

MEMO

DATE November 21, 2018 **PROJECT NO.** 1653-5099
RE Overview of Servicing Alternatives

TO Christa Beverley
FROM Brittany Robertson, P. Eng.

C. F. Crozier & Associates was retained by Christa Beverley to present alternatives for sanitary servicing to the Client's place of residence at 102 Happy Valley Road, Town of The Blue Mountains (TOBM). Currently, 102 Happy Valley Road is serviced via a septic system which has a holding tank located on the property, with a septic bed located on an adjacent property. The nearest manhole to connect into full municipal services is located approximately 60 metres to the east on Settlers Way across Grey Road 19.

Three potential servicing solutions were evaluated to determine the preferred servicing connection. These solutions are as follows:

1. Connect into municipal sewer system via full gravity sanitary sewer extension from Settlers Way to property line;
2. Connect into municipal sewer system via grinder pump and local forcemain connection to the manhole on Settlers Way; and,
3. Sever land adjacent to residence and upgrade holding tank and septic bed on current septic bed location.

Three preliminary designs and high level cost estimates were prepared to evaluate the servicing alternatives. Unit prices in the estimates are based off of CFCA tender results in the Simcoe/ Grey County Areas. The following provides a review of each option.

Servicing Option #1: Gravity Sanitary Sewer

Design Considerations

Per direction from TOBM staff, a full sanitary sewer extension from Settlers Way, under Grey Road 19 to Happy Valley Road is required. This involves the extension of a 200mm diameter sanitary sewer approximately 60 metres east. Per direction of County of Grey Transportation Staff, open cut will not be supported and therefore directional drilling is required for this servicing connection.

- Our estimated cost for this work is \$131,600.00. This includes the installation of sewer, manhole, as well as road re-construction works (refer to attached cost breakdown).
- Requires MECP ECA Approval for full sanitary connection
 - \$1100 permit fee
 - 3-4 month timeline to secure approvals

- Current holding tank will have to be removed.

Advantages

- Connection provides reliability of municipal servicing system.
- Removal of current septic system provides environmental benefits.

Disadvantages

- As per discussions with TOBM, the Town uses an affordability factor of \$21,000 to determine feasibility of servicing options for a homeowner. The extension of the mainline is well above this threshold.
- TOBM does not foresee future development along Happy Valley Road within a 20-year period
 - Cost sharing recovery is unlikely

Servicing Option #2: Grinder Pump

Design Considerations

This servicing option involves the installation of a grinder pump system on the homeowner's property and installation of a 2" forcemain which would connect into the manhole on Settlers Way for a more affordable solution. Grinder pump systems are a commonly used solution for low unit connections.

- Our estimated cost of work for this solution is \$36,300.00. This includes the grinder pump system and installation of forcemain (refer to attached cost breakdown).
- Current holding tank will have to be removed.
- Crozier has worked within the TOBM on several projects in recent years where grinder pump systems were the optimal solution implemented. The following are CFCA projects within the TOBM:
 - Neighbourhood of Delphi Point
 - Peaks Bay
 - Longpoint Road (not constructed yet, however, a grinder pump system was deemed a supportable alternative by TOBM staff)
- Homeowner willing to remove grinder pump and connect into municipal sewer if and when installed by Town (~20 years).

Advantages

- Affordable servicing solution for homeowner.
- Reliability of municipal servicing system.
- Removal of current septic system provides environmental benefits.

Disadvantages

- TOBM Public Works staff has concerns regarding additional services located in right-of-way. Refer to appended TOBM correspondence (Town of The Blue Mountain, November 2018).

Servicing Option #3: Severance & Septic Tank

Design Considerations

As the current septic bed is located on an adjacent property, the owner would likely need to acquire this land to facilitate septic bed upgrades and relocation of the holding tank.

- Our estimated cost of works is \$66,000.00. This includes the removal of the old septic tank, installation of new septic system (holding tank and septic bed) and purchase and severance of TSC land (refer to attached cost breakdown).
- The building permit required for the septic tank relocation could be undertaken within the permit for the building extension.

Advantages

- Current location of septic bed can remain.
- Mid-cost servicing solution for homeowner.

Conclusions

Upon review of all servicing alternatives, we opine that servicing option #2 is the most feasible for the homeowner and represents the best engineering solution at this time. This has been presented to TOBM staff and they do not support this option. Please refer to correspondence which has been appended to this memo (Town of The Blue Mountains, November 2018). Further resolution with the Town of The Blue Mountains will be required to move forward with this option.

Sincerely,

C.F. CROZIER & ASSOCIATES INC.



Brittany Robertson, P. Eng.
Project Engineer

BR/hb

Encl. Correspondence with TOBM
 Gravity Sewer Cost Estimate
 Grinder Pump Cost Estimate
 Septic Tank Cost Estimate