



Brainerd City Council Agenda Request

Requested Meeting Date:

Title of Item:

<input type="checkbox"/> INFORMATION ONLY <input type="checkbox"/> CONSENT AGENDA <input type="checkbox"/> P&F COMMITTEE <input type="checkbox"/> SPW COMMITTEE <input type="checkbox"/> MAIN AGENDA	Action Requested: <input type="checkbox"/> Approve/Deny Motion <input type="checkbox"/> Adopt Resolution (attach draft) *provide copy of published hearing notice <input type="checkbox"/> Direction Requested <input type="checkbox"/> Discussion Item <input type="checkbox"/> Hold Public Hearing* <input type="checkbox"/> Ordinance 1 st Reading
Submitted by:	Department:
Presenter (Name & Title):	Estimated Time Needed:
Summary of Issue:	
Alternatives, Options, Effects on Others/Comments:	
Recommended Action/Motion:	
Financial Impact: Is there a cost associated with this request: <input type="checkbox"/> Yes <input type="checkbox"/> No What is the total cost, with tax and shipping \$ _____ Is this budgeted? <input type="checkbox"/> Yes <input type="checkbox"/> No <u>Please Explain:</u>	



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February 2, 2022

RE: City of Brainerd, Minnesota
Proposal for Professional Engineering Services
Sanitary Sewer Flow Monitoring and Analysis
SEH No. BRDMN 156034 14.00

Mr. Paul Sandy
City Engineer
City of Brainerd
501 Laurel Street
Brainerd, MN 56401

Dear Mr. Sandy:

Short Elliott Hendrickson (SEH®) appreciates the opportunity to submit this proposal for engineering consulting services to the City of Brainerd. Over the past two (2) years, SEH has been working with the City to address the impact of clear water inflow and infiltration (I&I) on the City's sanitary sewer collection system. As a continuation of that effort, this proposal details the additional engineering tasks to be completed under the program in 2022.

PURPOSE AND OBJECTIVES

The objective of this work plan will be to collect wastewater flow data as needed to determine and plan for any increased impact on the collection system from the presence of I&I. SEH will work with City staff to coordinate current and future efforts in developing an effective flow monitoring plan which will include the installation and data collection of wastewater flows at approximately twelve (12) meter locations throughout the City. In addition to prioritizing current I&I impacts, the flow monitoring plan will provide a comparison to the City's I&I Study conducted in 2000 and 2001. This comparison will help evaluate the effectiveness of the I&I remediation projects completed within the City over the past 20 years. Based on the flow monitoring results and system evaluation, SEH will develop recommendations for the implementation of future I&I investigation and abatement measures.

SCOPE OF WORK

The work scope for completing this project will include the following tasks. Our staff understands that the success of a program of this nature requires the work to be performed as an extension of City staff and to be respectful of City property and the entire surrounding community.

Task 1.0 – Sanitary Sewer Flow Monitoring

- Install 12 temporary flow meters within the sanitary sewer collection system.
 - SEH will furnish, install, calibrate, and maintain sanitary sewer monitoring equipment.
 - Flow meters to provide raw monitoring data in 15-minute maximum intervals tabulated, daily maximum and minimum flow rates, total, average, and peak daily flow.
- Install one (1) temporary rain gauge capable of collecting 5-minute readings to be furnished by SEH.

Engineers | Architects | Planners | Scientists

Short Elliott Hendrickson Inc., 3535 Vadnais Center Drive, St. Paul, MN 55110-5196
SEH is 100% employee-owned | sehinc.com | 651.490.2000 | 800.325.2055 | 888.908.8166 fax

- Flow monitoring intended to occur from approximately March 1, 2022 until July 30, 2022.
 - SEH will monitor the weather forecast with the intent of installing the flow meters approximately one (1) week before the primary Spring ‘snow-melt’ in order to monitor any subsequent impact on the system.
- SEH will provide data download and field maintenance services for the flow monitoring equipment for the duration of the project.
 - All flow meters are intended to be equipped with cellular communications for remote data retrieval in an effort to reduce labor hours and provide a cost savings to the City.
- At the end of the intended flow monitoring period, SEH will completely remove all monitoring equipment from the City’s collection system.

Task 2.0 – Flow Data Analysis and System Evaluation

- SEH will review all of the flow metering data and provide analysis to determine the baseflow and wet weather peak flows at each metered location or sub-basin area.
- SEH will evaluate the collected flow data against City Water Usage, Mississippi River levels, and local rainfall for use in the determination of potential I&I sources.
- SEH will prepare a draft technical memorandum report to the City for review via electronic copy. The draft report will include a description of work for each of the tasks outlined above, the analytical results from the flow monitoring program, and a priority list of all metered area.
- SEH will provide recommendations for the implementation of future I&I investigation and abatement measures, as needed, based on the flow monitoring results and system evaluation.
- Following the review and approval of the draft technical memorandum by City staff, the SEH team will make any necessary modifications and provide the City with an electronic copy of the final report.
- Conduct one (1) review meeting at the conclusion of the project to discuss the final results with City staff.

PROJECT ASSUMPTIONS

- City to provide SEH with sanitary sewer as-built records, if necessary.
- City to provide SEH with concurrent data including but not limited to:
 - Water Usage (minimum of daily values)
 - Flow data from Wastewater Treatment Facility (minimum of daily values)
 - Flow data from Regional Lift Stations (minimum of daily values)

PROJECT EXCLUSIONS

- Hydraulic calculation or modeling of sanitary sewer flows.
- Stakeholder coordination outside of City of Brainerd staff.

PROJECT SCHEDULE

SEH has the staff available to work on this project and can start as soon as provided notice to proceed from the City in continuation of existing project work. Initial flow monitoring activities will be based on local weather and the Spring primary ‘snow-melt.’ The anticipated schedule for active flow metering would be March 1, 2022 through July 30, 2022. Flow data analysis and the technical memorandum report would be projected for delivery by September 30, 2022 pending no project extensions or other additions to this base scope of work.

COMPENSATION

The estimated project cost for the total scope of work outlined above would be \$65,000. Compensation will be on an hourly basis, based on the actual hours worked for SEH personnel assigned to the project, plus reimbursable expenses. SEH will invoice the project on a monthly basis and will not exceed the overall project estimate without a review of the current budget and approval from the City prior to conducting the current or any future work tasks.

The flow monitoring project is designed to include minimal demand from City staff beyond the initial coordination. In an effort to accommodate the City's budget, increased City involvement in the areas of data download and flow meter maintenance could result in additional cost savings across the project.

If you have any questions or comments related to this project, please feel free to call me at 651.318.0350. We look forward to working with the City of Brainerd on this important project.

Sincerely,

SHORT ELLIOTT HENDRICKSON INC.



Spencer Cossalter
Project Manager / Design Leader

c: Scott Hedlund, SEH