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# JOHNSON

## ENGINEERING CONSULTANTS

368 HURON STREET,  
STRATFORD, ONTARIO  
N5A 5T5

STRUCTURAL • CIVIL • ENVIRONMENTAL • AUTOMATION  
INDUSTRIAL HEALTH & SAFETY • AGRICULTURAL  
GIS & DATABASE DEVELOPMENT

PHONE (519) 271-9923  
FAX (519) 271-5353  
www.jecinc.on.ca  
jecinc@jecinc.on.ca

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## SERVICEABILITY REPORT

for

### Egan Ave Development St. Marys, Ontario

Prepared for:

2503778 Ontario Inc.  
c/o Lang Contracting  
54 Crawford St.  
Stratford, ON N5A 5Y4

Submission	
Jan 11, 2019	Original Submission
June 6, 2019	Address Town's Feb 13, 2019 comments
June 5, 2020	Address Town's April 23, 2020 comments
June 29, 2020	Add stormwater management calculations

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## **1.0 Purpose**

This report reviews the existing underground services (sanitary sewer, storm sewer, and water distribution mains) available in the area of the proposed development and proposes a design concept for each service.

## **2.0 Existing Site Description**

The legal description of the site is as follows: PT Lot 16, Concession 17 Blanshard as in R266194; St. Marys. The address is currently listed as 187 Wellington St. N. St. Marys.

The proposed development site is 2.150 ha.

The site was formerly the location for the old Dresden Factory. Currently, there are no buildings or structures on the site. Remnants of an old asphalt parking lot remains.

The site is generally lies lower than its surrounding area with a catchbasin draining to the open ditch across the street at the north-west corner of the property.

The development will consist of 16 semi-detached homes as well as a 3 unit townhouse (19 residences in total).

The site fronts onto both Egan Ave and Wellington St. Neither have storm sewer, sanitary sewer, or watermain servicing across the frontage of this property.

## **3.0 Storm Water**

### **3.1 Major System**

The Town of St. Marys has adopted a policy of requiring varying control of runoff from storms depending on the product of the property size in hectares and the average runoff coefficient of the property . This development property is 2.150ha and the percent impervious of the proposed development is expected to be less than 75%. Assigned a runoff coefficient of 0.90

for the impervious area and a runoff coefficient of 0.20 for the pervious areas provides a total product of  $2.150 \times (0.75 \times 0.9. + 0.25 \times 0.20) = 1.56$ . The St Marys STORMWATER MANAGEMENT POLICY requires that the 100 year post-development flows shall be controlled to 5 year pre-development flows if the product is between 0.65 and 2.

For this development, since most of the lots are fronting onto the existing Egan Ave it is proposed that those lots be built up so that they drain towards the reconstructed street (Egan Ave) in a manner similar to an infill development without any storm water quantity control..

The large multi-family block can more readily provide stormwater management controls which should over control so the site as a whole does not outlet more than the total site's 5 year pre-development rate. The calculations for which can be detailed in the Stormwater Management Report for the multi-family block during the site plan approval phase but a summary is:

The total site's 5 year pre-development rate: 305.2 L/s

100 year post-development rate from lots fronting Egan Ave.: 189.4L/s

Allowable 100 year post-development for the multi-family block:  $305.2 - 189.4 = 115.8$  L/s

Controlling the runoff of the multi-family block to the above runoff will require about  $590\text{m}^3$  of storage which would be about  $590\text{m}^3 / 2.1\text{m}^3/\text{unit} \times 2.17\text{m}/\text{unit} = 601\text{m}$  of Stormtech SC-740 underground storage units which would use about  $1162\text{m}^2$  of area to serve the approximate 6ha multi family block..

### **3.2 Minor Storm System**

It has been discussed with Town staff that the Town will reconstruct Egan Ave (with cost sharing with the developer of this land) to provide storm servicing to the proposed lots (not the multi-family block) in accordance with the Town servicing standards.

The BM Ross Design Brief detailing sewer calculations in included in Appendix B.

The multi-family block is proposed to drain to the drain to the North-west where it currently drains.

## **4.0 Sanitary Sewer System**

The existing sanitary sewer ends at the south-east corner of this property. There is a small sanitary service that used to serve the one building that was on this property. The total sanitary flow from the development, including the multi-family block is estimated at 7.6 L/s and has been confirmed by Town staff to not cause capacity problems downstream.

It has been discussed with Town staff that the Town will reconstruct Egan Ave (with cost sharing with the developer of this land) to provide sanitary servicing to the proposed lots in accordance with the Town servicing standards.

The BM Ross Design Brief detailing sewer calculations is included in Appendix B.

## **5.0 Water Distribution System**

The existing watermain ends at the south-east corner of this property. There is a small water service that used to serve the one building that was on this property. There is also a water main on Wellington St at the corner of Egan Ave.

It has been discussed with Town staff that the Town will reconstruct Egan Ave (with cost sharing with the developer of this land) to connect the existing pieces of water main in the area to create a looped system and provide water services to the proposed lots in accordance with the Town servicing standards.

The BM Ross Design Brief detailing watermain calculations is included in Appendix B.

Watermain stubs will be provided to the multi-family block at both Egan Ave and Wellington St to allow connection for the multi-family block when it is developed. Details of how, where, and what size the multi-family block will require will be finalized through the Site Plan Agreement process.

The proposed subdivision is not anticipated to have a negative impact on the existing system. In fact, the resulting looped water main should increase the available flow/pressure to the hydrants and the buildings in the area.

## **6.0 Utilities**

The utilities has been contacted about servicing this area and there have been no concerns raised about providing hydro, phone, TV, or natural gas to this proposed residential development.

## **7.0 Transportation**

Egan Ave si to be reconstructed as a standard St Marys local street. A typical cross section is provided on Drawing 3 of 4 of the BM Ross drawings provided in Appendix C.

## **8.0 Conclusion**

The servicing of this development is considered to be practical given its proposed use and the availability of nearby existing public services.

All of which is respectfully submitted,  
JOHNSON ENGINEERING CONSULTANTS INC.



Brian D. Johnson, P. Eng



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### Appendix A – Proposed Site Layout

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### Appendix B – BM Ross Design Brief

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### Appendix C – BM Ross Egan Ave reconstruction drawings

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### Appendix D – Stormwater Management Calculations