

July 22, 2016
23587-16

Taylor McDaniel
66 Wellington Road 7, Unit 1
PO Box 1156
Elora, ON
N0B 1S0

Dear Sir:

Re: **Preliminary Servicing and
Stormwater Management Report
Proposed Detached Condominium Development
1 Stevenson Street
15 Stevenson Street
8 William Street
Part of Lot 38, Registered Plan 230
City of Guelph**

1.0 Introduction

Van Harten Surveying Inc. was retained by Taylor McDaniel to prepare a preliminary site servicing and stormwater management design and report for the above mentioned property with frontage on Stevenson Street and William Street, north of Elizabeth Street. This work is being done in support of Rezoning and Draft Plan of Condominium applications.

This report will summarize the proposed plan as it pertains to site servicing including sanitary, storm, and water supply. This will be done in accordance with the accepted engineering practices and criteria as noted by the local approval agencies, as well as the municipal servicing standards.

2.0 Site and Project Description

1 and 15 Stevenson Street currently contain detached single family dwellings, as does 8 William Street. The dwelling located at 15 Stevenson Street is to be removed as part of this development. The dwellings at 1 Stevenson Street and 8 William Street will remain and become part of the overall plan of condominium. The property at 15 Stevenson Street currently fronts onto the east side of Stevenson Street, with a large open, undeveloped area at the rear of the lot. The area at the rear proposed for development is generally overgrown with field grasses and contains several trees. As the Metrolinx rail line runs adjacent to this development to the south, consideration for a 30 m buffer to any structure from the railway property is being considered. As such, all proposed dwellings are being placed on the north limit of the subject property.

12 Memorial Avenue,
Elmira, Ontario N3B 2R2
Phone: 519-669-5070

423 Woolwich Street,
Guelph, Ontario N1H 3X3
Phone: 519-821-2763

660 Riddell Road, Unit 1,
Orangeville, Ontario L9W 5G5
Phone: 519-940-4110

The subject property is generally flat with little to no topographic relief. The drainage outlet for the subject property appears to generally grade towards the right-of-way for Stevenson Street and William Street.

Referring to the Site Plan in Appendix A, the proposed development is to contain ten (10) new detached condominium units as well as the associated parking and common elements. Two of the aforementioned units will front onto Stevenson Street, and one unit will front onto William Street. Two additional units comprising the existing dwellings located at 8 William Street and 1 Stevenson Street will also be part of this overall plan. Referring to the Grading and Servicing Plan in Appendix A, servicing for the internal units will be achieved with the installation of sewers connecting to Stevenson Street. The units with direct frontage to a streetline will have individual services connected directly to the available sewers on their respective streets. The total area that is being developed is approximately 0.56 ha.

3.0 Water Supply

It is understood that each of the existing dwellings as part of the proposed development have a private connection to the water supply located under Stevenson or William Street. As indicated on the Preliminary Grading and Servicing Plan found in Appendix B, the connection to 15 Stevenson Street is to be decommissioned, and all valves associated with this service line removed. The water services for Unit 1 and 2 fronting on Stevenson Street, and Unit 10 fronting on William Street will connect directly to the watermain under the respective streets using 25 mm coper 'K' laterals and curb stop water valves.

It is proposed to provide water to the proposed condominium development by installing a 150 mm watermain with a connection to the existing 150 mm watermain found under Stevenson Street. This will be a dead end watermain with individual water services connecting to each unit from this watermain. A fire hydrant will be installed across from Unit 4. Individual units will connect to this lot through the installation of 25 mm coper 'K' laterals and curb stop water valves.

Available water pressure to service this development should be verified by the City prior to commencement of this development. It is recommended to perform hydrant flow tests during the detailed design stage to determine available water pressures and flows within the existing system.

Due to the distance from existing fire hydrants for several lots located towards the rear of the proposed development, it is recommended to install a private fire hydrant on the property. This hydrant will be installed across the driveway common element from Unit 4. Firefighting access and service will be provided as per the requirements of the City and the Ontario Building Code.

4.0 Sanitary Servicing

It is understood that each of the existing dwellings as part of the proposed development have private connections to the sanitary sewer system located on their respective street frontages. As indicated on the Preliminary Grading and Servicing Plan found in Appendix A, the connection to 15 Stevenson

Street is to be removed to the main and plugged. The sanitary services for Unit 1 and 2 fronting on Stevenson Street will connect directly to the sanitary sewer under their respective streets using typical 100 mm PVC sanitary laterals. The sanitary service for Unit 10 will connect to the existing 400 mm sanitary sewer located within an unregistered easement located immediately in front of the proposed dwelling with a typical 100 mm PVC sanitary lateral.

Sanitary servicing to the site will be achieved with a connection to the existing 600 mm sanitary sewer located under Stevenson Street with a 150 mm sewer main. Individual units will be connected to this main with typical 100 mm PVC sanitary laterals. Preliminary calculations based on known pipe depths and existing grading would indicate that a gravity connection to the main under Stevenson Street is feasible.

Sanitary sewer demand for the proposed site has been calculated based on City of Guelph municipal servicing standards at approximately 0.635 L/sec. Although this is a relatively low demand, the available capacity of the Stevenson Street sewer should be verified.

5.0 Stormwater Management

As indicated on the Preliminary Grading and Servicing Plan found in Appendix B, the storm connection to 15 Stevenson Street, should it exist, is to be removed to the main and plugged. All foundation drains for the proposed development are to be serviced with sump pumps outletting to grade in landscaped areas.

Preliminary stormwater modelling has been completed using MIDUSS with design storms provided by City of Guelph engineering staff. The majority of the minor storm systems will outlet to the storm sewers located under Stevenson Street, and major storms will flow overland to Stevenson Street. Peak flows will be attenuated using parking lot storage and/or underground storage in superpipes, located under the driveway, as required. Consideration for infiltration of roof water in infiltration galleries may also be considered to reduce runoff rates to the allowable runoff rate and to achieve some groundwater recharge. As per the requirements provided by the City of Guelph for the subject property, the allowable outlet rate for the 5-year return period storm will be limited to 0.013 m³/second.

A summary of the peak flow rates and required storage volumes based on preliminary modelling using MIDUSS are listed below:

Return Period	Peak Flow Rate (m ³ /sec)	Storage Volume Required (m ³)
	Proposed Uncontrolled	
5-year	0.076	84.3
100-year	0.188	-

6.0 Conclusions

The completed servicing and grading design is specific to the subject property and cannot be applied to different properties. It has been determined that municipal servicing exists for this property, and overland conveyance is available, where required. It is noted that some further investigation to the available capacity of the existing infrastructure on Stevenson Street may be warranted prior to commencement of this development.

I trust that this report and design has been completed within our terms of reference and is suitable for your present requirements. Please contact our office if you have any questions or require further consultation.

Van Harten Surveying Inc.



Mike Vaughan, P. Eng.

Encl. Appendix A – Preliminary Site, Grading and Servicing Plans

Appendix A

Preliminary Site, Grading and Servicing Plans