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**Subject:** Award of Contract 2020-RFP-127 Stamford Interceptor Trunk Sewer Rehabilitation Phase II

**Report to:** Public Works Committee

**Report date:** Tuesday, June 15, 2021

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## **Recommendations**

1. That Contract 2020-RFP-127 – Stamford Interceptor Trunk Sewer Rehabilitation Phase II **BE AWARDED** to Liqui-Force Services (Ontario) Inc. at their proposal price of \$7,985,734.30 (including 13% HST).
2. That the current approved Contract amount of \$253,401.37 (including 13% HST) awarded to Robinson Consultants **BE INCREASED** by \$221,180.55 (including 13% HST), for a total revised Contract of \$474,581.92 (including 13% HST) for Stamford Interceptor Trunk Sewer Rehabilitation Phase II for the provision of Contract Administration and Inspection Services.

## **Key Facts**

- The purpose of this report is to seek Council's approval for the award of Contract 2020-RFP-127 Stamford Interceptor Trunk Sewer Rehabilitation Phase II.
- Schedule B of the Niagara Region Procurement By-law 02-2016 as amended February 28, 2019 requires Council approval for all tender awards in excess of \$5,000,000 (Recommendation 1).
- Proposed work includes the rehabilitation of 1,560m of 1050mm diameter trunk sanitary sewer along the Ontario Power Generation Hydro Canal from the CN Railway (approximately 900m North of Morrison Street) to the Niagara Falls Wastewater Treatment Plant including the fourteen respective maintenance holes, installation and operation of a sewage bypass system and associated landscape restorations.
- On March 1, 2021, Niagara Region initiated a competitive Negotiated Request for Proposal (NRFP) procurement process (2020-RFP-127) which culminated in the recommendation contained herein; to award to the top ranked proponent Liqui-Force Services (Ontario) Inc. at their final bid amount of \$7,067,021.50 (excluding HST).
- As part of a competitive bid process (2018-RFP-45), Robinson Consultants was awarded the contract to provide engineering services for the Stamford Interceptor.

- Contract Administration and Inspection Services were evaluated as provisional items in the 2018-RFP-45 bid process in the amount of \$126,982 (excluding HST) but were not awarded at that time. Robinson has provided revised fees for contract administration and inspection services based on the proposed construction schedule and project requirements included in Liqui-Force's proposal such as overnight work which has increased the provisional amount by \$68,753 (excluding HST). This revision also includes additional engineering services related to undertaking a Negotiated RFP process, rather than a typical RFP process. (Recommendation 2).

## **Financial Considerations**

Project 20000699 (Stamford Interceptor Trunk Sewer Rehabilitation Phase II) has a previously approved capital budget of \$7,950,000. The total expended and committed to date is \$284,681. The total estimated project cost after the award of Contract 2020-RFP-127 and the increase to the 2018-RFP-45 for Robinson Consultants is \$7,950,000 (inclusive of 1.76% non-refundable HST) as detailed in Appendix 1 – Total Estimated Project Cost.

## **Analysis**

In 2014, the Region undertook the condition assessment of 71 sections of sewers within four (4) various trunk sanitary sewers including the Stamford Interceptor sewer immediately upstream to the Niagara Falls WWTP. Sewer sections were reviewed using CCTV inspections and in-field robotic testing of the interior wall of select sewer pipes that were found to be in the worst visual condition during the CCTV Review. Maintenance hole condition assessments consisted of CCTV and man entry inspections which documented and photographed evidence of deterioration. This assessment identified numerous areas of spalled concrete exposing the reinforcing steel within the concrete sewers due to hydrogen sulphide corrosion and was therefore recommended for immediate rehabilitation. This sewer services a large area of Niagara Falls with a serviced population of approximately 30,000 residents including major tourism destinations such as Marineland. The Stamford Sewer rehabilitation was divided into two phases. Phase 1 was successfully completed in July 2020 through 2018-T-127 and consisted of the rehabilitation of 2,314 meters of 1050mm and 1200mm diameter sewers and 24 respective maintenance holes. In August 2020, this project was awarded the 2020 Gas Tax Funding Project of the Year by the Association of Municipalities of Ontario (AMO). This project was also recently presented virtually at the 2021 North American Society of Trenchless Technology No-Dig Conference in Orlando. Various

photographs illustrating the sewer rehabilitation process have been included in Appendix 3 – Stamford Rehabilitation Phase I Project Photos.

Phase 2 will consist of the following scope of work:

- Rehabilitation of the remaining 1,560 meters of 1050mm diameter sewer
- Rehabilitation of the respective 14 maintenance holes
- Installation and Operation of a sewage bypass system
- Landscape and asphalt restorations

In accordance with Niagara Region Procurement By-law 02-2016 as amended on February 28, 2019 and under the guidance of the Region's Procurement Department, Niagara Region initiated a competitive Negotiated Request for Proposal procurement process (2020-RFP-127).

Given the specialty nature of the rehabilitation work and the risks associated with working within the OPG fence and within NPCA regulated area, the Negotiated RFP process was used to solicit bids from qualified and experienced rehabilitation contractors with a well-planned approach and methodology to complete the work. This process provided both the Region and the Proponents with the ability to establish an agreed upon and cost effective approach to successfully achieve the desired rehabilitation project outcome based on the specific rehabilitation method used. The RFP submission deadline was April 12, 2021 with four proposals received.

The Negotiated RFP evaluation process culminated in the recommendation contained herein; to award to the top ranked proponent Liqui-Force Services (Ontario) Inc. at their final bid amount of \$7,985,734.30 (including 13% HST).

Robinson Consulting was retained by Niagara Region through a competitive bidding process 2018-RFP-45, to complete the detailed design, RFP procurement and contract administration and inspection services for the Stamford Interceptor Rehabilitation project. Contract administration and inspection services were provisional items in the 2018-RFP-14 procurement. Fees for the provisional items were received and evaluated as part of the competitive bid process, however they were not awarded at that time.

Robinson has provided revised fees for contract administration and inspection services based on the proposed construction schedule and project requirements included in Liqui-Force's proposal such as overnight work which has increased the provisional amount by \$77,690.89 (including 13% HST). This revision also includes additional

engineering services related to undertaking a Negotiated RFP process, rather than a typical RFP process.

The Stamford Interceptor Trunk Sewer Rehabilitation Phase II project is a large and complex undertaking which includes the requirements for bypass pumping and a careful construction sequence. The additional engineering fees associated with the increase in contract administration and inspection services are an extension of the work that was originally competitively bid. The fees now reflect the construction support and oversight required from the consultant based on the project's complexity.

Contract award requires resources from Legal Services and Corporate Services in order to execute the required contract documents and amending agreement. Water and Wastewater Engineering staff will be providing resources throughout the project in order to manage the contract with assistance from Corporate Services on contract/project payments.

### **Alternatives Reviewed**

3. Proceed with the Contract Award – This alternative would enable staff to proceed with Contract Award to Liqui-Force Services (Ontario) Inc. to address the maintenance issues and prolong the life of this sewer and ensure reliable infrastructure for the residents of Niagara Falls.
4. Do Nothing – This alternative does not address the maintenance issues with this sewer and does not ensure reliable infrastructure to support growth and economic development. Structural failure of this sewer is imminent if this sewer is not rehabilitated promptly and is permitted to continue to suffer deterioration, due to the hydrogen sulphide gases. Failure of this trunk sewer would cause a catastrophic loss of service and result in a significant amount of untreated sewage spilled to the Hydro Power Canal along with residential basement flooding.

Staff recommend Alternative 1 to proceed with contract award to Liqui-Force Services (Ontario) Inc.

### **Relationship to Council Strategic Priorities**

This recommendation is related to the Responsible Growth and Infrastructure Planning, Objective 3.3: Maintaining Existing Infrastructure. Through asset management planning, the Stamford Interceptor Trunk Sewer Rehabilitation Phase II project is

required to ensure sustainable investments in the infrastructure needed to support existing residents and businesses, as well as future growth in Niagara, as this sewer services a large area of South Niagara Falls with a serviced population of approximately 30,000 residents including many businesses and major tourism destinations such as Marineland.

### **Other Pertinent Reports**

- PW 29-2018 - Award of Contract 2018-T-127 (RN 18-27) Stamford Interceptor Rehabilitation Phase I – September 25, 2018

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#### **Prepared by:**

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#### **Recommended by:**

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Commissioner of Public Works (Interim)  
Public Works Department

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#### **Submitted by:**

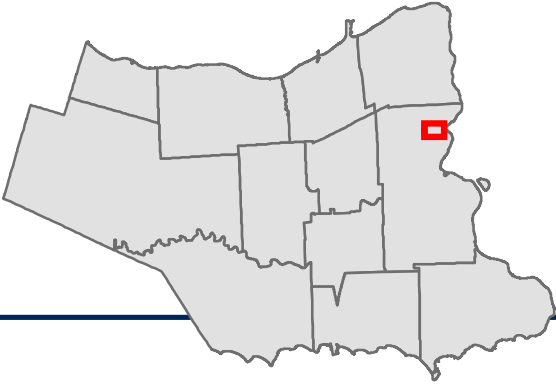
Ron Tripp, P.Eng.  
Acting Chief Administrative Officer

This report was prepared in consultation with Tony Cimino, C.E.T., Associate Director, W-WW Engineering; Pamela Hamilton, Program Financial Specialist W-WW, and Tracie Byrne, Procurement Manager and reviewed by Joseph Tonellato, P.Eng, Director W-WW and Dan Ane, Manager, Program Financial Support, Bart Menage, Director Procurement and Strategic Acquisitions.

### **Appendices**

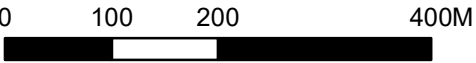
Appendix 1	Total Estimated Project Cost
Appendix 2	Key Plan
Appendix 3	Stamford Rehabilitation Phase I Project Photos





Legend

- Notice of Project Extents
- Wastewater Treatment Plant
- Sewage Pumping Station
- Force Main
- Sanitary Gravity Pipe

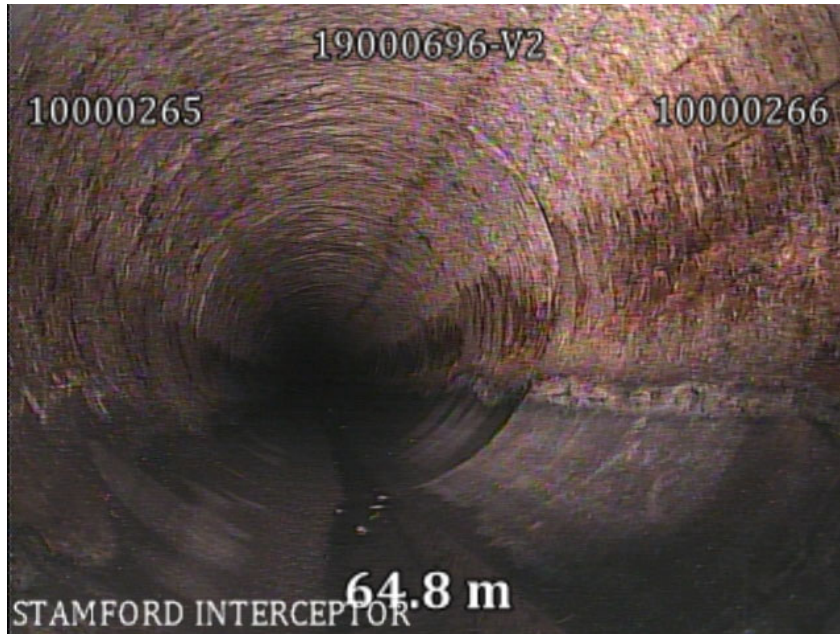


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This map was compiled from various data sources and is current as of May, 2021.  
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1. Stamford Sewer before rehabilitation



Hydrogen Sulfide gases have deteriorated the concrete in the sewer thus exposing and attacking the rebar reinforcement.

2. Stamford Sewer after rehabilitation



Sewer interior has been protected with a fully structural Cured-In-Place-Pipe (CIPP) liner.

### 3. Stamford Sewer manhole before rehabilitation



Hydrogen Sulfide gases have deteriorated the concrete in the manhole above sewage levels thus exposing and attacking the rebar reinforcement.

### 4. Stamford Sewer manhole after rehabilitation



Manholes are cleaned with high pressure water, parged with a cementitious coating and then covered in a spray applied epoxy coating. This protects the manholes from further deterioration due to hydrogen sulphide gases.



## 5. Complex Bypass Pumping Systems



Complex bypass systems are installed upstream of the project to divert the sewage around the project site. CIPP Installations require dry working conditions.

## 6. Complex Bypass Pumping Systems



Complex bypass systems are installed upstream of the project to divert the sewage around the project site. For Stamford Phase I, four (4) large submersible pumps were used to maintain sewage flows.

## 7. Complex Bypass Piping Systems



Complex bypass piping systems are installed to carry the flows from the bypass pumps to a discharge point downstream of the project site approximately two (2) kilometers away.

## 8. Cured-in-place pipe liner installation



Stamford Sewer Rehabilitation is completed by inverting a resin impregnated felt tube liner into the sewer and curing it with steam.

Total Estimated Project Cost  
Contract Award

2020-RFP-127 Stamford Interceptor Trunk Sewer Rehabilitation Phase II

	Council Approved Budget	Budget Increase/ Reallocation	Revised Council Approved Budget	Expended & Committed as of 5/18/21	Contract Award/ Forecast	Budget Remaining
	(A)	(B)	(C) = (A) + (B)	(D)	(E)	(F) = (C)-(D)-(E)
<b><u>Total Estimated Project Cost (20000699)*</u></b>						
(a) Construction (includes contract contingency)**	6,379,000	812,401	7,191,401	-	7,191,401	-
(b) Project Contingency	1,021,000	(953,984)	67,016	-	67,016	-
(c) Consulting Engineering Services (Design, Contract Administration, & Inspection)***	308,000	141,583	449,583	250,403	199,180	0
(d) Project Management & Internal Costs	242,000		242,000	34,278	207,722	(0)
<b>Total Estimated Project Cost</b>	<b>7,950,000</b>	<b>-</b>	<b>7,950,000</b>	<b>284,681</b>	<b>7,665,319</b>	<b>(0)</b>

\*All costs include 1.76% non-refundable HST  
\*\* Total Construction Contract Award is equal to i) \$7,067,021 before tax; ii) \$7,191,401 including 1.76% non-refundable HST; iii) \$7,985,734 including 13% HST  
\*\*\* Forecasted Contract Administration and Inspection Services are equal to i) \$195,735 before tax; ii) \$199,180 including 1.76% non-refundable HST; ii) \$221,181 including 13% HST