



May 17, 2023

MCN10349462

Mr. Jeff H. Edmonds, P.E., Director of Engineering Services
City Of Corpus Christi
1201 Leopard Street
Corpus Christi, TX 78401

RE: Mary Rhodes I Condition Assessment – Bond 2022 (Project No. 23027)

Dear Mr. Edmonds,

We appreciate the opportunity to partner with the City of Corpus Christi on the Mary Rhodes I Condition Assessment - Bond 2022 (23027) project. The project will include condition assessment of the existing Mary Rhodes I pipeline from Lake Texana to the O.N. Stevens WTP. A/E scope of professional services includes condition assessment support as outlined in Exhibit A and accompanying Exhibit A-1.

The schedule for the Mary Rhodes I Condition Assessment project is included in Exhibit A. In summary, HDR is requesting a total amount of \$2,580,261 as detailed in the Fee Summary of Exhibit A for providing the professional services outlined in the scope of work.

If you have any questions, don't hesitate to contact us to discuss further.

Sincerely,
HDR ENGINEERING, INC.



Samuel Saldivar, Jr, P.E.
Civil Program Leader



David C. Weston
Gulf Coast Area Manager

SSJ

Cc: Edwin Santillan, P.E., City of Corpus Christi

Enclosure:
Exhibit A – Scope of Work

EXHIBIT A
Scope for Professional Services
FOR
MARY RHODES PIPELINE CONDITION ASSESSMENT
CITY PROJECT NO.: 23027

The scope set forth herein defines the work to be performed by the ENGINEER in completing the project. Both the CITY and ENGINEER have attempted to clearly define the work to be performed and address the needs of the Project.

The project is needed to assess the condition of the 64-inch diameter Mary Rhodes Pipeline water transmission main. The Mary Rhodes Pipeline Phase 1 conveys raw water from an intake pump station at Lake Texana southwest approximately 102 miles to the O.N. Stevens Water Treatment Plant in Corpus Christi, Texas.

WORK TO BE PERFORMED

Phase I – Condition Assessment

BASIC SERVICES

- Task 1. Project Management
- Task 2. Condition Assessment Planning
- Task 3. Data Collection and Survey
- Task 4. Engineering Analysis and Recommendations Report

ADDITIONAL SERVICES

- Task 5. Dry Run and Finalize Condition Assessment Plan
- Task 6. Internal Condition Assessment
- Task 7. Direct (External) Pipe Assessment
- Task 8. Additional Support
- Task 9. Geotechnical Subconsultant
- Task 10. Survey Subconsultant
- Task 11. Internal Condition Assessment Subconsultant
- Task 12. Permitting Coordination
- Task 13. Travel, Reproduction, Shipping, Lab Expenses

Phase II – Design of Selected Improvements (TO BE DETERMINED)

Scope and fee may be determined during Phase I and added after Phase I completion via amendment if requested by the City of Corpus Christi.

TASK 1. PROJECT MANAGEMENT.

ENGINEER will provide efficient and effective use of ENGINEER's and CITY's time and resources.

ENGINEER will manage change,

- communicate effectively,
- coordinate internally and externally as needed, and
- proactively address issues with the CITY's Project Manager and others as necessary to make progress on the work.

1.1. Managing the Team

- Lead, manage and direct design team activities
- Maintain quality control during performance of the work
- Communicate internally among team members
- Task and allocate team resources

1.2. Communications and Reporting

- Attend a pre-design project kickoff/chartering meeting with CITY staff to confirm and clarify scope, understand CITY objectives, and provide economical and functional condition assessment options that meet CITY requirements.
- Conduct review meetings with the CITY at intermediate stages of Phase I - condition Assessment.
- Prepare invoices and submit monthly in the format requested by the CITY.
- Prepare and submit monthly progress reports in the format provided by the Water Department.
- Prepare and submit baseline Project Schedule initially, and Project Schedule updates with a schedule narrative monthly, as required in Attachment D to this Standard Agreement.
- Coordinate with other agencies and entities as necessary for the design of the proposed infrastructure and provide and obtain information needed to prepare the design.
- With respect to coordination with permitting authorities, ENGINEER will communicate with permitting authorities such that their regulatory requirements are appropriately reflected in the designs. ENGINEER will work with regulatory authorities to obtain approval of the designs, and make changes necessary to meet their requirements, as part of the design scope.

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- Personnel and Vehicle Identification: When conducting site visits to the project location, the ENGINEER or any of its sub-consultants will carry readily visible information identifying the name of the company and the company representative.

ASSUMPTIONS

- 5 workshops with city staff.
- 10 monthly City progress reports will be prepared.
- 10 monthly project schedule updates will be prepared.

DELIVERABLES

- A. Meeting summaries with action items.
- B. Monthly invoices.
- C. Monthly progress reports.
- D. Baseline schedule.
- E. Monthly schedule updates with schedule narrative describing any current or anticipated schedule changes.

TASK 2. CONDITION ASSESSMENT PLANNING.

The purpose of the Condition Assessment Planning task is for the ENGINEER to

- Study the existing alignment and appurtenances,
- Identify access locations,
- Conduct permitting research and coordination,
- Discuss coordination with CITY field operation staff, and
- Obtain the CITY's endorsement of the proposed Condition Assessment Plan.

ENGINEER will perform tasks for the Condition Assessment Planning stage as follows:

2.1. Crossing Utilities Review

- The ENGINEER will review:
 - Publicly available records of crossing utilities as well as existing records data obtained from the CITY during the previous desktop assessment, including but not limited to record drawings, lay drawings, GIS location data, and master plans. This review of previously collected data will allow the team to further evaluate likely causes for the observed pipeline breaks and refine the approach taken in this scope of work.
- The ENGINEER will also review any recent rehabilitation information provided by the CITY including GIS location data, field photographs, and other relevant design documents. This review of previously collected data will allow the team to further

evaluate likely causes for the observed pipeline breaks and refine the approach taken in this scope of work.

2.2. Site Visit

- Prior to the scheduled site visit:
 - The ENGINEER will develop a map identifying points of interest along the alignment that will be considered for access and tracking during condition assessment activities.
 - The CITY will prepare each point of interest by providing access (clearing brush, mowing, opening manways and vaults, etc.) and cleaning the interior of each vault (removing dirt and debris, pumping out standing water, etc.) to make sure that appurtenances (valves, ARVs, blind flanges, etc.) are visible from the ground surface.
- The ENGINEER will perform a visual inspection of up to twenty (20) existing air release, blowoff, or gate valve vaults to observe features to confirm:
 - Existing valve and tool monitoring or access locations,
 - Potential additional access locations, and
 - Traffic diversion/control requirements.
- No confined space entry is anticipated. Estimated effort of 4 days.

2.3. Past Failures Review

- The ENGINEER will review previously collected photographs, reports, and information related to past failures provided by the CITY during the desktop assessment. This review of previously collected data will allow the team to further evaluate likely causes for the observed pipeline breaks and refine the approach taken in this scope of work.

2.4. Permitting Coordination

- The ENGINEER will conduct permitting research and coordination requirements for condition assessment work within TxDOT right-of-way and at creek crossings (USACE).
- The ENGINEER will assist the CITY with permitting requirements if immediate rehabilitation, relocation, or repair is recommended during condition assessment activities.

2.5 Condition Assessment Planning Workshop

- The ENGINEER will conduct a workshop with the CITY field operations team to discuss logistics for anticipated shutdowns, access locations, and coordinating with a Contractor for field work.

2.6 Condition Assessment Planning Technical Memo

- The ENGINEER will summarize findings and discussions in a condition assessment planning technical memo (TM). Content to include information on field operation coordination, approved access locations, and permitting requirements.

ASSUMPTIONS

- Two copies of the condition assessment planning TM will be delivered. Report will be letter sized and comb-bound with a clear plastic cover.
- ENGINEER will prepare the meeting minutes for the Condition Assessment Planning Workshop with the CITY.
- ENGINEER will not proceed with Data Collection and Survey activities without obtaining written approval by the CITY of the Condition Assessment Planning TM.

DELIVERABLES

- A. Condition Assessment Planning TM.
- B. Meeting minutes for the Condition Assessment Planning Workshop.

TASK 3. DATA COLLECTION AND SURVEY.

The ENGINEER will perform data collection and survey activities as follows:

- 3.1. Development of a draft Preliminary Condition Assessment Plan. This plan will define how to deploy tools and who is responsible for what actions to clarify roles and responsibilities. The plan will also include the following:
 - Planning document describing how to perform internal inspection.
 - Risk Review and Contingency Plan.
 - Safety Plan.
- 3.2. High frequency pressure data.
 - Data loggers monitor changes in pressure that impact the structural integrity of the pipe. The data logger device requires a minimum 1/4-inch threaded outlet to collect high-quality data on the water system operation including sudden changes in pipe pressure for a minimum of 90-days.
 - The ENGINEER will coordinate with the CITY to identify up to 5 optimal locations to insert data logger devices.
 - The CITY will lead efforts to provide access to a suitable location for the data logger device.
 - The ENGINEER will review pump operations data to determine whether the pumps appear to be operating on their curves. The results of this review can provide an indication of the existence or absence of large air pockets in the pipeline.

3.3. Conduct the following ground-level surveys along pipe alignment to identify and locate corrosive soils:

- EMAG
 - Inexpensive method to screen the alignment for corrosive soils.
 - Recommended along the entire pipe alignment except paved areas.
 - Estimate 1 day of effort for six miles.
- Wenner 4-pin testing
 - Provides detailed resolution on soil corrosivity.
 - Locations to be determined using EMAG data or recommended at approximately every 1320 ft (quarter mile) and one at each end of project limits.
 - Estimate two days of effort for approximately 24-27 locations.
- Close Interval Survey (CIS)
 - Identifies locations on the pipe that are experiencing active corrosion.
 - Estimate 4-6 days of effort for urban setting.

3.4. Soil sampling and analysis.

- Using the ground-level survey data, the ENGINEER will collect a maximum of fifty **50** soil samples for the following laboratory analysis:
 - Soil Box for Soil Resistivity: ASTM G187,
 - Soil Corrosivity,
 - pH: CTM 643,
 - Soluble Salts (Anions): ASTM D4327,
 - Moisture Content.
 - If possible, groundwater samples will also be collected and lab-tested for the same criteria.
- Samples will be taken at a horizontal distance approximately three to ten feet away from the existing pipe (outside of pipe zone) and at depths approximately even with the bottom of the existing pipe.

3.5 Stray Current Investigation

- The ENGINEER will investigate crossing utilities with impressed current cathodic protection systems and evaluate the impact, if any, on the MRP.

3.6 Drone Survey

- The ENGINEER will fly the pipe alignment with an unmanned aerial vehicle (UAV → Drone) to provide the following scanning level data:
 - High resolution imagery of the pipe alignment
 - Ground surface elevations
- The ENGINEER will survey up to six (6) river/creek crossings with a remotely operated drone boat and perform the following tasks:
 - Develop water body cross section (profile) survey over the pipeline alignment
 - Compare data to record drawings and repair data to identify any areas of scour, washout to support risk and condition assessment
- ENGINEER will use licensed drone pilots to perform the work.
- ENGINEER will obtain any UAS FAA/State or Local permits required to perform the work.

3.7 Data Collection and Survey Technical Memo.

- The ENGINEER will summarize findings from the high frequency pressure data logger, appurtenance assessment, ground-level surveys, soil sampling and analysis activities and drone survey in a technical memo for submittal to the CITY.

ASSUMPTIONS

- The CITY will mow the entire pipe alignment before the field work begins.
- The CITY will provide access to the alignment and lead any coordination with property owners, business owners or tenants.
- Hydraulic modeling is not required to evaluate flow and pressure conditions given pipeline and valve configurations needed to support the internal condition assessment inspection.
- Electronic copies of the Preliminary Condition Assessment Plan, including a Risk Review and Contingency Plan and Safety Plan, will be delivered.
- Electronic copies of the Data Collection and Survey TM will be delivered.
- ENGINEER will not proceed with Final Condition Assessment Plan activities without written approval by the CITY of the Data Collection and Survey TM.

DELIVERABLES

- A. Preliminary Condition Assessment Plan, including a Risk Review and Contingency Plan and Safety Plan.
- B. Data Collection and Survey TM.
- C. Drone data delivery to CITY in GIS and CAD format.

TASK 4. ENGINEERING ANALYSIS AND RECOMMENDATIONS REPORT.

ENGINEER will provide engineering analysis and recommendations as follows.

4.1. Draft Recommendations Report

The ENGINEER will prepare a draft recommendations report that includes:

- The number and locations of concern.
- Consequence and likelihood of failure.
- Recommendations for repair, rehabilitation, or relocation.
- A prioritized list to address each area of concern using a heat map (red – severe, yellow – moderate, green – low).
- A GIS file with each pipe joint. Each pipe joint can be color coded w/ heat map legend.
- An appendix with all prior TMs.

4.2. Conduct a workshop with the CITY to discuss Proposed Recommendations and next steps.

4.3. The ENGINEER will prepare a Final Recommendations Report that incorporates workshop discussions and CITY feedback on next steps.

ASSUMPTIONS

- Electronic copies of the Draft Recommendations Report will be delivered.
- ENGINEER will prepare the meeting minutes for the Proposed Recommendations workshop with the CITY.
- Electronic copies of the Final Recommendations Report will be delivered. Report will be letter sized and drawings will be 11x17 size in electronic format.

DELIVERABLES

- A. Draft Recommendations Report and identification of any areas of concern on record drawings.
- B. Meeting minutes for the Proposed Recommendations workshop
- C. Final Recommendations Report and identification of any areas of concern on record drawings.

ADDITIONAL SERVICES

TASK 5. DRY RUN AND FINALIZE CONDITION ASSESSMENT PLAN.

Upon approval of the Data Collection and Survey TM, the ENGINEER will perform the following activities:

5.1 Conduct a workshop with the CITY to discuss findings from Task 3 and the dry run, incorporate discussions and comments, discuss pros and cons of various tools, select a tool, and finalize the Condition Assessment Plan, Risk Review and Contingency Plan and Safety Plan.

5.2 Coordinate with the CITY to perform a dry run of the internal inspection without inserting tools into the pipeline. During the dry run, the CITY will operate the pipeline as specified in the ENGINEER's planning document, which includes preparing access points (modifying manways as needed for access, cleaning and removing debris, replacing blind flanges) and preparing the pipe by closing valves at tee locations. Corresponding flows and pressures will be measured to verify:

1. All service requirements are met; and
2. Flow conditions are within the range to support the internal inspection.

The dry run should be performed a minimum of two weeks prior the inspection. The ENGINEER will evaluate dry run data to determine if adaptations are required to the preliminary condition assessment plan.

ASSUMPTIONS

- The CITY will lead efforts on preparing access points and the pipeline.
- ENGINEER will prepare the meeting minutes for the Final Condition Assessment Plan Workshop with the CITY.
- Electronic copies of the Preliminary Condition Assessment Plan, including a Risk Review and Contingency Plan and Safety Plan, will be delivered. Report will be letter sized and drawings will be 11x17 size in electronic format.

DELIVERABLES

- A. Meeting minutes for the Final Condition Assessment Plan Workshop.
- B. Final Condition Assessment Plan, including a Risk Review and Contingency Plan and Safety Plan.

TASK 6. INTERNAL CONDITION ASSESSMENT.

The ENGINEER will conduct internal pipe inspection using the CITY's preferred inspection method to assess the pipe:

6.1 Internal Condition Assessment Tool Workshop

The ENGINEER will host an in-person workshop with the CITY to discuss and evaluate the various tools that may be utilized to perform an internal condition assessment of the pipeline to include:

- Tool features
- Access requirements
- Pros/Cons
- Ballpark Cost

The result of this workshop will be the selection of a tool to perform the internal condition assessment.

6.2 Internal inspection

- The insertion location requires the CITY to shut down and depressurize the line and temporarily remove an existing air release valve assembly and replace it with an isolation assembly. The internal tool will be inserted into the pipe, and the flange will be reattached. Full dewatering is not required; however, some water removal may be required to allow the removal of the flange.
- The extraction location requires the CITY to shut down and depressurize the line to temporarily remove an existing air release valve assembly and replace it with an isolation assembly for insertion of equipment. The capture net will be inserted during the morning of or up to a week prior to the internal inspection and allows for a controlled extraction of the tool and removal by hand. The insertion of the capture net may be coordinated simultaneously with the shutdown for insertion of the equipment. A separate shutdown and depressurization (approximately two hours) will be required for extraction of the inspection equipment and removal of the capture net.
- It is anticipated that the internal tool will require approximately 75 hours (traveling at 90% of flow rate of 1.9 fps) to traverse the pipeline, and this inspection will begin and end at locations to be determined during the Task 2 Condition Assessment Planning.
- The CITY will provide access, depressurization and dewatering as needed to insert and extract inspection equipment.

6.3 Inspection report

- The ENGINEER will oversee specialty subconsultant in the development and QC of the internal assessment report.
- The ENGINEER will analyze the findings and provide recommendations for any needed repairs.

6.4 Conduct a workshop with the CITY to discuss findings from the Internal Assessment activities and identify locations for direct (external) pipe assessment (Task 7).

The ENGINEER will coordinate with the CITY to remove the high frequency pressure data logger device installed during Task 3 and tracking sensors.

ASSUMPTIONS

- The CITY will lead efforts for pipeline shutdown and depressurization as well as modifying existing features to provide safe access to the pipe for inserting and extracting the tool.
- Electronic copies of the report will be delivered. Report will be letter sized.
- ENGINEER will prepare the meeting minutes for the Internal Assessment workshop with the CITY.

DELIVERABLES

- A. Internal Assessment Report.
- B. Meeting minutes for the Internal Assessment workshop.

TASK 7. DIRECT (EXTERNAL) PIPE ASSESSMENT.

7.1 Test Pits

The ENGINEER will observe the pipe exterior at up to (five) 5 locations after excavation by either Corpus Christi staff or a Contractor hired by Corpus Christi. This will include photos, non-destructive testing and collection of soil and water samples if necessary.

7.2 Direct Assessment Technical Memo

The ENGINEER will develop a TM to summarize the findings and any recommended actions.

ASSUMPTIONS

- Excavation contractor will excavate full circumference of pipe and expose approximately 10 linear feet of pipe
- Excavation contractor will perform utility locates prior to excavation
- Excavation contractor will provide shoring as required to stabilize excavation
- Electronic copies of the report will be delivered. Report will be letter sized.

TASK 8. ADDITIONAL SUPPORT

8.1 The ENGINEER will provide additional support as requested by the CITY.

TASK 9. GEOTECHNICAL SUBCONSULTANT

ENGINEER's subconsultant will collect soil samples at locations to be determined during the assessment and deliver to HDR's Corpus Christi office for transport to HDR's lab.

TASK 10. SURVEY SUBCONSULTANT

ENGINEER's subconsultant will perform surveying at locations to be determined during the assessment and deliver electronically to HDR.

TASK 11. INTERNAL CONDITION ASSESSMENT SUBCONSULTANT

ENGINEER's subconsultant will be identified after a tool provider review workshop between HDR and the City. Once identified, the subconsultant scope and fee will be developed, reviewed by the City, and once approved HDR will work with the City and the subconsultant to perform internal pipeline condition assessment, draft a findings report and deliver electronically to HDR. The budget placeholder assumes that Pure Technologies' Smartball tool will be used.

TASK 12. PERMITTING COORDINATION

The ENGINEER will provide permitting coordination support where indicated in the previous tasks.

TASK 13. TRAVEL, REPRODUCTION, SHIPPING, LAB EXPENSES

The ENGINEER will charge expenses to this task.

SERVICES NOT INCLUDED IN THE EXISTING SCOPE OF SERVICES

Additional Services not included in the existing Scope of Services – CITY and ENGINEER agree that the following services are beyond the Scope of Services described in the tasks above. However, ENGINEER can provide these services, if needed, upon the CITY's written request. Additional amounts paid to the ENGINEER because of material change to the Scope of the Project will be agreed upon in writing by both parties before the services are performed. These additional services include the following:

- Negotiation of easements or property acquisition including temporary rights-of-entry.
- Services related to traffic control plans during condition assessment activities.
- Services related to development of the CITY's project financing and/or budget.
- Services related to disputes over pre-qualification, bid protests, bid rejection and re-bidding of the contract for construction.
- Construction management and inspection services
- Performance of materials testing or specialty testing services.
- Services related to damages caused by fire, flood, earthquake or other acts of God.
- Services related to warranty claims, enforcement, and inspection after final completion.
- Services related to Subsurface Utility Engineering Levels A, B, C or D
- Services related to Survey Staking.
- Services related to acquiring real property including but not limited to easements, right-of-way, and/or temporary rights-of-entry.
- Services to support, prepare, document, bring, defend, or assist in litigation undertaken or defended by the CITY.
- Services related to additional access locations, appurtenance assessment locations, Wenner 4-pin locations, number of soil samples, and test pitting beyond what is provided in the original scope of work.
- Services related to additional length of pipe for assessment beyond what is provided in the original scope of work.
- Services related to additional dry runs beyond what is provided in the original scope of work.

- Services related to clearing brush or debris for access to pipe and appurtenances of interest.
- Services related to tapping the existing pipe for access.
- Services related to pavement repair design due to damage caused by providing access or excavating test pits.
- Services related to hydraulic modeling to evaluate flow and pressure conditions.
- Performance of miscellaneous and supplemental services related to the project as requested by the CITY.

MARY RHODES | CONDITION ASSESSMENT - PROPOSED PROJECT SCHEDULE

START	FINISH	ACTIVITY
6/12/23	6/12/23	1 Kickoff Meeting
6/13/23	8/25/23	2 Condition Assessment Planning
6/13/23	6/23/23	2.1 Additional Records Review/Discussion
6/26/23	6/30/23	2.2 Site Visit and Air Valve Observation (after mowing)
6/13/23	7/7/23	2.3 Additional Past Failures Review/Discussion
7/7/23	8/25/23	2.4 Permitting Coordination
7/7/23	7/7/23	2.5 Condition Assessment Planning Workshop
7/10/23	8/18/23	2.6 Condition Assessment Planning TM
8/21/23	8/25/23	2.6.1 City Review
8/21/23	9/8/23	3 Data Collection and Survey
8/21/23	9/22/23	3.1 Preliminary Condition Assessment Plan
9/25/23	9/29/23	3.1.1 City Review
10/2/23	1/12/24	3.2 Collect High Frequency Pressure Data
10/2/23	10/13/23	3.3 Collect Ground Level Surveys (after mowing)
10/23/23	11/23/23	3.4 Soil Sampling and Analysis
10/30/23	11/17/23	3.5 Stray Current Investigation
6/26/23	6/30/23	3.6 Drone Survey (after mowing)
7/7/23	9/1/23	3.7 Data Collection and Survey TM
9/4/23	9/8/23	3.7.1 City Review
2/5/24	4/26/24	4 Engineering Analysis and Recommendations Report
2/5/24	3/22/24	4.1 Draft Report
3/25/24	3/29/24	4.1.1 City Review
4/1/24	4/1/24	4.2 Workshop
4/2/24	4/26/24	4.3 Final Report
10/2/23	11/03/23	5 Dry Run and Finalize Condition Assessment Plan
10/2/23	10/6/23	5.1 Dry Run
10/9/23	10/27/23	5.2 Workshop & Final Condition Assessment Plan
10/30/23	11/03/23	5.2.1 City Review
7/7/23	2/2/24	6 Internal Condition Assessment
7/7/23	7/7/23	6.1 Internal Condition Assessment Tool Workshop
11/13/23	11/17/23	6.2 Internal Inspection
11/20/23	1/22/24	6.3 Inspection Report
01/29/24	2/2/24	6.3.1 City Review
11/13/23	1/12/24	7 Direct (External) Pipe Assessment
11/13/23	11/17/23	7.1 Test Pits
11/27/23	1/5/24	7.2 Direct Assessment TM
1/8/24	1/12/24	7.2.1 City Review

Note: Schedule is conceptual and will be revised periodically to reflect project changes including access constraints including rain, flooding, mowing, and permitting, review times, and scope adjustments.

FEES

Fee for Basic Services. The City will pay the A/E a fixed fee for providing for all “Basic Services” authorized as per the Summary Fee Table attached to this document. The fees for Basic Services will not exceed those identified and will be full and total compensation for all services outlined above and for all expenses incurred in performing these services. A/E will submit monthly statements for basic services rendered which will be based on A/E’s estimate (and City Concurrence) of the proportion of the total services actually completed at the time of billing. City will make prompt monthly payments in response to A/E’s monthly statements.

Fee for Additional Services. For additional services authorized by the Director of Engineering Services the City will pay the A/E a not-to-exceed fee per the Summary Fee Table attached to this document.

Summary of Fees

Fee for Basic Services	
1.0 Project Management	\$41,925
2.0 Condition Assessment Planning	\$96,777
3.0 Data Collection and Survey	\$309,712
4.0 Engineering Analysis and Recommendations Report	\$97,865
Subtotal Basic Services Fees	<u>\$546,279</u>
Fee for Additional Services (Allowance)	
5.0 Dry Run and Finalize Condition Assessment Plan	\$18,576
6.0 Internal Condition Assessment	\$73,154
7.0 Direct (External) Pipe Assessment	\$42,888
8.0 Additional Support	\$45,091
9.0 Geotechnical Subconsultant	\$27,500
10.0 Survey Subconsultant *	\$44,000
11.0 Internal Condition Assessment Subconsultant	\$1,705,000
12.0 Permitting Coordination *	\$5,114
13.0 Travel, Reproduction, Shipping, Lab *	\$72,659
Subtotal Additional Services Fees	<u>\$2,033,982</u>
Total Authorized Fee	<u>\$2,580,261</u>

* - These additional services are authorized by Engineering Services to begin upon execution and notice-to-proceed of this contract scope of services.