

File: 9579

October 8, 2021

Richard VanVeldhuisen
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Re: Part of Lot 8, Conc 1, County Road 2
Village of Cardinal
Township of Edwardsburg/Cardinal
Lot Servicing Study

Mr. VanVeldhuisen,

Eastern Engineering Group Inc. (EEG) was retained to review the servicing options for a vacant land parcel located at Part of Lot 8, Conc 1, County Road 2, in Cardinal, Ontario. The site just west of 801 CR2. This site is currently undeveloped on the south side of CR2.

The Township of Edwardsburg Cardinal has requested a servicing feasibility study to determine the cost feasibility of connecting the vacant lot to municipal sanitary sewers and the municipal water main.

Water Servicing

The lot is currently not serviced for drinking water source. The owner has two options for the site. The first option would be to connect to the existing municipal water service which is available on the north side of County Road 2. The second option would be to investigate a well on the property.

The owner is going to choose the option of connecting to the municipal water main on the north side of Highway 2 which is the preferred method of servicing the lot with potable water.

The owner would require a new water service to be installed across CR2 from the property line to the existing main which is approximately 3m from the north edge of pavement. There are no entrances that would be affected on the north side of the road where the live tap connection would be required. The water service could be installed by directional drilling from the north side to the south side with little to no disruption to the traffic on CR2. A new curb stop would be required at the property line to the subject lot, and a new main line saddle on the watermain.

The cost of this would be borne by the owner of the lot. All necessary designs and standards would be followed for the connection and new service installation.

Recommendations:

It is our opinion that installing a new residential water service is the best option for the lot.

Sanitary Servicing

The lot is currently not serviced for sanitary sewer. The owner has two options for servicing the lot.

Option 1: Septic System

The preferred option for the owner is to construct an on-site septic system on the lot to service the new home via gravity. There would be no need for a pump or any mechanical/electrical connections to allow the house to be serviced.

The owner has had a contractor complete a design, and submit this design to the Leeds, Grenville & Lanark Health Unit which has been approved. The Health Unit will issue the permit at the time of issuance of the Building Permit.

The option for a septic system would be a very large cost savings over Option 2. The expected costs for an onsite residential septic system would be between \$8,000 and \$10,000 for this site.

Option 2: Connection to Municipal Sanitary Sewers

There are currently no municipal sanitary services near the subject lot on County Road 2. The distance from the closest sanitary sewer on CR2 to the lot is approximately 330 m. This would be the required distance if a single 50mm forcemain was installed from an onsite pumping station to the manhole. If a gravity sewer is extended from the end of the existing line, it would require 250m approximately before the forcemain would be able to tie in at an additional 80m.

The current cost of sanitary main installation and manholes is as follows:

Forcemain – 330 m x \$200/m = \$ 66,000.00

Manholes – 2 x \$8,000/each = \$ 16,000.00

Excavation and Reinstatement – 330 m x \$ 250/m (granulars, asphalt, driveways) = \$ 82,500.00

Pump Station – Approximately \$50,000.00

Engineering Fees/Inspection/Permits = \$ 40,000.00

Total Estimated Cost for Forcemain

\$ 254,500.00 (+- 15%)

There are plans on file for a pumping station and sanitary lines to flow to the west and forced back to the east that would be constructed by the Township in the future. If this was installed, the owner could then connect to the new sanitary main if there was ever problems with the septic bed.

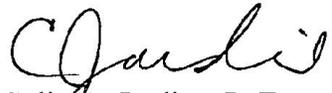
Recommendations:

It is my engineering opinion that a septic system (as approved) would satisfy the lot for sanitary service and should be approved by the Township. The LGLHU has approved the design and location of the septic.



Yours very truly,

EASTERN ENGINEERING GROUP INC.


Colin A. Jardine, P. Eng.