



23-December-2020

Ms. Thea Langille  
Planning & Development  
Halifax Regional Municipality  
40 Alderney Drive  
Dartmouth, NS, B2Y 2N5

**Subject: Proposed Onsite Wastewater Treatment and Disposal at 3195 Highway 2, Fall River (PID 00504076)**

Dear Ms. Langille:

To meet the requirements of the regional plan we are pleased to submit this letter to confirm that the proposed on-site septic systems can be designed and constructed to meet NS Environment requirements and can service the proposed density.

WSP completed two machine dug test pit per NSE guidelines at the proposed onsite disposal and treatment location shown on the accompanied site plan with this application. These test pits were completed on October 18, 2019. The test pit showed a soil profiles consisting of a top organic layer, an underlying silty sand layer following by a thick layer of silty clay. The test pit did not reach bedrock but showed a shallow groundwater table.

Based upon discussions with Nova Scotia Environment in regard to the minor anticipated variance request to their watercourse setbacks, we have sized the treatment plant areas shown on the *Preliminary Servicing Schematic* accompanied on this application, based upon the population type and density, soil type and allowances for setbacks, tankage and structures. We are anticipating the use of an advanced treatment system capable of achieving secondary level of treatment prior to discharge to the soil. Based upon this, the on-site wastewater facility will be able to be designed and constructed to meet NS Environment requirements. If the NS regulations dictate the requirement for phosphorous removal this can also be accomplished with the advanced treatment unit.

While ongoing discussions will be had with NSE on wetland alteration to allow for the treatment and disposal field as the development agreement process continues, we are confident that the site is suitable for onsite treatment given the size and density of the proposed development.

If you require additional information or have any questions, please feel free to contact me directly.

Yours sincerely,

**Original Signed**

Kevin O'Leary, P.Eng.  
902-444-8340  
kevin.oleary@wsp.com

WSP Reference: 191-12517-00

**Attachments:**

1. *Onsite Test Pit Form WSP Test Pit #1 - 191-12517-00 18-Oct-2019.pdf*
2. *Onsite Test Pit Form WSP Test Pit #2 - 191-12517-00 18-Oct-2019.pdf*
3. *Test Pits 1 & 2 Notes Oct18\_2019 MRB - cropped.pdf*

1 Spectacle Lake Drive  
Dartmouth, NS  
Canada B3B 1X7

T: +1 902-835-9955  
F: +1 902-835-1645  
wsp.com

## SOIL EVALUATION TESTS

Test Pit #1 Profile (mm)



Total Depth: (mm)	1720
Bedrock at: (mm)	NOT FOUND
Water Table: (mm)	Estimated @ 560
Slope: %	0-3
Roots to: (mm)	560
Mottling at: (mm)	NONE

Soil Stratum	Soil Type	Depth of Soil (mm)	Density	Moisture	Remarks
Organic	Humus & topsoil	60	LOOSE	MOIST	Topsoil & Lawn
1st Layer	Silty sand	500	Loose	MOIST	Topsoil and sand - brown
2nd Layer	Sandy silt	160	Mod. compact	MOIST	grey, very pliable
3rd Layer	Silty sand	400	compact	MOIST	grey, cobbles throughout
4th Layer	Sandy silt	600	compact	MOIST	fine sandy particles

Notes:

**Minimum lot width: N/A**

Project: Mixed Residential/Commercial 3195 Highway 2, Fall River		Project No. 191-12517-00	Date (y/m/d) Oct. 18, 2019	Vegetation Lawn area
Inspector Mark Bishop QP2	Test Pit No. 1	Lot No PID 00504076	Use Residential/Commercial	Soil name Sandy Silt & Silty Sand

## SOIL EVALUATION TESTS

Test Pit #2 Profile (mm)



Total Depth: (mm)	1820
Bedrock at: (mm)	NOT FOUND
Water Table: (mm)	Estimated @ 1160
Slope: %	0-3
Roots to: (mm)	1160
Mottling at: (mm)	NONE

Soil Stratum	Soil Type	Depth of Soil (mm)	Density	Moisture	Remarks
Organic	Humus & leaf mat	60	LOOSE	MOIST	Humus leaf mat
1st Layer	Silty sand	1100	Loose to mod compact	MOIST	fill, silty sand, brown
2nd Layer	original org. layer	60	Mod. compact	MOIST	old roots, org. mat
3rd Layer	sandy silt	600	mod compact	MOIST	grey, pliable

Notes: 1st Layer: roots throughout, 6"-8" rock throughout, small amount of asphalt

**Minimum lot width: N/A**

Project: Mixed Residential/Commercial 3195 Highway 2, Fall River		Project No. 191-12517-00	Date (y/m/d) Oct. 18, 2019	Vegetation Filled in lawn area - wooded area
Inspector Mark Bishop QP2	Test Pit No. 2	Lot No PID 00504076	Use Residential/Commercial	Soil name Sandy Silt & Silty Sand

191-12517 Micco Company, Inc. Ltd  
 Oct 18, 2019 12° cloudy MRB

TP #1 60 top layer Sod/moss lawn Loose top soil  
 Roots 500 silty sand, Brown, Moist Full of roots  
 # Seepage > 160 SANDY silt, grey, moist Mod comp very  
 400 silty sand moist, comp Plyable.  
 600 SANDY silt, grey, moist comp Brown  
 Fine sandy particles. cobbles mixed throughout

Wet land - Filled in lawn Area Wooded Area

TP #2 060 - Humus - leaf mat  
 Fill looks like Pretty good Material: 1100 - Fill, SANDY SAND Brown  
 Roots throughout, 6" - 8" Rock throughout Loose to Mod, Moist  
 Seepage > A Bit of Asphalt  
 60 Organic layer - original ground / Roots organic mat  
 600 - SANDY silt, grey - Mod wet  
 Fine sand, grey - Mod plyable

Excavator: 8:15 to 9:30 on site

(TEST PITS 1, 2)