

# Municipality of Lakeshore

## Regular Council Meeting Addendum



Tuesday, September 10, 2024, 4:30 PM  
Council Chambers, 419 Notre Dame Street, Belle River

Pages

### 21. Addendum

- \*1. Tender Award - Watermain Replacements on West Puce Road and County Road 22

2

**Recommendation:**

Award the tender for Watermain Replacement on West Puce Road and Watermain Replacement on County Road 22 to Shearock Construction Group Inc. for a total project cost of \$6,967,049.28, including applicable HST; and

Approve an additional \$2,646,828.28, including applicable HST, to be funded from the Water Reserves (\$2,268,617.28) and Roads Reserve funds (\$378,211.00) as presented at the September 10, 2024 Council meeting.

# Municipality of Lakeshore – Report to Council

## Operations

## Capital Projects



**To:** Mayor and Members of Council

**From:** Wayne Ormshaw P.Eng., Division Leader – Capital Projects

**Date:** August 15, 2024

**Subject:** Tender Award - Watermain Replacements on West Puce Road and County Road 22

---

### Recommendation

Award the tender for Watermain Replacement on West Puce Road and Watermain Replacement on County Road 22 to Shearock Construction Group Inc. for a total project cost of \$6,967,049.28, including applicable HST; and

Approve an additional \$2,646,828.28, including applicable HST, to be funded from the Water Reserves (\$2,268,617.28) and Roads Reserve funds (\$378,211.00) as presented at the September 10, 2024 Council meeting.

### Strategic Objectives

This project falls under the following two (2) strategic objectives:

1a) Building and Stewarding Municipal Infrastructure - Update Asset Management Plan

Since this infrastructure improvement is the first step in the provision for increased water supply toward projected population growth in the western part of the municipality and is also identified under the following strategic objective:

2a) Developing Our Future Communities - Develop a 25-year Community Plan for all communities

### Background

The 2018 Water & Wastewater Master Plan identifies critical upgrades required for the aging West Puce Road and County Road 22 watermains. Additionally, a new watermain is planned as part of the Wallace Road reconstruction project, which spans from County Road 22 to Old Tecumseh Road (County Road 2).

Council funded these projects in the following respective budgets:

<b>Project</b>	<b>Item</b>	<b>Budget Year</b>	<b>Amount</b>
County Road 22 Watermain Project	Engineering & Design	2022	\$325,683
	Construction	2023	\$2,361,433
<b>Total Budget</b>			<b>\$2,687,116</b>
W Puce Road Watermain Project	Engineering & Design	2020	\$300,000
	Construction	2021	\$1,415,700
<b>Total Budget</b>			<b>\$1,715,700</b>
Wallace Line Road Reconstruction Project (with watermain replacement) - (Total budget = \$3,289,379) **18% of Budget attributed to the watermain rail crossing at Wallace Line		2023	\$592,088
<b>Total Project Budget</b>			<b>\$4,994,904</b>

For the Wallace Line Road watermain works approximately \*\*18% of the total approved Wallace Line Road Reconstruction Project budget is being used.

Council awarded the professional services contract for the County Road 22 Watermain Replacement on June 28, 2022 to Stantec Consulting Ltd. It was subsequently identified that merging the West Puce Road and County Road 22 Watermain Replacements could yield significant efficiencies.

Further, the trenchless construction methods planned for County Road 22 also presented an opportunity to include the rail track crossing section of the Wallace Line Road Reconstruction Project (which is currently in detailed design) within the same tender. After consultation, Stantec agreed that this integrated approach would be advantageous. The Wallace Line Road Reconstruction Project (north of the railway

track) is not expected to proceed to construction until 2026, pending progression of other projects that are required to be completed in advance.

During the preliminary design phase, it became evident that the proposed upsizing of the West Puce Road watermain to a 600 mm diameter pipe should be mirrored for the County Road 22 watermain. This change would enhance the system's capacity to accommodate population growth in the northern Wallace Woods area and the western end of the municipality. Stantec was requested to provide an engineering benefit analysis on this upsizing, the results of which are detailed in Appendix 1 of this report.

It was observed that with the upsizing of the West Puce Road watermain to a 600 mm diameter pipe, similar design considerations should be applied to the County Road 22 watermain. Given Stantec's involvement as the Municipality's consultant across all three related projects, they were tasked with evaluating the rationale for upsizing the County Road 22 watermain during this phase of infrastructure enhancement. The attached technical memorandum from Stantec provides a detailed justification for this proposed upsizing:

'although the oversizing would come at significant additional cost, it would provide the municipality with increased flexibility towards advancing the overall trunk watermain infrastructure to the west needed to satisfy increased future water demands from projected population growth. Overlooking this opportunity would result in significant additional mitigation costs much greater than the current oversizing cost should the concern come to fruition.'

The Water Management Division was consulted at the time and are in support of this approach in upsizing the watermain.

Furthermore, since West Puce Road is scheduled for asphalt rehabilitation in 2025 based on the 5-year Lifecycle Asphalt Resurfacing Program, it was deemed prudent to also include repaving of the section of road (approximately 570 m) on West Puce Road at this time with the anticipated repaving of the remaining southern section once the watermain project is completed.

## **Comments**

The project was posted to Bids & Tenders on Friday July 12, 2024.

Seven (7) compliant bids were received prior to tender closing on Friday August 2, 2024 and opened in accordance with the online bidding process.

The bids received are summarized below:

<b>Bidder</b>	<b>Total Tender Amount (excluding HST)</b>	<b>Total Tender Amount (including applicable HST)</b>
SheaRock Construction Group Inc.	\$6,846,550.00	\$6,967,049.28
Henry Heyink Construction Ltd.	\$6,949,507.60	\$7,071,818.93
Sterling Ridge Infrastructure Inc	\$7,086,133.00	\$7,210,848.94
D'Amore Construction (2000) Ltd	\$7,520,540.00	\$7,652,901.00
J&J Lepera Infrastructures	\$7,251,408.00	\$7,379,032.24
Nevan Construction Inc.	\$8,243,025.00	\$8,388,102.24
Sherway Contracting (Windsor) Limited	\$8,547,286.00	\$8,697,718.23

Administration is satisfied that SheaRock Construction Group Inc. has the required equipment and labour expertise to undertake this project and recommends the award of the Watermain Replacement on W Puce Road and County Road 22 project to SheaRock Construction Group Inc.

**Others Consulted**

Stantec Consulting Ltd. was consulted as part of this project.

## Financial Impacts

A detailed breakdown of the costs and budget are included below:

<b>Watermain Replacement on W Puce Road and County Road 22</b>	<b>Project cost (including applicable HST)</b>	<b>Budget</b>
Total Engineering Design Fees	\$330,000.00	
Total Tender Costs	\$6,967,049.28	
On-site Engineering and Contract Administration	\$344,683.00	
<b>Total Project Costs</b>	<b>\$7,641,732.28</b>	
County Road 22 Watermain Project		\$2,687,116.00
W Puce Road Watermain Project		\$1,715,700.00
18% of the Wallace Line Reconstruction Project (with watermain replacement)		\$592,088.00
<b>Total Budget</b>		<b>\$4,994,904.00</b>
<b>Deficit</b>		<b>-\$2,646,828.28</b>

A total shortfall for the Watermain Replacements on West Puce Road and County Road 22 (including the rail crossing on Wallace Line Road) is \$2,646,828.28.

It is recommended that \$2,268,617.28 be allocated from the Water Reserves to cover the watermain works (mainly the upsizing costs) and that \$378,211.00 be allocated from the Road Reserves (in advance of the 2025 budget) for repaving of West Puce Road.

The projected balance for 2024 in the water and roads reserves respectively after the above is \$18,976,705 and \$9,792,957.

## Attachments

Appendix 1: County Road 22 Trunk Watermain Works – Oversizing. Technical Memo by Tony Berardi, P.Eng. of Stantec Consulting

## Report Approval Details

Document Title:	Tender Award for Watermain Replacement on West Puce River Road and Watermain Replacement on County Road 22.docx
Attachments:	- CR22_Trunk_Watermain_Works-Oversizing_(revised).pdf
Final Approval Date:	Sep 6, 2024

This report and all of its attachments were approved and signed as outlined below:

Prepared by Wayne Ormshaw

Submitted by Krystal Kalbol

Approved by the Corporate Leadership Team

---

To:	Wayne Ormshaw, P.Eng. Municipality of Lakeshore	From:	Tony Berardi, P.Eng. Windsor, Ontario Office
File:	165620267	Date:	December 14, 2022

---

**Reference: County Road 22 Trunk Watermain Works - Oversizing****Introduction**

The Municipality of Lakeshore (Town) has initiated the replacement of the existing 300mm dia. cast iron trunk watermain along County Road 22 from West Puce River Line Road to Wallace Line Road as envisioned in the 2018 Lakeshore Water & Wastewater Master Plan (2018 LWWWMP) with the procurement of engineering services from Stantec Consulting Ltd. The project is currently in the design stage with the confirmation of watermain sizing and the subject of this memo.

The 2018 LWWWMP identified the above existing 300 dia. watermain be replaced with a larger 400mm dia. watermain and form part of a westerly advancement of new trunk watermain infrastructure to service the current and future water needs of the western service area of the municipality.

Forming part of the advancement also includes a future 600mm dia. trunk watermain running east-west from West Puce River Line Road to Patillo Road across the middle of the Wallace Woods Development Lands approximately 1 kilometer south of and parallel to County Road 22. This watermain would ultimately connect to and support a future water tower to be situated generally in the area of Patillo Road and Little Baseline Road.

The proposed secondary 400mm dia. trunk replacement watermain running east -west along County Road 22, and the subject of this memo, will serve to convey the increased water demands of the northwestern service area of the municipality while facilitating the delivery of improved fire flow capacity and redundancy.

With the 300mm dia. replacement being the first advancement of this proposed new trunk watermain infrastructure, the viability, probability, and timelines of the future 600mm dia. trunk watermain within the Wallace Woods Development Lands comes into play and must be considered to confirm the size of the subject watermain replacement.

Should the future 600mm trunk watermain running through Wallace Woods be delayed or not constructed during the 20-year planning horizon to 2035, then the upgraded service levels for serving the western portion of the municipality cannot be realized as envisioned in the 2018 LWWWMP; thus, leaving the municipality with little or no alternatives to mitigate the matter other than constructing additional trunk watermain infrastructure in the future at significant cost.

**Evaluation**

The Belle River Water Supply System (BRWSS) consists of one pressure zone with system pressures generally governed by a combination of both the pressure head developed by the high lift pumping system at the Lakeshore water treatment plant (LWTP) and water levels in the Belle River water tower (BRWT).

A hydraulic computer model of the BRWSS was originally developed in the 2009 LWWWMP and updated in the 2018 LWWWMP to include all new watermains and developments. To evaluate the impact of delaying or not constructing the future 600mm dia. trunk watermain through the Wallace Woods Development lands, the updated model was employed to predict system behavior and system capabilities during both peak hour and maximum day + fire flow conditions under both current & future (20-year) demand scenarios in accordance with MECP Design Guidelines.

The model predicted that in the future 20-year demand horizon with the replacement 400mm dia. trunk watermain along County Road 22 in-place and the future 600mm dia. trunk watermain thru Wallace Woods



not constructed; that adequate system pressures at or greater than the 40-psi benchmark could not be maintained nor upgraded fire flow targets achieved throughout the urban and rural areas of the western portion of the Belle River water service area west of Patillo Road under peak hour flow conditions. Further, the future water tower envisioned in the area of Patillo & Little Base Line Roads could not be supported. This predicted deficiency, however, could be mitigated by oversizing the proposed 400mm dia. trunk watermain replacement along County Road 22 to 600mm or by twinning the replacement 400mm dia. watermain in future.

The model also predicted that under the same future 20-year demand horizon with both the replacement 400mm dia. trunk watermain along County Road 22 and future 600mm dia. trunk watermain thru Wallace Woods in-place; that oversizing of the proposed 400mm dia. trunk watermain replacement along County Road 22 to 600mm dia. would result in minor additional system benefits to the western service area of the municipality with marginal increases in system pressures and fire-flow capabilities of 1 psi and approximately 200 Igpm at Patillo/CR22 and 100 Igpm at Manning Road respectively.

Similarly, under the current demand horizon, oversizing of the replacement 400mm dia. trunk watermain to 600mm dia. would also result in minor additional system benefits to the western service area of the municipality with similar marginal increases in system pressures and fire-flow capabilities.

With respect to the water treatment plant, oversizing of the proposed 400mm dia. trunk watermain replacement would have no foreseen impacts on the treatment process nor pumping capabilities.

## **Conclusion**

In our opinion, oversizing of the proposed replacement trunk watermain along County Road 22 from 400mm dia. to 600mm dia. would only be needed if the viability, probability, and timelines of the future 600mm dia. trunk watermain through the Wallace Woods Development Lands were in question; based on projected water demands established in the 2018 LWWWMP.

It is our position that only the Municipality with input from the Water, Engineering and Planning Departments can assess and address this question based on current information and secondary planning work undertaken to date. Should there be significant concern with the probability of the future 600mm dia. trunk watermain being constructed within the future 20-year planning horizon to 2035, then serious consideration needs to be given towards proceeding with the oversizing.

Although, the oversizing would come at significant additional cost, it would provide the municipality with increased flexibility towards advancing the overall trunk watermain infrastructure to the West needed to satisfy increased future water demands from projected population growth. Overlooking this opportunity would result in significant additional mitigation costs much greater than the current oversizing cost should the concern come to fruition.

In light of this, the Town is encouraged to accelerate the replacement of the existing 300mm dia. cast iron watermain along County Road 22 from West Puce River Line Road westerly to Pike Creek and improving the level of service and fire flow protection to the western service area of the municipality as envisioned in the 2018 LWWWMP.

Sincerely,

**Stantec Consulting Ltd.**



**Tony Berardi** P.Eng.  
Principal & Senior Consultant, Water  
Cell: 519 551 3891  
tony.berardi@stantec.com