

**AGENDA ITEM EXECUTIVE SUMMARY**

Agenda Item number: 6.f

Title:

Recommendation to Award Capacity, Management, Operations and Maintenance Plan (CMOM) Phase II Sewer System Evaluation Survey of Subbasin Eastern 2 to Engineering Enterprises Inc.

Presenter:

Tim Wilson

Meeting: Government Services Committee

Date: August 26, 2019

Proposed Cost: \$107,793

Budgeted Amount: \$110,000

Not Budgeted: ☐**Executive Summary** *(if not budgeted please explain):*

Phase 2 of this contract will include the review of the flow monitoring data conducted last fall and spring. Staff and Engineering Enterprises Inc. will determine infiltration and inflow areas of city blocks that need further investigation. Engineering Enterprises was vetted through the original CMOM Program selection process.

A contractor will be selected to provide the following scope of work: smoke testing, manhole inspections, televising, line surveying, GPS data collection and final reports. All of the data collected in Phase 2 will help in the design of Phase 3 rehab work that is planned to occur in the construction season of 2020.

Last year's Phase 2 smoke testing included a very successful public outreach plan. The CMOM Public Communication Plan is our proactive approach in communication with the public. We will be using this plan again to help keep the public informed on upcoming work.

As a quick reminder, Subbasin Eastern 2 is identified on the attached map and was selected due to potential development in the area. This Subbasin is bordered by the following area: King Richard to the north, Geneva to the south, DuPage Airport to the east and Kirk Road to the west.

Attachments *(please list):*

* Subbasin Eastern 2- Phase 2 Agreement including Map

Recommendation/Suggested Action *(briefly explain):*

Recommendation to award CMOM Phase II Sewer System Evaluation Survey of Subbasin Eastern 2 to Engineering Enterprises Inc. for the amount of \$107,793.



Engineering Enterprises, Inc.

August 9, 2019

Mr. Tim Wilson
Public Works Manager - Environmental Services
City of St. Charles
Two East Main Street
St. Charles, IL 60174

Re: *Basin Eastern2 SSES*
City of St. Charles, Kane & DuPage Cos., IL

Dear Mr. Wilson:

In accordance with your request, enclosed for your review and consideration is our proposed agreement for the Basin Eastern2 Phase 2 Sewer System Evaluation Survey (SSES). The Phase 2 SSES work is prioritized based off the results of the flow monitoring completed in Basin Eastern2 during the spring/early summer of 2019. The SSES fieldwork and analysis is completed to identify the defects contributing to excessive inflow and infiltration (I/I) throughout the basin and then define a cost-effective implementation plan for correcting the defects.

Our agreement includes smoke testing for an estimated total of 52,360 LF of sanitary sewer and Level-2 Manhole Assessment and Certification Program (MACP) inspections for an estimated 282 manholes within Subbasins Eastern2-A, Eastern2-B, Eastern2-C and Eastern2-F. The defects found during smoke testing will be documented and all pictures, GIS locates, and other findings will be made available to the City. The manhole inspections will be completed by a camera which will be able to provide a complete 360-degree view of the manhole. Defects found in the manhole inspections will be documented and all findings and images will be made available to the City.

The agreement includes a detailed scope of services, estimate of level of effort and associated cost and schedule for the project. We are proposing two project meetings, a project initiation meeting and a progress review meeting, as part of the project. We also will work with the City to implement the SSES Communication Plan that was previously developed. Additionally, our subcontractor, Midwest Water Group RMS Utilities, offers a call center for resident questions as part of their smoke testing services.

Assuming agreement approval will be obtained by early September, we propose to conduct the project initiation meeting in early September. We are proposing to conduct the smoke testing and manhole inspections in September and October. Following the analysis of the field work results and then the completion of the financial analysis for sewer rehabilitation, we propose to meet in mid-December to review our findings. After the progress review meeting, we will develop and then submit the report. We will finalize the report by the last week of January 2020.

We look forward to continuing our outstanding partnership with the City and look forward to working with you and members of your staff on this project. If you have any questions or require any additional information, please do not hesitate to contact me.

Respectfully submitted,

ENGINEERING ENTERPRISES, INC.



Jeffrey W. Freeman, P.E., CFM, LEED AP
Vice President

JWF/anu

Enclosures

pc: Matt Wilson – Public Works Division Manager (Via E-mail)
Dave Todd – Environmental Services Assistant Division Manager (Via E-mail)
STD, DMT, ARS – EEI (Via E-mail)

AGREEMENT FOR CONSULTING ENGINEERING SERVICES FOR BASIN EASTERN2 SSES

This Agreement, made this _____ day of _____, 2019 by and between the City of St. Charles, Kane and DuPage Counties, Illinois, a municipal corporation of the State of Illinois (hereinafter referred to as the "CITY") and Engineering Enterprises, Inc. of 52 Wheeler Road, Sugar Grove, Illinois, 60554 (hereinafter referred to as the "ENGINEER").

In consideration of the mutual covenants and agreements contained in this Agreement, the CITY and the ENGINEER agree, covenant and bind themselves as follows:

1. Services: ENGINEER agrees to perform for the CITY the Services defined within Attachment A.
2. Direction: The Public Works Manager - Environmental Services, or his written designee, shall act as the CITY'S representative with respect to the Services to be provided by the ENGINEER under this Agreement and shall transmit instructions and receive information with respect to the Consulting Engineering Services.
3. Compensation: The work items, estimated staff time, and projected fees for each work item are summarized within Attachment B. Based on this computation, the CITY agrees to pay the ENGINEER for providing the Services on a time and material basis not to exceed an amount of \$107,793.
4. Term: The term of this Agreement shall be active through March 30, 2020 unless otherwise extended through written confirmation by both parties. The work items and phases shall be completed in accordance with the schedule defined within Attachment C.
5. Payment: Engineer shall invoice the CITY on a monthly basis for Services performed and any costs and expenses incurred during the previous thirty (30) day period. The CITY shall pay the ENGINEER within thirty (30) days of receipt of said invoice.
6. Termination: This Agreement may be terminated upon fourteen (14) days written notice of either party. In the event of termination, the ENGINEER shall prepare a final invoice and be due compensation calculated as described in paragraph 3 for all costs incurred through the date of termination.
7. Documents: All related writings, notes, documents, information, files, etc., created, compiled, prepared and/or obtained by the ENGINEER on behalf of the CITY for the Services provided herein shall be used solely for the intended project.
8. Notices: All notices given pursuant to this Agreement shall be sent Certified Mail, postage prepaid, to the parties at the following addresses:

The CITY:

City of St. Charles
Two East Main Street
St. Charles, IL 60174
Attn: Tim Wilson
Public Works Manager -
Environmental Services

The ENGINEER:

Engineering Enterprises, Inc.
52 Wheeler Road
Sugar Grove, IL 60554
Attn: Jeffrey W. Freeman, P.E. CFM, LEED AP
Vice President

9. Waiver: The failure of either party hereto, at any time, to insist upon performance or observation of any term, covenant, agreement or condition contained herein shall not in any manner be constructed as a waiver of any right to enforce any term, covenant, agreement or condition hereto contained.
10. Amendment: No purported oral amendment, change or alteration hereto shall be allowed. Any amendment hereto shall be in writing by the governing body of the CITY and signed by the ENGINEER.
11. Succession: This Agreement shall ensure to the benefit of the parties hereto, their heirs, successors and assigns.

IN WITNESS WHEREOF, we have hereunto signed our names the day and year first above written.

CITY OF ST. CHARLES

ENGINEERING ENTERPRISES, INC.:

Title: _____



Vice President

ATTEST:

ATTEST:

Title: _____



Administrative Assistant

ATTACHMENT A – SCOPE OF SERVICES BASIN EASTERN2 SSES

City of St. Charles, Kane and DuPage Cos., IL

Introduction

In 2016, the City of St. Charles embarked on the 15-year Inflow and Infiltration Reduction Program (IIRP) as defined in the City's February 2016 CMOM plan. Basin Eastern2 was determined to be the third basin to initiate the three phase IIRP process. Phase 1 Flow Monitoring was completed in the Eastern2 basin (see attached Exhibit 1 depicting the location and subbasins within Eastern2) during the spring/early summer of 2017. The flow monitoring outlined various inflow and infiltration issues within Basin Eastern2. Subbasins Eastern2-A, Eastern2-B, Eastern2-C and Eastern2-F exhibit signs of excessive rainfall derived infiltration and inflow (RDII) and Subbasins Eastern2-A, Eastern2-B and Eastern2-F exhibit signs of excessive constant infiltration.

After determining the subbasins with excessive I/I during the Phase 1 Flow Monitoring process, the Phase 2 Sewer System Evaluation Survey (SSES) is conducted within those basins to locate the defects. The scope and cost of the Basin Eastern2 SSES work includes dual blower smoke testing and level-2 manhole inspections for an estimated 52,360 LF of mains and an estimated 282 manholes in Subbasins Eastern2-A, Eastern2-B, Eastern2-C and Eastern2-F. The smoke testing and manhole inspections will be conducted to locate sources of RDII. City staff is in the process of televising and NASCCO PACP coding the video from Subbasins Eastern2-A, B and F. EEI will review the coded video as part of this analysis.

Prior to smoke testing, it is recommended the City alert those who will be affected by the activities of the upcoming work. Those who will be affected by smoke testing include residents and business owners in the study area, the police and fire department, schools, and any others who will be in, or around, the smoke testing area. EEI will work with City Staff to make any modifications to the City's SSES Communication Plan the City sees fit. EEI's SSES subcontractor, Midwest Water Group RMS Utilities, will be responsible for placing door hangers prior to smoke testing, removing door hangers after smoke testing, and coordinating the setup and removal of road signs during smoke testing. The subcontractor will also have a call center available to answer residential questions. The City will be responsible for sending out mailers, providing any printed media, updating the City's website, updating social media, and answering any questions from the residents that cannot be answered by the subcontractor.

All cost and schedule decisions are based on EEI's best knowledge of the study area to-date. A project initiation meeting will be conducted prior to the beginning of the SSES work to outline all necessary efforts and discuss anticipated challenges and solutions. This initiation meeting will include representatives from the City, as well as any other entities, such as the police and fire department, that the City designates as prudent to invite.

A financial analysis of the cost projected to fix the defects found during the SSES work will also be provided for the City. The financial analysis, along with a complete list of defects found during the SSES work, will be reviewed with the City during a progress review meeting. A summary SSES Report will be provided for the City and will contain an outline of all defects and findings along with the corresponding financial analysis for the defects. A GIS file containing the location of the defects will also be made available to the City.

The proposed work items for this project are as follows:

PROJECT FACILITATION & MEETINGS:

- 0.1 Project Administration
- 0.2 Project Initiation and Progress Meeting (2 Total Meetings)

SSES FIELD WORK AND ANALYSIS TOTAL:

- 1.1 SSES Advance Communication with Subbasin Residents & Online
- 1.2 Conduct Smoke Testing Within Subbasins A, B, C & F
- 1.3 Conduct Level 2 Manhole Inspections Within Subbasins A, B, C & F
- 1.4 Televising Video Analysis for Subbasins A, B & F
- 1.5 Analyze Field Work
- 1.6 Conduct Financial Analysis for Sewer Rehabilitation

REPORT:

- 2.1 Prepare SSES Summary Report

Additional Services

The above scope summarizes the work items that will be completed for this contract. Additional work items, including additional meetings beyond the project initiation meeting defined in the above scope, shall be considered outside the scope of the base contract and will be billed in accordance with the Standard Schedule of Charges.

Attachment B:
ESTIMATE OF LEVEL OF EFFORT AND ASSOCIATED COST FOR PROFESSIONAL ENGINEERING SERVICES
BASIN EASTERN2 PHASE 2 (SEWER SYSTEM EVALUATION SURVEY - SSES) ANALYSIS
INFLOW AND INFILTRATION REDUCTION PROGRAM
CITY OF ST. CHARLES, KANE AND DUPAGE COS., IL

WORK ITEM NO.	WORK ITEM	EEI										SUB- CONSULTANT	WORK ITEM HOUR SUMM.	COST PER ITEM
		ENTITY:	PROJECT ROLE:	PRINCIPAL	SENIOR PROJECT MANAGER	PROJECT ENGINEER	SENIOR PROJECT TECHN. I	PROJECT TECHN. I	SENIOR PROJECT SURVEYOR I	SENIOR PROJECT SURVEYOR II*	ADMIN.			
		HOURLY RATE:		\$203	\$197	\$141	\$141	\$129	\$153	\$165	\$82			
0.1	Project Administration			1	4								5	\$991
0.2	Project Initiation & Progress Meeting (2 Meetings Total)			6	8	8					1		23	\$4,004
	Project Facilitation Subtotal:			7	12	8					1		28	\$4,995
SEWER SYSTEM EVALUATION SURVEY (SSES) FIELD WORK AND ANALYSIS														
1.1	SSES Advance Communication With Subbasin Residents & Online			1	4	8							13	\$2,119
1.2	Conduct Smoke Testing Within Subbasins A, B, C & F					8						\$36,034	8	\$37,162
1.3	Conduct Level 2 Manhole Inspections Within Subbasins A, B, C & F					4						\$34,430	4	\$34,994
1.4	Televising Video Analysis for Subbasins A, B & F			2	2	36							40	\$5,876
1.5	Analyze Field Work			2	2	22							26	\$3,902
1.6	Conduct Financial Analysis For Sewer Rehabilitation			2	2	16							20	\$3,056
	SSES Field Work and Analysis Subtotal:			7	10	94						\$70,464	111	\$87,109
REPORT														
2.1	Prepare SSES Summary Report			3	14	68		16			4		105	\$15,539
	Report Subtotal:			3	14	68		16			4		105	\$15,539
	PROJECT TOTAL:			17	36	170		16			5	\$70,464	244	\$107,643

DIRECT EXPENSES	
Mileage =	\$50
Printing =	\$100
Subconsultant Expenses =	
DIRECT EXPENSES =	\$150



LABOR EXPENSES	
Engineering Expenses =	\$34,513
Drafting Expenses =	\$2,266
Administrative Expenses =	\$410
Subconsultant Expenses =	\$70,464
TOTAL LABOR EXPENSES =	\$107,643
TOTAL CONTRACT COSTS =	\$107,793

Attachment C:
SCHEDULE

BASIN EASTERN2 PHASE 2 (SEWER SYSTEM EVALUATION SURVEY - SSES) ANALYSIS
INFLOW AND INFILTRATION REDUCTION PROGRAM
CITY OF ST. CHARLES, KANE AND DUPAGE COS., IL

WORK ITEM NO.	WORK ITEM	Year:		2020																														
		Month:		August				September				October				November				December				January				February						
		Week Starting:		6	13	20	27	3	10	17	24	1	8	15	22	29	6	13	20	27	3	10	17	24	31	7	14	21	28	4	11	18	25	
PROJECT FACILITATION & MEETINGS																																		
0.1	Project Administration																																	
0.2	Project Initiation & Progress Meeting (2 Total Meetings)																																	
SEWER SYSTEM EVALUATION (SSES) FIELD WORK AND ANALYSIS																																		
1.1	SSES Advance Communication With Subbasin Residents & Online																																	
1.2	Conduct Smoke Testing Within Subbasins A, B, C & F																																	
1.3	Conduct Level 2 Manhole Inspections Within Subbasins A, B, C & F																																	
1.4	Televising Video Analysis for Subbasins A, B & F																																	
1.5	Analyze Field Work																																	
1.6	Conduct Financial Analysis For Sewer Rehabilitation																																	
REPORT																																		
2.1	Prepare SSES Summary Report																																	

Legend

	Project Administration Work Item(s)
	Meeting(s) & Field Visits
	Field & Analysis Work
	Report Development
	City Review



Standard Schedule of Charges

January 1, 2018

EMPLOYEE DESIGNATION

CLASSIFICATION

HOURLY RATE

Senior Principal	E-4	\$202.00
Principal	E-3	\$197.00
Senior Project Manager	E-2	\$191.00
Project Manager	E-1	\$173.00
Senior Project Engineer/Planner/Surveyor II	P-6	\$160.00
Senior Project Engineer/Planner/Surveyor I	P-5	\$149.00
Project Engineer/Planner/Surveyor	P-4	\$137.00
Senior Engineer/Planner/Surveyor	P-3	\$125.00
Engineer/Planner/Surveyor	P-2	\$114.00
Associate Engineer/Planner/Surveyor	P-1	\$103.00
Senior Project Technician II	T-6	\$149.00
Senior Project Technician I	T-5	\$137.00
Project Technician	T-4	\$125.00
Senior Technician	T-3	\$114.00
Technician	T-2	\$103.00
Associate Technician	T-1	\$ 90.00
Engineering/Land Surveying Intern	I-1	\$ 84.00
GIS Technician	G-1	\$ 72.00
Administrative Assistant	A-3	\$ 70.00

CREW RATES, VEHICLES AND REPROGRAPHICS

1 Man Field Crew with Standard Survey Equipment	\$163.00
2 Man Field Crew with Standard Survey Equipment	\$254.00
1 Man Field Crew with RTS or GPS *	\$202.00
2 Man Field Crew with RTS or GPS *	\$293.00
Vehicle for Construction Observation	\$15.00
In-House Scanning and Reproduction	\$0.25/Sq. Ft. (Black & White) \$1.00/Sq. Ft. (Color)
Reimbursable Direct Costs & Services by Others	Cost + 10%

*RTS = Robotic Total Station / GPS = Global Positioning System