and cables (as needed)
- Acquire permits and pay permit fees as required
- Negotiate and obtain all required rights-of-way and easements
- Provide full-time construction observation
- Provide required sampling and laboratory testing of concrete and soil material during construction. It is recommended that these services be provided by design geotechnical engineer to maintain continuity
- Provide all required telemetry software reprogramming at the City's central control facility

Budget for Engineering Services

The attached Project Budget (Exhibit A) has been prepared based on Boyle's Standard Fees Schedule (Exhibit B) as attached. We proposed to perform the scope of work outlined above on a time-and-materials basis with a not-to-exceed budget of $204,537 for the welded steel option or $223,739 for a buried prestressed concrete reservoir.

Schedule

Schedule yet to be formalized, but preliminary estimate is given below:

❖ 2.0 Preliminary Engineering	65 days	Thu 1/30/04	Wed 4/29/04
❖ 3.0 Preliminary Design Report	35 days	Thu 4/30/04	Wed 6/17/04
❖ 4.0 Plans and Scpecs	105 days	Thu 6/18/04	Wed 11/11/04

Estimated Design Engineering Budget

CITY OF PASO ROBLES
LADERA RESERVOIR
ALTERNATIVE 1 - ABOVE GROUND STEEL

City of El Paso De Robles

Task Description	Personnel Hours							Budget		
	Principal Engineer	Senior Engineer II	Senior Engineer I	Associate Engineer	Drafter	Clerical	Total Hours	Labor	Subconsultant or Other	Total
1.0 Kick-off Meeting and Site Walk										
Coordinate and Attend Meeting and Site Walk with Project Team	8		8	8			24	$ 2,936	$ 294	$ 3,230
Subtotal	8	-	8	8	-	-	24	$ 2,936	$ 294	$ 3,230
2.0 Preliminary Engineering										
Infomation Gathering / Review	4	1		8			13	$ 1,528	$ 153	$ 1,681
Permitting/Approval Requirement Identification (SLO County)		2		8			10	$ 1,016	$ 102	$ 1,118
Prelim Environmental/Regulatory		2		16			18	$ 1,776	$ 178	$ 1,954
Evaluate System Hydraulics		8		40			48	$ 4,824	$ 482	$ 5,306
Geotechnical Investigation / Review	2	2		6			10	$ 1,146	$ 22,115	$ 23,261
Topographical Survey/ Utility Research /Base Mapping		4		24	8		36	$ 3,472	$ 5,847	$ 9,319
Tech Memo / Alternative Study / Exhibits	4	8		32	32	8	84	$ 7,840	$ 784	$ 8,624
Subtotal	10	27	-	134	40	8	219	$ 21,602	$ 29,660	$ 51,262
3.0 Preliminary Design Report										
Civil /Structural Plans (4 Sheets)	2	2		16	32		52	$ 4,816	$ 482	$ 5,298
Pipeline Alignment (1 Sheet)		1		6	4		11	$ 1,038	$ 104	$ 1,142
Environmental / MND				8			8	$ 760	$ 17,676	$ 18,436
Civil/Structural, Electrical, Instrumentation/Telemetry Requirements	8		20	15			43	$ 4,945	$ 495	$ 5,440
Report Preparation	4	8		24	8	8	52	$ 5,040	$ 504	$ 5,544
Review Meeting with City Staff				6			6	$ 570	$ 57	$ 627
Subtotal	14	11	20	75	44	8	172	$ 17,169	$ 19,317	$ 36,486
4.0 Plans, Specification, and Opinion of Costs										
Title sheet, drawing index, vicinity map		2		16	16		34	$ 3,136	$ 314	$ 3,450
Site Plan		4		16	20		40	$ 3,732	$ 373	$ 4,105
Reservoir plan, elevation, and details	1	6		32	40		79	$ 7,368	$ 737	$ 8,105
Reservoir sections and details	1	6		32	40		79	$ 7,368	$ 737	$ 8,105
Civil and structural drawings, miscellaneous construction details		4		16	40	4	64	$ 5,640	$ 564	$ 6,204
Piping plan and profile		6		32	32		70	$ 6,528	$ 653	$ 7,181
Piping details	1	4		16	16		37	$ 3,552	$ 355	$ 3,907
Foundation ringwall		4		4	8		16	$ 1,572	$ 157	$ 1,729
Site access road plan, profile, general sections		4		16	24		44	$ 4,072	$ 407	$ 4,479

Estimated Design Engineering Budget

CITY OF PASO ROBLES
LADERA RESERVOIR
ALTERNATIVE 1 - ABOVE GROUND STEEL

City of El Paso De Robles

Task Description	Personnel Hours							Budget		
	Principal Engineer	Senior Engineer II	Senior Engineer I	Associate Engineer	Drafter	Clerical	Total Hours	Labor	Subconsultant or Other	Total
Electrical drawings			16	4	16		36	$ 3,532	$ 353	$ 3,885
Instrumentation/telemetry drawings		12		16	16		44	$ 4,416	$ 442	$ 4,858
Construction specifications	4		18	40		8	70	$ 6,872	$ 687	$ 7,559
Permitting assistance			8	16			24	$ 2,416	$ 242	$ 2,658
Opinion of Costs	2		2	16		2	22	$ 2,168	$ 217	$ 2,385
Review meetings with city staff (50%, 95%, Final)	6	2		8			16	$ 1,976	$ 198	$ 2,174
Subtotal	15	54	44	280	268	14	675	$ 64,348	$ 6,435	$ 70,783
5.0 Quality Control / Project Management										
Project Management				50			50	$ 4,750	$ 475	$ 5,225
Preliminary Design Report Review	2	8		4		2	16	$ 1,828	$ 183	$ 2,011
Plans, Specifications, and Opinion of Costs	8		4			2	14	$ 1,832	$ 183	$ 2,015
Subtotal	10	8	4	54	-	4	80	$ 8,410	$ 841	$ 9,251
6.0 Bid Phase Services										
Bidding assistance			4	8			12	$ 1,208	$ 121	$ 1,329
Clarifications/RFI's			6	18		4	28	$ 2,590	$ 259	$ 2,849
Preparation of Bid Addenda	1			4		2	7	$ 644	$ 64	$ 708
Bid Analysis and Recommendation for Award	1			8		2	11	$ 1,024	$ 102	$ 1,126
Subtotal	2	-	10	38	-	8	58	$ 5,466	$ 547	$ 6,013
7.0 Construction Phase Services										
Pre-construction Meeting	4		6	6			16	$ 1,882	$ 188	$ 2,070
Shop Drawings, Change Orders, RFI's Review and Processing			12	40	16	8	76	$ 6,920	$ 692	$ 7,612
Construction Observation (4 site visits)			8	16			24	$ 2,416	$ 242	$ 2,658
Record Drawings				6	40	1	47	$ 4,022	$ 402	$ 4,424
Subtotal	4	-	26	68	56	9	163	$ 15,240	$ 1,524	$ 16,764
8.0 Public Presentations and Meetings										
Preparation of Exhibits for Public Meetings (5 exhibits)	8	8		12	24	2	54	$ 5,588	$ 559	$ 6,147
Meeting Attendance, Technical Support (2 Public Meetings)	16			16		2	34	$ 4,184	$ 418	$ 4,602
Subtotal	24	8	-	28	24	4	88	$ 9,772	$ 977	$ 10,749
Total	87	108	112	685	432	55	1,479	$ 144,943	$ 59,594	$ 204,537

Estimated Design Engineering Budget

CITY OF PASO ROBLES
LADERA RESERVOIR
ALTERNATIVE 2 - PRESTRESSED CONCRETE RESERVOIR

City of El Paso De Robles

Task Description	Personnel Hours							Budget		
	Principal Engineer	Senior Engineer II	Senior Engineer I	Associate Engineer	Drafter	Clerical	Total Hours	Labor	Subconsultant or Other	Total
1.0 Kick-off Meeting and Site Walk										
Coordinate and Attend Meeting and Site Walk with Project Team	8		8	8			24	$ 2,936	$ 294	$ 3,230
Subtotal	8	-	8	8	-	-	24	$ 2,936	$ 294	$ 3,230
2.0 Preliminary Engineering										
Information Gathering / Review	4	1		8			13	$ 1,528	$ 153	$ 1,681
Permitting/Approval Requirement Identification (SLO County)		2		8			10	$ 1,016	$ 102	$ 1,118
Prelim Environmental/Regulatory		2		16			18	$ 1,776	$ 178	$ 1,954
Evaluate System Hydraulics		8		40			48	$ 4,824	$ 482	$ 5,306
Geotechnical Investigation / Review	2	2		6			10	$ 1,146	$ 22,115	$ 23,261
Topographical Survey/ Utility Research /Base Mapping		4		24	8		36	$ 3,472	$ 5,847	$ 9,319
Tech Memo / Alternative Study	4	8		32	32	8	84	$ 7,840	$ 784	$ 8,624
Subtotal	10	27	-	134	40	8	219	$ 21,602	$ 29,660	$ 51,262
3.0 Preliminary Design Report										
Civil /Structural Plans (4 Sheets)	2	2		16	32		52	$ 4,816	$ 482	$ 5,298
Pipeline Alignment (1 Sheet)		1		6	4		11	$ 1,038	$ 104	$ 1,142
Environmental				8			8	$ 760	$ 18,226	$ 18,986
Civil/Structural, Electrical, Instrumentation/Telemetry Requirements	8		20	15			43	$ 4,945	$ 495	$ 5,440
Report Preparation	4	8		24	8	8	52	$ 5,040	$ 504	$ 5,544
Review Meeting with City Staff				6			6	$ 570	$ 57	$ 627
Subtotal	14	11	20	75	44	8	172	$ 17,169	$ 19,867	$ 37,036
4.0 Plans, Specification, and Opinion of Costs										
Title sheet, drawing index, vicinity map		2		16	16		34	$ 3,136	$ 314	$ 3,450
Grading and site plan		4		32	32		68	$ 6,272	$ 627	$ 6,899
Reservoir sections and profiles	2	2		16	16		36	$ 3,456	$ 346	$ 3,802
Reservoir site piping and bedding details		4		48	48		100	$ 9,152	$ 915	$ 10,067
Reservoir structural floor and roof plans	1	2		16	16		35	$ 3,296	$ 330	$ 3,626
Reservoir sections and details		4		32	32		68	$ 6,272	$ 627	$ 6,899
Prestressing details and seismic cable details		2		16	16		34	$ 3,136	$ 314	$ 3,450
Reservoir column and footing details		2		16	16		34	$ 3,136	$ 314	$ 3,450
Reservoir Roof Reinforcing Details		2		16	16		34	$ 3,136	$ 314	$ 3,450

Estimated Design Engineering Budget

CITY OF PASO ROBLES
LADERA RESERVOIR
ALTERNATIVE 2 - PRESTRESSED CONCRETE RESERVOIR

City of El Paso De Robles

Task Description	Personnel Hours							Budget		
	Principal Engineer	Senior Engineer II	Senior Engineer I	Associate Engineer	Drafter	Clerical	Total Hours	Labor	Subconsultant or Other	Total
Misc Details (Piping Ladder and vent etc)		4		16	16		36	$ 3,392	$ 339	$ 3,731
Reservoir underdrain plan	1	2		16	16		35	$ 3,296	$ 330	$ 3,626
Symbols abbreviation and site plan		2		8	16		26	$ 2,376	$ 238	$ 2,614
Piping plan and profile		4		32	32		68	$ 6,272	$ 627	$ 6,899
Electrical Drawings		16		4	16		36	$ 3,788	$ 379	$ 4,167
Instrumentation/Telemetry Drawings		16		2	16		34	$ 3,598	$ 360	$ 3,958
Construction Specifications	4		20	60		16	100	$ 9,412	$ 941	$ 10,353
Permitting Assistance			8	8			16	$ 1,656	$ 166	$ 1,822
Opinion of Costs	2		2	16		4	24	$ 2,272	$ 227	$ 2,499
Review Meetings with City Staff (50%, 95%, Final)	8			8		4	20	$ 2,248	$ 225	$ 2,473
Subtotal	**18**	**68**	**30**	**378**	**320**	**24**	**838**	**$ 79,302**	**$ 7,930**	**$ 87,232**
5.0 Quality Control / Project Management										
Project Management										
Preliminary Design Report Review				50			50	$ 4,750	$ 475	$ 5,225
Plans, Specifications, and Opinion of Costs	2	8		4		2	16	$ 1,828	$ 183	$ 2,011
Subtotal	8		4			2	14	$ 1,832	$ 183	$ 2,015
	10	**8**	**4**	**54**	**-**	**4**	**80**	**$ 8,410**	**$ 841**	**$ 9,251**
6.0 Bid Phase Services										
Bidding assistance										
Clarifications/RFI's			4	8			12	$ 1,208	$ 121	$ 1,329
Preparation of Bid Addenda			6	18		4	28	$ 2,590	$ 259	$ 2,849
Bid Analysis and Recommendation for Award	1			4		2	7	$ 644	$ 64	$ 708
Subtotal	1			8		2	11	$ 1,024	$ 102	$ 1,126
	2	**-**	**10**	**38**	**-**	**8**	**58**	**$ 5,466**	**$ 547**	**$ 6,013**
7.0 Construction Phase Services										
Pre-construction Meeting	4		6	6			16	$ 1,882	$ 188	$ 2,070
Shop Drawings, Change Orders, RFI's Review and Processing			12	60	30	8	110	$ 10,010	$ 1,001	$ 11,011
Construction Observation (4 site visits)			16	16			32	$ 3,312	$ 331	$ 3,643
Record Drawings				6	40	1	47	$ 4,022	$ 402	$ 4,424
Subtotal	**4**	**-**	**34**	**88**	**70**	**9**	**205**	**$ 19,226**	**$ 1,923**	**$ 21,149**
8.0 Public Presentations and Meetings										

Estimated Design Engineering Budget

CITY OF PASO ROBLES
LADERA RESERVOIR
ALTERNATIVE 2 - PRESTRESSED CONCRETE RESERVOIR

City of El Paso De Robles

Task Description	Personnel Hours							Budget		
	Principal Engineer	Senior Engineer II	Senior Engineer I	Associate Engineer	Drafter	Clerical	Total Hours	Labor	Subconsultant or Other	Total
Preparation of Exhibits for Public Meetings (5 exhibits)	2			12	24	2	40	$ 3,604	$ 360	$ 3,964
Meeting Attendance, Technical Support (2 Public Meetings)	16			16		2	34	$ 4,184	$ 418	$ 4,602
Subtotal	18	-	-	28	24	4	74	$ 7,788	$ 779	$ 8,567
Total	84	114	106	803	498	65	1,670	$ 161,899	$ 61,840	$ 223,739

Amounts shown are fee.