



City Council Staff Report

Date:

November 6, 2024

Applicant:

Mapleton City Public Works

Location:

Hwy 89, Maple St to 2600 South

Prepared By:

Rob Hunter, City Engineer/
Public Works Director

Public Hearing:

No

Attachments:

Proposed task order

REQUEST

Approve the task order for Hansen, Allen & Luce to design the drinking water main replacement along Highway 89 from Maple St to 2600 South.

BACKGROUND & DESCRIPTION

Over the last few years and increasing in frequency the last several months, the existing ductile iron drinking water main on south Highway 89 has had several breaks due to corrosion. The high corrosion is due to soils in this area being corrosive to iron pipes and fittings, and protective measures for iron pipes when the line was installed were not up to current standard practice. The recently approved Master Plan identifies replacing the existing line as a high priority maintenance project, and Public Works agrees so that we don't continue to experience the high frequency of water main breaks that disrupt service and ruin pavement out on the highway. This fiscal year's budget includes water line replacement funds in GL# 51-74-76, which is where we propose to fund this design.

EVALUATION

Hansen, Allen & Luce is our qualifications-based culinary water and pressurized irrigation consultant for master planning and design. Contracting this culinary water line design project follows City procurement policy. The proposed design costs are typical for civil design projects this size.

RECOMMENDATION

Approve the task order for Hansen, Allen & Luce to design the drinking water main replacement along Highway 89 from Maple St to 2600 South for \$141,000.

RESOLUTION NO. 2024-

A RESOLUTION OF THE CITY OF MAPLETON, UTAH TO APPROVE THE TASK ORDER FOR HANSEN, ALLEN & LUCE TO DESIGN THE CULINARY WATER LINE REPLACEMENT ALONG SOUTH HIGHWAY 89

WHEREAS, the 2024 Mapleton City Water Systems Master Plan shows replacing the culinary water line on Highway 89 as a high priority maintenance project; and

WHEREAS, this water main has experienced a high frequency of breaks due to corrosion; and

WHEREAS, budget was included in this year's budget for water line replacement;

NOW THEREFORE, BE IT RESOLVED by the City Council of Mapleton, Utah, that: the City approves the task order for Hansen, Allen & Luce, Inc. to design the culinary water line replacement along south Highway 89 for \$141,000.

This resolution adopted this 6th day of November, 2024, by the City Council of Mapleton City, Utah.

Dallas Hakes
Mayor

ATTEST:

Camille Brown
City Recorder

ENGINEERING SERVICES AGREEMENT

Project Manager

BACKGROUND

Mapleton City has requested that Hansen, Allen & Luce, Inc. (HAL) assist the City with the design of a drinking water (DW) pipeline on Highway 89 (1600 West). The purpose of this project is to construct 12-inch diameter DW PVC waterline to replace existing pipeline experiencing excessive leaking.

The anticipated project alignment is from Maple Street to approximately 2600 South (approximately 8,600 linear feet). In addition to the beginning and end connections, multiple connections to waterline in side streets are anticipated along the project.

The work includes, but it is not limited to: design survey, geotechnical investigation, waterline design, waterline design connections to existing DW waterline mains, details on service connections, and all other necessary design criteria. The work includes coordinating with utility companies to identify potential required relocations.

The work includes coordination with UDOT for work within UDOT right of way. It is assumed the waterline will be located within the existing apparent roadway right of way. Some mapped parcel boundaries extend into the UDOT right of way, and the waterline may be located outside the asphalt in some locations. The work includes coordinating with UDOT to determine existing approximate right of way boundaries (based on a roadway centerline and half-width) and providing information to the City to obtain easements as necessary. The work does not include property survey of parcels.

The work includes coordination with Central Utah Water Conservancy District and the United States Bureau of Reclamation to apply for an encroachment permit and respond to minimal comments on the permit application.

Coordination is *not* anticipated to be required with the Division of Drinking Water for project notification, plan approval, or an operating permit. Utah Administrative Rule R309-500-5 indicates these activities are not required for on-going operation and maintenance procedures, including “replacement of deteriorated pipeline where the new pipeline segment is the same size as the old pipeline.” Additionally, no interaction is required with DDW for a waterline of this size if DDW approves Mapleton’s “Application for Approved Standard Installation Drawings & Specifications for Water Transmission and Distribution Lines.”

Design includes providing final design drawings, specifications, and bidding documents in a complete bidding package, including complete bidding schedules and measurement and payment descriptions to be used for bidding purposes. The project will be divided into three bid schedules: 1 – Maple Street to 800 South, 2 – 800 South to 1600 South, and 3 – 1600 South to 2600 South. Complete bidding documents will be completed for bid schedule 2 only (800 South to 1600 South). An engineer’s opinion of probable construction cost will be provided for bid schedule 2 only. The work includes attendance at a pre-bid meeting, answering questions from bidders during the bidding process, preparing up to one bid addendum (if required), preparing a bid tabulation after the City holds the bid opening (if requested), and making a recommendation for awarding the construction contract (if requested).

This scope of work does not include any other engineering services during construction.

SCOPE OF SERVICES

The project approach is summarized below by task.

100	Provide project administration.
101	Hold a project kickoff meeting with Mapleton City to discuss design objectives, data needs, etc.
102	Perform utility research and prepare base mapping.
103	Perform a field topographic survey.
104	Geotechnical investigation
105	Review hydraulic model of DW system to verify pipe diameter & connectivity.
106	Perform right of way assistance to determine existing ROW boundaries and provide information to the city to obtain easements.
107	Prepare plan & profile design drawings of the pipeline. Prepare General and Detail Sheets, including connection details.
108	Hold design review meetings with the City at the time of design of the alignments (30%), profile (60%), and at 90% level of design. Make modifications to the design based on City comments.
109	Prepare bidding documents & specifications and submit the documents and design drawings to the City for review and comment.
110	Make final revisions and print digital (pdf) documents.
111	Prepare an Engineer's Opinion of Probable Construction Cost.
112	Coordinate with UDOT, CUWCD/USB, and utility companies.
113	Assist with bidding, responding to questions and including providing up to one addendum.
114	Prepare letter of recommendation and bid tabulation (if requested).
115	Perform Quality Control / Quality Assurance (QA/QC)

ESTIMATED FEE

We propose an estimated professional engineering fee of \$141,000 to perform the services as outlined in this proposal.

Assumptions included in our fee estimate are as follows:

1. The geotechnical investigation includes 3 borings along the Maple Street to 800 South segment. Previous geotechnical investigations will be used for the remainder of the project.
2. Existing survey from the previous PI project will be used. Previous survey was collected primarily on the east side of Highway 89. Additional survey will be required outside of this fee if the alignment must shift to the west side of Highway 89.
3. New survey will be provided from Maple Street to 800 South for the east side of Highway 89, plus storm drain and sanitary sewer measure downs on the west side of Highway 89.
4. City GIS will be utilized to identify locations of City utilities, and City staff will perform any required potholing. No potholing is included in this scope.
5. One in-person meeting will be held to complete a site walkthrough. Other review meetings will be remote through Microsoft Teams.

6. The City will publish the notice inviting bidders and manage the bidding process including publishing answers to questions.
7. The scope includes attendance at the pre-bid conference and does not include attendance at the bid opening.
8. The scope includes determining approximate existing right of way boundaries (based on the apparent centerline and half-width) but does not include survey of property boundaries, preparation of any legal descriptions for easements, or obtaining easements from property owners.
9. This scope includes pre-permitting coordination with UDOT to determine design requirements.
10. The scope includes submitting an encroachment application to CUWCD/USBR, but does not include more than minor responses.
11. It is assumed that DDW plan review and operating permits are not required because this project qualifies as an on-going operation and maintenance procedure, and because Mapleton will likely qualify for the exception for Approved Standard Installation Drawings and Specifications for Water Transmission and Distribution Lines.
12. Other than as stated above, any permitting will be performed by City or Contractors, including UDOT permitting.
13. This scope does not include any engineering services during construction.

PROJECT SCHEDULE

The proposed project schedule is as follows:

Based on a starting date of September 23, 2024, bid documents are expected to be ready by March 3, 2024. It is assumed that the City will provide timely review comments for review submittals.

STANDARD FEE SCHEDULE 2024

PERSONNEL CHARGES

Client agrees to reimburse Hansen, Allen & Luce, Inc. (HAL), for personnel hourly rates related to the completion of the project, in accordance with the following:

Managing Professional III	\$228
Managing Professional II	\$220
Managing Professional I	\$208
Senior Professional III	\$197
Senior Professional II	\$188
Senior Professional I	\$174
Professional III.....	\$163
Professional II.....	\$147
Professional I.....	\$138
Professional Intern.....	\$127
Environmental Scientist I	\$119
Environmental Scientist II	\$133
Engineering Student Intern	\$76
Water Resource Specialist I	\$140
Water Resource Specialist II	\$161
Professional Geologist.....	\$161
Geologist	\$142
Senior Designer.....	\$140
Designer	\$127
Senior Field Technician	\$155
Field Technician	\$100
CAD Operator.....	\$111
Public Relations Specialist.....	\$158
Administrative Assistant	\$76
Professional Land Surveyor.....	\$156
1 Man GPS Surveying Services.....	\$175
Drone Pilot	\$210
Expert Legal Services.....	\$345

DIRECT CHARGES

Client also agrees to reimburse HAL for all other costs related to the completion of the project. Charges shall include, but not be limited to, the following:

Communication, Computer, Reproduction	\$7 per labor hour
Out-of-town per diem allowance (lodging not included)	\$66 per day
Vehicle	\$0.70 per mile
Outside consulting and services	Cost plus 10%
Other direct expenses incurred during the project	Cost plus 10%
Trimble GPS Unit	\$150 per day
Data Logger/Transducer.....	\$150 per week
Credit Card Payment Fee	3.5% of Payment Amount

INTEREST CHARGE AFTER 30 DAYS FROM INVOICE DATE.....1.5% per month

Note: Annual adjustments to personnel and expense charges will occur in January of each year.

HAL PROPOSAL SPREADSHEET



CLIENT: **Mapleton City**
PROJECT: **Highway 89 Drinking Water Pipeline Design**

Pha Task #	Task Activity	Billing Period	Hours								Total Hours	Labor Cost	Communications /Office Expense	Miles Travel	Direct Expense	Expense Cost	Total HAL Cost with Contingency & Rate Inc.	Outside Expense	COMMENT
			QA Review Mike	Technical Adv. Mark	Project Mgr. Katie	CAD Advisor Garrick	Design Eng. Aaron	Surveying Tim	CAD	Admin Asst									
I MAPLE STREET TO 2600 SOUTH (8600 LF)																			
100	Project administration	1			16						16	\$3,008.00	\$112.00			\$112.00	\$3,432.00		
101	Hold project kickoff meeting with City; site visit	1		4	8		4				16	\$2,844.00	\$112.00	80		\$168.00	\$3,313.20		in person
102	Utility research and base map preparation	1			4		12		8		24	\$3,164.00	\$168.00			\$168.00	\$3,665.20		already have utilities for portion
103	Perform field survey	1			1			20			21	\$3,688.00	\$147.00	160		\$259.00	\$4,341.70		use survey for Highway 89 PI line; 2700 LF new
104	Geotechnical investigation	1			2						2	\$376.00	\$14.00			\$14.00	\$429.00	\$9,300.00	3 borings for new 2700 LF
105	Hydraulic modeling	1			2		2				4	\$630.00	\$28.00			\$28.00	\$723.80		
106	Right of way assistance	2		4	12		12	2			30	\$4,962.00	\$210.00			\$210.00	\$5,859.88		
107	Pipeline design through 90%	2		12	82		236	2	80		412	\$57,114.00	\$2,884.00			\$2,884.00	\$67,977.73		
108	Review meetings with City - alignment, profile, 90%	2		8	12						20	\$3,920.00	\$140.00	80		\$196.00	\$4,663.43		1 in person; other meetings on Teams
109	Prepare bidding documents & specifications - Phase 1	2		8	12		20				40	\$6,460.00	\$280.00			\$280.00	\$7,636.42		
110	Make final revisions and produce bidding package	2		2	8		8		8	2	28	\$3,976.00	\$196.00			\$196.00	\$4,726.88		
111	Prepare engineer's opinion of probable cost	2		4	2		8				14	\$2,224.00	\$98.00			\$98.00	\$2,630.83		
112	Coordinate with UDOT, CUWCD/USBR, & utility companies	2		6	24		12				42	\$7,284.00	\$294.00			\$294.00	\$8,585.87		
113	Assist with bidding, including providing up to 1 addendum	2		2	8		8		4		22	\$3,380.00	\$154.00	80		\$210.00	\$4,067.47		attend prebid meeting; no attendance at bid
114	Prepare letter of recommendation and bid tabulation	2			2						2	\$376.00	\$14.00			\$14.00	\$441.87		
115	Quality Control (QC) / Quality Assurance (QA)	2	24		4	12					40	\$7,700.00	\$280.00			\$280.00	\$9,041.34		
SUBTOTAL HOURS/UNITS:			24	50	199	12	322	24	100	2	733								
SUBTOTAL:			\$4,992.00	\$10,400.00	\$37,412.00	\$1,956.00	\$40,894.00	\$4,200.00	\$11,100.00	\$152.00		\$111,106.00	\$5,131.00	\$280.00	\$0.00	\$5,411.00	\$131,536.61	\$9,300.00	Subconsultant Cost
TOTAL HOURS BY EMPLOYEE:			24	50	199	12	322	24	100	2	733								

PHASE	TASK	Labor	Direct Exp	Subtotal	Subconsultant	SubTotal with Contingency
		Costs	Cost	w/Contingency	Costs	
I	MAPLE STREET TO 2600 SOUTH (8600 LF)	\$111,106	\$5,411	\$131,537	\$9,300	\$140,837
TOTAL w/Contingency:		\$122,217	\$5,952	\$131,537	\$10,230	\$140,837

Filename: H:\Projects\437 - Mapleton City\19.100 Highway 89 Drinking Waterline\ADMIN\Scope and Fee\Mapleton Highway 89 Drinking water line_HAL Proposal Spreadsheet_2024.xlsm]Data Entry - Straight Hours