March 13, 2020 (Revised May 5, 2022)

Our File Ref.: 170132.04

The Hindu Temple of Ottawa Carleton Inc.
4835 Bank Street
Ottawa, Ontario K1X 1G6

Attention: Mr. Harish Gupta

Subject: Terrain Analysis and Private Sewage Disposal System Impact Assessment - Proposed Assembly Hall
The Hindu Heritage Centre of Ottawa Carleton, 4835 Bank Street, Ottawa, Ontario

Dear Mr. Gupta,

LRL Associates Ltd. (LRL) has conducted a Terrain Analysis and Private Sewage Disposal System Impact Study for the proposed Hindu Heritage Centre of Ottawa Carleton Assembly Hall to be constructed on the property located at 4835 Bank Street, Ottawa, Ontario (herein referred to as the "Site"). It is understood that it is proposed that a 1,593 m² assembly hall be constructed at the eastern portion of the existing developed property which will have an available capacity of approximately 500 individuals, increasing the total occupancy of the Site to approximately 750.

The proposed assembly hall will be supplied by municipal water supply and a private septic as is the existing development on the Site.

The assessment was carried out to determine if the proposed development:

- Has soil conditions that are suitable for onsite sewage disposal; and
- Will not impair the use of groundwater resources on the Site or on adjacent lands.

The proposed sewage system for the proposed assembly hall building will be designed for approximately 4.0 m^3/day of wastewater, as outlined below. The existing building has two (2) existing sewage systems, each designed for 3,750 L/day, that operate independently of each other. Based on the capacity of the existing building of 250 persons and no food services/kitchen, and three (3) existing single resident apartment units, the sewage demand of the existing building has been reassessed to 2.8 m^3/day. An application has been made to the Ottawa Septic System Office (OSSO) under separate cover to permit the change to the proposed design flow, and a response is currently pending. The response from the OSSO has been received and the approved permit is included in **Appendix H**. The OSSO has approved the upgrade of the existing sewage disposal system to include one (1) unit with a daily capacity of 4,825 L/day (4.8 m³/day), rather than the current two (2) 3,750 L/day capacity installations.

The assessment involved a desktop review of available information on the geology and hydrogeology of the Site and adjacent lands in addition to an intrusive subsurface investigation (test pitting program). The Site is serviced by municipal water supply, however, neighbouring properties within 500 m of the Site were found to have records of supply wells present.

1 SITE AND AREA DESCRIPTION

The property is situated at the southern extent of the City of Ottawa at 4385 Bank Street. The property is legally described as Part Lot 22, Concession 5RF Gloucester Parts 1 & 2, 5R3156. The location of the subject site is shown in **Figure 1**. The Site's area is approximately 3.8 hectares (9.4 acres). The property is currently occupied by the Hindu Heritage Centre of Ottawa Carleton. The footprints of the existing temple building and garage are approximately 1,168 m² and 105 m^2, respectively. The existing temple is located at the western extent of the Site with the associated septic systems to the north and south of the temple. Based on the previously prepared Use Permit, dated December 5, 1985, issued by the MECP, and associated application, the existing sewage disposal system includes two (2) septic systems: one (1) to service the existing kitchen and washrooms and one (1) to service the remainder of the existing temple building. Each system was originally designed to handle the entire demand for the building, based on an assumed total occupancy of 250 individuals and the use of 15 L/day per individual. The systems are operating independently of each other, with no cross-connections. Since no food services are present in the building and none are proposed, the use of 8 L/day per individual instead of 15 L/day per individual is deemed more appropriate. This yields a total daily sewage capacity for the existing building of 2,000 L/day. An application of this change has been made to and approved by the OSSO.

The neighbouring land use is as follows:

- Bank street, followed by light industrial/commercial business to the west; and
- Vacant/treed land to the north, south and east.

The topography of the land is generally flat with an approximate elevation of 97 m above mean sea level.

These site features are shown in the **Figure 2**.

2 PROPOSED DEVELOPMENT

It is anticipated that an assembly hall will be constructed at the eastern portion of the Site with the associated septic system along the south of the proposed structure. The estimated proposed building footprint is 1,593 m^2. The proposed assembly hall is anticipated to include a dining area, a lobby and two (2) halls. No food services are proposed. The proposed development will be equipped with a full basement. Water supply will be obtained from municipal services.

It is proposed that 14 additional parking spaces be created, for a total of 181 parking spaces with a total parking and circulation area of 5,380 m^2.

In addition, it is proposed that the septic system for the existing temple building be consolidated into a single system with upgraded services.

The approximate preliminary proposed development plan is shown in **Figure 3**.

3 FIELDWORK

On May 8th, 2017, eight (8) test pits were advanced across the Site. The test pits were placed around the general perimeter of the Site so not to disrupt existing Site activities and services. The rationale for the test pits was to determine the general upper soil and perched water conditions. The test pits were advanced using a backhoe operated by a local contractor (Yelle Excavation, Ottawa) and under direct supervision by LRL field staff. The locations of the test pits are presented in **Figure 4** with the test pit logs included in **Appendix A**.

An open tube piezometer was installed in select test pits (TP1, TP3, TP5 and TP7) to allow for the groundwater elevation measurement and sampling of the perched water found in the overburden, herein referred to as groundwater. Groundwater samples were collected on May 8th, 2017 following purging of approximately three (3) well volumes from each piezometer. Groundwater samples were collected from each of the piezometers with the exception of TP5 which was found to have insufficient water available for sampling (i.e., dry). Samples were collected on one (1) occasion and do not represent seasonal variability. The samples collected were submitted for laboratory analyses of select nitrogen species parameters. The laboratory Certificate of Analysis is included in **Appendix B**.

Soil samples from two (2) test pits were submitted to LRL's material testing laboratory for sieve and hydrometer analyses. The sieve and hydrometer analysis certificates are included in **Appendix C**.

A ground surface elevation survey was carried out at each test pit location to obtain the elevation of the test pit ground surface and the piezometer stick-up. These elevations would aid in determining the groundwater elevations across the Site. A locally referenced benchmark was established as the top of the east arm of the hydrant located along the west of the southern entrance to the Site. The benchmark was assigned an arbitrary elevation of 100.00 m. The elevations are summarized in **Table 1A** and are presented in the test pit logs included in **Appendix A**.

4 TOPOGRAPHY, GEOLOGY AND HYDROGEOLOGY

Local topography indicates that the inferred overburden groundwater flow direction is east towards the North Castor River. The nearest open water body to the Site is an unnamed tributary that flows into the North Castor River, approximately 1.1 km east of the Site.

Surficial soil deposit mapping[1] indicates that the overburden consists of till, plain with local relief less than 5 m. Bedrock mapping[2] indicates that the underlying bedrock consists of dolomite and limestone, of the Oxford Formation.

The test pits completed across the Site were found to have a thin layer of topsoil over fill material which extended to depths between 0.7 and 1.5 m thick. The fill was underlain with silty sand in TP1. The fill layer generally extended to bedrock refusal, encountered at depths from 0.8 to 2.1 m bgs. Waste debris was observed in the fill material in TP2, TP3 and TP5, which included metal, tire debris and asphalt.

[1] St-Onge, D.A. (compilation), 2009: Surficial geology, lower Ottawa valley, Ontario-Quebec; Geological Survey of Canada, Map 2140A, scale 1:125000

[2] Harrison, J.E., 1976. Geological Survey of Canada, Generalized Bedrock Geology, Ottawa-Hull, Ontario and Quebec, Map 1508A, scale 1:125000.

A representative till sample collected during the test pitting activities (TP3-6) was submitted for sieve analysis. The till sample was reported to be 39% silt & clay, 40% sand, and 21% gravel. This represents fine silty sand. A second representative till sample collected (TP1-3) was submitted for hydrometer analysis. The sample was reported to be 22% clay, 64% silt, 9% sand and 5% gravel. This represents a silt loam. These results are presented in the sieve and hydrometer certificates of analysis that are included in **Appendix C** and are summarized in **Table 2**. As a conservative measure, sand will be used to define the soil infiltration factor and fine sandy loam will be used for moisture surplus.

A search was conducted of the available water well records from the MECP Water Well Record Department. The search by UTM coordinates covered a 500 m radius from the site. The search returned records for twenty-three (23) wells. The well records are included in **Appendix D** and their locations are presented in **Figure 5**.

Review of the records of the wells within 500 m of the site retrieved revealed that the wells are drilled wells extending to depths between 8.2 and 67.1 m. The well records show that that the geological conditions within 500 m are relatively similar, and consist generally of mixed till materials including sand, clay, gravel and boulders from 0 to 8.0 m. Unidentified soil conditions, "soil" was described in one (1) of the well records, as noted in the table below. The described bedrock conditions varied slightly between limestone, sandstone and occasionally shale. Bedrock starting depths also vary from 0.6 to 7.9 m.

The general subsurface conditions indicated in the well records within 500 m of the site are as follows:

MOE Well Number	Distance and Direction from Site (m)	Depth (m)	Overburden Details			Bedrock Details	Groundwater Encountered (m)	Static Water Level (m)	Type of water
			Sand/ Fill (m)	Clay/ Loam (m)	Gravel/ Till (m)	Bedrock			
1502181	210 N	14.0	- -	- -	0 – 6.4	6.4- 14.0 (Limestone)	14.0	2.4	Fresh
7112950	485 N	52.7	- -	0 – 3.3	- -	3.3 – 52.7 (Limestone)	51.5	4.7	Unspecified
1533566	385 N	67.1	0 – 2.1	- -	- -	2.1 – 29.8 (Sandstone) 29.8 - 38.7 (Limestone) 38.7 - 67.1 (Sandstone)	65.8	4.8	Unspecified
1531693	385 N	67.1	- -	- -	0 – 0.9	0.9 – 67.1 (Sandstone)	62.7	9.1	Fresh
1502249	370 N	25.9	0 – 1.2	- -	- -	1.2 – 25.9 (Sandstone)	25.2	4.5	Unspecified
1502248	330 N	29.9	0 – 0.3	0.3 – 1.8	- -	1.8 – 29.9 (Sandstone)	24.3, 29.5	4.2	Fresh
1502246	335 N	24.4	- -	- -	0 – 1.5	1.5 – 24.4 (Sandstone)	9.1, 18.2, 30.1	1.5	Fresh
1517349	260 N	8.2	0 – 2.4	- -	- -	2.4 – 8.2 (Granite)	8.2	1.5	Fresh
1509925	215 N	19.2	- -	- -	0 – 3.9 "Boulders"	3.9 – 19.2 (Sandstone)	18.2	0.6	Fresh
1502175	360 NW	18.3	0 – 6.0	- -	- -	6.0 – 18.3 (Sandstone)	18.3	3.0	Fresh

MOE Well Number	Distance and Direction from Site (m)	Depth (m)	Overburden Details			Bedrock Details	Groundwater Encountered (m)	Static Water Level (m)	Type of water
			Sand/ Fill (m)	Clay/ Loam (m)	Gravel/ Till (m)	Bedrock			
1502176	250 NM	13.7	- -	0 – 5.4	- -	5.4 – 13.7 (Limestone)	13.7	1.8	Fresh
1502179	50 W	27.1	- -	- -	0 – 4.8	4.8- 7.62 (Limestone) 7.62 – 27.1 (Sandstone)	27.1	6.1	Fresh
1513436	100 SW	15.0	- -	0 – 3.6 "Soil"	3.6 – 4.8	4.8 – 15 (Limestone)	14.6	4.3	Fresh
1502180	140 S	16.8	- -	0 – 1.8 "Loam"	- -	1.8 – 16.8 (Limestone)	16.8	1.8	Fresh
1502177	195 S	18.2	0 – 2.1	- -	2.1 – 6.1	6.1 – 18.2 (Sandstone)	18.2	1.8	Fresh
1512375	230 S	22.5	0 – 2.7	- -	- -	2.7 – 22.5 (Sandstone)	22.5	3.6	Fresh
1512265	245 S	14.6	- -	0 – 0.9	- -	0.9 – 14.6 (Limestone)	2.4, 6.4, 10.3	1.2	Fresh
1514664	220 SW	15.2	- -	- -	0 – 3.9	3.9 – 9.1 (Shale) 9.1 – 38.1 (Limestone)	9.7, 16.7	6.1	Fresh
1516052	15 S	54.2	0 - 2.8	- -	2.8 – 7.9	7.9 – 13.1 (Limestone) 13.1 – 54.4 (Sandstone)	53.3	9.1	Fresh
1502178	310 SW	15.2	- -	- -	0 – 5.4	5.4 – 15.2 (Limestone)	14.6	3.9	Fresh
1510717	400 S	15.8	0 – 1.8	- -	- -	1.8 – 15.8 (Limestone)	15.2	2.1	Fresh
1514840	370 S	41.1	0 – 0.9 "Topsoil"	- -	- -	0.9 – 41.1 (Limestone)	32.0	6.0	Fresh
1502250	370 S	24.1	- -	0 – 0.6 "Loam"	- -	0.6 – 19.8 (Sandstone) 19.8 – 24.0 (Granite)	18.2, 24.0	6.0	Fresh

4.1 Groundwater from Test Pits

Groundwater samples were collected following the test pit piezometers. Prior to collection of samples each piezometer was purged of approximately three (3) well volumes. Samples were collected on one (1) occasion and do not represent seasonal variability. The Site currently has two (2) operating septic disposal systems. Therefore, the water analytical results are not considered background.

Table 3 summarizes the water quality analysis from the test pit piezometers for nitrates, nitrites, ammonia and total kjeldahl nitrogen (TKN). The Laboratory Certificate of Analysis is included in **Appendix B**.

Nitrites were not detected (<0.05 mg/L) in any of the groundwater samples collected. Nitrate levels were reported to be 0.5 mg/L in TP3 and <0.1 mg/L in both TP1 and TP7, below the ODWS of 10

mg/L. Ammonia was reported to be 0.28, 0.39 and 1.66 mg/L in TP1, TP3 and TP7, respectively. There are no set ODWS for ammonia.

TKN values were reported as 78.1, 65.3 and 131 mg/L in groundwater samples collected from TP1, TP3 and TP7, respectively. There are no set ODWS for TKN; however, based on the measured groundwater levels and corresponding elevations, the overburden groundwater flow direction is inferred to the east. TP7 is located along the extents of one of the existing septic beds on the property, and additionally, during the advancement of TP7, organic material including a tree stump was encountered. Both of which (septic and other organic decomposition) could contribute to the elevated levels of TKN across the central portion of the Site.

4.2 Groundwater Flow

Piezometers were installed in the test pits on May 8, 2017. Groundwater levels were measured in the piezometers on the same day as construction. It is likely that the water levels in the piezometers were not given sufficient time to stabilize prior to measurement. Therefore, the groundwater elevations measured in the test pits are not considered representative.

Four (4) monitoring wells were previously installed on September 23, 2019 as part of the Phase II ESA (Phase II Environmental Site Assessment, LRL, November 22, 2019). Groundwater elevations were measured on September 30, 2019. The groundwater elevations are summarized in **Table 1B** and the groundwater elevations and interpreted flow contours are presented in **Figure 4**. Based on the groundwater elevations measured on September 30, 2019 the groundwater flow is interpreted to the east-southeast.

The shallow bedrock flow is inferred to be toward the east to northeast based on review of “Map 3-16: Potentiometric Surface and Groundwater Flow in Shallow Bedrock, Source Protection Watershed Characterization Report Maps”, by Raisin Region Conservation Authority and South Nation Conservation, dated April 30, 2008. The adjacent properties to the east and northeast are undeveloped. Therefore, based on the inferred groundwater flow direction the risk to bedrock groundwater users is considered low.

5 RECEIVING GROUNDWATER

The current and potential uses of the aquifers are identified below.

5.1 Overburden Groundwater

The overburden groundwater is unlikely to be used as a water supply based on the following:

- The Site and the adjacent properties are currently serviced by municipal water although water well records were identified in the area.
- Based on the well records reviewed and the shallow overburden conditions, no shallow wells were identified on the subject site or adjacent lands. Generally, the overburden conditions are not suitable for construction of a well.
- The buildings in this area are serviced by private septic systems; therefore, the current use of the overburden groundwater is for the attenuation of the septic system effluent.

5.2 Bedrock Aquifer

Twenty-three (23) well records were available for properties located within a 500 m radius of the Site. The records indicate that all twenty-three (23) wells tap into bedrock aquifer. Although it is

our understanding that municipal water is available for the neighbouring properties, it is unknown at this time if these wells are still present or continue to be used for potable purposes.

A servicing map was provided by the City to LRL and is included in **Figure 6** (attached). As shown, the majority of properties within 500 m are serviced with municipal water. The undeveloped property immediately south of the site with no civic address is currently un-serviced. It is expected that future development would likely occur along Bank Street on the west end of the property and would be serviced with municipal water. Various properties to the north (4805 Bank St. and 3216, 3236, 3238, 3250, 3270 Blais Road.) are un-serviced. The risk to these properties from the proposed septic system is considered low due to their distance from the Site (>200 m).

6 TERRAIN ANALYSIS AND SEPTIC DESIGN

The terrain analysis was conducted to demonstrate that the unconsolidated material on the Site is appropriate for the construction of an on-site subsurface sewage disposal system, with consideration taken regarding the existing installation.

The subsurface conditions indicated for the Site are considered suitable for a Class IV sewage disposal system with a partially to fully raised leaching bed depending on the lot specific soil and groundwater conditions at the actual location of the proposed septic system leaching bed. The leaching bed should be constructed to conform to the specifications set out in the Ontario Building Code (OBC). As part of this assessment, an analysis was carried out to ensure that sufficient space exists at the Site for the construction of a third septic system in accordance with the OBC which will service the proposed assembly hall.

6.1 Existing Building – Proposed Septic Design

As previously mentioned, currently the existing temple building is serviced with two (2) sewage disposal systems located at the north and south sides of the buildings, respectively. Both are constructed with 9,000 L capacity fibreglass septic tanks and 8 runs of 13.3 m length piping. One (1) of the systems was intended to service the kitchen and washrooms and the other services the remainder of the existing temple building. However, it is understood that there is no longer a kitchen in the building. Since no food services are present in the building and none are proposed, the use of 8 L/day per individual instead of 15 L/day per individual is deemed more appropriate, as per the Ontario Building Code. Therefore, it is proposed that the use of 8 L/day (no kitchen) per individual instead of 15 L/day per individual is deemed more appropriate. This yields a daily required sewage capacity of 2,000 L/day. Furthermore, it is understood that three (3) single resident apartment units are present in the exiting building, each with a daily sewage capacity of 275 L/day. The total required sewage capacity for the existing building on the site is 2,825 L/day rather than the previous 3,750 L/day.

Due to the lower required capacity of the existing building, it is proposed that the northern septic for the temple building will be decommissioned, and the southern septic system will be upgraded to become the consolidated septic for the entire temple building. The proposed system is anticipated will be designed to account for a conservative flow capacity of 4,825 L/day and will have a treatment unit to reduce the concentrations of nitrates in the product prior to discharge into the shallow buried trench system. The daily flow expected has been calculated as follows: 250 persons capacity place of worship with no food preparation for 2,000 L/day; and three (3) apartments with one (1) occupant in each for 825 L/day, less than the design flow capacity.

This upgraded system will utilize the existing septic tank as a balancing tank (if acceptable conditions, and is confirmed to be a minimum of 9,000 L capacity), and a pressurized shallow buried trench bed with four (4) runs of 26.16 m at 2.0 m spacing between pipes. Design drawings

for the proposed system for the existing temple building upgrades by Green Valley Environmental are provided as **Appendix E**. An approved application has been received from the OSSO for approval of this change to the existing disposal system on the Site, however revisions to the surface grades provided in the relevant drawings require revisions to correspond to other design aspects. Therefore, a revised permit request has been submitted to the OSSO, along with document Part 10.11 which requests approval for the daily sewage flow of the existing building to account for the reduced volumes. The previous response from the OSSO is included in **Appendix H**, however a revised version, once received will be submitted to the City of Ottawa for review under a separate cover. The proposed septic changes for the Site have been approved by the OSSO. The anticipated upgrades system will be a partially raised shallow buried trench system, with a design flow capacity of 4,825 L/day. Additional details and components of the system are as follows:

- Pre-Treatment Tank: To include a 3,785 L pre-treatment tank with a maximum cover of 300 mm of soil. Riser and lids will be installed to permit for accessibility;
- Treatment Unit: The treatment unit will include a Norweco hydro-kenetic 5670L-3M treatment unit, installed in series and located down stream of the pre-treatment tank. This unit will produce a tertiary treatment of the effluent quality. The effluent from the treatment unit will be pumped from a 300 gal pump chamber with a 0.5 hp pump, timer dosed at 35 s per 15 min, to the pressurized shallow buried trench bed;
- Filter Vault: The filter vault will include Norweco filters to be installed in series and downstream of the remaining treatment units. Accessibility to the filters will be permitted through the inclusion of access points along ground surface, constructed of risers ad lids; and
- Pressurized Shallow Buried Trench Bed: The pressurized shallow buried trench bed will include a sand fill material to each side of the bed, and will have four (4) runs of 26.16 m in length, with 2.0 m spacing.

6.2 Proposed Building – Proposed Septic Design

The daily sewage flow for the proposed assembly hall is based on the assumption that 500 individuals will occupy the building. In accordance with Schedule 8 of the OBC, it is assumed that 8 L/day will be discharged into the septic system for each individual that occupies the building. This is the set value for an assembly hall not equipped with food services. As a conservative approach to determine the expected largest septic system envelope required to service the proposed assembly hall, a septic system envelope size was calculated assuming a fully raised bed with mantle, a percolation rate of 12 min/cm for the imported sand required and a daily sewage flow of 4,000 L. The total length of pipe required for the proposed septic bed for the proposed assembly hall, assuming imported fill, was calculated as approximately 240 m using the following equation:

$$L = QT/200$$

where L = length of pipe (m);

Q = daily sewage flow for the proposed assembly hall (L/day); and

T = percolation rate of the imported sand fill material (min/cm).

Therefore, an area of approximately 360 m² is required for the septic bed assuming 16 pipes, each having a length of 15 m and a spacing of 1.6 m between the pipes. A mantle of 15 m in length would be required along the downgradient portion of the bed. Based on the total coverage of the septic bed (raised portion and mantle plus a replacement area) an area of approximately 1,215 m² would be required. This is a conservative approach based on the OBC.

However, due to the total sewage demand of the existing and proposed buildings (6,825 L/day) and available infiltration area on the site (15,888 m^2), a conventional system such as those used by the existing building presently is not adequate for the proposed assembly hall and tertiary treatment is necessary. It is proposed that a tertiary system, Norweco HK 4730L-3M, be considered for both the new assembly hall septic system.

As shown in **Appendix E**, a Norweco HK 4730L-3M tertiary treatment system is proposed for the proposed the assembly hall. The general details are as follows:

- Balancing Tank: A 2000 Gal balancing tank, with a LE40-series sewage pump is to be installed along with a timer to prevent peak loading in the Norweco treatment unit;
- Treatment Unit: The treatment unit will include a Norweco hydro-kenetic 5670L-3M treatment unit, installed in series and located down stream of the pre-treatment tank. This unit will produce a tertiary treatment of the effluent quality. The effluent from the treatment unit will be pumped from a 300 gal pump chamber with a 0.5 hp pump, timer dosed at 15 s per 6 min, to the pressurized shallow buried trench bed; and
- Pressurized Shallow Buried Trench Bed: The pressurized shallow buried trench bed will include a sand fill material to each side of the bed, and will have ten (10) runs of 15.26 m in length, with 2.0 m spacing.

6.3 Average Daily Water Demand Variance

It should be noted that the average daily water demand presented in the Site Servicing Report prepared by LRL, dated September 18, 2017 was calculated for the entire property using Section 7 of the OBC. The demand was calculated assuming a worst-case scenario where all fixtures at the property, both the existing and the proposed buildings, are turned on simultaneously at the applicable flowrate for each fixture as specified in the OBC. The purpose of this calculation is to size the piping required to service the site.

7 PRIVATE SEWAGE DISPOSAL SYSTEM IMPACT STUDY

The groundwater impact assessment addresses the ability of the land to attenuate the sewage effluent created by the development. Three methods for conducting the assessment are outlined in MOE's *Procedure D-5-4 Technical Guideline for Individual On-Site Sewage Systems: Water Quality Impact Risk Assessment* (1996):

- *Lot Size Consideration* for lot greater than 10 000 m^2 (1 hectare);
- *System Isolation Consideration* for areas where the septic system is hydrogeologically isolated from the potable water source; and
- *Contaminant Attenuation Consideration* for sites that do not meet the above two points.

Bedrock was encountered at depths less than 2.0 m in more than two thirds of the site, therefore the site is considered hydrogeologically sensitive with areas of thin soil over highly permeable soils (i.e., bedrock). The depth to inferred bedrock encountered during the geotechnical investigation (Geotechnical Investigation, LRL, LRL, November 2019), Phase II ESA (Phase II

Environmental Site Assessment, LRL, November 22, 2019), and this terrain analysis are illustrated in **Figure 7** (attached). As shown, the depth to bedrock in the vicinity of the existing septic beds is approximately 1.4 m north of the building and 0.80 to 1.80 m south of the building. For the proposed assembly hall, at the southern locations in the general vicinity of the proposed Norweco septic bed the inferred depth to bedrock ranged from 2.10 m (TP-1) to 6.10 m (MW19-4). Based on these elevations there is evidence to suggest that there is sufficient overburden thickness to minimize the potential for the bedrock to be a receiver of the septic effluent in the vicinity of the proposed septic bed for the future assembly hall.

The overburden material generally consisted of a fill material in the test pits with a stratum of till (TP3) or silty sand (TP1) above the bedrock in areas. As discussed in Section 4, representative samples of the till material at TP3 and TP1 were collected for sieve analysis. The results represent fine silty sand and silt loam at TP3 and TP1, respectively. The receiving groundwater for the septic system effluent is identified as the fill, silty sand and till. This groundwater is not considered an aquifer as it was encountered at depths less than 2.0 m below grade. As stated in Section 5.1, this groundwater is not a suitable supply aquifer for potable water based on its assumed poor yield, poor quality, shallow depth and likely use for the attenuation of the Site's existing, and the neighbouring properties', septic effluents. This groundwater is considered a suitable attenuation zone because alternative sources of water are available (i.e., municipal water or bedrock aquifer).

As mentioned above, the lot size is 38,000 m², with approximately 15,504 m² available for the installation of the proposed septic system. The lot size consideration for lots greater than 10,000 m^2 does not apply based on the anticipated total sewage demand of 6,000 L/day, including the existing building. Therefore, "***Contamination Attenuation***" was considered in this terrain analysis.

The Site has a total area of 38,000 m². In accordance with Section 22.5.8 of the MECP Design Guidelines for Sewage Works, the stream which is identified to bisect the Site immediately east of the proposed development must be considered in the extent of the allowable dilution area. It is understood that a 20 m setback is required from the bank of the stream and any development on the Site. The proposed septic system layouts are shown in the proposed site development plan in **Figure 3**.

7.1 Contaminant Attenuation Method (Predictive Assessment)

The Contaminant Attenuation Method (Predictive Assessment) was used to determine the impact of the proposed on-Site septic systems at the boundary of the Site. This procedure assesses the risk that the individual on-site systems will cause the concentration of the nitrate-nitrogen exceed 10 mg/L at the property boundaries. Dilution is the attenuation mechanism considered for nitrates, with precipitation being the only source of infiltration. The following parameters and assumptions were used in the nitrate attenuation calculations:

- Infiltration factors for the site;
    - Flat topography;
    - Infiltration Factors:
        i. Grain size analysis ranged from fine silty sand to silt loam. A conservative assumption of clay loam was used for this calculation;
        ii. Approximately 15,504 m² of the site is considered Cultivated Land;
    - Moisture Surplus:
        i. The remaining cultivated land is considered Shallow Rooted Crops;

ii. Grain size analysis ranged from fine silty sand to silt loam. An assumption of Silt Loam was used for this calculation;

- Impervious areas (existing and proposed) were calculated to be of 2,866 m^2 for the buildings and 5,380 m^2 of paved driveway and parking areas; and
- Moisture surplus values from the Ottawa weather station (Environment Canada, 2011).

The moisture surplus printout is included in **Appendix F**. This location is considered representative of the site located at the south-central extent of the City of Ottawa, Ontario.

Based on the total proposed sewage volume for the entire Site of 6,000 L/day, the existing lot size, soil conditions, a nitrate concentration of the sewage of 40 g/L, the calculated levels of nitrates at the property limits is estimated as 16.14 mg/L as presented in the attached **Table 4A**. This is above the procedure's guideline limit of 10 mg/L at the property line. Based on the "*Contaminant Attenuation Method*", without tertiary treatment the current lot size and soil conditions are not suitable to attenuate the nitrate impacts generated by the septic systems of the development in accordance with D-5-4 guideline.

The above calculations are based on the current D-5-4 guideline which requires the use of 40 mg/L as the contaminant source as per Section 5.6.2 (a). Therefore, the use of an advanced tertiary treatment system such as Norweco tertiary system is necessary to reduce the levels of nitrates prior to discharge to the disposal field. This particular system is approved by the OBC and the Building Materials Evaluation Commission of the Ontario Ministry of Municipal Affairs and Housing. Furthermore, Section 5.7 of the D-5-4 guideline states that the Ministry recognises "that as research continues, information and technologies may become available which warrant minor or substantial revisions to this guideline".

The Norweco HK 4730L-3M is certified for a minimum 50% total nitrogen reduction. Therefore, a nitrate effluent concentration of 20 mg/L was used for both the proposed upgraded system for the existing temple building the proposed assembly hall in this assessment. A copy of the specifications for the Norweco tertiary system is included in **Appendix G**.

The calculated nitrate level at the property line is estimated based on the daily sewage volume for the existing building (2,000 L), which is proposed to be handled by the southern system only, treated with a Noweco tertiary system, in addition to the the daily sewage volume of the proposed system for the new building of 4,000 L, treated with a Norweco tertiary system. The detailed calculations for the proposed development are presented in the attached **Table 4B**. It is assumed that the level of nitrates in the effluent from the proposed Norweco tertiary systems are 20 mg/L. Based on these assumptions the nitrates at the property limits is estimated as 8.06 mg/L. This is below the procedure's guideline of 10.0 mg/L. Based on the "***Contaminant Attenuation Method***" the current lot size and soil conditions are suitable to attenuate the nitrate impacts generated by the septic systems on the development in accordance with current D-5-4 guidelines, provided an appropriate tertiary treatment is used for the proposed system.

8 CONCLUSIONS

Based on our review of available information and the results of the groundwater sampling and laboratory analytical programs, we conclude the following:

1. Sufficient area exists on the property for the upgrading of the existing system in the temple building with a design sewage flow of up to 2,000 L/day, and the installation of a septic system in accordance with the OBC to service the proposed Assembly Hall with a design sewage flow of up to 4,000 L/day.
2. Pre-treatment of the sewage from the proposed sewage disposal systems with Norweco tertiary systems, which have a certified nitrogen reduction of a minimum of 50%, yields a calculated nitrate concentration at the property line of 8.06 mg/L, based on the ***"Contaminant Attenuation Method"***.
3. Hydrogeologically sensitive conditions are present on the site due to thin overburden. The overburden generally consists of fill to bedrock, with till or silty sand observed at two (2) of the test pits.
4. Records of domestic wells were retrieved within 500 m of the site. The potable water source of these wells is the bedrock aquifer. A thin layer of either clay, gravel or till, with some sand in areas, being between 0.9 and 7.6 m thick over bedrock.

9 RECOMMENDATIONS

1. The septic system should be placed at least 30 m from any wells, and no future wells should be installed on the Site.
2. It is recommended that the water table be surveyed prior to installation of the sewage disposal systems.
3. It is recommended that the required 20 m setback from the normal high water mark of the identified stream east of the proposed development footprint be maintained.
4. Due to the thin soils and sensitive site conditions it is recommended that the leaching bed of the proposed system be fully raised. It is recommended that a service contract be initiated with the manufacturer. All manufacturer's recommendations regarding maintenance and monitoring of the system shall be followed.
5. It is recommended that a geodetic benchmark be used for further investigations on the site, including any additional monitoring wells and groundwater elevations.

10 LIMITATIONS

The findings contained in this report are based on data and information collected during the Terrain Analysis of the subject property conducted by LRL Associates Ltd. The conclusions and recommendations are based solely on site conditions encountered at the time of our fieldwork on May 8th, 2017, supplemented by historical information and data obtained as described in this report. The information presented in this report represents the groundwater conditions at the locations sampled. Due to natural variations in geological conditions, no inference is made to the soil or groundwater conditions between sampling points. No assurance is made regarding changes in conditions subsequent to the time of this investigation. If additional information is discovered or obtained, LRL Associates Ltd. should be requested to re-evaluate the conclusions presented in this report and to provide amendments as required.

In evaluating the subject property, LRL Associates Ltd. has relied in good faith on information provided by individuals as noted in this report. We assume that the information provided is factual and accurate. We accept no responsibility for any deficiencies, misstatements or inaccuracies contained in this report as a result of omissions, misinterpretation or fraudulent acts of the persons contacted.

Yours truly,
LRL Associates Ltd.

Jessica Arthurs
Senior Environmental Technician

Alex Wood, P. Eng.
Lead Environmental Engineer

Encl.

Figure 1 – Site Location
Figure 2 – Site Plan
Figure 3 – Proposed Site Layout
Figure 4 – Test Pit and Monitoring Well Locations, Groundwater Elevations and Groundwater Contours
Figure 5 – Well Locations, Ontario Well Records Within 500 m of the Site
Figure 6 – Servicing Map for Properties Within 500 m
Figure 7 – Depth to Bedrock in Boreholes and Test Pits

Table 1A – Summary of Groundwater Elevations in Test Pits
Table 1B – Summary of Groundwater Elevations in Monitoring Wells (September 30, 2019)
Table 2 – Summary of Sieve & Hydrometer Analyses
Table 3 – Summary of Analysis of Water Samples Collected from the Test Pits
Table 4A – Nitrate Attenuation Calculations
Table 4B – Nitrate Attenuation Calculations – Tertiary Treatment

Appendix A – Test Pit Logs
Appendix B – Laboratory Certificates of Analysis
Appendix C – Sieve & Hydrometer Analysis
Appendix D – Ontario Well Record Printouts
Appendix E – Proposed Sewage System Layout
Appendix F – Moisture Surplus Printout
Appendix G – Norweco Hydro Kinetic Specifications
Appendix H – OSSO Approval

FIGURES

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PROJECT
TERRAIN ANALYSIS AND PRIVATE SEWAGE DISPOSAL SYSTEM IMPACT STUDY
PROPOSED ASSEMBLY HALL
4835 BANK STREET, OTTAWA, ONTARIO

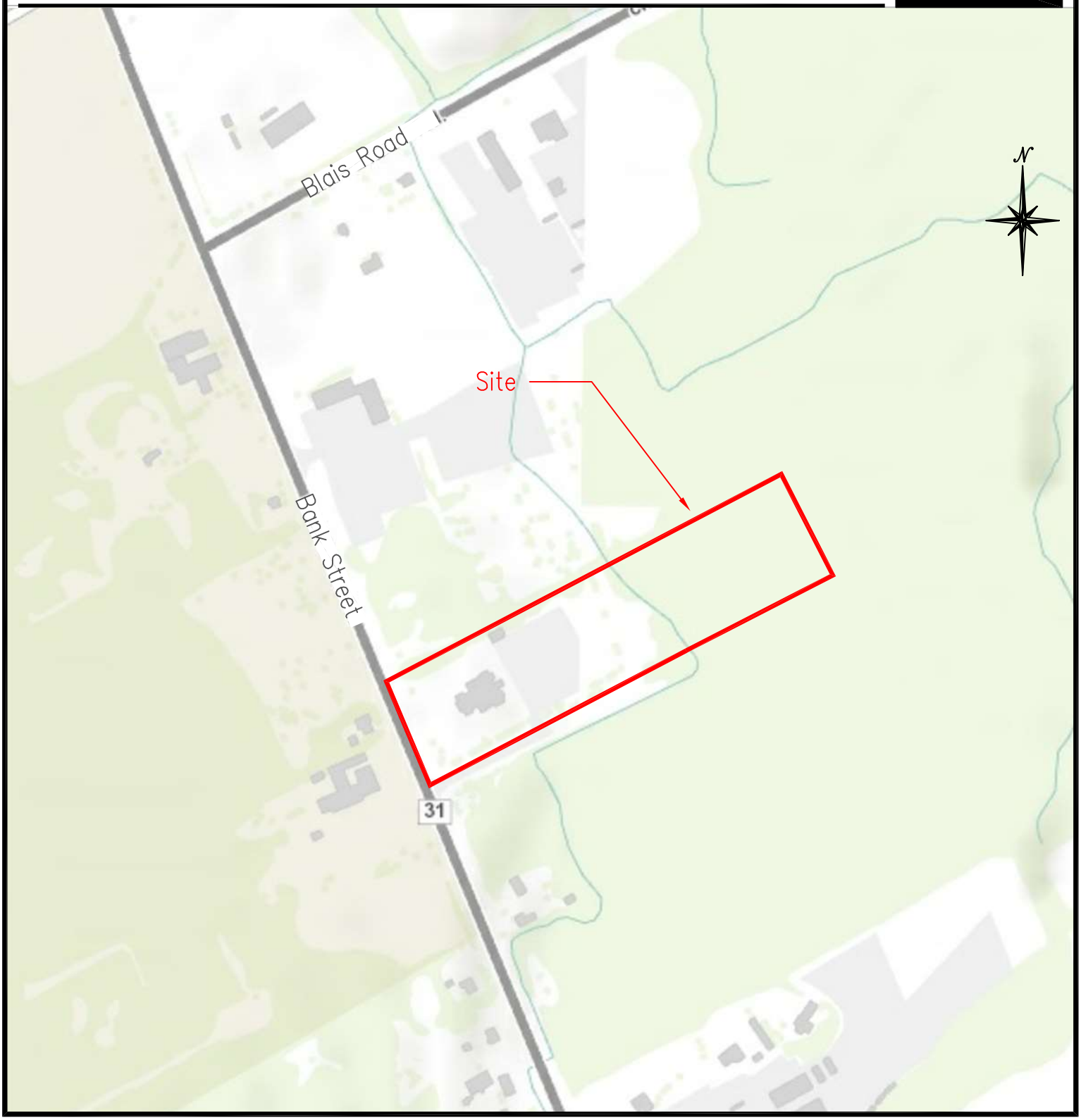
DRAWING TITLE
SITE LOCATION
(NOT TO SCALE)
SOURCE: GEOOTTAWA

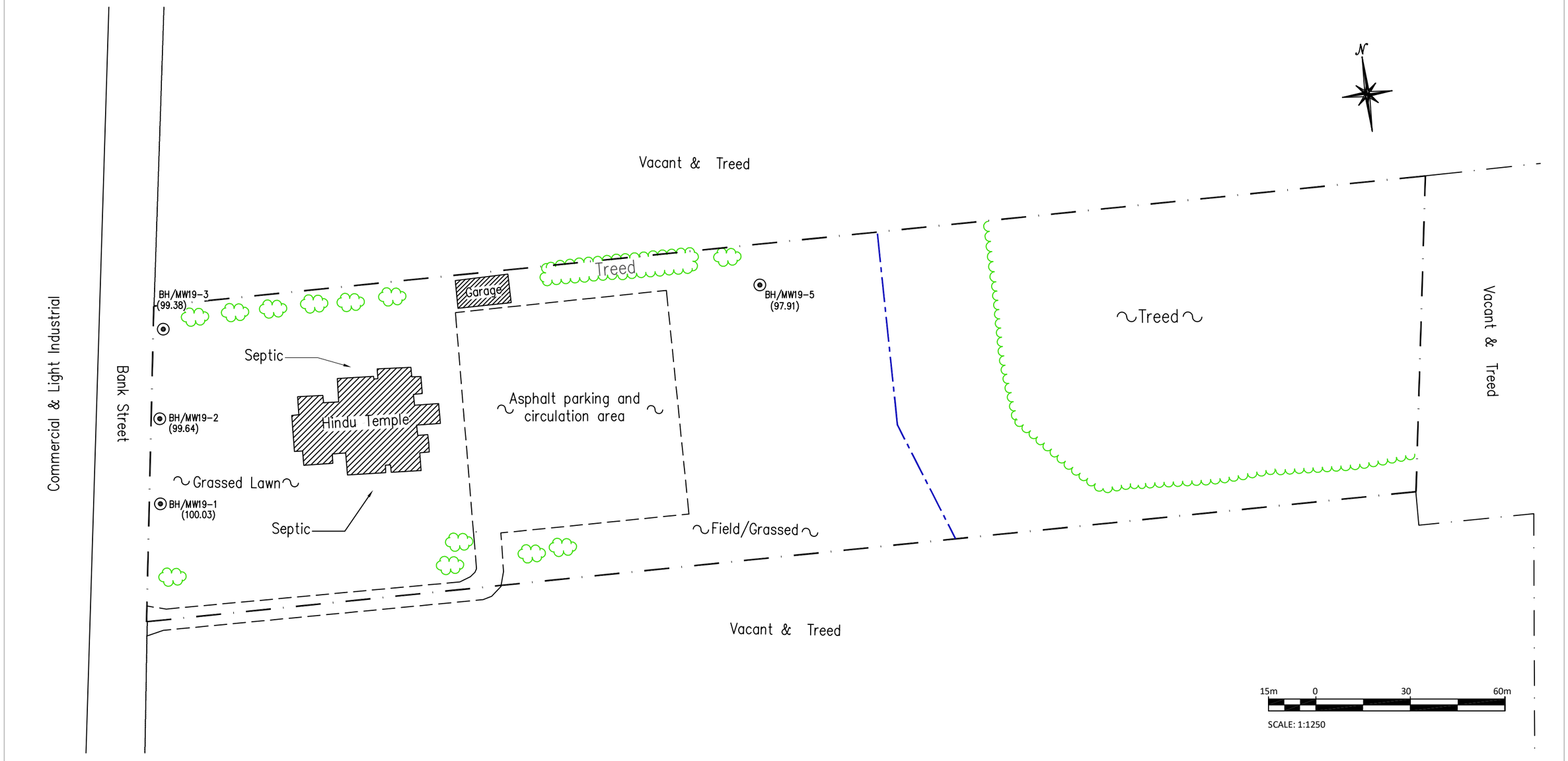
CLIENT
THE HINDU TEMPLE OF OTTAWA CARLETON

DATE
MAY 2022

PROJECT
170132

FIGURE1





LEGEND

- Existing Building
- Division between various surface materials
- Property Line
- Tree Line
- Tree
- Inferred Stream Location

No.	REVISIONS	BY	DATE
02	FINAL	J.A.	05/05/22
01	ISSUED FOR REVIEW	A.S	05/18/17

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--	A.S	A.W.

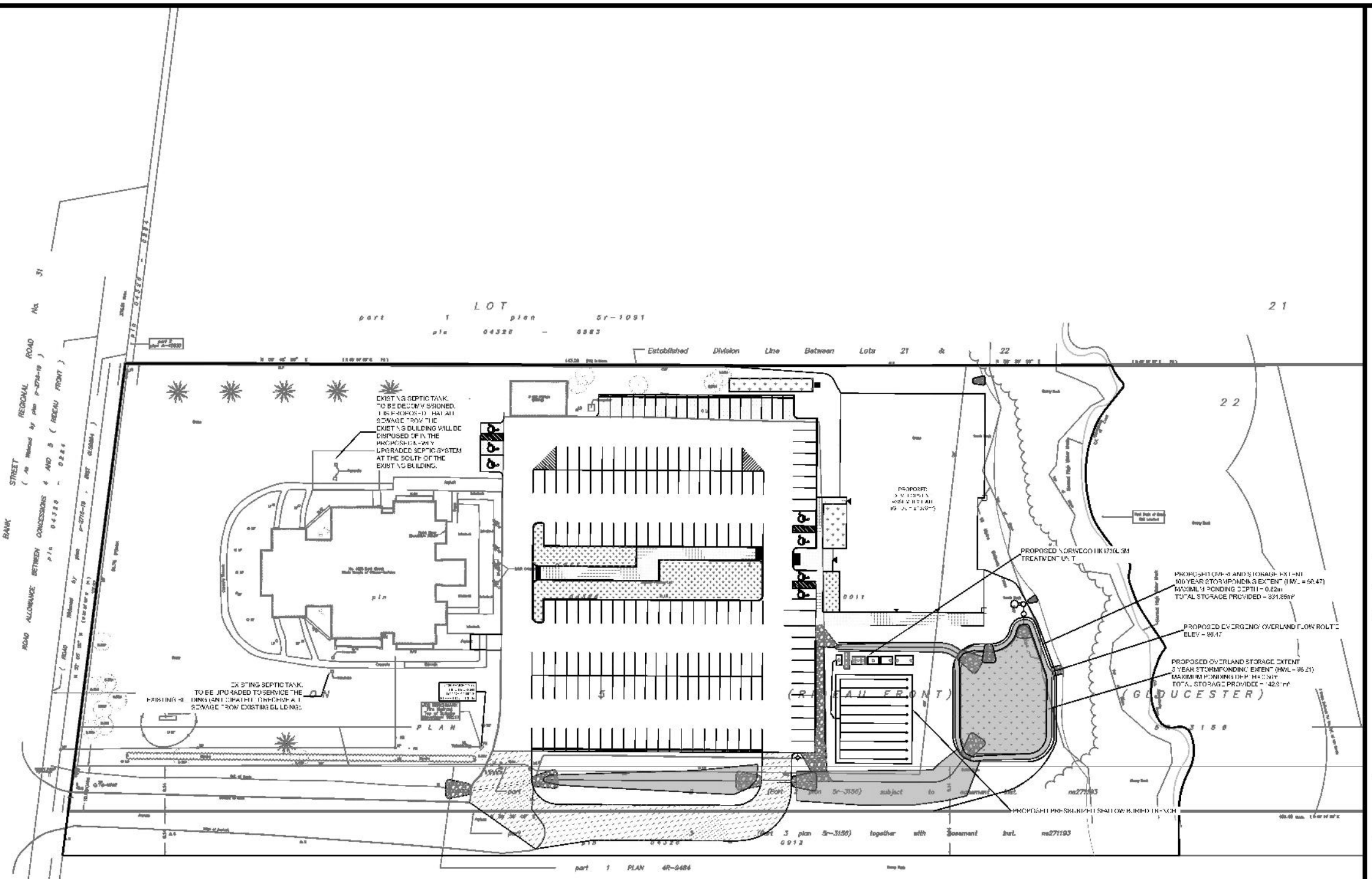
PROJECT
TERRAIN ANALYSIS AND PRIVATE SEWAGE DISPOSAL SYSTEM IMPACT STUDY - PROPOSED ASSEMBLY HALL
4835 BANK STREET, OTTAWA, ONTARIO

DRAWING TITLE
SITE PLAN

PROJECT NO.
170132

DATE
MAY 2022

FIGURE2



No.	REVISIONS	BY	DATE
02	FINAL	J.A.	05/05/22
01	ISSUED FOR REVIEW	J.A.	01/31/18

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VDC	VDC	

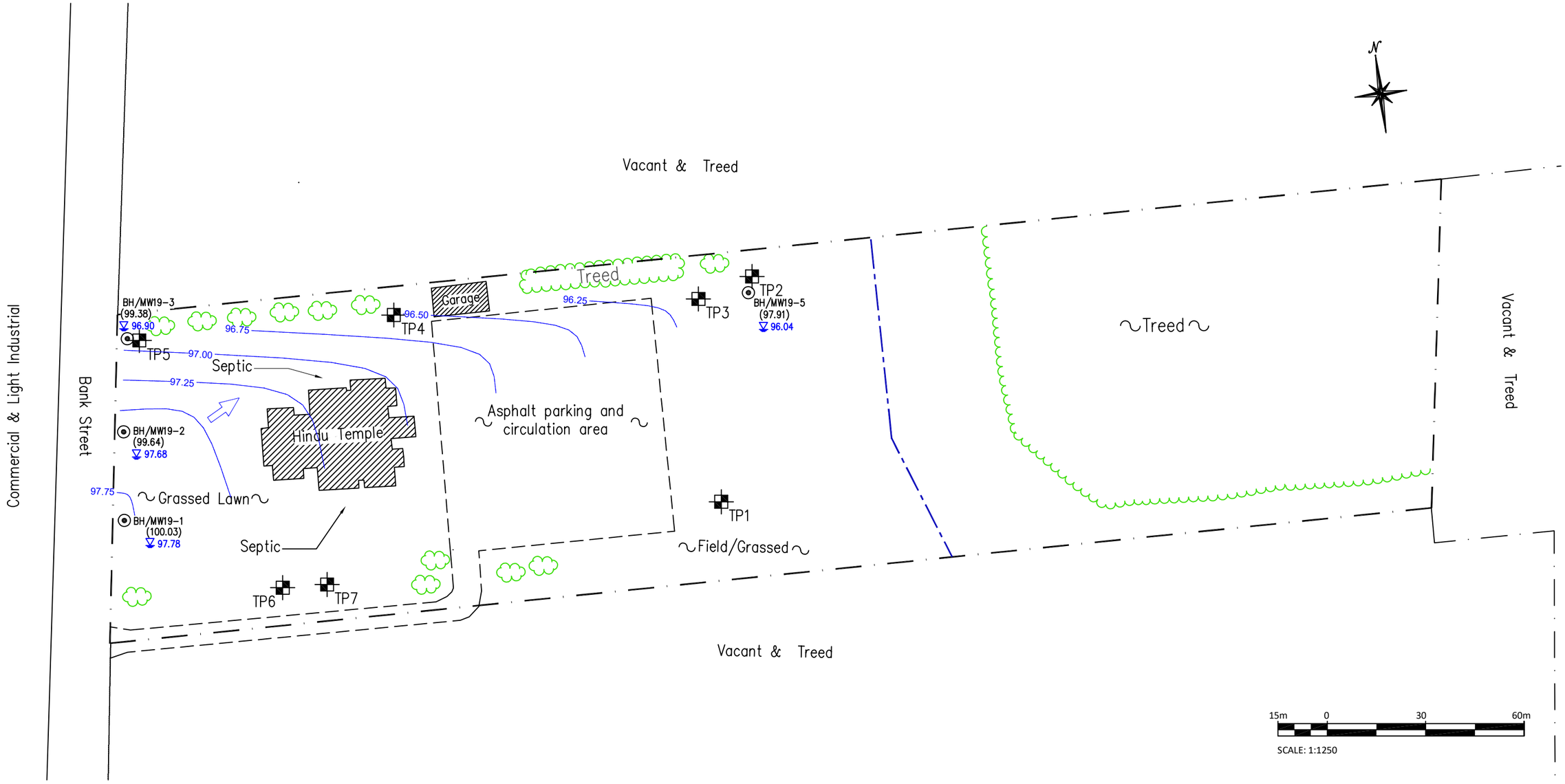
PROJECT
TERRAIN ANALYSIS AND PRIVATE SEWAGE DISPOSAL SYSTEM STUDY - PROPOSED ASSEMBLY HALL
4835 BANK STREET, OTTAWA, ONTARIO

DRAWING TITLE
PROPOSED SITE LAYOUT

PROJECT NO.
170132

DATE
MAY 2022

FIGURE3



LEGEND

- Existing Building
- Division between various surface materials
- Property Line
- Tree Line
- TP99 — Test Pit (May 2017)
- BH/MW1 — Borehole/Monitoring Well ID and Location
- (99.99) — Groundwater Elevation (May 8, 2017)
- Groundwater Contour Line
- Inferred Stream Location

No.	REVISIONS	BY	DATE
02	FINAL	J.A.	05/05/22
01	ISSUED FOR REVIEW	A.S	05/18/17

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PROJECT
TERRAIN ANALYSIS AND PRIVATE SEWAGE DISPOSAL SYSTEM IMPACT STUDY - PROPOSED ASSEMBLY HALL
4835 BANK STREET, OTTAWA, ONTARIO

DRAWING TITLE
TEST PIT AND MONITORING WELL LOCATIONS, GROUNDWATER ELEVATIONS AND GROUNDWATER CONTOUR LINES

PROJECT NO.
170132

DATE
MAY 2022

FIGURE4

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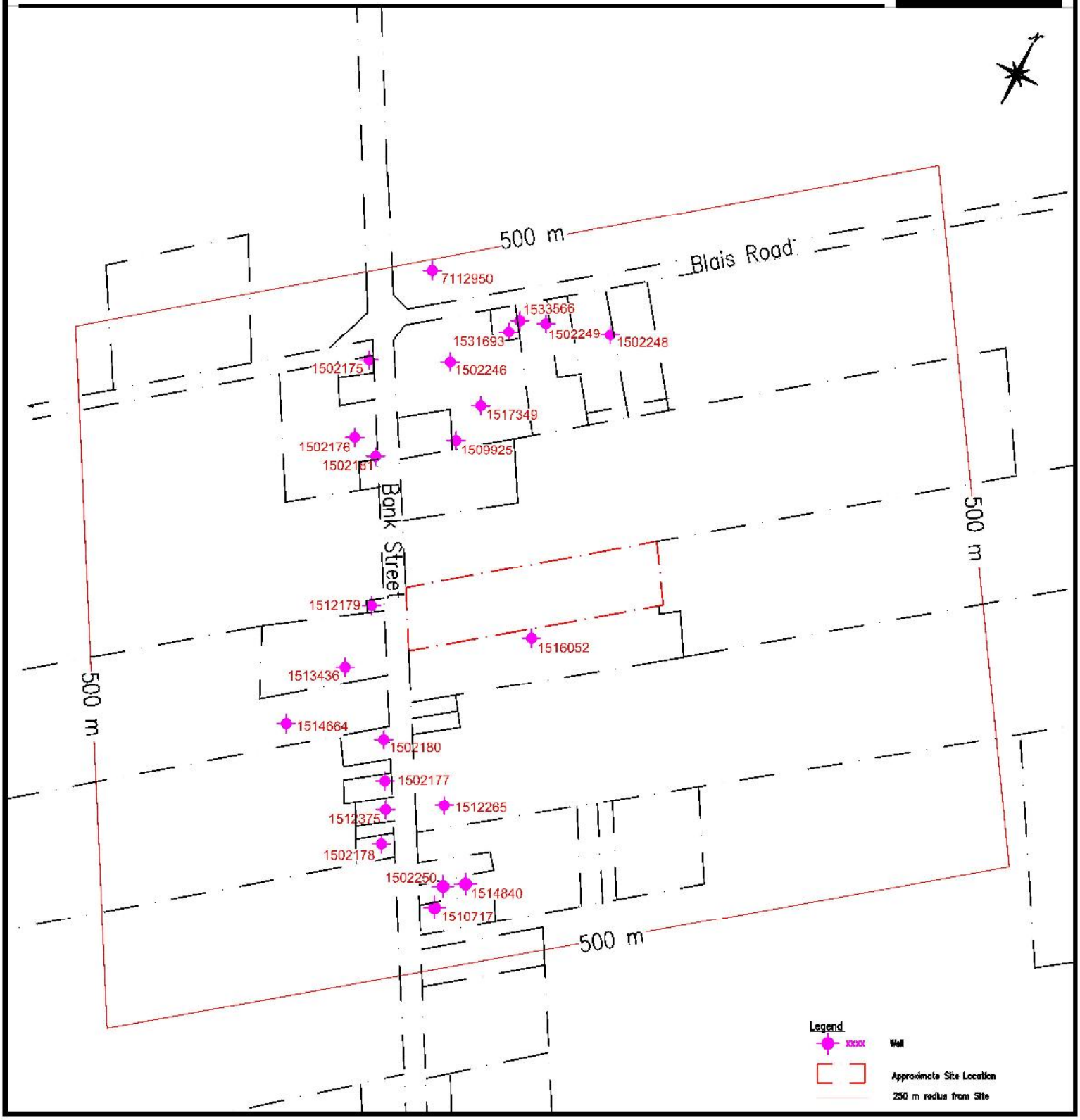
DRAWING TITLE
WELL LOCATIONS
ONTARIO WELL RECORDS WITHIN 500 M OF THE SITE
(NOT TO SCALE)

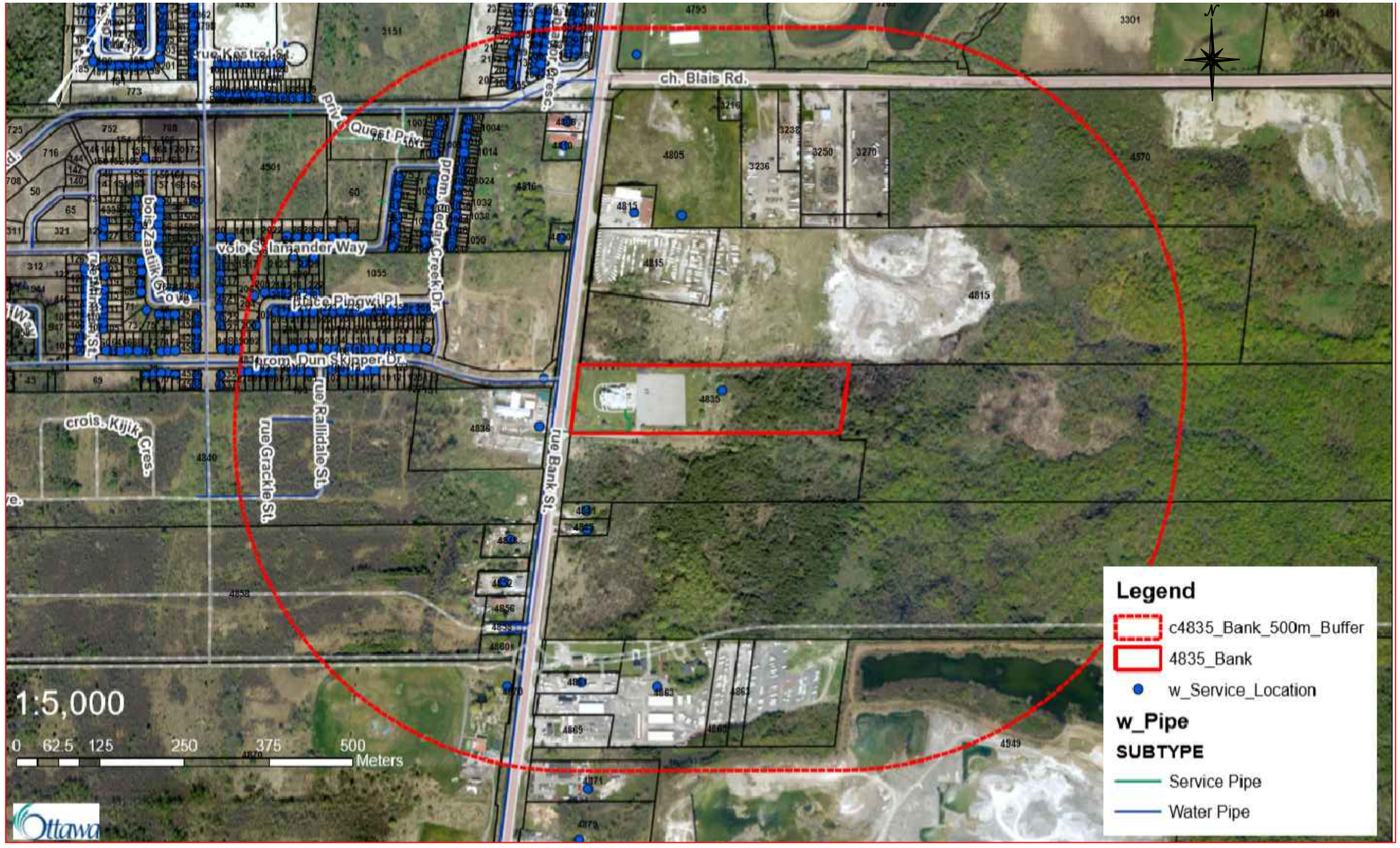
CLIENT
THE HINDU TEMPLE OF OTTAWA CARLETON

DATE
MAY 2022

PROJECT
170132

FIGURE 5





No.	REVISIONS	BY	DATE

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CLIENT
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OTTAWA-CARLETON INC.

DESIGNED BY:	DRAWN BY:	APPROVED BY:
--	M.W.	M.W

PROJECT
TERRAIN ANALYSIS
4835 BANK STREET
OTTAWA, ONTARIO

DRAWING TITLE
SERVICING MAP FOR PROPERTIES
WITHIN 500 M

PROJECT NO.
170132

DATE
DECEMBER 2020

FIGURE 6

LEGEND

	Existing Building
	Division amongst surface materials
	Fenceline
	Property Line
	Tree Line
	Tree
BH/MW19-1	Borehole/Monitoring Well (Phase II ESA)
BH19-1	Borehole (Geotechnical Investigation)
TP19-1	Test Pit (Terrain Analysis)
(1.00)	Inferred Bedrock Depth below Ground Surface

No.	REVISIONS	BY	DATE
01	ISSUED FOR REVIEW	G.M.	11/10/19

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CLIENT
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OTTAWA-CARLETON INC.

DESIGNED BY:	DRAWN BY:	APPROVED BY:
--	G.M.	M.W

PROJECT
TERRAIN ANALYSIS
4835 BANK STREET
OTTAWA, ONTARIO

DRAWING TITLE
DEPTH TO BEDROCK IN BOREHOLES AND TEST PITS

PROJECT NO.
170132

DATE
DECEMBER 2020

FIGURE 7

TABLES

Table 1A
Summary of Groundwater Elevations in Test Pits
Terrain Analysis - Proposed Assembly Hall
4835 Bank Street, Ottawa, Ontario
LRL File: 170132

Test Pit	Ground Surface Elevation[1] (m)	Reference Elevation[2] (m)	Depth To Water Table (m)		Groundwater Elevation (m)
			Reference Point	Ground Surface	
TP1	98.21	99.15	1.35	0.41	97.80
TP2	97.09	--	--	--	--
TP3	97.75	98.98	1.94	0.71	97.04
TP4	99.54	--	--	--	--
TP5	98.78	99.02	DRY	--	--
TP6	99.38	--	--	--	--
TP7	99.60	100.79	2.52	1.33	98.27

NOTES

[1] Elevations are based off of a temporary benchmark established at the top of the east arm of the fire hydrant along the southof the Site (100.00 m).

[2] Reference elevation is top of piezometer.

Table 1B
Summary of Groundwater Elevations in Monitoring Wells (September 30, 2019)
Terrain Analysis - Proposed Assembly Hall
4835 Brank Street, Ottawa, Ontario
LRL File: 170132

Monitoring Well	Ground Surface Elevation[1] (m)	Reference Elevation[2] (m)	Depth To Water Table (m)		Groundwater Elevation (m)
			Ground Surface	Reference Point	
BH/MW19-1	100.03	100.01	2.25	2.23	97.78
BH/MW19-2	99.64	99.62	1.95	1.94	97.68
BH/MW19-3	99.38	99.32	2.48	2.42	96.90
BH/MW19-5	97.91	97.87	1.87	1.83	96.04

NOTES

[1] Elevations measured from the north rim of the hydrant valve in the central south portion of the Site (100.00 m).

[2] Reference elevation is top of PVC riser.

Table 2
Summary of Sieve & Hydrometer Analyses
Terrain Analysis - Proposed Assembly Hall
4835 Bank Street, Ottawa, Ontario
LRL File: 170132

Sample	Depth (m)	Sample Gradation[1] Percent Particles in Each Fraction						Soil Texture Classification
			Sand					
		Gravel >4.75 mm	Coarse 2.0 - 4.75 mm	Medium 425 µm - 2.0 mm	Fine 75 - 425 µm	Silt 2 - 75 µm	Clay < 2µm	
TP1-3	1.8 - 2.0	4.8	1.2	1.8	6.5	63.8	22.0	Silt Loam
TP3-6	1.4 - 1.6	21.3	7.0	12.7	20.1	39.0		Fine Silty Sand

NOTES:

[1] Unified Soil Classification System

Table 3
Summary of analysis of water samples collected from the test pits.
Terrain Analysis - Proposed Assembly Hall
4835 Bank Street, Ottawa, Ontario
LRL File: 170132

Parameter	Units	MRL	Ontario Drinking Water Standards		Sample		
			Standard	Type	TP1	TP3	TP7
Sample Date (d/m/y)					**2017-08-05**	**2017-08-05**	**2017-08-05**
Ammonia	mg/L	0.01			0.28	0.39	1.66
Total Kjeldahl Nitrogen	mg/L	0.1			78.1	65.3	131
Nitrate as N	mg/L	0.1	10	MAC	<0.1	0.5	<0.1
Nitrite as N	mg/L	0.05	1	MAC	<0.05	<0.05	<0.05

NOTES
MAC Maximum Acceptable Concentration
MRL Minimum Reportable Limit

Table 4A
Nitrate Attenuation Calculations
Terrain Analysis and Private Sewage Disposal System Impact Study - Proposed Assembly Hall
4835 Bank Street, Ottawa, Ontario
LRL File: 170132

1. Potential Infiltration

Weather Station: Ottawa

		Infiltration Factor (IF)[1]							Moisture Surplus (MS)				Potential Infiltration (PI) (IF*MS) (mm)	
No.	Section Area (m^2)	Topography	Value	Soil	Value	Cover	Value	Total	Ground Cover	Soil Type	Moisture Retention[2] (mm)	Moisture Surplus[3] (mm)	Section	Weighted
1	23,750	Flat	0.3	Clay Loam	0.2	Cultivated Land	0.1	0.6	Shallow Rooted Crops	3 Silt Loam	125	349	209.4	209.4
Total[6]	23,750												**Total**	209.4

2. Area Available for Infiltration

Approximate footprint of the exisitng assembly hall		H		1,168	m^2
Approximate footprint of the exisitng garage		H		105	m^2
Approximate footprint of the proposed assembly hall		H		1,593	m^2
Approximate area of paved parking and circulation (Existing & Proposed)		d[4]		5,380	m^2
Approximate Length of Road		L		--	m
Approximate Width of Road		w		--	m
Total Area of Property				23,750	m^2
Impervious Area				8,246	m^2
	Roads	l x w	- m^2		
	Parking and Circulation	d	5,380 m^2		
	Buidling	Sum of H's	2,866 m^2		
Area available Infiltration		A		15,504	m^2

3. Nitrate Diluation Calculations

Nitrate Concentration of Infiltration[7]	C_i	0.05	mg/L
Site Infiltration	$Q_i = A*PI$	3,247	m^3
Existing Development			
Daily Sewage Volume - Exisitng Development	Q_d	2.00	m^3
Maximum Yearly Sewage Volume - Existing Development	$Q_e=365*Q_d$	730	m^3
Nitrate Concentration in Sewage - Existing Development	C_e	40	mg/L
Proposed Development			
Daily Sewage Volume - Proposed New Development[8]	Qd	4.00	m^3
Maximum Yearly Sewage Volume (water) - Proposed New Development	Qe=365*Qd	1,460	m^3
Nitrate Concentration in Sewage - Proposed New Development	Ce	40	mg/L
Maximum Allowable Nitrate Concentration at Boundary[5]	C_m	10.0	mg/L
Increase in Nitrate Concentration at Boundaries	C = (Qe,1Ce,1+Qe,2Ce,2+QiCi)/(Qe,1+Qe,2+Qi)	**16.14**	**mg/L**

NOTES

1 Table 2: Infiltration Factors, *Hydrogical Technical Information Requirements for Land Development Applications* , Ministry of the Energy and Environment, April 1995.

2 Thornthwaite and Mather's (1957) Instructions and Tables for Computing Potential Evapotranspiration and the Water Balance.

3 Moisture surplus for data for Ottawa ON (Environment Canada Meteorological Service of Canada, 2010).

4 The vaule is a calculation of the total existing parking & circulation area foot print, and the proposed 202 Vehicle parking & circulation area presented Vector Design Architects site plan, May 2019.

5 As per *Technical Guideline for Individual On-Site Sewage Systems: Water Quality and Impact Risk Assessment* , Ministry of the Energy and Environment, August 1996.

6 The total area of the property used in this calculation is limited to the area of the Site located west of the stream.

7 The nitrate concentration of infiltration is assumed to be 0.0 mg/L.

8 Calculated using Part 8 of the Ontario Building Code, 2012: Assembly Hall - per seat, no food service, 8 L/day (500 seats)

Table 4B
Nitrate Attenuation Calculations - Tertiary Treatment
Terrain Analysis and Private Sewage Disposal System Impact Study - Proposed Assembly Hall
4835 Bank Street, Ottawa, Ontario
LRL File: 170132

1. Potential Infiltration

Weather Station: Ottawa

No.	Section Area (m^2)	Infiltration Factor (IF)[1]							Moisture Surplus (MS)				Potential Infiltration (PI) (IF*MS) (mm)	
		Topography	Value	Soil	Value	Cover	Value	Total	Ground Cover	Soil Type	Moisture Retention[2] (mm)	Moisture Surplus[3] (mm)	Section	Weighted
1	23,750	Flat	0.3	Clay Loam	0.2	Cultivated Land	0.1	0.6	Shallow Rooted Crops	3 Silt Loam	125	349	209.4	209.4
Total[6]	23,750												**Total**	209.4

2. Area Available for Infiltration

Approximate footprint of the exisitng assembly hall		H		1,168	m^2
Approximate footprint of the exisitng garage		H		105	m^2
Approximate footprint of the proposed assembly hall		H		1,593	m^2
Approximate area of paved parking and circulation (Existing & Proposed)		d[4]		5,380	m^2
Approximate Length of Road		L		--	m
Approximate Width of Road		w		--	m
Total Area of Property				23,750	m^2
Impervious Area				8,246	m^2
	Roads	l x w	-	m^2	
	Parking and Circulation	d	5,380	m^2	
	Buidling	Sum of H's	2,866	m^2	
Area available Infiltration		A		15,504	m^2

3. Nitrate Diluation Calculations

Nitrate Concentration of Infiltration[7]	C_i	0.00	mg/L
Site Infiltration	$Q_i = A*PI$	3,247	m^3
Existing Development (Norweco Hydro-Kinetic System)			
Daily Sewage Volume - Exisitng Development	Q_{d1}	2.0	m^3
Maximum Yearly Sewage Volume - Existing Development	$Q_{e1}=365*Q_{d1}$	730	m^3
Nitrate Concentration in Sewage - Existing Development	C_{e1}	20	mg/L
Proposed Development (Norweco Hydro-Kinetic System)			
Daily Sewage Volume - Proposed New Development[8]	Q_{d3}	4.00	m^3
Maximum Yearly Sewage Volume (water) - Proposed New Development	$Q_e=365*Q_d$	1,460	m^3
Nitrate Concentration in Sewage - Proposed New Development	C_e	20	mg/L
Maximum Allowable Nitrate Concentration at Boundary[5]	C_m	10.0	mg/L
Increase in Nitrate Concentration at Boundaries	$C = (Q_iC_i+Q_{e1}*C_{e1}+Q_{e2}*C_{e2}+Q_{e3}*C_{e3})/(Q_i+Q_{e1}+Q_{e2}+Q_{e3})$	**8.06**	**mg/L**

NOTES

1 Table 2: Infiltration Factors, *Hydrogical Technical Information Requirements for Land Development Applications* , Ministry of the Energy and Environment, April 1995.

2 Thornthwaite and Mather's (1957) Instructions and Tables for Computing Potential Evapotranspiration and the Water Balance.

3 Moisture surplus for data for Ottawa ON (Environment Canada Meteorological Service of Canada, 2010).

4 The vaule is a calculation of the total existing parking & circulation area foot print, and the proposed 202 Vehicle parking & circulation area presented Vector Design Architects site plan, May 2019.

5 As per *Technical Guideline for Individual On-Site Sewage Systems: Water Quality and Impact Risk Assessment* , Ministry of the Energy and Environment, August 1996.

6 The total area of the property used in this calculation is limited to the area of the Site located west of the stream.

7 The nitrate concentration of infiltration is assumed to be 0.0 mg/L.

8 Calculated using Part 8 of the Ontario Building Code, 2012: Assembly Hall - per seat, no food service, 8 L/day (500 seats)

APPENDIX A

Test Pit Logs

Test Pit Log: TP1

Project No.: 170132 | **Project:** Terrain Analysis

Client: Hindu Temple of Ottawa Carleton | **Location:** 4835 Bank Street, Ottawa, ON

Date: May 08, 2017 | **Field Personnel:** JA

Excavation Method: Backhoe | **Excavation Contractor:** Maurice Yelle Excavation ltd.

Depth (ft / m)	Soil Description	Elev./Depth (m)	Lithology	Sample Number
0 / 0	Ground Surface	98.21		
	TOPSOIL Sandy, dark brown, dry.	0.00		
		98.01		
	FILL Sandy clay, dark brown, dry.	0.20		
3 / 1	**Silty Sand** Trace clay, with clay seam from 1.7 to 1.8 m bgs, brown, dry. Sieve analysis completed.	97.31 0.90		1
				2
6 / 2		96.11		3
7	End of Test Pit Refusal over inferred bedrock.	2.10		

Shear Strength (kPa): 50 – 150

Water Content (%): 25 – 50 – 75

Liquid Limit (%): 25 – 50 – 75

Water Level (Standpipe or Open Excavation)

▼ 0.4 m bgs (08/05/17)

Easting: N/M | **Northing:** N/M

Site Datum: Top east arm of hydrant at south entrance (100.00 m)

Groundsurface Elevation: 98.21 | **Top of Riser Elev.:** 99.15

Excavation Width: 1.2 m | **Excavation Length:** 1.5 m

NOTES:

BGS- Below Ground Surface

Test Pit Log: TP2

Project No.: 170132 | **Project:** Terrain Analysis

Client: Hindu Temple of Ottawa Carleton | **Location:** 4835 Bank Street, Ottawa, ON

Date: May 08, 2017 | **Field Personnel:** JA

Excavation Method: Backhoe | **Excavation Contractor:** Maurice Yelle Excavation ltd.

SUBSURFACE PROFILE		SAMPLE DATA					
Depth (ft / m)	Soil Description	Elev./Depth (m)	Lithology	Sample Number	Shear Strength (kPa) 50 150	Water Content (%) 25 50 75 / Liquid Limit (%) 25 50 75	Water Level (Standpipe or Open Excavation)
0 ft / 0 m	Ground Surface	97.09					
	FILL Silty sand with some clay, brown, saturated with water infiltration at 0.4 m bgs. Buried metal structure/waste at approximately 0.9 m bgs.	0.00					
		96.19		4			
3 ft / 1 m	End of Test Pit	0.90					
6 ft / 2 m							
8 ft							

Easting: N/M | **Northing:** N/M

Site Datum: Top east arm of hydrant at south entrance (100.00 m)

Groundsurface Elevation: 97.09 | **Top of Riser Elev.:** --

Excavation Width: 1.2 m | **Excavation Length:** 1.5 m

NOTES:

Test pit terminated at 0.9 meters due to volume of water in pit.
BGS- Below Ground Surface

Test Pit Log: TP3

Project No.: 170132 | **Project:** Terrain Analysis

Client: Hindu Temple of Ottawa Carleton | **Location:** 4835 Bank Street, Ottawa, ON

Date: May 08, 2017 | **Field Personnel:** JA

Excavation Method: Backhoe | **Excavation Contractor:** Maurice Yelle Excavation ltd.

Depth (ft / m)	Soil Description	Elev./Depth (m)	Lithology	Sample Number
0 / 0	Ground Surface	97.75		
	TOPSOIL Sandy loam, dark brown, dry. Brick debris found in top 0.2 m bgs.	0.00 97.55 0.20		
1	**FILL** Sandy silt, trace boulders, brown, dry. Tire debris found at approximately 0.8 m bgs.			5
2		96.95 0.80		
3 / 1	**TILL** Silty sand, trace gravel, cobbles and boulders, brown, dry. Sieve analysis completed.			
4				
5				6
		96.05 1.70		
6 / 2	End of Test Pit Refusal at 1.7 m bgs over inferred bedrock.			
7				
8				

Shear Strength (kPa): 50 – 150

Water Content (%): 25 – 50 – 75

Liquid Limit (%): 25 – 50 – 75

Water Level (Standpipe or Open Excavation)

▼ 0.71 m bgs (08/05/17)

Easting: 0454091 **Northing:** 5017670

Site Datum: Top east arm of hydrant at south entrance (100.00 m)

Groundsurface Elevation: 97.75 **Top of Riser Elev.:** 98.98

Excavation Width: 1.2 m **Excavation Length:** 1.5 m

NOTES:

BGS- Below Ground Surface

Test Pit Log: TP4

Project No.: 170132 | **Project:** Terrain Analysis

Client: Hindu Temple of Ottawa Carleton | **Location:** 4835 Bank Street, Ottawa, ON

Date: May 08, 2017 | **Field Personnel:** JA

Excavation Method: Backhoe | **Excavation Contractor:** Maurice Yelle Excavation ltd.

Depth (ft / m)	Soil Description	Elev./Depth (m)	Lithology	Sample Number
0 / 0	Ground Surface	99.54		
	TOPSOIL Silty loam, trace clay,dark brown, dry.	0.00		
1				
		99.04		
	FILL Silty sand, trace cobbles and gravel, light brown, dry. Changing to dark brown sandy fill with trace boulders at approximately 0.8 m bgs.	0.50		7
2 / 1				
3				
4				8
		98.14		
	End of Test Pit Refusal at 1.4 m bgs over inferred bedrock or large concrete structure.	1.40		
5				
6 / 2				
7				
8				

Shear Strength (kPa) 50 150

Water Content (%) 25 50 75

Liquid Limit (%) 25 50 75

Water Level (Standpipe or Open Excavation)

Easting: 0454005 **Northing:** 5017628

Site Datum: Top east arm of hydrant at south entrance (100.00 m)

Groundsurface Elevation: 99.54 **Top of Riser Elev.:** --

Excavation Width: N/M **Excavation Length:** N/M

NOTES:

BGS- Below Ground Surface

Test Pit Log: TP5

Project No.: 170132
Project: Terrain Analysis
Client: Hindu Temple of Ottawa Carleton
Location: 4835 Bank Street, Ottawa, ON
Date: May 08, 2017
Field Personnel: JA
Excavation Method: Backhoe
Excavation Contractor: Maurice Yelle Excavation ltd.

Depth (ft / m)	Soil Description	Elev./Depth (m)	Lithology	Sample Number
0 ft / 0 m	Ground Surface	98.78		
	TOPSOIL Silty loam some sand, dark brown, dry.	0.00 / 98.63		
	FILL Sand, some silt, trace cobbles, brown, dry. Waste debris of metal and asphalt pieces at approximately 0.9 m bgs.	0.15		10
3 ft / 1 m				9
5 ft / 1.5 m	End of Test Pit Refusal at 1.5 m bgs over inferred bedrock.	97.28 / 1.50		11

Shear Strength (kPa): 50, 150

Water Content (%): 25, 50, 75

Liquid Limit (%): 25, 50, 75

Water Level (Standpipe or Open Excavation)

Dry at 1.53 m bgs

Easting: 0453945
Northing: 5017595
Site Datum: Top east arm of hydrant at south entrance (100.00 m)
Groundsurface Elevation: 98.78
Top of Riser Elev.: 99.02
Excavation Width: N/M
Excavation Length: N/M

NOTES:
BGS- Below Ground Surface

Test Pit Log: TP6

Project No.: 170132 | **Project:** Terrain Analysis

Client: Hindu Temple of Ottawa Carleton | **Location:** 4835 Bank Street, Ottawa, ON

Date: May 08, 2017 | **Field Personnel:** JA

Excavation Method: Backhoe | **Excavation Contractor:** Maurice Yelle Excavation ltd.

SUBSURFACE PROFILE		SAMPLE DATA					
Depth (ft / m)	Soil Description	Elev./Depth (m)	Lithology	Sample Number	Shear Strength (kPa) 50 150	Water Content (%) 25 50 75 / Liquid Limit (%) 25 50 75	Water Level (Standpipe or Open Excavation)
0 ft / 0 m	Ground Surface	99.38					
	TOPSOIL Sandy loam, dark brown, dry.	0.00 99.23					
1	**FILL** Sand, some gravel, cobbles, boulders, silty seam at 0.7 m bgs, brown, dry. Refusal at 0.8 m bgs over inferred bedrock.	0.15		12 13			
2		98.58					
3 / 1	End of Test Pit	0.80					
4							
5							
6 / 2							
7							
8							

Easting: 0454003 **Northing:** 5017542

Site Datum: Top east arm of hydrant at south entrance (100.00 m)

Groundsurface Elevation: 99.38 **Top of Riser Elev.:** --

Excavation Width: N/M **Excavation Length:** N/M

NOTES:

BGS- Below Ground Surface

Test Pit Log: TP7

Project No.: 170132 | **Project:** Terrain Analysis

Client: Hindu Temple of Ottawa Carleton | **Location:** 4835 Bank Street, Ottawa, ON

Date: May 08, 2017 | **Field Personnel:** JA

Excavation Method: Backhoe | **Excavation Contractor:** Maurice Yelle Excavation ltd.

SUBSURFACE PROFILE		SAMPLE DATA						
Depth (ft / m)	Soil Description	Elev./Depth (m)	Lithology	Sample Number	Shear Strength (kPa) 50 150	Water Content (%) 25 50 75 / Liquid Limit (%) 25 50 75	Water Level (Standpipe or Open Excavation)
0 ft / 0 m	Ground Surface	99.60					
	TOPSOIL Sandy loam, dark brown, dry.	0.00 / 99.40					
1	**FILL** Sand, brown, trace metal debris, dry.	0.20 / 98.90					
2	**TILL** Silty sand, trace clay, boulders, grey, organics including tree stump, roots, bl[illegible] n bg	0.70 / 97.80					
3 / 1	Refusal due to obstruction (tree stump).						
4							
5							
6 / 2	End of Test Pit	1.80					
7							
8							

▼ 1.33 m bgs (08/05/17)

Easting: 0454051 **Northing:** 5017564

Site Datum: Top east arm of hydrant at south entrance (100.00 m)

Groundsurface Elevation: 99.60 **Top of Riser Elev.:** 100.79

Excavation Width: N/M **Excavation Length:** N/M

NOTES:

BGS- Below Ground Surface

APPENDIX B

Laboratory Certificates of Analysis

PARACEL LABORATORIES LTD.
TRUSTED. RESPONSIVE. RELIABLE.

300 - 2319 St. Laurent Blvd
Ottawa, ON, K1G 4J8
1-800-749-1947
www.paracellabs.com

Certificate of Analysis

LRL Associates Ltd.

5430 Canotek Road
Ottawa, ON K1J 9G2
Attn: Jessica Arthurs

Client PO:
Project: 170132
Custody: 32310

Report Date: 15-May-2017
Order Date: 11-May-2017

Order : 171 377

This Certificate of Analysis contains analytical data applicable to the following samples as submitted:

Paracel ID	Client ID
1719377-01	TP1
1719377-02	TP3
1719377-03	TP7

Approved By:

Dale Robertson, BSc
Laboratory Director

Certificate of Analysis
Client: LRL Associates Ltd.
Client PO:

Report Date: 15-May-2017
Order Date: 11-May-2017
Project Description: 17 132

Analysis Summary Table

Analysis	Method Reference/Description	Extraction Date	Analysis Date
Ammonia, as N	EPA 351.2 - Auto Colour	12-May-17	12-May-17
Anions	EPA 300.1 - IC	12-May-17	12-May-17
Total Kjeldahl Nitrogen	EPA 351.2 - Auto Colour, digestion	12-May-17	15-May-17

Certificate of Analysis
Client: LRL Associates Ltd.
Client PO:

Report Date: 15-May-2017
Order Date: 11-May-2017
Project Description: 17 132

	Client ID:	TP1	TP3	TP7	-
	Sample Date:	08-May-17	08-May-17	08-May-17	-
	Sample ID:	1719377-01	1719377-02	1719377-03	-
	MDL/Units	Water	Water	Water	-
General Inorganics					
Ammonia as N	0.01 mg/L	0.28	0.39	1.66	-
Total Kjeldahl Nitrogen	0.1 mg/L	78.1	65.3	131	-
Anions					
Nitrate as N	0.1 mg/L	<0.1	0.5	<0.1	-
Nitrite as N	0.05 mg/L	<0.05	<0.05	<0.05	-

Certificate of Analysis
Client: LRL Associates Ltd.
Client PO:

Report Date: 15-May-2017
Order Date: 11-May-2017
Project Description: 17 132

Method Quality Control: Blank

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Anions									
Nitrate as N	ND	0.1	mg/L						
Nitrite as N	ND	0.05	mg/L						
General Inorganics									
Ammonia as N	ND	0.01	mg/L						
Total Kjeldahl Nitrogen	ND	0.1	mg/L						

Method Quality Control: Duplicate

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Anions									
Nitrate as N	ND	0.1	mg/L	ND				20	
Nitrite as N	ND	0.05	mg/L	ND				20	
General Inorganics									
Ammonia as N	0.021	0.01	mg/L	0.022			2.4	8	
Total Kjeldahl Nitrogen	1.50	0.1	mg/L	1.52			1.8	10	

Certificate of Analysis
Client: LRL Associates Ltd.
Client PO:

Report Date: 15-May-2017
Order Date: 11-May-2017
Project Description: 17 132

Method Quality Control: Spike

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Anions									
Nitrate as N	1.01	0.1	mg/L	ND	101	81-112			
Nitrite as N	1.02	0.05	mg/L	ND	102	76-117			
General Inorganics									
Ammonia as N	0.280	0.01	mg/L	0.022	103	81-124			
Total Kjeldahl Nitrogen	1.91	0.1	mg/L		95.7	81-126			

Qualifier Notes:

Login Qualifiers :

Samples received submerged in water, possibly melted ice. This condition can compromise sample integrity.
Applies to samples: TP1, TP3, TP7

Sample Data Revisions

None

Work Order Revisions / Comments:

None

Other Report Notes:

n/a: not applicable
ND: Not Detected
MDL: Method Detection Limit
Source Result: Data used as source for matrix and duplicate samples
%REC: Percent recovery.
RPD: Relative percent difference.

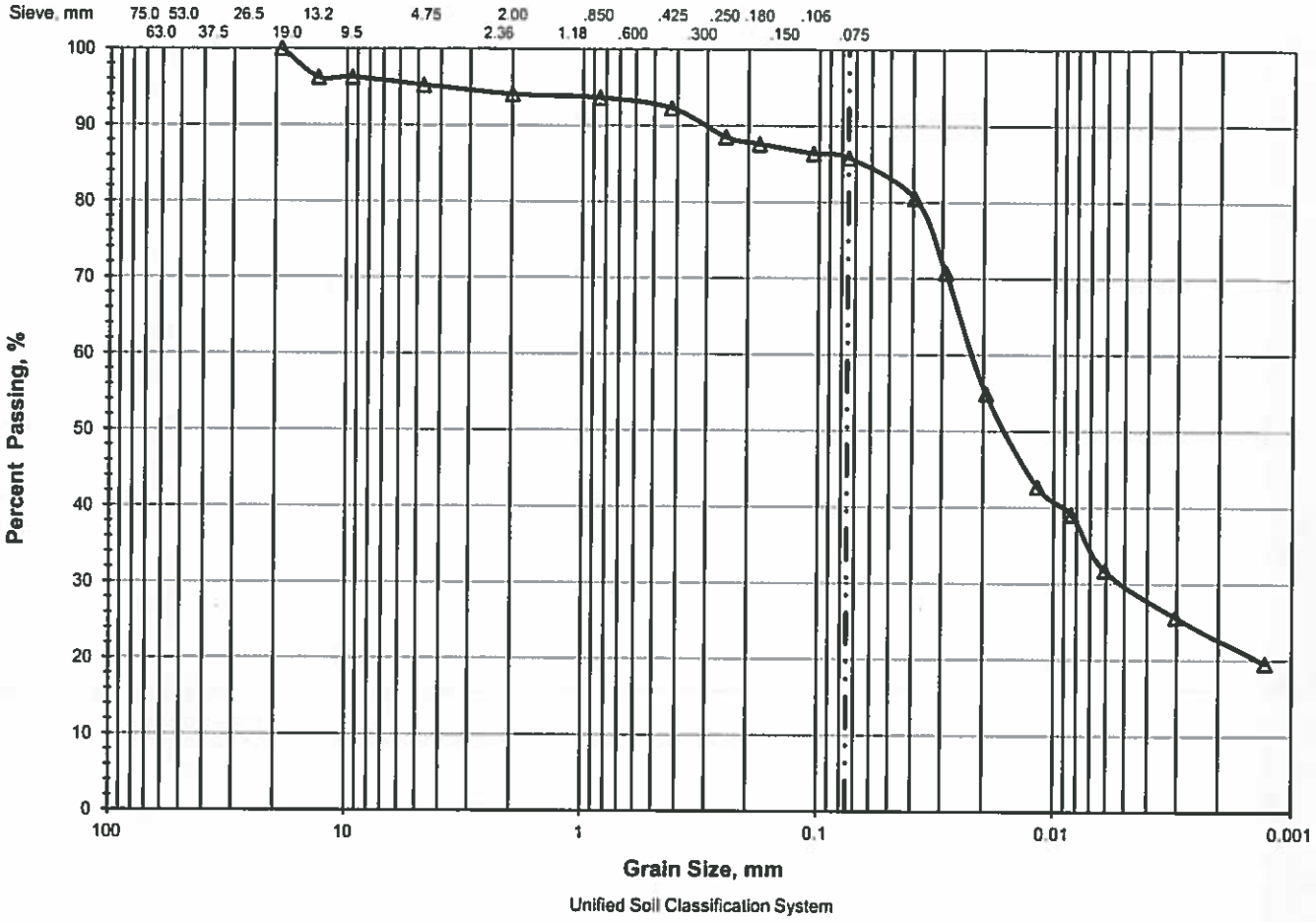
APPENDIX C

Sieve & Hydrometer Analysis

LRL Associates Ltd.

PARTICLE SIZE ANALYSIS

Client:	Lloyd Phillips & Associates Ltd.	**File No.:**	170132
Project:	Hydrogeological Assessment & Terrain Analysis	**Report No.:**	1
Location:	4835 Bank Street., Ottawa, ON.	**Date:**	May 8, 2017



Unified Soil Classification System

	> 75 mm	% GRAVEL		% SAND			% FINES	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
△	0.0	0.0	4.8	1.2	1.8	6.5	63.8	22.0

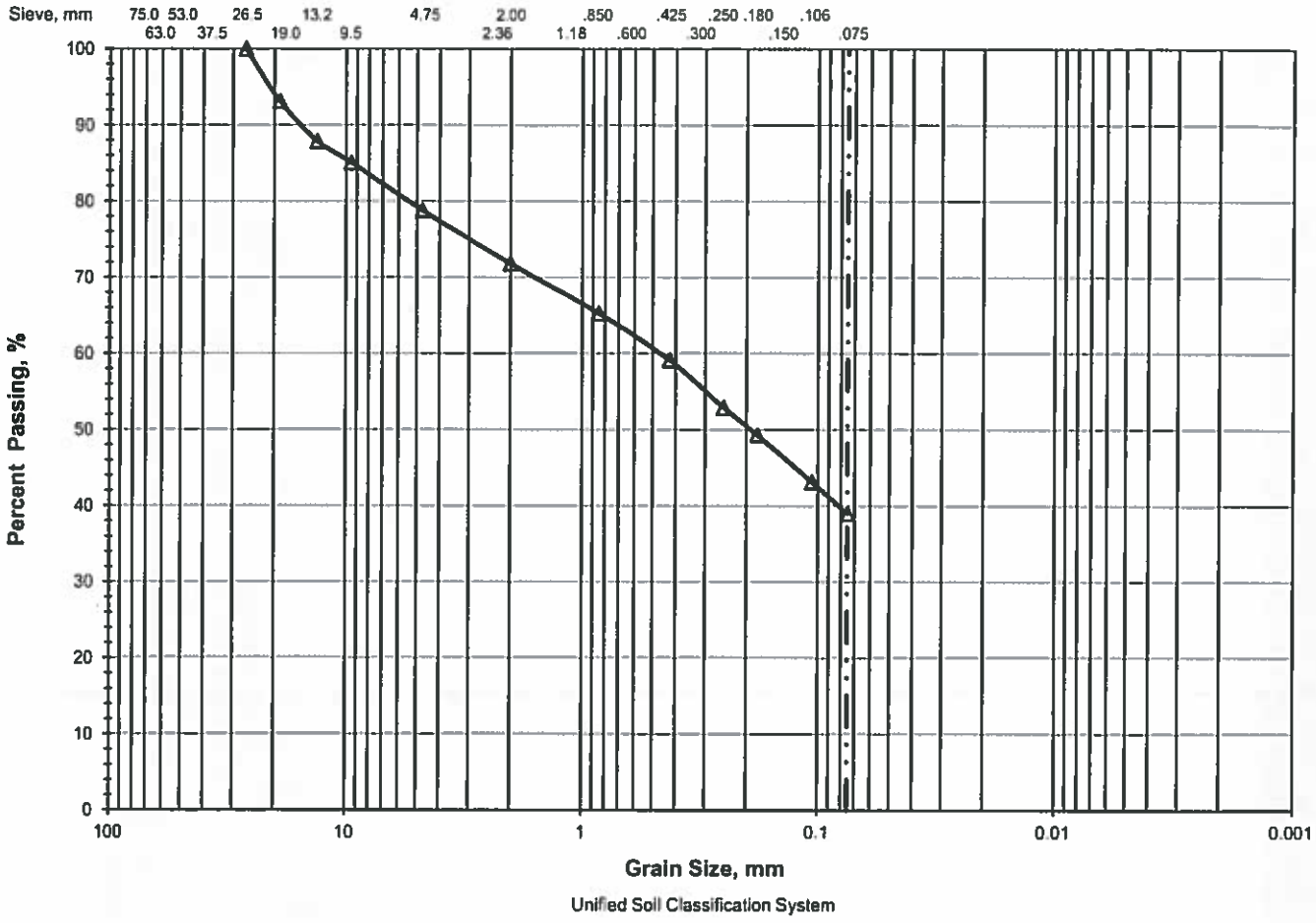
	Location	Sample	Depth, m	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
△	TP-1	3	1.80 - 2.00	0.0226	0.0164	0.0052				

LRL Associates Ltd.

PARTICLE SIZE ANALYSIS

ASTM D 422 / LS-702

Client:	Lloyd Phillips & Associates Ltd.	**File No.:**	170132
Project:	Hydrogeological Assessment & Terrain Analysis	**Report No.:**	2
Location:	4835 Bank Street., Ottawa, ON.	**Date:**	May 8, 2017



Unified Soil Classification System

	> 75 mm	% GRAVEL		% SAND			% FINES
		Coarse	Fine	Coarse	Medium	Fine	Silt & Clay
△	0.0	6.0	15.3	7.0	12.7	20.1	39.0

	Location	Sample	Depth, m	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
△	TP3	6	1.4 - 1.6	0.4855	0.1932					

APPENDIX D

Ontario Well Record Printouts

319/52.

UTM | 1 | 18 | Z | 4 | 5 | 1 | 3 | 7 | 2 | 2 | 0 | E
| 5 | R | 5 | 0 | 1 | 1 | 7 | 7 | 7 | 1 | 0 | N
Elev. | 4 | R | 0 | 3 | 0 | 6 |
Basin | 2 | 5 | | 5 | 1 |

Rideau Front
Con IV
lot 21

ONTARIO

The Water-well Drillers Act, 1954
Department of Mines

GROUND WATER BRANCH 15 No. 2175
SEP 9 1957
ONTARIO WATER RESOURCES COMMISSION

Water-Well Record

County or Territorial District Carleton Township, Village, Town or City Gloucester
[redacted] in Village, Town or City)
Address Building Bridge
(day) (month) (year)

Pipe and Casing Record		Pumping Test	
Casing diameter(s)	2	Static level	10 ft
Length(s)	20	Pumping rate	200 G.P.H
Type of screen		Pumping level	30 ft
Length of screen		Duration of test	3 hr

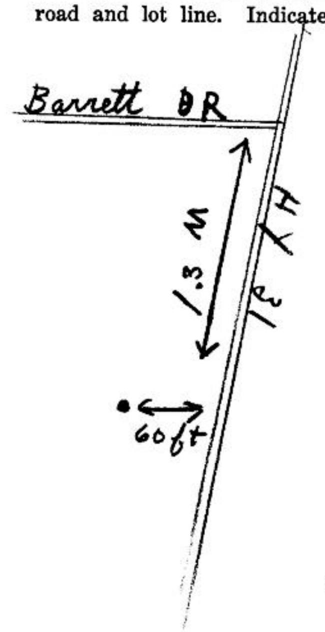
Well Log / **Water Record**

Overburden and Bedrock Record	From ft.	To ft.	Depth(s) at which water(s) found	No. of feet water rises	Kind of water (fresh, salty, or sulphur)
Bolders and sand	0	20	60	50	Fresh
Sand stone	20	60			

For what purpose(s) is the water to be used? Home
Is water clear or cloudy? Clear
Is well on upland, in valley, or on hillside? upland
Drilling firm F R Cornette
Address 1652 Base line RD
City View
Name of Driller F R Cornette
Address
Licence Number 395
I certify that the foregoing statements of fact are true.
Date 29 aug 57 F R Cornette
Signature of Licensee

Location of Well

In diagram below show distances of well from road and lot line. Indicate north by arrow.



Form 5

316/52

UTM 18 Z 4537610 E
5 R 5 0117560 N

Elev. 4 R 0315

Basin 25

The Ontario Water Resources Commission Act

WATER WELL RECORD

GROUND WATER BRANCH
SEP 15 1962
No 2176
ONTARIO WATER RESOURCES COMMISSION

County or District CARLETON Township, Village, Town or City GLOUCESTER

Con. 4 RF Lot 21 Date completed 20 (day) JULY (month) 62 (year)

[redacted] dress BILLINGS BRIDGE

Casing and Screen Record	
Inside diameter of casing	4
Total length of casing	18
Type of screen	—
Length of screen	—
Depth to top of screen	—
Diameter of finished hole	4

Pumping Test	
Static level	6
Test-pumping rate	6 G.P.M.
Pumping level	8
Duration of test pumping	1 HR
Water clear or cloudy at end of test	CL
Recommended pumping rate	6 G.P.M.
with pump setting of	30 feet below ground surface

Well Log: Overburden and Bedrock Record	From ft.	To ft.	Water Record: Depth(s) at which water(s) found	Kind of water (fresh, salty, sulphur)
CLAY	0	18		
LIMESTONE	18	45	45	F

For what purpose(s) is the water to be used? Home

Is well on upland, in valley, or on hillside? V

Drilling or Boring Firm M MEAGHER

Address [illegible]

Licence Number [illegible]

Name of Driller or Borer SHANE

Address

Date AUG 28

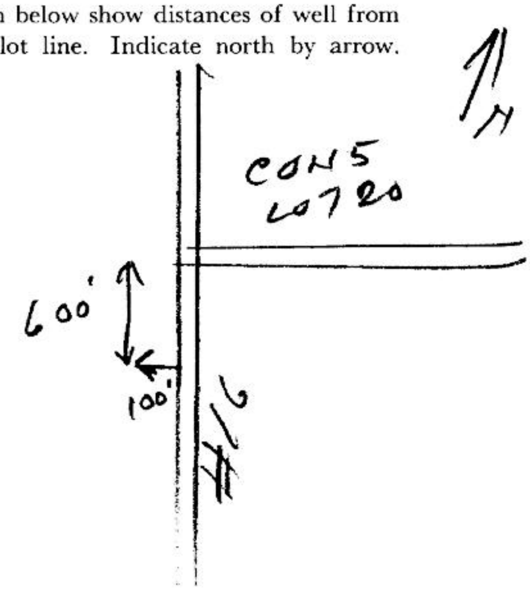
M Meagher
(Signature of Licensed Drilling or Boring Contractor)

Form 7 10M-62-1152

OWRC COPY

Location of Well

In diagram below show distances of well from road and lot line. Indicate north by arrow.



CSS.S8

316/52

567

UTM | 1 | 8 | Z | 4 | 5 | 3 | 9 | 7 | 0 | E
Rideau Front
| 5 | R | 5 | 0 | 7 | 7 | 0 | 8 | 0 | N

Elev. | 4 | R | 0 | 3 | 3 | 0 |

Basin | 2 | 5 | | | | |

ONTARIO

15 Nº 2177

X

GROUND WATER BRANCH
19
MAY 20 1957
ONTARIO WATER
RESOURCES COMMISSION

The Water-well Drillers Act, 1954

Department of Mines

Water-Well Record

County or Territorial District Carleton Township, Village, Town or City Gloucester

[redacted] in Village, Town or City)

Address 40 Lawrance St Ottawa

(day) (month) (year)

Pipe and Casing Record	
Casing diameter(s)	2"
Length(s)	21
Type of screen	
Length of screen	

Pumping Test	
Static level	6
Pumping rate	800 G.P.H
Pumping level	25 ft
Duration of test	2 hr

Well Log **Water Record**

Overburden and Bedrock Record	From ft.	To ft.	Depth(s) at which water(s) found	No. of feet water rises	Kind of water (fresh, salty, or sulphur)
Sand	0	7	60	54	Fresh
Bolders and Sand	7	20			
Wt. Sand stone	20	60			

For what purpose(s) is the water to be used? House

Is water clear or cloudy? Clear

Is well on upland, in valley, or on hillside? Upland

Drilling firm F. R. Cossette

Address 22 Base line R.D. City View

Name of Driller F. R. Cossette

Address

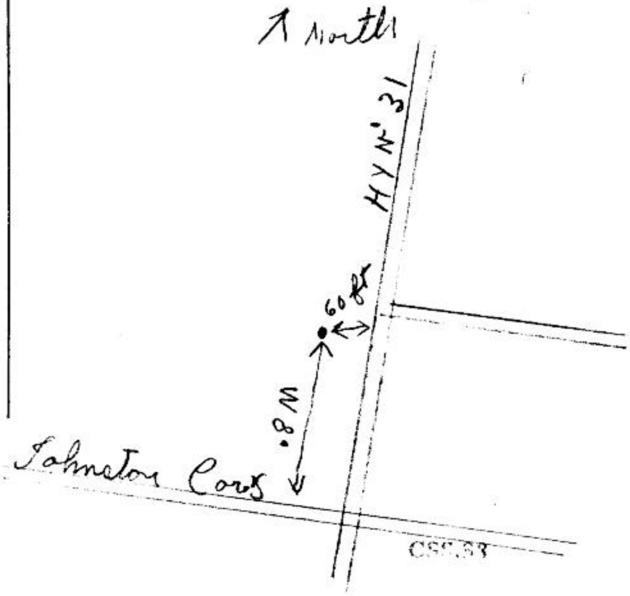
Licence Number 395

I certify that the foregoing statements of fact are true.

Date May 14/57 F. R. Cossette
Signature of Licensee

Location of Well

In diagram below show distances of well from road and lot line. Indicate north by arrow.



Form 5

316/50

UTM |18| z |4|5|3|0|10|E (990)

|9| R |5|0|1|6|9|9|0| N

Elev. |0| R |0|5|3|3|

Rideau

Basin |215| | | | |

Con IV

lot 22

ONTARIO

The Water-well Drillers Act, 1954

Department of Mines

15 No. 2478

GROUND WATER BRANCH
AUG 19 1957
ONTARIO WATER RESOURCES COMMISSION

Water-Well Record

County or Territorial District Carleton Township, Village, Town or City Gloucester

[redacted] n Village, Town or City) ... Address Billings Bridge

(day) (month) (year)

Pipe and Casing Record

Casing diameter(s) 4"

Length(s) 23 feet

Type of screen /

Length of screen

Pumping Test

Static level 13

Pumping rate 240 gal PH

Pumping level 50 feet

Duration of test 1 hour

Well Log

Overburden and Bedrock Record	From ft.	To ft.
hard gravelly Clay & Sand & boulders	0	18
Very hard lime Stone Rock	18	50

Water Record

Depth(s) at which water(s) found	No. of feet water rises	Kind of water (fresh, salty, or sulphur)
48 feet	37'	fresh very hard

For what purpose(s) is the water to be used? house hold use only

Is water clear or cloudy? Clear

Is well on upland, in valley, or on hillside? uplands

Drilling firm

Address

Name of Driller James Kettles

Address Ramsayville

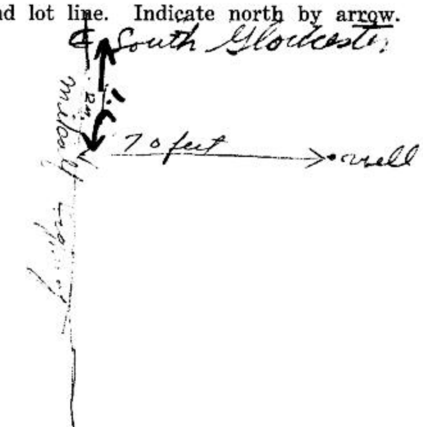
Licence Number 537

I certify that the foregoing statements of fact are true.

Date August 5 James Kettle
Signature of Licensee

Location of Well

In diagram below show distances of well from road and lot line. Indicate north by arrow.



N

CSS.58

Form 5

L.P. 310/52

UTM |1|8|Z |4|5|3|8|6|0|E
|5|R |5|0|1|7|3|3|0|N
Elev. |4|R |0|3|2|5|
Basin |2|5| | | |

GROUND WATER BRANCH
15
NOV 14 1961
ONTARIO WATER RESOURCES COMMISSION

№ 2170

The Ontario Water Resources Commission Act

WATER WELL RECORD

County or District Carleton Township, Village, Town or City Gloucester

Con. 4 R F Lot P.T.22 Date completed 6 (day) 10 (month) 1961 (year)

[redacted] Address 28 Clarence St. Ottawa 2, Ont.

Casing and Screen Record

Inside diameter of casing 6 3/16

Total length of casing 21'

Type of screen NONE

Length of screen

Depth to top of screen

Diameter of finished hole 6"

Pumping Test

Static level 20'

Test-pumping rate 80 G.P.H.

Pumping level 70'

Duration of test pumping 1 hr.

Water clear or cloudy at end of test clear

Recommended pumping rate 80 G.P.H.

with pump setting of 80 feet below ground surface

Well Log: Overburden and Bedrock Record	From ft.	To ft.	Water Record: Depth(s) at which water(s) found	Kind of water (fresh, salty, sulphur)
~~Till and Bolder rock. Grey hard lime stone and sand stone.~~	~~0~~	~~16~~	85	fresh
	~~16~~	~~25~~		
~~SAND STONE~~	~~25~~	~~89~~		
BOULDER TILL	0	16		
HARD GREY LIMESTONE	16	25		
SANDSTONE	25	89	85	FRESH

For what purpose(s) is the water to be used? Co-operative

Is well on upland, in valley, or on hillside? Valley

Drilling or Boring Firm J. B . Dufresne Co. Ltd.

Address Ottawa, Ontario.

Licence Number 194

Name of Driller or Borer W. Roy

Address Hull

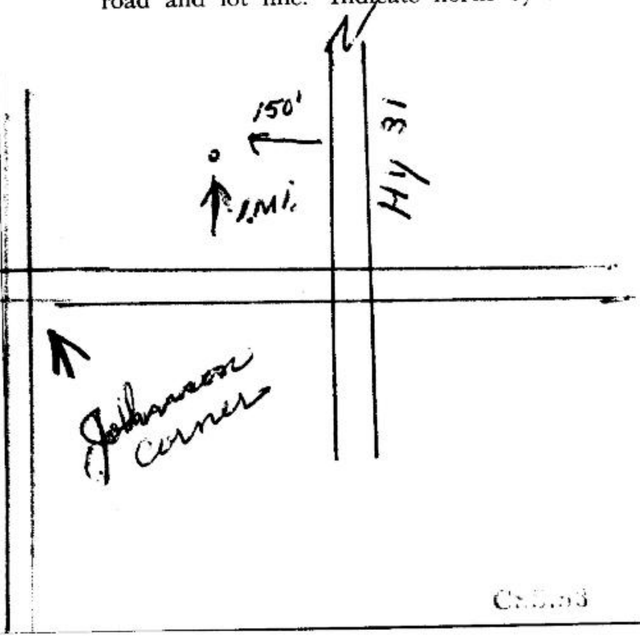
Date Oct 10/61

J B Dufresne
(Signature of Licensed Drilling or Boring Contractor)

Form 7 15M Sets 60-5930

Location of Well

In diagram below show distances of well from road and lot line. Indicate north by arrow.



OWRC COPY

316/52

UTM 18 Z | 4 5 3 1 9 7 0 E
5 R | 5 0 1 1 7 1 1 2 0 N

Elev. 4 R | 0 3 3 0

Basin 2 5

The Ontario Water Resources Commission Act

WATER WELL RECORD

County or District CARLETON Township, Village, Town or City GLOUCESTER

Con. 4 RP Lot 22 Date completed 29 (day) JUNE (month) 61 (year)

[redacted] Address BILLINGS BRIDGE

Casing and Screen Record		Pumping Test	
Inside diameter of casing	4"	Static level	6'
Total length of casing	10'	Test-pumping rate	4 G.P.M.
Type of screen	—	Pumping level	8
Length of screen	—	Duration of test pumping	1 HR
Depth to top of screen	—	Water clear or cloudy at end of test	CLEAR
Diameter of finished hole	4"	Recommended pumping rate	4 G.P.M.
		with pump setting of	30' feet below ground surface

Well Log: Overburden and Bedrock Record	From ft.	To ft.	Water Record: Depth(s) at which water(s) found	Kind of water (fresh, salty, sulphur)
LOAM	0	6		
GREY LIMESTONE	6	55	55	FRESH

For what purpose(s) is the water to be used? HOUSE

Is well on upland, in valley, or on hillside? ✓ upland

Drilling or Boring Firm M MEAGHER

Address OTTAWA

Licence Number 245

Name of Driller or Borer SAME

Address

Date AUG 9/61

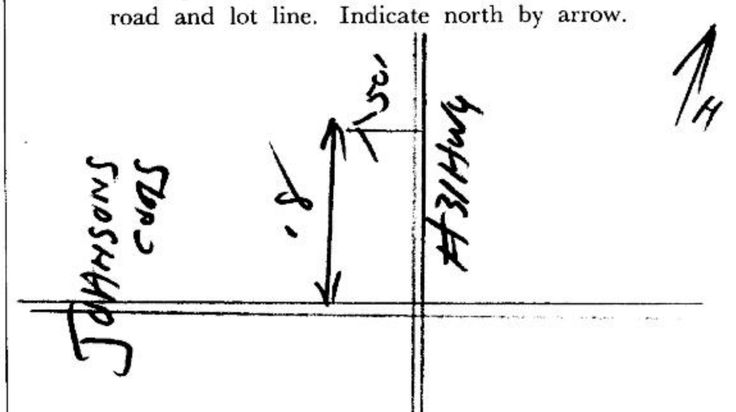
M Meagher
(Signature of Licensed Drilling or Boring Contractor)

Form 7 15M Sets 60-5930

OWRC COPY

Location of Well

In diagram below show distances of well from road and lot line. Indicate north by arrow.



ip 316/58

UTM |1|8| Z |4|5|3|8|0|0| E

|5| R |5|0|1|7|5|3|0| N

Elev. |4| R |0|3|1|5| 21

Basin |2|5|

~~2181~~ G

The Ontario Water Resources Commission Act

WATER WELL RECORD

County or District CARLETON Township, Village, Town or City GLOUCESTER

Con. 4 RF Lot 21 ~~22~~ Date completed 26 (day) JULY (month) 62 (year)

[redacted]dress BILLINGS BRIDGE

Casing and Screen Record

Inside diameter of casing	6
Total length of casing	21
Type of screen	—
Length of screen	—
Depth to top of screen	—
Diameter of finished hole	4

Pumping Test

Static level	8	
Test-pumping rate	5	G.P.M.
Pumping level	10	
Duration of test pumping	1 HR	
Water clear or cloudy at end of test	CC	
Recommended pumping rate	5	G.P.M.
with pump setting of	30	feet below ground surface

Well Log / Water Record

Overburden and Bedrock Record	From ft.	To ft.	Depth(s) at which water(s) found	Kind of water (fresh, salty, sulphur)
CLAY	0	21		
LIMESTONE	21	46	46	F

For what purpose(s) is the water to be used? Home

Is well on upland, in valley, or on hillside? ✓

Drilling or Boring Firm M MEAGHER

Address OTTAWA

Licence Number 618

Name of Driller or Borer SAME

Address

Date AUG 24

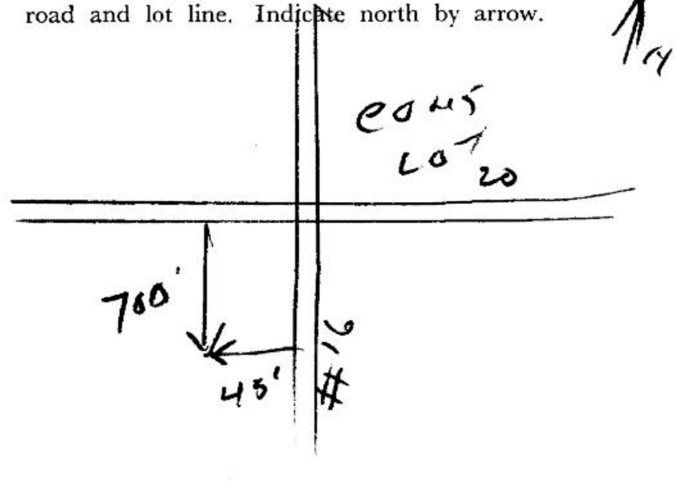
(Signature of Licensed Drilling or Boring Contractor) M Meagher

Form 7 10M-62-1152

OWRC COPY

Location of Well

In diagram below show distances of well from road and lot line. Indicate north by arrow.



CSS.58

316/50 163

UTM | 18 | Z | 4 5 3 8 4 0 | E
| 5 | R | 5 0 1 1 7 8 5 0 | N
Elev. | 4 | R | 0 3 0 5 |
Basin | 25 | | | | |

15 № ~~2246~~

ONTARIO

The Well Drillers Act

Department of Mines, Province of Ontario

Water Well Record

[redacted] Township, ~~Village, Town or City~~.. Glouce s ter
[redacted] Town or City).......................................
[redacted]ss.. Leitrim.......................................
Date Completed .... (day) (month) (year) Cost of Well (excluding pump)....$3.37.00

Pipe and Casing Record	Pumping Test
Casing diameter(s).... 5	Date.... Nov 24
Length(s) of casing(s).... 0	Static level.... 5'
Type of screen.... —	Pumping level.... 20'
Length of screen.... —	Pumping rate.... 8 GPM
Distance from top of screen to ground level.... —	Duration of test.... 30 Min
Is well a gravel-wall type?.... No	Distance from cylinder or bowls to ground level.... —

Water Record

Kind (fresh or mineral).... Fresh
Quality (hard, soft, contains iron, sulphur, etc.).... hard
Appearance (clear, cloudy, coloured).... clear
For what purpose(s) is the water to be used?.... Farm
How far is well from possible source of contamination?.... 100' Barn
What is the source of contamination?.... BARN
Enclose a copy of any mineral analysis that has been made of water....

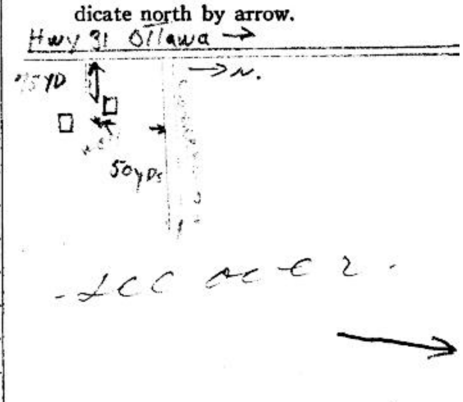
Depth(s) to Water Horizon(s)	Kind of Water	No. of Feet Water Rises
30'	good	~~5~~ 30'
60'	"	55'
79'	"	74'

Well Log

Overburden and Bedrock Record	From	To
BOULDER TILL	0 ft.	5 ft.
SANDSTONE	5'	80'

Location of Well

In diagram below show distances of well from road and lot line. Indicate north by arrow.



See OVER

Situation: Is well on upland, in valley, or on hillside?.... upland
Drilling Firm.... E.A. McLEAN + SON
Address.... 195 JAMES ST.
Name of Driller.... M. Renaud ....Address....
Date.... ~~Nov~~ Dec. 1, 50 ....Licence Number....

....
Signature of Licensee

FORM 5

R.F 316/52

UTM Zone 18 Z | 4 5 4 1 0 1 6 1 0 E

L.S.R. 21 5 0 1 1 7 1 8 1 7 1 0 N

15 No 2248

The Ontario Water Resources Commission Act

Elev. 4 R 0 3 1 1 0

WATER WELL RECORD

Basin 2 5 County or District CARLETON Township, Village, Town or City GLOUCESTER

Con. 5 RF Lot 21 Date completed 25 (day) 4 month 1966 year)

[redacted] dress P.O. Box 212 R.R #6 OTTAWA, ONT.

Casing and Screen Record

Inside diameter of casing 6 1/4"

Total length of casing 21' 3"

Type of screen

Length of screen

Depth to top of screen

Diameter of finished hole 6"

Pumping Test

Static level 14'

Test-pumping rate 3 G.P.M.

Pumping level 90

Duration of test pumping 1 1/2 HRS

Water clear or cloudy at end of test CLEAR

Recommended pumping rate 3 G.P.M.

with pump setting of 90 feet below ground surface

Well Log

Overburden and Bedrock Record	From ft.	To ft.	Water Record: Depth(s) at which water(s) found	Water Record: Kind of water (fresh, salty, sulphur)
TOP SOIL	0	1		
CLAY	1	6		Fresh
SANDSTONE	6	98	80 - 97	

For what purpose(s) is the water to be used? Industry

Is well on upland, in valley, or on hillside? Upland

Drilling or Boring Firm McLEAN WATER SUPPLY LTD.

Address 1532 RAVEN AVE OTTAWA, ONT.

Licence Number 2154

Name of Driller or Borer Louis Burrows

Address

Date APR. 26 - 1966

A. L. Schaf

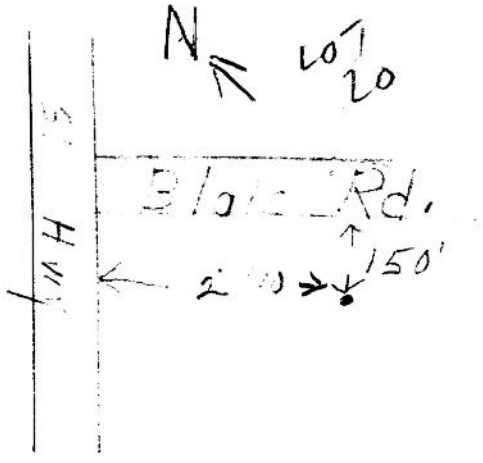
(Signature of Licensed Drilling or Boring Contractor)

Form 7 15M-60-4138

OWRC COPY

Location of Well

In diagram below show distances of well from road and lot line. Indicate north by arrow.



C55-58

UTM | 1 | 8 | Z | 4 | 5 | 3 | 9 | 6 | 10 | E
| 5 | R | 5 | 0 | 1 | 7 | 8 | 6 | 0 | N

Elev. | 4 | R | 0 | 3 | 0 | 0 |

Basin | 2 | 5 |

The Ontario Water Resources Commission Act

WATER WELL RECORD

WATER RESOURCES DIVISION
DEC 14 1966
ONTARIO WATER RESOURCES COMMISSION

15 No 2249

County or District Carl — Township, Village, Town or City Gloucester

Con. 5 1/2 — Lot 21 — Date completed 19 (day) Nov. (month) 1966 (year)

[redacted] dress RR #3 Metcalfe Ont

Casing and Screen Record

Inside diameter of casing 5"

Total length of casing 20'

Type of screen

Length of screen

Depth to top of screen

Diameter of finished hole 5"

Pumping Test

Static level 15

Test-pumping rate 5 G.P.M.

Pumping level 45

Duration of test pumping 1 hr

Water clear or cloudy at end of test cloudy

Recommended pumping rate 5 G.P.M.

with pump setting of 75' feet below ground surface

Well Log

Overburden and Bedrock Record	From ft.	To ft.	Water Record: Depth(s) at which water(s) found	Water Record: Kind of water (fresh, salty, sulphur)
sand fill	0	4	83	fresh
sandstone	4	85		

For what purpose(s) is the water to be used?
old house

Is well on upland, in valley, or on hillside? upland

Drilling or Boring Firm Capital Water Supplies

Address 14 Ashford Dr Ottawa 6

Licence Number 2158

Name of Driller or Borer H Scott

Address

Date Nov 19, 1966

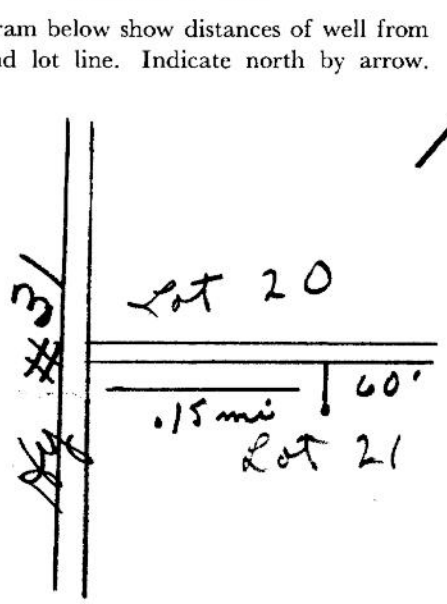
Walter Lavanagh
(Signature of Licensed Drilling or Boring Contractor)

Form 7 15M-60-4138

OWRC COPY

Location of Well

In diagram below show distances of well from road and lot line. Indicate north by arrow.



31G/52

UTM |18|Z |4|5|4|1|1|1|0|E

Rideau Front 50

|5|R |5|0|1|6|9|2|0|N

Con 5
Lot 23

Elev. |4|R |0|3|4|3|

Basin |2|5|

The Ontario Water Resources Commission Act

WATER WELL RECORD

County or District Carleton Township, Village, Town or City Gloucester

Con. V RF Lot 23 Date completed 14 (day) Dec (month) 1964 (year)

[redacted]dress Box 254 RR6, Ottawa

Casing and Screen Record		Pumping Test	
Inside diameter of casing	5"	Static level	20'
Total length of casing	10'	Test-pumping rate	4 G.P.M.
Type of screen	none	Pumping level	65'
Length of screen	—	Duration of test pumping	1½ hrs
Depth to top of screen	—	Water clear or cloudy at end of test	cloudy
Diameter of finished hole	5"	Recommended pumping rate	4 G.P.M.
		with pump setting of	75 feet below ground surface

Well Log: Overburden and Bedrock Record	From ft.	To ft.	Water Record: Depth(s) at which water(s) found	Kind of water (fresh, salty, sulphur)
loam	0	2		
Hard Sandstone	2	65		
Red Granite	65	79	60-79	fresh

For what purpose(s) is the water to be used? house

Is well on upland, in valley, or on hillside? hillside

Drilling or Boring Firm McLean Water Supply LTd

Address 1532 Raven Ave Ottawa

Licence Number 1328

Name of Driller or Borer H. Sally

Address

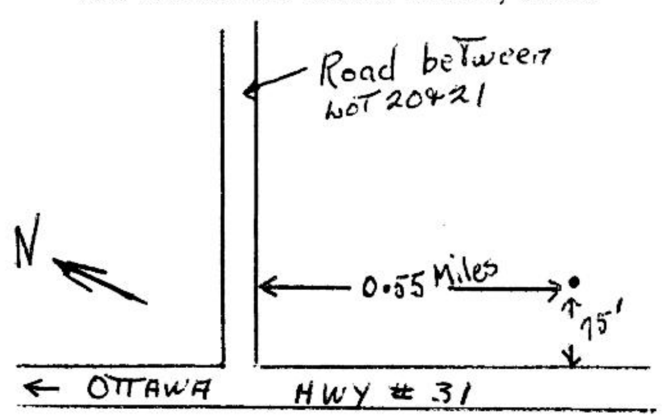
Date Dec 17, 1964

C.J. McLean
(Signature of Licensed Drilling or Boring Contractor)

Form 7 15M-60-4138

Location of Well

In diagram below show distances of well from road and lot line. Indicate north by arrow.



OWRC COPY

CSS.83

UTM 18 453890 RF Con V Lot 21
5 5017640
Elev. 4 0308
Basin 2ST

09925

CODED

The Ontario Water Resources Commission Act

WATER WELL RECORD

County or District Carleton Township, Village, Town or City Gloucester

Con. RF 5 Lot ~~20~~ 21 Date completed 6 December 1968 (day month year)

[redacted] ddress Long Sault, Ontario

Casing and Screen Record		Pumping Test	
Inside diameter of casing	6"	Static level	2'
Total length of casing	15'	Test-pumping rate	10 G.P.M.
Type of screen	nil	Pumping level	5'
Length of screen	n/a	Duration of test pumping	1 Hour
Depth to top of screen	n/a	Water clear or cloudy at end of test	cloudy
Diameter of finished hole	6"	Recommended pumping rate	10 G.P.M.
		with pump setting of	25' feet below ground surface

Well Log: Overburden and Bedrock Record	From ft.	To ft.	Water Record: Depth(s) at which water(s) found	Kind of water (fresh, salty, sulphur)
Closely packed Boulders	0'	13'		
Very Abrassive Sandstone	13'	63'	60'	fresh

For what purpose(s) is the water to be used? Trailer Sales Depot

Is well on upland, in valley, or on hillside? Valley

Drilling or Boring Firm Blair Phillips Drilling Co. Ltd.,

Address 1119 Falaise Road, Ottawa 5, Ontario.

Licence Number 2779

Name of Driller or Borer J. Moore

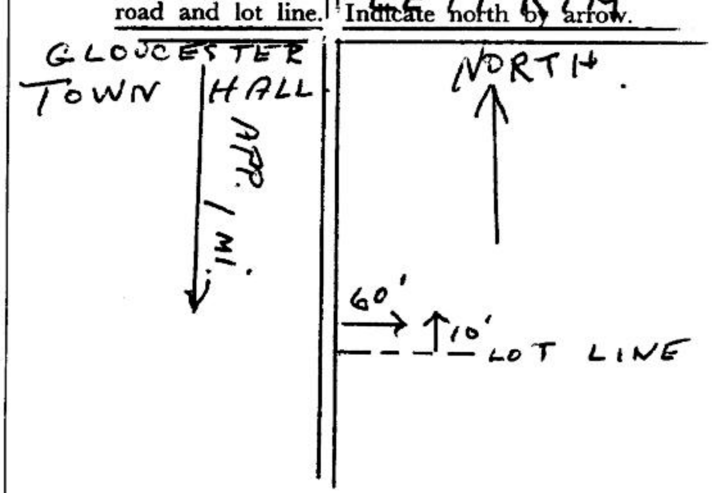
Address Kars, Ontario

Date 6 December 1968

(Signature of Licensed Drilling or Boring Contractor)

Location of Well

In diagram below show distances of well from road and lot line. Indicate north by arrow.



Form 7

OWRC COPY

31 G/5a

The Ontario Water Resources Commission Act

WATER WELL RECORD

Water management in Ontario

1. PRINT ONLY IN SPACES PROVIDED
2. CHECK ☒ CORRECT BOX WHERE APPLICABLE

11

1510717 | MUNICIP. 15001 | CON. RF | LOT 025

COUNTY OR DISTRICT	TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE	CON., BLOCK, TRACT, SURVEY, ETC.	LOT
CARLETON	GLOUCESTER	RF	025

[redacted] 31 HIGHWAY LEITRUM

DATE COMPLETED: DAY 15 MO. 11 YR. 70

ELEVATION: 0342 | BASIN CODE: 25T

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH – FEET FROM	DEPTH – FEET TO
BROWN	RUBBLE	(FILLED IN LOT TO HIGHWAY GRADE)		0	6
GREY	LIMESTONE			6	52

31 0000612 | 0052215

32

41 WATER RECORD

WATER FOUND AT – FEET	KIND OF WATER
0050	1 ☒ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL

51 CASING & OPEN HOLE RECORD

INSIDE DIAM. INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH – FEET FROM	DEPTH – FEET TO
06	1 ☒ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE	188	0	0020 ~~20~~
~~04~~	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☒ OPEN HOLE			0052
	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE			

SCREEN

SIZE(S) OF OPENING (SLOT NO.)	DIAMETER INCHES	LENGTH FEET

MATERIAL AND TYPE | DEPTH TO TOP OF SCREEN FEET

61 PLUGGING & SEALING RECORD

DEPTH SET AT – FEET FROM	DEPTH SET AT – FEET TO	MATERIAL AND TYPE (CEMENT GROUT, LEAD PACKER, ETC.)

71 PUMPING TEST

METHOD	PUMPING RATE	DURATION OF PUMPING	STATIC LEVEL	WATER LEVEL END OF PUMPING	WATER LEVELS DURING	15 MINUTES	30 MINUTES	45 MINUTES	60 MINUTES
1 ☒ PUMP 2 ☐ BAILER	0006 GPM.	~~02~~ 15-16 HOURS 00 17-18 MINS.	007 FEET	015 FEET	1 [redacted] 2 ☒ RECOVERY	007 FEET	007 FEET	007 FEET	007 FEET

IF FLOWING, GIVE RATE: GPM.

PUMP INTAKE SET AT: 30 FEET

WATER AT END OF TEST: 1 ☒ CLEAR 2 ☐ CLOUDY

RECOMMENDED PUMP TYPE: ☐ SHALLOW ☒ DEEP

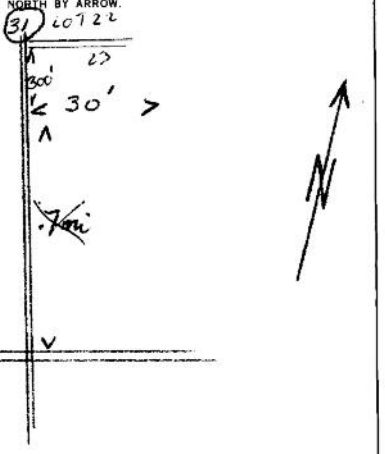
RECOMMENDED PUMP SETTING: 040 FEET

RECOMMENDED PUMPING RATE: 0005 GPM.

0008 GPM./FT. SPECIFIC CAPACITY

LOCATION OF WELL

IN DIAGRAM BELOW SHOW DISTANCES OF WELL FROM ROAD AND LOT LINE. INDICATE NORTH BY ARROW.



DRILLERS REMARKS:

FINAL STATUS OF WELL	1 ☒ WATER SUPPLY 2 ☐ OBSERVATION WELL 3 ☐ TEST HOLE 4 ☐ RECHARGE WELL 5 ☐ ABANDONED, INSUFFICIENT SUPPLY 6 ☐ ABANDONED, POOR QUALITY 7 ☐ UNFINISHED
WATER USE 05	1 ☐ DOMESTIC 2 ☐ STOCK 3 ☐ IRRIGATION 4 ☐ INDUSTRIAL ☐ OTHER 5 ☒ COMMERCIAL 6 ☐ MUNICIPAL 7 ☐ PUBLIC SUPPLY 8 ☐ COOLING OR AIR CONDITIONING 9 ☐ NOT USED
METHOD OF DRILLING	1 ☒ CABLE TOOL 2 ☐ ROTARY (CONVENTIONAL) 3 ☐ ROTARY (REVERSE) 4 ☐ ROTARY (AIR) 5 ☐ AIR PERCUSSION 6 ☐ BORING 7 ☐ DIAMOND 8 ☐ JETTING 9 ☐ DRIVING

CONTRACTOR

NAME OF WELL CONTRACTOR: W. MOLOUGHNEY — LICENCE NUMBER: 3701

ADDRESS: 1110 FISHER

NAME OF DRILLER OR BORER: W. MOLOUGHNEY — LICENCE NUMBER:

SIGNATURE OF CONTRACTOR: W. Moloughney — SUBMISSION DATE: DAY 11 MO. FEB YR. 71

OWRC COPY

OFFICE USE ONLY

DATA SOURCE: 1 | CONTRACTOR: 3701 | DATE RECEIVED: 230271

DATE OF INSPECTION | INSPECTOR

REMARKS:

P

WI

The Ontario Water Resources Commission Act

WATER WELL RECORD

31/4/5a

Water management in Ontario 1. PRINT ONLY IN SPACES PROVIDED 2. CHECK ☒ CORRECT BOX WHERE APPLICABLE

11 | 1512265 | MUNICIP. 150012 | CON. RF | 05

COUNTY OR DISTRICT	TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE	CON., BLOCK, TRACT, SURVEY, ETC.	LOT
Carleton	Gloucester	5 RF	S Half 022

[redacted] | ADDRESS | DATE COMPLETED DAY 24 MO. ~~Nov.~~ 11 YR. 72

MINING 0 | RC. 4 | ELEVATION 03316 | RC. 4 | BASIN CODE 25 | II | III | IV

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH – FEET FROM	TO
Brown	Clay	Sand & Stones	Sandy Clay & Stones	0	3
			Med. gray limestone	3	48

31 00036 05 28 12 | 00482 15

32

41 WATER RECORD

WATER FOUND AT – FEET	KIND OF WATER
0008	1 ☒ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
0001	1 ☒ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
0034	1 ☒ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL

51 CASING & OPEN HOLE RECORD

INSIDE DIAM. INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH – FEET FROM	TO
06	1 ☒ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE	.250	0+6"	0012 ~~12+4"~~
6"	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☒ OPEN HOLE			0048
	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE			

SCREEN

SIZE(S) OF OPENING (SLOT NO.)	DIAMETER INCHES	LENGTH FEET
MATERIAL AND TYPE	DEPTH TO TOP OF SCREEN FEET	

61 PLUGGING & SEALING RECORD

DEPTH SET AT – FEET FROM	TO	MATERIAL AND TYPE (CEMENT GROUT, LEAD PACKER, ETC.)

PUMPING TEST

PUMPING TEST METHOD	PUMPING RATE	DURATION OF PUMPING
1 ☒ PUMP 2 ☐ BAILER	0008 GPM.	01 HOURS 00 MINS

STATIC LEVEL	WATER LEVEL END OF PUMPING	WATER LEVELS DURING	15 MINUTES	30 MINUTES	45 MINUTES	60 MINUTES
004 FEET	048 FEET	1 ☐ PUMPING 2 ☒ RECOVERY	~~004~~ FEET	004 FEET	004 FEET	004 FEET

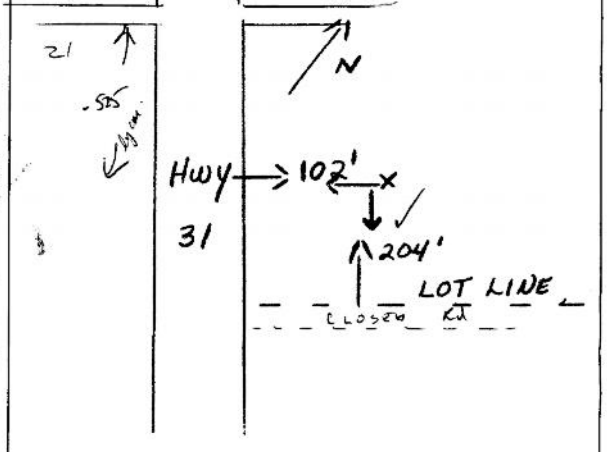
IF FLOWING, GIVE RATE ____ GPM. | PUMP INTAKE SET AT 48 FEET | WATER AT END OF TEST: ☒ CLEAR ☐ CLOUDY

RECOMMENDED PUMP TYPE: ☒ SHALLOW ☐ DEEP | RECOMMENDED PUMP SETTING 030 FEET | RECOMMENDED PUMPING RATE 0008 GPM.

000.2 GPM./FT. SPECIFIC CAPACITY

LOCATION OF WELL

IN DIAGRAM BELOW SHOW DISTANCES OF WELL FROM ROAD AND LOT LINE. INDICATE NORTH BY ARROW.



DRILLERS REMARKS:

FINAL STATUS OF WELL	1 ☒ WATER SUPPLY 2 ☐ OBSERVATION WELL 3 ☐ TEST HOLE 4 ☐ RECHARGE WELL 5 ☐ ABANDONED, INSUFFICIENT SUPPLY 6 ☐ ABANDONED, POOR QUALITY 7 ☐ UNFINISHED
WATER USE 01	1 ☒ DOMESTIC 2 ☐ STOCK 3 ☐ IRRIGATION 4 ☐ INDUSTRIAL ☐ OTHER 5 ☐ COMMERCIAL 6 ☐ MUNICIPAL 7 ☐ PUBLIC SUPPLY 8 ☐ COOLING OR AIR CONDITIONING 9 ☐ NOT USED
METHOD OF DRILLING	1 ☐ CABLE TOOL 2 ☐ ROTARY (CONVENTIONAL) 3 ☐ ROTARY (REVERSE) 4 ☒ ROTARY (AIR) 5 ☐ AIR PERCUSSION 6 ☐ BORING 7 ☐ DIAMOND 8 ☐ JETTING 9 ☐ DRIVING

NAME OF WELL CONTRACTOR: F.E. Johnston Drilling Co. | LICENCE NUMBER 3002

ADDRESS: P.O. Box 4134 Stn "E" Ottawa, Ont.

NAME OF DRILLER OR BORER: [illegible] Remick | LICENCE NUMBER

SIGNATURE OF CONTRACTOR | SUBMISSION DATE DAY ____ MO. ____ YR. ____

RC COPY

OFFICE USE ONLY

DATA SOURCE 1 | CONTRACTOR 3002 | DATE RECEIVED 150173

DATE OF INSPECTION | INSPECTOR K

REMARKS: P Y WI

Well ID Number: 1512375
Well Audit Number:
Well Tag Number:

This table contains information from the original well record and any subsequent updates.

Well Location

Address of Well Location	
Township	GLOUCESTER TOWNSHIP
Lot	022
Concession	RF 04
County/District/Municipality	OTTAWA-CARLETON
City/Town/Village	
Province	ON
Postal Code	n/a
UTM Coordinates	NAD83 — Zone 18 Easting: 454020.70 Northing: 5017262.00
Municipal Plan and Sublot Number	
Other	

Overburden and Bedrock Materials Interval

General Colour	Most Common Material	Other Materials	General Description	Depth From	Depth To
BRWN	OBDN	SAND		0 ft	9 ft
WHIT	SNDS			9 ft	74 ft

Annular Space/Abandonment Sealing Record

Depth From	Depth To	Type of Sealant Used (Material and Type)	Volume Placed

Method of Construction & Well Use

Method of Construction	Well Use
Diamond	
	Domestic

Status of Well

Water Supply

Construction Record - Casing

Inside Diameter	Open Hole or material	Depth From	Depth To
2 inch	GALVANIZED		20 ft
	OPEN HOLE		74 ft

Construction Record - Screen

Outside Diameter	Material	Depth From	Depth To

Well Contractor and Well Technician Information

Well Contractor's Licence Number: 1703

Results of Well Yield Testing

After test of well yield, water was	CLEAR
If pumping discontinued, give reason	
Pump intake set at	
Pumping Rate	8 GPM
Duration of Pumping	2 h:0 m
Final water level	12 ft
If flowing give rate	
Recommended pump depth	35 ft
Recommended pump rate	8 GPM
Well Production	PUMP
Disinfected?	

Draw Down & Recovery

Draw Down Time(min)	Draw Down Water level	Recovery Time(min)	Recovery Water level
SWL	6 ft		
1		1	
2		2	
3		3	
4		4	
5		5	
10		10	
15	12 ft	15	
20		20	
25		25	
30	12 ft	30	
40		40	
45	12 ft	45	
50		50	
60	12 ft	60	

Water Details

Water Found at Depth	Kind
74 ft	Fresh

Hole Diameter

Depth From	Depth To	Diameter

Audit Number:

Date Well Completed: November 27, 1972

Date Well Record Received by MOE: March 07, 1973

Updated: February 2, 2018
Rate Rate
Share facebook twitter Print
Tags

- Environment and energy,

MINISTRY OF THE ENVIRONMENT

The Ontario Water Resources Act

WATER WELL RECORD

Ontario

31 G/5a

1. PRINT ONLY IN SPACES PROVIDED
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11 | 1513436 | MUNICIP. 15004 | CON. RF 04

COUNTY OR DISTRICT	TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE	CON., BLOCK, TRACT, SURVEY, ETC.	LOT
~~LETRIM~~ Ottawa-Carleton	GLOUCESTER	IV RFC	022

OWNER (SURNAME FIRST)	ADDRESS	DATE COMPLETED
UNITED CO - OP OF ~~ONTARIO~~ ONT	R. R. #6 OTTAWA, ONTARIO.	DAY 16 MO 08 YR 73

21	ZONE	EASTING	NORTHING	RC.	ELEVATION	RC.	BASIN CODE
	18	453850	5017215	6	0323	4	26

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH - FEET FROM	DEPTH - FEET TO
Brown	Top Soil		Soft	0	4
Brown	Soil	Boulder	Hard	4	12
Grey	Limestone	Clay	Soft Porous	12	16
White	Limestone	Limestone Grey	Medium Hard	16	50

31 | 0004692 | 0012613 | 0016215051 | 0050115

32

41 WATER RECORD

WATER FOUND AT - FEET	KIND OF WATER
0048	☒ FRESH ☐ SULPHUR ☐ SALTY ☐ MINERAL
	☐ FRESH ☐ SULPHUR ☐ SALTY ☐ MINERAL
	☐ FRESH ☐ SULPHUR ☐ SALTY ☐ MINERAL
	☐ FRESH ☐ SULPHUR ☐ SALTY ☐ MINERAL
	☐ FRESH ☐ SULPHUR ☐ SALTY ☐ MINERAL

51 CASING & OPEN HOLE RECORD

INSIDE DIAM INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH - FEET FROM	DEPTH - FEET TO
06	☒ STEEL ☐ GALVANIZED ☐ CONCRETE ☐ OPEN HOLE	.188	0	~~22~~ 0022
	☐ STEEL ☐ GALVANIZED ☐ CONCRETE ☐ OPEN HOLE			
	☐ STEEL ☐ GALVANIZED ☐ CONCRETE ☐ OPEN HOLE			

SCREEN

SIZE(S) OF OPENING (SLOT NO.)	DIAMETER INCHES	LENGTH FEET

MATERIAL AND TYPE	DEPTH TO TOP OF SCREEN FEET

61 PLUGGING & SEALING RECORD

DEPTH SET AT - FEET FROM	TO	MATERIAL AND TYPE (CEMENT GROUT, LEAD PACKER, ETC.)

71 PUMPING TEST

PUMPING TEST METHOD	PUMPING RATE	DURATION OF PUMPING
☐ PUMP ☒ BAILER	0005 GPM	01 HOURS 00 MINS

STATIC LEVEL	WATER LEVEL END OF PUMPING	WATER LEVELS DURING ☒ PUMPING ☐ RECOVERY: 15 MINUTES	30 MINUTES	45 MINUTES	60 MINUTES
014 FEET	025 FEET	030 FEET	030 FEET	030 FEET	030 FEET

IF FLOWING, GIVE RATE: GPM | PUMP INTAKE SET AT: FEET | WATER AT END OF TEST: ☒ CLEAR ☐ CLOUDY

RECOMMENDED PUMP TYPE: ☒ SHALLOW ☐ DEEP | RECOMMENDED PUMP SETTING: 030 FEET | RECOMMENDED PUMPING RATE: 0005 GPM

50-53: 000.3

FINAL STATUS OF WELL

☒ WATER SUPPLY
☐ OBSERVATION WELL
☐ TEST HOLE
☐ RECHARGE WELL
☐ ABANDONED, INSUFFICIENT SUPPLY
☐ ABANDONED, POOR QUALITY
☐ UNFINISHED

WATER USE 01

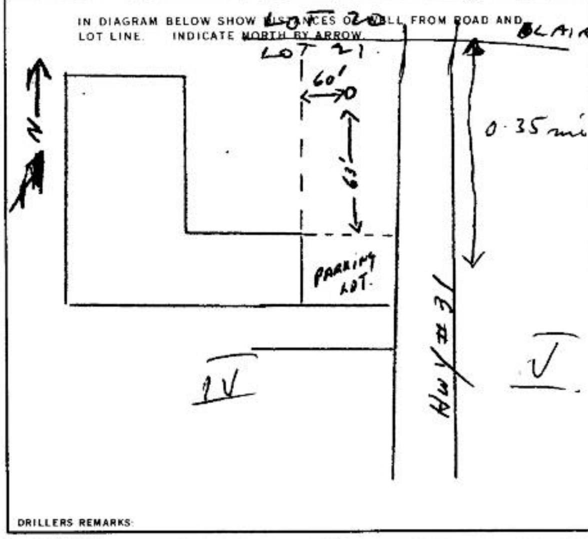
☒ DOMESTIC
☐ STOCK
☐ IRRIGATION
☐ INDUSTRIAL
☐ OTHER
☐ COMMERCIAL
☐ MUNICIPAL
☐ PUBLIC SUPPLY
☐ COOLING OR AIR CONDITIONING
☐ NOT USED

METHOD OF DRILLING

☐ CABLE TOOL
☐ ROTARY (CONVENTIONAL)
☐ ROTARY (REVERSE)
☒ ROTARY (AIR)
☐ AIR PERCUSSION
☐ BORING
☐ DIAMOND
☐ JETTING
☐ DRIVING

LOCATION OF WELL

IN DIAGRAM BELOW SHOW DISTANCES OF WELL FROM ROAD AND LOT LINE. INDICATE NORTH BY ARROW.



DRILLERS REMARKS:

CONTRACTOR

NAME OF WELL CONTRACTOR	LICENCE NUMBER
HAWTHORNE DRILLING LIMITED	2557

ADDRESS: Box 4218 STATION "E" OTTAWA ONTARIO

NAME OF DRILLER OR BORER	LICENCE NUMBER
YVON AUBIN	2557

SIGNATURE OF CONTRACTOR: per [signature] | SUBMISSION DATE: DAY 25 MO 9 YR 73

OFFICE USE ONLY

DATA SOURCE	CONTRACTOR	DATE RECEIVED
1	2557	28 09 73

DATE OF INSPECTION | INSPECTOR

REMARKS: P-R

CSS.58

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MINISTRY OF THE ENVIRONMENT

The Ontario Water Resources Act

WATER WELL RECORD 316/5a

Ontario

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11 | 1514664 | MUNICIP. 15002 | CON. RF | 04

COUNTY OR DISTRICT	TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE	CON., BLOCK, TRACT, SURVEY, ETC.	LOT
Carleton	Gloucester	~~II~~ RF IV	022

OWNER (SURNAME FIRST)	ADDRESS	DATE COMPLETED
CDN Canadian Industries Ltd.	Hwy #31 Ottawa Ont	DAY 20 MO. 02 YR. 25

21	ZONE	EASTING	NORTHING	RC	ELEVATION	RC	BASIN CODE
	18	453793	5017090	4	0340	4	26

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH - FEET FROM	DEPTH - FEET TO
Brown	Sand Gravel	Boulders.	Dense	0	13
Black.	Shale		Loose.	13	30
Grey	Limestone		Sound.	30	111
White	Sandstone		Sound	111	125

31 0013628||113 0030817 0111215 0125118

32

41 WATER RECORD

WATER FOUND AT - FEET	KIND OF WATER
0032	1 ☑ FRESH 3 ☐ SULPHUR 2 ☐ SALTY 4 ☐ MINERAL
0111	1 ☑ FRESH 3 ☐ SULPHUR 2 ☐ SALTY 4 ☐ MINERAL
	1 ☐ FRESH 3 ☐ SULPHUR 2 ☐ SALTY 4 ☐ MINERAL
	1 ☐ FRESH 3 ☐ SULPHUR 2 ☐ SALTY 4 ☐ MINERAL
	1 ☐ FRESH 3 ☐ SULPHUR 2 ☐ SALTY 4 ☐ MINERAL

51 CASING & OPEN HOLE RECORD

INSIDE DIAM. INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH - FEET FROM	DEPTH - FEET TO
~~6~~ 06	1 ☑ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE	.188	0	~~22~~ 0022
~~5~~ 06	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☑ OPEN HOLE		22	0125
	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE			

SCREEN

SIZE(S) OF OPENING (SLOT NO.) | DIAMETER INCHES | LENGTH FEET

MATERIAL AND TYPE | DEPTH TO TOP OF SCREEN FEET

61 PLUGGING & SEALING RECORD

DEPTH SET AT - FEET FROM	TO	MATERIAL AND TYPE (CEMENT GROUT, LEAD PACKER, ETC.)

71 PUMPING TEST

PUMPING TEST METHOD: 1 ☑ PUMP 2 ☐ BAILER | PUMPING RATE 0012 GPM | DURATION OF PUMPING 01 HOURS 15 MINS

STATIC LEVEL	WATER LEVEL END OF PUMPING	15 MINUTES	30 MINUTES	45 MINUTES	60 MINUTES
020 FEET	020 FEET	020 FEET	020 FEET	020 FEET	020 FEET

WATER LEVELS DURING: 1 ☑ PUMPING 2 ☐ RECOVERY

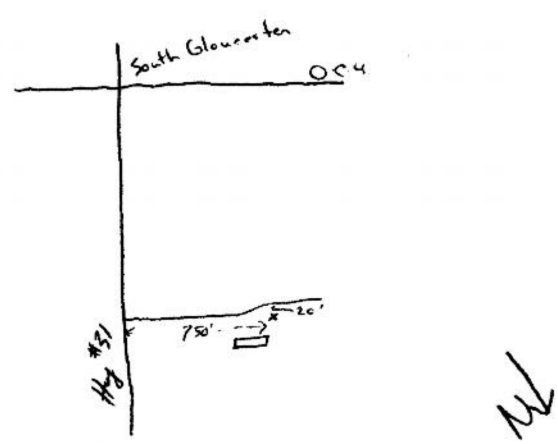
IF FLOWING, GIVE RATE: — GPM | PUMP INTAKE SET AT 80 FEET | WATER AT END OF TEST: 1 ☑ CLEAR 2 ☐ CLOUDY

RECOMMENDED PUMP TYPE: ☐ SHALLOW ☑ DEEP | RECOMMENDED PUMP SETTING 080 FEET | RECOMMENDED PUMPING RATE 0008 GPM

0240 GPM./FT. SPECIFIC CAPACITY

LOCATION OF WELL 5317

IN DIAGRAM BELOW SHOW DISTANCES OF WELL FROM ROAD AND LOT LINE. INDICATE NORTH BY ARROW.



DRILLERS REMARKS:

FINAL STATUS OF WELL 1: 1 ☑ WATER SUPPLY 2 ☐ OBSERVATION WELL 3 ☐ TEST HOLE 4 ☐ RECHARGE WELL 5 ☐ ABANDONED, INSUFFICIENT SUPPLY 6 ☐ ABANDONED, POOR QUALITY 7 ☐ UNFINISHED

WATER USE 04: 1 ☐ DOMESTIC 2 ☐ STOCK 3 ☐ IRRIGATION 4 ☑ INDUSTRIAL ☐ OTHER 5 ☐ COMMERCIAL 6 ☐ MUNICIPAL 7 ☐ PUBLIC SUPPLY 8 ☐ COOLING OR AIR CONDITIONING 9 ☐ NOT USED

METHOD OF DRILLING 5: 1 ☐ CABLE TOOL 2 ☐ ROTARY (CONVENTIONAL) 3 ☐ ROTARY (REVERSE) 4 ☐ ROTARY (AIR) 5 ☑ AIR PERCUSSION 6 ☐ BORING 7 ☐ DIAMOND 8 ☐ JETTING 9 ☐ DRIVING

CONTRACTOR

NAME OF WELL CONTRACTOR: Hawthorne Drilling Ltd | LICENCE NUMBER 2558

ADDRESS: PO Box 4218 Stat. E.

NAME OF DRILLER OR BORER: A. Emond. | LICENCE NUMBER 2558

SIGNATURE OF CONTRACTOR | SUBMISSION DATE DAY 24 MO. 2 YR. 25

OFFICE USE ONLY

DATA SOURCE 1 | CONTRACTOR 2558 | DATE RECEIVED 220675

DATE OF INSPECTION | INSPECTOR

REMARKS: | P ✓ | WI

CSS.58

FORM 7 MOE 07-091

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Ontario

The Ontario Water Resources Act

WATER WELL RECORD

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11 — 014664 — MUNICIP

COUNTY OR DISTRICT	TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE	CON., BLOCK, TRACT, SURVEY, ETC.	LOT
Carleton	Gloucester	III	22

OWNER (SURNAME FIRST)	ADDRESS	DATE COMPLETED
Canadian Industries Ltd.	Hwy #31 Ottawa Ont	DAY 20 MO 2 YR 25

21 — ZONE — EASTING — NORTHING — RC — ELEVATION — RC — BASIN CODE

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH - FEET FROM	DEPTH - FEET TO
Brown	Sand Gravel	Boulders.	Dense	0	13
Black	Shale		Loose.	13	30
Grey	Limestone		Sound.	30	111
White	Sandstone		Sound	111	125

31

32

41 WATER RECORD

WATER FOUND AT - FEET	KIND OF WATER
32	1 ☑ FRESH 3 ☐ SULPHUR; 2 ☐ SALTY 4 ☐ MINERAL
111	1 ☑ FRESH 3 ☐ SULPHUR; 2 ☐ SALTY 4 ☐ MINERAL
	1 ☐ FRESH 3 ☐ SULPHUR; 2 ☐ SALTY 4 ☐ MINERAL
	1 ☐ FRESH 3 ☐ SULPHUR; 2 ☐ SALTY 4 ☐ MINERAL
	1 ☐ FRESH 3 ☐ SULPHUR; 2 ☐ SALTY 4 ☐ MINERAL

51 CASING & OPEN HOLE RECORD

INSIDE DIAM. INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH - FEET FROM	DEPTH - FEET TO
6¼	1 ☑ STEEL; 2 ☐ GALVANIZED; 3 ☐ CONCRETE; 4 ☐ OPEN HOLE	.188	0	22
5⅞	1 ☐ STEEL; 2 ☐ GALVANIZED; 3 ☐ CONCRETE; 4 ☑ OPEN HOLE		22	125
	1 ☐ STEEL; 2 ☐ GALVANIZED; 3 ☐ CONCRETE; 4 ☐ OPEN HOLE			

SCREEN

SIZE(S) OF OPENING (SLOT NO.)	DIAMETER INCHES	LENGTH FEET

MATERIAL AND TYPE — DEPTH TO TOP OF SCREEN FEET

61 PLUGGING & SEALING RECORD

DEPTH SET AT - FEET FROM	DEPTH SET AT - FEET TO	MATERIAL AND TYPE (CEMENT GROUT LEAD PACKER, ETC.)
10-13	14-17	
18-21	22-25	
26-29	30-33	

71 PUMPING TEST

PUMPING TEST METHOD: 1 ☑ PUMP 2 ☐ BAILER — PUMPING RATE: 12 GPM — DURATION OF PUMPING: 1 HOURS 15 MINS

STATIC LEVEL	WATER LEVEL END OF PUMPING	WATER LEVELS DURING: 1 ☐ PUMPING 2 ☐ RECOVERY			
		15 MINUTES	30 MINUTES	45 MINUTES	60 MINUTES
20 FEET	20 FEET	20 FEET	20 FEET	20 FEET	20 FEET

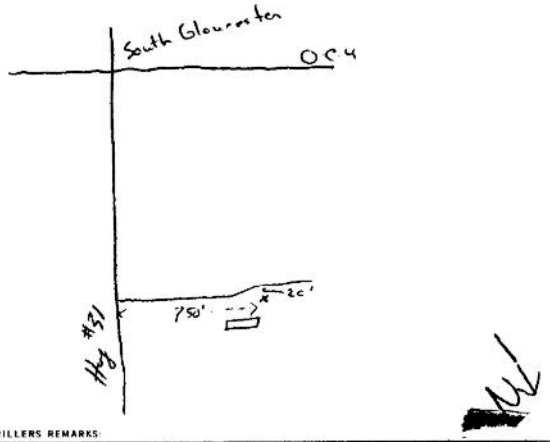
IF FLOWING GIVE RATE: — GPM — PUMP INTAKE SET AT: 80 FEET — WATER AT END OF TEST: 1 ☑ CLEAR 2 ☐ CLOUDY

RECOMMENDED PUMP TYPE: ☐ SHALLOW ☑ DEEP — RECOMMENDED PUMP SETTING: 80 FEET — RECOMMENDED PUMPING RATE: 8 GPM

GPM./FT. SPECIFIC CAPACITY: ———•———

LOCATION OF WELL

IN DIAGRAM BELOW SHOW DISTANCES OF WELL FROM ROAD AND LOT LINE. INDICATE NORTH BY ARROW.



DRILLERS REMARKS:

FINAL STATUS OF WELL

1 ☑ WATER SUPPLY; 2 ☐ OBSERVATION WELL; 3 ☐ TEST HOLE; 4 ☐ RECHARGE WELL; 5 ☐ ABANDONED, INSUFFICIENT SUPPLY; 6 ☐ ABANDONED, POOR QUALITY; 7 ☐ UNFINISHED

WATER USE

1 ☐ DOMESTIC; 2 ☐ STOCK; 3 ☐ IRRIGATION; 4 ☑ INDUSTRIAL; ☐ OTHER; 5 ☐ COMMERCIAL; 6 ☐ MUNICIPAL; 7 ☐ PUBLIC SUPPLY; 8 ☐ COOLING OR AIR CONDITIONING; 9 ☐ NOT USED

METHOD OF DRILLING

1 ☐ CABLE TOOL; 2 ☐ ROTARY (CONVENTIONAL); 3 ☐ ROTARY (REVERSE); 4 ☐ ROTARY (AIR); 5 ☑ AIR PERCUSSION; 6 ☐ BORING; 7 ☐ DIAMOND; 8 ☐ JETTING; 9 ☐ DRIVING

CONTRACTOR

NAME OF WELL CONTRACTOR: Hawthorne Drilling Ltd — LICENCE NUMBER: 2558

ADDRESS: PO Box 4218 Stat. E.

NAME OF DRILLER OR BORER: A. Emond — LICENCE NUMBER: 2558

SIGNATURE OF CONTRACTOR — SUBMISSION DATE: DAY 24 MO. 2 YR 25

OFFICE USE ONLY

DATA SOURCE — CONTRACTOR — DATE RECEIVED

DATE OF INSPECTION — INSPECTOR

REMARKS

P

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The Ontario Water Resources Act

WATER WELL RECORD

Ontario

316/5a

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11 | 1514840 | MUNICIP. 15002 | CON. RF | 05

COUNTY OR DISTRICT: Ottawa Carleton | TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE: Gloucester | CON., BLOCK, TRACT, SURVEY, ETC: ~~Rest 23~~ RE Conc 5 | LOT: 023

OWNER (SURNAME FIRST): Hume Trading Co Ltd | ADDRESS: P O Box 254 R R #6. | DATE COMPLETED: DAY 11 MO 07 YR 75

21 | UTM ZONE: 18 | EASTING: 454143 | NORTHING: 5016952 | RC: 4 | ELEVATION: 0345 | RC: 4 | BASIN CODE: 26

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH - FEET FROM	DEPTH - FEET TO
Brown	Top Soil		Top Soil	0	3
Grey	Limestone		Hard	3	135

31 | 00036021 | 01352161

32

WATER RECORD

WATER FOUND AT - FEET	KIND OF WATER
010	1 ☒ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL

CASING & OPEN HOLE RECORD

INSIDE DIAM. INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH - FEET FROM	DEPTH - FEET TO
06	1 ☒ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE	188	0	20 0020
06	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☒ OPEN HOLE		20	0135
	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE			

SCREEN

SIZE(S) OF OPENING (SLOT NO.) | DIAMETER INCHES | LENGTH FEET

MATERIAL AND TYPE | DEPTH TO TOP OF SCREEN FEET

61 PLUGGING & SEALING RECORD

DEPTH SET AT - FEET FROM	TO	MATERIAL AND TYPE (CEMENT GROUT LEAD PACKER, ETC.)

71 PUMPING TEST

PUMPING TEST METHOD: 1 ☒ PUMP 2 ☐ BAILER | PUMPING RATE: 0007 GPM | DURATION OF PUMPING: 01 HOURS 10 MINS

STATIC LEVEL	WATER LEVEL END OF PUMPING	WATER LEVELS DURING: 15 MINUTES	30 MINUTES	45 MINUTES	60 MINUTES
020 FEET	090 FEET	090 FEET	090 FEET	090 FEET	090 FEET

1 ☒ PUMPING 2 ☐ RECOVERY

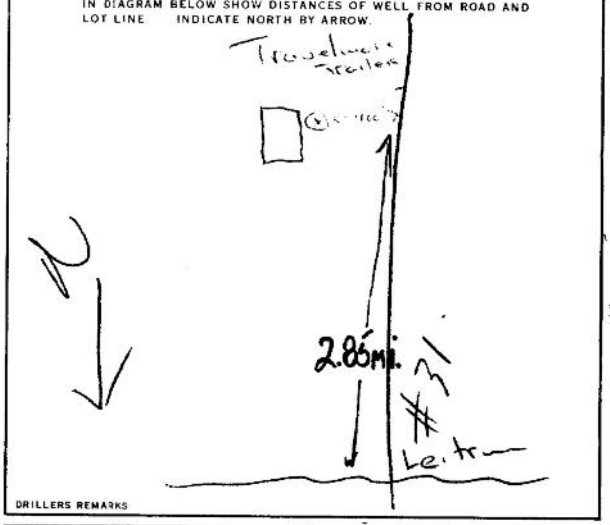
IF FLOWING, GIVE RATE: GPM | PUMP INTAKE SET AT: 90 FEET | WATER AT END OF TEST: 1 ☐ CLEAR 2 ☑ CLOUDY

RECOMMENDED PUMP TYPE: ☐ SHALLOW ☒ DEEP | RECOMMENDED PUMP SETTING: 090 FEET | RECOMMENDED PUMP RATE: 0006 GPM

000.1 GPM./FT. SPECIFIC CAPACITY

LOCATION OF WELL

IN DIAGRAM BELOW SHOW DISTANCES OF WELL FROM ROAD AND LOT LINE. INDICATE NORTH BY ARROW.



DRILLERS REMARKS

FINAL STATUS OF WELL 54: 1 ☒ WATER SUPPLY 2 ☐ OBSERVATION WELL 3 ☐ TEST HOLE 4 ☐ RECHARGE WELL 5 ☐ ABANDONED, INSUFFICIENT SUPPLY 6 ☐ ABANDONED, POOR QUALITY 7 ☐ UNFINISHED

WATER USE 55-56: 01 — 1 ☒ DOMESTIC 2 ☐ STOCK 3 ☐ IRRIGATION 4 ☐ INDUSTRIAL ☐ OTHER 5 ☐ COMMERCIAL 6 ☐ MUNICIPAL 7 ☐ PUBLIC SUPPLY 8 ☐ COOLING OR AIR CONDITIONING 9 ☐ NOT USED

METHOD OF DRILLING 57: 5 — 1 ☐ CABLE TOOL 2 ☐ ROTARY (CONVENTIONAL) 3 ☐ ROTARY (REVERSE) 4 ☐ ROTARY (AIR) 5 ☒ AIR PERCUSSION 6 ☐ BORING 7 ☐ DIAMOND 8 ☐ JETTING 9 ☐ DRIVING

CONTRACTOR

NAME OF WELL CONTRACTOR: Hawthorne Drilling Ltd | LICENCE NUMBER: 2557

ADDRESS: P.O. Box 9218 Stn E. Ottawa

NAME OF DRILLER OR BORER: A Emond | LICENCE NUMBER: 2557

SIGNATURE OF CONTRACTOR | SUBMISSION DATE: DAY 15 MO 7 YR 75

OFFICE USE ONLY

DATA SOURCE: 1 | CONTRACTOR: 2557 | DATE RECEIVED: 08 08 75

DATE OF INSPECTION | INSPECTOR

REMARKS | P ✓ | WI

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The Ontario Water Resources Act

3/65a

WATER WELL RECORD

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COUNTY OR DISTRICT	TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE	CON., BLOCK, TRACT, SURVEY, ETC.	LOT
Carleton	Gloucester	5 RF II	022 ~~22~~

OWNER (SURNAME FIRST)	ADDRESS	DATE COMPLETED
Melco Investors Corp.	934 Sadler Cres. Ottawa, Ont. K2B 5H7	DAY 13 MO 07 YR 77

(21) ZONE 18 | EASTING 454099 | NORTHING 5017399 | RC 4 | ELEVATION 0330 | RC 4 | BASIN CODE 26

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH - FEET FROM	DEPTH - FEET TO
brown	sand	clay & boulders	fill	0	7
black	muck		soft	7	9
grey	hardpan	boulders	packed	9	26
grey	limestone		medium	26	43
grey	sandstone		hard	43	178

(31) 0007262805I3 | 0009803851 | 002621413I79 | 004321578 | 01782I873

32

(41) WATER RECORD

WATER FOUND AT - FEET	KIND OF WATER
0175	1 ☒ FRESH 3 ☐ SULPHUR 2 ☐ SALTY 4 ☐ MINERAL
	1 ☐ FRESH 3 ☐ SULPHUR 2 ☐ SALTY 4 ☐ MINERAL
	1 ☐ FRESH 3 ☐ SULPHUR 2 ☐ SALTY 4 ☐ MINERAL
	1 ☐ FRESH 3 ☐ SULPHUR 2 ☐ SALTY 4 ☐ MINERAL
	1 ☐ FRESH 3 ☐ SULPHUR 2 ☐ SALTY 4 ☐ MINERAL

(51) CASING & OPEN HOLE RECORD

INSIDE DIAM INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH - FEET FROM	DEPTH - FEET TO
6¼	1 ☒ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE ~~4 OPEN HOLE~~	188	0	0028
06			28	~~178~~
06	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☒ OPEN HOLE			0178
	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE			

SCREEN

SIZE(S) OF OPENING (SLOT NO.)	DIAMETER INCHES	LENGTH FEET

MATERIAL AND TYPE | DEPTH TO TOP OF SCREEN FEET

61 PLUGGING & SEALING RECORD

DEPTH SET AT - FEET FROM	TO	MATERIAL AND TYPE (CEMENT GROUT, LEAD PACKER, ETC.)

(71) PUMPING TEST

PUMPING TEST METHOD: 1 ☐ PUMP 2 ☒ BAILER | PUMPING RATE 0015 GPM | DURATION OF PUMPING 01 HOURS 00 MINS

STATIC LEVEL	WATER LEVEL END OF PUMPING	15 MINUTES	30 MINUTES	45 MINUTES	60 MINUTES
030 FEET	065 FEET	065 FEET	065 FEET	065 FEET	065 FEET

WATER LEVELS DURING: 1 ☒ PUMPING 2 ☐ RECOVERY

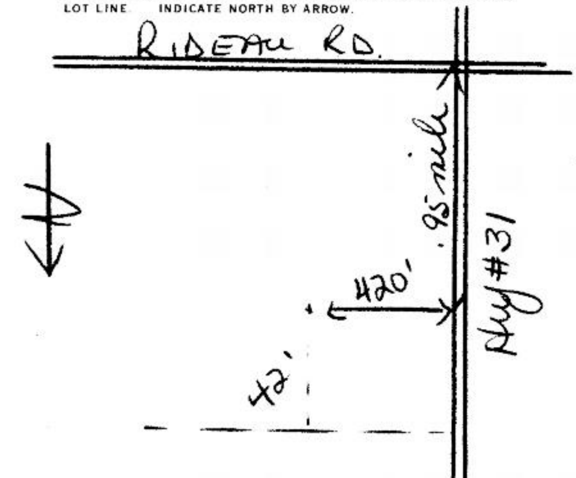
IF FLOWING GIVE RATE: GPM | PUMP INTAKE SET AT: FEET | WATER AT END OF TEST: 1 ☒ CLEAR 2 ☐ CLOUDY

RECOMMENDED PUMP TYPE: ☐ SHALLOW ☒ DEEP | RECOMMENDED PUMP SETTING 075 FEET | RECOMMENDED PUMPING RATE 0005 GPM

GPM./FT. SPECIFIC CAPACITY

LOCATION OF WELL

IN DIAGRAM BELOW SHOW DISTANCES OF WELL FROM ROAD AND LOT LINE. INDICATE NORTH BY ARROW.



DRILLERS REMARKS:

FINAL STATUS OF WELL 1

1 ☒ WATER SUPPLY 2 ☐ OBSERVATION WELL 3 ☐ TEST HOLE 4 ☐ RECHARGE WELL 5 ☐ ABANDONED, INSUFFICIENT SUPPLY 6 ☐ ABANDONED, POOR QUALITY 7 ☐ UNFINISHED

WATER USE 01

1 ☒ DOMESTIC 2 ☒ STOCK 3 ☐ IRRIGATION 4 ☐ INDUSTRIAL ☐ OTHER 5 ☐ COMMERCIAL 6 ☐ MUNICIPAL 7 ☐ PUBLIC SUPPLY 8 ☐ COOLING OR AIR CONDITIONING 9 ☐ NOT USED

METHOD OF DRILLING 5

1 ☐ CABLE TOOL 2 ☐ ROTARY (CONVENTIONAL) 3 ☐ ROTARY (REVERSE) 4 ☐ ROTARY (AIR) 5 ☒ AIR PERCUSSION 6 ☐ BORING 7 ☐ DIAMOND 8 ☐ JETTING 9 ☐ DRIVING

CONTRACTOR

NAME OF WELL CONTRACTOR	LICENCE NUMBER
Capital Water Supply Ltd.	1558

ADDRESS: Box 490 Stittsville, Ontario

NAME OF DRILLER OR BORER: Kavanagh | LICENCE NUMBER

SIGNATURE OF CONTRACTOR: [signature] | SUBMISSION DATE DAY 15 MO 7 YR 77

OFFICE USE ONLY

DATA SOURCE 1 | CONTRACTOR 1558 | DATE RECEIVED 080877

DATE OF INSPECTION | INSPECTOR Kn.

REMARKS: | P | WI

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FORM 7 MOE 07-091

Ministry of the Environment
Ontario

The Ontario Water Resources Act 316 5a

WATER WELL RECORD

1517349

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(11) MUNICIP. 15002 CON. [illegible] 05

COUNTY OR DISTRICT	TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE	CON., BLOCK, TRACT, SURVEY, ETC.	LOT
Ottawa C. [redacted]	Gloucester	5 R.F.	021

[redacted] #6 Ottawa Ont.

DATE COMPLETED: DAY 09 MO 06 YR 80

NORTHING 5017699 RC. 4 ELEVATION 0305 RC. 4 BASIN CODE 26

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH - FEET FROM	TO
Brown	sandy soil	stone		0	8
Brown	hard	granite rock.		8	27

(31) 0008602128 1 00276211273

32

(41) WATER RECORD

WATER FOUND AT - FEET	KIND OF WATER
0027	☒ FRESH ☐ SULPHUR ☐ SALTY ☐ MINERAL
	☐ FRESH ☐ SULPHUR ☐ SALTY ☐ MINERAL
	☐ FRESH ☐ SULPHUR ☐ SALTY ☐ MINERAL
	☐ FRESH ☐ SULPHUR ☐ SALTY ☐ MINERAL
	☐ FRESH ☐ SULPHUR ☐ SALTY ☐ MINERAL

(51) CASING & OPEN HOLE RECORD

INSIDE DIAM INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH - FEET FROM	TO
06 6¼	☒ STEEL ☐ GALVANIZED ☐ CONCRETE ☐ OPEN HOLE	188	0	0020
	☐ STEEL ☐ GALVANIZED ☐ CONCRETE ☐ OPEN HOLE			
	☐ STEEL ☐ GALVANIZED ☐ CONCRETE ☐ OPEN HOLE			

SCREEN

SIZE(S) OF OPENING (SLOT NO.)	DIAMETER INCHES	LENGTH FEET

MATERIAL AND TYPE | DEPTH TO TOP OF SCREEN FEET

(61) PLUGGING & SEALING RECORD

DEPTH SET AT - FEET FROM	TO	MATERIAL AND TYPE (CEMENT GROUT, LEAD PACKER, ETC.)

(71) PUMPING TEST

PUMPING TEST METHOD	PUMPING RATE	DURATION OF PUMPING
☐ PUMP ☒ BAILER	0015 GPM	01 HOURS 00 MINS

STATIC LEVEL	WATER LEVEL END OF PUMPING	15 MINUTES	30 MINUTES	45 MINUTES	60 MINUTES
005 FEET	014 FEET	012 FEET	012 FEET	014 FEET	014 FEET

WATER LEVELS DURING: ☒ PUMPING ☐ RECOVERY

IF FLOWING, GIVE RATE: GPM

PUMP INTAKE SET AT: 27 FEET

WATER AT END OF TEST: ☐ CLEAR ☒ CLOUDY

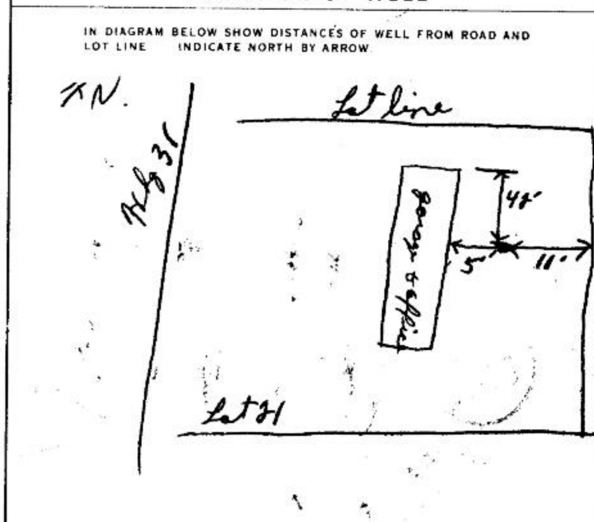
RECOMMENDED PUMP TYPE: ☒ SHALLOW ☐ DEEP

RECOMMENDED PUMP SETTING: 023 FEET

RECOMMENDED PUMPING RATE: 0007 GPM

LOCATION OF WELL

IN DIAGRAM BELOW SHOW DISTANCES OF WELL FROM ROAD AND LOT LINE. INDICATE NORTH BY ARROW.



DRILLERS REMARKS

FINAL STATUS OF WELL 1
☒ WATER SUPPLY ☐ OBSERVATION WELL ☐ TEST HOLE ☐ RECHARGE WELL ☐ ABANDONED, INSUFFICIENT SUPPLY ☐ ABANDONED, POOR QUALITY ☐ UNFINISHED

WATER USE 05
~~☐ DOMESTIC~~ ☐ STOCK ☐ IRRIGATION ☐ INDUSTRIAL ☐ OTHER ☒ COMMERCIAL ☐ MUNICIPAL ☐ PUBLIC SUPPLY ☐ COOLING OR AIR CONDITIONING ☐ NOT USED

METHOD OF DRILLING 1
☒ CABLE TOOL ☐ ROTARY (CONVENTIONAL) ☐ ROTARY (REVERSE) ☐ ROTARY (AIR) ☐ AIR PERCUSSION ☐ BORING ☐ DIAMOND ☐ JETTING ☐ DRIVING

CONTRACTOR

NAME OF WELL CONTRACTOR: Maurice Cyr Ltd. LICENCE NUMBER: 1517

ADDRESS: Casselman Ont.

NAME OF DRILLER OR BORER: LICENCE NUMBER:

SIGNATURE OF CONTRACTOR: Maurice Cyr SUBMISSION DATE: DAY ___ MO ___ YR ___

OFFICE USE ONLY

DATA SOURCE: 1 CONTRACTOR: 1517 DATE RECEIVED: 020980

DATE OF INSPECTION: INSPECTOR: Km

REMARKS:

MINISTRY OF THE ENVIRONMENT COPY

FORM NO. 0506-4-77

Ministry of the Environment
Ontario

The Ontario Water Resources Act

WATER WELL RECORD

1517349

1. PRINT ONLY IN SPACES PROVIDED
2. CHECK ☒ CORRECT BOX WHERE APPLICABLE

11

COUNTY OR DISTRICT	TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE	CON. BLOCK, TRACT, SURVEY, ETC.	LOT
Ottawa Carleton	Gloucester	5	21

ADDRESS [redacted] RR #6 Ottawa Ont.

DATE COMPLETED: DAY 9 MO June YR 80

21

UTM: ZONE | EASTING | NORTHING | ELEVATION | BASIN CODE

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH - FEET FROM	DEPTH - FEET TO
Brown	sandy soil	stone		0	8
Brown	hard	granite rock		8	32

31

32

41 WATER RECORD

WATER FOUND AT - FEET	KIND OF WATER
27	1 ☐ FRESH 3 ☐ SULPHUR; 2 ☐ SALTY 4 ☐ MINERAL
	1 ☐ FRESH 3 ☐ SULPHUR; 2 ☐ SALTY 4 ☐ MINERAL
	1 ☐ FRESH 3 ☐ SULPHUR; 2 ☐ SALTY 4 ☐ MINERAL
	1 ☐ FRESH 3 ☐ SULPHUR; 2 ☐ SALTY 4 ☐ MINERAL
	1 ☐ FRESH 3 ☐ SULPHUR; 2 ☐ SALTY 4 ☐ MINERAL

51 CASING & OPEN HOLE RECORD

INSIDE DIAM. INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH - FEET FROM	DEPTH - FEET TO
6 1/4	1 ☒ STEEL; 2 ☐ GALVANIZED; 3 ☐ CONCRETE; 4 ☒ OPEN HOLE	.188	0	20
	1 ☐ STEEL; 2 ☐ GALVANIZED; 3 ☐ CONCRETE; 4 ☐ OPEN HOLE			
	1 ☐ STEEL; 2 ☐ GALVANIZED; 3 ☐ CONCRETE; 4 ☐ OPEN HOLE			

SCREEN

SIZE(S) OF OPENING (SLOT NO.)	DIAMETER INCHES	LENGTH FEET

MATERIAL AND TYPE | DEPTH TO TOP OF SCREEN FEET

61 PLUGGING & SEALING RECORD

DEPTH SET AT - FEET FROM	DEPTH SET AT - FEET TO	MATERIAL AND TYPE (CEMENT GROUT, LEAD PACKER, ETC.)

71 PUMPING TEST

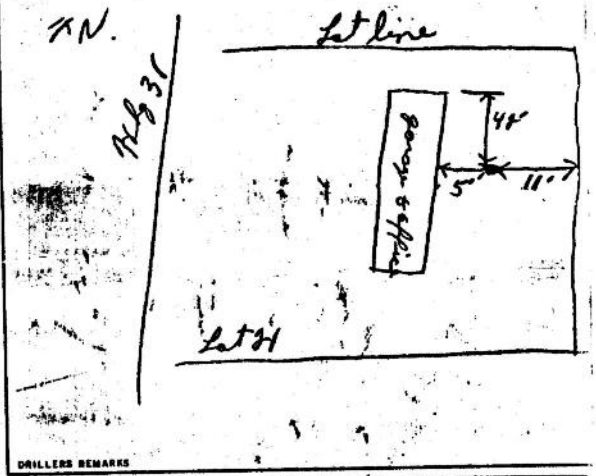
PUMPING TEST METHOD	PUMPING RATE	DURATION OF PUMPING
1 ☐ PUMP 2 ☒ BAILER	15 GPM	1 HOURS ___ MINS

STATIC LEVEL	WATER LEVEL END OF PUMPING	WATER LEVELS DURING: 1 ☐ PUMPING 2 ☐ RECOVERY	15 MINUTES	30 MINUTES	45 MINUTES	60 MINUTES
5 FEET	14 FEET		12 FEET	12 FEET	14 FEET	14 FEET

IF FLOWING GIVE RATE	PUMP INTAKE SET AT	WATER AT END OF TEST	RECOMMENDED PUMP TYPE	RECOMMENDED PUMP SETTING	RECOMMENDED PUMPING RATE
GPM	27 FEET	1 ☐ CLEAR 2 ☒ CLOUDY	☒ SHALLOW ☐ DEEP	23 FEET	7 GPM

LOCATION OF WELL

IN DIAGRAM BELOW SHOW DISTANCES OF WELL FROM ROAD AND LOT LINE. INDICATE NORTH BY ARROW.



DRILLERS REMARKS

FINAL STATUS OF WELL
1 ☒ WATER SUPPLY; 2 ☐ OBSERVATION WELL; 3 ☐ TEST HOLE; 4 ☐ RECHARGE WELL; 5 ☐ ABANDONED, INSUFFICIENT SUPPLY; 6 ☐ ABANDONED, POOR QUALITY; 7 ☐ UNFINISHED

WATER USE
1 ☒ DOMESTIC; 2 ☐ STOCK; 3 ☐ IRRIGATION; 4 ☐ INDUSTRIAL; ☐ OTHER; 5 ☒ COMMERCIAL; 6 ☐ MUNICIPAL; 7 ☐ PUBLIC SUPPLY; 8 ☐ COOLING OR AIR CONDITIONING; 9 ☐ NOT USED

METHOD OF DRILLING
1 ☒ CABLE TOOL; 2 ☐ ROTARY (CONVENTIONAL); 3 ☐ ROTARY (REVERSE); 4 ☐ ROTARY (AIR); 5 ☐ AIR PERCUSSION; 6 ☐ BORING; 7 ☐ DIAMOND; 8 ☐ JETTING; 9 ☐ DRIVING

CONTRACTOR

NAME OF WELL CONTRACTOR: Maurice Cyr Ltd. | LICENCE NUMBER: 1517

ADDRESS: Casselman Ont.

NAME OF DRILLER OR BORER | LICENCE NUMBER

SIGNATURE OF CONTRACTOR: Maurice Cyr | SUBMISSION DATE: DAY ___ MO ___ YR ___

OFFICE USE ONLY

DATA SOURCE | CONTRACTOR | 020980

DATE OF INSPECTION | INSPECTOR

REMARKS

Ontario Ministry of the Environment

The Ontario Water Resources Act

WATER WELL RECORD

Print only in spaces provided.
Mark correct box with a checkmark, where applicable.

11

1531693

Municipality 15002 Con CON 05

County or District	Township/Borough/City/Town/Village	Con	block	tract	survey, etc.	Lot
[redacted]	Gloucester		5			6

Address: Greely, Dt

Date completed: 25 (day) 10 (month) 00 (year)

21 | Unit | Northing | RC | Elevation | RC | Basin Code | I | II | III | IV

LOG OF OVERBURDEN AND BEDROCK MATERIALS (see instructions)

General colour	Most common material	Other materials	General description	Depth - feet From	Depth - feet To
	gravel			0	3
grey	Sandstone			3	220

31

32

41 WATER RECORD

Water found at - feet	Kind of water			
206	1 ☑ Fresh	3 ☐ Sulphur	14	
	2 ☐ Salty	4 ☐ Minerals		
		5 ☐ Gas		
214	1 ☑ Fresh	3 ☐ Sulphur	19	
	2 ☐ Salty	4 ☑ Minerals		
		5 ☐ Gas		
	1 ☐ Fresh	3 ☐ Sulphur	24	
	2 ☐ Salty	4 ☐ Minerals		
		6 ☐ Gas		
	1 ☐ Fresh	3 ☐ Sulphur	29	
	2 ☐ Salty	4 ☐ Minerals		
		6 ☐ Gas		
	1 ☐ Fresh	3 ☐ Sulphur	34	
	2 ☐ Salty	4 ☐ Minerals		
		6 ☐ Gas		

60

51 CASING & OPEN HOLE RECORD

Inside diam inches	Material	Wall thickness inches	Depth - feet From	Depth - feet To
6 1/4	1 ☑ Steel 2 ☐ Galvanized 3 ☐ Concrete 4 ☐ Open hole 5 ☐ Plastic	188	0	22
8 3/4	1 ☐ Steel 2 ☐ Galvanized 3 ☐ Concrete 4 ☑ Open hole 5 ☐ Plastic		0	20
6	1 ☐ Steel 2 ☐ Galvanized 3 ☐ Concrete 4 ☑ Open hole 5 ☐ Plastic		20	220

SCREEN

Sizes of opening (Slot No.)	Diameter inches	Length feet
Material and type	Depth at top of screen feet	

61 PLUGGING & SEALING RECORD

☑ Annular space ☐ Abandonment

Depth set at - feet From	To	Material and type (Cement grout, bentonite, etc.)
2	22	cement grout

71 PUMPING TEST

Pumping test method	Pumping rate	Duration of pumping
1 ☑ Pump 2 ☐ Bailer	10 GPM	1 Hours Mins

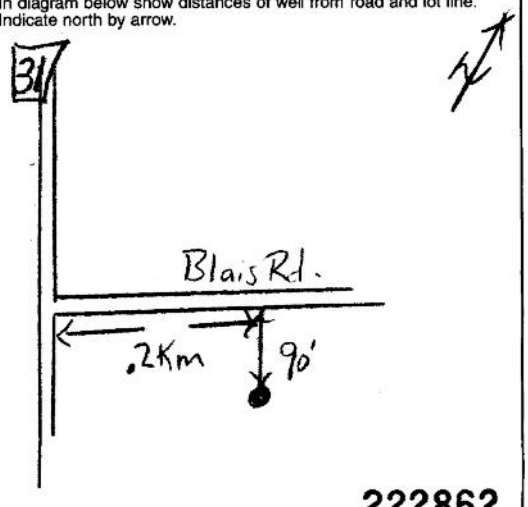
Static level	Water level end of pumping	Water levels during 1 ☐ Pumping 2 ☑ Recovery			
		15 minutes	30 minutes	45 minutes	60 minutes
30 feet	120 feet	30 feet	30 feet	30 feet	30 feet

If flowing give rate	Pump intake set at	Water at end of test
GPM	feet	☐ Clear ☑ Cloudy

Recommended pump type	Recommended pump setting	Recommended pump rate
☐ Shallow ☑ Deep	120 feet	10 GPM

LOCATION OF WELL

In diagram below show distances of well from road and lot line. Indicate north by arrow.



222862

FINAL STATUS OF WELL 54

1 ☑ Water supply
2 ☐ Observation well
3 ☐ Test hole
4 ☐ Recharge well
5 ☐ Abandoned, insufficient supply
6 ☐ Abandoned, poor quality
7 ☐ Abandoned (Other)
8 ☐ Dewatering
9 ☐ Unfinished
10 ☐ Replacement well

WATER USE 55-56

1 ☑ Domestic
2 ☐ Stock
3 ☐ Irrigation
4 ☐ Industrial
5 ☐ Commercial
6 ☐ Municipal
7 ☐ Public supply
8 ☐ Cooling & air conditioning
9 ☐ Not use
10 ☐ Other

METHOD OF CONSTRUCTION 57

1 ☐ Cable tool
2 ☐ Rotary (conventional)
3 ☐ Rotary (reverse)
4 ☐ Rotary (air)
5 ☑ Air percussion
6 ☐ Boring
7 ☐ Diamond
8 ☐ Jetting
9 ☐ Driving
10 ☐ Digging
11 ☐ Other

Name of Well Contractor	Well Contractor's Licence No.
Air-Rock Drilling Co Ltd	1119
Address: RR# 2 Jasper, Ont	
Name of Well Technician: Shannon Purcell	Well Technician's Licence No.: T2122
Signature of Technician/Contractor	Submission date: 02 (day) 11 (mo) 00

MINISTRY USE ONLY

Data source 58 | Contractor 1119 59-62 | Date received JAN 03 2001 63-66 80

Date of inspection | Inspector

Remarks

CSS.ES1

0506 (11/98) Front Form 9

2 - MINISTRY OF THE ENVIRONMENT COPY

Ontario Ministry of the Environment

The Ontario Water Resources Act
WATER WELL RECORD

Print only in spaces provided.
Mark correct box with a checkmark, where applicable.

11 **1533566** Municipality 15002 Con. RF 05

County or District: Ottawa Carleton
Township/Borough/City/Town/Village: Gloucester
Con block tract survey, etc.: 5
Lot: 21
[redacted]
Address: Gloucester, Ont
Date completed: 07 day 02 month 03 year
21 UTM Northing RC Elevation RC Basin Code i ii iii iv

LOG OF OVERBURDEN AND BEDROCK MATERIALS (see instructions)

General colour	Most common material	Other materials	General description	Depth - feet From	Depth - feet To
	Sand			0	7
grey	Sandstone			7	98
"	Limestone			98	127
"	Sandstone			127	220

31
32

41 WATER RECORD

Water found at - feet	Kind of water
216	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 5 ☐ Gas
	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 5 ☐ Gas
	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 5 ☐ Gas
	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 5 ☐ Gas
	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 5 ☐ Gas

51 CASING & OPEN HOLE RECORD

Inside diam inches	Material	Wall thickness inches	Depth - feet From	Depth - feet To
6	1 ☐ Steel 2 ☐ Galvanized 3 ☐ Concrete 4 ☐ Open hole 5 ☐ Plastic	188	0	22
8 3/4	1 ☐ Steel 2 ☐ Galvanized 3 ☐ Concrete 4 ☐ Open hole 5 ☐ Plastic		0	20
6	1 ☐ Steel 2 ☐ Galvanized 3 ☐ Concrete 4 ☐ Open hole 5 ☐ Plastic		20	220

SCREEN

Sizes of opening (Slot No.)	Diameter inches	Length feet
Material and type	Depth at top of screen feet	

61 PLUGGING & SEALING RECORD

Annular space ☐ Abandonment

Depth set at - feet From	To	Material and type (Cement grout, bentonite, etc.)
2	22	Cement grout

71 PUMPING TEST

Pumping test method: 1 Pump ☐ 2 Bailer
Pumping rate: 9 GPM
Duration of pumping: 1 Hours Mins

Static level	Water level end of pumping	Water levels during: 1 ☐ Pumping 2 ☐ Recovery			
		15 minutes	30 minutes	45 minutes	60 minutes
16 feet	120 feet	16 feet	16 feet	16 feet	16 feet

If flowing give rate: GPM
Pump intake set at: feet
Water at end of test: ☐ Clear ☐ Cloudy
Recommended pump type: ☐ Shallow ☐ Deep
Recommended pump setting: 120 feet
Recommended pump rate: 9 GPM

FINAL STATUS OF WELL

1 ☐ Water supply 2 ☐ Observation well 3 ☐ Test hole 4 ☐ Recharge well 5 ☐ Abandoned, insufficient supply 6 ☐ Abandoned, poor quality 7 ☐ Abandoned (Other) 8 ☐ Dewatering 9 ☐ Unfinished 10 ☐ Replacement well

WATER USE

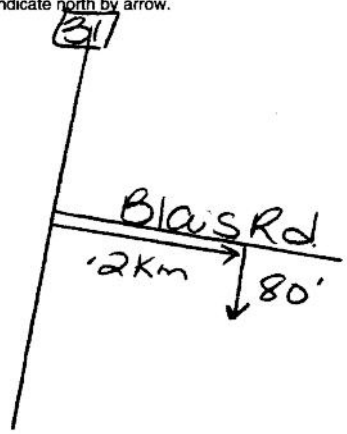
1 ☐ Domestic 2 ☐ Stock 3 ☐ Irrigation 4 ☐ Industrial 5 ☐ Commercial 6 ☐ Municipal 7 ☐ Public supply 8 ☐ Cooling & air conditioning 9 ☐ Not use 10 ☐ Other

METHOD OF CONSTRUCTION

1 ☐ Cable tool 2 ☐ Rotary (conventional) 3 ☐ Rotary (reverse) 4 ☐ Rotary (air) 5 ☐ Air percussion 6 ☐ Boring 7 ☐ Diamond 8 ☐ Jetting 9 ☐ Driving 10 ☐ Digging 11 ☐ Other

LOCATION OF WELL

In diagram below show distances of well from road and lot line.
Indicate north by arrow.



248869

Name of Well Contractor: A. Rock Drilling Ltd. | Well Contractor's Licence No.: 1119
Address: RR#1 Richmond, Ont
Name of Well Technician: Shannon Purcell | Well Technician's Licence No.: T2122
Signature of Technician/Contractor | Submission date: 28 02 03 day mo yr

MINISTRY USE ONLY
Data source 58 | Contractor: 1119 59-62 | Date received: MAR 31 2003 63-66 80
Date of inspection | Inspector
Remarks: CSS.ES3

0506 (07/00) Front Form 9

2 - MINISTRY OF THE ENVIRONMENT COPY

Ontario Ministry of the Environment

Well Tag No. *(Place Sticker and/or Print Below)* A051569 A 051569

Well Record

egulation 903 Ontario Water Resources Act

Page ____ of ____

Well Owner's Information

First Name	Last Name	E-mail Address	Well Constructed by Well Owner
Airport Golfland			☐

Mailing Address (Street Number/Name, RR)	Municipality	Province	Postal Code	Telephone No. (inc. area code)
6357 Emerald Links	Greely	Ontario	K4P 1M4	613 850 5468

Part A Construction and/or Major Alteration of a Well

Address of Well Location (Street Number/Name, RR)	Township	Lot	Concession
Hwy 31	Gloucester	20	5

County/District/Municipality	City/Town/Village	Province	Postal Code
Ottawa Carleton	Gloucester	Ontario	

UTM Coordinates	Zone	Easting	Northing	GPS Unit Make	Model	Mode of Operation
NAD 83	18	453794	5018088		Garmin	☐ Undifferentiated ☒ Averaged ☐ Differentiated, specify

Overburden and Bedrock Materials *(see instructions on the back of this form)*

General Colour	Most Common Material	Other Materials	General Description	Depth (Metres) From	To
Brown	Clay	Stones	Packed	0	3.35
Grey	Limestone		Broken	3.35	4.57
Grey	Limestone		Medium Hard	4.57	42.66
Grey	Limestone	Sandstone Layers	Hard	42.66	52.72

Annular Space/Abandonment Sealing Record

Depth Set at (Metres) From	To	Type of Sealant Used (Material and Type)	Volume Placed (Cubic Metres)
6.40	0	Grouted Bentonite Slurry	.132m3

Method of Construction

☐ Cable Tool ☐ Diamond
☐ Rotary (Conventional) ☐ Jetting
☐ Rotary (Reverse) ☐ Driving
☒ Rotary (Air) ☐ Digging
☐ Air percussion ☐ Boring
☐ Other, specify

Water Use

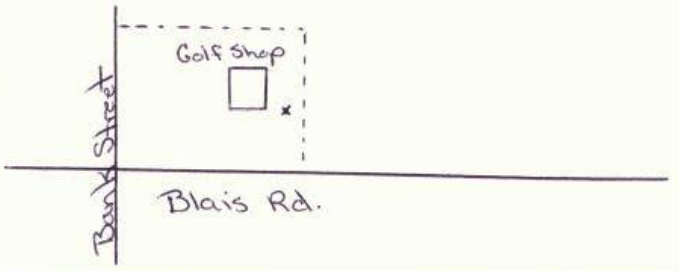
☐ Public ☐ Commercial ☐ Not used
☒ Domestic ☐ Municipal ☐ Dewatering
☐ Livestock ☐ Test Hole ☐ Monitoring
☐ Irrigation ☐ Cooling & Air Conditioning
☐ Industrial
☐ Other, specify

Status of Well

☒ Water Supply ☐ Dewatering Well ☐ Observation and/or Monitoring Hole
☐ Replacement Well ☐ Abandoned, Insufficient Supply ☐ Alteration (Construction)
☐ Test Hole ☐ Abandoned, Poor Water Quality ☐ Other, specify
☐ Recharge Well ☐ Abandoned, other, specify

Location of Well

Please provide a map below showing:
- all property boundaries, and measurements sufficient to locate the well in relation to fixed points,
- an arrow indicating the North direction
- detailed drawings can be provided as attachments no larger than legal size (8.5" by 14")
- vidigital pictures of inside of well can also be provided



Date Well Completed (yyyy/mm/dd)	Was the well owner's information package delivered?	Date the Well Record and Package Delivered to Well Owner (yyyy/mm/dd)
2008/07/14	☒ Yes ☐ No	2008/07/15

Well Contractor and Well Technician Information

Business Name of Well Contractor	Well Contractor's Licence No.
Capital Water Supply Ltd.	1558

Business Address (Street No./Name, number, RR)	Municipality
Box 490	Stittsville

Province	Postal Code	Business E-mail Address
Ontario	K2S 1A6	office@capitalwater.ca

Bus. Telephone No. (inc. area code)	Name of Well Technician (Last Name, First Name)
613 836 1766	Miller, Stephen

Well Technician's Licence No.	Signature of Technician	Date Submitted (yyyy/mm/dd)
0097		2008/07/16

0506E (11/2006)

Ministry's Copy

Results of Well Yield Testing

Check box if after test of well yield, water was:
☒ Clear and sand free
☐ Cannot develop to sand-free state

If pumping discontinued, give reason:

Pumping test method: Submersible

Pump intake set at (Metres): 45.71

Pumping rate (Litres/min): 54.6

Duration of pumping: 3 hrs + ____ min

Final water level end of pumping (Metres): 21.37

Recommended pump type: ☐ Shallow ☒ Deep

Recommended pump depth: 30.47 Metres

Recommended pump rate (Litres/min): 45.5

If flowing give rate (Litres/min):

Draw Down Time (Min)	Draw Down Water Level (Metres)	Recovery Time (Min)	Recovery Water Level (Metres)
Static Level	4.75	Static Level	
1	6.42	1	18.19
2	8.55	2	17.26
3	9.96	3	15.67
4	11.18	4	14.50
5	12.29	5	13.32
10	16.10	10	9.44
15	18.20	15	7.38
20	19.51	20	6.24
25	20.36	25	5.61
30	20.94	30	5.18
40	21.64	40	4.75
50	22.01	50	
60	22.14	60	

Water Details

Water found at Depth	Kind of Water
51.50 Metres ☐ Gas	☐ Fresh ☐ Salty ☐ Sulphur ☐ Minerals — Not Tested
Metres ☐ Gas	☐ Fresh ☐ Salty ☐ Sulphur ☐ Minerals
Metres ☐ Gas	☐ Fresh ☐ Salty ☐ Sulphur ☐ Minerals

Casing Used	Screen Used
☐ Galvanized	☐ Galvanized
☒ Steel	☐ Steel
☐ Fibreglass	☐ Fibreglass
☐ Plastic	☐ Plastic
☐ Concrete	☐ Concrete

No Casing and Screen Used

☐ Open Hole

Disinfected? ☒ Yes ☐ No

Casing and Well Details

Diameter of the Hole (Centimetres): 15.39

Depth of the Hole (Metres): 52.72

Wall Thickness (Metres): .48

Inside Diameter of the Casing (Metres): 15.86

Depth of the Casing (Metres): +.45 to 6.40

Ministry Use Only

Audit No. z 77392

Well Contractor No.

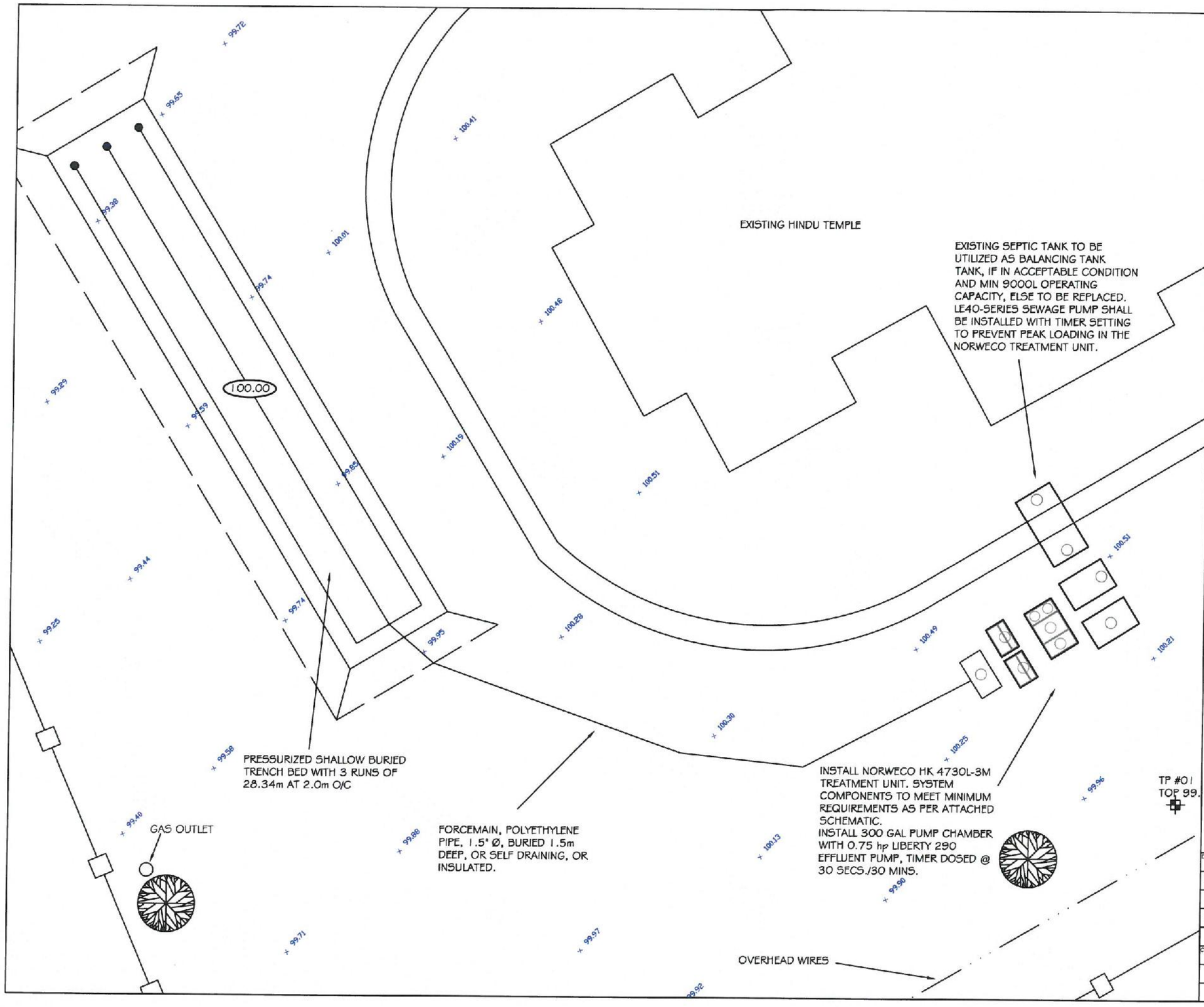
Date Received (yyyy/mm/dd): OCT 14 2008

Date of Inspection (yyyy/mm/dd)

Remarks

APPENDIX E

Proposed Sewage System Layout



NOTES:

1. ALL TREATMENT UNITS AND LEACHING BED ARE TO BE INSTALLED IN ACCORDANCE WITH MINIMUM OBC CLEARANCE DISTANCES. ANY OMISSIONS OR INACCURACIES SHALL BE BROUGHT TO THE ATTENTION OF GVE AND OSSO.

2. CARE IS TO BE EXERCISED DURING CONSTRUCTION ACTIVITIES NEAR OVERHEAD HYDRO WIRES.

3. EXISTING ELEVATIONS ARE APPROXIMATE. CONTRACTOR MUST VERIFY ALL ELEVATIONS AND DIMENSIONS PRIOR TO CONSTRUCTION.

4. SOIL CONDITIONS ARE ACCURATE FOR THE LOCATIONS SHOWN. CONTRACTOR MUST CONTACT THE DESIGN ENGINEER OR REGULATORY AUTHORITY SHOULD SOIL CONDITIONS DIFFER.

5. ALL DIMENSIONS AND CONDITIONS TO BE VERIFIED ON SITE, FIGURED DIMENSIONS TAKE PRECEDENCE OVER SCALE.

6. UTILITY LOCATES SHALL BE COMPLETED PRIOR TO ANY EXCAVATION.

7. THIS IS NOT A PLAN OF SURVEY AND SHALL NOT BE USED EXCEPT FOR THE PURPOSE INDICATED IN THE TITLE BLOCK.

8. THIS DOCUMENT IS COPYRIGHT PROTECTED AND IS THE SOLE PROPERTY OF GVE GROUP. THIS DRAWING SHALL NOT BE ALTERED IN ANY MANNER.

9. EXISTING LOT SERVICED WITH MUNICIPAL WATER.

METRIC:

DISTANCES AND ELEVATIONS SHOWN ON THIS PLAN ARE IN METERS AND MAY BE CONVERTED TO FEET BY DIVIDING BY 0.3048.

LEGEND:

⬭	PROPOSED ELEVATION
×	EXISTING ELEVATION
———	EXISTING WORKS
———	PROPOSED SEWAGE WORKS
—o—o—	FENCE LINE
——·——	PROPERTY LINE
TBM	TEMPORARY BENCH MARK (DESCRIPTION: TOP OF EAST ARM OF HYDRANT)
▚	TEST PIT LOCATION

SEPARATION DISTANCES:

1. MINIMUM CLEARANCE FROM SEPTIC PIPE TO:
   LOT LINE = 5.0m
   HOUSE = 7.0m
   DRILLED WELL = 17.0m
2. MINIMUM CLEARANCE FROM TREATMENT UNITS TO:
   LOT LINE = 3.0m
   HOUSE = 1.5m
   DRILLED WELL = 15.0m

Drawn by: JP	Drawn by: JP	Checked by: WS	
Rev.	Description	Date	Approved

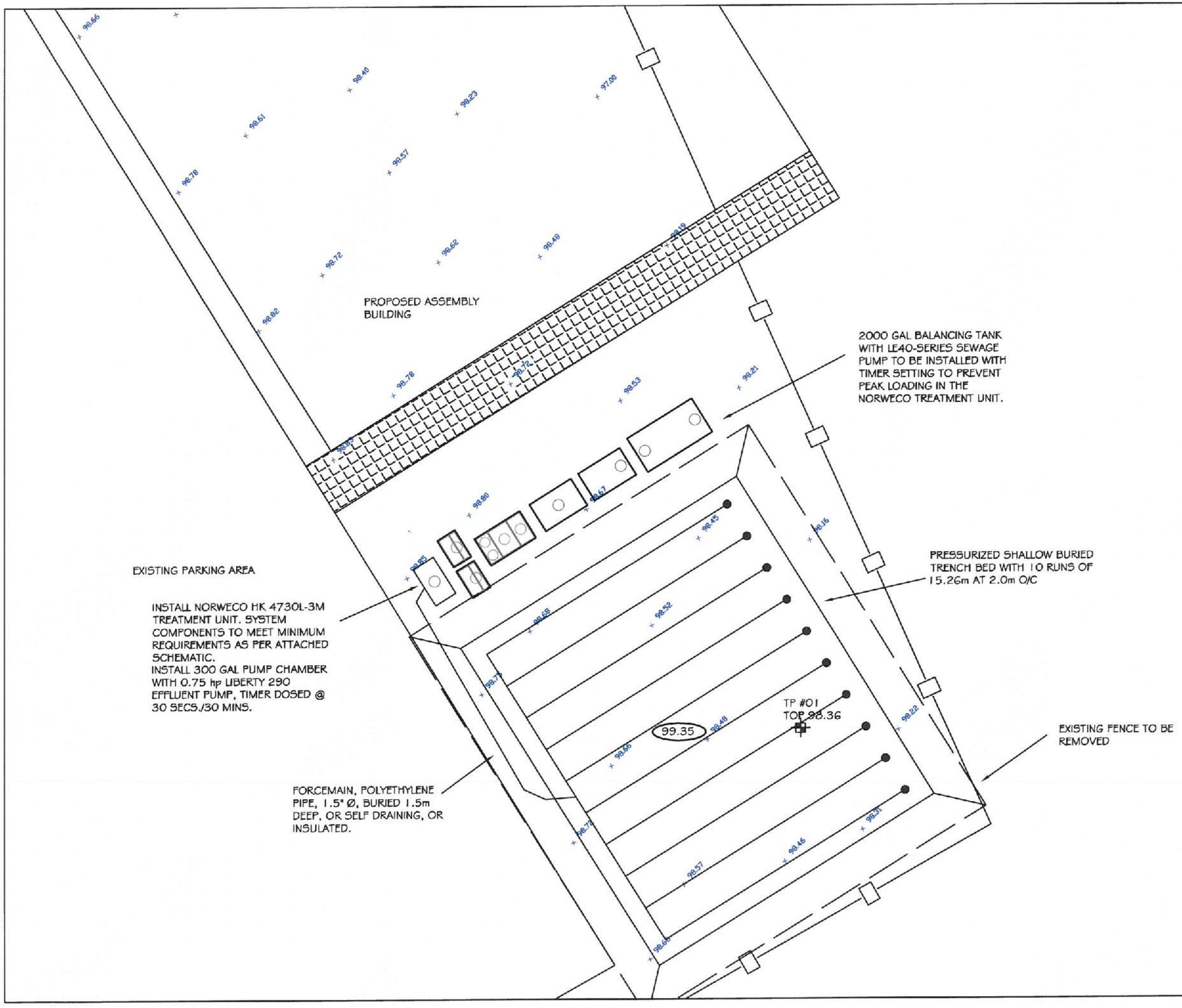
Township	Plan#	Lot	Sublot	Con	
					Drwg. No: SP6951-20

County:	Civic Address: 4835 BANK ST.	Date: 09/11/20	Scale: 1:200

GREEN VALLEY ENVIRONMENTAL

On-Site Sewage Treatment Plan for the Residence of:

THE HINDU TEMPLE OF OTTAWA CARLETON



NOTES:

1. ALL TREATMENT UNITS AND LEACHING BED ARE TO BE INSTALLED IN ACCORDANCE WITH MINIMUM OBC CLEARANCE DISTANCES. ANY OMISSIONS OR INACCURACIES SHALL BE BROUGHT TO THE ATTENTION OF GVE AND OSSO.

2. CARE IS TO BE EXERCISED DURING CONSTRUCTION ACTIVITIES NEAR OVERHEAD HYDRO WIRES.

3. EXISTING ELEVATIONS ARE APPROXIMATE. CONTRACTOR MUST VERIFY ALL ELEVATIONS AND DIMENSIONS PRIOR TO CONSTRUCTION.

4. SOIL CONDITIONS ARE ACCURATE FOR THE LOCATIONS SHOWN. CONTRACTOR MUST CONTACT THE DESIGN ENGINEER OR REGULATORY AUTHORITY SHOULD SOIL CONDITIONS DIFFER.

5. ALL DIMENSIONS AND CONDITIONS TO BE VERIFIED ON SITE, FIGURED DIMENSIONS TAKE PRECEDENCE OVER SCALE.

6. UTILITY LOCATES SHALL BE COMPLETED PRIOR TO ANY EXCAVATION.

7. THIS IS NOT A PLAN OF SURVEY AND SHALL NOT BE USED EXCEPT FOR THE PURPOSE INDICATED IN THE TITLE BLOCK.

8. THIS DOCUMENT IS COPYRIGHT PROTECTED AND IS THE SOLE PROPERTY OF GVE GROUP. THIS DRAWING SHALL NOT BE ALTERED IN ANY MANNER.

9. EXISTING LOT SERVICED WITH MUNICIPAL WATER.

METRIC:

DISTANCES AND ELEVATIONS SHOWN ON THIS PLAN ARE IN METERS AND MAY BE CONVERTED TO FEET BY DIVIDING BY 0.3048.

LEGEND:

⬭	PROPOSED ELEVATION
×	EXISTING ELEVATION
———	EXISTING WORKS
———	PROPOSED SEWAGE WORKS
—o—o—	FENCE LINE
—·—	PROPERTY LINE
TBM	TEMPORARY BENCH MARK (DESCRIPTION: TOP OF EAST ARM OF HYDRANT)
▚	TEST PIT LOCATION

SEPARATION DISTANCES:

1. MINIMUM CLEARANCE FROM SEPTIC PIPE TO:
   LOT LINE = 5.0m
   HOUSE = 7.0m
   DRILLED WELL = 17.0m

2. MINIMUM CLEARANCE FROM TREATMENT UNITS TO:
   LOT LINE = 3.0m
   HOUSE = 1.5m
   DRILLED WELL = 15.0m

Drawn by: JP	Drawn by: JP	Checked by: WS	
Rev.	Description	Date	Approved

Township	Plan#	Lot	Sublot	Con	
					Drwg. No.: SP6951-20

County:	Civic Address: 4835 BANK ST.	Date: 09/11/20	Scale: 1:200

GREEN VALLEY ENVIRONMENTAL

On-Site Sewage Treatment Plan for the Residence of:

THE HINDU TEMPLE OF OTTAWA CARLETON

APPENDIX F

Moisture Surplus Printout

Ottawa Airport, ON WATER BUDGET MEANS FOR THE PERIOD 1950-2010 DC20492

LAT.... 45.32 WATER HOLDING CAPACITY... 50 MM HEAT INDEX... 36.41
LONG... 75.67 LOWER ZONE..... 30 MM A..... 1.075

DATE	TEMP (C)	PCPN	RAIN	MELT	PE	AE	DEF	SURP	SNOW	SOIL	ACC P
31- 1	-10.6	64	13	15	0	0	0	27	83	50	299
28- 2	-8.8	57	12	18	1	1	0	29	110	50	356
31- 3	-2.7	66	32	80	5	5	0	107	64	50	422
30- 4	5.9	72	67	69	32	32	0	104	0	50	494
31- 5	13.0	74	74	0	80	79	-1	13	0	32	568
30- 6	18.3	82	82	0	116	97	-19	4	0	14	651
31- 7	20.8	89	89	0	135	94	-41	3	0	5	740
31- 8	19.5	87	87	0	117	83	-34	1	0	9	827
30- 9	14.6	84	84	0	75	66	-9	7	0	20	912
31-10	8.1	77	76	0	36	35	-1	24	0	37	77
30-11	1.3	80	63	8	10	10	0	50	9	49	157
31-12	-7.0	78	26	15	1	1	0	38	47	50	236
AVE	5.9 TTL	911	705	205	608	503	-105	407			

Ottawa Airport, ON STANDARD DEVIATIONS FOR THE PERIOD 1950-2010 DC20492

DATE	TEMP (C)	PCPN	RAIN	MELT	PE	AE	DEF	SURP	SNOW	SOIL	ACC P
31- 1	3.0	26	16	18	1	1	0	31	43	0	55
28- 2	2.6	29	15	27	1	1	0	37	59	0	59
31- 3	2.3	28	22	47	4	4	0	53	83	0	65
30- 4	1.7	31	31	84	8	8	0	84	0	2	74
31- 5	1.9	32	32	0	12	11	5	21	0	19	85
30- 6	1.2	38	38	0	9	26	26	17	0	19	93
31- 7	1.2	42	42	0	8	30	31	12	0	14	93
31- 8	1.3	39	39	0	8	30	32	5	0	16	107
30- 9	1.5	38	38	0	8	14	13	20	0	21	110
31-10	1.4	37	37	2	7	7	3	27	0	19	37
30-11	1.7	27	28	9	4	4	0	30	13	6	45
31-12	3.0	30	22	14	1	1	0	29	34	0	56

Ottawa Airport, ON WATER BUDGET MEANS FOR THE PERIOD 1950-2010 DC20492

LAT.... 45.32 WATER HOLDING CAPACITY... 75 MM HEAT INDEX... 36.41
LONG... 75.67 LOWER ZONE..... 45 MM A..... 1.075

DATE	TEMP (C)	PCPN	RAIN	MELT	PE	AE	DEF	SURP	SNOW	SOIL	ACC P
31- 1	-10.6	64	13	15	0	0	0	27	83	75	299
28- 2	-8.8	57	12	18	1	1	0	29	110	75	356
31- 3	-2.7	66	32	80	5	5	0	107	64	75	422
30- 4	5.9	72	67	69	32	32	0	104	0	75	494
31- 5	13.0	74	74	0	80	80	0	13	0	56	568
30- 6	18.3	82	82	0	116	107	-10	4	0	28	651
31- 7	20.8	89	89	0	135	104	-32	2	0	10	740
31- 8	19.5	87	87	0	117	85	-32	1	0	12	827
30- 9	14.6	84	84	0	75	66	-9	4	0	26	912
31-10	8.1	77	76	0	36	35	-1	15	0	52	77
30-11	1.3	80	63	8	10	10	0	42	9	71	157
31-12	-7.0	78	26	15	1	1	0	36	47	75	236
AVE	5.9 TTL	911	705	205	608	526	-84	384			

Ottawa Airport, ON STANDARD DEVIATIONS FOR THE PERIOD 1950-2010 DC20492

DATE	TEMP (C)	PCPN	RAIN	MELT	PE	AE	DEF	SURP	SNOW	SOIL	ACC P
31- 1	3.0	26	16	18	1	1	0	30	43	0	55
28- 2	2.6	29	15	27	1	1	0	37	59	0	59
31- 3	2.3	28	22	47	4	4	0	53	83	0	65
30- 4	1.7	31	31	84	8	8	0	84	0	2	74
31- 5	1.9	32	32	0	12	12	0	21	0	22	85
30- 6	1.2	38	38	0	9	19	19	17	0	28	93
31- 7	1.2	42	42	0	8	28	30	11	0	22	93
31- 8	1.3	39	39	0	8	29	31	5	0	23	107
30- 9	1.5	38	38	0	8	14	14	17	0	29	110
31-10	1.4	37	37	2	7	7	2	23	0	28	37
30-11	1.7	27	28	9	4	4	0	33	13	11	45
31-12	3.0	30	22	14	1	1	0	30	34	3	56

Ottawa Airport, ON WATER BUDGET MEANS FOR THE PERIOD 1950-2010 DC20492

LAT.... 45.32 WATER HOLDING CAPACITY...100 MM HEAT INDEX... 36.41
LONG... 75.67 LOWER ZONE..... 60 MM A..... 1.075

DATE	TEMP (C)	PCPN	RAIN	MELT	PE	AE	DEF	SURP	SNOW	SOIL	ACC P
31- 1	-10.6	64	13	15	0	0	0	25	83	99	299
28- 2	-8.8	57	12	18	1	1	0	28	110	99	356
31- 3	-2.7	66	32	80	5	5	0	106	64	100	422
30- 4	5.9	72	67	69	32	32	0	104	0	100	494
31- 5	13.0	74	74	0	80	80	0	13	0	81	568
30- 6	18.3	82	82	0	116	112	-4	4	0	47	651
31- 7	20.8	89	89	0	135	115	-21	2	0	19	740
31- 8	19.5	87	87	0	117	88	-29	1	0	18	827
30- 9	14.6	84	84	0	75	66	-8	3	0	32	912
31-10	8.1	77	76	0	36	35	-1	10	0	63	77
30-11	1.3	80	63	8	10	10	0	34	9	91	157
31-12	-7.0	78	26	15	1	1	0	33	47	97	236
AVE	5.9 TTL	911	705	205	608	545	-63	363			

Ottawa Airport, ON STANDARD DEVIATIONS FOR THE PERIOD 1950-2010 DC20492

DATE	TEMP (C)	PCPN	RAIN	MELT	PE	AE	DEF	SURP	SNOW	SOIL	ACC P
31- 1	3.0	26	16	18	1	1	0	30	43	5	55
28- 2	2.6	29	15	27	1	1	0	37	59	3	59
31- 3	2.3	28	22	47	4	4	0	53	83	0	65
30- 4	1.7	31	31	84	8	8	0	84	0	2	74
31- 5	1.9	32	32	0	12	12	0	21	0	22	85
30- 6	1.2	38	38	0	9	12	11	17	0	34	93
31- 7	1.2	42	42	0	8	25	26	11	0	30	93
31- 8	1.3	39	39	0	8	29	30	5	0	30	107
30- 9	1.5	38	38	0	8	14	13	15	0	35	110
31-10	1.4	37	37	2	7	6	2	21	0	36	37
30-11	1.7	27	28	9	4	4	0	34	13	19	45
31-12	3.0	30	22	14	1	1	0	30	34	8	56

Ottawa Airport, ON WATER BUDGET MEANS FOR THE PERIOD 1950-2010 DC20492

LAT.... 45.32 WATER HOLDING CAPACITY...125 MM HEAT INDEX... 36.41
LONG... 75.67 LOWER ZONE..... 75 MM A..... 1.075

DATE	TEMP (C)	PCPN	RAIN	MELT	PE	AE	DEF	SURP	SNOW	SOIL	ACC P
31- 1	-10.6	64	13	15	0	0	0	24	83	122	299
28- 2	-8.8	57	12	18	1	1	0	28	110	123	356
31- 3	-2.7	66	32	80	5	5	0	105	64	125	422
30- 4	5.9	72	67	69	32	32	0	104	0	125	494
31- 5	13.0	74	74	0	80	80	0	13	0	106	568
30- 6	18.3	82	82	0	116	115	-1	4	0	69	651
31- 7	20.8	89	89	0	135	122	-13	2	0	33	740
31- 8	19.5	87	87	0	117	92	-25	1	0	28	827
30- 9	14.6	84	84	0	75	67	-7	3	0	41	912
31-10	8.1	77	76	0	36	35	-1	9	0	74	77
30-11	1.3	80	63	8	10	10	0	27	9	108	157
31-12	-7.0	78	26	15	1	1	0	29	47	119	236
AVE	5.9 TTL	911	705	205	608	560	-47	349			

Ottawa Airport, ON STANDARD DEVIATIONS FOR THE PERIOD 1950-2010 DC20492

DATE	TEMP (C)	PCPN	RAIN	MELT	PE	AE	DEF	SURP	SNOW	SOIL	ACC P
31- 1	3.0	26	16	18	1	1	0	31	43	10	55
28- 2	2.6	29	15	27	1	1	0	37	59	8	59
31- 3	2.3	28	22	47	4	4	0	54	83	0	65
30- 4	1.7	31	31	84	8	8	0	84	0	2	74
31- 5	1.9	32	32	0	12	12	0	21	0	22	85
30- 6	1.2	38	38	0	9	9	4	17	0	39	93
31- 7	1.2	42	42	0	8	21	23	11	0	37	93
31- 8	1.3	39	39	0	8	26	28	5	0	38	107
30- 9	1.5	38	38	0	8	13	11	14	0	42	110
31-10	1.4	37	37	2	7	6	2	20	0	42	37
30-11	1.7	27	28	9	4	4	0	32	13	25	45
31-12	3.0	30	22	14	1	1	0	30	34	14	56

Ottawa Airport, ON WATER BUDGET MEANS FOR THE PERIOD 1950-2010 DC20492

LAT.... 45.32 WATER HOLDING CAPACITY...150 MM HEAT INDEX... 36.41
LONG... 75.67 LOWER ZONE..... 90 MM A..... 1.075

DATE	TEMP (C)	PCPN	RAIN	MELT	PE	AE	DEF	SURP	SNOW	SOIL	ACC P
31- 1	-10.6	64	13	15	0	0	0	23	83	144	299
28- 2	-8.8	57	12	18	1	1	0	26	110	146	356
31- 3	-2.7	66	32	80	5	5	0	103	64	150	422
30- 4	5.9	72	67	69	32	32	0	104	0	150	494
31- 5	13.0	74	74	0	80	80	0	13	0	131	568
30- 6	18.3	82	82	0	116	116	0	4	0	93	651
31- 7	20.8	89	89	0	135	127	-8	2	0	52	740
31- 8	19.5	87	87	0	117	97	-19	1	0	41	827
30- 9	14.6	84	84	0	75	68	-6	3	0	54	912
31-10	8.1	77	76	0	36	36	-1	8	0	88	77
30-11	1.3	80	63	8	10	10	0	23	9	126	157
31-12	-7.0	78	26	15	1	1	0	26	47	140	236
AVE	5.9 TTL	911	705	205	608	573	-34	336			

Ottawa Airport, ON STANDARD DEVIATIONS FOR THE PERIOD 1950-2010 DC20492

DATE	TEMP (C)	PCPN	RAIN	MELT	PE	AE	DEF	SURP	SNOW	SOIL	ACC P
31- 1	3.0	26	16	18	1	1	0	31	43	15	55
28- 2	2.6	29	15	27	1	1	0	37	59	12	59
31- 3	2.3	28	22	47	4	4	0	54	83	0	65
30- 4	1.7	31	31	84	8	8	0	84	0	2	74
31- 5	1.9	32	32	0	12	12	0	21	0	22	85
30- 6	1.2	38	38	0	9	8	1	17	0	41	93
31- 7	1.2	42	42	0	8	18	18	11	0	42	93
31- 8	1.3	39	39	0	8	22	23	5	0	44	107
30- 9	1.5	38	38	0	8	12	10	14	0	49	110
31-10	1.4	37	37	2	7	6	2	19	0	47	37
30-11	1.7	27	28	9	4	4	0	30	13	31	45
31-12	3.0	30	22	14	1	1	0	29	34	20	56

Ottawa Airport, ON WATER BUDGET MEANS FOR THE PERIOD 1950-2010 DC20492

LAT.... 45.32 WATER HOLDING CAPACITY...200 MM HEAT INDEX... 36.41
LONG... 75.67 LOWER ZONE.....120 MM A..... 1.075

DATE	TEMP (C)	PCPN	RAIN	MELT	PE	AE	DEF	SURP	SNOW	SOIL	ACC P
31- 1	-10.6	64	13	15	0	0	0	21	83	187	299
28- 2	-8.8	57	12	18	1	1	0	24	110	191	356
31- 3	-2.7	66	32	80	5	5	0	99	64	199	422
30- 4	5.9	72	67	69	32	32	0	103	0	200	494
31- 5	13.0	74	74	0	80	80	0	13	0	181	568
30- 6	18.3	82	82	0	116	116	0	4	0	143	651
31- 7	20.8	89	89	0	135	132	-3	2	0	97	740
31- 8	19.5	87	87	0	117	106	-11	1	0	78	827
30- 9	14.6	84	84	0	75	70	-4	3	0	89	912
31-10	8.1	77	76	0	36	36	0	7	0	123	77
30-11	1.3	80	63	8	10	10	0	19	9	164	157
31-12	-7.0	78	26	15	1	1	0	22	47	182	236
AVE	5.9 TTL	911	705	205	608	589	-18	318			

Ottawa Airport, ON STANDARD DEVIATIONS FOR THE PERIOD 1950-2010 DC20492

DATE	TEMP (C)	PCPN	RAIN	MELT	PE	AE	DEF	SURP	SNOW	SOIL	ACC P
31- 1	3.0	26	16	18	1	1	0	30	43	24	55
28- 2	2.6	29	15	27	1	1	0	36	59	20	59
31- 3	2.3	28	22	47	4	4	0	55	83	4	65
30- 4	1.7	31	31	84	8	8	0	83	0	2	74
31- 5	1.9	32	32	0	12	12	0	21	0	22	85
30- 6	1.2	38	38	0	9	9	0	17	0	41	93
31- 7	1.2	42	42	0	8	11	10	11	0	48	93
31- 8	1.3	39	39	0	8	16	16	5	0	54	107
30- 9	1.5	38	38	0	8	10	8	14	0	59	110
31-10	1.4	37	37	2	7	6	1	19	0	55	37
30-11	1.7	27	28	9	4	4	0	29	13	41	45
31-12	3.0	30	22	14	1	1	0	28	34	29	56

Ottawa Airport, ON WATER BUDGET MEANS FOR THE PERIOD 1950-2010 DC20492

LAT.... 45.32 WATER HOLDING CAPACITY...225 MM HEAT INDEX... 36.41
LONG... 75.67 LOWER ZONE.....135 MM A..... 1.075

DATE	TEMP (C)	PCPN	RAIN	MELT	PE	AE	DEF	SURP	SNOW	SOIL	ACC P
31- 1	-10.6	64	13	15	0	0	0	21	83	209	299
28- 2	-8.8	57	12	18	1	1	0	24	110	214	356
31- 3	-2.7	66	32	80	5	5	0	97	64	224	422
30- 4	5.9	72	67	69	32	32	0	103	0	225	494
31- 5	13.0	74	74	0	80	80	0	13	0	206	568
30- 6	18.3	82	82	0	116	116	0	4	0	168	651
31- 7	20.8	89	89	0	135	133	-2	2	0	121	740
31- 8	19.5	87	87	0	117	109	-8	1	0	99	827
30- 9	14.6	84	84	0	75	71	-4	3	0	109	912
31-10	8.1	77	76	0	36	36	0	7	0	143	77
30-11	1.3	80	63	8	10	10	0	18	9	185	157
31-12	-7.0	78	26	15	1	1	0	21	47	204	236
AVE	5.9 TTL	911	705	205	608	594	-14	314			

Ottawa Airport, ON STANDARD DEVIATIONS FOR THE PERIOD 1950-2010 DC20492

DATE	TEMP (C)	PCPN	RAIN	MELT	PE	AE	DEF	SURP	SNOW	SOIL	ACC P
31- 1	3.0	26	16	18	1	1	0	30	43	28	55
28- 2	2.6	29	15	27	1	1	0	36	59	24	59
31- 3	2.3	28	22	47	4	4	0	56	83	7	65
30- 4	1.7	31	31	84	8	8	0	82	0	2	74
31- 5	1.9	32	32	0	12	12	0	21	0	22	85
30- 6	1.2	38	38	0	9	9	0	17	0	41	93
31- 7	1.2	42	42	0	8	10	7	11	0	49	93
31- 8	1.3	39	39	0	8	14	13	5	0	58	107
30- 9	1.5	38	38	0	8	10	7	14	0	63	110
31-10	1.4	37	37	2	7	6	1	19	0	58	37
30-11	1.7	27	28	9	4	4	0	29	13	44	45
31-12	3.0	30	22	14	1	1	0	28	34	33	56

Ottawa Airport, ON WATER BUDGET MEANS FOR THE PERIOD 1950-2010 DC20492

LAT.... 45.32 WATER HOLDING CAPACITY...250 MM HEAT INDEX... 36.41
LONG... 75.67 LOWER ZONE.....150 MM A..... 1.075

DATE	TEMP (C)	PCPN	RAIN	MELT	PE	AE	DEF	SURP	SNOW	SOIL	ACC P
31- 1	-10.6	64	13	15	0	0	0	20	83	232	299
28- 2	-8.8	57	12	18	1	1	0	23	110	238	356
31- 3	-2.7	66	32	80	5	5	0	96	64	248	422
30- 4	5.9	72	67	69	32	32	0	102	0	250	494
31- 5	13.0	74	74	0	80	80	0	13	0	231	568
30- 6	18.3	82	82	0	116	116	0	4	0	193	651
31- 7	20.8	89	89	0	135	134	-1	2	0	145	740
31- 8	19.5	87	87	0	117	111	-6	1	0	121	827
30- 9	14.6	84	84	0	75	72	-3	3	0	130	912
31-10	8.1	77	76	0	36	36	0	7	0	164	77
30-11	1.3	80	63	8	10	10	0	18	9	207	157
31-12	-7.0	78	26	15	1	1	0	20	47	226	236
AVE	5.9 TTL	911	705	205	608	598	-10	309			

Ottawa Airport, ON STANDARD DEVIATIONS FOR THE PERIOD 1950-2010 DC20492

DATE	TEMP (C)	PCPN	RAIN	MELT	PE	AE	DEF	SURP	SNOW	SOIL	ACC P
31- 1	3.0	26	16	18	1	1	0	29	43	32	55
28- 2	2.6	29	15	27	1	1	0	36	59	27	59
31- 3	2.3	28	22	47	4	4	0	56	83	9	65
30- 4	1.7	31	31	84	8	8	0	82	0	2	74
31- 5	1.9	32	32	0	12	12	0	21	0	22	85
30- 6	1.2	38	38	0	9	9	0	17	0	41	93
31- 7	1.2	42	42	0	8	9	5	11	0	50	93
31- 8	1.3	39	39	0	8	12	11	5	0	61	107
30- 9	1.5	38	38	0	8	9	6	14	0	66	110
31-10	1.4	37	37	2	7	7	1	19	0	61	37
30-11	1.7	27	28	9	4	4	0	29	13	47	45
31-12	3.0	30	22	14	1	1	0	28	34	36	56

Ottawa Airport, ON WATER BUDGET MEANS FOR THE PERIOD 1950-2010 DC20492

LAT.... 45.32 WATER HOLDING CAPACITY...265 MM HEAT INDEX... 36.41
LONG... 75.67 LOWER ZONE.....159 MM A..... 1.075

DATE	TEMP (C)	PCPN	RAIN	MELT	PE	AE	DEF	SURP	SNOW	SOIL	ACC P
31- 1	-10.6	64	13	15	0	0	0	20	83	246	299
28- 2	-8.8	57	12	18	1	1	0	23	110	252	356
31- 3	-2.7	66	32	80	5	5	0	96	64	263	422
30- 4	5.9	72	67	69	32	32	0	102	0	265	494
31- 5	13.0	74	74	0	80	80	0	13	0	246	568
30- 6	18.3	82	82	0	116	116	0	4	0	208	651
31- 7	20.8	89	89	0	135	134	-1	2	0	160	740
31- 8	19.5	87	87	0	117	112	-5	1	0	135	827
30- 9	14.6	84	84	0	75	72	-3	3	0	144	912
31-10	8.1	77	76	0	36	36	0	7	0	177	77
30-11	1.3	80	63	8	10	10	0	18	9	221	157
31-12	-7.0	78	26	15	1	1	0	20	47	240	236
AVE	5.9 TTL	911	705	205	608	599	-9	309			

Ottawa Airport, ON STANDARD DEVIATIONS FOR THE PERIOD 1950-2010 DC20492

DATE	TEMP (C)	PCPN	RAIN	MELT	PE	AE	DEF	SURP	SNOW	SOIL	ACC P
31- 1	3.0	26	16	18	1	1	0	29	43	34	55
28- 2	2.6	29	15	27	1	1	0	36	59	29	59
31- 3	2.3	28	22	47	4	4	0	56	83	10	65
30- 4	1.7	31	31	84	8	8	0	82	0	2	74
31- 5	1.9	32	32	0	12	12	0	21	0	22	85
30- 6	1.2	38	38	0	9	9	0	17	0	41	93
31- 7	1.2	42	42	0	8	8	4	11	0	51	93
31- 8	1.3	39	39	0	8	11	10	5	0	62	107
30- 9	1.5	38	38	0	8	9	5	14	0	68	110
31-10	1.4	37	37	2	7	7	1	19	0	62	37
30-11	1.7	27	28	9	4	4	0	29	13	49	45
31-12	3.0	30	22	14	1	1	0	28	34	38	56

Ottawa Airport, ON WATER BUDGET MEANS FOR THE PERIOD 1950-2010 DC20492

LAT.... 45.32 WATER HOLDING CAPACITY...275 MM HEAT INDEX... 36.41
LONG... 75.67 LOWER ZONE.....165 MM A..... 1.075

DATE	TEMP (C)	PCPN	RAIN	MELT	PE	AE	DEF	SURP	SNOW	SOIL	ACC P
31- 1	-10.6	64	13	15	0	0	0	19	83	255	299
28- 2	-8.8	57	12	18	1	1	0	23	110	261	356
31- 3	-2.7	66	32	80	5	5	0	96	64	272	422
30- 4	5.9	72	67	69	32	32	0	101	0	275	494
31- 5	13.0	74	74	0	80	80	0	13	0	256	568
30- 6	18.3	82	82	0	116	116	0	4	0	218	651
31- 7	20.8	89	89	0	135	135	-1	2	0	170	740
31- 8	19.5	87	87	0	117	113	-4	1	0	144	827
30- 9	14.6	84	84	0	75	72	-2	3	0	153	912
31-10	8.1	77	76	0	36	36	0	7	0	186	77
30-11	1.3	80	63	8	10	10	0	18	9	230	157
31-12	-7.0	78	26	15	1	1	0	20	47	249	236
AVE	5.9 TTL	911	705	205	608	601	-7	307			

Ottawa Airport, ON STANDARD DEVIATIONS FOR THE PERIOD 1950-2010 DC20492

DATE	TEMP (C)	PCPN	RAIN	MELT	PE	AE	DEF	SURP	SNOW	SOIL	ACC P
31- 1	3.0	26	16	18	1	1	0	29	43	35	55
28- 2	2.6	29	15	27	1	1	0	36	59	30	59
31- 3	2.3	28	22	47	4	4	0	56	83	11	65
30- 4	1.7	31	31	84	8	8	0	81	0	2	74
31- 5	1.9	32	32	0	12	12	0	21	0	22	85
30- 6	1.2	38	38	0	9	9	0	17	0	41	93
31- 7	1.2	42	42	0	8	8	3	11	0	51	93
31- 8	1.3	39	39	0	8	11	9	5	0	63	107
30- 9	1.5	38	38	0	8	9	5	14	0	69	110
31-10	1.4	37	37	2	7	7	1	19	0	63	37
30-11	1.7	27	28	9	4	4	0	29	13	50	45
31-12	3.0	30	22	14	1	1	0	28	34	39	56

Ottawa Airport, ON WATER BUDGET MEANS FOR THE PERIOD 1950-2010 DC20492

LAT.... 45.32 WATER HOLDING CAPACITY...280 MM HEAT INDEX... 36.41
LONG... 75.67 LOWER ZONE.....168 MM A..... 1.075

DATE	TEMP (C)	PCPN	RAIN	MELT	PE	AE	DEF	SURP	SNOW	SOIL	ACC P
31- 1	-10.6	64	13	15	0	0	0	19	83	260	299
28- 2	-8.8	57	12	18	1	1	0	23	110	266	356
31- 3	-2.7	66	32	80	5	5	0	95	64	277	422
30- 4	5.9	72	67	69	32	32	0	101	0	280	494
31- 5	13.0	74	74	0	80	80	0	13	0	261	568
30- 6	18.3	82	82	0	116	116	0	4	0	223	651
31- 7	20.8	89	89	0	135	135	-1	2	0	175	740
31- 8	19.5	87	87	0	117	113	-4	1	0	148	827
30- 9	14.6	84	84	0	75	72	-2	3	0	157	912
31-10	8.1	77	76	0	36	36	0	7	0	191	77
30-11	1.3	80	63	8	10	10	0	18	9	234	157
31-12	-7.0	78	26	15	1	1	0	20	47	254	236
AVE	5.9 TTL	911	705	205	608	601	-7	306			

Ottawa Airport, ON STANDARD DEVIATIONS FOR THE PERIOD 1950-2010 DC20492

DATE	TEMP (C)	PCPN	RAIN	MELT	PE	AE	DEF	SURP	SNOW	SOIL	ACC P
31- 1	3.0	26	16	18	1	1	0	29	43	35	55
28- 2	2.6	29	15	27	1	1	0	36	59	31	59
31- 3	2.3	28	22	47	4	4	0	56	83	12	65
30- 4	1.7	31	31	84	8	8	0	81	0	2	74
31- 5	1.9	32	32	0	12	12	0	21	0	22	85
30- 6	1.2	38	38	0	9	9	0	17	0	41	93
31- 7	1.2	42	42	0	8	8	3	11	0	52	93
31- 8	1.3	39	39	0	8	10	9	5	0	64	107
30- 9	1.5	38	38	0	8	9	5	14	0	69	110
31-10	1.4	37	37	2	7	7	1	19	0	64	37
30-11	1.7	27	28	9	4	4	0	29	13	50	45
31-12	3.0	30	22	14	1	1	0	28	34	39	56

Ottawa Airport, ON WATER BUDGET MEANS FOR THE PERIOD 1950-2010 DC20492

LAT.... 45.32 WATER HOLDING CAPACITY...300 MM HEAT INDEX... 36.41
LONG... 75.67 LOWER ZONE.....180 MM A..... 1.075

DATE	TEMP (C)	PCPN	RAIN	MELT	PE	AE	DEF	SURP	SNOW	SOIL	ACC P
31- 1	-10.6	64	13	15	0	0	0	19	83	279	299
28- 2	-8.8	57	12	18	1	1	0	23	110	285	356
31- 3	-2.7	66	32	80	5	5	0	95	64	297	422
30- 4	5.9	72	67	69	32	32	0	101	0	300	494
31- 5	13.0	74	74	0	80	80	0	13	0	281	568
30- 6	18.3	82	82	0	116	116	0	4	0	243	651
31- 7	20.8	89	89	0	135	135	0	2	0	194	740
31- 8	19.5	87	87	0	117	114	-3	1	0	167	827
30- 9	14.6	84	84	0	75	73	-2	3	0	176	912
31-10	8.1	77	76	0	36	36	0	7	0	209	77
30-11	1.3	80	63	8	10	10	0	18	9	252	157
31-12	-7.0	78	26	15	1	1	0	20	47	272	236
AVE	5.9 TTL	911	705	205	608	603	-5	306			

Ottawa Airport, ON STANDARD DEVIATIONS FOR THE PERIOD 1950-2010 DC20492

DATE	TEMP (C)	PCPN	RAIN	MELT	PE	AE	DEF	SURP	SNOW	SOIL	ACC P
31- 1	3.0	26	16	18	1	1	0	29	43	37	55
28- 2	2.6	29	15	27	1	1	0	36	59	33	59
31- 3	2.3	28	22	47	4	4	0	57	83	13	65
30- 4	1.7	31	31	84	8	8	0	81	0	2	74
31- 5	1.9	32	32	0	12	12	0	21	0	22	85
30- 6	1.2	38	38	0	9	9	0	17	0	41	93
31- 7	1.2	42	42	0	8	8	2	11	0	52	93
31- 8	1.3	39	39	0	8	10	8	5	0	65	107
30- 9	1.5	38	38	0	8	9	5	14	0	71	110
31-10	1.4	37	37	2	7	7	1	19	0	65	37
30-11	1.7	27	28	9	4	4	0	29	13	52	45
31-12	3.0	30	22	14	1	1	0	28	34	41	56

Ottawa Airport, ON WATER BUDGET MEANS FOR THE PERIOD 1950-2010 DC20492

LAT.... 45.32 WATER HOLDING CAPACITY...400 MM HEAT INDEX... 36.41
LONG... 75.67 LOWER ZONE.....240 MM A..... 1.075

DATE	TEMP (C)	PCPN	RAIN	MELT	PE	AE	DEF	SURP	SNOW	SOIL	ACC P
31- 1	-10.6	64	13	15	0	0	0	19	83	375	299
28- 2	-8.8	57	12	18	1	1	0	22	110	382	356
31- 3	-2.7	66	32	80	5	5	0	94	64	395	422
30- 4	5.9	72	67	69	32	32	0	99	0	400	494
31- 5	13.0	74	74	0	80	80	0	13	0	381	568
30- 6	18.3	82	82	0	116	116	0	4	0	343	651
31- 7	20.8	89	89	0	135	135	0	2	0	294	740
31- 8	19.5	87	87	0	117	116	-1	1	0	265	827
30- 9	14.6	84	84	0	75	74	-1	3	0	272	912
31-10	8.1	77	76	0	36	36	0	7	0	305	77
30-11	1.3	80	63	8	10	10	0	18	9	349	157
31-12	-7.0	78	26	15	1	1	0	19	47	369	236
AVE	5.9 TTL	911	705	205	608	606	-2	301			

Ottawa Airport, ON STANDARD DEVIATIONS FOR THE PERIOD 1950-2010 DC20492

DATE	TEMP (C)	PCPN	RAIN	MELT	PE	AE	DEF	SURP	SNOW	SOIL	ACC P
31- 1	3.0	26	16	18	1	1	0	29	43	44	55
28- 2	2.6	29	15	27	1	1	0	36	59	39	59
31- 3	2.3	28	22	47	4	4	0	57	83	20	65
30- 4	1.7	31	31	84	8	8	0	80	0	2	74
31- 5	1.9	32	32	0	12	12	0	21	0	22	85
30- 6	1.2	38	38	0	9	9	0	17	0	41	93
31- 7	1.2	42	42	0	8	8	0	11	0	53	93
31- 8	1.3	39	39	0	8	8	4	5	0	69	107
30- 9	1.5	38	38	0	8	8	2	14	0	76	110
31-10	1.4	37	37	2	7	7	0	19	0	69	37
30-11	1.7	27	28	9	4	4	0	29	13	57	45
31-12	3.0	30	22	14	1	1	0	28	34	46	56

APPENDIX G

Norweco Hydro Kinetic Specifications

norweco®

HYDRO-KINETIC® GREEN WASTEWATER TREATMENT SYSTEM

WITH SERVICE PRO® CONTROL CENTER

SPECIFICATIONS

GENERAL SPECIFICATIONS

The contractor shall furnish and install one complete Hydro-Kinetic Green wastewater treatment system with all necessary parts and equipment as described in the following specifications. Treatment of the domestic wastewater shall be accomplished by the extended aeration process with non-mechanical flow equalization, pretreatment of the influent and filtration of the final effluent. The treatment system shall provide primary, secondary and tertiary treatment of the wastewater flow, denitrification, and if required, chlorination/dechlorination or ultraviolet disinfection of the effluent prior to discharge. All treatment processes shall be contained within tankage which shall be manufactured using high density polyethylene resin. The wastewater treatment system shall be a Hydro-Kinetic Green as manufactured by Norweco, Inc., Norwalk, Ohio, USA.

The wastewater treatment system shall include high density polyethylene tankage providing separate pretreatment, anoxic, aeration, clarification and final filtration chambers. The tankage shall be furnished with a Schedule 40 PVC inlet hub, submerged transfer ports, access risers with removable covers, molded plastic vent assembly, molded receiving flange and Schedule 40 PVC outlet hub. Principal items of electro-mechanical equipment supplied with the Hydro-Kinetic Green system shall be an air pump, recirculation pump, UL Listed Service Pro Model 801P electrical control center with MCD technology, flow equalization device and Hydro-Kinetic Bio-Film Reactor for final filtration of system effluent.

SPECIFICATIONS

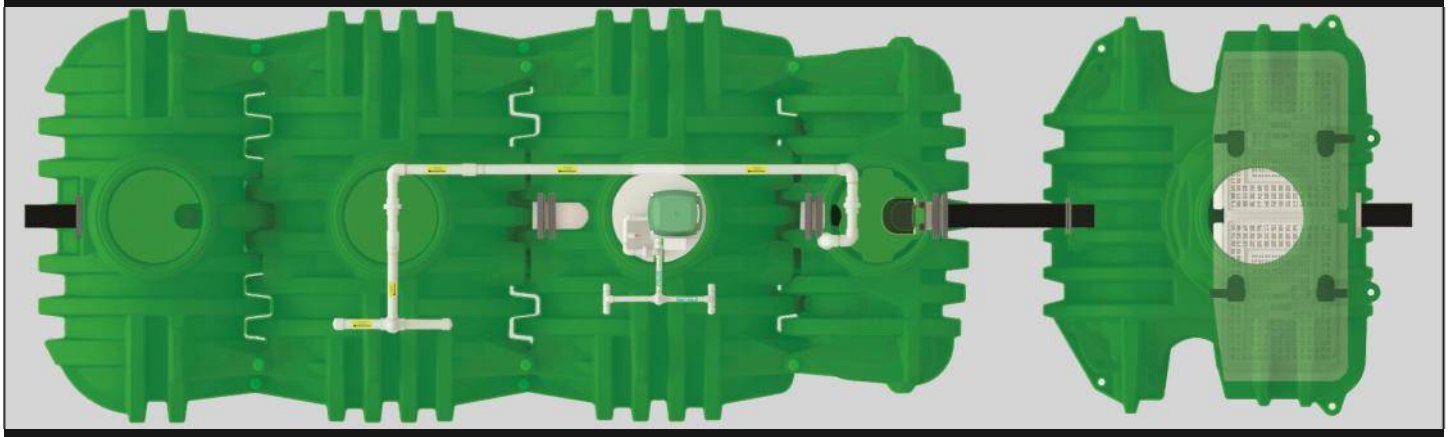
HYDRO-KINETIC®

OPERATING CONDITIONS

Total holding capacity of the system shall provide a minimum of 85 hour retention of the daily flow. The pretreatment chamber shall provide at least 18 hour retention, the anoxic chamber shall provide at least 24 hour retention, the extended aeration chamber shall provide at least 24 hour retention, the clarification chamber shall provide at least 7 hour retention and the Hydro-Kinetic Bio-Film Reactor shall provide at least 12 hour retention of the daily flow. The non-mechanical flow equalization device shall increase individual chamber and total system retention time in direct proportion to loading. Design of the system shall include a compartmented tank and non-mechanical flow equalization device to insure successful treatment performance without upset even when the significant runoff period is six hours. Hydraulic design considerations of the system and flow equalization device shall be such that intermittent peak flow factors as high as four shall not upset hydraulic reliability within the system. Capability of the system to perform as outlined, when built by an approved manufacturer, shall be certified by an independent testing laboratory and approved for use by the local governing regulatory agency.

PRETREATMENT CHAMBER

The pretreatment chamber shall be an integral part of the wastewater treatment system. All domestic wastewater shall be preconditioned and flow equalized while passing through the pretreatment chamber prior to being introduced to the anoxic chamber. The outlet of the pretreatment chamber shall be equipped with a discharge tee that extends vertically into the liquid so that only the preconditioned flow from the center area of the chamber is displaced to the anoxic chamber. The discharge tee and transfer port shall be of adequate size to handle a peak flow factor of four without restricting the outlet and disturbing hydraulic displacement to the anoxic chamber. A removable inspection cover shall be incorporated into the top of the pretreatment chamber to allow tank and transfer tee inspection.



ANOXIC CHAMBER

The anoxic chamber shall provide in excess of 24 hour retention of the equalized daily flow. In the anoxic chamber, low oxygen levels shall compel facultative heterotrophic bacteria to use nitrate-bound oxygen in their respiratory process. Nitrified liquid from the clarifier shall enter the chamber in measured doses and nitrogen compounds shall be converted to harmless nitrogen gas which shall escape into the atmosphere. Overall design of the chamber shall insure that effective mixing and suspension of the biomass is maintained in an anoxic condition to insure consistent biological denitrification. Systems that have not been performance certified to reduce Total Nitrogen (TN) more than 50% shall not be considered for this application.

AERATION CHAMBER

The extended aeration chamber shall provide in excess of 24 hour retention of the equalized daily flow. The chamber shall be of sufficient size to provide a minimum of 80 cubic feet of tank capacity per pound of applied BOD. The aeration chamber shall be an integral part of the system flow path and configured to insure effective mixing of microorganisms, wastewater and fresh air. No area of the chamber shall be isolated from process mixing, thereby eliminating dead or quiescent areas of the treatment chamber which are detrimental to the treatment process. Influent into the aeration chamber shall be preconditioned, equalized flow from the anoxic chamber.

FINAL CLARIFICATION CHAMBER

The final clarification chamber shall consist of 5 functionally independent zones operating together to provide satisfactory settling and clarification of the equalized flow. An inlet zone shall be provided and shall dissipate transfer turbulence at the flow inlet of the clarification chamber. Liquid is then displaced into the hopper zone of the clarifier. In this zone, settling by gravity takes place. Three of the four sidewalls are slanted to form a hopper which directs all settled material back to the settled sludge zone. A recirculation pump in the settled sludge zone shall transfer a portion of the wastewater back to the anoxic chamber. Clarified liquid from the hopper zone shall be displaced into the final settling zone to provide additional clarification of the liquid. The liquid is finally displaced to the outlet zone where the treated effluent shall pass through the flow equalization device and be discharged from the final clarification chamber.

FLOW EQUALIZATION DEVICE

The system shall include a non-mechanical, demand use, flow equalization device. The device shall be installed with the design flow equalization port located below the normal liquid level of the clarifier. If intermittent flow rates exceed the capacity of the design flow port, flow shall be held upstream until the intermittent flow dissipates. If the intermittent flow continues to increase, the liquid level may reach a sustained flow equalization port. With both ports in use, flow through the system increases while continuing to provide flow equalization to upstream and downstream processes. A peak flow equalization port is supplied but should not be required in a properly sized system. The device shall control normal residential flow rates and reduce typical residential flow surges. The flow equalization rate shall be dependent upon the specific loading pattern and the duration of flow surges. At the 600 GPD (gallons per day) NSF Standard 40/245 design loading schedule, minimum performance of the device shall equalize daily flow an average of 50%.

HYDRO-KINETIC BIO-FILM REACTOR

Significant reduction of organic matter shall occur in the treatment system prior to the Hydro-Kinetic Bio-Film Reactor. The Bio-Film Reactor shall provide final treatment of the effluent to a near pristine state. Flow equalized liquid from the clarifier shall enter the influent chamber, travel down and be evenly distributed beneath the Reactor Elements. The effects of gravity shall cause solids to settle to the bottom of the tank. As liquid travels up through the proprietary attached growth media, further reduction of organic matter shall take place. Additional settling and consolidation of solids shall take place downstream of the filter media. After passing through the filtration media for final polishing, the highly treated liquid shall flow into the final effluent zone before exiting the Bio-Film Reactor through the outlet tee.

GREEN

SERVICE PRO® MODEL 801P ELECTRICAL CONTROL CENTER

The Model 801P control center with MCD technology shall provide Monitoring, Compliance and Diagnostic functions for the treatment system. The pre-wired controls shall be mounted in a lockable NEMA rated enclosure designed specifically for outdoor use. The control center shall be a UL Listed assembly and shall include a time clock, alarm light, reset button, power switch, power light, phone/network light, recirculation pump light, air pump light, high water light and auxiliary alarm light. A pre-programmed time clock shall control the recirculation pump to insure that approximately 400% of the average daily flow is returned to the anoxic chamber. The control center shall monitor recirculation pump current, air pump operation, high water and auxiliary alarm circuitry. In the event of an alarm from the air pump or auxiliary input, the audible and visual alarms shall activate and the optional telemetry system shall report the condition. If abnormal operation of the recirculation pump is detected, a diagnostic sequence shall begin and the visual alarm shall activate. After a factory programmed recovery interval, an automatic restart attempt shall be initiated. If normal pump operation does not resume during 24 programmed recovery and restart cycles, the audible alarm shall activate and the optional telemetry system shall report the condition to the Service Pro monitoring center.

SERVICE PRO‖ MONITORING CENTER

The Service Pro monitoring center shall include a 256 bit encrypted password protected website for interface with the monitoring center database. Access to the secure website shall be obtained through a unique user name and password that provides tiered access to data from monitored treatment systems. Access level tiers shall include dealers, service providers, regulatory agencies and individual system owners. Dealers and service providers shall be able to create accounts, enter serial numbers for system equipment, maintain service records and grant regulatory agencies access to the information. The monitoring center shall have the capability to schedule future service inspections and provide notification. Individual system owners shall be able to view information regarding their own systems, as well as download instructional information. Integrity of stored data shall be maintained through the use of multiple servers operating in geographically isolated locations.

MODEL AT 1500 ULTRAVIOLET DISINFECTION SYSTEM (Optional)

The Hydro-Kinetic Green system shall be furnished complete with a Model AT 1500 ultraviolet disinfection system. The AT 1500 system shall incorporate a turbulence inducer and dual-pass design to insure bacteria receive maximum exposure to the ultraviolet light source. The ultraviolet disinfection system shall be UL Listed under Standard 979 as a residential treatment device and shall include a disinfection chamber, turbulence inducer, extension riser, quartz tube with Teflon cover, ultraviolet bulb and controls. An interlock switch shall be furnished to automatically disable the ultraviolet light source when the disinfection chamber is accessed. Ultraviolet disinfection systems without a residential UL Listing have not demonstrated compliance with international electrical standards for safety and reliability and shall not be considered for this application.

SPECIFICATIONS

CERTIFIED PERFORMANCE

The wastewater treatment system shall be certified to operate for 12 consecutive months at the rated daily capacity without routine service. This performance shall be demonstrated by a continuous 12 month evaluation performed by an independent ANSI accredited, third-party testing facility. The evaluation shall consist of 2 consecutive ANSI/NSF Standard 40 and 245 evaluations, including the stress sequences, with no maintenance allowed in between. The system shall also be certified by a SCC accredited, third-party testing facility to BNQ Standards CAN/BNQ 3680-600 and NQ 3680-910. For the entire certification protocol, the system shall achieve a total test average of less than 5 mg/L Biochemical Oxygen Demand (CBOD), less than 5 mg/L Total Suspended Solids (TSS), and greater than 50% reduction of Total Nitrogen (TN) in the effluent. Systems unable to meet these effluent quality parameters for at least 12 months of continuous testing by independent ANSI and SCC accredited, third-party testing facilities without service do not provide the desired level of effluent quality or service frequency, and shall not be considered for this application.

AIR PUMP

The air pump shall be configured to allow remote mounting or installation within the mounting riser above the aeration chamber. When installed in the access riser, fresh air shall be supplied through a vented, injection molded, heavy duty, glass-filled polypropylene access cover above the air pump. Fresh air shall enter the air pump through a filter located under the housing cover and be introduced below the liquid surface through a prefabricated diffuser assembly. Only the plastic diffuser assembly and the air piping shall be installed in contact with the liquid. The air pump shall be wired for 115 volt, single phase, 60 cycle operation. The air pump shall include impact-resistant rubber diaphragms and valves which prolong operational life. The unique design and construction shall provide easy maintenance, excellent cooling and quiet operation. The air pump shall continue aerating and mixing the aeration chamber even during high water conditions. Treatment systems that interrupt air delivery during high water conditions disrupt biological activity and shall not be considered for this application.

RECIRCULATION PUMP

The submersible recirculation pump shall be wired for 115 volt, single phase, 60 cycle operation and shall be installed in the clarification chamber. Operation of the submersible recirculation pump shall be controlled by the Service Pro control center. The pump shall periodically recirculate nitrified liquid from the clarification chamber to the anoxic chamber. The pump shall be designed to be non-overloading throughout the entire pump curve and shall draw less than 8 full load amps. The pump motor shall contain moisture resistant windings and shall be securely mounted inside an oil-filled, watertight housing for maximum pump life. The stator housing and casing shall be of high grade cast iron, stainless steel or thermoplastic construction.

BLUE CRYSTAL⊩ CHLORINATION SYSTEM (Optional)

The Hydro-Kinetic Green system shall be furnished complete with a tablet feeder and a six month supply of Blue Crystal disinfecting tablets. Blue Crystal tablets shall be specifically formulated for consistent chlorine dosage and effluent disinfection to the sustained, variable and intermittent flows that are typical of domestic wastewater treatment systems. The tablets shall be manufactured from pure calcium hypochlorite and contain a minimum of 70% available chlorine. Each tablet shall be 2⅝" diameter, compressed to a 1" thickness, weigh approximately 5 ounces and be white in color with blue crystals for easy identification. The tablets shall dissolve in direct proportion to the flow rate, releasing controlled amounts of chlorine.

BIO-MAX⊩ DECHLORINATION SYSTEM (Optional)

The Hydro-Kinetic Green system shall be furnished complete with a tablet feeder and a six month supply of Bio-Max dechlorination tablets. The dechlorination tablets shall contain 92% sodium sulfite as the active ingredient and shall be specially formulated to chemically neutralize both free and combined chlorine. Each tablet shall be 2⅝" diameter, compressed to a 13⁄16" thickness, weigh approximately 5 ounces and be green in color for easy identification. The tablets shall dissolve slowly, releasing controlled amounts of chemical for the instantaneous removal of residual chlorine from the system effluent.

LIMITED WARRANTY

The wastewater treatment system shall be covered by a two year limited warranty. The air pump, recirculation pump, Service Pro Model 801P control center and any other Hydro-Kinetic components purchased from the manufacturer shall be warranted to be free from defects in material and workmanship, under normal use and service, for a period of two years from the date of purchase. A warranty registration card shall be attached to the system before shipment from the factory. A means to register the wastewater treatment system for warranty protection via the internet shall be provided by the manufacturer for the convenience of the dealer, customer and regulatory agency. The dealer shall provide details of the limited warranty to the regulatory agency, contractor and customer as required.

EQUIPMENT MANUFACTURER

The equipment specified herein shall be the product of a manufacturer having a minimum of seven years experience in the construction of prefabricated wastewater treatment equipment and systems. Bids shall be prepared on the basis of the equipment and material specified herein for purposes of determining the low bid. This is not done, however, to eliminate other products or equipment of equal quality and efficiency. If equipment is to be substituted, approval of such substitution must be made prior to execution of any order. It is assumed that substitution will result in a reduction of cost to the contractor and that if accepted, these savings will be passed along by a reduction in the base bid.

PROGRESS THROUGH SERVICE SINCE 1906

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APPENDIX H

OSSO Approval

Ottawa Septic System Office
Bureau des systèmes septiques d'Ottawa
3889 Rideau Valley Drive Box 599 Manotick, ON K4M 1A5
Phone: 613-692-3571 PRESS "4" for septic office 1-800-267-3504 Fax: 613-692-1507 Email: septic@rvca.ca

STREET/CIVIC INITIAL ☐
EMAIL ONLY
SEPTIC FILE# 21-343 OTTAWA

SITE ADDRESS: 4835 Bank Street Township:OSG-HUN-GLO-FIT-CUM-NEP-GOU-RID-KAN-TOR

CONTACT: 1._____ 2._____ 3._____

INFORMATION FOR OWNER/APPLICANT

Attached is your Sewage System Permit. **A minimum of two inspections are required before your proposed sewage system can be approved for use (additional inspections may be required for clay soils/bedrock and/or re-inspections).** Inspections must be requested in writing. Please see attached:

- Inspection fax request form (all inspections MUST be requested in writing)
- As-built components and drawing form
- Copy of the approved application and schedule pages
- Approved Part 8 permit: ***Electronic copy only – Be sure to INCLUDE in Building Application Package for Plans Examiner at CITY of OTTAWA client services, if NEW or RENO construction project.**

Special Note

- A permit is valid for 12 months from the original date of issuance noted in "*permit date*". If lapsed, it may be renewed only once for a period of 12 months *from the date of expiry.*

- No person shall make a material change or cause a material change to be made to a plan, specification, document or other information on the basis of which a permit was issued without notifying, filing details with and obtaining the authorization of the Chief Building Official. *(Building Code Act 1992, c.23, s.8(12))*

Sewage System Permit Construction Requirements

1. Clay Soils/Bedrock only (if required per issued Approval)
In clay soils/bedrock, a site preparation inspection is required. The total contact area must be properly prepared. Scarification must be done under dry conditions prior to importing leaching bed fill.

2. Installation Inspection – 2nd inspection
When the sewage system is substantially completed (i.e., before the final fill is placed over the septic tank and leaching bed system) an installation inspection is required. Prior to any inspection request, the following must be submitted:

a) "as-built components" and "as-built drawings" — see attached form
b) "engineer letter" — if the system is engineered
c) grain size analysis and weight bills for all Filter Media types of septic systems
d) Weigh bills for washed septic stone, where applicable
e) Maintenance/service contract for treatment unit installed

3. Final Grading Inspection – 3rd inspection
When construction of the sewage system is complete, a final grading inspection is required. Before a Certificate of Completion can be issued, the following must be complete:

a) The leaching bed and septic tank must be covered with sand fill and topsoil and graded accordingly
b) All conditions of the Sewage System Permit & comments on the installation inspection report must be met
c) The depth of cover & material type must be identified by inspection pipes or holes placed over trenches at 4 corners of bed
d) The 4 corners of the bed must be staked

Green Valley Environmental Inc.

SEPTIC FILE # 21-343
OTTAWA

LETTER OF AUTHORIZATION

Owner: Harish Gupta The Hindu Temple of Ottawa Carleton
Address: 4835 Bank St
Gloucester ON K1X 1G6

Phone No.: (613) 737-5939 **Cell No.:** (613) 866-2984
Work No.: **Fax No.:**

LOCATION OF PROPERTY:

Lot No.: 22
Concession No.: 5RF
Sub lot/Part No.:
R. Plan No.: 5R 3156
Civic Address: 4835 Bank St
Municipality: Gloucester
Roll No.:

Commercial: **(provide description of building and intended use)**
Eastcy Building

I, the above – mentioned authorize Green Valley Environmental Services to act as my agent to apply for and obtain a sewage system permit from the responsible Approval Agency.

Signature: Date: 7.06.2021

6107 First Line Rd. • P.O. Box 882 Manotick, Ontario, K4M 1A7 • Phone: (613) 692-2616 • Fax: (613) 692-1802
www.gvegroup.ca

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FEB 18 2022
REFER TO:

Application for a Permit to Construct or Demolish

This form is authorized under subsection 8(1.1) of the Building Code Act, 1992

SEPTIC FILE
21-343
OTTAWA

For use by Principal Authority	
Application number:	Permit number (if different):
Date received:	Roll number:

Application submitted to: OTTAWA SEPTIC SYSTEM OFFICE
(Name of municipality, upper-tier municipality, board of health or conservation authority)

A. Project information

Building number, street name	Unit number	Lot/con.
4335 Bank St.		22/5

Municipality	Postal code	Plan number/other description
Gloucester	K1X 1G6	5R3156

Project value est. $	Area of work (m²)

B. Purpose of application

New construction | Addition to an existing building | Alteration/repair | Demolition | Conditional Permit

Proposed use of building	Current use of building
Commercial Worship Bulding	Commercial Worship Bulding

Description of proposed work

Install replacement Septic System for existing Commercial Worship Bulding
Revision to Permit 21-343

C. Applicant

Applicant is: Owner or ✓Authorized agent of owner

Last name	First name	Corporation or partnership	
		Green Valley Environmental	
Street address		Unit number	Lot/con.
6107 First Line Rd.			
Municipality	Postal code / Province	E-mail	
North Gower	K4M 1A7 / ON	engineering@gvegroup.ca	
Telephone number	Fax	Cell number	
(613) 692-2616	(613) 692-1802	( )	

D. Owner (if different from applicant)

Last name	First name	Corporation or partnership	
Gupta	Harish	The Hindu Temple of Ottawa Carleton	
Street address		Unit number	Lot/con.
4335 Bank St.			22/5
Municipality	Postal code / Province	E-mail	
Gloucester	K1X 1G6 / ON	harish.gec@yahoo.com	
Telephone number	Fax	Cell number	
(613) 737-5939	( )	(613) 366-2984	

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SEPTIC FILE #
21-343
OTTAWA

E. Builder (optional)

Last name	First name	Corporation or partnership (if applicable)	
Street address		Unit number	Lot/con.
Municipality	Postal code / Province	E-mail	
Telephone number ( )	Fax ( )	Cell number ( )	

F. Tarion Warranty Corporation (Ontario New Home Warranty Program)

i. Is proposed construction for a new home as defined in the *Ontario New Home Warranties Plan Act*? If no, go to section G.	Yes	No ✓
ii. Is registration required under the *Ontario New Home Warranties Plan Act*?	Yes	No ✓

iii. If yes to (ii) provide registration number(s): _____

G. Required Schedules

i) Attach Schedule 1 for each individual who reviews and takes responsibility for design activities.

ii) Attach Schedule 2 where application is to construct on-site, install or repair a sewage system.

H. Completeness and compliance with applicable law

i) This application meets all the requirements of clauses 1.3.1.3 (5) (a) to (d) of Division C of the Building Code (the application is made in the correct form and by the owner or authorized agent, all applicable fields have been completed on the application and required schedules, and all required schedules are submitted).	Yes ✓	No
Payment has been made of all fees that are required, under the applicable by-law, resolution or regulation made under clause 7(1)(c) of the *Building Code Act, 1992*, to be paid when the application is made.	Yes ✓	No
ii) This application is accompanied by the plans and specifications prescribed by the applicable by-law, resolution or regulation made under clause 7(1)(b) of the *Building Code Act, 1992*.	Yes ✓	No
iii) This application is accompanied by the information and documents prescribed by the applicable by-law, resolution or regulation made under clause 7(1)(b) of the *Building Code Act, 1992* which enable the chief building official to determine whether the proposed building, construction or demolition will contravene any applicable law.	Yes ✓	No
iv) The proposed building, construction or demolition will not contravene any applicable law.	Yes ✓	No

I. Declaration of applicant

I Jacob Pruner declare that:
(print name)

1. The information contained in this application, attached schedules, attached plans and specifications, and other attached documentation is true to the best of my knowledge.
2. If the owner is a corporation or partnership, I have the authority to bind the corporation or partnership.

Date February 7 2022 Signature of applicant Jacob Pruner

Personal information contained in this form and schedules is collected under the authority of subsection 8(1.1) of the *Building Code Act, 1992*, and will be used in the administration and enforcement of the *Building Code Act, 1992*. Questions about the collection of personal information may be addressed to: a) the Chief Building Official of the municipality or upper-tier municipality to which this application is being made, or, b) the inspector having the powers and duties of a chief building official in relation to sewage systems or plumbing for an upper-tier municipality, board of health or conservation authority to whom this application is made, or, c) Director, Building and Development Branch, Ministry of Municipal Affairs and Housing 777 Bay St., 2nd Floor, Toronto, M5G 2E5 (416) 585-6666.

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SEPTIC FILE # 21-343 OTTAWA

Schedule 1: Designer Information

Use one form for each individual who reviews and takes responsibility for design activities with respect to the project.

A. Project information

Building number, street name		Unit no.	Lot/con
4835 Bank St.			22/5
Municipality	**Postal code**	**Plan number/ other description**	
Gloucester	K1X 1G6	5R3156	

B. Individual who reviews and takes responsibility for design activities

Name		Firm	
Jacob Pruner		Green Valley Environmental	
Street address		**Unit no.**	**Lot/con**
6107 First Line Rd.			
Municipality	**Postal code / Province**	**E-mail**	
North Gower	K4M 1A7 / ON	engineering@gvegroup.ca	
Telephone number	**Fax number**	**Cell number**	
(613) 692-2616	(613) 692-1802	( )	

C. Design activities undertaken by individual identified in Section B. [Building Code Table 3.5.2.1. of Division C]

House	HVAC – House	Building Structural
Small Buildings	Building Services	Plumbing – House
Large Buildings	Detection, Lighting and Power	Plumbing – All Buildings
Complex Buildings	Fire Protection	✓ On-site Sewage Systems

Description of designer's work

Design a replacement Septic System for existing Commercial Worship Building
Revision to Permit 21-343

D. Declaration of Designer

I Jacob Pruner declare that (choose one as appropriate):
(print name)

I review and take responsibility for the design work on behalf of a firm registered under subsection 3.2.4.of Division C, of the Building Code. I am qualified, and the firm is registered, in the appropriate classes/categories.

Individual BCIN: 113751

Firm BCIN: 16035

I review and take responsibility for the design and am qualified in the appropriate category as an "other designer" under subsection 3.2.5.of Division C, of the Building Code.

Individual BCIN: _____

Basis for exemption from registration: _____

The design work is exempt from the registration and qualification requirements of the Building Code.

Basis for exemption from registration and qualification: _____

I certify that:

1. The information contained in this schedule is true to the best of my knowledge.
2. I have submitted this application with the knowledge and consent of the firm.

Date February 7 2022 Signature of Designer

NOTE:

1. For the purposes of this form, "individual" means the "person" referred to in Clause 3.2.4.7(1) (c).of Division C, Article 3.2.5.1. of Division C, and all other persons who are exempt from qualification under Subsections 3.2.4. and 3.2.5. of Division C.
2. Schedule 1 is not required to be completed by a holder of a license, temporary license, or a certificate of practice, issued by the Ontario Association of Architects. Schedule 1 is also not required to be completed by a holder of a license to practise, a limited license to practise, or a certificate of authorization, issued by the Association of Professional Engineers of Ontario.

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REFER TO:

SEPTIC FILE
21-343

Schedule 2: Sewage System Installer Information

A. Project Information			
Building number, street name: 4335 Bank St.		Unit number	Lot/con. 22/5
Municipality: Gloucester	Postal code: K1X 1G6	Plan number/ other description: 5R 3156	

B. Sewage system installer

Is the installer of the sewage system engaged in the business of constructing on-site, installing, repairing, servicing, cleaning or emptying sewage systems, in accordance with Building Code Article 3.3.1.1, Division C?

✓ Yes (Continue to Section C) | No (Continue to Section E) | Installer unknown at time of application (Continue to Section E)

C. Registered installer information (where answer to B is "Yes")			
Name: Green Valley Environmental		BCIN: 11234	
Street address: 6107 First Line Rd.		Unit number	Lot/con.
Municipality: North Gower	Postal code: K4M 1A7	Province: ON	E-mail
Telephone number: (613) 692-2616	Fax: (613) 692-1802	Cell number: (613) 229-3900	

D. Qualified supervisor information (where answer to section B is "Yes")	
Name of qualified supervisor(s)	Building Code Identification Number (BCIN)
Bill Seabrook	11234

E. Declaration of Applicant:

I Jacob Pruner (print name) declare that:

I am the applicant for the permit to construct the sewage system. If the installer is unknown at time of application, I shall submit a new Schedule 2 prior to construction when the installer is known;

OR

I am the holder of the permit to construct the sewage system, and am submitting a new Schedule 2, now that the installer is known.

I certify that:

1. The information contained in this schedule is true to the best of my knowledge.
2. If the owner is a corporation or partnership, I have the authority to bind the corporation or partnership.

Date February 7 2022 Signature of applicant Jacob Pruner

Ottawa Septic System Office | Bureau des systèmes septiques d'Ottawa

Do Not Complete
Permit # SEPTIC FILE
Revision #
Date 21-345
OTTAWA

Schedule 4
Proposed Services
Complete Sections 1 thru 7

1. **Engineered**
   - ☐ Yes
   - ☑ No

2. **Water supply**
   - ☐ Proposed
   - ☑ Existing

3. **Type of work proposed**
   - ☐ New Installation
   - ☑ Replacement
   - ☐ Alteration

4. **Type of Well**
   - ☐ Dug/bored/Sandpoint well
   - ☐ Drilled well
   - ☑ Municipal
   - ☐ Other

5. **Residential** Sewage Design Flow Info.
Bedrooms _____
House (floor area) _____ **m²**
People _____
Total Fixture Units _____ **(Schedule 8)**
Residential Flow _____ **L/day**

6. Sewage Design Flow **Other Occupancies**
Design Flow 1825 L/day
Detailed sewage flow calculations:
Worship building no food preparation (500 people)
500 x 3 = 4000
3 x 275 = 825 L/day — 3 Apartment 1 person each

7. **Type of System**
   - ☑ Treatment Unit Norweco HK 5670 - 3M
   - ☐ Class 2 – Leaching Pit
   - ☐ Class 3 – Cesspool
   - ☑ Class 4 – Shallow Buried Trench

   ☐ Class 4 – Trench **(Schedule 9)**
   - ☐ Fully raised
   - ☐ Partially raised
   - ☐ In-ground

   ☐ Class 4 – Filter Media **(Schedule 10)**
   - ☐ Fully raised
   - ☐ Partially raised
   - ☐ In-ground

   ☐ Class 4 – BMEC Area Bed **(Schedule 11)**
   - ☐ Fully raised
   - ☐ Partially raised
   - ☐ In-ground

   ☐ Class 4 – "Type A" Dispersal **(Schedule 13)**
   - ☐ Fully raised
   - ☐ Partially raised
   - ☐ In-ground

   ☐ Class 4 – "Type B" Dispersal **(Schedule 14)**
   - ☐ Fully raised
   - ☐ Partially raised
   - ☐ In-ground

   ☐ Class 5 – Holding Tank (9000L min)
   ☐ Tank/TreatmentUnit/PumpChamber ONLY
   ☐ Effluent Filter/Risers ONLY

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Permit # 21-343
Revision #
Date OTTAWA

Schedule 5
Sewage System Details

Type of System Class 4 Shallow Buried Trench Bed (Schedule 4)

Septic/Holding Tank Size: _____ Litres Make: _____

Septic Tank Effluent Filter Make: _____ Model: _____

Treatment Unit – Make & Model Norweco Hydro Kinetic 5670 - 3M

Number of Units: 1 Other: _____

Refer to Typical Drawing # PC-5-1176 Pump(s) required _____

Mantle Information: Pump Rate _____ L/15min

Native or imported =15m in _____ direction(s) **Note:** Alarm required for all pumping systems

Slope subgrade _____ % slope

_____ direction(s)

Site to be Scarified (If clay) YES / NO

Clay Seal Required (If bedrock) YES / NO

☐ **Trench**

Distribution Pipe Length _____ m

Loading Area _____ m^2

Type of Chamber _____

Length of Chamber _____ m

☐ **BMEC Area Bed**

☐ **Type A**

☐ **Type B**

Stone _____ m^2

Sand _____ m^2

Pipe _____ m

Linear Loading _____ L/m^2

☑ **Shallow Buried Trench**

Pipe Length 104.64 m

☐ **Filter Media Bed**

Stone _____ m^2

Extended Base _____ m^2

Pipe _____ m

Weight of Filter Media _____ Kg

Loading Area _____ m^2

☐ **Tank/Treatment Unit/Pump Chamber Replacement** ONLY

☐ **Effluent Filter & Riser** ONLY

Construction Notes:

Ottawa Septic System Office / Bureau des systèmes septiques d'Ottawa

Schedule 6
Soil and Water Table Information
(Minimum depth of test pit: 2 metres)

Name of Applicant/Agent: LRL
Date: May 7 2017 Time: 10 00am
Applicant/Agent Signature:

Inspector:
Date: Time:
Inspector Signature:

EG (.....) Soil Description	T	EG (.....) Soil Description	T
.5m 1.0 m 1.5m 2.0 m See Attached Test Pit Logs		.5m 1.0 m 1.5m 2.0 m Test pits not available for inspection. Engineer assumes all liability for soil and HGWT info/elv's	
EG (.....) Soil Description	T	EG (.....) Soil Description	T
.5m 1.0 m 1.5m 2.0 m		.5m 1.0 m 1.5m 2.0 m	

LEGEND
BR = Bedrock
GWT = Ground water table
HGWT = High ground water table
M = metres
EG = Existing grade
T = percolation rate

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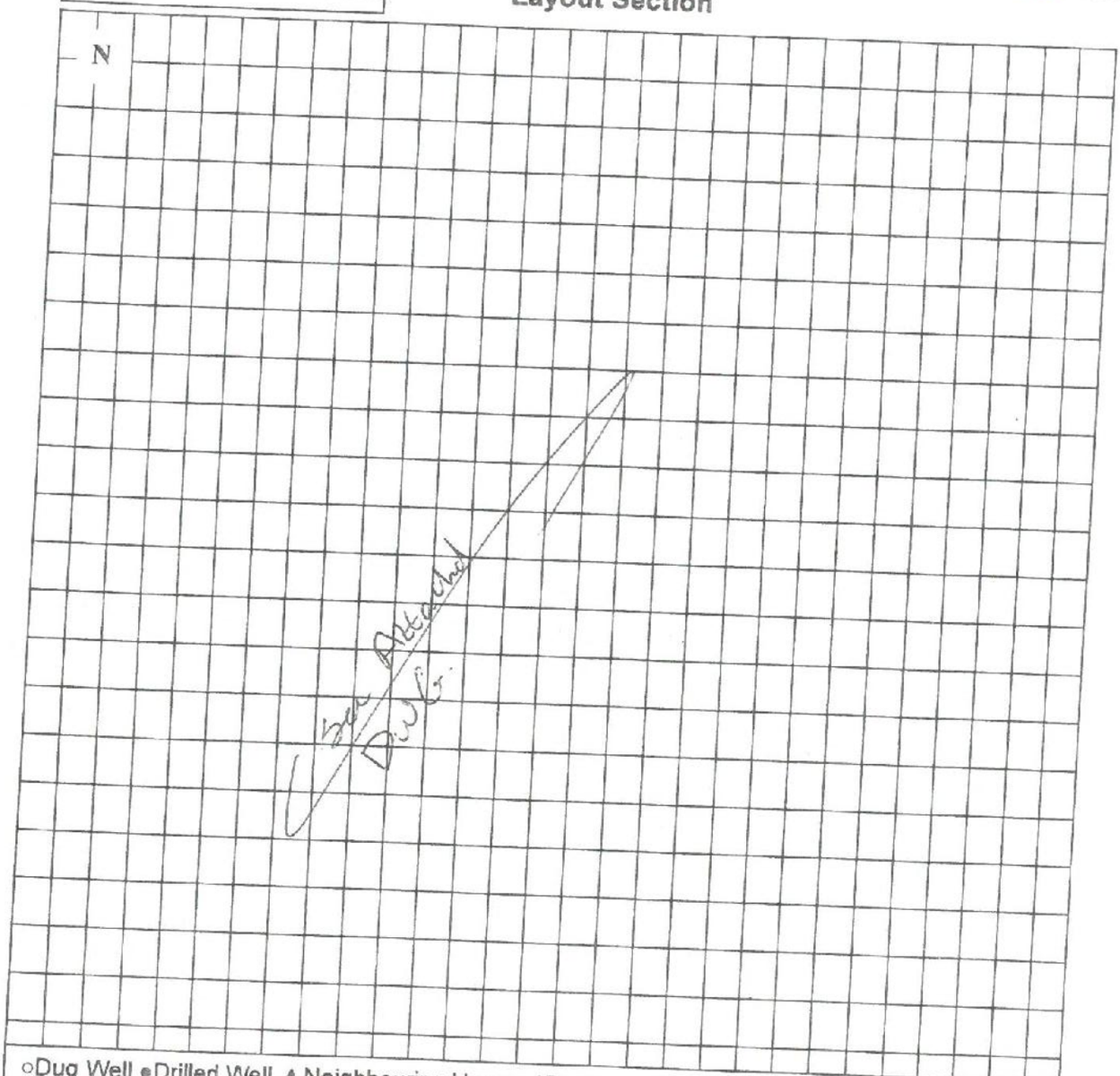
OTTAWA

Scale: 1Block = NTS

Schedule 7
Layout Section



○Dug Well ●Drilled Well ▲Neighbouring Homes ◊Benchmark ---Tile Drainage ——Property Line

Elevations (metric only)
B.M. 100.17 m
B.M.Description East arm of hydrant located west of Southern entrance to site
Exact Location

Min. of 5 elevations in proposed system area (in X pattern)
X_1 X_2
X_3 X_4
X_5 X_6 (toe)
X_7 X_8
See Attached Dwg.

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Revision #
Date 21-343
OTTAWA

Schedule 8
Fixture unit count

Fixtures	3 Apartment +		Worship Building		X unit count	=	Fixture Count	
Bathroom								
Bathroom group (toilet, sink and tub **or** shower) installed in the **same** room	3	+		X	6	=	18	
Urinals Wall mounted Washout type		+	2	X	1.5	=		3
Shower stall		+		X	1.5	=		
Wash basin (SINK) (1½inch trap)		+	6	X	1.5	=		9
Watercloset (TOILET) tank operated		+	4	X	4	=		16
Bidet		+		X	1	=		
Kitchen								
Dishwasher		+		X	1	=		
Sink with/without garbage grinder(s), domestic and other small type single, double or 2 single with a common trap	3	+	2	X	1.5	=	4.5	3
Other								
Domestic washing machine	1	+		X	1.5	=	1.5	
Combination sink and laundry tray single or double (Installed on 1½ trap)		+		X	1.5	=		
						Sub-Total:	24	31

***Insert the TOTAL in section 5 of Schedule 4** (O.Reg 151/13 Table 7.4.9.3) Total: 55

1. **Sump pumps and floor drains are not to be connected to the sewage system.** Connection of such fixtures to a sewage system may lead to a hydraulic failure of the said system. The above mentioned fixtures should be discharged separately to an approved Class 2 (leaching pit) sewage system.
2. Where laundry waste is not more than 20% of the total daily design sanitary sewage flow, it may discharge to a sewage system (Part 8, OBC, 8.1.3.1(2)).

June 7 2021

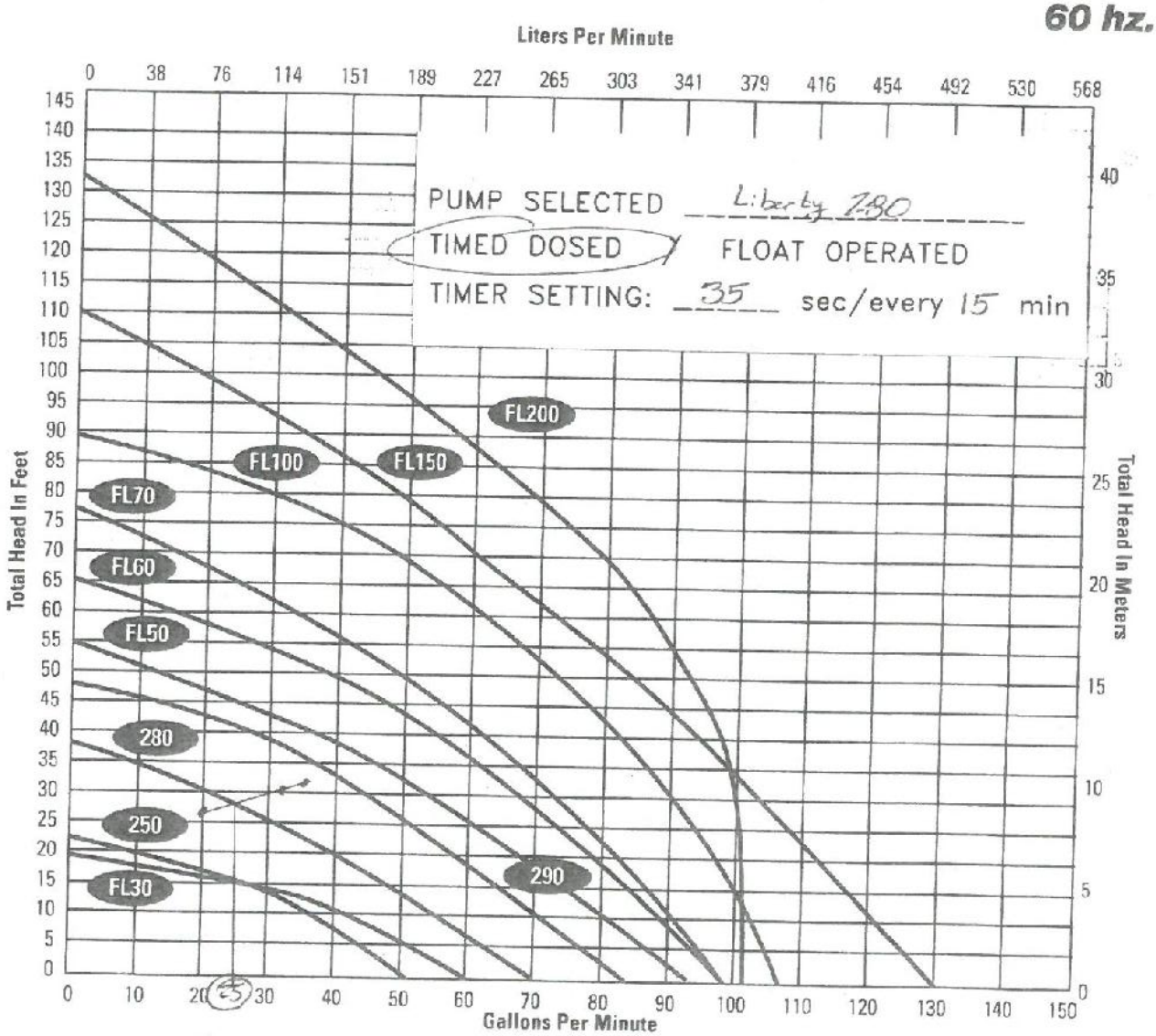
Agent/Owner signature **Date**

Liberty Pumps®

Effluent Pumps

Performance Curve Data

60 hz.



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www.libertypumps.com

GREEN VALLEY ENVIRONMENTAL SERVICES

4835 Bank St.

In/Output

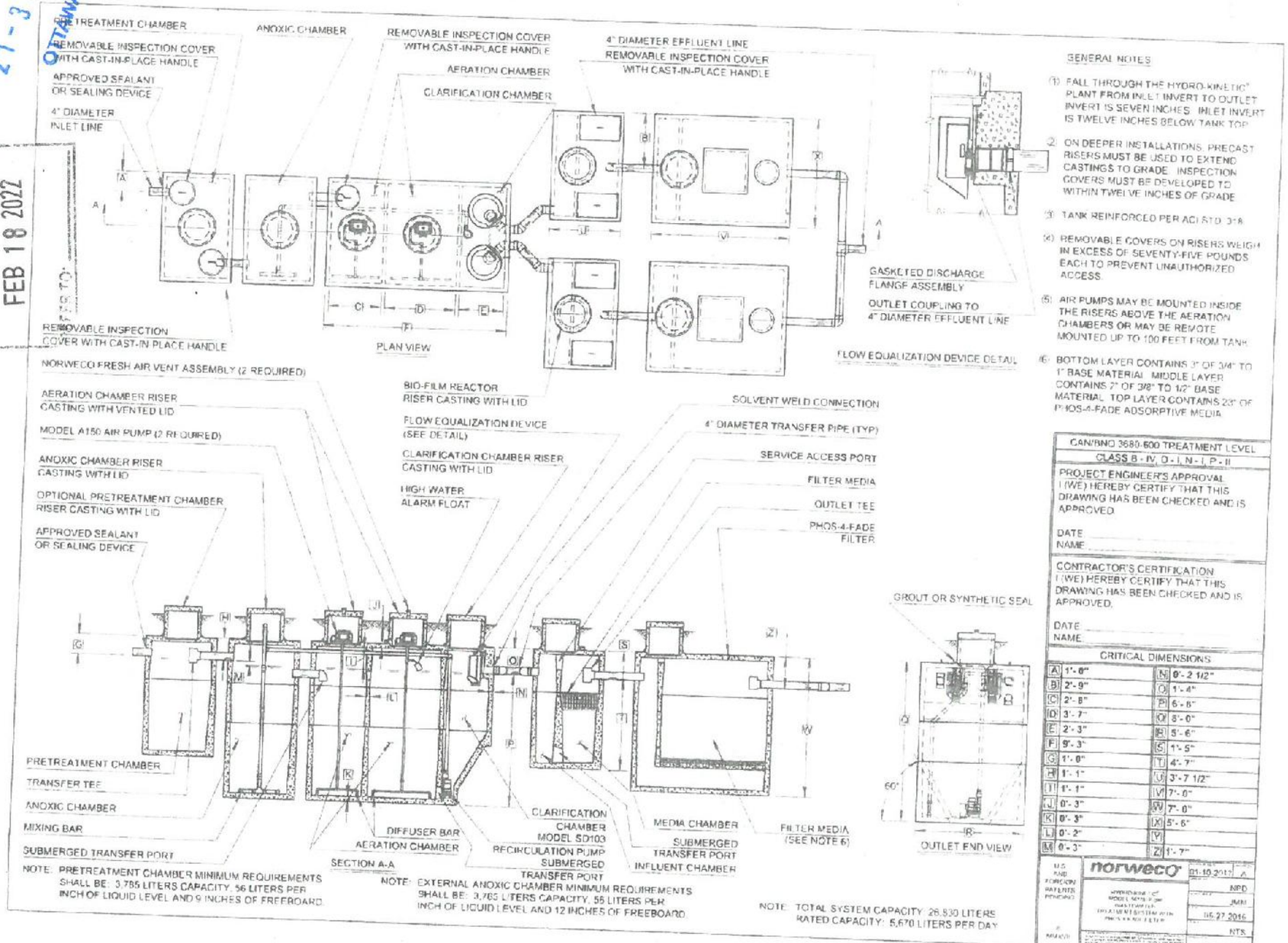
input	Length of a Lateral (m):	26.16	26.16	26.16	26.16	26.16	26.16	26.16
input	Number of Laterals:	2.00	2.00	2.00	2.00	2.00	2.00	2.00
input	Input spacing of orifices(m):	0.60	0.60	0.60	0.60	0.60	0.60	0.60
→	Number of orifices(calculated):	42.60	42.60	42.60	42.60	42.60	42.60	42.60
input	chosen number of orifices:	42.00	42.00	42.00	42.00	42.00	42.00	42.00
output	space of orifice to edge (m)	0.78	0.78	0.78	0.78	0.78	0.78	0.78
output	total number of orifices:	84.00	84.00	84.00	84.00	84.00	84.00	84.00

diameter of orifice(inch):	0.12	0.12	0.12	0.12	0.12	0.12	0.12
Squirt height (feet):	2.00	5.00	6.00	7.00	8.00	9.00	20.00
Discharge of orifice (US gal/orifice x min)	0.24	0.39	0.42	0.46	0.49	0.52	0.77
Flow in a lateral (US gal/min x lateral)	10.24	16.20	17.74	19.17	20.49	21.73	32.40
Total discharge (US gal/min)	20.49	32.40	35.49	38.33	40.98	43.46	64.79
Total discharge (L/min)	77.56	122.63	134.33	145.10	155.12	164.52	245.26
Total discharge (Imp. gal/min)	17.06	26.98	29.55	31.92	34.12	36.19	53.95

Total Dynamic Head (ft)

		(metric)	(Imperial)						
input	Length of force main(m)	5.00	16.40	16.40	16.40	16.40	16.40	16.40	16.40
input	Diameter of force main (in/cm)	3.81	1.50	1.50	1.50	1.50	1.50	1.50	1.50
input	Length of manifold (m)	2.00	6.55	6.55	6.55	6.55	6.55	6.55	6.55
input	Diameter of manifold (in/cm)	3.81	1.50	1.50	1.50	1.50	1.50	1.50	1.50
input	Length of lateral (m)	26.16	85.83	85.83	85.83	85.83	85.83	85.83	85.83
input	Diameter of lateral (in)	3.81	1.50	1.50	1.50	1.50	1.50	1.50	1.50
output	Friction loss in forcemain (m/ft)	0.18	0.60	1.40	1.66	1.92	2.17	2.42	5.06
output	Friction loss in manifold (m/ft)	0.02	0.08	0.19	0.22	0.25	0.29	0.32	0.67
output	Friction loss in lateral (m/ft)	0.09	0.29	0.68	0.80	0.93	1.05	1.17	2.45
estimated	Fittings' loss (estimated) (m/ft)	3.05	10.00	10.00	10.00	10.00	10.00	10.00	10.00
input	Residual head on orifice (ft)	0.61	2.00	5.00	6.00	7.00	8.00	9.00	20.00
input	Elevation difference(assumed, from low water level in pump tank to manifold) (m)	4.00	13.12	13.12	13.12	13.12	13.12	13.12	13.12
output	TDH (estimated) (m/ft)	7.95	26.10	30.39	31.81	33.22	34.63	36.03	51.30
	Q (gpm)		20.49	32.40	35.49	38.33	40.98	43.46	64.79

6107 First Line Road, Manotick, Ontario, K4M 1A7
Box 882, Tel. (613) 692-2616, Fax: (613) 693-1802



NOTE: PRETREATMENT CHAMBER MINIMUM REQUIREMENTS SHALL BE: 3,785 LITERS CAPACITY, 56 LITERS PER INCH OF LIQUID LEVEL AND 9 INCHES OF FREEBOARD.

NOTE: EXTERNAL ANOXIC CHAMBER MINIMUM REQUIREMENTS SHALL BE: 3,785 LITERS CAPACITY, 55 LITERS PER INCH OF LIQUID LEVEL AND 12 INCHES OF FREEBOARD.

NOTE: TOTAL SYSTEM CAPACITY: 26,830 LITERS
RATED CAPACITY: 5,670 LITERS PER DAY

GENERAL NOTES

(1) FALL THROUGH THE HYDRO-KINETIC® PLANT FROM INLET INVERT TO OUTLET INVERT IS SEVEN INCHES. INLET INVERT IS TWELVE INCHES BELOW TANK TOP.

(2) ON DEEPER INSTALLATIONS, PRECAST RISERS MUST BE USED TO EXTEND CASTINGS TO GRADE. INSPECTION COVERS MUST BE DEVELOPED TO WITHIN TWELVE INCHES OF GRADE.

(3) TANK REINFORCED PER ACI STD 318.

(4) REMOVABLE COVERS ON RISERS WEIGH IN EXCESS OF SEVENTY-FIVE POUNDS EACH TO PREVENT UNAUTHORIZED ACCESS.

(5) AIR PUMPS MAY BE MOUNTED INSIDE THE RISERS ABOVE THE AERATION CHAMBERS OR MAY BE REMOTE MOUNTED UP TO 100 FEET FROM TANK.

(6) BOTTOM LAYER CONTAINS 3" OF 3/4" TO 1" BASE MATERIAL. MIDDLE LAYER CONTAINS 2" OF 3/8" TO 1/2" BASE MATERIAL. TOP LAYER CONTAINS 23" OF PHOS-4-FADE ADSORPTIVE MEDIA.

CAN/BNQ 3680-600 TREATMENT LEVEL
CLASS B - IV, D - I, N - I, P - II

PROJECT ENGINEER'S APPROVAL
I (WE) HEREBY CERTIFY THAT THIS DRAWING HAS BEEN CHECKED AND IS APPROVED.
DATE
NAME

CONTRACTOR'S CERTIFICATION
I (WE) HEREBY CERTIFY THAT THIS DRAWING HAS BEEN CHECKED AND IS APPROVED.
DATE
NAME

CRITICAL DIMENSIONS

A	1'- 6"	N	0'- 2 1/2"
B	2'- 9"	O	1'- 4"
C	2'- 8"	P	6'- 8"
D	3'- 7"	Q	8'- 0"
E	2'- 3"	R	5'- 6"
F	9'- 3"	S	1'- 5"
G	1'- 0"	T	4'- 7"
H	1'- 1"	U	3'- 7 1/2"
I	1'- 1"	V	7'- 0"
J	0'- 3"	W	7'- 0"
K	0'- 3"	X	5'- 6"
L	0'- 2"	Y	
M	0'- 3"	Z	1'- 7"

U.S. AND FOREIGN PATENTS PENDING

norweco®

01-10-2017 A
NRD
JMN
06-27-2016
NTS
PC-5-1176

APPENDIX A

Test Pit Logs

LRJ

Test Pit Log: TP1

Project No.: 170132
Project: Terrain Analysis
Client: Hindu Temple of Ottawa Carleton
Location: 4835 Bank Street, Ottawa, ON
Date: May 08, 2017
Field Personnel: JA
Excavation Method: Backhoe
Excavation Contractor: Maurice Yelle Excavation ltd

Depth (ft / m)	Soil Description	Elev./Depth (m)	Lithology	Sample Number	Shear Strength (kPa) 50 150	Water Content (%) 25 50 75 / Liquid Limit (%) 25 50 75	Water Level (Standpipe or Open Excavation)
0 / 0	Ground Surface	98.21					
	TOPSOIL Sandy, dark brown, dry.	0.00					
		98.01					
	FILL Sandy clay, dark brown, dry.	0.20					
1							
2							
3		97.31					
	Silty Sand Trace clay, with clay seam from 1.7 to 1.8 m bgs, brown, dry. Sieve analysis completed.	0.90		1			
1							
4							
5				2			
6							
2				3			
7	End of Test Pit Refusal over inferred bedrock.	95.11 2.10					
8							

▼ 0.4 m bgs (08/05/17)

Easting: N/M
Northing: N/M
Site Datum: Top east arm of hydrant at south entrance (100.00 m)
Groundsurface Elevation: 98.21
Top of Riser Elev.: 99.15
Excavation Width: 1.2 m
Excavation Length: 1.5 m

NOTES
BGS- Below Ground Surface

LRJ

Test Pit Log: TP2

Project No.: 170132 **Project:** Terrain Analysis

Client: Hindu Temple of Ottawa Carleton **Location:** 4835 Bank Street, Ottawa, ON

Date: May 08, 2017 **Field Personnel:** JA

Excavation Method: Backhoe **Excavation Contractor:** Maurice Yelle Excavation ltd.

SUBSURFACE PROFILE		SAMPLE DATA					
Depth (ft / m)	Soil Description	Elev./Depth (m)	Lithology	Sample Number	Shear Strength (kPa) 50 150	Water Content (%) 25 50 75 Liquid Limit (%) 25 50 75	Water Level (Standpipe or Open Excavation)
0 / 0	Ground Surface	97.09					
	FILL Silty sand with some clay, brown, saturated with water infiltration at 0.4 m bgs. Buried metal structure/waste at approximately 0.9 m bgs.	0.00					
				4			
3 / 1	End of Test Pit	96.19 0.90					
6 / 2							

Easting: N/M **Northing:** N/M

Site Datum: Top east arm of hydrant at south entrance (100.00 m)

Groundsurface Elevation: 97.09 **Top of Riser Elev.:** --

Excavation Width: 1.2 m **Excavation Length:** 1.5 m

NOTES:

Test pit terminated at 0.9 meters due to volume of water in pit

BGS- Below Ground Surface

LRJ

Test Pit Log: TP3

Project No.: 170132 **Project:** Terrain Analysis

Client: Hindu Temple of Ottawa Carleton **Location:** 4835 Bank Street, Ottawa, ON

Date: May 08, 2017 **Field Personnel:** JA

Excavation Method: Backhoe **Excavation Contractor:** Maurice Yelle Excavation ltd.

Depth (ft / m)	Soil Description	Elev./Depth (m)	Lithology	Sample Number	Shear Strength (kPa) 50 150	Water Content (%) 25 50 75 / Liquid Limit (%) 25 50 75	Water Level (Standpipe or Open Excavation)
0 / 0	Ground Surface	97.75					
	TOPSOIL Sandy loam, dark brown, dry.	0.00					
	Brick debris found in top 0.2 m bgs.	97.55					
	FILL Sandy silt, trace boulders, brown, dry. Tire debris found at approximately 0.8 m bgs.	0.20		5			
	TILL Silty sand, trace gravel, cobbles and boulders, brown, dry. Sieve analysis completed.	96.95 0.80		6			▼ 0.71 m bgs (08/05/17)
	End of Test Pit Refusal at 1.7 m bgs over inferred bedrock.	96.05 1.70					

Easting: 0454091 **Northing:** 5017670

Site Datum: Top east arm of hydrant at south entrance (100.00 m)

Groundsurface Elevation: 97.75 **Top of Riser Elev.:** 98.98

Excavation Width: 1.2 m **Excavation Length:** 1.5 m

NOTES:

BGS- Below Ground Surface

LRJ

Test Pit Log: TP4

Project No.: 170132 **Project:** Terrain Analysis

Client: Hindu Temple of Ottawa Carleton **Location:** 4835 Bank Street, Ottawa, ON

Date: May 08, 2017 **Field Personnel:** JA

Excavation Method: Backhoe **Excavation Contractor:** Maurice Yelle Excavation ltd.

SUBSURFACE PROFILE		SAMPLE DATA					
Depth (ft / m)	Soil Description	Elev./Depth (m)	Lithology	Sample Number	Shear Strength (kPa) 50 150	Water Content (%) 25 50 75 / Liquid Limit (%) 25 50 75	Water Level (Standpipe or Open Excavation)
0 / 0	Ground Surface	99.54					
	TOPSOIL Silty loam, trace clay,dark brown, dry.	0.00					
1		99.04					
2	**FILL** Silty sand, trace cobbles and gravel, light brown, dry. Changing to dark brown sandy fill with trace boulders at approximately 0.8 m bgs.	0.50		7			
3 / 1							
4				8			
	End of Test Pit Refusal at 1.4 m bgs over inferred bedrock or large concrete structure.	98.14 1.40					
5							
6 / 2							
7							
8							

Easting: 0454005 **Northing:** 5017628

Site Datum: Top east arm of hydrant at south entrance (100.00 m)

Groundsurface Elevation: 99.54 **Top of Riser Elev.:** --

Excavation Width: N/M **Excavation Length:** N/M

NOTES:

BGS- Below Ground Surface

LRJ

Test Pit Log: TP5

Project No.: 170132 **Project:** Terrain Analysis

Client: Hindu Temple of Ottawa Carleton **Location:** 4835 Bank Street, Ottawa, ON

Date: May 08, 2017 **Field Personnel:** JA

Excavation Method: Backhoe **Excavation Contractor:** Maurice Yelle Excavation ltd.

Depth (ft / m)	Soil Description	Elev./Depth (m)	Lithology	Sample Number	Shear Strength (kPa) 50 150	Water Content (%) 25 50 75 / Liquid Limit (%) 25 50 75	Water Level (Standpipe or Open Excavation)
0 / 0	Ground Surface	98.78					
	TOPSOIL Silty loam some sand, dark brown, dry	0.00					
		98.63		10			
	FILL Sand, some silt, trace cobbles, brown, dry. Waste debris of metal and asphalt pieces at approximately 0.9 m bgs.	0.15					
1 / 2 / 3 / 4				9			
5 / 1		97.28		11			Dry at 1.53 m bgs
	End of Test Pit Refusal at 1.5 m bgs over inferred bedrock.	1.50					
6 / 2 / 7 / 8							

Easting: 0453945 **Northing:** 5017595

Site Datum: Top east arm of hydrant at south entrance (100.00 m)

Groundsurface Elevation: 98.78 **Top of Riser Elev.:** 99.02

Excavation Width: N/M **Excavation Length:** N/M

NOTES:

BGS- Below Ground Surface

LRJ

Test Pit Log: TP6

Project No.: 170182
Client: Hindu Temple of Ottawa Carleton
Date: May 08, 2017
Excavation Method: Backhoe

Project: Terrain Analysis
Location: 4835 Bank Street, Ottawa, ON
Field Personnel: JA
Excavation Contractor: Maurice Yelle Excavation ltd.

Depth (ft / m)	Soil Description	Elev./Depth (m)	Lithology	Sample Number	Shear Strength (kPa) 50 150	Water Content (%) 25 50 75 / Liquid Limit (%) 25 50 75	Water Level (Standpipe or Open Excavation)
0 / 0	Ground Surface	99.38					
	TOPSOIL Sandy loam, dark brown, dry	0.00					
		99.23					
	FILL Sand, some gravel, cobbles, boulders, silty seam at 0.7 m bgs, brown, dry.	0.15					
1							
	Refusal at 0.8 m bgs over inferred bedrock.						
2				12			
				13			
		98.58					
	End of Test Pit	0.80					
3 / 1							
4							
5							
6 / 2							
7							
8							

Easting: 0454003 **Northing:** 5017542

Site Datum: Top east arm of hydrant at south entrance (100.00 m)

Groundsurface Elevation: 99.38 **Top of Riser Elev.:** --

Excavation Width: N/M **Excavation Length:** N/M

NOTES:

BGS- Below Ground Surface

LRJ

Test Pit Log: TP7

Project No.: 170132 **Project:** Terrain Analysis

Client: Hindu Temple of Ottawa Carleton **Location:** 4835 Bank Street, Ottawa, ON

Date: May 08, 2017 **Field Personnel:** JA

Excavation Method: Backhoe **Excavation Contractor:** Maurice Yelle Excavation ltd.

Depth (ft / m)	Soil Description	Elev./Depth (m)	Lithology	Sample Number	Shear Strength (kPa) 50 150	Water Content (%) 25 50 75 / Liquid Limit (%) 25 50 75	Water Level (Standpipe or Open Excavation)
0 / 0	Ground Surface	99.60					
	TOPSOIL Sandy loam, dark brown, dry.	0.00					
		99.40					
	FILL Sand, brown, trace metal debris, dry.	0.20					
1							
2		98.90					
	TILL Silty sand, trace clay, boulders, grey, organics including tree stump, roots, bk… bg… Refusal due to obstruction (tree stump).	0.70					
3 / 1							
4							
5							
		97.80					
6	End of Test Pit	1.80					
2							
7							
8							

▼ 1.33 m bgs (08/05/17)

Easting: 0454051 **Northing:** 5017564

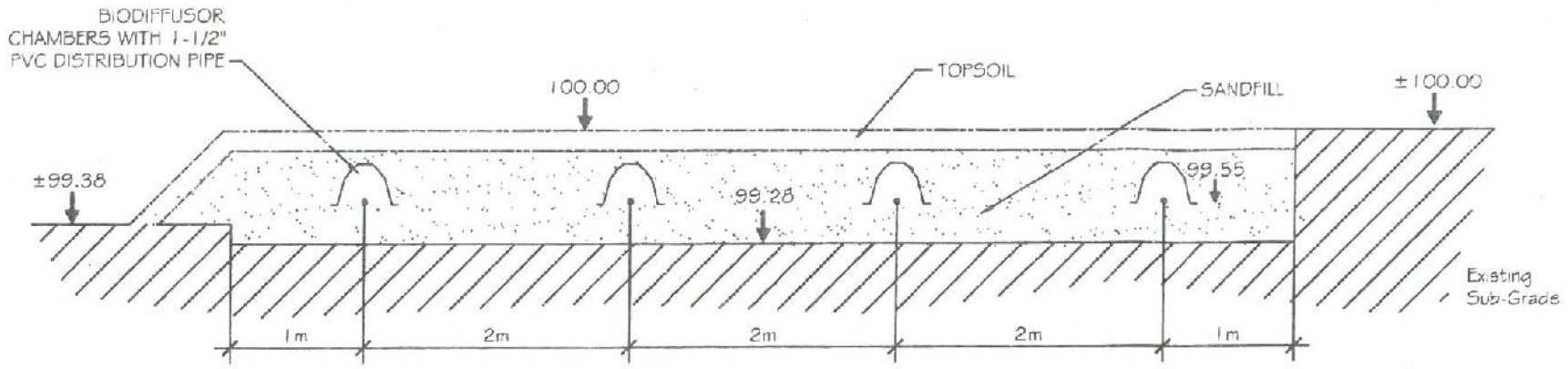
Site Datum: Top east arm of hydrant at south entrance (100.00 m)

Groundsurface Elevation: 99.60 **Top of Riser Elev.:** 100.79

Excavation Width: N/M **Excavation Length:** N/M

NOTES:

BGS- Below Ground Surface



TYPICAL SEPTIC BED PROFILE
N.T.S.

1. THIS CROSS SECTION IS NOT TO SCALE, ALL FIGURED DIMENSIONS TAKE PRECEDENCE OVER SCALE
2. THIS DOCUMENT IS COPYRIGHT PROTECTED AND IS THE SOLE PROPERTY OF GREEN VALLEY ENVIRONMENTAL INC. THIS DRAWING SHALL NOT BE ALTERED IN ANY MANNER.

Jim Houston April 28/22

SEPTIC FILE # 21-343 OTTAWA

RVCA RECEIVED
FEB 18 2022
REFER TO:

PRETREATMENT TANK

- INSTALL MIN. 3785L PRETREATMENT TANK.
- A MAXIMUM OF 300mm OF SOIL SHALL COVER THE PRETREATMENT TANK.
- RISERS AND LIDS SHALL BE INSTALLED FOR EASE OF ACCESS

NORWECO TREATMENT UNIT

- THE TREATMENT UNIT SHALL CONSIST OF A NORWECO HYDRO-KENETIC 5670L-3M TREATMENT UNIT.
- THE TREATMENT UNIT SHALL BE INSTALLED IN SERIES AND DOWN STREAM FROM THE PRETREATMENT TANK.
- THE TREATMENT UNIT SHALL PRODUCE A TERTIARY TREATMENT EFFLUENT QUALITY IN ACCORDANCE WITH COLUMN 2 AND 3 OPPOSITE A LEVEL IV TREATMENT UNIT OF TABLE 8.6.2.2. OF THE ONTARIO BUILDING CODE.
- THE TREATMENT UNIT SHALL BE INSTALLED ACCORDING TO THE MANUFACTURER'S SPECIFICATIONS BY A CERTIFIED INSTALLER.
- THE OWNER OF THE TREATMENT UNIT MUST ENTER INTO A MAINTENANCE AGREEMENT WITH THE MANUFACTURER'S REPRESENTATIVE.
- THE TREATMENT UNIT SHALL BE BACKFILLED AND COMPACTED, IN LIFTS, WITH SELECT GRANULAR FILL, SUCH AS SAND OR CLEAR STONE
- THE TOP OF THE TREATMENT UNIT SHALL BE ACCESSIBLE TO THE SURFACE. INSTALL RISERS AND LIDS TO SUIT.

NORWECO FILTER VAULT(S)

- FILTER VAULT(S) SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS
- FILTER VAULT(S) SHALL BE INSTALLED IN SERIES AND DOWN STREAM FROM THE TREATMENT UNIT
- FILTER VAULT(S) SHALL BE ACCESSIBLE TO THE SURFACE. INSTALL RISERS AND LIDS TO SUIT.

SHALLOW BURIED TRENCH BED

- THE DISPERSAL BED SHALL CONSIST OF A TOTAL LENGTH EQUAL TO Q/50 = 4825/50 = 96.5
- TOTAL LENGTH USED = 104.64m
- SAND FILL SHALL EXTEND 1.0m ON ALL SIDES.
- REMOVE LAYER OF TOP SOIL TO APPROXIMATE FOOT PRINT OF SEPTIC BED AND SIDE SLOPES
- THE PRESSURIZED DISTRIBUTION SYSTEM SHALL HAVE A PRESSURE HEAD OF NOT LESS THAN 600mm WHEN MEASURED AT THE MOST DISTANT POINT FROM THE PUMP.
- DISPERSAL BED SHALL BE BACKFILLED SO AS TO ENSURE THAT THE SURFACE WILL NOT FORM ANY DEPRESSIONS
- ALL SIDE SLOPES SHALL BE AT 1:3
- AT NO POINT DURING OR AFTER CONSTRUCTION SHALL A WHEELED VEHICLE DRIVE OVER THE SEPTIC BED AREA.
- EACH RUN SHALL CONSIST OF ONLY FULL CHAMBERS.
- SEPTIC DESIGN BASED ON ADS BIO3 CHAMBERS.
- EACH RUN SHALL CONSIST OF 12 FULL ADS BIO3 CHAMBERS WITH A TOTAL OF 48 FULL BIO3 CHAMBERS FOR THE ENTIRE SEPTIC BED.

MINIMUM CLEARANCE DISTANCE FROM LEACHING BED

- 4.3m FROM ANY PROPERTY LINE
- 6.3m FROM ANY STRUCTURE
- 16.3m FROM ANY DRILLED WELL

MINIMUM CLEARANCE DISTANCE FROM TANKS

- 3.0m FROM ANY PROPERTY LINE
- 1.5m FROM ANY STRUCTURE
- 15.0m FROM ANY DRILLED WELL

GENERAL

- THE BACKWASH WATERS FROM ANY HOUSEHOLD TREATMENT SUCH AS WATER SOFTENER SHALL NOT DISCHARGE INTO THE SEWAGE SYSTEM
- CONTRACTOR SHALL BE QUALIFIED AND REGISTERED UNDER PART 8 OF THE ONTARIO BUILDING CODE.
- CONTRACTOR SHALL VISIT THE SITE AND REVIEW ALL DOCUMENTATION TO DETERMINE SUITABLE METHODS OF CONSTRUCTION.
- INSPECTION BY THE REGULATING AUTHORITIES IS A REQUIREMENT BY SOME REGULATING AUTHORITIES AND IS STRONGLY RECOMMENDED BY GREEN VALLEY ENVIRONMENTAL INC.
- IT IS RECOMMENDED THAT ALL TREES WITHIN 5m OF THE BED AREA BE REMOVED TO PREVENT ROOTS FROM INFILTRATING THE SYSTEM.
- THE CONTRACTOR SHALL BE RESPONSIBLE TO LOCATE AND PROTECT ALL EXISTING UNDERGROUND SERVICES.
- SHOULD THE CONTRACTOR AT ANY TIME DURING CONSTRUCTION ENCOUNTER CONDITIONS THAT DIFFER FROM THE DESIGN CRITERIA IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO NOTIFY THE DESIGNER AND THE REGULATING AUTHORITY.
- GREEN VALLEY ENVIRONMENTAL INC. HAS PROVIDED DESIGNS BASED ON OUR INTERPRETATION OF THE ONTARIO BUILDING CODE AND THE TEST HOLES DUG ON THE PROPERTY.

Drawn by: JP	Drawn by: JP	Checked by: WS	
Rev.	Description	Date	Approved

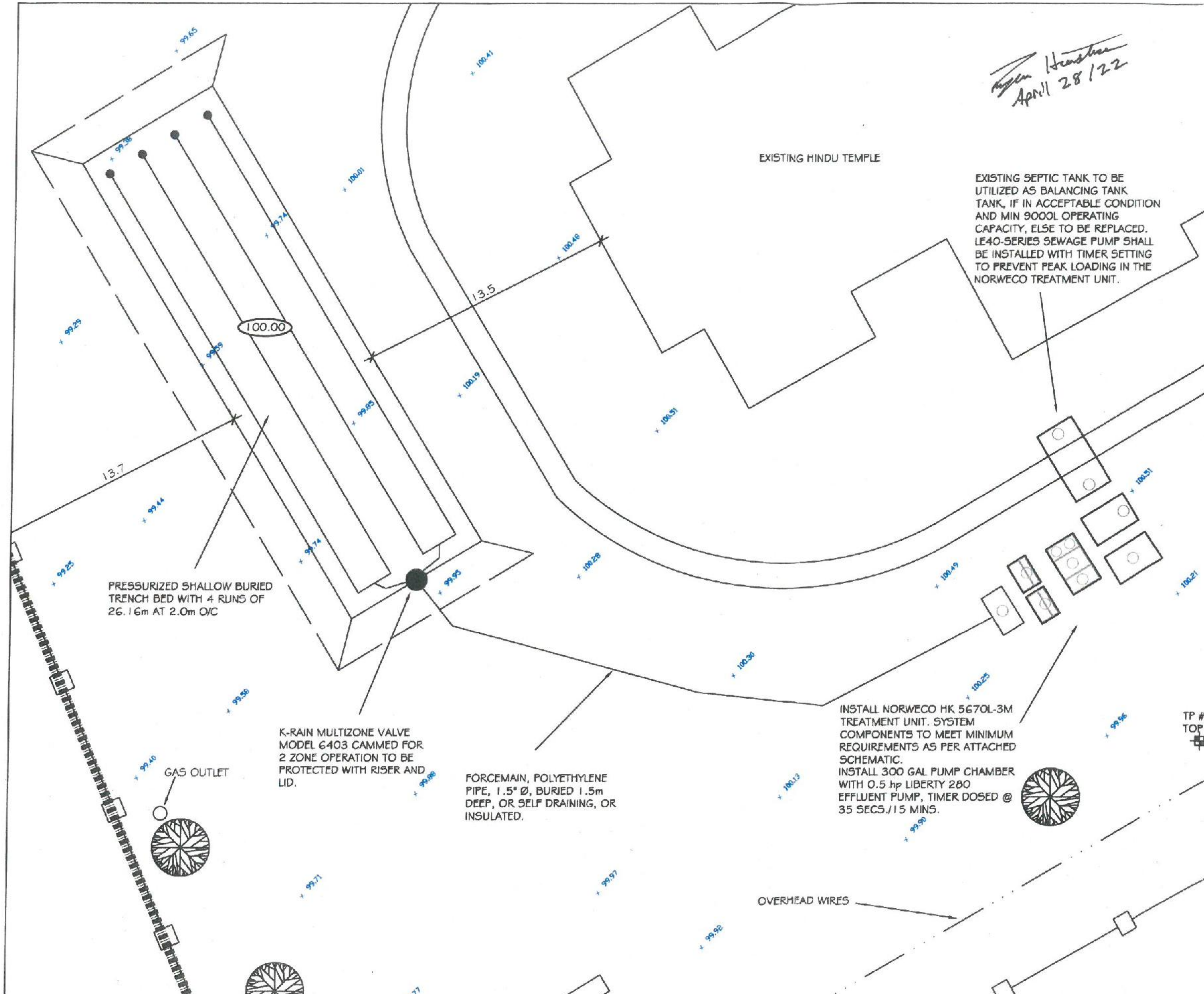
Township	Plan#	Lot	Sublot	Con	
					Dwg. No.: 15695 1-22

Country	Civic Address: 4035 BANK ST.	Date: 07/06/2	Scale: NTS

GREEN VALLEY ENVIRONMENTAL

On-Site Sewage Treatment Plan for the Residence of:

THE HINDU TEMPLE OF OTTAWA CARLETON



Ryan Hanstiana
April 28/22

NOTES:

1. ALL TREATMENT UNITS AND LEACHING BED ARE TO BE INSTALLED IN ACCORDANCE WITH MINIMUM OBC CLEARANCE DISTANCES. ANY OMISSIONS OR INACCURACIES SHALL BE BROUGHT TO THE ATTENTION OF GVE AND OSSO.

2. CARE IS TO BE EXERCISED DURING CONSTRUCTION ACTIVITIES NEAR OVERHEAD HYDRO WIRES.

3. EXISTING ELEVATIONS ARE APPROXIMATE. CONTRACTOR MUST VERIFY ALL ELEVATIONS AND DIMENSIONS PRIOR TO CONSTRUCTION.

4. SOIL CONDITIONS ARE ACCURATE FOR THE LOCATIONS SHOWN. CONTRACTOR MUST CONTACT THE DESIGN ENGINEER OR REGULATORY AUTHORITY SHOULD SOIL CONDITIONS DIFFER.

5. ALL DIMENSIONS AND CONDITIONS TO BE VERIFIED ON SITE, FIGURED DIMENSIONS TAKE PRECEDENCE OVER SCALE.

6. UTILITY LOCATES SHALL BE COMPLETED PRIOR TO ANY EXCAVATION.

7. THIS IS NOT A PLAN OF SURVEY AND SHALL NOT BE USED EXCEPT FOR THE PURPOSE INDICATED IN THE TITLE BLOCK.

9. EXISTING LOT SERVICED WITH MUNICIPAL WATER.

METRIC:

DISTANCES AND ELEVATIONS SHOWN ON THIS PLAN ARE IN METERS AND MAY BE CONVERTED TO FEET BY DIVIDING BY 0.3048.

LEGEND:

- PROPOSED ELEVATION
- EXISTING ELEVATION
- EXISTING WORKS
- PROPOSED SEWAGE WORKS
- FENCE LINE
- PROPERTY LINE
- TBM — TEMPORARY BENCH MARK (DESCRIPTION: TOP OF EAST ARM OF HYDRANT)
- TEST PIT LOCATION

TP #0
TOP S

SEPARATION DISTANCES:

1. MINIMUM CLEARANCE FROM SEPTIC PIPE TO:
LOT LINE = 5.0m
HOUSE = 7.0m
DRILLED WELL = 17.0m

2. MINIMUM CLEARANCE FROM TREATMENT UNITS TO:
LOT LINE = 3.0m
HOUSE = 1.5m
DRILLED WELL = 15.0m

Drawn by: JP	Drawn by: JP	Checked by: WS
Rev.	Description	Date	Approved

Township	Plan#	Lot	Sublot	Con	Dwg. No.: SP6951-22-EFB
County:	Civic Address: 4835 BANK ST.				Date: 25/01/22 Scale: 1:200

GREEN VALLEY ENVIRONMENTAL

On-Site Sewage Treatment Plan for the Residence of:
THE HINDU TEMPLE OF OTTAWA CARLETON

Ottawa Septic System Office | Bureau des systèmes septiques d'Ottawa

Do Not Complete
Permit No 21-343
Revision No 1
Date April 28, 2022
Related Application B-22-014

Permit
Part 8 – Sewage System
Ontario Building Code

A copy of this permit must be posted on the property at all time during construction. OBC, Division C — Part 1, Section 1.3.2.1

This permit verifies that the on-site sewage system was reviewed and approved for construction under the *Ontario Building Code* and *O.Reg. 323/12* as amended by *O.Reg. 151/13*.

Inspected & Recommended by: Ryan Hiemstra
Owner: Harish Gupta
Inspection Date & Time: April 28, 2022
Weather:
Civic Address: 4835 Bank Street (Existing Building)
Legal: Lot 22, Con 5RF, Plan 5R3156
Osgoode: ☐ Cumberland: ☐ Gloucester: ☒

NON-RESIDENTIAL
☐ Commercial
☐ Industrial
☒ Institutional

number of bedrooms:
finished floor area:
units:
4825 L/day

pretreatment tank	3785 Minimum L	bills for	☐ yes ■ no
effluent filter	YES	grain size analysis required	☐ yes ■ no
pump rate	Timer Dosed L/15 min	site to be scarified	■ yes ☐ no
treatment unit	Norweco Hydro-Kinetic 5670-3M	clay seal inspection	☐ yes ■ no
number of units	1	mantle required	☐ yes ■ no
		sub-grade inspection	■ yes ☐ no

ELEVATION ☐ In Ground ☒ Partially Raised ☐ Fully Raised

TYPE OF SYSTEM

☐ **Trench**
○ **Pipe and Stone or** ○ **Chambers**
type of chamber
loading area m²
total trench length m
trench configuration

☐ **Dispersal Bed**
○ BMEC ○ Type A ○ Type B
stone m²
sand m²
pipe
weight of sand kg

☐ **Shallow Buried Trench**
pipe length 104.64 m
orifice spacing 0.6 m

☐ **Filter Media Bed**
stone m²
extended base m²
pipe
weight of filter media kg
loading area m²

☐ **Class 5 Holding Tank**

☐ **Septic Tank Only**

Manager, Septic System Approvals: Jason Hull Permit Date: May 2, 2022

Comments: 1. Also see OSSO part 10/11 approval B-22-014
2. No food preparation or food service within the worship building

■ maintenance/pumping required ☐ ESA permit # required ■ engineer to verify ■ subgrade ■ squirt height
☐ Class 5 Holding Tank approval only valid for three years from date of issue

Manager, Septic System Approvals: Revision Date:

Comments:

NOTE: For further details, refer to corresponding application.

Septic File
21-344

STREET/CIVIC INITIAL ☐
EMAIL ONLY

Ottawa Septic System Office | Bureau des systèmes septiques d'Ottawa
3889 Rideau Valley Drive Box 599 Manotick, ON K4M 1A5
Phone: 613-692-3571 PRESS "4" for septic office 1-800-267-3504 Fax: 613-692-1507 Email: septic@rvca.ca

SITE ADDRESS: 4835 Bank (HALL) Township:OSG-HUN-GLO-FIT-CUM-NEP-GOU-RID-KAN-TOR

CONTACT: 1. GVE 2. _____ 3. _____

INFORMATION FOR OWNER/APPLICANT

Attached is your Sewage System Permit. **A minimum of two inspections are required before your proposed sewage system can be approved for use (additional inspections may be required for clay soils/bedrock and/or re-inspections).** Inspections must be requested in writing. Please see attached:

- Inspection fax request form (all inspections MUST be requested in writing)
- As-built components and drawing form
- Copy of the approved application and schedule pages
- Approved Part 8 permit: ***Electronic copy only – Be sure to INCLUDE in Building Application Package for Plans Examiner at CITY of OTTAWA client services, if NEW or RENO construction project.**

Special Note

- A permit is valid for 12 months from the original date of issuance noted in "*permit date*". If lapsed, it may be renewed only once for a period of 12 months *from the date of expiry.*

- No person shall make a material change or cause a material change to be made to a plan, specification, document or other information on the basis of which a permit was issued without notifying, filing details with and obtaining the authorization of the Chief Building Official. *(Building Code Act 1992, c.23, s.8(12))*

Sewage System Permit Construction Requirements

1. Clay Soils/Bedrock only (If required per issued Approval)
In clay soils/bedrock, a site preparation inspection is required. The total contact area must be properly prepared. Scarification must be done under dry conditions prior to importing leaching bed fill.

2. Installation Inspection – 2nd inspection
When the sewage system is substantially completed (i.e., before the final fill is placed over the septic tank and leaching bed system) an installation inspection is required. Prior to any inspection request, the following must be submitted:

a) "as-built components" and "as-built drawings" — see attached form
b) "engineer letter" — if the system is engineered
c) grain size analysis and weight bills for all Filter Media types of septic systems
d) Weigh bills for washed septic stone, where applicable
e) Maintenance/service contract for treatment unit installed

3. Final Grading Inspection – 3rd inspection
When construction of the sewage system is complete, a final grading inspection is required. Before a Certificate of Completion can be issued, the following must be complete:

a) The leaching bed and septic tank must be covered with sand fill and topsoil and graded accordingly
b) All conditions of the Sewage System Permit & comments on the installation inspection report must be met
c) The depth of cover & material type must be identified by inspection pipes or holes placed over trenches at 4 corners of bed
d) The 4 corners of the bed must be staked

Green Valley Environmental Inc.

SEPTIC FILE #
21-344
OTTAWA

LETTER OF AUTHORIZATION

Owner: Harish Gupta The Hindu Temple of Ottawa Carleton
Address: 4835 Bank St
Gloucester ON K1X 1G6

Phone No.: (613) 737-5939 **Cell No.:** (613) 866-2984
Work No.: **Fax No.:**

LOCATION OF PROPERTY:

Lot No.: 22
Concession No.: 5RF
Sub lot/Part No.:
R. Plan No.: 5R 3156
Civic Address: 4835 Bank St
Municipality: Gloucester
Roll No.:

Commercial: **(provide description of building and intended use)**
Proposed Building

I, the above – mentioned authorize Green Valley Environmental Services to act as my agent to apply for and obtain a sewage system permit from the responsible Approval Agency.

Signature: Date: 2.06.2021

6107 First Line Rd. • P.O. Box 882 Manotick, Ontario, K4M 1A7 • Phone: (613) 692-2616 • Fax: (613) 692-1802
www.gvegroup.ca

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REFER TO:

Application for a Permit to Construct or Demolish

SEPTIC

This form is authorized under subsection 8(1.1) of the *Building Code Act, 1992*

For use by Principal Authority	
Application number:	Permit number (if different): 21-344 OTTAWA
Date received:	Roll number:

Application submitted to: OTTAWA SEPTIC SYSTEM OFFICE
(Name of municipality, upper-tier municipality, board of health or conservation authority)

A. Project information

Building number, street name	Unit number	Lot/con.
4835 Bank St.		22/5

Municipality	Postal code	Plan number/other description
Gloucester	K1X 1G6	5R3156

Project value est. $	Area of work (m²)

B. Purpose of application

New construction | Addition to an existing building | Alteration/repair | Demolition | Conditional Permit

Proposed use of building	Current use of building
Commercial Assembly.	—

Description of proposed work

Install new septic system for Proposed Assembly building (Revision)
Existing Permit: 21-344

C. Applicant

Applicant is: Owner or ✓Authorized agent of owner

Last name	First name	Corporation or partnership	
		Green Valley Environmental	
Street address		**Unit number**	**Lot/con.**
6107 First Line Rd.			
Municipality	**Postal code**	**Province**	**E-mail**
North Gower	K4M 1A7	ON	engineering@gvegroup.ca
Telephone number	**Fax**		**Cell number**
(613) 692-2616	(613) 692-1802		( )

D. Owner (if different from applicant)

Last name	First name	Corporation or partnership	
Gupta	Harish	The Hindu Temple of Ottawa Carleton	
Street address		**Unit number**	**Lot/con.**
4835 Bank St.			22/5
Municipality	**Postal code**	**Province**	**E-mail**
Gloucester	K1X 1G6	ON	engineering@gvegroup.ca
Telephone number	**Fax**		**Cell number**
(613) 737-5939	( )		(613) 866-2984

Application for a Permit to Construct or Demolish – Effective January 1, 2014

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E. Builder (optional)			
Last name	First name	Corporation or partnership (if applicable)	
Street address		Unit number	Lot/con.
Municipality	Postal code / Province	E-mail	
Telephone number ( )	Fax ( )	Cell number ( )	

F. Tarion Warranty Corporation (Ontario New Home Warranty Program)		
i. Is proposed construction for a new home as defined in the *Ontario New Home Warranties Plan Act*? If no, go to section G.	Yes	No ✓
ii. Is registration required under the *Ontario New Home Warranties Plan Act*?	Yes	No ✓
iii. If yes to (ii) provide registration number(s): _____		

G. Required Schedules

i) Attach Schedule 1 for each individual who reviews and takes responsibility for design activities.

ii) Attach Schedule 2 where application is to construct on-site, install or repair a sewage system.

H. Completeness and compliance with applicable law		
i) This application meets all the requirements of clauses 1.3.1.3 (5) (a) to (d) of Division C of the Building Code (the application is made in the correct form and by the owner or authorized agent, all applicable fields have been completed on the application and required schedules, and all required schedules are submitted).	Yes ✓	No
Payment has been made of all fees that are required, under the applicable by-law, resolution or regulation made under clause 7(1)(c) of the *Building Code Act, 1992*, to be paid when the application is made.	Yes ✓	No
ii) This application is accompanied by the plans and specifications prescribed by the applicable by-law, resolution or regulation made under clause 7(1)(b) of the *Building Code Act, 1992*.	Yes ✓	No
iii) This application is accompanied by the information and documents prescribed by the applicable by-law, resolution or regulation made under clause 7(1)(b) of the *Building Code Act, 1992* which enable the chief building official to determine whether the proposed building, construction or demolition will contravene any applicable law.	Yes ✓	No
iv) The proposed building, construction or demolition will not contravene any applicable law.	Yes ✓	No

I. Declaration of applicant

I Jacob Pruner declare that:
(print name)

1. The information contained in this application, attached schedules, attached plans and specifications, and other attached documentation is true to the best of my knowledge.
2. If the owner is a corporation or partnership, I have the authority to bind the corporation or partnership.

Date February 7 2022 Signature of applicant

Personal information contained in this form and schedules is collected under the authority of subsection 8(1.1) of the *Building Code Act, 1992*, and will be used in the administration and enforcement of the *Building Code Act, 1992*. Questions about the collection of personal information may be addressed to: a) the Chief Building Official of the municipality or upper-tier municipality to which this application is being made, or, b) the inspector having the powers and duties of a chief building official in relation to sewage systems or plumbing for an upper-tier municipality, board of health or conservation authority to whom this application is made, or, c) Director, Building and Development Branch, Ministry of Municipal Affairs and Housing 777 Bay St., 2nd Floor, Toronto, M5G 2E5 (416) 585-6666.

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SEPTIC FILE # 21-344

Schedule 1: Designer Information

Use one form for each individual who reviews and takes responsibility for design activities with respect to the project.

A. Project Information

Building number, street name		Unit no.	Lot/con.
4835 Bank St			22/5
Municipality	**Postal code**	**Plan number/ other description**	
Gloucester	K1X 1G6	5R 3156	

B. Individual who reviews and takes responsibility for design activities

Name		Firm	
Jacob Pruner		Green Valley Environmental	
Street address		**Unit no.**	**Lot/con.**
6107 First Line Rd.			
Municipality	**Postal code / Province**	**E-mail**	
North Gower	K4M 1A7 / ON	engineering@gvegroup.ca	
Telephone number	**Fax number**	**Cell number**	
(613) 692-2616	(613) 692-1802	( )	

C. Design activities undertaken by individual identified in Section B. [Building Code Table 3.5.2.1. of Division C]

House	HVAC – House	Building Structural
Small Buildings	Building Services	Plumbing – House
Large Buildings	Detection, Lighting and Power	Plumbing – All Buildings
Complex Buildings	Fire Protection	✓ On-site Sewage Systems

Description of designer's work

Design a Septic System for Proposed assembly building
Revision to Permit 21-344

D. Declaration of Designer

I Jacob Pruner declare that (choose one as appropriate):
(print name)

I review and take responsibility for the design work on behalf of a firm registered under subsection 3.2.4.of Division C, of the Building Code. I am qualified, and the firm is registered, in the appropriate classes/categories.

Individual BCIN: 113751

Firm BCIN: 16035

I review and take responsibility for the design and am qualified in the appropriate category as an "other designer" under subsection 3.2.5.of Division C, of the Building Code.

Individual BCIN: _____

Basis for exemption from registration: _____

The design work is exempt from the registration and qualification requirements of the Building Code.

Basis for exemption from registration and qualification: _____

I certify that:

1. The information contained in this schedule is true to the best of my knowledge.
2. I have submitted this application with the knowledge and consent of the firm.

Date February 7 2022 Signature of Designer

NOTE:

1. For the purposes of this form, "individual" means the "person" referred to in Clause 3.2.4.7(1) (c).of Division C, Article 3.2.5.1. of Division C, and all other persons who are exempt from qualification under Subsections 3.2.4. and 3.2.5. of Division C.
2. Schedule 1 is not required to be completed by a holder of a license, temporary license, or a certificate of practice, issued by the Ontario Association of Architects. Schedule 1 is also not required to be completed by a holder of a license to practise, a limited license to practise, or a certificate of authorization, issued by the Association of Professional Engineers of Ontario.

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FILE # 21-344 OTTAWA

Schedule 2: Sewage System Installer Information

A. Project Information			
Building number, street name: 4835 Bank St		Unit number	Lot/con.: 24/5
Municipality: Gloucester	Postal code: K1X 1G6	Plan number/ other description: 5R-3156	

B. Sewage system installer

Is the installer of the sewage system engaged in the business of constructing on-site, installing, repairing, servicing, cleaning or emptying sewage systems, in accordance with Building Code Article 3.3.1.1, Division C?

✓ Yes (Continue to Section C) | No (Continue to Section E) | Installer unknown at time of application (Continue to Section E)

C. Registered installer information (where answer to B is "Yes")

Name: Green Valley Environmental			BCIN: 11234
Street address: 6107 First Line Rd.			Unit number / Lot/con.
Municipality: North Gower	Postal code: K4M 1A7	Province: ON	E-mail
Telephone number: (613) 692-2616	Fax: (613) 692-1802		Cell number: (613) 229-3900

D. Qualified supervisor information (where answer to section B is "Yes")

Name of qualified supervisor(s)	Building Code Identification Number (BCIN)
Bill Seabrook	11234

E. Declaration of Applicant:

I Jacob Prymer declare that:
(print name)

I am the applicant for the permit to construct the sewage system. If the installer is unknown at time of application, I shall submit a new Schedule 2 prior to construction when the installer is known;

OR

I am the holder of the permit to construct the sewage system, and am submitting a new Schedule 2, now that the installer is known.

I certify that:

1. The information contained in this schedule is true to the best of my knowledge.
2. If the owner is a corporation or partnership, I have the authority to bind the corporation or partnership.

Date: February 7 2022 Signature of applicant: [signature]

Ottawa Septic System Office | Bureau des systèmes septiques d'Ottawa

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REFER TO:

Do Not Complete
Permit #
Revision # 1
Date
SEPTIC FILE # 3 4 4
OTTAWA

Schedule 4
Proposed Services
Complete Sections 1 thru 7

1. **Engineered**
   - ☐ Yes
   - ☑ No

2. **Water supply**
   - ☐ Proposed
   - ☑ Existing

3. **Type of work proposed**
   - ☑ New Installation
   - ☐ Replacement
   - ☐ Alteration

4. **Type of Well**
   - ☐ Dug/bored/Sandpoint well
   - ☐ Drilled well
   - ☑ Municipal
   - ☐ Other

5. **Residential** Sewage Design Flow Info.
   Bedrooms _____
   House (floor area) _____ m²
   People _____
   Total Fixture Units _____ (Schedule 8)
   Residential Flow _____ L/day

6. Sewage Design Flow **Other Occupancies**
   Design Flow 4000 L/day
   Detailed sewage flow calculations:
   No food Preparation (Assembly building)
   500 x 8 = 4000 L/day
   (500 people)
   - ☐ Class 4 – BMEC Area Bed (Schedule 11)
     - ☐ Fully raised
     - ☐ Partially raised
     - ☐ In-ground
   - ☐ Class 4 – "Type A" Dispersal (Schedule 13)
     - ☐ Fully raised
     - ☐ Partially raised
     - ☐ In-ground
   - ☐ Class 4 – "Type B" Dispersal (Schedule 14)
     - ☐ Fully raised
     - ☐ Partially raised
     - ☐ In-ground

7. **Type of System**
   - ☑ Treatment Unit Norweco 4730-3M
   - ☐ Class 2 – Leaching Pit
   - ☐ Class 3 – Cesspool
   - ☑ Class 4 – Shallow Buried Trench

   _____
   - ☐ Class 4 – Trench (Schedule 9)
     - ☐ Fully raised
     - ☐ Partially raised
     - ☐ In-ground
   - ☐ Class 4 – Filter Media (Schedule 10)
     - ☐ Fully raised
     - ☐ Partially raised
     - ☐ In-ground
   - ☐ Class 5 – Holding Tank (9000L min)
   - ☐ Tank/TreatmentUnit/PumpChamber ONLY
   - ☐ Effluent Filter/Risers ONLY

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SEPTIC FILE #
Do Not Complete
Permit # 21-344
Revision #
Date OTTAWA

Schedule 5
Sewage System Details

Type of System Class 4 Shallow Buried Trench Bed (Schedule 4)
Septic/Holding Tank Size: _____ Litres Make: _____
Septic Tank Effluent Filter Make: _____ Model: _____

Treatment Unit – Make & Model Norweco Hydro-Kinetic 4730-3M.
Number of Units: 1
Refer to Typical Drawing # PC-5-1174
Mantle Information:
Native or imported =15m in _____ direction(s)

Other: _____
Pump(s) required _____
Pump Rate _____ L/15min
Note: Alarm required for all pumping systems

Slope subgrade _____ % slope
_____ direction(s)

Site to be Scarified (If clay) YES / NO
Clay Seal Required (If bedrock) YES / NO

☐ **Trench**
Distribution Pipe Length _____ m
Loading Area _____ m^2
Type of Chamber _____
Length of Chamber _____ m

☐ **BMEC Area Bed**

☐ **Type A**

☐ **Type B**
Stone _____ m^2
Sand _____ m^2
Pipe _____ m
Linear Loading _____ L/m^2

☑ **Shallow Buried Trench**
Pipe Length 139.52 m

☐ **Filter Media Bed**
Stone _____ m^2
Extended Base _____ m^2
Pipe _____ m
Weight of Filter Media _____ Kg
Loading Area _____ m^2

☐ **Tank/Treatment Unit/Pump Chamber Replacement** ONLY

☐ **Effluent Filter & Riser** ONLY

Construction Notes:

Ottawa Septic System Office | Bureau des systèmes septiques d'Ottawa

Schedule 6
Soil and Water Table Information
(Minimum depth of test pit: 2 metres)

Name of Applicant/Agent: LRL
Date: May 8 2017 Time: 10:00 am
Applicant/Agent Signature:

Inspector:
Date: Time:
Inspector Signature:

EG (……..)	Soil Description	T
.5m	See Attached Test P.t Logs	
1.0 m		
1.5m		
2.0 m		

EG (……..)	Soil Description	T
.5m	Test pits not available for inspection. Engineer assumes all liability for soil and HGWT info/elv's	
1.0 m		
1.5m		
2.0 m		

EG (……..)	Soil Description	T
.5m		
1.0 m		
1.5m		
2.0 m		

EG (……..)	Soil Description	T
.5m		
1.0 m		
1.5m		
2.0 m		

LEGEND
BR = Bedrock
GWT = Ground water table
HGWT = High ground water table
M = metres
EG = Existing grade
T = percolation rate

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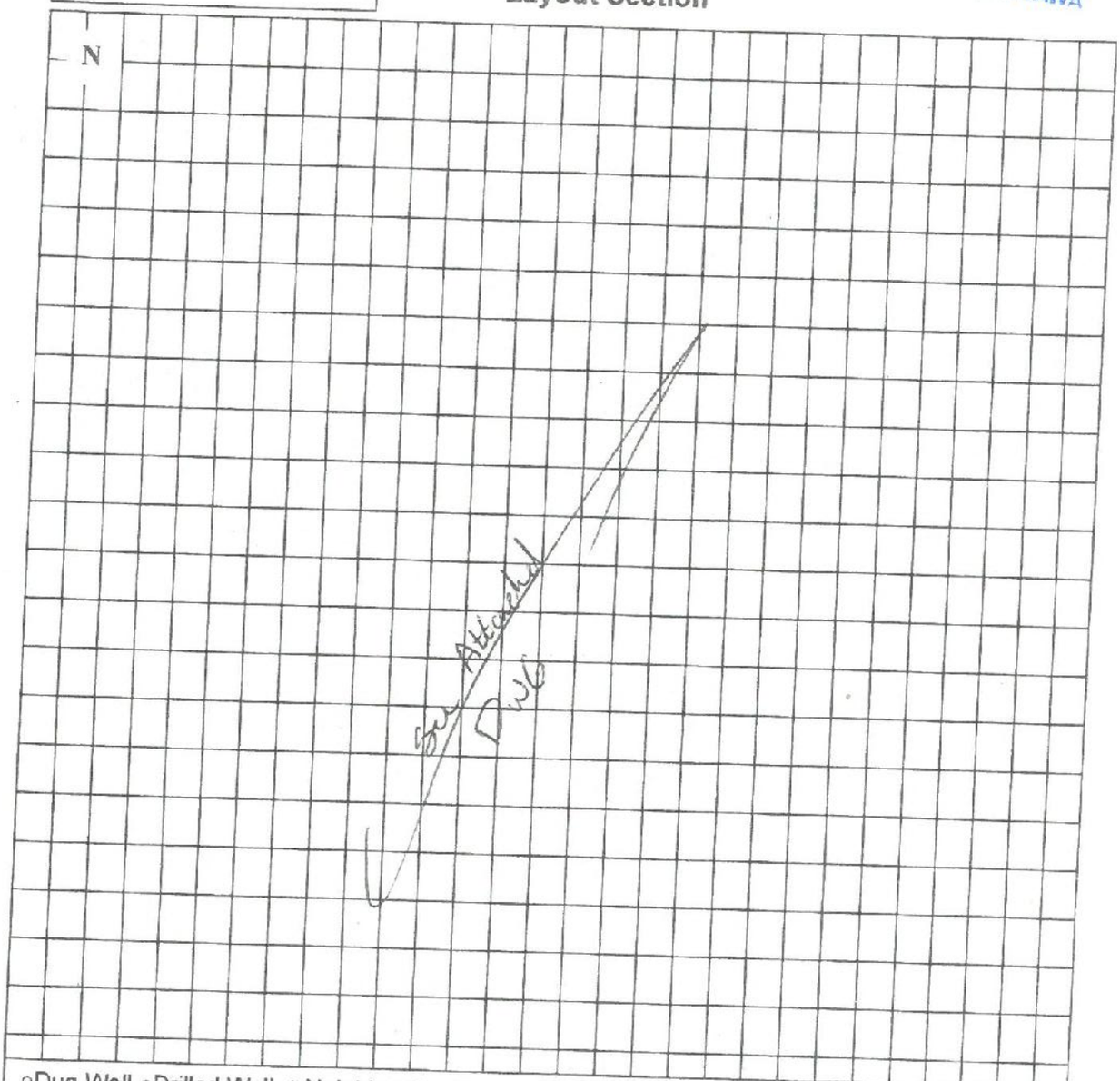
Do Not Complete
Permit # _____
Revision # 21-344
Date _____

SEPTIC FILE #
OTTAWA

Scale: 1Block = NTS

Schedule 7
Layout Section



○Dug Well ●Drilled Well ▲Neighbouring Homes ◊Benchmark ---Tile Drainage ——Property Line

Elevations (metric only)
B.M. 100.17 m
B.M.Description East arm of hydrant located west of Southern entrance to Site
Exact Location _____

Min. of 5 elevations in proposed system area (in X pattern)

X_1	X_2
X_3	X_4
X_5	X_6 (toe)
X_7	X_8

See Attached Dwg

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Do Not Complete
Permit # SEPTIC FILE #
Revision # 21-344
Date _____
OTTAWA

Schedule 8
Fixture unit count

Fixtures	# Existing	+	# Proposed	X	unit count	=	Fixture Count
Bathroom							
Bathroom group (toilet, sink and tub or shower) installed in the same room		+		X	6	=	
Urinal Wall Mounted Washout Type		+	10	X	1.5	=	15
Shower stall		+	2	X	1.5	=	3
Wash basin (SINK) (1½inch trap)		+	19	X	1.5	=	28.5
Watercloset (TOILET) tank operated		+	22	X	4	=	88
Bidet		+		X	1	=	
Kitchen							
Dishwasher		+		X	1	=	
Sink with/without garbage grinder(s), domestic and other small type single, double or 2 single with a common trap		+		X	1.5	=	
Other							
Domestic washing machine		+		X	1.5	=	
Combination sink and laundry tray single or double (Installed on 1½ trap)		+		X	1.5	=	

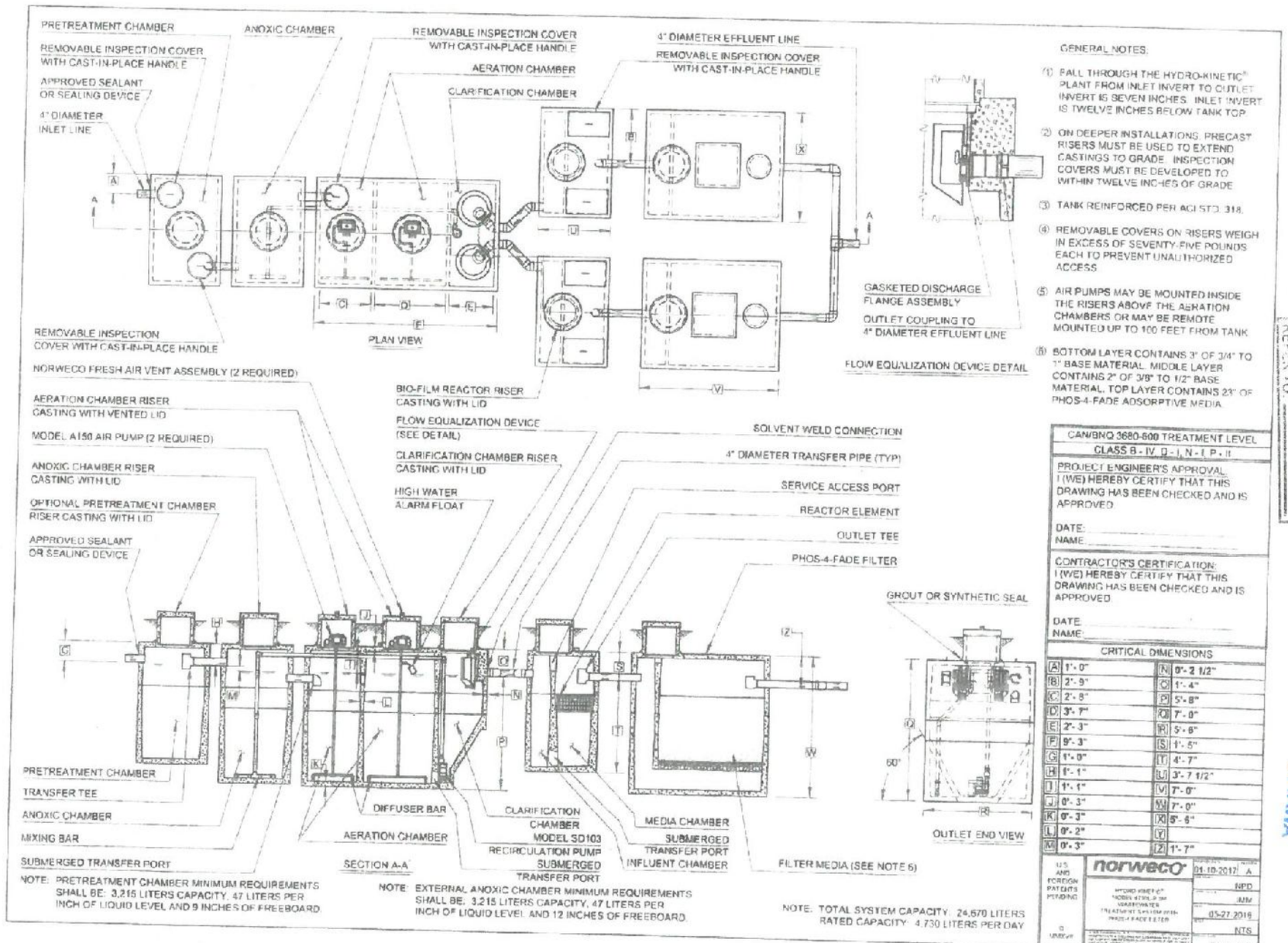
*Total: 134.5

***Insert the TOTAL in section 5 of Schedule 4** (0.Reg 151/13 Table 7.4.9.3)

1. **Sump pumps and floor drains are not to be connected to the sewage system.** Connection of such fixtures to a sewage system may lead to a hydraulic failure of the said system. The above mentioned fixtures should be discharged separately to an approved Class 2 (leaching pit) sewage system.
2. Where laundry waste is not more than 20% of the total daily design sanitary sewage flow, it may discharge to a sewage system (Part 8, OBC, 8.1.3.1(2)).

Agent/Owner signature

June 7 2021
Date



GENERAL NOTES:

(1) FALL THROUGH THE HYDRO-KINETIC® PLANT FROM INLET INVERT TO OUTLET INVERT IS SEVEN INCHES. INLET INVERT IS TWELVE INCHES BELOW TANK TOP.

(2) ON DEEPER INSTALLATIONS, PRECAST RISERS MUST BE USED TO EXTEND CASTINGS TO GRADE. INSPECTION COVERS MUST BE DEVELOPED TO WITHIN TWELVE INCHES OF GRADE.

(3) TANK REINFORCED PER ACI STD. 318.

(4) REMOVABLE COVERS ON RISERS WEIGH IN EXCESS OF SEVENTY-FIVE POUNDS EACH TO PREVENT UNAUTHORIZED ACCESS.

(5) AIR PUMPS MAY BE MOUNTED INSIDE THE RISERS ABOVE THE AERATION CHAMBERS OR MAY BE REMOTE MOUNTED UP TO 100 FEET FROM TANK.

(6) BOTTOM LAYER CONTAINS 3" OF 3/4" TO 1" BASE MATERIAL. MIDDLE LAYER CONTAINS 2" OF 3/8" TO 1/2" BASE MATERIAL. TOP LAYER CONTAINS 23" OF PHOS-4-FADE ADSORPTIVE MEDIA.

CAN/BNQ 3680-600 TREATMENT LEVEL
CLASS B - IV, D - I, N - I, P - II

PROJECT ENGINEER'S APPROVAL
I (WE) HEREBY CERTIFY THAT THIS DRAWING HAS BEEN CHECKED AND IS APPROVED.

DATE:
NAME:

CONTRACTOR'S CERTIFICATION:
I (WE) HEREBY CERTIFY THAT THIS DRAWING HAS BEEN CHECKED AND IS APPROVED.

DATE:
NAME:

CRITICAL DIMENSIONS

A	1'- 0"	N	0'- 2 1/2"
B	2'- 9"	O	1'- 4"
C	2'- 8"	P	5'- 8"
D	3'- 7"	Q	7'- 0"
E	2'- 3"	R	5'- 6"
F	9'- 3"	S	1'- 5"
G	1'- 0"	T	4'- 7"
H	1'- 1"	U	3'- 7 1/2"
I	1'- 1"	V	7'- 0"
J	0'- 3"	W	7'- 0"
K	0'- 3"	X	5'- 6"
L	0'- 2"	Y	
M	0'- 3"	Z	1'- 7"

U.S. AND FOREIGN PATENTS PENDING

norweco

HYDRO-KINETIC® MODEL 4700 SERIES WASTEWATER TREATMENT SYSTEM WITH PHOS-4-FADE FILTER

01-10-2017 A
NPD
MM
05-27-2016
NTS
PC 5-1174

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OTTAWA

GREEN VALLEY ENVIRONMENTAL SERVICES

4835 Bank St.

In/Output

input	Length of a Lateral (m):		13.08	13.08	13.08	13.08	13.08	13.08	13.08
input	Number of Laterals:		2.00	2.00	2.00	2.00	2.00	2.00	2.00
input	Input spacing of orifices(m):		0.60	0.60	0.60	0.60	0.60	0.60	0.60
→	Number of orifices(calculated):		20.80	20.80	20.80	20.80	20.80	20.80	20.80
input	chosen number of orifices:		20.00	20.00	20.00	20.00	20.00	20.00	20.00
output	space of orifice to edge (m)		0.84	0.84	0.84	0.84	0.84	0.84	0.84
output	total number of orifices:		40.00	40.00	40.00	40.00	40.00	40.00	40.00
	diameter of orifice(inch):		0.12	0.12	0.12	0.12	0.12	0.12	0.12
	Squirt height (feet):		2.00	5.00	6.00	7.00	8.00	9.00	20.00
	Discharge of orifice (US gal/orifice x min)		0.24	0.39	0.42	0.46	0.49	0.52	0.77
	Flow in a lateral (US gal/min x lateral)		4.88	7.71	8.45	9.13	9.76	10.35	15.43
	Total discharge (US gal/min)		9.76	15.43	16.90	18.25	19.51	20.70	30.85
	Total discharge (L/min)		36.93	58.39	63.97	69.09	73.86	78.35	116.79
	Total discharge (Imp. gal/min)		8.12	12.85	14.07	15.20	16.25	17.23	25.69

Total Dynamic Head (ft)

		(metric)	(Imperial)						
input	Length of force main(m)	25.00	82.02	82.02	82.02	82.02	82.02	82.02	82.02
input	Diameter of force main (in/cm)	3.81	1.50	1.50	1.50	1.50	1.50	1.50	1.50
input	Length of manifold (m)	2.00	6.55	6.55	6.55	6.55	6.55	6.55	6.55
input	Diameter of manifold (in/cm)	3.81	1.50	1.50	1.50	1.50	1.50	1.50	1.50
input	Length of lateral (m)	13.08	42.91	42.91	42.91	42.91	42.91	42.91	42.91
input	Diameter of lateral (in)	3.81	1.50	1.50	1.50	1.50	1.50	1.50	1.50
output	Friction loss in forcemain (m/ft)	0.23	0.76	1.78	2.11	2.43	2.75	3.06	6.41
output	Friction loss in manifold (m/ft)	0.01	0.02	0.05	0.06	0.06	0.07	0.08	0.17
output	Friction loss in lateral (m/ft)	0.01	0.04	0.09	0.10	0.12	0.13	0.15	0.31
estimated	Fittings' loss (estimated) (m/ft)	3.05	10.00	10.00	10.00	10.00	10.00	10.00	10.00
input	Residual head on orifice (ft)	0.61	2.00	5.00	6.00	7.00	8.00	9.00	20.00
input	Elevation difference(assumed, from low water level in pump tank to manifold) (m)	4.00	13.12	13.12	13.12	13.12	13.12	13.12	13.12
output	TDH (estimated) (m/ft)	7.91	25.94	30.04	31.39	32.73	34.08	35.42	50.02
	Q (gpm)		9.76	15.43	16.90	18.25	19.51	20.70	30.85

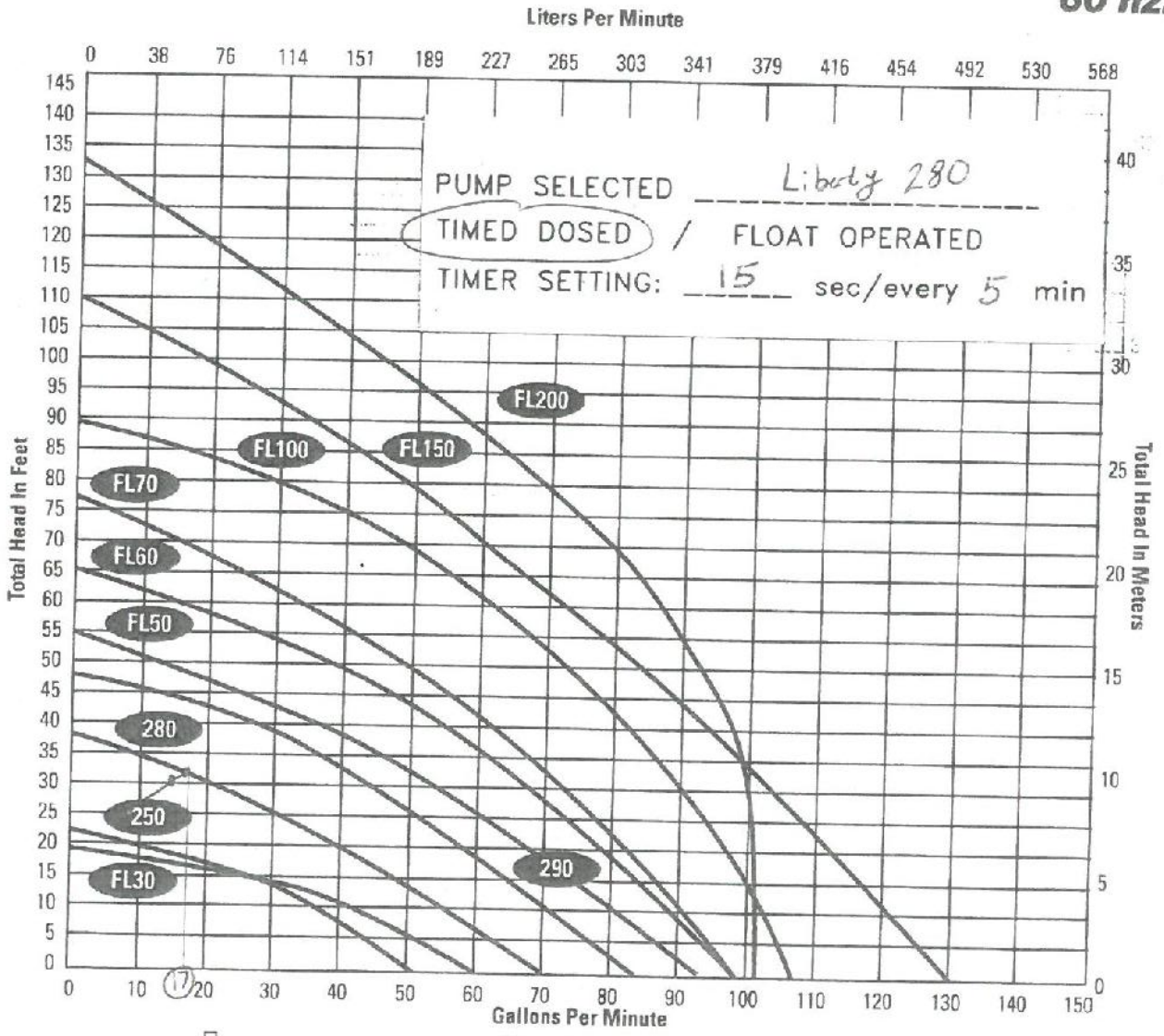
6107 First Line Road, Manotick, Ontario, K4M 1A7
Box 882, Tel. (613) 692-2616, Fax: (613) 693-1802

Liberty Pumps®

Effluent Pumps

Performance Curve Data

60 hz.



innovate. evolve.

Liberty Pumps • 7000 Apple Tree Avenue • Bergen, NY 14416
Phone 800-543-2550 Fax (585) 494-1839
www.libertypumps.com

APPENDIX A

Test Pit Logs

Test Pit Log: TP1

LRJ

Project No.: 170132 | **Project:** Terrain Analysis

Client: Hindu Temple of Ottawa Carleton | **Location:** 4835 Bank Street, Ottawa, ON

Date: May 08, 2017 | **Field Personnel:** JA

Excavation Method: Backhoe | **Excavation Contractor:** Maurice Yelle Excavation ltd.

Depth (ft / m)	Soil Description	Elev./Depth (m)	Lithology	Sample Number	Shear Strength (kPa) 50 150	Water Content (%) 25 50 75 / Liquid Limit (%) 25 50 75	Water Level (Standpipe or Open Excavation)
0 ft / 0 m	Ground Surface	98.21					
	TOPSOIL Sandy, dark brown, dry.	0.00 / 98.01					
1	**FILL** Sandy clay, dark brown, dry.	0.20 / 97.31					
3 / 1	**Silty Sand** Trace clay, with clay seam from 1.7 to 1.8 m bgs, brown, dry. Sieve analysis completed.	0.90		1			
5				2			
6 / 2							
7	End of Test Pit Refusal over inferred bedrock.	96.11 / 2.10		3			▼ 0.4 m bgs (08/05/17)
8							

Easting: N/M | **Northing:** N/M

Site Datum: Top east arm of hydrant at south entrance (100.00 m)

Groundsurface Elevation: 98.21 | **Top of Riser Elev.:** 99.15

Excavation Width: 1.2 m | **Excavation Length:** 1.5 m

NOTES

BGS- Below Ground Surface

SEPTIC FILE #
21-344

OTTAWA

Test Pit Log: TP2

Project No.: 170132
Project: Terrain Analysis
Client: Hindu Temple of Ottawa Carleton
Location: 4835 Bank Street, Ottawa. ON
Date: May 08, 2017
Field Personnel: JA
Excavation Method: Backhoe
Excavation Contractor: Maurice Yelle Excavation ltd.

Depth (ft / m)	Soil Description	Elev./Depth (m)	Lithology	Sample Number	Shear Strength (kPa) 50 150	Water Content (%) 25 50 75 / Liquid Limit (%) 25 50 75	Water Level (Standpipe or Open Excavation)
0 / 0	Ground Surface	97.09					
	FILL Silty sand with some clay, brown, saturated with water infiltration at 0.4 m bgs. Buried metal structure/waste at approximately 0.9 m bgs.	0.00					
3 / 1	End of Test Pit	96.19 0.90		4			
4							
5							
6 / 2							
7							
8							

Easting: N/M
Northing: N/M
Site Datum: Top east arm of hydrant at south entrance (100.00 m)
Groundsurface Elevation: 97.09
Top of Riser Elev.: --
Excavation Width: 1.2 m
Excavation Length: 1.5 m

NOTES:
Test pit terminated at 0.9 meters due to volume of water in pit.
BGS- Below Ground Surface

Test Pit Log: TP3

LRJ

Project No.: 170132 **Project:** Terrain Analysis

Client: Hindu Temple of Ottawa Carleton **Location:** 4835 Bank Street, Ottawa, ON

Date: May 08, 2017 **Field Personnel:** JA

Excavation Method: Backhoe **Excavation Contractor:** Maurice Yelle Excavation ltd.

Depth (ft / m)	Soil Description	Elev./Depth (m)	Lithology	Sample Number	Shear Strength (kPa) 50 150	Water Content (%) 25 50 75 / Liquid Limit (%) 25 50 75	Water Level (Standpipe or Open Excavation)
0 / 0	Ground Surface	97.75					
	TOPSOIL Sandy loam, dark brown, dry.	0.00					
	Brick debris found in top 0.2 m bgs.	97.55					
	FILL Sandy silt, trace boulders, brown, dry. Tire debris found at approximately 0.8 m bgs.	0.20		5			
		96.95					
1	**TILL** Silty sand, trace gravel, cobbles and boulders, brown, dry. Sieve analysis completed.	0.80		6			
		96.05					
	End of Test Pit Refusal at 1.7 m bgs over inferred bedrock.	1.70					
2							

▼ 0.71 m bgs (08/05/17)

Easting: 0454091 **Northing:** 5017670

Site Datum: Top east arm of hydrant at south entrance (100.00 m)

Groundsurface Elevation: 97.75 **Top of Riser Elev.:** 98.98

Excavation Width: 1.2 m **Excavation Length:** 1.5 m

NOTES

BGS- Below Ground Surface

LRJ

Test Pit Log: TP4

Project No.: 170132 | **Project:** Terrain Analysis

Client: Hindu Temple of Ottawa Carleton | **Location:** 4835 Bank Street, Ottawa, ON

Date: May 08, 2017 | **Field Personnel:** JA

Excavation Method: Backhoe | **Excavation Contractor:** Maurice Yelle Excavation ltd.

Depth (ft / m)	Soil Description	Elev./Depth (m)	Lithology	Sample Number	Shear Strength (kPa) 50 150	Water Content (%) 25 50 75 / Liquid Limit (%) 25 50 75	Water Level (Standpipe or Open Excavation)
0 / 0	Ground Surface	99.54					
	TOPSOIL Silty loam, trace clay,dark brown, dry.	0.00					
1		99.04					
	FILL Silty sand, trace cobbles and gravel, light brown, dry. Changing to dark brown sandy fill with trace boulders at approximately 0.8 m bgs.	0.50		7			
2 / 1				8			
3		98.14					
4	End of Test Pit Refusal at 1.4 m bgs over inferred bedrock or large concrete structure.	1.40					
5 / 2							
6							
7							
8							

Easting: 0454005 **Northing:** 5017628

Site Datum: Top east arm of hydrant at south entrance (100.00 m)

Groundsurface Elevation: 99.54 **Top of Riser Elev.:** --

Excavation Width: N/M **Excavation Length:** N/M

NOTES:

BGS- Below Ground Surface

LRJ

Test Pit Log: TP5

Project No.: 170132 **Project:** Terrain Analysis

Client: Hindu Temple of Ottawa Carleton **Location:** 4635 Bank Street, Ottawa, ON

Date: May 08, 2017 **Field Personnel:** JA

Excavation Method: Backhoe **Excavation Contractor:** Maurice Yelle Excavation ltd.

Depth (ft / m)	Soil Description	Elev./Depth (m)	Lithology	Sample Number	Shear Strength (kPa) 50 150	Water Content (%) 25 50 75 / Liquid Limit (%) 25 50 75	Water Level (Standpipe or Open Excavation)
0 / 0	Ground Surface	98.78					
	TOPSOIL Silty loam some sand, dark brown, dry.	0.00					
		98.63		10			
	FILL Sand, some silt, trace cobbles, brown, dry. Waste debris of metal and asphalt pieces at approximately 0.9 m bgs.	0.15					
1				9			
2							
3							
1							
4							
				11			
5	End of Test Pit	97.28					
	Refusal at 1.5 m bgs over inferred bedrock.	1.50					
6							
2							
7							
8							

▼ Dry at 1.53 m bgs

Easting: 0453945 **Northing:** 5017595

Site Datum: Top east arm of hydrant at south entrance (100.00 m)

Groundsurface Elevation: 98.78 **Top of Riser Elev.:** 99.02

Excavation Width: N/M **Excavation Length:** N/M

NOTES:

BGS- Below Ground Surface

LRJ

Test Pit Log: TP6

Project No.: 170132 | **Project:** Terrain Analysis

Client: Hindu Temple of Ottawa Carleton | **Location:** 4835 Bank Street, Ottawa, ON

Date: May 08, 2017 | **Field Personnel:** JA

Excavation Method: Backhoe | **Excavation Contractor:** Maurice Yelle Excavation ltd.

SUBSURFACE PROFILE		SAMPLE DATA					
Depth (ft / m)	Soil Description	Elev./Depth (m)	Lithology	Sample Number	Shear Strength (kPa) 50 150	Water Content (%) 25 50 75 / Liquid Limit (%) 25 50 75	Water Level (Standpipe or Open Excavation)
0 ft / 0 m	Ground Surface	99.38					
	TOPSOIL Sandy loam, dark brown, dry	0.00					
		99.23					
	FILL Sand, some gravel, cobbles, boulders, silty seam at 0.7 m bgs, brown, dry.	0.15					
	Refusal at 0.8 m bgs over inferred bedrock.			12			
				13			
		98.58					
	End of Test Pit	0.80					
1 ft / 1 m							
2 ft / 2 m							
3 ft							
4 ft							
5 ft							
6 ft							
7 ft							
8 ft							

Easting: 0454003 **Northing:** 5017542

Site Datum: Top east arm of hydrant at south entrance (100.00 m)

Groundsurface Elevation: 99.38 **Top of Riser Elev.:** --

Excavation Width: N/M **Excavation Length:** N/M

NOTES:

BGS- Below Ground Surface

LRJ

Test Pit Log: TP7

Project No.: 170132
Client: Hindu Temple of Ottawa Carleton
Date: May 08, 2017
Excavation Method: Backhoe

Project: Terrain Analysis
Location: 4835 Bank Street, Ottawa, ON
Field Personnel: JA
Excavation Contractor: Maurice Yelle Excavation ltd.

SUBSURFACE PROFILE		SAMPLE DATA					
Depth (ft / m)	Soil Description	Elev./Depth (m)	Lithology	Sample Number	Shear Strength (kPa) 50 150	Water Content (%) 25 50 75 / Liquid Limit (%) 25 50 75	Water Level (Standpipe or Open Excavation)
0 / 0	Ground Surface	99.60					
	TOPSOIL Sandy loam, dark brown, dry.	0.00					
		99.40					
1	**FILL** Sand, brown, trace metal debris, dry.	0.20					
2		98.90					
3 / 1	**TILL** Silty sand, trace clay, boulders, grey, organics including tree stump, roots, bl... Refusal due to obstruction (tree bg stump).	0.70					
4							
5							
6 / 2	End of Test Pit	97.80 / 1.80					
7							
8							

▼ 1.33 m bgs (08/05/17)

Easting: 0454051 **Northing:** 5017564
Site Datum: Top east arm of hydrant at south entrance (100.00 m)
Groundsurface Elevation: 99.60 **Top of Riser Elev.:** 100.79
Excavation Width: N/M **Excavation Length:** N/M

NOTES:
BGS- Below Ground Surface

SEPTIC FILE #
21-344
OTTAWA

REVISION
FEB 18 2022
O.S.S.O. #:

RVCA RECEIVED
FEB 18 2022
REFER TO:

Ian Hunter
April 28/22

2000 GAL BALANCING TANK WITH LE40-SERIES SEWAGE PUMP TO BE INSTALLED WITH TIMER SETTING TO PREVENT PEAK LOADING IN THE NORWECO TREATMENT UNIT.

PROPOSED OVERLAND STORAGE EXTENT
100 YEAR STORMPONDING EXTENT
(HWL = 98.47)
MAXIMUM PONDING DEPTH = 0.82m
TOTAL STORAGE PROVIDED = 428.14m³

CLAY SEPARATION LAYER TO BE INSTALLED ON SIDES FACING THE SEPTIC BED. SEE DETAIL ON LRL DRAWING C301.

PROPOSED OVERLAND STORAGE EXTENT
5 YEAR STORMPONDING EXTENT
(HWL = 98.15)
MAXIMUM PONDING DEPTH = 0.50m
TOTAL STORAGE PROVIDED = 210.92m³

PROPOSED ASSEMBLY BUILDING

EXISTING PARKING AREA

INSTALL NORWECO HK 4730L-3M TREATMENT UNIT. SYSTEM COMPONENTS TO MEET MINIMUM REQUIREMENTS AS PER ATTACHED SCHEMATIC.
INSTALL 300 GAL PUMP CHAMBER WITH 0.5 hp LIBERTY 280 EFFLUENT PUMP, TIMER DOSED @ 15 SECS./5 MINS.

PRESSURIZED SHALLOW BURIED TRENCH BED WITH 12 RUNS OF 13.08m AT 2.0m O/C

TP #01
TOP 99.36

99.35

EXISTING FENCE TO BE REMOVED

FORCEMAIN, POLYETHYLENE PIPE, 1.5" Ø, BURIED 1.5m DEEP, OR SELF DRAINING, OR INSULATED.

K-RAIN MULTIZONE VALVE MODEL 6000 CAMMED FOR 6 ZONE OPERATION TO BE PROTECTED WITH RISER AND LID.

PROPOSED STORM WATER DRAINAGE SYSTEM

NOTES:

1. ALL TREATMENT UNITS AND LEACHING BED ARE TO BE INSTALLED IN ACCORDANCE WITH MINIMUM OBC CLEARANCE DISTANCES. ANY OMISSIONS OR INACCURACIES SHALL BE BROUGHT TO THE ATTENTION OF GVE AND OSSO.

2. CARE IS TO BE EXERCISED DURING CONSTRUCTION ACTIVITIES NEAR OVERHEAD HYDRO WIRES.

3. EXISTING ELEVATIONS ARE APPROXIMATE. CONTRACTOR MUST VERIFY ALL ELEVATIONS AND DIMENSIONS PRIOR TO CONSTRUCTION.

4. SOIL CONDITIONS ARE ACCURATE FOR THE LOCATIONS SHOWN. CONTRACTOR MUST CONTACT THE DESIGN ENGINEER OR REGULATORY AUTHORITY SHOULD SOIL CONDITIONS DIFFER.

5. ALL DIMENSIONS AND CONDITIONS TO BE VERIFIED ON SITE. FIGURED DIMENSIONS TAKE PRECEDENCE OVER SCALE.

6. UTILITY LOCATES SHALL BE COMPLETED PRIOR TO ANY EXCAVATION.

7. THIS IS NOT A PLAN OF SURVEY AND SHALL NOT BE USED EXCEPT FOR THE PURPOSE INDICATED IN THE TITLE BLOCK.

8. THIS DOCUMENT IS COPYRIGHT PROTECTED AND IS THE SOLE PROPERTY OF GVE GROUP. THIS DRAWING SHALL NOT BE ALTERED IN ANY MANNER.

9. EXISTING LOT SERVICED WITH MUNICIPAL WATER.

METRIC:

DISTANCES AND ELEVATIONS SHOWN ON THIS PLAN ARE IN METERS AND MAY BE CONVERTED TO FEET BY DIVIDING BY 0.3048.

LEGEND:

- PROPOSED ELEVATION
- EXISTING ELEVATION
- EXISTING WORKS
- PROPOSED SEWAGE WORKS
- FENCE LINE
- PROPERTY LINE
- TBM — TEMPORARY BENCH MARK (DESCRIPTION: TOP OF EAST ARM OF HYDRANT)
- TEST PIT LOCATION

SEPARATION DISTANCES:

1. MINIMUM CLEARANCE FROM SEPTIC PIPE TO:
   LOT LINE = 5.0m
   HOUSE = 7.0m
   DRILLED WELL = 17.0m

2. MINIMUM CLEARANCE FROM TREATMENT UNITS TO:
   LOT LINE = 3.0m
   HOUSE = 1.5m
   DRILLED WELL = 15.0m

Drawn by: JP	Drawn by: JP	Checked by: WS	
Rev.	Description	Date	Approved

Township	Plan#	Lot	Sublot	Con	
					Dwg. No. SP6951-22-PRB

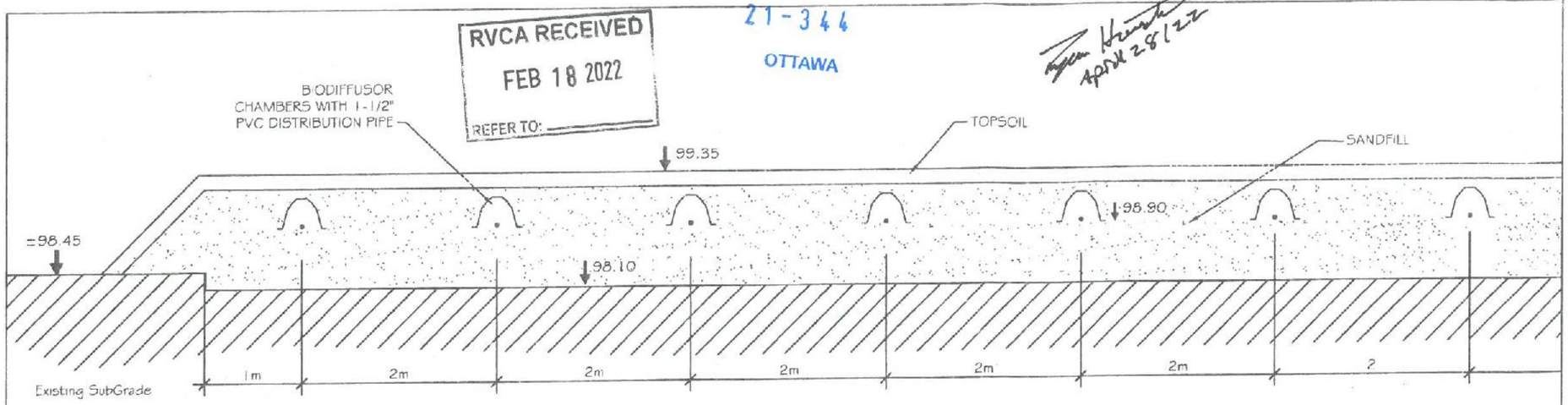
County:	Civic Address: 4835 BANK ST.	Date: 25/01/22	Scale: 1:200

GREEN VALLEY ENVIRONMENTAL

On-Site Sewage Treatment Plan for the Residence of:
THE HINDU TEMPLE OF OTTAWA CARLETON

SEPTIC FILE #
21-344
OTTAWA

Apr/22



1. THIS CROSS SECTION IS NOT TO SCALE, ALL FIGURED DIMENSIONS TAKE PRECEDENCE OVER SCALE
2.

PRETREATMENT TANK

- INSTALL MIN. 3215L PRETREATMENT TANK.
- A MAXIMUM OF 300mm OF SOIL SHALL COVER THE PRETREATMENT TANK.
- RISERS AND LIDS SHALL BE INSTALLED FOR EASE OF ACCESS

NORWECO TREATMENT UNIT

- THE TREATMENT UNIT SHALL CONSIST OF A NORWECO HYDRO-KENETIC 4730L-3M TREATMENT UNIT.
- THE TREATMENT UNIT SHALL BE INSTALLED IN SERIES AND DOWN STREAM FROM THE PRETREATMENT TANK.
- THE TREATMENT UNIT SHALL PRODUCE A TERTIARY TREATMENT EFFLUENT QUALITY IN ACCORDANCE WITH COLUMN 2 AND 3 OPPOSITE A LEVEL IV TREATMENT UNIT OF TABLE 8.6.2.2. OF THE ONTARIO BUILDING CODE.
- THE TREATMENT UNIT SHALL BE INSTALLED ACCORDING TO THE MANUFACTURERS SPECIFICATIONS BY A CERTIFIED INSTALLER.
- THE OWNER OF THE TREATMENT UNIT MUST ENTER INTO A MAINTENANCE AGREEMENT WITH THE MANUFACTURER'S REPRESENTATIVE.
- THE TREATMENT UNIT SHALL BE BACKFILLED AND COMPACTED, IN LIFTS, WITH SELECT GRANULAR FILL, SUCH AS SAND OR CLEAR STONE
- THE TOP OF THE TREATMENT UNIT SHALL BE ACCESSIBLE TO THE SURFACE. INSTALL RISERS AND LIDS TO SUIT.

NORWECO FILTER VAULT(S)

- FILTER VAULT(S) SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS
- FILTER VAULT(S) SHALL BE INSTALLED IN SERIES AND DOWN STREAM FROM THE TREATMENT UNIT
- FILTER VAULT(S) SHALL BE ACCESSIBLE TO THE SURFACE. INSTALL RISERS AND LIDS TO SUIT.

SHALLOW BURIED TRENCH BED

- THE DISPERSAL BED SHALL CONSIST OF A TOTAL LENGTH EQUAL TO Q/30 = 4000/30 = 133.3
- TOTAL LENGTH USED = 156.9m
- SAND FILL SHALL EXTEND 1.0m ON ALL SIDES.
- REMOVE LAYER OF TOP SOIL TO APPROXIMATE FOOT PRINT OF SEPTIC BED AND SIDE SLOPES
- THE PRESSURIZED DISTRIBUTION SYSTEM SHALL HAVE A PRESSURE HEAD OF NOT LESS THAN 600mm WHEN MEASURED AT THE MOST DISTANT POINT FROM THE PUMP.
- DISPERSAL BED SHALL BE BACKFILLED SO AS TO ENSURE THAT THE SURFACE WILL NOT FORM ANY DEPRESSIONS
- ALL SIDE SLOPES SHALL BE AT 1:3
- AT NO POINT DURING OR AFTER CONSTRUCTION SHALL A WHEELED VEHICLE DRIVE OVER THE SEPTIC BED AREA.
- EACH RUN SHALL CONSIST OF ONLY FULL CHAMBERS.
- SEPTIC DESIGN BASED ON ADS BIO3 CHAMBERS.
- EACH RUN SHALL CONSIST OF 6 FULL ADS BIO3 CHAMBERS WITH A TOTAL OF 72 FULL BIO3 CHAMBERS FOR THE ENTIRE SEPTIC BED.

MINIMUM CLEARANCE DISTANCE FROM LEACHING BED

- 6.0m FROM ANY PROPERTY LINE
- 8.0m FROM ANY STRUCTURE
- 18.0m FROM ANY DRILLED WELL

MINIMUM CLEARANCE DISTANCE FROM TANKS

- 3.0m FROM ANY PROPERTY LINE
- 1.5m FROM ANY STRUCTURE
- 15.0m FROM ANY DRILLED WELL

GENERAL

- THE BACKWASH WATERS FROM ANY HOUSEHOLD TREATMENT SUCH AS WATER SOFTENER SHALL NOT DISCHARGE INTO THE SEWAGE SYSTEM
- CONTRACTOR SHALL BE QUALIFIED AND REGISTERED UNDER PART 8 OF THE ONTARIO BUILDING CODE.
- CONTRACTOR SHALL VISIT THE SITE AND REVIEW ALL DOCUMENTATION TO DETERMINE SUITABLE METHODS OF CONSTRUCTION.
- INSPECTION BY THE REGULATING AUTHORITIES IS A REQUIREMENT BY SOME REGULATING AUTHORITIES AND IS STRONGLY RECOMMENDED BY GREEN VALLEY ENVIRONMENTAL INC.
- IT IS RECOMMENDED THAT ALL TREES WITHIN 5m OF THE BED AREA BE REMOVED TO PREVENT ROOTS FROM INFILTRATING THE SYSTEM.
- THE CONTRACTOR SHALL BE RESPONSIBLE TO LOCATE AND PROTECT ALL EXISTING UNDERGROUND SERVICES.
- SHOULD THE CONTRACTOR AT ANY TIME DURING CONSTRUCTION ENCOUNTER CONDITIONS THAT DIFFER FROM THE DESIGN CRITERIA IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO NOTIFY THE DESIGNER AND THE REGULATING AUTHORITY.
- GREEN VALLEY ENVIRONMENTAL INC. HAS PROVIDED DESIGNS BASED ON OUR INTERPRETATION OF THE ONTARIO BUILDING CODE AND THE TEST HOLES DUG ON THE PROPERTY.

Drawn by: JP	Drawn by: JP	Checked by: WS	
Rev.	Description	Date	Approved

Township	Plan#	Lot	Sublot	Con	
					Drwg. No. 56987-22
County:	Civic Address: 4835 BANK ST.				Date: 07/06/22 Scale: NTS

GREEN VALLEY ENVIRONMENTAL

On Site Sewage Treatment Plan for the Residence of:

THE HINDU TEMPLE OF OTTAWA CARLETON

Ottawa Septic System Office | Bureau des systèmes septiques d'Ottawa

Do Not Complete
Permit No 21-344
Revision No 1
Date April 28, 2022
Related Application

Permit
Part 8 – Sewage System
Ontario Building Code

A copy of this permit must be posted on the property at all time during construction. OBC, Division C — Part 1, Section 1.3.2.1

This permit verifies that the on-site sewage system was reviewed and approved for construction under the *Ontario Building Code* and *O.Reg. 323/12* as amended by *O.Reg. 151/13*.

Inspected & Recommended by: Ryan Hiemstra
Owner: Harish Gupta
Inspection Date & Time: April 28, 2022
Weather:
Civic Address: 4835 Bank Street (Assembly Building)
Legal: Lot 22, Con 5RF, Plan 5R3156
Osgoode: ☐ Cumberland: ☐ Gloucester: ☒

number of bedrooms:
NON-RESIDENTIAL
☐ Commercial
☐ Industrial
☒ Institutional
units:
finished floor area:
4000 L/day

pretreatment tank 3215 minimum L
effluent filter YES
pump rate Timer Dosed L/15 min
treatment unit Norweco HK 4730L-3M
number of units 1

...lls for	❒ yes	■ no
grain size analysis required	❒ yes	■ no
site to be scarified	■ yes	❒ no
clay seal inspection	❒ yes	■ no
mantle required	❒ yes	■ no
sub-grade inspection	■ yes	❒ no

ELEVATION ☐ In Ground ☒ Partially Raised ☐ Fully Raised

TYPE OF SYSTEM

❒ **Trench**
○ **Pipe and Stone** or ○ **Chambers**
type of chamber
loading area m²
total trench length m
trench configuration

❒ **Dispersal Bed**
○ BMEC ○ Type A ○ Type B
stone m²
sand m²
pipe
weight of sand kg

❒ **Shallow Buried Trench**
pipe length 156.96 m
orifice spacing 0.6 m

❒ **Filter Media Bed**
stone m²
extended base m²
pipe
weight of filter media kg
loading area m²

❒ **Class 5 Holding Tank**

❒ **Septic Tank Only**

Manager, Septic System Approvals: Jason Hill Permit Date: May 2, 2022
Comments: 1. No food preparation or food service within the assembly building

■ maintenance/pumping required ❒ ESA permit # required ■ engineer to verify ■ subgrade ■ squirt height
❒ Class 5 Holding Tank approval only valid for three years from date of issue

Manager, Septic System Approvals: Revision Date:
Comments:

NOTE: For further details, refer to corresponding application.

RENOVATION PERMIT #

B-22-014

Scan - Email -Phone
Folder – CanadaPost -PickUp Box

Ottawa Septic System Office | Bureau des systèmes d'épuration d'Ottawa

PART 10 & 11 - OSSO

3889 Rideau Valley Drive Box 599 Manotick, ON K4M 1A5

Phone: 613-692-3571 Press "4"

Fax: 613-692-1507 **Email: septic@rvca.ca**

Address of property: 4835 Bank Street Township: **Cum-Osg-Glo-Ott-Fit-Tor-Hun-Kan-Gou-Rid-Nep**

Contact for pickup: GVE Phone#/Email: --

INFORMATION FOR OWNER/APPLICANT

Attached is the completed plan review & comments for the proposed Renovation/Change of Use.

- Approval Part 10,11 – TWO (2) copies - attached:
  - APPLICANT – **Copy #1** to retain for own reference & records
  - **CITY – Copy #2 ** Agent/Property Owner is responsible for delivering directly to City Plans Examiner to append to concurrent building application package****

PLEASE NOTE

- A permit is valid for 12 months from the original date of issuance noted in field labelled "*permit date*". If lapsed, it is not renewable.

- No person shall make a material change or cause a material change to be made to a plan, specification, document or other information on the basis of which a permit was issued without notifying, filing details with and obtaining the authorization of the Chief Building Official. *(Building Code Act 1992, c.23, s.8(12))*

Visit our website for a detailed description of the review process

Ottawasepticsystemoffice.ca

Questions – Contact Reviewer

EAST of Rideau River: Cumberland, Osgoode, Gloucester, Ottawa

☐

WEST of Rideau River: Fitzroy, Torbolton, Huntley, Kanata, Goulbourn, Rideau, Nepean

☐ **Jason Hutton** **x1152** jason.hutton@rvca.ca

Thank You!

February 2020

Green Valley Environmental Inc.

LETTER OF AUTHORIZATION

Owner: Harish Gupta The Hindu Temple of Ottawa Carleton

Address: 4835 Bank St
Gloucester ON K1X 1G6

Phone No.: (613) 737-5939 **Cell No.:** (613) 866-2984

Work No.: **Fax No.:**

LOCATION OF PROPERTY:

Lot No.: 22

Concession No.: 5RF

Sub lot/Part No.:

R. Plan No.: 5R 3156

Civic Address: 4835 Bank St

Municipality: Gloucester

Roll No.:

Commercial: **(provide description of building and intended use)**
Existing Building

I, the above – mentioned authorize Green Valley Environmental Services to act as my agent to apply for and obtain a sewage system permit from the responsible Approval Agency.

Signature: Date: 7.06.2021

6107 First Line Rd. • P.O. Box 882 Manotick, Ontario, K4M 1A7 • Phone: (613) 692-2616 • Fax: (613) 692-1802
www.gvegroup.ca

RVCA RECEIVED
FEB 18 2022
REFER TO:

Reno Part 10,11
Change of Use

Application for a Permit to Construct or Demolish

This form is authorized under subsection 8(1.1) of the *Building Code Act, 1992*

For use by Principal Authority RENOVATION PERMIT #

Application number:	Permit number (if different): B-22-014
Date received:	Roll number: PART 10 & 11 - OSSO

Application submitted to: OTTAWA SEPTIC SYSTEM OFFICE
(Name of municipality, upper-tier municipality, board of health or conservation authority)

A. Project information

Building number, street name	Unit number	Lot/con.
4835 Bank St		22/5

Municipality	Postal code	Plan number/other description
Gloucester	K1X 1G6	5R 3156

Project value est. $	Area of work (m^2)

B. Purpose of application

New construction | Addition to an existing building | (Alteration/repair) | Demolition | Conditional Permit

Proposed use of building	Current use of building
Residential (Commercial) Other:	Residential (Commercial) Other:

Description of proposed work — Check ALL that apply

Add BEDROOMS Y N
Add FIXTURES Y N
Add FINISHED FLOOR AREA Y N
CHANGE of USE (Y)

If OTHER, please describe project here: Change to include the removal of kitchen facilities.

C. Applicant

Applicant is: Owner or ✓Authorized agent of owner

Last name	First name	Corporation or partnership
Pruner	Jacob	Green Valley Environmental Inc.

Street address	Unit number	Lot/con.
6107 First Line Rd		

Municipality	Postal code	Province	E-mail
North Gower	K4M 1A7	ON	engineering@gvegroup.ca

Telephone number	Fax	Cell number
(613) 692-2616	(613) 692-1802	(613) 229-5840

D. Owner (if different from applicant)

Last name	First name	Corporation or partnership
Gupta	Harish	The Hindu Temple of Ottawa Carleton

Street address	Unit number	Lot/con.
4835 Bank St		22/5

Municipality	Postal code	Province	E-mail
Gloucester	K1X 1G6	ON	harishgee@yahoo.com

Telephone number	Fax	Cell number
(613) 737-5939	( )	(613) 866-2984

RVCA RECEIVED
FEB 18 2022
REFERRED

RENOVATION PERMIT #
B-22-014

E. Builder (optional)			
Last name	First name	Corporation or partnership (if applicable)	
Street address		Unit number	Lot/con
Municipality	Postal code	Province	E-mail PART 10 & 11 - OSSO
Telephone number ( )	Fax ( )	Cell number ( )	

F. Tarion Warranty Corporation (Ontario New Home Warranty Program)		
i. Is proposed construction for a new home as defined in the *Ontario New Home Warranties Plan Act*? If no, go to section G.	Yes	No ✓
ii. Is registration required under the *Ontario New Home Warranties Plan Act*?	Yes	No ✓
iii. If yes to (ii) provide registration number(s): _____		

G. Required Schedules

i) Attach Schedule 1 for each individual who reviews and takes responsibility for design activities.

ii) Attach Schedule 2 where application is to construct on-site, install or repair a sewage system.

H. Completeness and compliance with applicable law		
i) This application meets all the requirements of clauses 1.3.1.3 (5) (a) to (d) of Division C of the Building Code (the application is made in the correct form and by the owner or authorized agent, all applicable fields have been completed on the application and required schedules, and all required schedules are submitted).	Yes ✓	No
Payment has been made of all fees that are required, under the applicable by-law, resolution or regulation made under clause 7(1)(c) of the *Building Code Act, 1992*, to be paid when the application is made.	Yes ✓	No
ii) This application is accompanied by the plans and specifications prescribed by the applicable by-law, resolution or regulation made under clause 7(1)(b) of the *Building Code Act, 1992*.	Yes ✓	No
iii) This application is accompanied by the information and documents prescribed by the applicable by-law, resolution or regulation made under clause 7(1)(b) of the *Building Code Act, 1992* which enable the chief building official to determine whether the proposed building, construction or demolition will contravene any applicable law.	Yes ✓	No
iv) The proposed building, construction or demolition will not contravene any applicable law.	Yes ✓	No

I. Declaration of applicant

I Jacob Pruner (print name) declare that:

1. The information contained in this application, attached schedules, attached plans and specifications, and other attached documentation is true to the best of my knowledge.
2. If the owner is a corporation or partnership, I have the authority to bind the corporation or partnership.

Date February 7 2022 Signature of applicant [signature]

Personal information contained in this form and schedules is collected under the authority of subsection 8(1.1) of the *Building Code Act, 1992*, and will be used in the administration and enforcement of the *Building Code Act, 1992*. Questions about the collection of personal information may be addressed to: a) the Chief Building Official of the municipality or upper-tier municipality to which this application is being made, or, b) the inspector having the powers and duties of a chief building official in relation to sewage systems or plumbing for an upper-tier municipality, board of health or conservation authority to whom this application is made, or, c) Director, Building and Development Branch, Ministry of Municipal Affairs and Housing 777 Bay St., 2nd Floor. Toronto, M5G 2E5 (416) 585-6666.

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RENOVATION PERMIT #
B-22-014
PART 10 & 11 - OSSO

Schedule 1: Designer Information

Use one form for each individual who reviews and takes responsibility for design activities with respect to the project.

A. Project Information

Building number, street name		Unit no.	Lot/con.
4835 Bank St.			22/5
Municipality	**Postal code**	**Plan number/ other description**	
Gloucester	K1X 1G6	5R 3156	

B. Individual who reviews and takes responsibility for design activities

Name		Firm	
Jacob Pruner		Green Valley Environmental Inc.	
Street address		**Unit no.**	**Lot/con.**
6107 First Line Rd.			
Municipality	**Postal code / Province**	**E-mail**	
North Gower	K4M 1A7 / ON	Engineering@gveg roup.ca	
Telephone number	**Fax number**	**Cell number**	
(613) 692-2616	(613) 692-1802	(613) 229-5890	

C. Design activities undertaken by individual identified in Section B. [Building Code Table 3.5.2.1. of Division C]

House	HVAC – House	Building Structural
Small Buildings	Building Services	Plumbing – House
Large Buildings	Detection, Lighting and Power	Plumbing – All Buildings
Complex Buildings	Fire Protection	On-site Sewage Systems

Description of designer's work

Review Proposed Changes to determine change of use

D. Declaration of Designer

I Jacob Pruner declare that (choose one as appropriate):
(print name)

I review and take responsibility for the design work on behalf of a firm registered under subsection 3.2.4.of Division C, of the Building Code. I am qualified, and the firm is registered, in the appropriate classes/categories.

Individual BCIN: 113751

Firm BCIN: 16035

I review and take responsibility for the design and am qualified in the appropriate category as an "other designer" under subsection 3.2.5.of Division C, of the Building Code.

Individual BCIN: _____

Basis for exemption from registration: _____

The design work is exempt from the registration and qualification requirements of the Building Code.

Basis for exemption from registration and qualification: _____

I certify that:

1. The information contained in this schedule is true to the best of my knowledge.
2. I have submitted this application with the knowledge and consent of the firm.

Date February 7 2022 Signature of Designer

NOTE:

1. For the purposes of this form, "individual" means the "person" referred to in Clause 3.2.4.7(1) (c).of Division C, Article 3.2.5.1. of Division C, and all other persons who are exempt from qualification under Subsections 3.2.4. and 3.2.5. of Division C.
2. Schedule 1 is not required to be completed by a holder of a license, temporary license, or a certificate of practice, issued by the Ontario Association of Architects. Schedule 1 is also not required to be completed by a holder of a license to practise, a limited license to practise, or a certificate of authorization, issued by the Association of Professional Engineers of Ontario.

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Schedule 2: Sewage System Installer Information

PART 10 & 11 - OSSO

A. Project Information			
Building number, street name: 4835 Bank St		Unit number	Lot/con: 22/5
Municipality: Gloucester	Postal code: K1X 1G6	Plan number/ other description: 5R 3156	

B. Sewage system installer

Is the installer of the sewage system engaged in the business of constructing on-site, installing, repairing, servicing, cleaning or emptying sewage systems, in accordance with Building Code Article 3.3.1.1, Division C?

Yes (Continue to Section C) ✓ No (Continue to Section E) Installer unknown at time of application (Continue to Section E)

C. Registered installer information (where answer to B is "Yes")

Name			BCIN	
Street address			Unit number	Lot/con.
Municipality	Postal code	Province	E-mail	
Telephone number ( )	Fax ( )		Cell number ( )	

D. Qualified supervisor information (where answer to section B is "Yes")

Name of qualified supervisor(s)	Building Code Identification Number (BCIN)

E. Declaration of Applicant:

I Jacob Pruner declare that:
(print name)

I am the applicant for the permit to construct the sewage system. If the installer is unknown at time of application, I shall submit a new Schedule 2 prior to construction when the installer is known;

OR

I am the holder of the permit to construct the sewage system, and am submitting a new Schedule 2, now that the installer is known.

I certify that:

1. The information contained in this schedule is true to the best of my knowledge.
2. If the owner is a corporation or partnership, I have the authority to bind the corporation or partnership.

Date February 7 2022 Signature of applicant [signature]

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~~Schedule 13~~

Part 10 & 11 Site Amendment

Check All that apply to project

Site Amendment/Description of Proposed Change/Renovation

☐ Residential

☑ Commercial Property

Bedrooms:	#Existing		+ #Proposed		=		
Fixture Units	#Existing		+ #Proposed		=		Schedule 8
Floor Area	#Existing		+ #Proposed		=		(m^2)

☐ Exceeding 15% of the gross area of the dwelling units for proposed addition

☐ Change in Use:
- Major occupancy (e.g. residential to commercial)
- Occupant load (e.g. Office to warehouse)

Please describe proposed use:
Removal of kitchen facilities.

☐ Installation of a POOL not meeting O.B.C Regulation setback distances

☐ Installation of a DECK not meeting O.B.C Regulation setback distances

Required attachments

To be supplied by applicant/agent at applicant's expense:

1. **One** of the following documents to **DESCRIBE CURRENT SEPTIC SYSTEM** (ONE x1 copy):
   A. Copy of current sewage system approval (Use permit/ Certificate of Completion)
   B. Professional engineer's report indicating size and location of system

2. **Each** of these documents to **DESCRIBE PROPOSED RENOVATION** (ONE x1 copy)
   A. Copy of site plan: Drawn to scale, indicating the layout of the existing building, well, other structures i.e shed,workshop,cabana
   B. Completed Reno 10,11 Application Form
   C. Copy of Building Plans: Drawn to scale, showing the changes/additions as proposed

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Schedule 8
Fixture unit count

Fixtures	3 Apartment		Worship Bldg	X	unit count	=	Fixture Count	
Bathroom								
Bathroom group (toilet, sink and tub **or** shower) installed in the **same** room	3	+		X	6	=	18	
Bathtub with/without overhead shower		+	2	X	1.5	=		3
Shower stall		+		X	1.5	=		
Wash basin (SINK) (1½inch trap)		+	6	X	1.5	=		9
Watercloset (TOILET) tank operated		+	4	X	4	=		16
Bidet		+		X	1	=		
Kitchen								
Dishwasher		+		X	1	=		
Sink with/without garbage grinder(s), domestic and other small type single, double or 2 single with a common trap	3	+	2	X	1.5	=	45	3
Other								
Domestic washing machine	1	+		X	1.5	=	1.5	
Combination sink and laundry tray single or double (Installed on 1½ trap)		+		X	1.5	=		
						*Total:	24	31

***Insert the TOTAL in Schedule 13** (0.Reg 151/13 Table 7.4.9.3) Total: 55

1. **Sump pumps and floor drains are not to be connected to the sewage system.** Connection of such fixtures to a sewage system may lead to a hydraulic failure of the said system. The above mentioned fixtures should be discharged separately to an approved Class 2 (leaching pit) sewage system.
2. Where laundry waste is not more than 20% of the total daily design sanitary sewage flow, it may discharge to a sewage system (Part 8, OBC, 8.1.3.1(2)).

Agent/Owner signature **Date** February 7 2022

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Do Not Complete
Permit No B-22-014
Revision No _____
Date _____

Permit

Part 10/11- Change of Use/Renovation
Ontario Building Code

This permit verifies that the on-site sewage system was reviewed under the *Ontario Building Code* and *Ontario Regulation 350/06* as amended by *Ontario Regulation 503/09*

Reviewed & Recommended by: Ryan Hiemstra
Owner: Harish Gupta
Civic Address: 4835 Bank Street (Existing Building
Legal: Lot 22, Con 5RF, Plan 5R3156
Roll #: _____

****NON-RESIDENTIAL****
- ☐ Commercial _____
- ☐ Industrial _____ m²
- ☒ Institutional _____

Existing number of bedrooms _____
Existing finished floor area _____ m²
Existing number of fixture units _____

Proposed design flow 4825 L/day
Existing design flow _____ L/day

Type of system: ☑ Trench ☐ Filter Media Bed ☐ Area Bed ☐ Treatment Unit ☐ Effluent filter

Bed Configuration _____ runs at _____ m _____

Tank size _____L

see OSSO permit # 21-343 for replacement system

☐ **Permit Refused By:**

_____ _____
Terry K. Davidson, P.Eng., Manager Septic System Approvals — Date

Permit Refused for the following reasons:

_____
_____
_____
_____

- ☐ Contact a licensed installer
- ☐ Must obtain a permit for tank replacement
- ☐ Must obtain a permit for new sewage system
- ☐ Must obtain a permit for effluent filter and riser
- ☐ Building plans required
- ☐ Septic system records required
- ☐ Engineer's assessment of septic system required

☑ **Permit Approved and Issued By:**

Jason Hutt _____ May 2, 2022
Terry K. Davidson, P.Eng., Manager - Septic System Approvals — Permit Date

Details and Conditions of Approval:
1. Refer to OSSO permit # 21-343 for replacement system
2. Kitchen facilities to be removed
3. No food preparation or food service within the worship building

_____ _____
Terry K. Davidson, P.Eng., Manager - Septic System Approvals — Revision Date

Details and Conditions of Approval:

_____
_____
_____

*****Note: this permit is valid for 12 months from the date of signing. It is not renewable.*****