ALAN PLUMMER ASSOCIATES, INC.

AGREEMENT FOR ENGINEERING CONSULTING SERVICES

Project No. 2017-178-00

THIS AGREEMENT is made and entered into as of the _____ day of _____, 2018, by and between the **CITY OF COPPELL**, (hereinafter called "Owner") and the firm of **ALAN PLUMMER ASSOCIATES, INC.**, a Texas Corporation with its corporate office at 1320 South University, Suite 300, Fort Worth, Tarrant County, Texas, (hereinafter called "Engineer").

OWNER INFORMATION

Name: City of Coppell Contact: Mr. Mike Garza

Billing Address: 816 S. Coppell Rd. Title: Asst. Director of Public Works

Coppell, Texas 75019 Telephone: 972-304-3681

NOW, THEREFORE, in consideration of the premises and mutual covenants contained herein, Owner and Engineer agree as follows:

SCOPE OF SERVICE:

Owner requests and authorizes Engineer to perform BASIC ENGINEERING SERVICES to and as further described in Exhibit A, "**Scope of Services-**," and hereinafter called the Project as set forth in this Agreement.

GENERAL TERMS AND CONDITIONS:

1. Authorization to Proceed

Execution of this Agreement by the Owner will be authorization for ALAN PLUMMER AND ASSOCIATES, INC. ("Engineer") to proceed with the work, unless otherwise provided for in this Agreement.

2. Salary Costs

Engineer's Salary Costs, when the basis of compensation, are the amount of wages or salaries paid Engineer's employees for work directly performed on Owner's Project plus a percentage applied to all such wages or salaries to cover all payroll-related taxes, payments, premiums, and benefits.

3. Per Diem Rates

Engineer's Per Diem Rates, when the basis of compensation, are those hourly or daily rates charged for work performed on Owner's Project by Engineer's employees of the indicated classifications. These rates are subject to annual calendar year adjustments and include all allowances for salary, overheads, and fee, but do not include

allowances for Direct Expenses.

4. Direct Expenses

Engineer's Direct Expenses, when part of the basis of compensation, are those costs incurred on or directly for the Owner's Project, including, but not limited to, necessary transportation costs, including Engineer's current rates for Engineer's vehicles; meals and lodging; laboratory tests and analyses; computer services; word processing services, telephone, printing, binding, and reproduction charges; all costs associated with outside consultants, subconsultants, subcontractors, and other outside services and facilities; and other similar costs. Reimbursement for Direct Expenses will be on the basis of actual charges when furnished by commercial sources and on the basis of current rates when furnished by Engineer.

5. Cost Opinions

Any cost opinions or Project economic evaluations provided by Engineer will be on a basis of experience and judgment; but, since it has no control over market conditions or bidding procedures, Engineer cannot warrant that bids, ultimate construction cost, or Project economics will not vary from these opinions.

6. Termination

This Agreement may be terminated for convenience upon 30 days' written notice by either party with or without cause. On termination, Engineer will be paid for all work performed up to the date of notification. If no notice of termination is given and termination is not for cause, relationships and obligations created by this Agreement, except Articles 9 through 16, will be terminated upon completion of all applicable requirements of this Agreement.

7. Compensation

Owner shall pay Engineer for Basic Services, Special Services, and Additional Services rendered in accordance with the provisions of Exhibit A.

Monthly invoices will be issued by Engineer for all work performed under this Agreement. Invoices are due and payable on receipt. Interest at the rate of 1-1/2 percent per month, or that permitted by law if lesser, will be charged on all past-due amounts starting 30 days after date of invoice. Payments will first be credited to interest and then to principal.

In the event of a disputed or contested billing, only that portion so contested will be withheld from payment, and the undisputed portion will be paid. The Owner will exercise reasonableness in contesting any bill or portion thereof. No interest will accrue on any contested portion of the billing until mutually resolved.

8. Insurance

Engineer, as a minimum, shall maintain insurance of a form and in amounts as required by state law and as set forth in the attachment "Insurance and as set forth in Exhibit B, "Insurance". Engineer shall provide proof of said insurance requirements by attaching a Certificate of Insurance with the executed Agreement.

9. Independent Consultant

Engineer agrees to perform all services as an independent consultant and not as a subcontractor, agent or employee of the Owner.

10. Engineer's Personnel at the Project Site

The presence or duties of the Engineer's personnel at the Project site, whether as on-site representatives or otherwise, do not make the Engineer or its personnel in any way responsible for those duties that belong to

Owner and/or to other contractors, subcontractors, or other entities, and do not relieve the other contractors, subcontractors, or other entities of their obligations, duties, and responsibilities, including, but not limited to, all methods, means, techniques, sequences, and procedures necessary for coordinating and completing all portions of the work of those parties in accordance with their contract requirements and any health or safety precautions required by such work. The Engineer and its personnel have no authority to exercise any control over any contractor, subcontractor, or other entity or their employees in connection with their work or any health or safety precautions and have no duty for inspecting, noting, observing, correcting, or reporting on health or safety deficiencies of any contractor, subcontractor, or other entity or any other persons at the Project site except Engineer's own personnel.

Engineer neither guarantees the performance of any contractors, subcontractors or other entities nor assumes responsibility for their failure to perform their work in accordance with their contractual responsibilities.

11. Litigation Assistance

Unless specifically set forth in the Scope of Services, the Scope of Services does not include costs of the Engineer for required or requested assistance to support, prepare, document, bring, defend, or assist in litigation or administrative proceedings taken or defended by the Owner.

All such services required or requested of the Engineer by the Owner, except for suits or claims between the parties to this Agreement, will be reimbursed as may be mutually agreed, and payment for such services shall be in accordance with Section 7, unless and until this is a finding by a court or arbitrator that Engineer's sole negligence caused Owner's damage.

12. Venue

In the event that any legal proceeding is brought to enforce this Agreement or any provision hereof, the same shall be brought in Tarrant **County, Texas,** and shall be governed by the laws of the **State of Texas.**

13. Severability and Survival

If any of the provisions contained in this Agreement are held illegal, invalid or unenforceable, the enforceability of the remaining provisions shall not be impaired thereby. Limitations of liability and indemnities shall survive termination of this Agreement for any cause.

14. Interpretation

The limitations of liability and indemnities will apply whether Engineer's liability arises under breach of contract or warranty; tort, including negligence; strict liability; statutory liability; or any other cause of action, except for willful misconduct or gross negligence for limitations of liability and sole negligence for indemnification, and shall apply to Engineer's officers, affiliated corporation, employees and subcontractors. The law of the state of Texas shall govern the validity of this Agreement, its interpretation and performance, and any other claims related to it.

15. No Third Party Beneficiaries

This Agreement gives no rights or benefits to anyone other than the Owner and Engineer and has no third party beneficiaries. The Owner will include a provision in each agreement which Owner enters into with any other entity or person that such entity or person shall have no third-party beneficiary rights under this Agreement.

Engineer's services are defined solely by this Agreement, and not by any other contract or Agreement that may be associated with the Project.

16. Indemnity and Liability

To the fullest extent permitted by law, Engineer shall indemnify and hold harmless Owner and their officers, directors, members, partners, agents, consultants, and employees from reasonable claims, costs, losses, and damages arising out of Engineer's negligent act or omission of Engineer, its consultants, or their officers, directors, members, partners, agents, or employees on services performed under this Agreement provided that any such claim, cost, loss, or damage is attributable to bodily injury, sickness, disease, or death, or to injury to or destruction of tangible property (other than the Work itself), including the loss of use resulting therefrom. It is specifically understood and agreed that in no case shall the Engineer be required to pay an amount disproportional to Engineer's culpability, or any share of any amount levied to recognize more than actual economic damages

Engineer will strive to perform services under this Agreement in a manner consistent with that level of care and skill ordinarily exercised by members of the profession currently practicing similar work in the same locality under similar conditions during the same time. Engineer makes no warranties, express or implied, under this Agreement or otherwise, in connection with any services performed or furnished by Engineer. Engineer's services shall be governed by the negligence standard for professional services, measured as of the time those services are performed.

The Owner's review, approval, or acceptance of, or payment for, any of these services shall not be construed to operate as a waiver of any rights under this Agreement or of any cause of action arising out of the performances of this Agreement, and the Engineer shall be and remain liable in accordance with applicable law for all damages to the Owner caused by Engineer's omissions or negligent performance of any of the services furnished under this Agreement.

To the maximum extent permitted by law, Engineer's liability for Owner damages for any cause or combination of causes will, in the aggregate, not exceed the limits of the Engineer's professional liability insurance coverage.

As used herein, Engineer includes the corporation, subcontractors, and any of its or their officers, or employees.

As between the Owner and the Engineer, any contract claim must be brought within four years from the day following the act or omission giving rise to the breach of contract claim.

17. Documents and Notices

Contract documents, reports, plans, specifications, memorandums, or other delivered documents (furthermore known as Documents), in printed paper format (also known as hard copies) prepared or furnished by Engineer, pursuant to this Agreement are instruments of service but shall become the property of the Owner subject to Engineer's receipt of full payment for all services relating to preparation of the Documents. Engineer shall have the right to retain copies of Documents for information and reference. Signed and sealed printed form documents and plans shall be deemed superior and shall govern over same electronic format documents.

Contracted notices required by this Agreement shall be made in writing and shall be delivered by:

a. person;
b. overnight courier with written verification of receipt;
c. electronic communication; or
d. certified mail, return receipt requested.

18. Assignment

Neither Party will assign all or any part of this Agreement without prior written consent to the other party.

Exhibit A – Scope of Services, Compensation and Schedule

Exhibit B – Insurance

By execution of this Agreement, Owner authorizes Engineer to provide Basic Services for the Project in accordance with Exhibit A, "Scope of Services." Services covered by this Agreement will be performed in accordance with the Provisions attached to this form and any other attachments or schedules. This Agreement supersedes all prior Agreements and understandings and may only be changed by written amendment executed by both parties.

IN WITNESS WHEREOF, the parties hereto have made and executed this Agreement as of the day and year first written above.

Owner:	**Alan Plummer Associates, Inc.:**
By _____	By _____
Title _____	Title _____
Date _____	Date _____

EXHIBIT A

SCOPE, COMPENSATION AND SCHEDULE

I. Background

The City of Coppell (OWNER) is investing in an asset management program to meet the growing demands of the City while maintaining its existing infrastructure. The scope of work included herein will provide the City with an asset management plan for its water distribution system and wastewater collection system and will give the City a foundation on which to build a sustainable asset management program for these systems.

II. Basic Services

The basic services include development of an asset management plan and are defined in the following attachments:

- Exhibit A-1: Water System Asset Management Plan
- Exhibit A-2: Wastewater System Asset Management Plan

III. Compensation

As described in Exhibits A-1 and A-2, the OWNER will compensate ENGINEER on a lump sum basis for the SERVICES rendered. The total authorized fee for Basic Services is **$183,000**.

IV. Schedule

The work described in Exhibits A-1 and A-2 will be completed within 180 days of notice to proceed.

EXHIBIT A-1

Water System Asset Management Plan
Scope of Services

1.0 Background

The City of Coppell (CITY) understands the need to proactively manage maintenance and renewal of its water and wastewater system assets. As the City works towards a more proactive program of water distribution system renewal, it would like to consider condition and criticality factors together with risk in prioritizing water system assets for rehabilitation and replacement.

Alan Plummer Associates, Inc. (ENGINEER) proposes to use asset management principals to develop a risk-based prioritization of future water distribution system rehabilitation and replacement. The initial project phase will focus on pipelines. Subsequent phases can address other water system assets, such as valves and storage tanks. A risk assessment of the system will not only consider the likelihood that a pipeline could fail but also the consequences of failure in terms of levels of service and potential consequential damages. The risk-based prioritization and system long term sustainability analyses will provide both a near term (10 year) inspection plan and a long term (50 year) investment forecast for water distribution system renewal. Major activities include:

- Review existing data.
- Prepare a risk assessment.
- Develop renewal forecasts.
- Determine anticipated useful life, remaining useful life, and replacement cost for each distribution system asset (for which electronic, useable data exists in the CITY'S GIS).
- Prepare an asset management plan report.

ENGINEER will provide services related to the conceptual activities briefly described above. These services are further detailed as Basic Services below.

2.0 Basic Services

Basic Services provided by the ENGINEER will generally be covered under two main activities: Activity A – Project Coordination and Activity B – Development of an Asset Management Plan. Specific tasks for each activity are identified in the following sections.

Activity A – Project Coordination

Task A.1 – Project Management
Provide project management for Activities A and B. Project management will include but not be limited to developing and implementing a project management plan; tracking and managing internal schedules of work; monitoring and addressing issues related to the scope of work, budget and deliverables; preparing and processing monthly billings; providing labor resources necessary to fulfill scoped work; and scheduling and participating in quality control reviews; and providing updates to the CITY on a regular basis.

a. ENGINEER will coordinate project efforts on tasks identified below.

b. ENGINEER will prepare a standard monthly invoice and progress report for all services.

Task A.2 – Kickoff Meeting

ENGINEER will prepare for and participate in a project kick-off meeting for the water system asset management plan. At the kick-off meeting ENGINEER will confirm with the CITY the scope of work, deliverables, schedule and administrative protocols and obtain the background information and other data necessary to conduct the work.

Activity B – Development of an Asset Management Plan

Task B.1 – Data Gathering and Assessment

a. ENGINEER will provide CITY with a data request at the project kick-off meeting to obtain data on the collection system.

   So as not to delay the services of the ENGINEER, the CITY will be responsible for providing in a timely manner the following data (required):

   - Pipeline unique ID – as currently set up by the CITY in their GIS.
   - Pipeline diameter – from GIS
   - Pipeline material – from GIS
   - Pipeline age – from GIS
   - Pipeline zones – from GIS, zones may correspond to established work order management boundaries, map grids, or other comprehensive spatial grouping of the system; it is useful if the zones are familiar to utility staff, for reference during the staff knowledge workshop

   To refine the asset management plan, the CITY will also be responsible for providing the following data (recommended, if available):

   - Service area boundary polygons – from GIS
   - Main break data – as geocoded by the CITY, based upon street address-based records (dating back to 2005)
   - Distribution system hydraulic model files/results – from last master planning effort
   - Valve type – from GIS
   - Valve size – from GIS (or assumed from adjacent pipe size)

   These data are to be provided electronically in the form of GIS files or other linkable database or spreadsheet files. At a minimum, the ENGINEER requires that the CITY's GIS contains unique ID, pipe diameter data, material data, age data, and pipeline zones for collection system assets included in the GIS. If any of these data attributes are incomplete or have been filled with assumed or default values, the CITY will notify the ENGINEER at the time of data transfer. The ENGINEER will NOT be performing any GIS data entry or significant data scrubbing or research activities involving hard copy plans or files under the Basic Services.

b. ENGINEER will review the data provided by the CITY, perform a data gap analysis to determine the amount of data that may be missing, and make recommendations on how to potentially supplement the existing data.

c. ENGINEER will schedule, prepare for, and facilitate an on-site Staff Knowledge Workshop meeting with key utility staff members. The outcome of the workshop will be: 1) a condition rating of assets by pipeline zone based on staff opinion, and 2) a summary of staff feedback to survey questions about the system.

d. ENGINEER will on a limited basis perform work in the Basic Services to supplement the existing data as follows:
   1. Prepare surrogate data for those assets that are missing one of the primary data attributes via a GIS exercise based upon development maps.

   2. Obtain opinions/estimates of any missing primary data attributes from CITY's staff.

   Data supplements will be limited to the amount budgeted for this task. Collection system components that do not have a full supplement of necessary data will NOT be included in the remaining analysis.

Task B.2 – Risk Assessment

a. Define the Risk Matrix – Under the Basic Services, ENGINEER will conduct an on-site meeting with the CITY to determine the appropriate risk parameters to be included in the Risk Matrix. Appropriate risk parameters will be determined based upon the ENGINEER's recommendation of standard industry metrics, data availability, confidence in the data available, and the CITY's knowledge of system-specific indicators of condition and criticality. Based on the time available, this on-site meeting may be conducted in conjunction with the Kickoff meeting or the Staff Knowledge Workshop meeting.

b. Determine the Likelihood of Failure (LOF) – Under the Basic Services, ENGINEER will determine LOF for the collection system assets, based upon a GIS process driven by the Risk Matrix LOF criteria jointly defined by the ENGINEER and the CITY. LOF criteria will include but not be limited to pipe material and remaining useful life. This Scope of Services does NOT include review of CCTV video records or maintenance records, except where records have been geocoded and are readily useable in GIS.

c. Determine the Consequence of Failure (COF) – similarly, the ENGINEER will determine COF for the collection system assets, based upon a GIS process driven by the Risk Matrix COF criteria jointly defined by the ENGINEER and the CITY.

d. Prepare Risk Assessment – LOF and COF scores as determined above will be used to determine a risk score for each collection system asset. After an initial assessment, the ENGINEER will present the draft results to the CITY for review through an on-site meeting, the ENGINEER will adjust asset scoring criteria as necessary based upon review comments. Then a second assessment will be conducted, and a prioritized ranking will be prepared.

Task B.3 – Develop Infrastructure Renewal Forecasts

Based on the prioritized list of water main system assets developed in the previous task and input from the CITY:

a. ENGINEER will develop recommendations for a Near-Term (10 years) and Long-Term (50 years) infrastructure renewal program. The near-term water main improvement program will provide recommendations for a detailed field inspection program to refine the risk-based prioritization and verify the need for water main rehabilitation or replacement.

b. For those water main assets that have a full supplement of necessary data, the ENGINEER will determine additional attribute information for each to include anticipated useful life, remaining useful life, and replacement costs.

Task B.4 – Prepare Asset Management Plan

a. The ENGINEER will prepare an Asset Management Plan (AMP) that summarizes the results of the collection system risk analysis including the final prioritized list of water main system assets. The AMP will guide the CITY in the evaluation of its collection system assets for rehabilitation or replacement. The AMP will follow a risk-based format using the Environmental Protection Agency's 10 step asset management process. The AMP will also include recommendations and action plans for implementing asset management business principles and processes for the water main distribution system.

b. The ENGINEER will obtain comments from the CITY at a QC Review Meeting, and then issue a final version of the AMP.

ADDITIONAL SERVICES

Additional Services are those services not included in Basic Services that may be required for the project but cannot be defined sufficiently at this time to establish a Scope of Work. These include, but are not necessarily limited to the following:

a. Other services not included in Basic Services that are approved by the CITY.

b. Providing additional copies of reports, plans, specifications, and contract documents beyond those specifically described in Basic Services.

c. Services known to be required for completion of the PROJECT that the CITY agrees are to be furnished by the ENGINEER or by a sub-consultant that cannot be defined sufficiently at this time to establish the maximum compensation.

COMPENSATION

The CITY will compensate ENGINEER on a lump sum basis for the SERVICES rendered. The lump sum fee is broken down below by task as defined in the Scope of Services:

Task	Task Description	Lump Sum Amount
A-1	Project management	$8,800
A-2	Kick-off workshop (on-site meeting)	$3,500
B-1a	Prepare data request	$1,000
B-1b	Review data and perform gap analysis	$2,500
B-1c	Conduct staff knowledge workshop (on-site meeting)	$2,800
B-1d	Supplement existing data	$7,600
B-2a	Define risk matrix with City (on-site meeting)	$3,900
B-2b	Determine LOF	$5,700
B-2c	Determine COF	$5,700
B-2d	Prepare and present draft risk assessment (on-site meeting)	$11,900
B-3a	Develop renewal forecasts	$9,100
B-3b	Define additional attribute information	$3,900
B-4a	Prepare asset management plan	$17,500
B-4b	Present asset management plan to City (on-site meeting)	$3,900
	Expenses	$3,700
Total		**$91,500**

The ENGINEER may submit interim statements, not to exceed one per month, for partial payment for SERVICES rendered. The statements to CITY will be by task for the percentage of work actually completed. The CITY shall make interim payments within 30 calendar days in response to ENGINEER's interim statements.

No budgetary allowance has been established for Additional Services. Additional services must be authorized by amendment of the agreement.

EXHIBIT A-2

Wastewater System Asset Management Plan
Scope of Services

1.0 Background

The City of Coppell (CITY) understands the need to proactively manage maintenance and renewal of its water and wastewater system assets. As the City works towards a more proactive program of sewer system renewal, it would like to consider condition and criticality factors together with risk in prioritizing sewer system assets for rehabilitation and replacement.

Alan Plummer Associates, Inc. (ENGINEER) proposes to use asset management principals to develop a risk based prioritization of future sewer system rehabilitation and replacement. The initial project phase will focus on pipelines. Subsequent phases can address other wastewater system assets, such as manholes or lift stations. A risk assessment of the system will not only consider the likelihood that a pipeline could fail but also the consequences of failure in terms of levels of service and potential consequential damages. The risk-based prioritization and system long term sustainability analyses will provide both a near term (10 year) inspection plan and a long term (50 year) investment forecast for sewer system renewal. Major activities include:

- Review existing data.
- Prepare a risk assessment.
- Develop renewal forecasts.
- Determine anticipated useful life, remaining useful life, and replacement cost for each collection system asset (for which electronic, useable data exists in the CITY'S GIS).
- Prepare an asset management plan report.

ENGINEER will provide services related to the conceptual activities briefly described above. These services are further detailed as Basic Services below.

2.0 Basic Services

Basic Services provided by the ENGINEER will generally be covered under two main activities: Activity A – Project Coordination and Activity B – Development of an Asset Management Plan. Specific tasks for each activity are identified in the following sections.

Activity A – Project Coordination

Task A.1 – Project Management
Provide project management for Activities A and B. Project management will include but not be limited to developing and implementing a project management plan; tracking and managing internal schedules of work; monitoring and addressing issues related to the scope of work, budget and deliverables; preparing and processing monthly billings; providing labor resources necessary to fulfill scoped work; and scheduling and participating in quality control reviews; and providing updates to the CITY on a regular basis.

a. ENGINEER will coordinate project efforts on tasks identified below.

b. ENGINEER will prepare a standard monthly invoice and progress report for all services.

Task A.2 – Kickoff Meeting

ENGINEER will prepare for and participate in a project kick-off meeting for the wastewater system asset management plan. At the kick-off meeting ENGINEER will confirm with the CITY the scope of work, deliverables, schedule and administrative protocols and obtain the background information and other data necessary to conduct the work.

Activity B – Development of an Asset Management Plan

Task B.1 – Data Gathering and Assessment

a. ENGINEER will provide CITY with a data request at the project kick-off meeting to obtain data on the collection system.

   So as not to delay the services of the ENGINEER, the CITY will be responsible for providing in a timely manner the following data (required):

   - Pipeline unique ID – as currently set up by the CITY in their GIS.
   - Pipeline diameter – from GIS
   - Pipeline material – from GIS
   - Pipeline age – from GIS
   - Pipeline zones – from GIS, zones may correspond to established work order management boundaries, map grids, or other comprehensive spatial grouping of the system; it is useful if the zones are familiar to utility staff, for reference during the staff knowledge workshop

   To refine the asset management plan, the CITY will also be responsible for providing the following data (recommended, if available):

   - Pipeline burial depth – from GI
   - Sewer shed boundary polygons – from GIS
   - Odor Complaint data – as geocoded by the CITY, based upon street address based records (dating back to 2005)
   - Blockage data – as geocoded by the CITY, based upon street address based records (dating back to 2005)
   - Sanitary Sewer Overflow (SSO) data – as geocoded by the CITY, based upon street address based records (dating back to 2005)
   - Collection system hydraulic model files/results – from last master planning effort

   These data are to be provided electronically in the form of GIS files or other linkable database or spreadsheet files. At a minimum, the ENGINEER requires that the CITY's GIS contains unique ID, pipe diameter data, material data, age data, and pipeline zones for collection system assets included in the GIS. If any of these data attributes are incomplete or have been filled with assumed or default values, the CITY will notify the ENGINEER at the time of data transfer. The ENGINEER will NOT be performing any GIS data entry or significant data scrubbing or research activities involving hard copy plans or files under the Basic Services.

b. ENGINEER will review the data provided by the CITY, perform a data gap analysis to determine the amount of data that may be missing, and make recommendations on how to potentially supplement the existing data.

c. ENGINEER will schedule, prepare for, and facilitate an on-site Staff Knowledge Workshop meeting with key utility staff members. The outcome of the workshop will be: 1) a condition rating of assets by pipeline zone based on staff opinion, and 2) a summary of staff feedback to survey questions about the system.

d. ENGINEER will on a limited basis perform work in the Basic Services to supplement the existing data as follows:
   1. Prepare surrogate data for those assets that are missing one of the primary data attributes via a GIS exercise based upon development maps.

   2. Obtain opinions/estimates of any missing primary data attributes from CITY's staff.

   Data supplements will be limited to the amount budgeted for this task. Collection system components that do not have a full supplement of necessary data will NOT be included in the remaining analysis.

e. For those collection system components that have a full supplement of necessary data, the ENGINEER will determine additional attribute information for each to include anticipated useful life, remaining useful life, and replacement costs.

Task B.2 – Risk Assessment

a. Define the Risk Matrix – Under the Basic Services, ENGINEER will conduct an on-site meeting with the CITY to determine the appropriate risk parameters to be included in the Risk Matrix. Appropriate risk parameters will be determined based upon the ENGINEER's recommendation of standard industry metrics, data availability, confidence in the data available, and the CITY's knowledge of system-specific indicators of condition and criticality. Based on the time available, this on-site meeting may be conducted in conjunction with the Kickoff meeting or the Staff Knowledge Workshop meeting.

b. Determine the Likelihood of Failure (LOF) – Under the Basic Services, ENGINEER will determine LOF for the collection system assets, based upon a GIS process driven by the Risk Matrix LOF criteria jointly defined by the ENGINEER and the CITY. LOF criteria will include but not be limited to pipe material and remaining useful life. This Scope of Services does NOT include review of CCTV video records or maintenance records, except where records have been geocoded and are readily useable in GIS.

c. Determine the Consequence of Failure (COF) – similarly, the ENGINEER will determine COF for the collection system assets, based upon a GIS process driven by the Risk Matrix COF criteria jointly defined by the ENGINEER and the CITY.

d. Prepare Risk Assessment – LOF and COF scores as determined above will be used to determine a risk score for each collection system asset. After an initial assessment, the ENGINEER will present the draft results to the CITY for review through an on-site meeting, the ENGINEER will adjust asset scoring criteria as necessary based upon review comments. Then a second assessment will be conducted, and a prioritized ranking will be prepared.

Task B.3 – Develop Infrastructure Renewal Forecasts

Based on the prioritized list of gravity main assets developed in the previous task and input from the CITY:

a. ENGINEER will develop recommendations for a Near-Term (10 years) and Long-Term (50 years) infrastructure renewal program. The near-term gravity main improvement program will provide recommendations for a detailed field inspection program to refine the risk based prioritization and verify the need for gravity main rehabilitation or replacement.

b. For those gravity main assets that have a full supplement of necessary data, the ENGINEER will determine additional attribute information for each to include anticipated useful life, remaining useful life, and replacement costs.

Task B.4 – Prepare Asset Management Plan

a. The ENGINEER will prepare an Asset Management Plan (AMP) that summarizes the results of the collection system risk analysis including the final prioritized list of sewer system assets. The AMP will guide the CITY in the evaluation of its collection system assets for rehabilitation or replacement. The AMP will follow a risk-based format using the Environmental Protection Agency's 10 step asset management process. The AMP will also include recommendations and action plans for implementing asset management business principles and processes for the sanitary sewer system.
b. The ENGINEER will obtain comments from the CITY at a QC Review Meeting, and then issue a final version of the AMP.

ADDITIONAL SERVICES

Additional Services are those services not included in Basic Services that may be required for the project but cannot be defined sufficiently at this time to establish a Scope of Work. These include, but are not necessarily limited to the following:

a. Other services not included in Basic Services that are approved by the CITY.

b. Providing additional copies of reports, plans, specifications, and contract documents beyond those specifically described in Basic Services.

c. Services known to be required for completion of the PROJECT that the CITY agrees are to be furnished by the ENGINEER or by a sub-consultant that cannot be defined sufficiently at this time to establish the maximum compensation.

COMPENSATION

The CITY will compensate ENGINEER on a lump sum basis for the SERVICES rendered. The lump sum fee is broken down below by task as defined in the Scope of Services:

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