January 29, 2025

Mr. Owen Dean, P.E.
Department of Public Utilities
City of Joliet
150 West Jefferson Street
Joliet, Illinois 60432

Subject: Proposal for Professional Engineering and Specialty Field Services for 2025 Sewer Investigations Program

Dear Mr. Dean:

RJN Group, Inc. (RJN) is pleased to submit this proposal to provide Professional Engineering and Specialty Field Services to the City of Joliet (City) for the 2025 Sewer Investigations Program.

On January 21, 2022, RJN submitted a Statement of Qualifications (SOQ) to the City of Joliet for Professional Consulting Services for Sanitary Sewer Investigations & Rehabilitation. Following the submittal and interview process, RJN was selected by the City for this work. This proposal represents the fourth year of the program under this SOQ and the twelfth year overall for the program. RJN Group, established in Wheaton, Illinois in 1975, is a nationally recognized leader in sewer collection systems.

Key Project Goals and Objectives

The City of Joliet has established an annual program to investigate, rehabilitate, and improve the overall performance of their sanitary and combined sewer collection systems. The 2025 program includes expansion of some tasks already started, flow monitoring and modeling of the combined sewer areas, and modeling of the final major area of the City. Following numerous discussions with the City, RJN has organized and prioritized the proposed 2025 sanitary sewer program into the following 11 tasks:

A. Long Term Flow Monitoring

The EAST-CENTERPOINT 1 meter was installed in October 2022 as an On-Call meter, and became an extended long-term meter in 2024. The WEST-WEST SIDE 19 meter was also re-installed in 2024 as an extended long-term meter, in order to better monitor flow to the West Side wastewater treatment plant (WWTP) and 1) infer the maximum flow which can be conveyed using the existing Rock Run Interceptor and 2) monitor the occurrence and frequency of sanitary sewer overflow occurrences along the Rock Run Interceptor. These (2) meters will remain installed in 2025 for a period of 12 months. In addition to the EAST-CENTERPOINT 1 and WEST-WEST SIDE 19 meters, the WEST-KERWIN meter was removed in November of 2024 due to construction and will be re-installed at a slightly different location (WEST-KERWIN 1A) in 2025 for a period of 12 months to obtain post-construction monitoring data following the improvements along Wyoming Ave and Plainfield Rd.

B. Combined Sewer Overflow Flow Monitoring Sites & Modeling

Comprehensive monitoring and modeling of the City's combined sewer areas was previously completed in 2015 and again in 2020. Following completion of the City's Long-Term Control Plan (LTCP) in 2024 monitoring and modeling is again being completed in 2025 to verify the improvements are working as expected and are sufficient for the City to meet its discharge limits under its LTCP.

C. Post Rehab Flow Monitoring (Marycrest)

As a follow up to the investigations and rehabilitation conducted in Marycrest between 2015 and 2022, post rehabilitation flow monitoring was started in the fall of 2024 to benchmark progress and determine next steps. The 2024 monitoring aimed to help quantify flow reductions where improvements were made as well as to determine what further investigations and rehabilitation were still needed. Due to a lack of rain events equal to or greater than a 2-Month event, monitoring will be extended through April 2025 for a period of two (2) months during the 2025 program. Post rehabilitation flow monitoring is one of the best ways to document and track progress made in an I/I reduction program.

D. West Side Modeling

Hydraulic modeling was completed during the 2023 program for the West Side system. Modeling found some deficiencies along the Rock Run Interceptor and provided insights related to sizing of WWTP upgrades, operation of the Black Road LS, future expansion for the Village of Shorewood, and potential upsizing of the Rock Run Interceptor. This task includes follow-up modeling to support planning in the West Side service area, to be completed under the City's direction.

E. Aux Sable Modeling

The Aux Sable WWTP Basin is the third of the City's three basins to be modeled. Temporary flow metering of the Aux Sable Basin was previously completed in 2014, 2022, and 2024. A skeletal model was built in 2024 in the PCSWMM software. This year's work will involve completing the calibration, analysis, and reporting of the Aux Sable Model.

The modeling focus for the Eastside WWTP Basin was compliance with the City's Long-Term Control Plan (LTCP) and the primary focus for the Westside WWTP Basin was to understand and address wet-weather capacity problems, especially in the Rock Run Interceptor. The Aux Sable Basin does not currently experience serious wet-weather capacity problems, but it could face high levels of development in the coming decades. Therefore, the approach to Aux Sable modeling follows a typical master planning strategy: identifying existing collection system deficiencies, projecting future deficiencies due to development, and pinpointing projects needed to address these issues.

F. Private Sector Inflow/Infiltration (I/I) Removal Program

As a follow up to previous SSES study in the St. Patrick's area, a private sector I/I removal program has been initiated. City staff is performing most of the work, but this task allows for data management assistance during the removal program.

G. Miscellaneous Items (Roadway & Watermain Program, Clean & TV)

RJN will review sewer televising data and prioritize emergency repairs City wide in advance of the roadway and watermain rehabilitation programs.

In addition, RJN will use the 2024 sewer televising data to create prioritization maps based on PACP coding, update the overall maps from 2012-2023 TV data, and create a spreadsheet including segments with possible point repairs. Televising program management is not part of this scope and shall be covered under a separate contract.

H. On-Call Consulting Assistance

This task is for assistance with various City-requested tasks throughout the duration of the 2025 program. Potential areas of assistance may include work order management, utility task spreadsheet updates, flow meter data analysis, investigations due to heavy rains or sewer backups, management of flow meter equipment, and various other tasks as requested by the City.

I. GIS Assistance

This task is for assistance with various City-requested GIS tasks throughout the duration of the 2025 program. Potential areas of assistance may include providing and incorporating data updates with other consultants, periodic meetings, map development, and updating pipe invert elevations.

J. Project Meetings

This task is for regular project meetings, including 24 bi-weekly small-group meetings, quarterly large-group meetings, and an annual Public Services Committee or City Council Meeting.

K. Program Management & Planning

This task covers program and project management costs for the 2025 program. In addition to general project management tasks, it also includes planning for the 2026 program and long-range planning that will be crucial for the City.

Following the substantial completion of the tasks outlined in the 2025 Program, an executive summary presentation will be prepared for City management. This summary will encompass all collections systems work completed in 2025 and the findings.

Assuring Quality and Safety

RJN is committed to providing quality deliverables. RJN's internal quality control (QC) tools within our in-house data management software, as well as our corporate training and QC processes in place will ensure the project will provide value for the City.

Quality Assurance

As collection systems specialists, we have built data review processes that ensure that all data is accurate. RJN's internal Quality Control tools as well as our corporate training and Quality Assurance processes in place will ensure that program will provide value for the City.

Clarity®

Using Clarity®, RJN's in-house built data management and reporting software, the City will have access to fully transparent field inspections, CCTV and flow monitoring data.

Safety

As an employee-owned firm, RJN's commitment to the **safety** of our employees, City employees, and customers is paramount. That commitment to safety is demonstrated in our internally developed and audited safety program where our goal is to have all field staff, engineers, and project managers "RJN Safety Certified." Included in the certification is confined-space entry training, temporary traffic control, OSHA 10-hour, fall protection, and many more. Every project follows an RJN Health and Safety Plan (HASP) when completing any field work.

Price and Schedule Summary

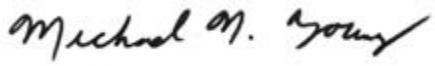
This project will be invoiced on a lump sum, unit price, or time and materials basis for a total not-to-exceed fee of **$539,650.** The completion date for the contract overall is **April 17, 2026**.

The following exhibits are attached to this proposal:

- Exhibit A: Detailed Scopes of Services
- Exhibit B: Pricing including Fee Summary and Rate Schedules
- Exhibit C: Proposed schedule
- Exhibit D: Project area maps
- Exhibit E: Standard Scope of Services

We are looking forward to the opportunity to work with the City of Joliet on this important project. It is our pleasure to submit this proposal to you. Please feel free to contact Mike or Yann if you would like to discuss this proposal or have any questions.

Sincerely,



Michael N. Young, PE
Senior Vice President

Yann Gallin
Principal Project Manager

Attachments: Exhibit A through Exhibit E.

EXHIBIT A
DETAILED SCOPE OF SERVICES

Many of our services have a standard scope of services regardless of the service area in which work is being completed. The following services have a standard scope of services, each of which is provided in the attached Standard Scopes of Services document:

- Short-Term and CSO Site Flow Monitoring
- Telemetry for Flow Monitoring
- Extended Long-Term Flow Monitoring
- Manhole and Special Structure Inspections
- Storm Inlet Inspections
- Wet-Weather Investigations
- Smoke Testing
- Dyed Water Flooding
- Dye Tracing
- Sewer Televising Review
- Private Sector I/I Removal Program Assistance
- Mapping Updates
- Summary Report

The following services will be provided as outlined in the Project Understanding and Approach above.

A. Long Term Flow Monitoring

1. Provide extended long-term flow monitoring at three (3) monitoring points, one (1) within the East Side WWTP service area and two (2) within the West Side WWTP service area, with three (3) City-owned meters for a period of twelve (12) months according to the Standard Scope of Services. The installation of the WEST-KERWIN 1A flow meter is not included in the Standard Scope of Services for extended long-term flow monitoring and will be completed under the On-Call Consulting Assistance task.
2. Incorporate telemetry for the WEST-KERWIN 1A flow meter according to the Standard Scope of Services.
3. Perform quarterly calibrations on the flow meters according to the Standard Scope of Services. Calibrate each flow meter by taking manual depth and velocity measurements and comparing with meter readings.
4. Any modeling or analysis related tasks as part of the report shall be done under Model Contingency.

B. Combined Sewer FM Sites & Modeling

1. Provide CSO site flow monitoring at seven (7) existing locations (EAST-EAST PLANT, EAST-E INTERCEPTOR 1, EAST-HICKORY 1, EAST-W WALL 1, EAST-BLUFF 1, EAST-FOREST PARK, EAST-EDGE 1A) in the Combined Sewer Area with already-installed City-owned meters for a period of six (6) months according to the Standard Scope of Services.
2. Provide CSO site flow monitoring at four (4) previously monitored locations (EAST-W DUNCAN 1, EAST-E INTERCEPTOR 2, EAST-WALLACE 1, EAST-GARN 3) and two (2) new locations (EAST-E INTERCEPTOR 3, EAST-GARN 0) in the Combined Sewer Area with City-owned meters for a period of six (6) months according to the Standard Scope of Services.
3. Provide continuation of one (1) rental rain gauge for the RG-FOREST PARK site for a period of six (6) months according to the Standard Scope of Services.
4. Incorporate two (2) additional rental rain gauges (RG-KERWIN, RG-CITY HALL) for the service area according to the Standard Scope of Services.
5. Incorporate telemetry for six (6) flow meters (EAST-W DUNCAN 1, EAST-E INTERCEPTOR 2, EAST-WALLACE 1, EAST-GARN 3, EAST-E INTERCEPTOR 3, EAST-GARN 0) according to the Standard Scope of Services.
6. Perform calibrations on the 13 flow meters according to the Standard Scope of Services. Calibrate each flow meter by taking manual depth and velocity measurements and comparing with meter readings.
7. CSO Model Calibration
    a. Incorporate changes to the City's Eastside Master Model reflecting construction and rehabilitation in previous years.
    b. Incorporate storage nodes into the Eastside Master Model to represent available storage in pipes and manholes not on the skeletal model route.
    c. Recalibrate the City's Eastside Master Model using the flow monitoring data collected. It is anticipated to use a single calibration period in spring/summer 2025 which includes the following 24 calibration points:
        i. RJN Meters (13)
            1. Bluff
            2. W Wall 1
            3. W Duncan 1
            4. E Interceptor 1
            5. E Interceptor 2
            6. E Interceptor 3
            7. Wallace 1
            8. East Plant
            9. Hickory 1
            10. Garn 3
            11. Forest Park
            12. Belmont
            13. Edge 1
        ii. City-supplied Data (11)
            1. CSO 004 level/flow

2. CSO 007 level/flow
3. CSO 009 level/flow
4. CSO 011 level/flow
5. W Screening Structure incoming meter
6. W Screening Structure overflow meter
7. W Screening Structure depth sensor
8. West Park Lift Station (LS)
9. Rt 66 LS
10. Spencer Rd LS
11. Richards LS

d. Evaluate whether flow monitoring and model data indicate the City will be in compliance with its CSO limit under the LTCP at all 4 CSO locations.
e. Prepare a CSO summary report, including the following:
    i. Summary of the flow monitoring work previously completed, including a reference to previous reports.
    ii. Summary of the work completed on this project.
    iii. Summary of the flow monitoring results and findings. Effort related to flow monitoring will be charged under the CSO – Flow Monitoring task.
    iv. Summary of the modeling results and findings.
    v. Summary of the expected activation for each remaining CSO and how each site meets the requirements of the LTCP.
    vi. Recommendations for additional monitoring beyond the planned monitoring at each CSO site (if any).
    vii. Recommendations for future evaluation of areas tributary to the combined sewer system.

8. Flow Monitoring and Model Contingency – At the request of the City complete some of the following tasks:
    a. Additional flow monitoring as the City may designate.
    b. Evaluate the potential diversion of the Wall St LS to the East Interceptor.
    c. Evaluate capacity for future development such as a proposed data center in the industrial corridor tributary to the Route 66 lift station.
    d. Evaluate system performance during large rain events or other implications not included in the above model calibration task.
    e. Report writing related to the modeling tasks, including work completed, results and findings, expected CSO activation, and recommendations.
    f. Other modeling tasks as the City may designate.

C. Post Rehab Flow Monitoring (Marycrest)

1. Provide continuation of post rehabilitation flow monitoring at previously monitored location (Marycrest) with City-owned meter for a period of 2 months (March 2025 – April 2025) according to the Standard Scope of Services.
2. Incorporate one (1) Rain Gauge for the service area according to the Standard Scope of Services.

3. Incorporate telemetry for the flow meter according to the Standard Scope of Services.
4. Perform monthly calibrations on the flow meter according to the Standard Scope of Services. Calibrate the flow meter by taking manual depth and velocity measurements and comparing with meter readings.

D. West Side Modeling

1. Model Contingency – At the request of the City complete some of the following modeling tasks:
    a. Incorporate storage nodes into the Westside Master Model to represent available storage in pipes and manholes not on the skeletal model route.
    b. Use data collected from the Kerwin meter to verify that post-construction system performance is as expected.
    c. Continue assisting the City in sizing the needed West Side WWTP upgrades, evaluation of upsizing portions of the Rock Run Interceptor, and future connection options for the Village of Shorewood.
    d. Other additional modeling tasks as the City may designate.

E. Aux Sable Modeling

1. Use collected flow data to develop preliminary dry-weather and Antecedent Moisture Model (AMM) wet-weather parameters. Input these flow parameters to the model.
2. Calibrate the model. Identify any anomalies identified during calibration and review with City staff. Currently the following calibration periods are foreseen (total of 53 calibration points):
    a. April 1 – June 30, 2014
        i. AUX-WEST meters (11)
        ii. AUX-CITY 1 and AUX-CITY 2 (2)
        iii. AUX-MAYFAIR meters (3)
        iv. City-provided SCADA Data (3)
            1. Arbeiter Rd LS
            2. Aux Sable WWTP
            3. Black Rd LS
    b. April 20 – August 5, 2022
        i. AUX-EAST meters and AUX-WEST OF (18)
        ii. City-provided SCADA Data (5)
            1. Arbeiter Rd LS
            2. Aux Sable WWTP
            3. Black Rd LS
            4. Riverside LS
            5. Lakewood on Caton LS
    c. March 15 – June 30, 2024
        i. AUX-EAST meters 1, 6, 9, 13, and AUX-WEST OF (5)
        ii. City-provided SCADA Data (5)
            1. Arbeiter Rd LS

2. Aux Sable WWTP
3. Black Rd LS
4. Riverside LS
5. Lakewood on Caton LS

3. Validate model performance against several years of City-provided data for one of the following sites: Arbeiter Rd LS, Black Rd LS, or Aux Sable WWTP. Ensure model results are representative for both small and large events and a wide variety of seasonal conditions.
4. Use a long-term continuous simulation to identify the approximate 3-month, 6-month, 1-year, 2-year, 5-year, and 10-year flows for each meter basin. Develop a series of design storms which approximately stress each basin at these levels.
5. Use the identified design storms to simulate the existing system and estimate the existing Level of Protection (LOP) against sanitary sewer overflows (SSOs) and basement backups. Assume the Aux Sable WWTP does not exceed its Design Maximum Flow (DMF) of 17.3 million gallons per day (MGD).
6. Conduct a Sustainable Peaking Factor (SPF) analysis for reaches included in the model. The SPF is the ratio between pipe capacity and dry-weather flow.
7. Using the results of the existing model and SPF analysis identify any reaches that are deficient or serve as a system bottleneck and could lead to SSOs or basement backups in a 10-year design storm. For each deficiency estimate the associated LOP.
8. In collaboration with City staff, identify alternatives to address bottlenecks. Evaluate these alternatives in the model. Potential alternatives may include moderate flow reduction, capacity increases, diversion of more wet-weather flow from the Black Rd LS away from the Rock Run interceptor and toward the Aux Sable WWTP, new storage facilities, or other alternatives.
9. Evaluate an alternative assuming the Aux Sable WWTP operates at 20.0 MGD, which is the peak hour flow listed in the Facility Plan. Provide an opinion regarding whether the additional capacity (17.3 MGD NPDES vs. 20.0 MGD Facility Plan vs. 20.9 MGD peak tributary capacity) is critical to plant operation.
10. Evaluate alternatives to enable the diversion of the Black Rd Lift Station away from the Rock Run Interceptor during wet-weather, such as construction of an additional forcemain to the Aux Sable WWTP or construction of wet-weather storage at the Black Rd LS. Alternative evaluation will include only high-level conceptual cost estimates.
11. Evaluate a future scenario which includes development of undeveloped land in the Facility Planning Area (FPA) plus future flows from Shorewood. Evaluate future capacity using SPF metrics and for a design storm. Identify future bottlenecks and identify alternatives to address these bottlenecks.
12. Prepare a summary report according to the Standard Scope summarizing the work completed and findings, including the following:
    a. Summary of project
    b. 2024 Manhole Inspection effort and notable findings (no rehabilitation recommendations)
    c. Model construction, calibration, and parameters
    d. Anomalies identified during calibration

e. Existing condition and bottlenecks
f. Alternative evaluated
g. Recommendations for system improvements

13. Model contingency – At the request of the City, complete some of the following modeling tasks:
    a. Additional model field checks
    b. Incorporation of additional as-builts, pump curves, etc. into the model
    c. Calibration using additional calibration points or additional calibration periods
    d. Estimate costs for identified model alternatives
    e. More detailed review of proposed development
    f. Other additional modeling tasks as the City may designate

F. Private Sector I/I Removal Program

1. Assist the City with the private sector I/I removal program in the St. Patrick's Area according to the Standard Scope of Services.

G. Miscellaneous Items (Roadway & Watermain Program, Clean & TV)

1. Perform sewer televising review for approximately 81,000 linear feet for point repairs related to the 2027 Watermain Program according to the Standard Scope of Services.
2. Use the 2024 sewer televising data to create prioritization maps based on PACP coding, as well as update the overall maps from 2012-2023 TV data. In addition to the maps, create a spreadsheet including segments with possible point repairs.
3. Assist the City with putting together the Bid Package for the 2025 Cleaning and Televising Program.

H. On-Call Consulting Assistance

1. The scope of services for the On-Call Assistance task will vary and will only be executed upon direction from the City.

I. GIS Assistance

1. Incorporate updates to the City's GIS system based on deliverables from Great Pyrenees Technology or other consultants and updates from RJN.
2. Attend periodic GIS meetings and conference calls.
3. Perform other as-needed GIS assistance upon direction from the City.
4. Incorporate sanitary laterals into the City's GIS system.
5. Update pipe invert elevations based on manhole inspection data from 2025 as well as previous years.
6. Performance routine maintenance and updates of the City of Joliet data in Clarity.

J. Project Meetings (March 2025 through March 2026)

1. Attend 24 bi-weekly small group meetings with Department of Public Utilities Staff.
2. Attend four (4) quarterly large-group meetings with Department of Public Utilities Staff.
3. Attend an annual meeting with the Public Services Committee and/or City Council (If-Needed).

K. Program Management & Planning

1. Provide program and project management for the duration of the 2025 program.
2. Work with the City to plan the 2026 sewer investigations and rehabilitation program.
3. Prepare an executive summary presentation for the City to summarize the 2025 Program to include:
    a. Summary of findings and recommendations from each of the study areas.
    b. Summary of long-range planning and outline of future work recommended.
    c. Summary of additional services provided.

EXHIBIT B
PRICING

The attached Rate Schedule outlines our unit prices and standard hourly labor rates. Using these unit prices, standard hourly rates, and costs for engineering services, we have developed the fee summary provided and attached. The work will be billed as described thereon. Completed work will be invoiced on a unit price, lump sum, and time and materials (T&M) basis. T&M items will not exceed the value stated in the contract without prior approval by the City. A summary of the project costs is as follows:

Not-To-Exceed Total Cost: $539,650.00

CITY OF JOLIET
2025 SEWER INVESTIGATIONS PROGRAM
SUMMARY OF ENGINEERING FEES

A.	Long Term Flow Monitoring	$ 28,860
B.	Combined Sewer Overflow Flow Monitoring Sites & Modeling	$ 209,340
C.	Post Rehab Flow Monitoring (Marycrest)	$ 5,380
D.	West side Modeling	$ 15,000
E.	Aux Sable Modeling	$ 99,000
F.	Private Sector I/I Removal Program	$ 4,000
G.	Miscellaneous Items (Roadway & Watermain Program, Clean & TV)	$ 58,570
H.	On-Call Consulting Assistance	$ 35,000
I.	GIS Assistance	$ 18,000
J.	Project Meetings	$ 25,000
K.	Program Management and Planning	$ 41,500
	TOTAL	**$ 539,650**

Unit Price Schedule:

The following unit prices are proposed for the field services below:

Work Item Description	Unit Price
Smoke Testing	$0.90/LF
Surface Manhole Inspections	$100/MH
Full-Descent Manhole Inspections	$130/MH
Dye Flooding Inspections (TV provided separately)	$1150/Setup
Dye Tracing Inspections (TV provided separately)	$350/Setup
Televising Review	$0.47/LF
Building Inspections (first pass)	$195/Building
Building Inspections (second pass)	$215/Building
Building Inspections (third pass)	$235/Building
Short-Term (<6 mo) Flow Monitoring (City Meters)	$2,250/Meter/Month
CSO Site Flow Monitoring (City Meters)	$1,950/Meter/Month
Long-Term (>6 mo) Flow Monitoring (City Meters)	$600/Meter/Month
Telemetry for Flow Monitoring (RJN Telemetry)	$240/Unit/Month
RJN Rain Gauges	$200/Gauge/Month
Quarterly Calibrations	$365/Calibration/Quarter

Hourly Rate Schedule

Classification		2025 Rates*
PD	Project Director	$255.00
SPM	Senior Project Manager	$235.00
PM	Project Manager	$190.00
SCM	Senior Construction Manager	$180.00
CM	Construction Manager	$160.00
SPE	Senior Project Engineer	$160.00
PE	Project Engineer	$145.00
CO	Construction Observer	$145.00
EI	Engineer 1	$135.00
GSS	Senior GIS Analyst	$125.00
GIS	GIS Analyst	$110.00
SDA	Senior Data Analyst	$130.00
DA	Data Analyst	$105.00
FM	Field Manager	$115.00
FS	Field Supervisor	$100.00
FT	Field Technician	$90.00
AS	Administrative Support	$105.00

Notes

- The Hourly Rate Schedule is valid until April 17, 2026. Following that date, rates may be subject to an annual increase.

CITY OF JOLIET
2025 SEWER INVESTIGATIONS PROGRAM
SUMMARY OF ENGINEERING FEES

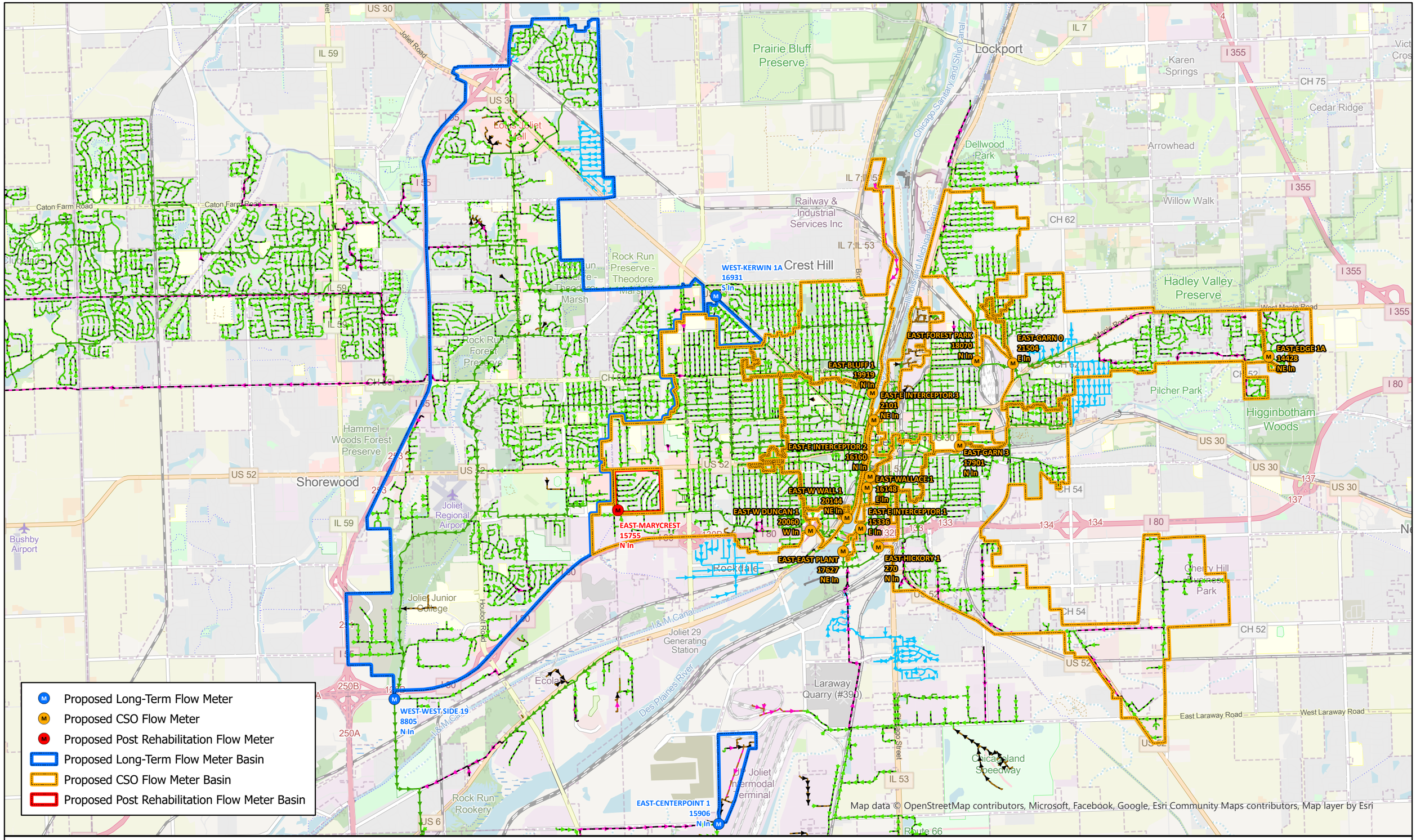
PROJECT	TASK	QUANTITY	UNIT	$/UNIT	TOTAL
A.	**Long Term Flow Monitoring**				
A-1001	Long Term - Flow Monitoring (3 City Meters, 12 Months)	36	M*MO	$ 600.00	$ 21,600
A-1002	Long Term - Telemetry for Flow Meter (1 City Meter, 12 Months)	12	M*MO	$ 240.00	$ 2,880
A-1003	Long Term - Quarterly Calibrations (3 City Meters)	12	M*MO	$ 365.00	$ 4,380
	SUBTOTAL				**$ 28,860**
B.	**Combined Sewer Overflow Flow Monitoring Sites & Modeling**				
B-1001	CSO - Flow Monitoring (13 City Meters, 6 Months)	78	M*MO	$ 1,950.00	$ 152,100
B-1002	CSO - Rain Gauge (3 Gauges, 6 Months)	18	M*MO	$ 200.00	$ 3,600
B-1003	CSO - Telemetry for Flow Meter (6 City Meters, 6 Months)	36	M*MO	$ 240.00	$ 8,640
B-1004	CSO - Model Calibration/Validation	1	T&M	$ 35,000.00	$ 35,000
B-1005	CSO - Flow Monitoring and CSO Model Contingency	1	T&M	$ 10,000.00	$ 10,000
	SUBTOTAL				**$ 209,340**
C.	**Post Rehab Flow Monitoring (Marycrest)**				
C-1001	Post Rehab - Flow Monitoring (1 City Meter, 2 Months)	2	M*MO	$ 2,250.00	$ 4,500.00
C-1002	Post Rehab - Rain Gauge (1 Gauge, 2 Months)	2	M*MO	$ 200.00	$ 400.00
C-1003	Post Rehab - Telemetry for Flow Meter (1 City Meter, 2 Months)	2	M*MO	$ 240.00	$ 480.00
	SUBTOTAL				**$ 5,380**
D.	**West side Modeling**				
D-1001	West side Modeling - Model Contingency	1	T&M	$ 15,000.00	$ 15,000.00
	SUBTOTAL				**$ 15,000**
E.	**Aux Sable Modeling**				
E-1001	Aux Sable Modeling - Assign Dry-Weather and Preliminary AMM	1	T&M	$ 8,000.00	$ 8,000
E-1002	Aux Sable Modeling - Calibration/Validation	1	T&M	$ 40,000.00	$ 40,000
E-1003	Aux Sable Modeling - Existing Conditions	1	T&M	$ 15,000.00	$ 15,000
E-1004	Aux Sable Modeling - Alternative Analysis	1	T&M	$ 10,000.00	$ 10,000
E-1005	Aux Sable Modeling - Model Reporting	1	T&M	$ 18,000.00	$ 18,000
E-1006	Aux Sable Modeling - Model Contingency	1	T&M	$ 8,000.00	$ 8,000
	SUBTOTAL				**$ 99,000**
F.	**Private Sector I/I Removal Program**				
F-1001	St. Patrick's I/I Removal Program (Data Management)	1	T&M	$ 4,000.00	$ 4,000
	SUBTOTAL				**$ 4,000**
G.	**Miscellaneous Items (Roadway & Watermain Program, Clean & TV)**				
G-1001	2027 Watermain Program - Televising Review	81,000	LF	$0.47	$ 38,070
G-1002	TV Data Prioritization - System Wide Rankings of Televised Sewer for 2024	1	LS	$ 7,500.00	$ 7,500
G-1003	Cleaning and Televising - Bid Package	1	LS	$ 13,000.00	$ 13,000
	SUBTOTAL				**$ 58,570**
H.	**On-Call Consulting Assistance**				
H-1001	Work Order Assistance & Flow Meter Analysis / Equipment Management	1	T&M	$35,000.00	$ 35,000
	SUBTOTAL				**$ 35,000**
I.	**GIS Assistance**				
I-1001	Monthly GP Updates & GIS Meetings	1	T&M	$ 5,000.00	$ 5,000
I-1002	Incorporate Laterals in GIS	1	T&M	$ 6,000.00	$ 6,000
I-1003	Update Pipe invert Elevations in GIS	1	T&M	$ 4,000.00	$ 4,000
I-1004	Clarity Maintenance	1	T&M	$ 3,000.00	$ 3,000
	SUBTOTAL				**$ 18,000**
J.	**Project Meetings**				
J-1001	Bi-weekly small group & Quarterly large group meetings	1	T&M	$25,000.00	$ 25,000
	SUBTOTAL				**$ 25,000**
K.	**Program Management and Planning**				
K-1001	Program Management and Planning	1	LS	$41,500.00	$ 41,500
	SUBTOTAL				**$ 41,500**
	2025 SEWER INVESTIGATIONS PROGRAM - TOTAL				**$ 539,650**

EXHIBIT C
PROPOSED SCHEDULE

It is our understanding that contract approval is scheduled for the **February 18, 2025** City Council Meeting. RJN is prepared to begin work immediately upon contract approval. We offer the following estimated completion dates for each task:

- Meters for Long Term, Combined Sewer, and Post Rehab Flow Monitoring will be investigated within 14 days and installed within 28 days of Council approval (depending on weather and available City equipment).
- The Private Sector I/I Removal Program Assistance will begin upon contract approval and continue throughout 2025 as needed.
- **The completion date for the contract overall is April 17, 2026.**

EXHIBIT D
PROJECT MAPS



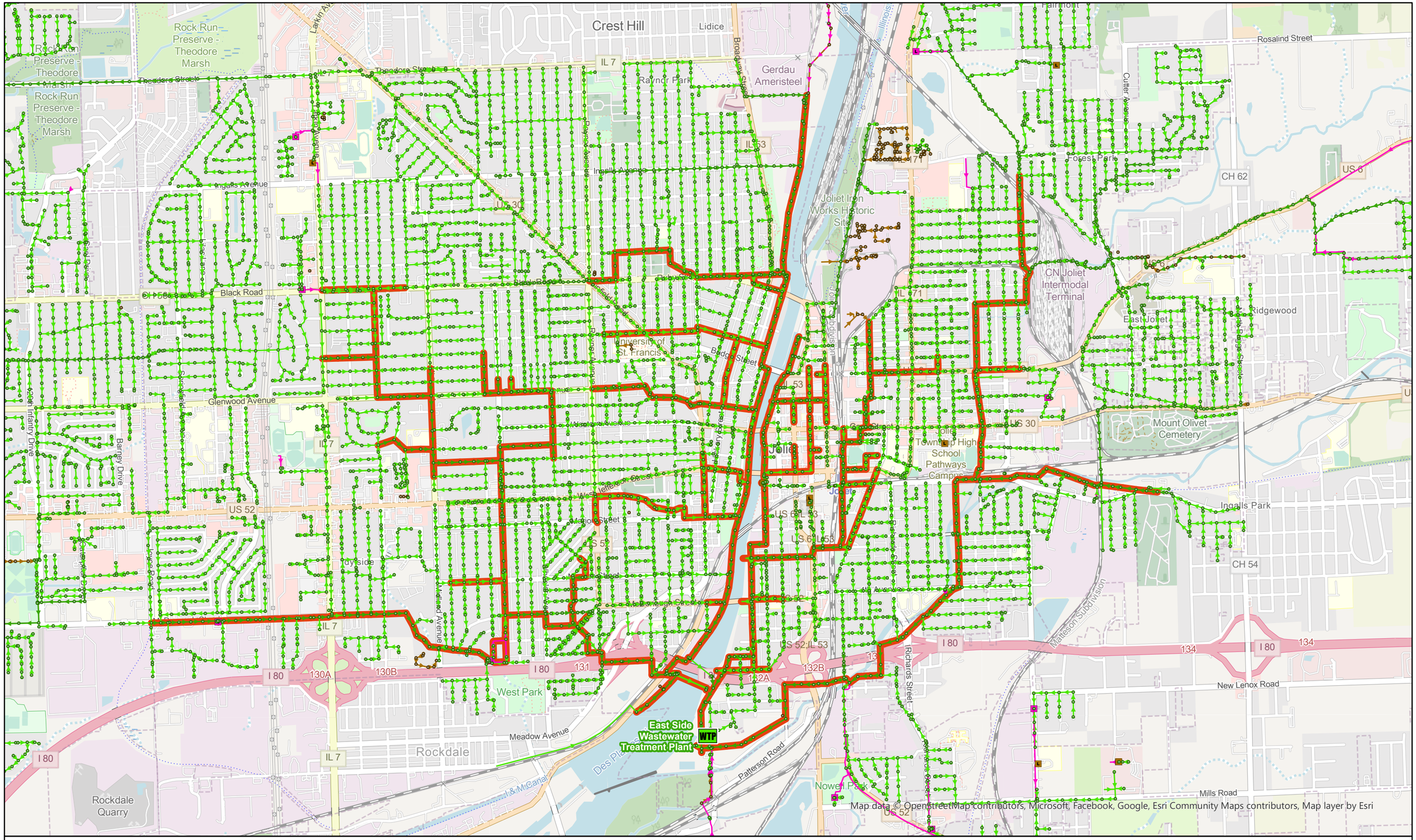
rjn group Engineering infrastructure for tomorrow

Joliet Sanitary Gravity Main
Joliet Sanitary Interceptor
Joliet Sanitary Force Main
Non-Joliet Sanitary Gravity Main
Non-Joliet Sanitary Interceptor
Non-Joliet Sanitary Force Main
Satellite System Sanitary Gravity Sewer

0 5,000 10,000
Feet

N W E S

City of Joliet, IL
2025 Proposed Flow Meters & Basins
Overall Map
January 2025



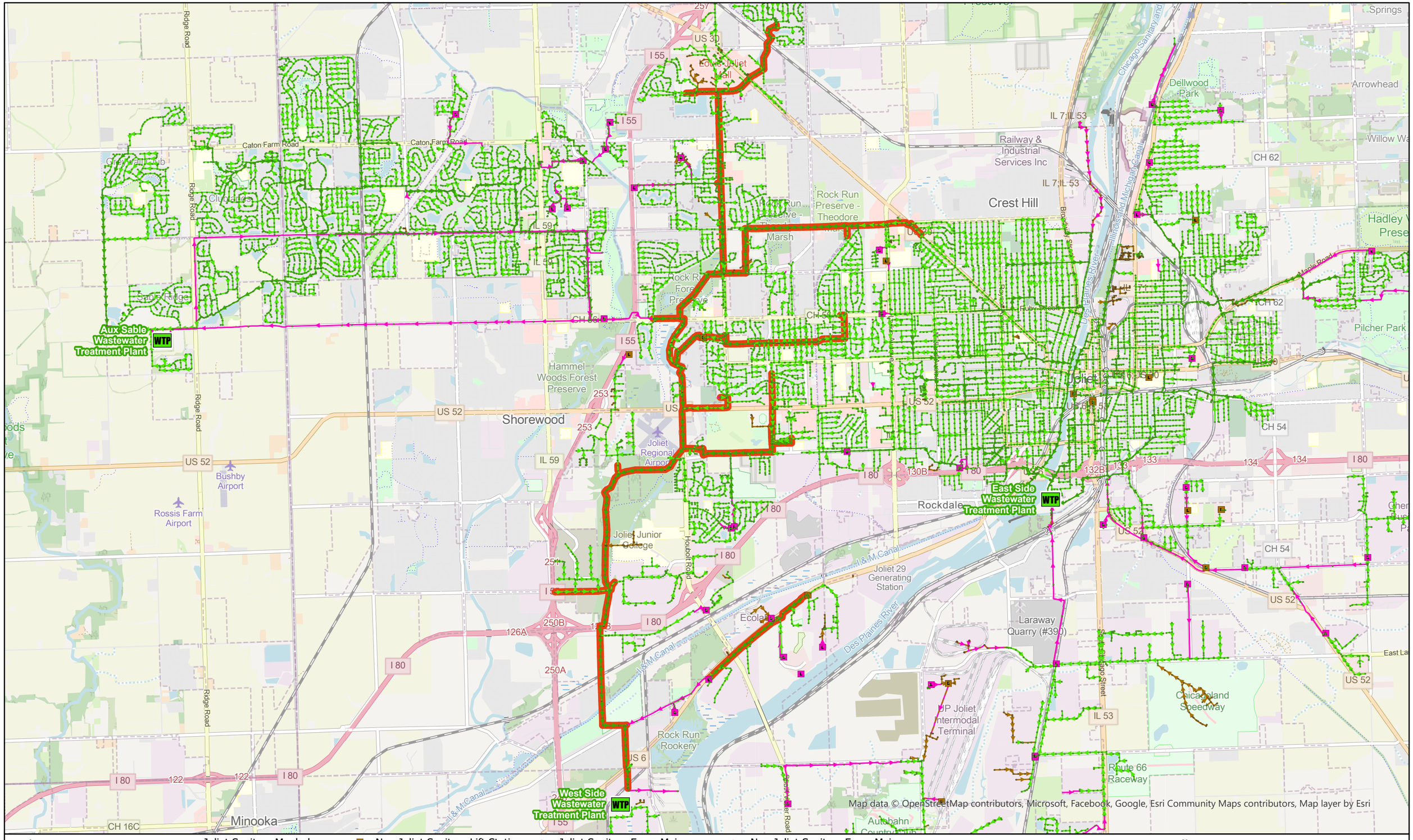
rjn group
Engineering infrastructure for tomorrow

- Joliet Sanitary Manhole
- Joliet Sanitary Lift Station
- Non-Joliet Sanitary Manhole
- Non-Joliet Sanitary Lift Station
- Joliet Sanitary Gravity Main
- Joliet Sanitary Interceptor
- Joliet Sanitary Force Main
- Non-Joliet Sanitary Gravity Main
- Non-Joliet Sanitary Interceptor
- Non-Joliet Sanitary Force Main
- East Side Model Route
- WTP Wastewater Treatment Plant

0 2,500 5,000
Feet

N W E S

City of Joliet, IL
East Side Wastewater Treatment Plant
Model Route
January 2025



rjn group
Engineering Infrastructure for tomorrow

- Joliet Sanitary Manhole
- Joliet Sanitary Lift Station
- Non-Joliet Sanitary Manhole
- Non-Joliet Sanitary Lift Station
- Joliet Sanitary Gravity Main
- Joliet Sanitary Interceptor
- Joliet Sanitary Force Main
- Non-Joliet Sanitary Gravity Main
- Non-Joliet Sanitary Interceptor
- Non-Joliet Sanitary Force Main
- West Side Model Route
- WTP Wastewater Treatment Plant

0 2,500 5,000
Feet

N W E S

City of Joliet, IL
West Side Wastewater Treatment Plant
Model Route
January 2025

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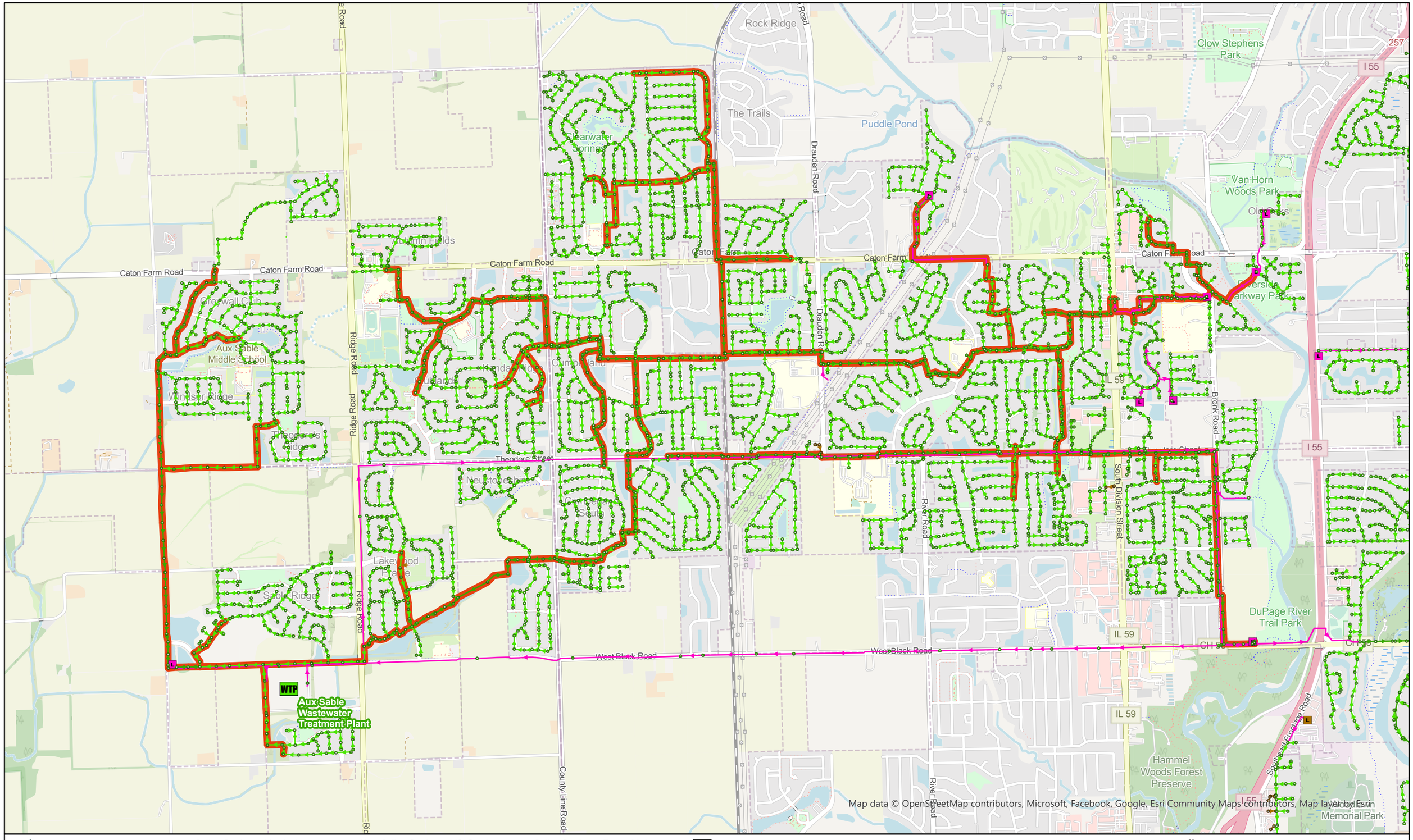

rjn group
Engineering infrastructure for tomorrow

- Joliet Sanitary Manhole
- Joliet Sanitary Lift Station
- Non-Joliet Sanitary Manhole
- Non-Joliet Sanitary Lift Station
- Joliet Sanitary Gravity Main
- Joliet Sanitary Interceptor
- Joliet Sanitary Force Main
- Non-Joliet Sanitary Gravity Main
- Aux Sable Model Route
- WTP Wastewater Treatment Plant

0 2,500 5,000
Feet

N W E S

City of Joliet, IL
Aux Sable Wastewater Treatment Plant
Model Route
January 2025

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EXHIBIT E
STANDARD SCOPE OF SERVICES

Engineering
Infrastructure for
Tomorrow

Table of Contents

Short-Term and CSO Site Flow Monitoring – Standard Scope of Services

1. FOR RJN METERS: Provide the rental of flow meter units with dual depth and velocity sensors for the duration of the project.

2. Obtain data from City-owned and operated rain gauges as available. Provide the rental of rain gauges as necessary to supplement rainfall data for the duration of the project.

3. Investigate targeted sites for flow meter and rain gauge installation. Determine the meter sites that are hydraulically suitable for flow monitoring. Prepare Site Investigation Reports for approval by the City.

4. Prepare flow meters and rain gauges for installation. Install flow meters and rain gauges at approved locations.

5. During installation, calibrate each flow meter by taking manual depth and velocity measurements and comparing with meter readings. Perform tipping tests on rain gauges.

6. Provide standard traffic control measures (portable signs and cones) at each site in or near a roadway. If a higher level of traffic control is required, RJN crews will contact City staff to request traffic control assistance.

7. Obtain flow monitoring data. Review the data at least twice per week during the "settling in" period, once per week thereafter, and report any equipment service needs to the field crews.

8. Perform calibration measurements on meters and rain gauges a second time within two weeks of installation. Utilize the calibrations to adjust the data and prepare final data sets.

9. Provide meter and rain gauge maintenance as necessary to keep equipment in proper operation for the duration of the monitoring period. Perform calibration measurements on a monthly basis for the first three months of a flow monitoring period and quarterly thereafter. <u>It is anticipated that up to two (2) visits per month shall be performed to complete calibrations and necessary maintenance.</u>

10. Procure spare parts and replacement equipment, such as batteries and desiccants, as needed to keep meters and rain gauges working and within operating standards. Meter

and sensor replacement (equipment costs) is not included for City-owned meters.

11. Perform final calibration measurements at each site and remove the flow meters and rain gauges, if desired, and clean and prepare for storage.

12. Upload and provide access to flow monitoring data and photos on the web viewer Clarity™.

13. Process the collected raw data. Analyze the processed data for wet- and dry-weather flow patterns. Create hydrographs for each meter and determine wet-weather peaking factors at standard storm recurrence and durations for each basin.

14. Perform an inflow and infiltration analysis, including:
    a. Inflow peaking factors;
    b. Regression analysis for peaking factor prediction;
    c. Scattergraphs and hydrographs; and
    d. Capacity analysis including downstream control and surcharging assessment.
    e. Volumetric analysis

15. Provide the following information for the summary report:
    a. Details on each meter and rain gauge location;
    b. Summary of the flow and rainfall data collected;
    c. Conclusions from the flow metering, including evidence of downstream control, hydraulic bottlenecks, and levels of infiltration and inflow (I/I);
    d. Adequacy of the existing system to handle existing flows; and
    e. Recommendations for the next appropriate steps, including reduction in I/I.

16. Provide digital copies of data, GIS geodatabases, and photographs.

Telemetry for Flow Monitoring – Standard Scope of Services

1. Provide the rental of cellular telemetry units for each City-owned flow meter that is installed and maintained by RJN for the duration of the flow monitoring work.

2. Investigate targeted sites for telemetry installation.

3. Prepare cellular telemetry for installation and order equipment. Install telemetry at approved locations. All fees for cellular transmittal of data is included.

4. Provide standard traffic control measures (portable signs and cones) at each site in or near a roadway during installation. If a higher level of traffic control is required, RJN crews will contact City staff to request traffic control assistance.

5. Obtain continuous flow monitoring data using telemetry. Report any equipment service needs to the field crews.

6. Provide online data access to City staff for all equipment attached to telemetry units.

7. Provide telemetry maintenance as necessary to keep equipment in proper operation for the duration of the monitoring period. Procure spare parts and replacement equipment as needed to keep telemetry in working order.

Extended Long-Term Flow Monitoring – Standard Scope of Services

1. FOR RJN METERS: Provide the rental of flow meter units with dual depth and velocity sensors for the duration of the project.

2. Obtain data from City-owned and operated rain gauges as available. Provide the rental of rain gauges as necessary to supplement rainfall data for the duration of the project.

3. Provide standard traffic control measures (portable signs and cones) at each site in or near a roadway. If a higher level of traffic control is required, RJN crews will contact City staff to request traffic control assistance.

4. Continue to provide the rental of cellular telemetry units and continue to pay all fees for cellular transmittal of data, as applicable. Continue to provide online data access to City staff for all equipment attached to telemetry units.

5. Obtain continuous flow monitoring data using cellular telemetry. Review the data at least once per month and report any equipment service needs or data interruptions to the field crews.

6. Upload and provide access to flow monitoring data and photos on the web viewer

Clarity™.

7. Provide meter and rain gauge maintenance as necessary to keep equipment in proper operation for the duration of the monitoring period. It is anticipated that up to one (1) visit per month shall be performed to complete calibrations and necessary maintenance.

8. Procure spare parts and replacement equipment, such as batteries and desiccants, as needed to keep meters and rain gauges working and within operating standards. Meter and sensor replacement (equipment costs) is not included for City-owned meters.

9. Remove the flow meters and rain gauges, if desired, and clean and prepare for storage.

Manhole and Special Structure Inspections – Standard Scope of Services

1. Provide equipment and personnel as necessary for manhole inspections.

2. Use handheld electronic data collection equipment for collecting manhole inspection data.

3. Complete surface manhole inspections for manholes as outlined. Collect the following attribute data, as it can be determined:
   a. Mapping grade GPS locate of manhole;
   b. Manhole diameter;
   c. Manhole material;
   d. Pipe invert measurements;
   e. Connecting sewer diameter(s);
   f. Connecting sewer material(s); and
   g. Connecting sewer flow direction.

4. Identify and document manhole condition, including:
   a. Direct evidence of I/I;
   b. Open pickholes in lid;
   c. Cover, frame, adjusting ring, and seal condition, including needed adjustments and chimney seals;
   d. Cone condition and defects;
   e. Wall condition and defects;
   f. Trough and bench condition and defects; and

g. Pipe seal condition and defects.

5. Take a minimum of four digital photographs at each manhole structure
   a. Surrounding area;
   b. Manhole cover;
   c. Topside - looking down;
   d. Manhole frame and adjustments; and
   e. Any major manhole defects.

6. FOR FULL-DESCENT MANHOLE AND SPECIAL STRUCTURE INSPECTIONS: Provide all tasks above as well as perform a confined space entry, full-depth inspection. Provide additional digital photographs and observations of the bench and trough as well as for all pipe connections.

7. Upload and provide access to manhole inspection data and photos on the web viewer Clarity™.

8. Provide data analysis as follows:
   a. Compile field data and develop complete list of defects;
   b. Incorporate results into GIS;
   c. Assign an estimated flow to each defect; and
   d. Determine an appropriate rehabilitation method and estimate an associated cost for each repair.

9. Provide the following information for the summary report:
   a. Summary of work completed;
   b. GIS map(s) of manholes and identified defects;
   c. Summary of defects observed, and preliminary recommendations developed;
   d. List(s) and map(s) of preliminary rehabilitation recommended; and
   e. Recommendations for follow-up SSES work.

10. Provide digital copies of data, GIS geodatabases, and photographs.

Storm Inlet Inspections – Standard Scope of Services

1. Provide equipment and personnel as necessary for storm inlet inspections.

2. Use handheld electronic data collection equipment for collecting storm inlet inspection data.

3. Complete surface storm inlet inspections for storm inlets as outlined. Collect the following attribute data, as it can be determined:
   a. Mapping grade GPS locate of storm inlet;
   b. Storm inlet dimensions;
   c. Storm inlet material;
   d. Pipe invert measurements; and
   e. Connecting sewer flow direction.

4. Identify and document general storm inlet condition.

5. Take a minimum of four digital photographs at each manhole structure
   a. Surrounding area;
   b. Storm inlet cover;
   c. Topside - looking down; and
   d. Manhole frame.

6. Provide data analysis as follows:
   a. Compile field data and develop complete list of defects;
   b. Incorporate results into GIS;
   c. Determine an appropriate rehabilitation method and estimate an associated cost for each defect.

7. Provide the following information for the summary report:
   a. Summary of work completed;
   b. GIS map of manholes and identified defects;
   c. List of defects prioritized by cost effectiveness for rehabilitation;
   d. Recommendations for rehabilitation.

8. Provide digital copies of data, GIS geodatabases, and photographs.

Wet-Weather Investigations – Standard Scope of Services

1. Complete wet weather inspections during and shortly after rain events in areas with

extensive inflow & infiltration.

2. Complete a general reconnaissance on the extent of flooding, storm flows and their impact on the sanitary sewer system.

3. Take pictures and video from accessible manholes near river/creek crossings, surface flooding, locations with extreme (I/I) or locations with surcharging in the sanitary sewers.

4. Complete supplementary surface manhole inspections for additional I/I observations focusing on areas closer to flood prone areas or manholes exhibiting evidence of I/I during previous inspections.

Smoke Testing – Standard Scope of Services

1. Prepare a draft resident smoke testing notification letter for the City to send to the affected residents and business owners. The letters will include RJN contact information for use during the smoke testing. If desired, these letters can be formatted as a public service announcement, billing insert, and/or used as a Reverse 911 message sent by the City. If necessary, provide bilingual letter in Spanish.

2. Prepare smoke testing door hangers to be hung by RJN staff at each address less than one week prior to smoke testing. The door hangers will also include RJN contact information and can be bilingual if necessary.

3. Notify the City and the local fire and police departments of planned smoke testing activities, including daily updates.

4. Provide equipment, personnel, and smoke as necessary for smoke testing.

5. During smoke testing, erect smoke testing signs near the testing area and answer resident and City questions on-site as well as through phone calls.

6. Use handheld electronic data collection equipment for collecting smoke testing data.

7. Smoke test the sanitary sewers as outlined.

8. GPS locate (mapping grade) each identified defect and take a minimum of one digital

photograph of each defect.

9. Upload and provide access to smoke testing data and photos on the web viewer Clarity™.

10. Provide data analysis as follows:
    a. Compile field data and develop complete list of defects;
    b. Incorporate results into GIS;
    c. Assign an estimated flow to each defect; and
    d. Determine an appropriate rehabilitation method and estimate an associated cost for each defect.

11. Provide the following information for the summary report:
    a. Summary of work completed;
    b. GIS map(s) of identified defects;
    c. List of defects prioritized by cost effectiveness for rehabilitation;
    d. Recommendations for follow-up SSES work; and
    e. Recommendations for rehabilitation.

12. Provide digital copies of data, GIS geodatabases, and photographs.

Dyed Water Flooding – Standard Scope of Services

1. Provide equipment, personnel, and dye as necessary for dyed water flooding. Water to be provided by City.

2. Work with City-provided televising subcontractor to perform televising during dyed water flooding setups by a PACP-certified televising contractor. Subconsultant services are not included in this proposal, only coordination.

3. Set up and complete dyed water flooding as outlined. Document results with digital photographs of the dye test setup and if possible dyed water entering the sewer (where applicable).

4. Use handheld electronic data collection equipment for collecting dyed water flooding data.

5. GPS locate (mapping grade) each identified defect and take at least one digital

photograph or video of each defect (where applicable).

6. Upload and provide access to dyed water flooding data on the web viewer Clarity™.

7. Provide data analysis as follows:
   a. Compile field data and develop complete list of defects;
   b. Incorporate results into GIS;
   c. Assign an estimated flow to each defect; and
   d. Determine an appropriate rehabilitation method and estimate an associated cost for each defect.

8. Provide the following information for the summary report:
   a. Summary of work completed;
   b. GIS map of identified defects;
   c. List of defects;
   d. Recommendations for follow-up SSES work; and
   e. Recommendations for rehabilitation.

9. Provide digital copies of data, GIS geodatabases, and photographs.

Dye Tracing – Standard Scope of Services

1. Provide equipment, personnel, and dye as necessary for dyed water tracing of direct stormwater connections into the sanitary sewer. Water to be provided by City.

2. Work with City-provided televising subcontractor (if needed) to perform televising during dyed water tracing setups by a PACP-certified televising contractor. Subconsultant services are not included in this proposal, only coordination.

3. Set up and complete dyed water tracing as outlined. Document results with digital photographs of the dye test setup and if possible dyed water entering the sewer though CCTV data (where applicable).

4. Use handheld electronic data collection equipment for collecting dyed water tracing data.

5. GPS locate (mapping grade) each identified defect/connection point and take at least one digital photograph or video of each defect/connection (where applicable).

6. Provide data analysis as follows:
   a. Compile field data and develop complete list of defects;
   b. Incorporate results into GIS;
   c. Take measurements of outgoing storm pipe directly tied into sanitary system
   d. Assign an estimated flow to each defect; and
   e. Determine an appropriate rehabilitation method and estimate an associated cost to remove each defect/direct connection.

7. Provide the following information for the summary report:
   a. Summary of work completed;
   b. GIS map of identified defects/connections;
   c. List of defects prioritized by cost effectiveness for rehabilitation;
   d. Recommendations for follow-up SSES work; and
   f. Recommendations for rehabilitation.

8. Provide digital copies of data, GIS geodatabases, and photographs.

Sewer Televising Review – Standard Scope of Services

1. Upload and provide access to CCTV data and videos on the web viewer Clarity™.

2. Provide equipment and personnel as necessary for televising video review.

3. Review sewer televising videos using PACP-certified personnel and PACP coding standards.

4. Provide data analysis as follows:
   a. Compile field data and develop complete list of defects;
   b. Incorporate results into GIS;
   c. Assign an estimated flow to each defect; and
   d. Determine an appropriate rehabilitation method and estimate an associated cost for each defect.

5. Provide the following information for the summary report:
   a. Summary of work completed;
   b. GIS map(s) of segments televised and reviewed;

c. Summary of defects observed, and preliminary recommendations developed;
d. List(s) and map(s) of sewers prioritized by severity of defects;
e. List(s) and map(s) of preliminary rehabilitation recommended; and
f. Recommendations for follow-up SSES work.

6. Provide digital copies of data, GIS geodatabases, and photographs.

Private Sector I/I Removal Program Assistance – Standard Scope of Services

1. Assist City staff as necessary with the data management related to the Private Sector I/I Removal Programs, including:
   a. Develop mailing lists for the distribution of notices;
   b. Provide maps and photos as necessary.

2. City Staff will complete all required field work for the Private Sector I/I Removal Program.

Mapping Updates – Standard Scope of Services

1. Use data collected through field services to update sanitary sewer layers of City's GIS. Mapping updates may include:
   a. Addition of manholes located during field investigations;
   b. Updating of manhole location as applicable;
   c. Removal of manholes confirmed by televising to not exist;
   d. Updating connectivity and flow direction as applicable;
   e. Syncing attribute data tables from field investigations to City base layers;
   f. Performing updates to GIS asset information as collected during field investigations;
   g. Providing periodic GIS data cleanup as necessary; and
   h. Provide a summary exhibit of all mapping updates for the area.

2. Assist the City with incorporation of changes and information into City GIS infrastructure and coordinate with other City consultants on incorporation of GIS data.

Summary Report – Standard Scope of Services

1. During project, provide access to web viewer Clarity™ that will provide status of data collection and access to data collected, including field collected media.

2. Organize all data from individual field services into a comprehensive summary report for each service area.
3. Submit up to two color copies and a pdf of draft report.
4. Address City comments on draft report and revise.
5. Submit one digital copy of final report, and up to two color copies of final report.
6. Provide one digital copy of final report files, data, media, and GIS deliverables.
7. Consolidate summary report into language for the annual program executive summary.