



June 5, 2023  
File: LD-00304

VIA EMAIL

Municipality of Strathroy-Caradoc  
43 Frank Street  
Strathroy, ON N7G 2R4

**Reference: SITE SERVICING BRIEF - STRATHMERE APARTMENTS  
ALBERT STREET, STRATHROY**

## Introduction

Debaski Inc. has retained LDS Consultants Inc. (LDS) to complete the engineering design associated with the provision of municipal services required to service the above-referenced project, including the preparation of a Servicing Brief in support of a pending zoning bylaw amendment application.

The proposed development comprises an 85-unit apartment building. The 0.79-hectare property is located north of Albert Street in the Town of Strathroy, east of the entrance to Strathmere Lodge, and is bounded by Strathmere Lodge to the north and existing residential properties to the east.

The purpose of this Servicing Brief is to identify site characteristics, including existing drainage conditions, illustrate the design of the stormwater conveyance system capable of accommodating both minor and major system flows, and demonstrate that fire and domestic water supply as well as storm and sanitary sewers are available, or can be made available to service the proposed development.

The following sections address our findings and conclusions for this project's provision of municipal services.

## Sanitary Servicing

The proposed sanitary outlet is the existing 300 mm sewer within the Albert Street road allowance. This sewer drains east along Albert Street, then north along Carrie Street, ultimately discharging to Pump Station No. 3 in Centennial Park. A cut-in tee connection to the 300 mm sanitary sewer between maintenance holes 159 and 160 is proposed. An inspection maintenance hole at the property line is also proposed.

Based on 85 units, a design population of 1.6 people/unit, and 300 L/cap/day design flow, sanitary flows are calculated to be 2.25 L/s.

Using the Dominion Street Sanitary Drainage Areas Drawing prepared by Stevenson Engineering Limited, dated September 1999 (revised March 2004), we determined the impact of including the proposed development's flow into the design flows of the existing sanitary sewer. The existing 300 mm sanitary sewer fronting the site (MH 159-160) has a gradient of 0.3% and a capacity of 52.96 L/s. Therefore, the design flow plus the proposed flow was calculated at 30.61 L/s which amounts to 58% of the sewer's full flow capacity. Similar to the preceding analysis, an analysis of downstream sewers is provided as follows: 300 mm at 0.54%, having a capacity of 71.06 L/s and 375 mm at 0.30%, having a capacity of 96.03 L/s. The second length of sewer receives flows from Dominion Street, increasing its total flows, including that of the proposed development, to 89.44 L/s or 93% of the sewer's full flow capacity.

## Existing Water Servicing

The existing water network near the site includes a 300 mm PVC watermain on both the north and south sides of Albert Street. The north watermain services Dominion Street and Strathmere Lodge and is terminated at a blowoff located on the southeast corner of the subject lands. The south watermain continues along Albert Street, servicing the lands west of the site. In addition, there are existing fire hydrants on Albert Street across from the subject property.

## **Water Servicing Strategy**

The proposed domestic water servicing strategy for the site will extend the 300 mm diameter watermain on the north side to the connection point, terminating in a blowoff. A 300 mm x 150 mm tee will provide a 150 mm water service connection to the site.

The proposed fire water servicing strategy will utilize existing fire hydrants within the fronting road allowance. As per the attached hydrant flow test results, Hydrant No. 114 can supply 3,600 US gallons per minute (13,626 L/min) which exceeds the maximum 9,000 L/min requirements established via Table 2 - Minimum Water Supply Flow Rates of the Ontario Building Code.

## **Stormwater Management Design**

The subject development will utilize the existing storm sewer south of the site as the stormwater outlet. On-site detention coupled with an established release rate will control post-development flows to pre-development rates.

### **Pre-Development Conditions**

The site consists of manicured lawn maintained as a part of Strathmere Lodge. The site currently drains towards an existing catchbasin located in the center of the site. Overland flows from this area will overtop the site's northwest corner and flow across the entrance to Strathmere Lodge to lands situated to the northwest.

### **Post-Development Conditions**

Through consultation with Municipal and County staff, the proposed outlet for stormwater from this site will be the existing catchbasin lead. All flows will be contained on-site up to the 100-year storm event and controlled to pre-development rates.

### **Stormwater Quantity Control**

An ADS StormTech system, or approved equivalent, is proposed to store up to the 100-year storm under the parking lot north of the proposed building. An outlet control from this storage system will restrict flows to pre-development rates. The design parameters required for the proper sizing of the system will be determined during the detailed design stage of the project. These calculations will be provided in the Functional Servicing Report, which will be included as a supporting document with the Site Plan application.

### **Stormwater Quality Control**

Water quality will be addressed with a commercial OGS unit. The design parameters required for the proper sizing of the unit will be determined during the detailed design stage of the project. These parameters will be provided on the sizing report from a supplier to source an appropriate unit or an approved equivalent. In addition, the unit will provide 80% TSS prescribed by the St. Clair Region Conservation Authority.

## Conclusions

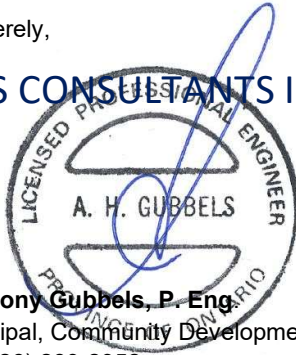
The analysis carried out by LDS yields the following conclusions:

- The external sanitary sewer system on Albert Street has sufficient capacity to support the proposed development of the site for an 85-unit apartment building; and
- The watermain system on Albert Street has sufficient fire and domestic flow capacity to support the proposed site development for an 85-unit apartment building.

We trust that this report is satisfactory to your present requirements. However, should you have any questions concerning the findings presented herein, please do not hesitate to contact the undersigned.

Sincerely,

**LDS CONSULTANTS INC.**



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encl.

Appendix A – Sanitary Sewer Design Sheet

Appendix B – SCG Flowmetrix Fire Flow Test Results

**APPENDIX A**  
**SANITARY SERVICING**



**APPENDIX A**  
**WATER SERVICING**

# Fire Flow Testing Report



FLOWMETRIX  
INDU-TECH  
PROCESS

Residual Hydrant #  
NFWA Colour Code

**412**  
**BLUE**



### RESIDUAL HYDRANT INFO.

HYDRANT #	412
N.F.P.A. COLOUR CODE	BLUE
STATIC PRESSURE	61.6 psi
RESIDUAL PRESSURE - ONE PORT OPEN	58.9 psi
RESIDUAL PRESSURE - TWO PORTS OPEN	54.2 psi
PRESSURE DROP	7.4 psi
% PRESSURE DROP	12.0 % psi
Flow on Water Main At Test Hydrant	20 psi      3600 USGPM

DATE May 2, 2023  
TIME 02:30 P.M.

ADDRESS 534 Albert St  
Strathroy, ON  
N7G 1W9

SIZE-inches/mm 300  
MATERIAL PVC

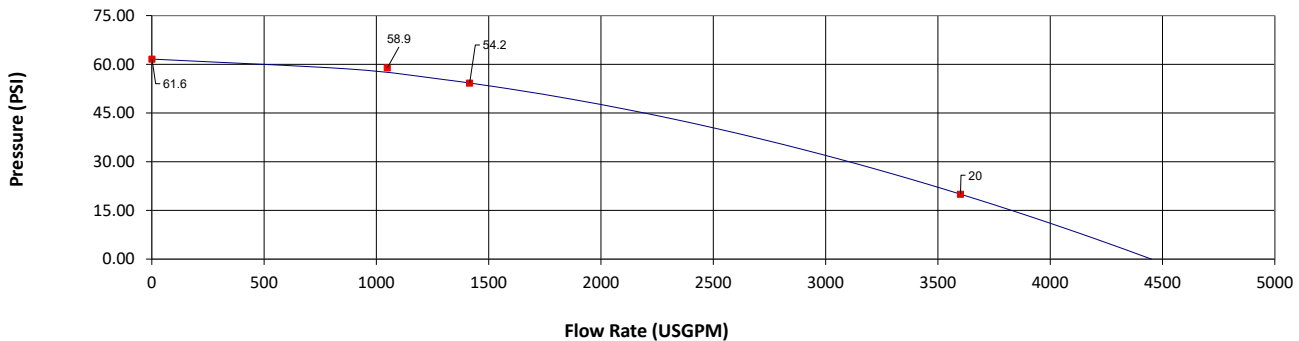
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### FLOW HYDRANT(S) INFO.

HYDRANT ASSET ID	HYD. # PORTS	OUTLET DIAMETER (INCHES)	NOZZLE COEFFICIENT	DIFFUSER TYPE	DIFFUSER COEFFICIENT	PITOT READING (psi)	PITOT FLOW (USGPM)	FLOW METER (USGPM)
114	1	2.5	Round	LPD250	0.90	48.2	1049	0
		2.5	Round	LPD250	0.90	25.4		0
114	2	2.5	Round	LPD250	0.90	18.7	1415	0
		2.5	Round	LPD250	0.90			0

### FIRE FLOW CHART

Pressure - Flow Graph  
at Test Hydrant



### COMMENTS

OPERATOR FMX Andrew Cheung  
OPERATOR FMX Municipality of Strathroy  
OPERATOR

**LDS CONSULTANTS INC.**

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