

EXHIBIT A2

Scope of Services
Design, Bid and Construction Administration: Amendment No. 2
for
Lincoln Hills (Upper and Lower) Tank Replacement Project
City of Missoula, Montana

BACKGROUND. Bids received for the replacement of the Upper Lincoln Hills and Lower Lincoln Hills Tanks exceeded budget amounts and engineer statements of probable construction costs, the City of Missoula (OWNER) requested that alternative tank construction methods be explored. Contract Amendment No. 1 provided for redesign, and rebid efforts and removed the 3rd party geotechnical testing requirement from the construction administration task.

The project has now been awarded to a contract and geotechnical testing is necessary to be added into the project for quality assurance review.

SCOPE. The scope of work covered in this contract amendment will be for 3rd party geotechnical quality assurance testing. Other scope items listed in the original scope of services dated March 16, 2020 remain in place along with those listed in Amendment No. 1.

ASSUMPTIONS AND CLARIFICATIONS

- Work is planned to commence April 18th, 2022 and will be ready for final acceptance no later than December 1, 2022. It is anticipated that construction will be completed in accordance to the plans dated April 23, 2021.

1 OWNER-PROVIDED INFORMATION

To the extent that it is available, OWNER will provide existing, pertinent information needed for the development of the design sheets for the water main replacement. The information will include, but is not limited to the following, if available:

- None

BASIC SERVICES

The Basic Services as included in the maximum not-to-exceed fee of ENGINEER in conjunction with this project will include the following:

TASK SERIES 100 – PROJECT INITIATION AND PROJECT MANAGEMENT

- **Project Management.** The ENGINEER's project manager and technical leader will actively manage the project team, including sub-consultants. The project manager will keep in regular contact with City staff via written and verbal communications. E-mail and telephone will be utilized whenever practical. On a monthly basis, project invoices will be prepared along with a written report (cover letter) of project progress and budget tracking.

TASK 400 – CONSTRUCTION ADMINISTRATION

- **Remove Testing Services.** Morrison-Maierle will provide the services of a qualified materials engineer technical who will observe construction and provide representative tests for soils compaction and concrete placement. Morrison-Maierle will provide direct coordination of laboratory, field quality assurance testing and geotechnical engineering between the project engineer, RPR and project construction materials engineer. See attached scope of services proposal for additional detail on anticipated tests.

WORK PRODUCTS:

- **Testing records and daily reports**

CITY RESPONSIBILITIES

- **Review provided quality assurance testing.**

Base Services Estimated Budget. \$255.00. (Task 100)

\$14,544.00 Construction Geotechnical Testing Services (Task 400)

Estimated Additional Services Upon Authorization: -\$3,100 (Task 600)

Total Estimated Budget: \$11,699.00 - See Exhibit A - Fee Estimate

Schedule. To be completed concurrently with construction, see project understanding above.

EXHIBIT A
UPPER AND LOWER LINCOLN HILLS WATER STORAGE TANKS, Amd No. 2
CITY OF MISSOULA, MONTANA
ENGINEERING FEE ESTIMATE
DATE: April 29, 2022

TASK DESCRIPTION	PROJECT PRINCIPAL	ELECTRICAL	PROJECT MNG/ ENGINEER II	RPR / SURVEY	CAD DESIGNER II	CLERICAL	TOTAL HOURS	TOTAL COST
100 Project Management								
Project Setup and Management			0.5			1	1.5	
Invoicing						0	0	
Sub-Consultant Coordination			0.5				0.5	
<i>Subtotal</i>	0	0	1	0	0	1	2	\$ 255.00
400 Construction Administration								
Construction Administration				2			2	
<i>Subtotal</i>	0	0	0	2	0	0	2	\$ 244.00
500 Project Closeout Services								
Documents, As-built and Testing							0	
MDEQ Certification Letter							0	
Warranty Inspection							0	
<i>Subtotal</i>	0	0	0	0	0	0	0	\$ -
600 Additional Services								
501 Additional Services (Only use with City Authorization) 5% of Design, Bidding and Construction Administration							0	
<i>Subtotal</i>	0	0	0	0	0	0	0	\$ (3,100.00)
TOTAL HOURS REQUIRED	0	0	1	2	0	1	4	
HOURLY LABOR RATE	\$207	\$160	\$153	\$122	\$136	\$102		
TOTAL COST OF LABOR	\$0	\$0	\$153	\$244	\$0	\$102		\$ (2,601.00)
EXPENSES (SEE DETAIL BELOW)								\$ 14,300.00
ESTIMATED TOTAL ENGINEERING FEE (ROUNDED)								\$ 11,699.00

EXPENSE DETAIL

	UNITS	QTY	UNIT COST	TOTAL COST
Engineer Vehicle Mileage	miles	0	\$0.70	\$0
RPR Vehicle Mileage	miles	0	\$0.75	\$0
Geotechnical Subcontract	lump sum	1	\$14,300.00	\$14,300
MDEQ Review Fees	lump sum	0	\$2,500.00	\$0
Miscellaneous Expenses (printing, full-size drawings, etc.)	lump sum	0	\$500.00	\$0
TOTAL EXPENSES				\$14,300

TETRA TECH - MISSOULA, MONTANA

CONSTRUCTION MATERIALS ENGINEERING AND TESTING SERVICES

CME REGIONAL SERVICE MANAGER : BRIAN CRAIL
 2525 PALMER ST., SUITE 2
 MISSOULA MT, 59808

Preliminary Unit Rate Schedule: Lincoln Hills Tank Project
Proposed to: Aaron McConkey, Morrison Maierle
Proposal by: Brian Crail, Geoscientist V, Project Manager
Contact Tel: 406.327.5230
Contact Email: brian.crail@tetrattech.com

March 14, 2022

	Units	Unit Price	Estimated Cost
Task 100: LAB TESTING			
<i>ASTM/AASHTO Accredited Soils and Aggregate Testing</i>			
1. Moisture Density ASTM D698 (each)	2	\$180.00	\$360.00
2. Sieve Analysis C136 (each)	2	\$100.00	\$200.00
3. Miscellaneous Testing and Sampling - Lab Technician, per hour	2	\$60.00	\$120.00

Soils and Aggregate Laboratory
Estimate up to two samples will be collected for sieve analysis and moisture density evaluation. Assume all imported materials will not require lab testing in addition to supplier submittal documents. Additional lab testing will be billed at the rates listed above.

TASK TOTAL: \$680.00

Task 200: EARTHWORK			
<i>MDT/WAQTC Certified Embankment Testing</i>			
1. Engineering Technician -Sample Collection, Transport, In-Place Nuclear Density compaction testing, and other field inspections and services, per hour	54	\$60.00	\$3,240.00
2. Special Inspector - Reports	16	\$65.00	\$1,040.00
3. Troxler Nuclear Density Gauge usage, per day	24	\$25.00	\$600.00

Compaction and Earthwork Inspection
Subgrade, Base, Trench Backfill, and Structural Backfill
Parking Lot - Estimated 3 site visits for compaction of subgrade and base.
Gravel Access Road - Estimated 4 site visits for compaction of subgrade and base.
Trench Backfill - Estimated 7 site visits for trench backfill.
Structural Backfill - Estimated 12 site visits for structural backfill.

TASK TOTAL: \$4,880.00

Task 300: CONCRETE			
<i>ASTM/AASHTO accredited</i>			
<i>ACI/ WAQTC/MDT Certified Testing</i>			
1. Special Inspector - Periodic Concrete Reinforcing Steel (IBC 1705.3) , per hour	16	\$65.00	\$1,040.00
2. Engineering Technician - ACI Concrete Field Testing - Includes Sampling (ASTM C231, C143), Temperature of Concrete (ASTM C1064), Slump (ASTM C143), Unit Weight (ASTMC138), Entrained Air Content (ASTM C231), and fabrication of 4 Concrete CylinderTest Specimens (ASTM C31), per sample	10	\$175.00	\$1,750.00
3. Compressive Strength Testing (C31, C39), per cylinder specimen	40	\$15.00	\$600.00
5. Special Inspector - Reports	10	\$65.00	\$650.00
6. Engineering Technician - Specimen retrieval per ACI requirement, per hour	5	\$55.00	\$275.00

TASK TOTAL: \$4,315.00

Task 400: ASPHALTASTM/AASHTO accreditedWAQTC/ MDT Certified

1. Sampling and Transport (ASTM D979) - Eng. Technician, per hour	0.5	\$55.00	\$27.50
2. Asphalt Content by Ignition w/Sieve Analysis (ASTM D6307) - per test	1	\$110.00	\$110.00
3. Theoretical Maximum Specific Gravity (RICE) (ASTM D2041) - per test	1	\$100.00	\$100.00
4. Marshall Specimens (3) w/ Bulk Specific Gravity (ASTM D6926, D2726) - per sample	1	\$175.00	\$175.00
5. Stability and Flow (3) (ASTM 6927), per sample	1	\$25.00	\$25.00
6. Air Voids (ASTM D3203), per sample	0	\$25.00	\$0.00
7. Core Density - Mat (ASTM D2041, D2726), per specimen	3	\$25.00	\$75.00
8. Core Density - Joint (ASTM D2041, D2726), per specimen	0	\$25.00	\$0.00
9. Thickness, per specimen	3	\$15.00	\$45.00
10. Moisture, per sample	0	\$45.00	\$0.00
11. Voids in Mineral Aggregate (VMA), per sample	1	\$15.00	\$15.00
12. Asphalt coring - Engineering Technician, per hour	3	\$60.00	\$180.00
13. Coring Equipment, per day	1	\$45.00	\$45.00
14. HMA Evaluation and report, per hour	1	\$120.00	\$120.00

HMA Marshall Testing

Assume up to one days placement, with sampling and transport of one asphalt sample from the Missoula plant. Estimate up to 3 hours to collect core samples for density evaluation once paving is completed at one sample per 400 LF or a minimum of 2 per roadway. Additional testing at rates listed above.

TASK TOTAL: \$917.50

Task 500: PROJECT ADMINISTRATIONTetra Tech Project Management Certified

1. Project Administration - Project set up and accounting, per hour	1	\$65.00	\$65.00
2. Project Manager II - project coordination, meetings, scheduling, final review summary reports, and quality control, per hour	12	\$120.00	\$1,440.00
3. Field Equipment - Vehicles and Data Logging per vehicle per day (1/4 day)	26	\$25.00	\$650.00
4. Additional technician travel, per hour	0	\$65.00	\$0.00
5. Senior Engineer - Project assistance, per hour	0	\$175.00	\$0.00

TASK TOTAL: \$2,155.00

ESTIMATED TOTAL: \$12,947.50

TOTAL PROPOSED PROJECT BUDGET: \$13,000.00

General Comment (s): Tetra Tech will provide Construction Materials Testing Services on an on-call basis, as defined by the scope of work presented in this proposal, with personnel from our Missoula office and in accordance with the attached unit rates. Tetra Tech requests that our services be scheduled a minimum of one working day in advance and two working days prior to commencement of each scope of inspection. Lesser notifications may not always be able to be accommodated. All testing, inspection and observation service requests should be submitted to our scheduling line (406-345-3045) between 8:00 a.m. and 5:00 p.m., Monday through Friday. Messages left on the scheduling line outside of business hours during the week or on Saturday, Sunday or Holidays will be processed on the following business day. Draft reports will be submitted the week following completion of testing, or sooner at your request. The construction schedule, weather, scheduling by site personnel, construction processes, etc. often determine the actual costs of our services. Costs due to repeat inspection or testing are not included in this proposed scope of work.

Tetra Tech assumes that this proposal will be a basis for a Time-and-Materials and unit rate contract. Tetra Tech's services will not exceed the amount of \$13,000 without written authorization of the client. It should be understood that this is not a lump sum proposal and we will invoice only for the services that have been performed in accordance with this proposal.

Given our knowledge of the site, significant experience performing CMT services on similar-sized projects in Missoula, and the CME and geotechnical groups working together in the Missoula office, we believe that Tetra Tech can reduce construction-related delays and provide the owner with timely and professional consulting services throughout the duration of the project.

If you have any questions regarding this proposal, or require additional information, please contact me at (406) 540-5230. Sincerely,

Tetra Tech



Brian A. Craill
Geoscientist V,
Construction Materials Engineering Regional Service Manager- Project Manager

