



# Staff Report

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**Agenda Item:**           **PROFESSIONAL SERVICES FOR LOWER CLARKDALE WATERLINE REPLACEMENT PROJECT** – Consideration of approval of a proposal from Wildan Engineering to design the Lower Clarkdale Waterline Replacement Project in the Town of Clarkdale.

**Meeting Date:**           October 27, 2009

**Prepared By:**           Wayne Debrosky, Utilities Director

**Background:**           The above referenced water system improvements would include replacing approximately 12,300 feet of aging waterlines located in Lower Town Clarkdale with new 8-inch C-900 PVC water mains, updated fire hydrants, and provide new customer service connections from the new mains to the water meters. The new Lower Town water mains would be tied into the recently completed Main Street water main and pressure reducing station. These improvements would reduce service outages, reduce water loss through system leaks, and improve fire protection for Lower Town and was one of the significant projects anticipated when the Town of Clarkdale purchased the water company in 2006.

The work included in this proposal would be to provide engineering services in the design and preparation of engineering plans, drawings, contract documents, bid documents, regulatory submittals required to obtain the Approval To Construct, preparation of necessary public utility easement descriptions, construction project management and modified inspection services, and prepares as-built drawings and the submittals for the Approval To Operate.

Through discussions with Wildan Engineering and the Town of Clarkdale, the scope of on-site inspection services to be provided by Wildan Engineering were reduced, and the Town of Clarkdale agreed to assume increased on-site inspection responsibilities. This agreement has reduced the projected design, project management, and construction inspection costs by Wildan Engineering from \$430,650.00 to \$336,870.00 which represents a cost reduction of \$93,780.00.

The bond that was issued when the Town purchased the water company included funds for the purchase, and also funds for the upgrade of the water system. The “system improvements” portion of the funds have been segregated in a separate account and used only for improvements to the water system. These system improvement funds will pay the engineering and construction costs for the Lower Clarkdale Water Main Replacement project.

Recommendation: To approve the Proposal for Professional Engineering Services between Wildan Engineering and the Town of Clarkdale for the amount of \$336,870.00 for the Lower Clarkdale Water Main Replacement Project.

The Town of Clarkdale has previously entered into a Master Agreement for engineering services on the above referenced project with Willdan. The Town now desires additional services to be rendered. It is hereby agreed that the following services are authorized and approved.

**PROJECT: Old Town Waterline Replacement**

**Type of Work:** The Town desires to replace approximately 12,300 feet of aging waterline located in Old Town Clarkdale with new 8-inch C-900 PVC. The area known as Lower Old Town Clarkdale is the area which is bounded by Broadway Road on the west, the homes on the north side of Third North Street, homes on the south side of Main Street and the railroad tracks on the east. This new waterline will be tied into the new Main Street waterline that has recently been completed.

The project will be designed and constructed in five separate phases, see attached map. This proposal only includes the first four phases. Phase I will run generally from Main Street, north along 7<sup>th</sup> Street, and along Third North Street. Phase 2 will run along the alley between Third North and Second North Street and part of 4<sup>th</sup> Street. Phase 3 will run along the alley between Second North and First North Street and the alley between First North and Main Street. Phase 4 will run along the alley behind the homes south of Main Street from Broadway to east of North 4<sup>th</sup> Street and include replacement of a pressure reducing valve station. Phase Five will run along Broadway from Main Street to Centerville Road but is not included in this proposal. The waterline along Third North Street will require some of the homes to have their service lines routed from the front yards to the back yards to tie into their existing water service.

**SCOPE OF SERVICES:**

The basic services required for this project include a review of the project with the Town and preparation of contract documents. Bidding assistance and construction management are also proposed. Any required Landscape Plans, Drainage Report, should be in addition to this Scope of Work.

**TASK 1 Data Review (All Phases)**

Within seven days after the Town issues the Notice to Proceed, the Consultant would request an initial coordination meeting and site visit with the Town to discuss detailed objectives of the project and to begin data assembly. At that time, the Town shall provide the Consultant copies of available plans, quarter section maps, and as-built drawings of the project area that are available from the Town files. Willdan will also do a field review of the project at this time to identify any potential problems and review the survey being conducted to make sure that the existing lines are bluestake for inclusion into the survey.

**TASK 2 Preliminary Designs / Data Collection (All Phases)**

Data collection undertaken by the Consultant may include, but may not be limited to the following:

1. Finalization of the conceptual designs developed in sufficient detail to be able to prepare a cost estimates that will be reviewed by the Town for Phase I -IV
2. Investigation of existing public improvements and private utilities that may impact the project, including size, type and location from as-built drawings or Bluestake for Phase I -IV
3. Willdan will coordinate topographic survey through the Town's contracted surveyor - Southwest Geographic. Supplied survey by Southwest Geographic will include completion of a topographic survey for Phase I -IV to verify the locations of existing structures, improvements and utilities that may impact the project and verification of Town's existing right-of-way. Elevations tied to the Town of Clarkdale datum. Benchmark locations and elevations will be obtained from the Town. Survey will not establish legal right of way, property lines or survey existing property corners. However, any existing property corners, pins and reference points that are found will be identified. Willdan will provide assistance during the survey to make sure as much information is gathered regarding existing utility lines. Southwest Geographic will schedule a bluestake prior to doing their work to identify the location of any underground utility lines
4. Investigation of soils and subsurface conditions along the project for Phase I and II. Borings will be taken and analyzed for the purpose of generating pavement recommendations and aid in the design of backfill and trench requirements and pavement replacement. Willdan's subconsultant ETC is scheduled to perform this work.

**TASK 3 Design and Contract Document Preparation for Phases I-IV****Construction Drawings**

The Consultant proposes to prepare construction drawings per Town of Clarkdale and ADEQ Standards. The minimum scale of the construction drawings shall be 1 inch = 40 feet horizontal. The construction drawings will show both plan and profile and be signed and sealed by a Professional Engineer licensed in the State of Arizona to perform the various items of work.

The work is to include design for the installation of a proposed waterline, approximately 12000 feet in length for Phase I -IV in Old Town Clarkdale. A sketch of the new waterlines proposed is attached to this agreement. Fire hydrants will be suggested where appropriate. Coordination with the utility companies will also be required for any relocation of their utilities. . MAG Specifications and Details or Town of Clarkdale details are to be used for the design.

No drainage report will be required and is considered outside this scope of work.

### **Contract Documents and Special Provisions**

The Consultant proposes to prepare the contract documents using the EJCDC and the special provisions to supplement the latest edition of the Maricopa Association of Governments (MAG) Uniform Standard Specifications and Details and the Town of Clarkdale Supplements. The contract documents and special provisions will be prepared and delivered in hard copy form as well as on diskette prepared in MS Word.

### **Probable Estimated Construction Costs**

The Consultant will prepare detailed, itemized cost estimates for the proposed improvements. The probable estimated construction costs will be prepared on a sheet-by-sheet basis with total quantities and costs for the overall project using MS Excel. Bid advertisements will be written by Willdan and approved by the Town. The Town will then have the advertisement placed in the appropriate publication.

### **Review Submittals**

The Consultant will make submittals of pressure analysis, plans, estimates, specifications and other items as shown on the attached schedule. The minimum submittals are proposed at the 50%, 95% and final stages of design. The consultant will also submit a copy of the final plans to ADEQ for their approval.

The Consultant plans to submit four (4) 24x36 reproducible construction plans and specifications. Consultant also plans to submit construction documents and specifications to the local health department for review and approval to construct.

### **Legal Descriptions, Exhibits, and Easement Documents for Phase 1**

Research existing easements, and prepare easement documents including legal descriptions and exhibits for the six properties where the new waterline will be installed north of the homes along Third North Street.

**TASK 4 TIME SCHEDULE**

A time schedule is to be developed at the initial coordination meeting. After this initial coordination meeting, the consultant will submit any agreed upon schedules for the Town's approval.

**PLAN SHEET LIST**

Phase I & IA	
Cover Sheet	1 Sheet
Index & General Notes	2 Sheets
Detail sheets	4 Sheet
Plan Sheets	<u>7 Sheets</u>
<b>Total</b>	<b>14 Sheets</b>

Phase II	
Cover Sheet	1 Sheet
Index & General Notes	2 Sheets
Detail sheets	4 Sheet
Plan Sheets	<u>7 Sheets</u>
<b>Total</b>	<b>14 Sheets</b>

Phase III	
Cover Sheet	1 Sheet
Index & General Notes	2 Sheets
Detail sheets	3 Sheet
Plan Sheets	<u>5 Sheets</u>
<b>Total</b>	<b>11 Sheets</b>

Phase IV	
Cover Sheet	1 Sheet
Index & General Notes	2 Sheets
Detail sheets	4 Sheet
Plan Sheets	<u>6 Sheets</u>
<b>Total</b>	<b>13 Sheets</b>

**TASK 6 CONSTRUCTION ADMINISTRATIONS AND INSPECTION**

The consultant is to provide construction administrations and inspection on a limited basis so as to stay current with construction progress. Services to include the following:

- Conduct the pre-construction conference
- Review contractor submittals including schedule, mix designs, and shop drawings.
- Inspect the work in progress. Inspection will be done on an as needed basis depending on the schedule of the contractor. Full time inspection is not included in this proposal.
- Prepare inspection reports on days of site visit
- Verify material testing performed by the Contractor as required by the contract documents.
- Provide benchmarks of plans for the contractor for construction surveying.
- Conduct a weekly construction meeting with the contractor, town and others
- Review traffic control plans with the town for the Town's approval.
- Address conflicts
- With the assistance of Town public works personnel monitor the contractor's barricades and safety program. Advise the contractor of any unsafe work conditions. Willdan will not be responsible for the contractor's safety or barricades or any injuries or damages incurred by the contractor.
- Review contract modifications and change orders and make a recommendation to the town
- Verification of bacteriological testing from reports provided from the contractor. Willdan will provide full time inspection during the pressure and leak tests, performed by the contractor.
- Review and process contractor monthly pay estimates
- Monitor the contractors schedule
- Prepare a final punch list
- Conduct a final walkthrough with the Town and the contractor
- Review and approve the contractors as-built drawings
- Review and approve the contractors final pay request
- Assemble documents at the end of the project and submit to the Town for permanent record keeping
- Submission of Engineer's Certificate of Completion to local health department. The contractor will provide the As-built drawings on mylars supplied by the Town.

EXHIBIT C

AUTHORIZATION FOR SERVICES

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**COST OF SERVICES:** Unless provided herein, it is agreed that the cost of services shall be as provided in Attachment "1" to this authorization. The agreed upon services are will be performed at a lump sum cost of:

Phase I & IA	\$125,860.00
Phase II	\$ 62,070.00
Phase III	\$ 70,870.00
Phase IV	\$ 78,070.00

Note that prices shown are good for a period of three years. If the work has not been completed within a period of three years, prices shall be subject to update and/or revision and negotiated with the Town of Clarkdale.

**PROJECT MANAGER:** James S. Paustian, P.E., R.L.S. shall be the Engineer's Project Manager and is fully responsible for seeing that the project is completed in compliance with the provisions of the Master Agreement.

**MASTER AGREEMENT:** The Master Agreement between the parties is incorporated and amended herein as if fully set forth.

DATED this \_\_\_\_\_ day of \_\_\_\_\_, 2009

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Tom Kouris, Sr. V.P.  
Southwest Operations Leader  
**WILLDAN**

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Town of Clarkdale

# Town of Clarkdale- Public Works Department Consultant/Subconsultant Cost Proposal

**Consultant: Willdan**

**Project Name: Old Town Waterline Replacement**

**Task 1      Data Review**

Project Manager	20	\$	150.00		\$ 3,000.00
Associate Engineer	30	\$	115.00		\$ 3,450.00
Inspector	40	\$	105.00		\$ 4,200.00
Drafter	20	\$	85.00		\$ 1,700.00
			<b>Sub-Total</b>		<b>\$ 12,350.00</b>

**Task 2      Preliminary Design/Data Collection for All Phases**

<u>Classifications</u>	<u>Man-hours</u>	<u>Hourly Rates</u>	<u>Labor Cost</u>
Division Manager (QA/QC)	4	\$ 150.00	\$ 600.00
Project Manager	10	\$ 140.00	\$ 1,400.00
Associate Engineer	20	\$ 115.00	\$ 2,300.00
Drafter	40	\$ 90.00	\$ 3,600.00
Clerical	4	\$ 55.00	\$ 220.00
		<b>Sub-Total</b>	<b>\$ 7,520.00</b>

**Subconsultants**

Southwest Geographic	(Survey)	( contract with town for \$8000)	\$0.00
ETC	(Geotech)		\$ 3,500.00
		<b>Sub-Total</b>	<b>\$3,500.00</b>

**Task 3 - Phase I Design, Specifications, and Cost Estimate  
& IA**

<u>Classifications</u>	<u>Man-hours</u>	<u>Hourly Rates</u>	<u>Labor Cost</u>
Division Manager (QA/QC)	16	\$ 150.00	\$ 2,400.00
Project Manager	80	\$ 140.00	\$ 11,200.00
Associate Engineer	140	\$ 115.00	\$ 16,100.00
Drafter	280	\$ 90.00	\$ 25,200.00
Clerical	4	\$ 55.00	\$ 220.00
	<b>Sub-Total</b>		<b>\$ 52,720.00</b>

**Phase I Easement Documents, Legal Descriptions and Exhibits**

<u>Classifications</u>	<u>Man-hours</u>	<u>Hourly Rates</u>	<u>Labor Cost</u>
Division Manager (QA/QC)	2	\$ 150.00	\$ 300.00
Registered Land Surveyor	10	\$ 140.00	\$ 1,400.00
Associate Engineer	20	\$ 115.00	\$ 2,300.00
Drafter	50	\$ 90.00	\$ 4,500.00
Clerical	4	\$ 55.00	\$ 220.00
	<b>Sub-Total</b>		<b>\$ 8,420.00</b>

**Direct and Outside Expenses**

Utility Company As-builts		\$ 200.00
Printing		\$ 250.00
Mileage		\$ 500.00
	<b>Sub-Total</b>	<b>\$ 950.00</b>

Subtotal Labor	\$ 81,010.00
Subtotal Subs	\$ 3,500.00
Subtotal Expenses	\$ 950.00
<b>TOTAL DESIGN-PHASE I</b>	<b>\$ 85,460.00</b>

**Task 4 - Phase I Construction Administration and Inspection - Phase I  
& IA (Assumes a 2.5 month construction duration)**

<u>Classifications</u>	<u>Man-hours</u>	<u>Hourly Rates</u>	<u>Labor Cost</u>
Construction Engineer	100	\$ 140.00	\$ 14,000.00
Inspector	240	\$ 105.00	\$ 25,200.00
	<b>Sub-Total</b>		<b>\$ 39,200.00</b>

**Direct and Outside Expenses**

Subsistence		\$ 200.00
Mileage		\$ 1,000.00
	<b>Sub-Total</b>	<b>\$ 1,200.00</b>

Subtotal Labor	\$ 39,200.00
Subtotal Expenses	\$ 1,200.00
<b>TOTAL CM AND INSPECTION-PHASE I</b>	<b>\$ 40,400.00</b>
<b>TOTAL DESIGN AND CONSTRUCTION ADMIN. AND INSPECTION-PHASE 1</b>	<b>\$ 125,860.00</b>

**Task 1 - Phase 2 Design, Specifications, and Cost Estimate**

<u>Classifications</u>	<u>Man-hours</u>	<u>Hourly Rates</u>	<u>Labor Cost</u>
Division Manager (QA/QC)	8	\$ 150.00	\$ 1,200.00
Project Manager	30	\$ 140.00	\$ 4,200.00
Associate Engineer	80	\$ 115.00	\$ 9,200.00
Drafter	160	\$ 90.00	\$ 14,400.00
Clerical	4	\$ 55.00	\$ 220.00
	<b>Sub-Total</b>		<b>\$ 28,020.00</b>

**Direct and Outside Expenses**

Utility Company As-builts			\$ 200.00
Printing			\$ 250.00
Mileage			\$ 200.00
	<b>Sub-Total</b>		<b>\$ 650.00</b>

Subtotal Labor	\$ 28,020.00
Subtotal Subs	\$ 0.00
Subtotal Expenses	\$ 650.00
<b>TOTAL DESIGN-PHASE 2</b>	<b>\$ 28,670.00</b>

**Task 2 - Phase 2 Construction Administration and Inspection - Phase 2**

(Assumes a 2 month construction duration)

<u>Classifications</u>	<u>Man-hours</u>	<u>Hourly Rates</u>	<u>Labor Cost</u>
Construction Engineer	80	\$ 140.00	\$ 11,200.00
Inspector	200	\$ 105.00	\$ 21,000.00
	<b>Sub-Total</b>		<b>\$ 32,200.00</b>

**Direct and Outside Expenses**

Subsistence			\$ 200.00
Mileage			\$ 1,000.00
	<b>Sub-Total</b>		<b>\$ 1,200.00</b>

Subtotal Labor	\$ 32,200.00
Subtotal Expenses	\$ 1,200.00
<b>TOTAL CM AND INSPECTION - PHASE 2</b>	<b>\$ 33,400.00</b>
<b>TOTAL DESIGN AND CONSTRUCTION ADMIN. AND INSPECTION - PHASE 2</b>	<b>\$ 62,070.00</b>

**Task 1 - Phase 3 Design, Specifications, and Cost Estimate**

<u>Classifications</u>	<u>Man-hours</u>	<u>Hourly Rates</u>	<u>Labor Cost</u>
Division Manager (QA/QC)	8	\$ 150.00	\$ 1,200.00
Project Manager	40	\$ 140.00	\$ 5,600.00
Associate Engineer	100	\$ 115.00	\$ 11,500.00
Drafter	200	\$ 90.00	\$ 18,000.00
Clerical	4	\$ 55.00	\$ 220.00
	<b>Sub-Total</b>		<b>\$ 36,520.00</b>

**Direct and Outside Expenses**

Utility Company As-builts	\$ 200.00
Printing	\$ 250.00
Mileage	\$ 500.00
<b>Sub-Total</b>	<b>\$ 950.00</b>

Subtotal Labor	\$ 36,520.00
Subtotal Subs	\$ 0.00
Subtotal Expenses	\$ 950.00
<b>TOTAL DESIGN-PHASE 3</b>	<b>\$ 37,470.00</b>

**Task 2 - Phase 3 Construction Administration and Inspection - Phase 3**

(Assumes a 2 month construction duration)

<u>Classifications</u>	<u>Man-hours</u>	<u>Hourly Rates</u>	<u>Labor Cost</u>
Construction Engineer	80	\$ 140.00	\$ 11,200.00
Inspector	200	\$ 105.00	\$ 21,000.00
	<b>Sub-Total</b>		<b>\$ 32,200.00</b>

**Direct and Outside Expenses**

Subsistence	\$ 200.00
Mileage	\$ 1,000.00
<b>Sub-Total</b>	<b>\$ 1,200.00</b>

Subtotal Labor	\$ 32,200.00
Subtotal Expenses	\$ 1,200.00

<b>TOTAL CM AND INSPECTION - PHASE 3</b>	<b>\$ 33,400.00</b>
<b>TOTAL DESIGN AND CONSTRUCTION ADMIN. AND INSPECTION - PHASE 3</b>	<b>\$ 70,870.00</b>

**Task 1 - Phase 4 Design, Specifications, and Cost Estimate**

<u>Classifications</u>	<u>Man-hours</u>	<u>Hourly Rates</u>	<u>Labor Cost</u>
Division Manager (QA/QC)	8	\$ 150.00	\$ 1,200.00
Project Manager	50	\$ 140.00	\$ 7,000.00
Associate Engineer	100	\$ 115.00	\$ 11,500.00
Drafter	200	\$ 90.00	\$ 18,000.00
Clerical	4	\$ 55.00	\$ 220.00
<b>Sub-Total</b>			<b>\$ 36,720.00</b>

**Direct and Outside Expenses**

Utility Company As-builts	\$ 200.00
Printing	\$ 250.00
Mileage	\$ 500.00
<b>Sub-Total</b>	<b>\$ 950.00</b>

Subtotal Labor	\$ 36,720.00
Subtotal Subs	\$ 0.00
Subtotal Expenses	\$ 950.00
<b>TOTAL DESIGN-PHASE 4</b>	<b>\$ 37,670.00</b>

**Task 2 - Phase 4 Construction Administration and Inspection - Phase 4**

(Assumes a 2.5 month construction duration)

<u>Classifications</u>	<u>Man-hours</u>	<u>Hourly Rates</u>	<u>Labor Cost</u>
Construction Engineer	100	\$ 140.00	\$ 14,000.00
Inspector	240	\$ 105.00	\$ 25,200.00
<b>Sub-Total</b>			<b>\$ 39,200.00</b>

**Direct and Outside Expenses**

Subsistence	\$ 200.00
Mileage	\$ 1,000.00
<b>Sub-Total</b>	<b>\$ 1,200.00</b>

Subtotal Labor	\$ 39,200.00
Subtotal Expenses	\$ 1,200.00

<b>TOTAL CM AND INSPECTION - PHASE 4</b>	<b>\$ 40,400.00</b>
<b>TOTAL DESIGN AND CONSTRUCTION ADMIN. AND INSPECTION - PHASE 4</b>	<b>\$ 78,070.00</b>

**GRAND TOTALS**

Phase 1	\$ 125,860.00
Phase 2	\$ 62,070.00
Phase 3	\$ 70,870.00
Phase 4	\$ 78,070.00

**GRAND TOTAL \$ 336,870.00**