



MKN & Associates, Inc.  
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Fresno, CA 93720  
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November 13, 2020

Dan Jauregui  
President  
Tri City Engineering  
4630 W. Jennifer Ave  
Fresno, CA 93722  
(Submitted Electronically)

**SUBJECT: Proposal for Design and Engineering Services During Construction of New Sewer Lift Station and Force Main at Los Gatos Creek**

Dear Mr. Jauregui,

#### **PROJECT UNDERSTANDING**

The scope and fee proposed in this letter are for design and engineering support services during construction of a new wastewater lift station and force main to replace two existing double siphons under Los Gatos Creek located in the City of Coalinga, CA. The existing siphon is operating at maximum capacity with no room for future development north of Los Gatos Creek. The project will provide for a new sewer lift station and force main to replace the existing siphons (siphon 1 and siphon 2) for future development.

The MKN proposed scope of services consists of the following activities:

- Review existing documents, record drawings and available flow projection data, if any
- Prepare updated flow projections for current and future development; based on current land planning documents
- Develop plans to allow for multiple phase expansion, if necessary
- Prepare a Lift Station Evaluation and Recommendations Technical Memorandum outlining the basis of design and preliminary lift station configuration for review by City staff
- Develop pump system curves and estimate wet well sizing for potential multiple construction phases
- Work with the California Department of Fish and Wildlife to design and secure the necessary permits for the Los Gatos Creek force main crossing
- Prepare preliminary alignment and pipe sizing for force main
- Prepare technical documentation for new electrical service and metering
- Prepare preliminary layout alternatives and identify key lift station components for review
- Provide space requirements for possible future odor control equipment
- Prepare Construction Documents including plans, technical specifications, and opinion of construction costs
- Provide bid and construction phase engineering services

## SCOPE OF WORK

MKN proposes to perform the following scope of work for this project:

### Task 100 – Project Management and Kickoff Meeting

MKN will conduct a kickoff meeting with Tri City and City staff to review project scope, schedule, deliverables, and any construction and operational concerns for the new lift station. 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. Meeting notes will be prepared distributed to document issues and action items.

The MKN Project Manager will perform project management activities throughout the duration of the project including contract administration, coordination (MKN team members, subconsultants, and City staff), development and maintenance of the project design schedule, overseeing deliverables, project meetings, and communication of project status and issues for prompt resolution with the City.

Each project deliverables will be reviewed by qualified principal level reviewers to ensure MKN work products meet the requirements of the executed scope of services and requirements of the City.

### Task 200- Documentation Review Wastewater Flow Projections and Hydraulic Analysis

To validate the lift station flows MKN will develop current and future lift station flow projections using the following:

- Master Plan wastewater flow factors
- Master Plan land use designations for the contributory areas
- Information provided not included in the master planning efforts
- Existing water usage and WWTP influent/effluent data

MKN will develop and present our flow study findings to Tri City and the City. After finalizing the projected flows MKN will proceed with hydraulic analysis to determine the lift station and pipe sizes. If desired as an optional task MKN will work with our flow monitoring teaming partner to perform flow monitoring on the existing sewers as additional services.

### Task 300- Preliminary Engineering & Lift Station Evaluation Tech Memo

MKN will prepare the Lift Station Evaluation Technical Memorandum (TM), which will describe the preferred lift station layout alternatives, recommended design features, and performance criteria considerations. The performance considerations will include parameters such as flows, cycle times, operating pressures, solids handling, and odor generation. The recommended design features will include, redundancy, materials selection, space for future odor control equipment, communications, controls equipment, and built-in operation/maintenance features. MKN will prepare figures showing lift station and force main layouts of the recommended alternative.

Prior to finalization, MKN will review the draft TM with Tri City and the City for comments. Comments from both Tri City and the City will be incorporated into the Final Lift Station Evaluation TM.

*Task Deliverables:*

- Draft Lift Station Evaluation Technical Memorandum
- Final Lift Station Evaluation Technical Memorandum

**TASK GROUP 400 - Construction Documents (Plans, Specifications and Estimates)**

MKN will prepare construction plans and technical specifications for the new lift station and force main, utilizing three (3) distinct design submittals (60%, 90% and Final). After Tri City and the City have reviewed each design submittal, MKN will attend a review meeting to review any comments. MKN will incorporate these comments into the subsequent submissions. MKN will provide an opinion of probable construction costs as part of the 60% and 90% submittals.

The project specifications will include detailed project commissioning specifications for startup of the new lift station, verifying the SCADA communications, alarms, and operator control functions. This portion of the project specifications will include:

- A clear definition of start-up and commissioning procedures
- An organized system of commissioning documentation
- Clear definition of the criteria for acceptance
- Procedures for correction and retesting in the case of failure

MKN's subconsultant Electrical Power Systems (EPS) will design and specify electrical components for the lift station including Motor Control Center, variable frequency drives, portable emergency standby generator connection, electrical distribution, lighting, and equipment connections. EPS will also design and specify all controls for the lift station including communications with the City's remote monitoring and control system. EPS will complete the technical portions of the Rule 16 forms necessary to obtain a new electrical service for the Lift station site.

*Anticipated Drawings:*

**Civil & Mechanical (11 Sheets)**

- Site Plan and Fencing (2 sheets)
- Civil Details (6 sheets)
- Force Main (3 sheets)

**Electrical and Instrumentation (11 Sheets)**

- Electrical (7 sheets)
- Instrumentation & Controls (4 Sheets)

*Task Deliverables:*

- 60% Submittal (Electronic Copy in PDF Format):
  - Draft Half-Size (11" x 17") Drawings
  - Draft Project Commissioning Documents
  - Draft Technical Specifications
  - Draft Opinion of Probable Construction Costs

- 90% Submittal (Electronic Copy in PDF Format):
  - o Revised Half-Size (11" X 17") Drawings
  - o Revised Project Commissioning Documents
  - o Revised Technical Specifications
- Final Submittal (Electronic Copy in PDF Format):
  - o Final Half-Size (11" X 17") Drawings
  - o Final Project Commissioning Documents
  - o Final Technical Specifications (Divisions 02 To 43)
  - o Final Engineer's Estimate

#### **TASK GROUP 500 – Bid Phase Support**

Prior to advertisement of the project for bidding, MKN will support the City with general contractor outreach efforts by contacting three potential bidders and notify them of the upcoming bid opportunity. During bidding, MKN will respond to questions from prospective bidders and will prepare any necessary addenda during the bidding phase. To facilitate bidder understanding the addenda will clearly identify additions, deletions, or modifications by specification section or drawing number. MKN's proposal anticipates two (2) bid addendum will be required. MKN will attend and facilitate the pre bid meeting in Coalinga or via web conferencing and attend the bid opening, review the bids for general conformance with the contract documents, and assist in identifying the apparent low bidder.

Task Deliverables:

- Addenda issued during the bidding phase
- Prebid meeting agenda and minutes

#### **TASK GROUP 600 - Construction Phase Support**

MKN will provide the following engineering support services during the construction phase of the project:

- Attend the Pre-Construction Meeting
- Attend two (2) Project Progress Meetings
- Respond to up to three (10) Requests for Information (RFIs) From the Contractor
- Review up to twenty-five (25) equipment and material submittals and resubmittals
- Record Drawings- MKN will prepare record drawings based on the contractor's redlined as-builts. Design changes issued via addenda or change orders will also be incorporated into the record drawings.
- Startup Support – MKN will provide support during project startup
- Attend Final Walk Through and Prepare Punch List - MKN will participate in a final walk through with City staff and prepare a punch list of items to be addressed by the Contractor.

Task Deliverables:

- Responses to RFI's
- Submittal review comments
- Record Drawings – Delivered electronically as PDFs or as DWG files
- Final Walk through punch list

## Project Assumptions

- Front-end contract documents will be prepared by City or Tri City.
- Permits will be obtained by the Owner/Contractor
- Potholing of existing utilities is not included
- Geotechnical investigation including assessment of groundwater conditions will be by others
- Survey will be by Tri City and will be provided to MKN electronically
- CEQA compliance work will be completed by the City and Tri City
- Electrical design includes a connection for a portable generator with a manual transfer switch
- Landscaping design will be completed by others
- MKN shall be entitled to rely reasonably upon the accuracy of data and information provided by or through the City and will use good professional judgment in reviewing and evaluating such information. If MKN identifies any error or inaccuracy in data or information provided by or through the City or determines that additional data or information is needed to perform the services, MKN shall promptly notify the City.
- All necessary easements have been secured by the City. Any required additional easement acquisition work may be completed at cost plus 10%
- City will complete nontechnical portions of the Rule 16 application and submit to the electrical utility provider
- City is responsible for advertising the project for bidding
- Construction staking will be the responsibility of the Contractor.

## Construction Management Services (OPTIONAL SERVICES)

If desired Construction Management Services may be provided by MKN; a full CM proposal will be submitted after the design has been completed.

## FEE AND SCHEDULE

The anticipated schedule is summarized in the table below. It assumes a City review period of one week between submittals and progress meetings.

Task	Time from Notice-to-Proceed
Kickoff Meeting & Site Visit	1 week
Flow Analysis	3 weeks
Preliminary Evaluation TM	5 weeks
60% Design Package	12 weeks
90% Design Package	17 weeks
Final Bid Documents	19 weeks

MKN proposes to complete this base work on a time and materials basis with a budget not to exceed \$105,886. A detailed budget spreadsheet is attached. Hourly rates are also attached and may be revised annually. Other direct costs will be charged with a 10% markup.

We hope this proposal meets your expectations and look forward to working with you on this project.

Sincerely,

Henry Liang, PE  
Operations Manger

Kevin Norgaard, PE  
Senior Engineer

Attachments:  
Budget Spreadsheet  
Fee Schedule

City of Coalinga Los Gatos Creek Lift Station															
	Principal Engineer	Senior Project Engineer	Project Engineer/Senior Scientist	Water Resources Planner	Assistant Engineer	Supervising Drafter	Drafting/Design Technician II	Drafting/Design Technician I	Administrative Assistant	Total Hours (MKN)	Labor (MKN)	ODCs (MKN)	Sub1 (EPS)	Non-Labor Costs	Total Fee
Hourly Rates	191	180	159	145	136	138	128	105	65						
<b>Task Group 100: Project Initiation and Meetings</b>															
Kickoff Meeting	4		4							8	\$1,400	\$ 42	\$ 1,034	\$1,076	\$ 2,476
Project Management	16									16	\$3,056	\$ 92	\$ -	\$92	\$ 3,148
QAQC	18									18	\$3,438	\$ 103	\$ -	\$103	\$ 3,541
Subtotal	38	0	4	0	0	0	0	0	0	42	\$ 7,894	\$ 237	\$ 1,034	\$ 1,271	\$ 9,165
<b>Task Group 200: Documentation Review and Flow Analysis</b>															
Design Flow Analysis		4		15						19	\$2,895	\$ 87	\$ -	\$87	\$ 2,982
Subtotal	0	4	0	15	0	0	0	0	0	19	\$ 2,895	\$ 87	\$ -	\$ 87	\$ 2,982
<b>Task Group 300: Preliminary Engineering &amp; Lift Station Evaluation Tech Memo</b>															
Draft Lift Station Evaluation Technical Mamorandum	4		10		4	4	12		4	38	\$5,246	\$ 157	\$ 1,430	\$1,587	\$ 6,833
Final Lift Station Evaluation Technical Memorandum	1		2		4				2	9	\$1,183	\$ 35	\$ 330	\$365	\$ 1,548
Subtotal	5	0	12	0	8	4	12	0	6	47	\$ 6,429	\$ 193	\$ 1,760	\$ 1,953	\$ 8,382
<b>Task Group 400: Construction Documents ( Plans and Specifications)</b>															
60% Design Package	8	12	40	0	32	4	40	0	4	140	\$20,332	\$ 610	\$ 3,740	\$4,350	\$ 24,682
Specifications (full draft)	2	4	16		8				4						
Design Drawings	2	4	20		16	4	40								
Updated Cost Estimate		4			8										
Review Meeting	4		4												
90% Design Package	8	8	32	0	24	4	20	0	4	100	\$14,692	\$ 441	\$ 4,950	\$5,391	\$ 20,083
Specifications (full draft)	2	4	12		8				4						
Design Drawings	2	4	16		16	4	20								
Review Meeting	4		4												
Final Bid Documents	4	8	16	0	28	1	15	0	4	76	\$10,874	\$ 326	\$ 2,750	\$3,076	\$ 13,950
Specifications (full draft)	2	2	8		8				4						
Design Drawings	2	4	8		12	1	15								
Updated Cost Estimate		2			8										
Subtotal	40	56	176	0	168	18	150	0	24	316	\$ 45,898	\$ 1,377	\$ 11,440	\$12,817	\$ 58,715
<b>Task Group 500: Bid Phase Support</b>															
Bid Phase Support	1	4			16	1	8			30	\$4,249	\$ 127	\$ 550	\$677	\$ 4,926
Subtotal	1	4	0	0	16	1	8	0	0	30	\$ 4,249	\$ 127	\$ 550	\$ 677	\$ 4,926
<b>Task Group 600: Construction Phase Support</b>															
Pre-Construction Meeting	4		4							8	\$1,400	\$ 42	\$ 776	\$818	\$ 2,218
Construction Progress Meetings			8							8	\$1,272	\$ 38	\$ 1,034	\$1,072	\$ 2,344
Respond to RFI's		8		8						16	\$2,600	\$ 78	\$ 1,210	\$1,288	\$ 3,888
Submittal Reviews		16		16						32	\$5,200	\$ 156	\$ 2,310	\$2,466	\$ 7,666
Record Drawings		2				4	8			14	\$1,936	\$ 58	\$ 770	\$828	\$ 2,764
Startup support & Punchlist Walk through		10	6							16	\$2,754	\$ 83	\$ -	\$83	\$ 2,837
Subtotal	4	36	18	24	0	4	8	0	0	94	\$ 15,162	\$ 455	\$ 6,100	\$ 6,554	\$ 21,716
<b>Task Group 7: A,B,C</b>															
TOTAL BUDGET	88	100	210	39	192	27	178	0	30	548	\$82,527	\$ 2,476	\$ 20,884	\$ 23,359	\$ 105,886



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## FEE SCHEDULE FOR PROFESSIONAL SERVICES

### ENGINEERS AND TECHNICAL SUPPORT STAFF

Project Director/ Operations Manager	\$206/HR
Principal Engineer	\$191/HR
Senior Project Engineer	\$180/HR
Project Engineer/ Senior Scientist	\$159/HR
Water Resources Planner	\$145/HR
GIS Specialist	\$139/HR
Assistant Engineer II	\$136/HR
Assistant Engineer I	\$115/HR
GIS Technician	\$115/HR
Supervising Drafter	\$138/HR
Drafting/Design Technician II	\$128/HR
Drafting/Design Technician I	\$105/HR
Administrative Assistant	\$65/HR
Engineering Intern	\$60/HR

*Routine office expenses such as computer usage, software licenses and fees, telephone charges, office equipment and supplies, incidental postage, copying, and faxes are included as a 3% fee on labor cost.*

### DIRECT PROJECT EXPENSES

Outside Reproduction	Cost + 10%
Subcontracted or Subconsultant Services	Cost + 10%
Travel & Subsistence (other than mileage)	Cost
Auto Mileage	Current IRS Rate - \$.58/mi.