

**CITY OF MISSOULA  
KELLY ISLAND LIFT STATION REHABILITATION**

**August 11, 2022**

**SCOPE OF SERVICES**

**Background.** The City of Missoula is in the process of rehabilitating or replacing the aging lift stations throughout its wastewater collection system. The Kelly Island Lift Station was initially constructed in 2004 and serves the Mullan area west of Missoula. This lift station discharges into an approximately 2.5-mile force main. Communities in the Mullan area continue to grow and expand, and the lift station requires improvements to increase capacity and redundancy.

The pumping equipment has been in service for almost 20 years and is ready for expansion to accommodate growth in the area. The City desires to maintain the submersible pump configuration similar to the majority of the other lift stations around the City. The City is not aware of any significant inflow/infiltration (I/I) issues at the existing lift station, but the project will include exploring coating the existing manhole.

The following scope of service and associated fee estimate include the engineering tasks necessary to complete this project.

**Scope.** The scope includes design, bidding and construction phase services for rehabilitating the City's existing Kelly Island Lift Station. The details of the project scope are broken down in the following tasks.

**TASK 1 – PROJECT MANAGEMENT**

- **Project Management and Reporting.** This task includes the work related to overall project management such as coordinating with the City on critical issues, invoicing, project meetings, quality control, managing activities within task budgets and monitoring project progress. All work activities and project deliverables will be reviewed for conformance with quality control requirements and project standards. Project activities will be monitored for potential changes with an emphasis on anticipating changes whenever possible, and with the City's approval, project tasks and approach will be modified to keep the overall project within budget and on schedule. This task also includes an internal quality assurance review of the technical memorandum, design drawings, specifications, and the cost estimate.
- **Funding Agency Review and Support –** This task includes participating in design progress meetings with the Owner and Funding Agency. It is anticipated that design will be completed over a 4 month period and a total of 4 meetings will be required.

**TASK 2 – SURVEY**

- **Generate Existing Site Conditions.** Morrison-Maierle will evaluate the drawings and any existing survey data. A site survey will be conducted by a survey crew to

establish existing conditions on which to base the design. The survey will include locating existing equipment and elevations, and verifying site boundaries. Survey research will include locating of found property boundaries and research and mapping of existing easements associated with the Kelly Island Lift Station and adjoining gravity sewer mains.

### TASK 3 – PRELIMINARY DESIGN

- **Flow Monitoring.** The City has flow data for the incoming 24-inch line to the lift station. Morrison-Maierle will analyze the data to determine the peak and average incoming flowrates.
- **Establish Service Area and Design Flow.** Morrison-Maierle will review the most recent flow data. City staff expressed a desire to maximize flow through the existing 12-inch main to accommodate future growth. Morrison-Maierle will design to increase capacity as much as the site will allow.

Future growth considerations and evaluation will include review of tributary flow basin. Review of current land infill and future growth. Evaluation of the lift station will include and establishment of pumping rates, wet well storage volume and force main hydraulics. Review and recommendations will include consideration of Mullan Build Project Wastewater Memo and Kelly Island Lift Station Existing Pumps Technical Memo prepared by HDR in 2020.

- **Lift Station Alternative Analysis.** Morrison-Maierle will prepare an alternative analysis and schematic level pricing for replacement of the existing wet well or construction of a new parallel wet well lift station. The alternative analysis will include capital cost and life cycle cost analysis. A technical memo and schematic drawings will be provided within the analysis. Preliminary design will be based on the Owner selection of alternatives presented in the technical memo.
- **Prepare Preliminary Design Drawings and Specifications.** Based on the design flow Morrison-Maierle will prepare a complete set of preliminary design documents (plans, specifications, and contract documents) for the rehabilitation of the lift station. The project manual will consist of front-end bidding and contract sections utilizing Morrison-Maierle's standard format, technical specifications and design drawings. It is anticipated that the design drawings will consist of: 3 general sheets, 2 civil/site sheets, 2 mechanical sheets, 1 structural sheet, and 4 electrical sheets. Together with a technical memorandum, the preliminary design drawings and specifications will be submitted to the City and the Montana Department of Environmental Quality (MDEQ) for review. The scope also includes the preparation of a preliminary construction cost estimate.

*It is assumed that the City of Missoula will handle the design modifications required to connect the new lift station control panel to the City's existing telemetry/SCADA system for this project.*

- **Pre-selection of Pump Station Pumps and Controls.** Morrison-Maierle will complete documentation and ranking materials for the Owner's selection and

purchase of pump and control equipment. Pre-selection will be based on Montana procurement requirements along with City of Missoula procurement guidelines. It is anticipated that capital costs, operation and maintenance costs, warranty and location of service provider will be considered in ranking. Pre-selection of pump and pump equipment will be completed with the intent of allowing the Owner to purchase equipment and supply to Contractor as Owner supplied equipment.

#### **TASK 4 – FINAL DESIGN**

- **Final Design Documents.** Based on comments received from MDEQ and the City, Morrison-Maierle will prepare a complete set of final design documents (plans, specifications, and contract documents) for the rehabilitation of the lift station. Morrison-Maierle will incorporate comments prior to advertisement for bidding. The scope also includes the preparation of a final construction cost estimate.

#### **TASK 5 – BIDDING SERVICES**

- **Bidding Phase Services.** Morrison-Maierle will print hard copies of the final construction documents for distribution, complete a project bid advertisement for the City (City of Missoula to arrange for advertisement) conduct a pre-bid meeting, respond to questions from contractors during the bid period, issue addenda as necessary, attend the bid opening, review the bids and complete a recommendation for award of the construction project. Morrison-Maierle will prepare 6 sets of executed construction documents for the project.

*Morrison-Maierle will utilize on-line bidding through QuestCDN unless directed otherwise by the City of Missoula.*

#### **TASK 6 – CONSTRUCTION ADMINISTRATION**

- This section is not included at this time and will be added at a later date.

#### **TASK 7 – ADDITIONAL SERVICES UPON AUTHORIZATION OF CITY**

- **Additional Services.** Morrison-Maierle is available to provide additional services, if determined by the City as necessary throughout the completion of the identified work elements for the Kelly Island Lift Station project. The services would be completed on a time and materials basis, as negotiated at the time the work is identified for project completion. Possible work tasks that may be necessary include non-basic services design and analysis.

#### **WORK PRODUCTS:**

- **Meeting Notes**
- **Preliminary and Final Design Documents**
- **Construction Cost Estimate**
- **Bid Tabulation and Recommendation for Award**

#### **CITY RESPONSIBILITIES**

- **Provide flow data**

- Connect the new lift station control panel to the City's existing telemetry/SCADA system
- Staff participation in meetings and review of deliverables
- Periodic construction observation

**Estimated Budget.** \$65,548.00 (See detailed fee estimate.)

**Schedule.** General goals for the project schedule are to have it ready to bid around January/February 2023 for the summer construction season. Items such as MDEQ review and equipment procurement could cause unforeseen impacts to the project schedule.

### Preliminary Project Schedule – Kelly Island Lift Station

Milestone	Date	Duration (days)
-----------	------	-----------------

#### Task 0 - Project Setup

Site Visit and Kick-Off Meeting	6/20/2022	-
Deliver Scope/Fee	8/11/2022	-
City accepts scope	9/1/2022	-

#### Task 1 - Design

Review Existing Design Information	9/1/2022	-
Survey Site	9/7/2022	
Establish Design Flow	9/7/2017	
Alternative Analysis	9/15/2022	
Preliminary Design (95%) Complete	11/15/2022	
Tech Memo complete	11/15/2022	-
DEQ Review Complete	12/30/2022	
City Review Complete	12/30/2022	
Final Construction Documents Complete	1/9/2023	

#### Task 2 - Bidding

Advertising Starts	1/11/2023	
Pre-Bid Meeting	1/20/2023	-
Bid Opening	1/31/2023	-

**Task 3 - Construction**

Award Contract	2/3/2023	
Pre-Construction Meeting	2/21/2023	-
Submittals/Equipment Procurement	3/21/2023	
Construction	5/1/2023	
Substantial Completion	TBD	-
Testing	TBD	-
Final Completion	TBD	

M:\1657\059-04 Kelly Island Lift Station\00 Proposal\Ex. A - Kelly Island Scope of Services.doc