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February 11, 2025

PH4600-LET.01.REV.05

Premier Bus Lines Inc.
135 Cardevco Road
Ottawa, Ontario
K0A 1L0

Attention: Eric Hochgeschurz

Subject: **Hydrogeological Assessment and Terrain Analysis**
135 Cardevco Road
Ottawa (Carp), Ontario

INTRODUCTION

Further to your request, Paterson has conducted a Hydrogeological Assessment and Terrain Analysis in support of a Site Plan Control Application for the proposed commercial building addition located at 135 Cardevco Road in Ottawa (Carp), Ontario.

The purpose of this work has been to determine the suitability of the water supply aquifer underlying the site to support the Site Plan Application for a proposed building addition.

The Subject Site consists of a 0.20 ha lot and is currently occupied by a commercial building with associated private infrastructure. The ground surface generally slopes towards the north-east while the general groundwater flow is likely towards the south towards the local watercourse.

The Subject Site is bordered on all sides by commercial properties and fronts onto Cardevco Road to the northeast. The subject site itself and the surrounding commercial areas are zoned RG4 for Rural General Industrial Subzone 4 (GeoOttawa).

A Hydrogeological pre-consultation was completed with a City of Ottawa Hydrogeologist on August 31, 2022. The City Hydrogeologist suggested that additional sampling be completed during the 8-hour pumping test for Petroleum Hydrocarbons (PHC's) in addition to the standard Subdivision Package suite of parameters, trace metals and Volatile Organic Compounds (VOC's) required by the City of Ottawa Hydrogeological and Terrain Analysis Guidelines (HTAG).

DESCRIPTION OF SUBJECT SITE

The subject site is an approximately 0.20 ha lot and is currently occupied by a one story commercial building. The Site Plan application is for a proposed building addition. A portion of the existing building is to be demolished and replaced with a new addition which will be smaller than the existing building. Please refer to Figure-1 Key Plan and Arbaum Architects Drawing A-010, Demolition / New Site Plan dated February 5, 2025 attached for the proposed site location and site layout.

The subject site is currently serviced by an onsite sewage system and a existing private drilled well. A new sewage system is proposed to be located in the same location as the old sewage system. Paterson has completed a replacement sewage system design for the proposed development, due to the nitrate reduction required a part of the Nitrate Impact Assessment (NIA). A septic flow calculation was completed and resulted in a total daily water demand calculation of 876 L/day. Please refer to Paterson Drawing PH4600-1(rev.04) – Sewage System Layout Plan dated August 2024 attached for specific details of the new sewage system.

The existing well, hereafter referred to as Test Well 1 (TW1) is the well which is currently servicing the existing building and will continue to service the building following the completion of the proposed building addition. The property owner will need to ensure that protective measures are taken to protect the wellhead, such as the use of a barrier, when constructing the proposed building addition.

The suitability of the aquifer to supply the subject site was assessed using the methodology provided in City of Ottawa Hydrogeological and Terrain Analysis Guidelines (HTAG).

Based on available Ontario Geological Survey (OGS) mapping (GRS005), the subject site is within an area of potential karst. According to the WWR for TW1, bedrock is located at approximately 4.9 m below ground surface (bgs). TW1 has well casing extending to a depth of 6.7 m bgs, and an aquifer intercept of 25 m. Based on the depth of the aquifer intercept and the geochemistry encountered within the aquifer (see table 2a and 2b, below), there is no evidence of surficial impacts on the aquifer. Furthermore, the well has been in use for over a decade with no evidence of surficial impacts, therefore, it is not anticipated that there is karst within the subject site.

MISSISSIPPI-RIDEAU SOURCE PROTECTION PLAN

The Mississippi-Rideau Source Protection Plan (MRSPP) provides guidance as to which policies apply to a given property, municipality or specific activity and if there are specific designations that apply to the area. The subject site and surrounding areas have been designated as a Significant Groundwater Recharge Area (SGRA), Highly Vulnerable Aquifer (HVA), and Intake Protection Zone (IPZ) Zone 3 within the MRSPP, and are identified as three of four groundwater related vulnerable areas identified within the Clean

Water Act (2006). The four vulnerable areas consist of SGRA, HVA, IPZ and wellhead protection area (WHPA).

Based upon the designation of an SGRA, IPZ Zone 3 and HVA, the MRSPP provides a list of activities that are prohibited, managed or encouraged to change dependent upon the vulnerable area type. The subject site is mapped to be in IPZ zone 3 (Source Protection Atlas), however has an IPZ score of less than 8 (MRSPP). There is no prohibition of land uses on the subject site based upon its existing usage.

Therefore, there are no related requirements for an HVA, an IPZ with a score of less than 8 or SGRA at this location.

FIELDWORK PROGRAM

Well Inspection

A visual inspection of TW1 was performed by Paterson personnel which confirmed that the well casing and cap are in good condition. The final grading around the well will be sufficiently graded to direct surface water away from the wellhead (as required by O.Reg 903) at the time of the new sewage system installation. The stickup was measured to be 0.51 m above ground surface. Based on a visual inspection by Paterson personnel, the well was deemed to be in good condition.

Well Testing

As a means to demonstrate the adequacy of the aquifer underlying the subject lands, with respect to water quality and quantity, the existing drilled well (TW1) on the subject site was tested. TW1 has a Water Well Record (WWR) Well ID of A134668. TW1 has a 152.4 mm diameter steel casing that extends to 6.7 m below ground surface (bgs) with a 0.51 m stick up. The well itself extends to a depth of 30.5 m bgs. Based on available geological mapping, the drift thickness at TW1 varies from 5 to 10 m. Refer to Paterson Drawing PH4600-1(rev.4) – Sewage System Layout Plan, attached, for the approximate location of TW1.

As a means to evaluate the water supply aquifer intercepted by the well, the well was subjected to an 8-hour constant rate pumping test. The pumping test was conducted on September 22, 2022 under the full-time supervision of Paterson personnel. Prior to the pumping test the well was disinfected as per the MECP Disinfection Instruction Sheet (attached), and a data-logger was installed to monitor the background groundwater levels.

The existing submersible pump was used for the 8-hour pumping test. A licensed water well technician (Air Rock) completed the necessary plumbing related activities. The discharge line was placed at a sufficient distance to ensure that the discharge water was being directed away from the well as well as any septic systems in the area. Upon completion of the test, the system was returned to its normal configuration.

The pumping test was carried out at a pumping rate of 27 L/min for a duration of 8 hours. During the pumping test, the pumping rate was periodically measured using the timed volume correlation method. The pumping rate was maintained within 5% of the selected pumping rate. The static water level was recorded manually and an electric datalogger (VanEssen TD-Diver) was installed in the test well prior to the start of the pumping test.

The selected rate of 27 L/min provides approximately 14.8 times the maximum total daily design volume of 876 L/day for the septic system during the 8-hour pumping test. The total daily design sanitary sewage flows (TDDSSF) were calculated as per the Ontario Building Code Section 8.2.1.3. The detailed calculations can be found in Paterson's Drawing PH4600-2(rev.4) - Sewage System Details and Notes, attached to this report. The rate was determined to be representative of a flow rate which would be in excess of what the development would require.

The data logger recorded water levels at 30 second intervals. In addition, manual water level readings were taken at periodic intervals during the test.

Recovery data was collected from the well following the completion of the pumping. The well was noted to have achieved 95% recovery approximately 21 minutes after the completion of pumping.

Groundwater samples were collected at 4 hours and 8 hours after the start of pumping. Prior to collection of the groundwater samples, the free chlorine residual was verified as non-detectable. The water samples were submitted for comprehensive testing of bacteriological, chemical, and physical water quality parameters consistent with the standard "Subdivision Supply" suite of parameters plus trace metals, VOCs, and PHCs.

All samples were collected unfiltered and unchlorinated and were placed directly into clean bottles supplied by the analytical laboratory. Samples were placed immediately into a cooler with ice and were transported directly to Environmental Testing Canada Inc.(Eurofins) laboratory in Ottawa. All samples were received by the laboratory within 24 hours of collection.

A series of field tests of the pumped water were carried out at the well head during the 8 hour pumping test. The parameters tested at the well head included: pH, total dissolved solids, conductivity, turbidity, true colour, and temperature. Calibration / confirmation of calibration of all field-testing equipment was performed in Paterson's laboratory the day prior to the pumping test. Values are then confirmed again onsite prior to the start of the pumping test.

Aquifer Analysis

Water Quantity

Pumping test data was analyzed using AQTESOLV Pro Version 4 aquifer analysis software package by HydroSOLVE Inc. Drawdown data was measured using an electronic water level tape and an electronic datalogger unit.

Table 1: SUMMARY OF WATER SUPPLY AQUIFER CHARACTERISTICS OF TW1	
AQUIFER PARAMETER	**RESULT OF ANALYSIS**
Transmissivity (m^2/day)	17.2
Pumping Rate (L/min)	27
Pre-test Static Water Level (m)	2.3
Post-test Static Water Level (m)	Max – 4.3, End – 3.7
Available Drawdown (m)	28.2
% Drawdown During Pumping Test (%)	7
Specific Capacity (L/min/m drawdown)	13.5

The drawdown data was analyzed using the Theis and Cooper Jacob methods of analysis. Aquifer transmissivity is estimated to be 17.2 m^2/day. Refer to the Theis and Cooper Jacob methods of analysis data sheets attached to this report.

As demonstrated by the measured values, the water level in the well was increasing variably as the pumping test was performed. As the water level increased variably during the constant pumping portion of the test, it is expected that the aquifer which TW1 accesses is connected with other wells in the area. The water level variations occurred within the expected commercial operating hours in the immediate surrounding vicinity of the subject site.

The pumping test results show that TW1 has a high yield to support the water demands that may be required. Overall maximum drawdown at a constant pumping rate for a period of 8 hours was approximately 4.3 m at approximately 2 hours into the pumping test (7% of the available drawdown). The final drawdown at the end of the 8 hour pumping test was 3.7 m (5 % of the available drawdown) 95% recovery was achieved approximately 21 minutes after the end of pumping.

The total volume of water pumped during the 8-hour pumping event was approximately 12,960 L. This is approximately 14.8 times the maximum total daily design volume of water (876 L/d) required to support the Site Plan Control Application.

The suitability of the aquifer to supply the proposed Site Plan Application for the proposed commercial modification was assessed using the methodology provided in the City of Ottawa Hydrogeological and Terrain Analysis Guidelines (HTAG).

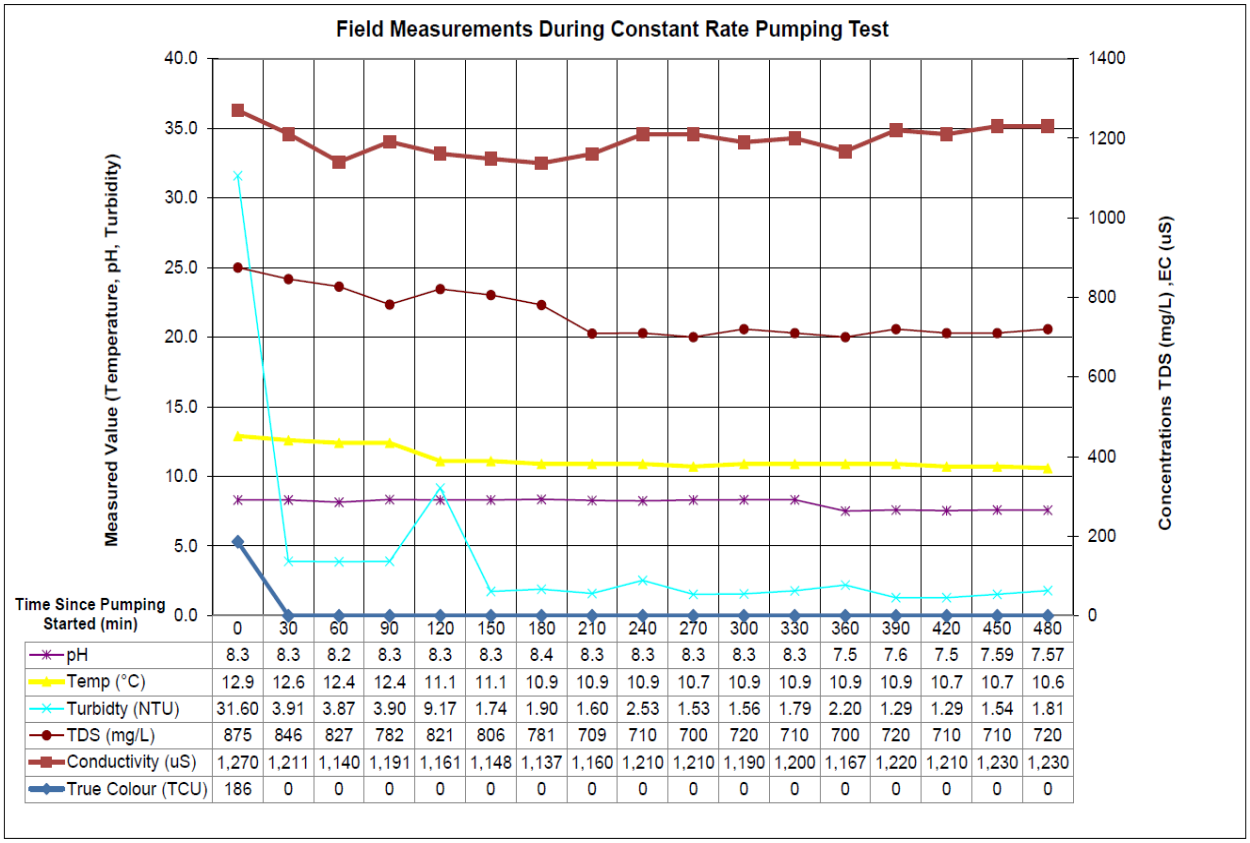
Based on the information summarized in Table 1, it is readily apparent that the water supply well has intercepted an adequately strong water supply aquifer which has sufficient quantity to service the proposed Site Plan Control Application.

Given the analyses presented and summarized above, it is our opinion that there is an adequate supply of water to support the proposed Site Plan Control Application. Available water well records (WWR) of the neighboring properties on the MECP Well Record mapping website indicated that the wells were screened in limestone. Surrounding WWR's are attached to this report.

Water Quality

Field Data

Turbidity, electrical conductivity, total dissolved solids (TDS), pH, true color and temperature were measured at the wellhead during the pumping test. The measurements and time intervals for each of these parameters are summarized on the graphical representation below. In addition, a HACH Pocket Colorimeter II chlorine reader was used to measure the free chlorine residual level. No chlorine residual was detected in the discharge water prior to the collection of the water samples.



Time Since Pumping Started (min)	0	30	60	90	120	150	180	210	240	270	300	330	360	390	420	450	480
pH	8.3	8.3	8.2	8.3	8.3	8.3	8.4	8.3	8.3	8.3	8.3	8.3	7.5	7.6	7.5	7.59	7.57
Temp (°C)	12.9	12.6	12.4	12.4	11.1	11.1	10.9	10.9	10.9	10.7	10.9	10.9	10.9	10.9	10.7	10.7	10.6
Turbidty (NTU)	31.60	3.91	3.87	3.90	9.17	1.74	1.90	1.60	2.53	1.53	1.56	1.79	2.20	1.29	1.29	1.54	1.81
TDS (mg/L)	875	846	827	782	821	806	781	709	710	700	720	710	700	720	710	710	720
Conductivity (uS)	1,270	1,211	1,140	1,191	1,161	1,148	1,137	1,160	1,210	1,210	1,190	1,200	1,167	1,220	1,210	1,230	1,230
True Colour (TCU)	186	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Laboratory Data

The Subdivision Package suite of parameters and trace metals laboratory water quality obtained from the pumping test of TW1 is provided in Table 2a and 2b below and the laboratory analyses reports can be found attached. VOC and PHC laboratory analytical testing were completed and measured to be non-detect in the sample results. All laboratory test results can be found attached to this report.

TABLE 2a: GROUNDWATER MICROBIOLOGY & GENERAL GEOCHEMISTRY

PARAMETER	UNITS	ODWS		TW1	
		LIMIT	TYPE	GW1 (4 hr) 2022-09-22	GW2 (8 hr) 2022-09-22
MICROBIOLOGICAL					
Escherichia Coli (E.Coli)	ct/100mL	0	MAC	0	0
Total Coliforms	ct/100mL	0	MAC	0	0
GENERAL CHEMICAL - HEALTH RELATED					
Fluoride (F)	mg/L	1.5	MAC	0.41	0.42
Ammonia ($N\text{-}NH_3$)	mg/L	-	-	0.14	0.13
Nitrite ($N\text{-}NO_2$)	mg/L	1	MAC	<0.10	<0.10
Nitrate ($N\text{-}NO_3$)	mg/L	10	MAC	<0.10	<0.10
Total Kjeldahl Nitrogen	mg/L	-	-	0.36	0.19
Turbidity (Field)	NTU	1.0 (5.0)	MAC/AO	2.53	1.81
Turbidity (Laboratory)	NTU	1.0 (5.0)	MAC/AO	13.2	11.6
GENERAL CHEMICAL - AESTHETIC RELATED					
Alkalinity (as CaCO3)	mg/L	30-500	OG	287	289
Chloride (Cl)	mg/L	250	AO	185	191
Colour (Apparent)	TCU	5	AO	90	86
Colour (Field - True)	TCU	5	AO	0	0
Conductivity	uS/cm	-	-	1,160	1,180
Dissolved Organic Carbon	mg/L	5	AO	3.50	3.20
Hardness (as CaCO3)	mg/L	100	OG	457	462
Ion Balance	unitless	-	-	1.01	1.01
pH	unitless	6.5-8.5	AO	8.15	8.15
Phenols	mg/L	-	-	<0.001	<0.001
Sulphate (SO_4)	mg/L	500	AO	75	75
Sulphide (S_2)	mg/L	0.05	AO	0.02	0.02
Tannin & Lignin	mg/L	-	-	1.30	1.20
Total Dissolved Solids	mg/L	500	AO	754	767

1. ODWS identifies the following types of parameters:
   MAC = Maximum Allowable Concentration
   AO = Aesthetic Objective
   OG = Operational Guideline
2. Shaded Concentration Indicates an Exceedance of the ODWS Objective

TABLE 2b: GROUNDWATER GEOCHEMISTRY - METALS					
PARAMETER	UNITS	ODWS		TW1	
		LIMIT	TYPE	GW1 (4 hr) 2022-09-22	GW2 (8 hr) 2022-09-22
Volatiles					
Aluminum (Al)	mg/L	0.1	OG	<0.01	<0.01
Antimony (Sb)	mg/L	0.006	IMAC	<0.0005	<0.0005
Arsenic (As)	mg/L	0.01	IMAC	<0.001	<0.001
Barium (Ba)	mg/L	1.0	MAC	0.58	0.59
Beryllium (Be)	mg/L	-	-	<0.0005	<0.0005
Boron (B)	mg/L	5.0	IMAC	0.02	0.02
Cadmium (Cd)	mg/L	0.005	MAC	<0.0001	<0.0001
Calcium (Ca)	mg/L	-	-	127	129
Chromium (Cr)	mg/L	0.05	MAC	<0.001	<0.001
Cobalt (Co)	mg/L	-	-	<0.0002	<0.0002
Copper (Cu)	mg/L	1.0	AO	<0.001	<0.001
Iron (Fe)	mg/L	0.3	AO	1.34	1.21
Lead (Pb)	mg/L	0.01	MAC	<0.001	<0.001
Magnesium (Mg)	mg/L	-	-	34	34
Manganese (Mn)	mg/L	0.05	AO	0.13	0.13
Mercury (Hg)	mg/L	0.001	MAC	<0.0001	<0.0001
Molybdenum (Mo)	mg/L	-	-	<0.005	<0.005
Nickle (Ni)	mg/L	-	-	<0.005	<0.005
Potassium (K)	mg/L	-	-	3	3
Selenium (Se)	mg/L	0.05	MAC	<0.001	<0.001
Silver (Ag)	mg/L	-	-	<0.0001	<0.0001
Sodium (Na)	mg/L	200	AO	79	82
Strontium (Sr)	mg/L	-	-	0.72	0.724
Thallium (Tl)	mg/L	-	-	<0.0001	<0.0001
Uranium (U)	mg/L	0.02	MAC	<0.001	<0.001
Vanadium (V)	mg/L	-	-	<0.001	<0.001
Zinc (Zn)	mg/L	5.0	AO	<0.01	<0.01

1. ODWS identifies the following types of parameters:
   MAC = Maximum Acceptable Concentration
   IMAC = Interim Maximum Acceptable Concentration
   AO = Aesthetic Objective
   OG = Operational Guideline
2. Shaded Concentration Indicates an Exceedance of the ODWS Objective

The bacteriological test results (Certificate of Analysis – Report No. 1986671) indicated that the test samples at the 4 and 8 hour interval were non-detect (0 ct/100 mL) for E.Coli and Total Coliforms.

The water quality of the subject water supply well meets all the Ontario Drinking Water Standards maximum acceptable concentrations (MAC). Furthermore, the water meets all of the Aesthetic Objectives (AO) and Operational Guidelines (OG) with the exception of the following.

- ❑ Hardness (as $CaCO_3$)
- ❑ Total Dissolved Solids (TDS)
- ❑ Iron (Fe)
- ❑ Manganese (Mn)

Exceedances of the above parameters are not uncommon of the water supply in the subject aquifer. Each of these groundwater parameters are discussed in detail below.

Should any water treatment be desired by the owner, it is recommended that a water treatment specialist be retained to ensure that water treatment occurs in a safe manner.

Hardness as $CaCO_3$

Hardness, expressed as calcium carbonate, is an operation guideline and does not appear in the ODWS. Rather, it appears in the Technical Support Documents for Ontario Drinking Water Standards, Objectives and Guidelines as a parameter with an operational guideline at 100 mg/L. At the measured concentrations of 457 and 462 mg/L, the water is considered to be hard, however, it is below the reasonable treatable limit of 500 mg/L specified in Table 3 of the MOECC guidance document Procedure D-5-5 (1996).

The Langelier calculation provided an LSI of 1.0. Based on the evaluation of the result, the water is super saturated and tends to precipitate a scale layer of calcium carbonate (scale forming but non-corrosive). Based on the range of stability in the positive direction, there are no mitigative measures needed. See Langelier Saturation Index Calculation attached for calculation details.

It is recommended that water hardness be treated using conventional technologies such as water softening or reverse osmosis, if desired by the owner. Without treating hardness, scaling can occur which can result in discolouration and residue buildup on water fixtures, or reduction in boiler efficiency due to scale build-up. According to Health Canada's *Guidelines for Canadian Drinking Water Quality - Summary Tables* "Although hardness may have significant aesthetic effects, a guideline has not been established because public acceptance of hardness may vary considerably according to the local conditions; major contributors to hardness (calcium and magnesium) are not of direct public health concern".

Total Dissolved Solids (TDS)

TDS refers to the concentration of inorganic substances dissolved in water. The main constituents are typically chloride, sulphates, calcium, magnesium, and bicarbonates. The TDS concentration of 767 mg/L exceeds the Aesthetic Objective of 500 mg/L. At concentrations above 500 mg/L, some consumers may find the taste objectionable,

however, as the objective is an aesthetic objective, no treatment is required. It is recommended that a point of use reverse osmosis unit be installed, if the owner desires, for drinking purposes. As such, no taste problems will occur when the system is used.

The Langelier calculation provided an LSI of 1.0. Based on the evaluation of the result, the water is super saturated and tends to precipitate a scale layer of calcium carbonate (scale forming but non-corrosive). Based on the range of stability in the positive direction, there are no mitigative measures needed. See Langelier Saturation Index Calculation attached for calculation details.

Iron

Concentrations of iron above 0.3 mg/L can contribute to staining of fixtures and a metallic taste at higher concentrations. Precipitation of iron can promote the growth of iron bacteria in pipes. The concentration of iron in the groundwater in TW1 was measured to be 1.21 and 1.31 mg/L. The concentration of iron in the groundwater in the test well is considered to be reasonably treatable in accordance with Procedure D-5-5. It is recommended that a water softener or manganese greensand filter be used to reduce the levels of iron and reduce the potential for excessive precipitate occurring in the water supply system, if desired by the property owner. If treatment is not used, negative impacts such as discolouration of water fixtures, precipitation of iron and staining may occur.

Manganese

The manganese concentration results from the laboratory test samples yielded a value of 0.13 mg/L in the onsite well, which is above the aesthetic objectives in the ODWSOG of 0.05 mg/L. The Health Canada Federal Drinking Water Guidelines have suggested a health related MAC of 0.12 mg/L due to potential adverse effects on the central nervous system primarily in infants due to chronic exposure, however this guideline has not been implemented by Ontario as of the writing of this report. Furthermore, this is a commercial development that is not raising infants.

According to the Guidelines for Canadian Drinking Water Quality: Guideline Technical Document – Manganese, section 3: “Specific guidance related to the implementation of drinking water guidelines should be obtained from the appropriate drinking water authority in the affected jurisdiction.”. The applicable regulations which apply to the development approval process for this site are the HTAG and MECP Procedure D-5-5, which does not have a MAC for manganese.

Procedure D-5-5 gives a maximum concentration considered reasonably treatable for manganese as 1.0 mg/L. It is recommended that a reverse osmosis system, ion exchange / water softeners and / or an oxidizing filter be used to reduce the manganese concentration, if desired by the owner.

As the concentration of manganese is elevated above the Health Canada Federal Drinking Water Guidelines, a notice regarding the elevated levels of manganese in the

aquifer accessed by TW1 is recommended to be registered on title so that future owners are made aware.

The City of Ottawa (Ottawa Public Health) has prepared a Manganese in drinking Water Factsheet, which can be found attached to this report.

Colour

Colour may occur in drinking water for several reasons. It may be due to organic substances from the decay of vegetation, or the presence of metals such as iron, manganese, and copper, which are abundant in nature. The provincial aesthetic objective for colour in drinking water is 5 True Colour Units (TCU). The federal (Health Canada) guideline aesthetic objective limit for colour is 15 TCU (Guidelines for Canadian Drinking Water Quality, Health Canada June 2019). Procedure D-5-5 gives a maximum concentration considered reasonably treatable for colour as 7 TCU. As colour is a strictly aesthetic parameter, a manganese greensand filter or a carbon filter can be used to reduced manganese from the water supply, if desired by the owner.

During the field pumping test, a DR900 colorimeter was used to measure true colour in the groundwater at regular intervals. True colour in the groundwater was measured as 0 TCU which is below the aesthetic guidelines of 15 TCU. The elevated apparent colour levels detected in the lab samples is attributed to the precipitation of iron and manganese out of the groundwater.

Turbidity

Turbidity, which is generally an aesthetic parameter, was detected in the laboratory test samples at values of 13.2 and 11.6 NTU in the 4 and 8 hours tests, respectively. Field testing detected the samples at values of 2.53 and 1.81 NTU in the 4 and 8 hour field tests, respectively. Continued pumping showed a decrease towards the end of the test. It is expected that continued use of the well would further reduce turbidity values. The elevated turbidity in the laboratory analyzed samples is attributed to the precipitation of iron and manganese. Therefore, it is anticipated that turbidity levels will also decrease due to treatment of other constituents, if treatment is desired by the owner.

During the pumping test, a Hanna Instruments HI98703 Fast Tracker Turbidity Meter was used to measure the turbidity in the groundwater at regular intervals. The ODWS maximum acceptable concentration for turbidity in drinking water entering the distribution system is 1 NTU. The Aesthetic Objective for turbidity in drinking water reaching the consumer is 5 NTU. The field test parameters are below the 5 NTU objective. As turbidity was detected above 1 NTU, particular care must be taken during testing to ensure that the bacteria requirements of Table 1 are met. The bacteriological test results indicated that the test samples at the 4 and 8 hour interval were non-detect (0 ct/100 mL) for E.Coli and Total Coliforms.

Sodium

Sodium (Na), an aesthetic parameter, was detected in the laboratory test sample at concentrations of 79 and 83 mg/L, which does not exceed the ODWS aesthetic objective of 200 mg/L. Although sodium is not toxic and no maximum acceptable concentration has been set, concentrations above 20 mg/L require that the Medical Officer of Health be notified of the water quality results, so that this information may be passed on to local physicians for use in treatment of those requiring a sodium-restricted diet. It should be noted that some water treatment technologies, such as water softeners, can increase the sodium concentration so care should be given if such treatment technologies are used.

Terrain Analysis

Surficial Geology

A series of test pits were put down on the subject parcel to delineate the subsurface soil conditions as part of the Geotechnical Investigation (Paterson Report PG6018-1.REV.04 dated November 24, 2023). On November 12, 2021 five (5) test pits were excavated on the property for the design of the proposed building addition and its associated infrastructure. The test pits were advanced to a maximum depth of 3.5 m below ground surface (bgs). Two test pits were excavated within the vicinity of the proposed southern warehouse addition, whereas the other three test pits were excavated adjacent to the exterior footings of the northern portion of the existing warehouse The locations of the test pits on the property are delineated on the Test Hole Location Plan, drawing PG6018-1, attached.

The test pit locations were recorded and the subsurface conditions, including the soil morphology and depth to the groundwater table (if encountered), were carefully observed and recorded. The soils encountered were classified texturally in the field, and later reviewed in the laboratory.

Generally, the subsurface profile at the test hole locations were observed to consist of asphalt or topsoil overlying a fill layer consisting of crushed stone and brown silty sand with gravel, occasional cobbles and trace asphalt. A brown silty sand was noted to be underlying the fill layer in all test hole locations, except for TP5-21 which consisted of a brown silty sand with gravel, cobbles and boulders (glacial till). Refusal to excavation was encountered in TP5-21 at a depth of 2.2 m bgs. Groundwater was encountered at TP4-21 at 2.0 m bgs, and at TP5-21 at 1.9 m bgs.

It should be noted that groundwater levels can fluctuate both seasonally and in conjunction with precipitation events. Therefore, the groundwater levels could vary at the time of construction.

Reference should be made to the test pit logs appended to this report for the details of the soil profiles encountered at each test hole location. The client should be aware that any information pertaining to soils are furnished as a matter of general information only and borehole descriptions are not to be interpreted as descriptive of conditions at locations other than those described by the boreholes themselves.

Hydrogeological Sensitivity of the Site

The subject site currently consists of a commercial building, associated infrastructure and private servicing. The subject site is serviced by a private well and septic system. The subject site is currently occupied by a one-storey commercial building which fronts onto Cardevco Road. The subject site is bordered to the north, east and west by developed commercial properties and to the south by Cardevco Road followed by additional

developed commercial properties. All surrounding properties are on private services. The adjacent properties are serviced by private wells and septic systems.

The overburden at the test hole locations generally consists of a fill overlying a brown silty sand. Refusal to excavation was only encountered in TP5-21 at a depth of 2.2 m bgs. According to available geological mapping, the drift thickness within the site varies from 5 to 10 m bgs.

According to the geotechnical field investigation, the overburden thickness was observed to be greater than 2 m. As the proposed site does not have bedrock within 2 m of the ground surface, the site is not considered hydrogeologically sensitive. Separation distances are not required to be increased between the septic components and the onsite well.

Based on available Ontario Geological Survey (OGS) mapping (GRS005), the subject site is within an area of potential karst. According to the WWR for TW1, bedrock is located at approximately 4.9 m below ground surface (bgs). TW1 has well casing extending to a depth of 6.7 m bgs, and an aquifer intercept of 25 m. Based on the depth of the aquifer intercept and the geochemistry encountered within the aquifer (see table 2a and 2b, above), there is no evidence of surficial impacts on the aquifer. Furthermore, the well has been in use for over a decade with no evidence of surficial impacts, therefore, it is not anticipated that there is karst within the subject site.

According to the Ontario Building Code (OBC) Section 8.7.2.1 (1) (b)(i), highly permeable soils as it relates to sewage system design is defined by soils having a percolation rate of less than 1 minute per cm. According to the Ministry of Municipal Affairs and Housing (MMAH) Supplementary Standard SB-6 – Percolation time and soil descriptions dated January 1, 2024 only “Well graded gravels, gravel-sand mixtures, little or no fines” or “Poorly graded gravels, gravel-sand mixtures, little or no fines” have a percolation time of less than 1 minute per cm. Paterson’s Memo PH4600-LET.02 – In-Situ Infiltration Testing dated August 20, 2024 determined that the percolation time is greater than 1 cm per min. As such, septic impacts due to highly permeable soils are not anticipated onsite.

To corroborate our position in this matter, the water quality of the bedrock aquifer targeted by the onsite drilled potable supply well shows no indication of surface water or surface impacts from sewage system effluent.

Conceptual Lot Development Plan

It is proposed to demolish a portion of the existing one-storey commercial building and add an addition in part of its place. The location of the existing and proposed structures can be found on the attached Arbaum Architects Drawing A-010, Demolition / New Site Plan dated February 5, 2025. The proposed private servicing is outlined in Paterson drawing PH4600-1(REV.04) – Sewage System Layout Plan, attached. It illustrates that the proposed design layout is adequate to accommodate the associated private services and meet all the regulated separation criteria. Please note that the proposed design layout is not meant to restrict the location of the proposed buildings or private services. The

design will be reviewed by the Ottawa Septic System Office (OSSO) and will be constructed in accordance with the required regulations. The OSSO requires inspections during construction in order to ensure compliance.

Proposed Sewage System

Paterson has completed a replacement sewage system design for the proposed development due to Site Plan requirements related to the Nitrate Impact Assessment (NIA). A septic flow value was calculated for the proposed building addition and resulted in a total daily design sewage flow (TDDSF) of 876 L/day. Refer to the Paterson Drawing PH4600-1(rev.4) and Paterson Drawing PH4600-2(rev.4) attached for more specific details. The approved OSSO septic permit has been included in the Site Plan application submission package. The septic flow values were calculated in accordance with the OBC and are as follows:

- ❑ Office space with an area of 90 m^2 : 726 L/day
- ❑ Number of employees in the garage (2 employees x 75 L/day) = 150 L/day

The resulting total daily design sanitary sewage flow (TDDSSF) is 876 L/day.

Predictive Nitrate Impact Assessment

In order to demonstrate that private services would adequately support the proposed commercial development, a predictive nitrate impact assessment for the subject site was completed. The values shown in the Predictive Nitrate Impact Assessment attached to this report are summarized below.

- ❑ Site area — 0.20 ha
- ❑ Impervious area (%) — 47 %
- ❑ Daily sewage flow — 0.876 m^3/d
- ❑ Concentration of nitrate in effluent — 40 mg/L
  (Value based on typical effluent concentration)
- ❑ Concentration of nitrate in effluent with treatment — 18.44 mg/L
  (Value based on nitrate reduction system (Ecoflo ECDn Series) with 53.89 % nitrate reduction)
- ❑ Surplus Water — 379 mm/yr
  (The surplus water value was estimated based on Environment Canada Climate Office values with a soil type comprised of fine sandy loam (Urban Lawns) and anthropogenic sources.)
- ❑ Combined infiltration factor based on: — 0.70
  - Topography infiltration factor — 0.20
  - Soil texture infiltration factor — 0.40
  - Cover infiltration factor — 0.10

The topography infiltration factor of 0.20 is based upon a rolling land with an average slope of 2.8 to 3.8 m/km. The soil texture infiltration factor was based upon an “open sandy loam” with a value of 0.4 which is a reasonable generalization based upon the site investigations and available geological mapping. The “cover infiltration factor” was calculated at 0.1 based upon the minimum value for cultivated land.

The calculation for a conventional septic system results in a predicted nitrate concentration of 21.10 mg/L nitrate for the subject site, using a value of 40 mg /L nitrate concentration within the effluent. This value was based upon a daily sewage flow of 876 L/day. It is expected that the actual usage should be lower.

An existing approved tertiary treatment system capable of reducing the nitrate loading in the effluent is the Rewatec Ecoflo brand and is called the Ecoflo Coco Filter ECDn Model Series. The Ecoflo system has passed the NSF/ANSI Standard 245 (American/International Testing Standard) with a nitrate reduction value of 53.89% for influent Total Nitrogen. This would reduce the nitrate concentration in the effluent from 40 mg/L down to an average of 18.44 mg/L, resulting in a predicted nitrate concentration of 9.73 mg/L, for a TDDSSF of 876 L/day. Please refer to the Predictive Nitrate Impact Assessment Calculations attached to this report for further details. An Ecoflo system has been included in the new septic design for the property, as shown in the attached Paterson drawing, PH4600-1(Rev.04).

Based on the results of the predicted nitrate impact assessment, it is our opinion that the property can adequately support the proposed building addition without having an adverse impact on the underlying bedrock aquifer, provided that a Rewatec Ecoflo ECDn Model Series is used in the septic system.

CONCLUSIONS

Based on the information contained within the body of this report the following conclusions can be drawn:

1. The water supply aquifer intercepted by the existing well is considered to be adequate to support the water quantity demands for the proposed building addition.

2. Based on a visual inspection performed by Paterson personnel, the well casing, stickup, and well cap are in compliance with O.Reg 903. The final grading around the well will be sufficiently graded to direct surface water away from the wellhead at the time of the new sewage system installation.

3. The preferred water supply intercepted by TW1 contains a water supply that is potable, and contains only elevated concentrations of hardness, TDS, iron, and manganese. The noted parameters can be treated with current readily available water conditioning equipment.

4. Elevated concentrations of manganese were encountered in the water supply intercepted by TW1. Although only regulated for aesthetic reasons in Ontario (AO of 0.05 mg/L), the federal government of Canada has a MAC of 0.12 mg/L due to potential adverse effects on the central nervous system primarily in infants due to chronic exposure. This guideline has not been implemented by Ontario as of the writing of this report as the concentration of manganese is elevated above the Health Canada Federal Drinking Water Guidelines, a notice regarding the elevated levels of manganese in the aquifer accessed by TW1 is recommended to be registered on title so that future owners are made aware.

5. If desired by the property owner, a residential grade water softener can be used to facilitate the reduction of the hardness concentration and reduce scaling. If a water softener is used for the proposed development, the owner should be made aware that additional sodium will be added to the water to reduce hardness. If desired, a point-of-use reverse osmosis system can be used to provide a drinking tap source without increasing sodium levels.

6. The sodium concentration was measured to be above the 20 mg/L reporting limit and, as such, the Medical Officer of Health for the City of Ottawa should be informed to assist area physicians in the treatment of local residents on sodium reduced diets. It should be noted that some water treatment equipment may further increase the sodium concentration.

7. The predicted nitrate concentrations at the property boundary is calculated to be below the required 10 mg/L threshold when a standard denitrification system such as the Rewatec Ecoflo system is used.

8. A Sewage System Permit and Building Permit need to be issued prior to the commencement of construction on the proposed warehouse addition or the proposed septic system.

9. The owner will need to ensure that protective measures are taken to protect the wellhead, such as the use of a barrier, when constructing the proposed building addition.

10. The results of the Hydrogeological Assessment and Terrain Analysis have provided satisfactory evidence that the subject site can support the proposed building addition with respect to water quality, quantity and sewage system placement.

We trust that the current submission satisfies your immediate requirements.

Best Regards,

Paterson Group Inc.

Alexander Schopf, PhD, EIT

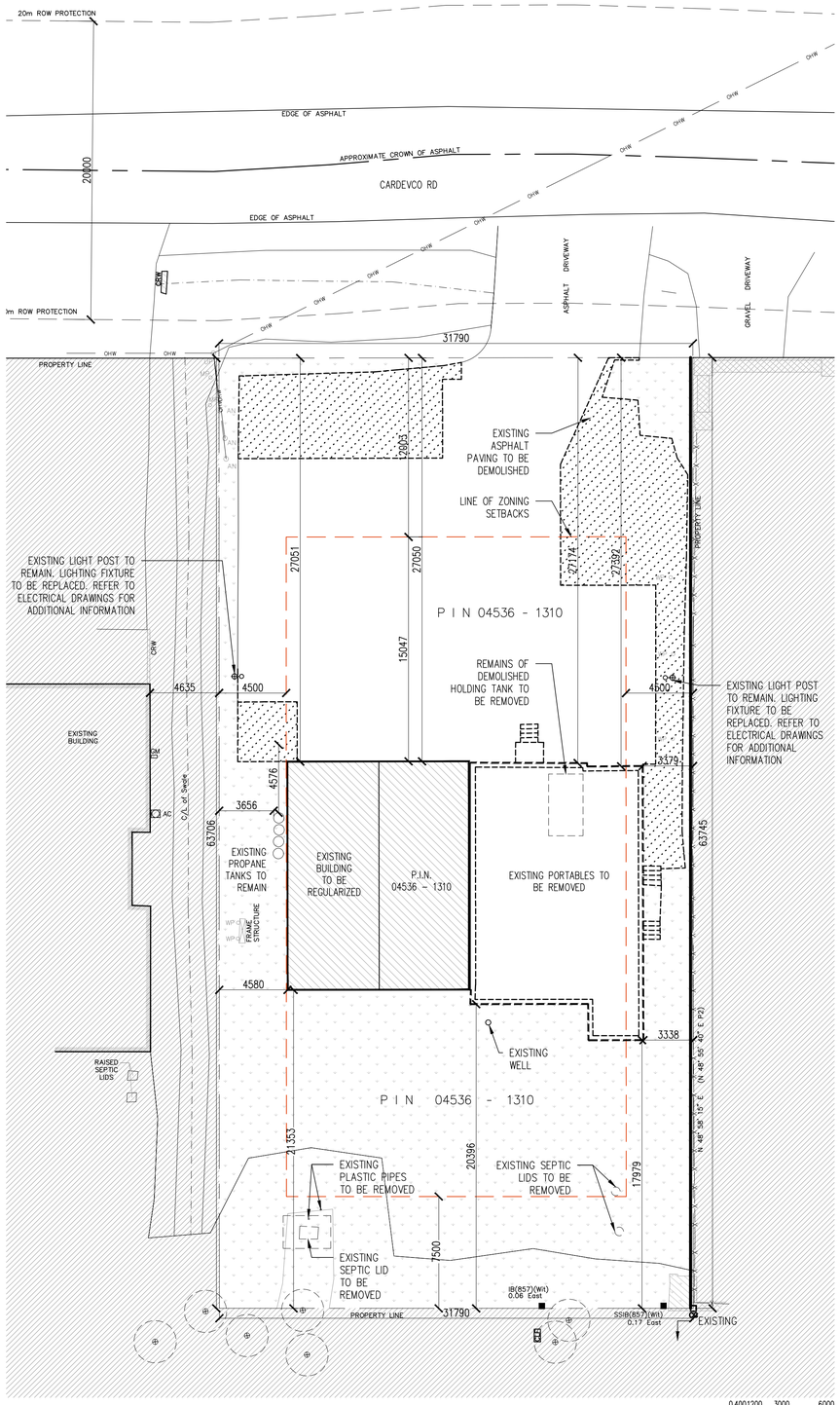
Erik Ardley, P.Geo

Attachments:

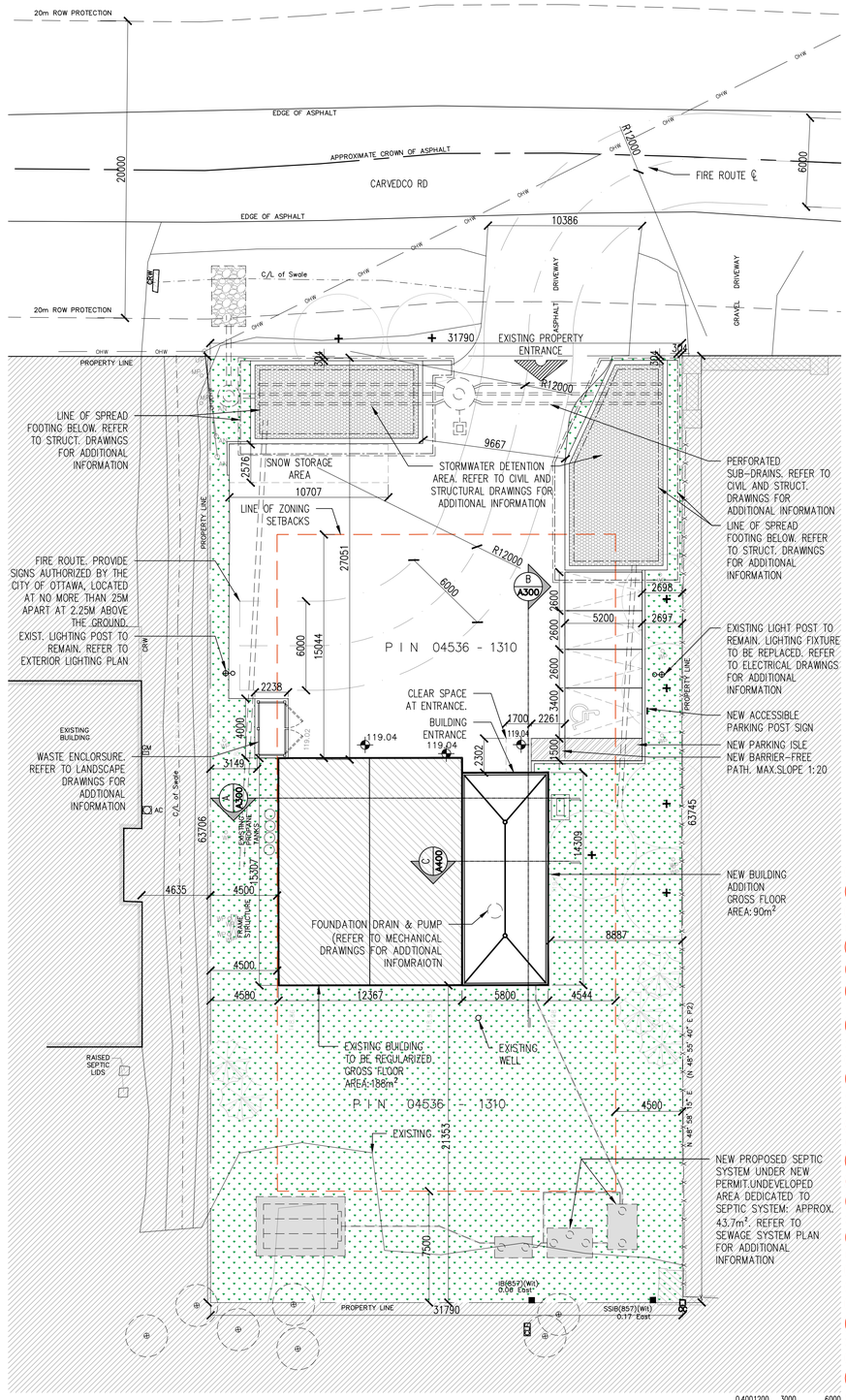
- ❑ Key Plan
- ❑ Arbaum Architects Drawing A-010, Demolition / New Site Plan dated February 5, 2025
- ❑ MECP Water Well Records
- ❑ Eurofins Certificate of Analysis
- ❑ Paterson Test Pit Logs
- ❑ AQTESOLV - Pumping Test Analysis Reports
- ❑ Nitrate Impact Assessment Calculations
- ❑ Langelier Saturation Index (LSI) Calculation
- ❑ MECP Disinfection Instruction Sheet
- ❑ City of Ottawa Manganese in drinking Water Factsheet
- ❑ NSF Standard 245: Ecoflo Coco Filter ECDn Model Series
- ❑ Paterson Drawing PG6018-1 - Test Hole Location Plan
- ❑ Paterson Drawing PH4600-1(rev.4) - Sewage System Layout Plan
- ❑ Paterson Drawing PH4600-2(rev.4) - Sewage System Details and Notes

FIGURE 1

KEY PLAN



1 A-010 EXISTING / DEMOLITION SITE PLAN
SCALE: 1:200



2 A-010 NEW SITE PLAN
SCALE: 1:200

LEGEND

- OHW — EXISTING OVERHEAD WIRES
- EXISTING CHAIN LINK FENCE
- BARRIER FREE PATH
- N.I.C
- SOD AREA
- TO BE DEMOLISHED
- ASPHALT TO BE REMOVED
- NEW CATCH-BASIN. REFER TO CIVIL DRAWINGS FOR ADDITIONAL INFORMATION
- NEW STORM MANHOLE. REFER TO CIVIL DRAWINGS FOR ADDITIONAL INFORMATION
- EXISTING TREES TO REMAIN
- NEW DECIDOUS TREES. REFER TO LANDSCAPE FOR ADDITIONAL INFORMATION
- NEW CONIFEROUS TREES. REFER TO LANDSCAPE FOR ADDITIONAL INFORMATION

OBS: PROPEM RTY BOUNDARY INFORMATION DERIVED FROM SURVEY PLAN ELABORATED BY FARLEY, SMITH & DENIS SURVEYING LTD, DATED OF MAY 19TH, 2021.

ZONING REPORT – PROJECT – 135 CARDEVCO RD, CARP, ON K0A 1L0

Address:	135 Cardevco Road, Carp, ON	
Legal Description	P.I.N. 04536 - 1310	
Scope of Work	Regularization of the garage repairs building and construction of an additional building on the east side of the existing facilities, which will accommodate office and administrative activities.	
Zoning	Zoning By-law RG4	
Proposed use	Heavy equipment and vehicle sales, rental and servicing (bus repair garage)	
Permitted use	Heavy equipment and vehicle sales, rental and servicing (bus repair garage)	
Schedule 1	-	
Schedule 2	-	
Schedule 3	-	
Other Schedules	-	
Exceptions	-	
Road Widening	-	
Easements	-	
Corner Lot triangle	-	
Heritage Overlay	No	
Street considered front (if a corner lot):	N/A	
Flood plane line	-	
Adjacent zoning	-	
Proximity to another special needs house	None	
	Required	**Provided**
Lot Area	1800 m² (min.)	2,023.54 m² (existing)
Lot Width	30 m	31.79 m (existing)
Max. lot Coverage	50%	42% (proposed)
Floor Space Index	-	-
Front yard setback	12 m	27.05 m (existing)
Side yard setback	4.5 m	West: 4.58 (existing) East: 9.05 (proposed)
Rear yard setback	7.5 m	21.35 m (existing)
Building height (max.)	15 m	6.5m (existing building) 4.52m (proposed building)
Permitted projections into required yard	-	-
Permitted projections above the height limit	-	-
Accessory Building Requirements	-	-
Parking	-	-
Heavy vehicle use: 0.75 per 100m2 of gross area. Gross area= 189 m2	No of required parking spaces = 0.75*(189/100) = 1.4 = 2	
Office: 2.4 per 100m² of gross area. Gross area= 83 m²	No of required parking spaces = 2.4*(83/100) = 2	
Total	**4**	**4**
Bicycle Parking	-	-
Off Street Parking requirements	-	-
Visitors parking	-	-
Loading Dock	-	-
Landscaped Area	-	-
Outdoor Storage	-	-

3 A-010 ZONING TABLE
N.T.S.

FOR COORDINATION

arbaum ARCHITECTS
535 LEGGET DRIVE, SUITE 102
KANATA, ONTARIO K2K 3B8

D.B. Gray Engineering Inc.

CLELAND JARDINE ENGINEERING LTD

Vanderwesten & Rutherford Associates Inc.
Mechanical & Electrical Engineers
London, Windsor, Ottawa
www.vreng.ca | 613-563-2100

CSW

KEY PLAN: LEVEL 1

TRUE NORTH

CONTRACTOR SHALL CHECK AND VERIFY ALL DIMENSIONS AND REPORT ANY OMISSIONS OR DISCREPANCIES TO THE ARCHITECT BEFORE PROCEEDING WITH THE WORK.

DO NOT SCALE DRAWINGS.

REVISIONS

NO.	DESCRIPTION	DATE
1	PRELIMINARY DESIGN	2021-06-25
2	CLIENT REVIEW 1	2021-07-14
3	ISSUED FOR PERMIT	2022-01-24
4	RESPONSE TO CITY COMMENTS_R01	2022-05-24
5	RESPONSE TO CITY COMMENTS_R02	2022-09-06
6	RESPONSE TO CITY COMMENTS_R03	2022-10-17
7	ISSUED FOR SITE PLAN CONTROL	2022-11-28
8	REISSUED FOR SITE PLAN CONTROL_R01	2023-06-13
9	RESPONSE TO CITY COMMENTS SPC_R02	2024-10-29
10	RESPONSE TO CITY COMMENTS SPC_R03	2025-02-05

NOT BE USED FOR CONSTRUCTION PURPOSES UNTIL SIGNED BY THE ARCHITECT.

DATE: 2022-08-21

PROJECT NORTH

DRAWN: PB/MP

CHECKED: AB

DATE PRINTED: 2022-11-28

CARDEVCO WAREHOUSE

ADDRESS: 135 CARDEVCO ROAD, CARP ON, K2K 3B8
OWNER: ERC HOCHGESCHURZ – PREMIER BUS LINES INC.

DRAWING TITLE
DEMOLITION/ NEW SITE PLAN

SCALE: AS SHOWN

PROJECT NO: 039-21

DRAWING NO. : A-010

D07-12-22-0173

TW1

Ontario — Ministry of the Environment

Well Record

Regulation 903 Ontario Water Resources Act

Page 1 of 1

Measurements recorded in: ☐ Metric ☑ Imperial

Well Tag No. *(Place Sticker and/or Print Below)*: A134668

Tag#: A134668

Well Owner's Information

First Name	Last Name / Organization	E-mail Address	☐ Well Constructed by Well Owner
CDL	HOLDINGS		

Mailing Address (Street Number/Name)	Municipality	Province	Postal Code	Telephone No. (inc. area code)
145 Cardevco Road RR2	Carp	On	K0A 1L0	6132237839

Well Location

Address of Well Location (Street Number/Name)	Township	Lot	Concession
135 Cardevco Road	Carp.	23	

County/District/Municipality	City/Town/Village	Province	Postal Code
Ottawa	Carp	Ontario	K0A 1L0

UTM Coordinates	Zone	Easting	Northing	Municipal Plan and Sublot Number	Other
NAD 83	18	425454	5015930	Pl 4M356 + 23RP 4R8368	Part 7 & 10

Overburden and Bedrock Materials/Abandonment Sealing Record *(see instructions on the back of this form)*

General Colour	Most Common Material	Other Materials	General Description	Depth (m/ft) From	Depth (m/ft) To
	Clay / Sand / stones			0'	16'
black	Limestone			16'	100'

Annular Space

Depth Set at (m/ft) From	Depth Set at (m/ft) To	Type of Sealant Used (Material and Type)	Volume Placed (m^3/ft^3)
0'	22'	2 Bags cement	0.044
		4 Bags quick groat	0.088

Method of Construction

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

Well Use

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

Construction Record - Casing

Inside Diameter (cm/in)	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness (cm/in)	Depth (m/ft) From	Depth (m/ft) To
6"	Steel	.148cm	0'	22

Construction Record - Screen

Outside Diameter (cm/in)	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (m/ft) From	Depth (m/ft) To

Status of Well

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

Water Details

Water found at Depth (m/ft)	Gas	Kind of Water	Other, specify
79'	☐	☐ Fresh ☑ Untested	
82'	☐	☑ Fresh ☐ Untested	
	☐	☐ Fresh ☐ Untested	

Hole Diameter

Depth (m/ft) From	Depth (m/ft) To	Diameter (cm/in)
0'	22'	25.4cm

Results of Well Yield Testing

After test of well yield, water was:
☐ Clear and sand free
☑ Other, *specify* Cloudy

If pumping discontinued, give reason:

Pump intake set at (m/ft): 75'

Pumping rate (l/min / GPM): 15 gpm.

Duration of pumping: 1 hrs + ____ min

Final water level end of pumping (m/ft): 11'

If flowing give rate (l/min / GPM): 0

Recommended pump depth (m/ft): 80'

Recommended pump rate (l/min / GPM): 15 gpm.

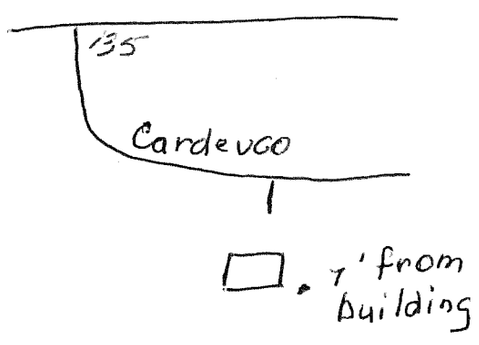
Well production (l/min / GPM): 15 gpm

Disinfected? ☑ Yes ☐ No

	Draw Down Time (min)	Draw Down Water Level (m/ft)	Recovery Time (min)	Recovery Water Level (m/ft)
Static Level				
1	20.8'	1	45.1'	
2	25.9'	2	35.2'	
3	29.8'	3	27.8'	
4	32.9'	4	22.9'	
5	35.4'	5	19.7'	
10	47.'	10	13.7'	
15	53.5'	15	12.5'	
20	56.1'	20	11.75'	
25	56.8'	25	11.65'	
30	63.'	30	11.4'	
40	67.4'	40	11.2'	
50	67.4'	50	11.1'	
60	67.4'	60	11.05'	

Map of Location

Please provide a map below following instructions on the back.



Comments:

Well Contractor and Well Technician Information

Business Name of Well Contractor	Well Contractor's Licence No.
Wilf Hall & Sons Well Drilling	2158

Business Address (Street Number/Name)	Municipality
256 Hall Shore Rd. RR1	McDonald's Corners

Province	Postal Code	Business E-mail Address
ON	K0G 1M0	wilfhallltd@bellnet.ca.

Bus. Telephone No. (inc. area code)	Name of Well Technician (Last Name, First Name)
6132782933	Hall Mark

Well Technician's Licence No.	Signature of Technician and/or Contractor	Date Submitted
T2128	Mark Hall	2012/08/09

Well owner's information package delivered	Date Package Delivered	Date Work Completed
☑ Yes ☐ No	2012/08/09	2012/08/09

Ministry Use Only

Audit No. Z154051

Received SEP 11 2012

Ministry's Copy

Ministry of the Environment
Ontario

The Ontario Water Resources Act

WATER WELL RECORD

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

11 1520138 15005 CON PAKL... 464 W3 03

COUNTY OR DISTRICT	TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE	CON., BLOCK, TRACT, SURVEY, ETC.	LOT
[redacted]	WEST CARLETON	3	6

[redacted] HUNTLEY MANOR DRIVE — DATE COMPLETED: DAY 5 MO 9 YR 85

RC | ELEVATION | RC | BASIN CODE | II | III | IV

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH - FEET FROM	TO
GREY	CLAY	SAND BOULDER'S	PACKED	0'	16'
GREY	GRAVEL			16'	24'

31

32

41 WATER RECORD

WATER FOUND AT - FEET	KIND OF WATER
22	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	TO
6¼"	1 ☒ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE	.188	0'	24'
	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

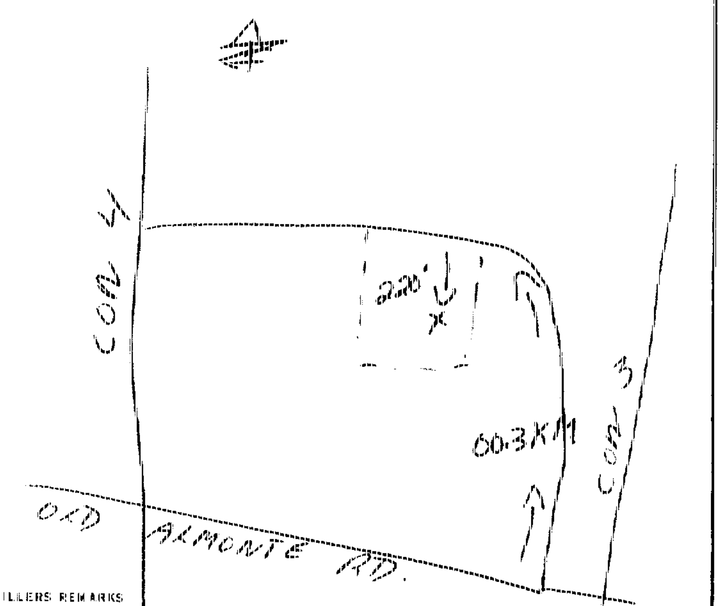
DEPTH SET AT - FEET FROM	TO	MATERIAL AND TYPE (CEMENT GROUT, LEAD PACKER, ETC.)

71 PUMPING TEST

PUMPING TEST METHOD	1 ☒ PUMP 2 ☐ BAILER
PUMPING RATE	6 GPM
DURATION OF PUMPING	1 HOURS MINS
STATIC LEVEL	7 FEET
WATER LEVEL END OF PUMPING	15 FEET
WATER LEVELS DURING	1 ☐ PUMPING 2 ☐ RECOVERY
15 MINUTES	15 FEET
30 MINUTES	15 FEET
45 MINUTES	15 FEET
60 MINUTES	15 FEET
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	15 FEET
RECOMMENDED PUMPING RATE	5 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: M KAVANAGH & SON WELL DRILLING — LICENCE NUMBER: 3142
ADDRESS: RR #2 CARLETON PLACE
NAME OF DRILLER OR BORER: HENRY MAINS — LICENCE NUMBER: 3644
SIGNATURE OF CONTRACTOR: [signature] — SUBMISSION DATE: DAY 6 MO 9 YR 85

OFFICE USE ONLY

DATA SOURCE | CONTRACTOR | DATE RECEIVED 01 10 85
DATE OF INSPECTION | INSPECTOR
REMARKS
WDE
CSS.S8

MINISTRY OF THE ENVIRONMENT COPY

FORM NO. 0506—4—77 FORM 7

Ministry of the Environment
Ontario

HUNTLEY MANOR?

The Ontario Water Resources Act

WATER WELL RECORD

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

11 1520279 MUNICIP CON.

COUNTY OR DISTRICT	TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE	CON., BLOCK, TRACT, SURVEY, ETC	LOT
Ottawa-Carleton	West Carleton-Huntley	Conc. 3	6

OWNER (SURNAME FIRST)	ADDRESS	DATE COMPLETED
Pri-Tec Construction Ltd.	Box 13090; Kanata, Ontario. K2K 1X3	DAY 16 MO 10 YR 85

21 UTM ZONE EASTING 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
Brown	Sand	Boulders		0	10
Gray	Limestone		Medium Soft	10	200
Gray				200	230

31

32

41 WATER RECORD

WATER FOUND AT - FEET	KIND OF WATER
30'	1 ☐ FRESH 3 ☐ SULPHUR; 2 ☐ SALTY 4 ☐ MINERAL
220'	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	22
6 1/8	1 ☐ STEEL; 2 ☐ GALVANIZED; 3 ☐ CONCRETE; 4 ☒ OPEN HOLE		22	200
5 7/8	1 ☐ STEEL; 2 ☐ GALVANIZED; 3 ☐ CONCRETE; 4 ☒ OPEN HOLE		200	230

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	7 GPM	1 HOURS ___ MINS

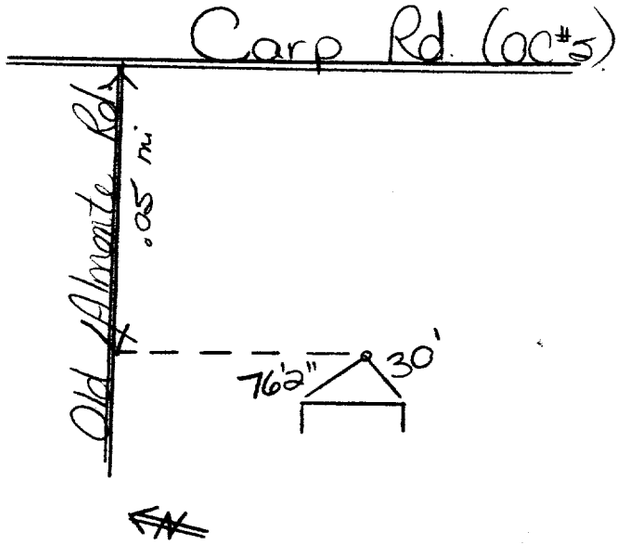
STATIC LEVEL	WATER LEVEL END OF PUMPING	WATER LEVELS DURING (1 ☒ PUMPING 2 ☐ RECOVERY)	15 MINUTES	30 MINUTES	45 MINUTES	60 MINUTES
8 FEET	150 FEET		150 FEET	150 FEET	150 FEET	150 FEET

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

RECOMMENDED PUMP TYPE	RECOMMENDED PUMP SETTING	RECOMMENDED PUMPING RATE
☐ SHALLOW ☒ DEEP	175 FEET	5 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	LICENCE NUMBER
Capital Water Supply Ltd.	1558

ADDRESS: Box 490; Stittsville, Ont. K0A 3G0

NAME OF DRILLER OR BORER	LICENCE NUMBER
S. Miller / B. Moore	

SIGNATURE OF CONTRACTOR: W Kavanagh | SUBMISSION DATE: DAY 16 MO. 10 YR. 85

OFFICE USE ONLY

DATA SOURCE | CONTRACTOR | DATE RECEIVED 21 0186

DATE OF INSPECTION | INSPECTOR

REMARKS

CSS. ES

MINISTRY OF THE ENVIRONMENT COPY

FORM NO. 0506—4—77 FORM 7

Ministry of the Environment
Ontario

The Ontario Water Resources Act
WATER WELL RECORD

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

11 1521169 MUNICIP CON.

COUNTY OR DISTRICT	TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE	CON., BLOCK, TRACT, SURVEY, ETC.	LOT
[redacted]	West Carleton (Huntley)	Conc. 3	6

[redacted] Boyce Ave.; Ottawa, Ont. K2B 6J2

DATE COMPLETED: DAY 11 MO 12 YR 86

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		0	8
Gray	Limestone		Layered	8	15
Gray	Limestone		Medium Soft	15	380

31
32

41 WATER RECORD

WATER FOUND AT - FEET	KIND OF WATER
265	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	☒ STEEL ☐ GALVANIZED ☐ CONCRETE ☐ OPEN HOLE	.188	0	22
6	☐ STEEL ☐ GALVANIZED ☐ CONCRETE ☒ OPEN HOLE		22	275
6	☐ STEEL ☐ GALVANIZED ☐ CONCRETE ☒ OPEN HOLE		275	380

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

61 PLUGGING & SEALING RECORD

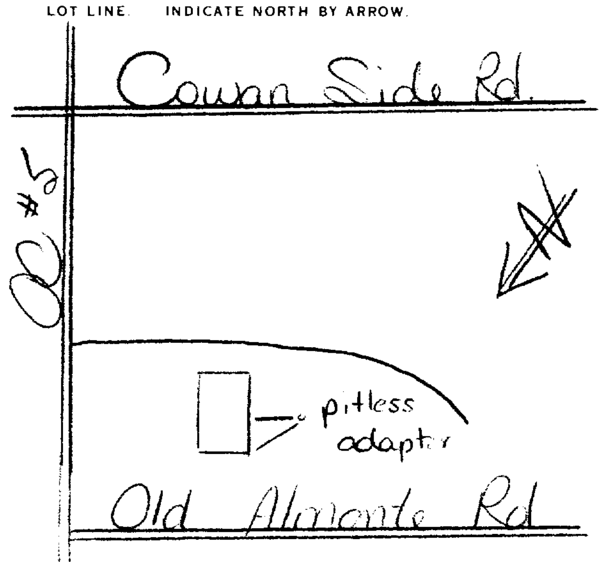
DEPTH SET AT - FEET FROM	TO	MATERIAL AND TYPE (CEMENT GROUT, LEAD PACKER, ETC.)

71 PUMPING TEST

PUMPING TEST METHOD	1 ☐ PUMP 2 ☒ BAILER
PUMPING RATE	1 GPM
DURATION OF PUMPING	2 HOURS MINS
STATIC LEVEL	8 FEET
WATER LEVEL END OF PUMPING	175 FEET
WATER LEVELS DURING	1 ☒ PUMPING 2 ☐ RECOVERY
15 MINUTES	150 FEET
30 MINUTES	175 FEET
45 MINUTES	175 FEET
60 MINUTES	175 FEET
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	300 FEET
RECOMMENDED PUMPING RATE	5 GPM

LOCATION OF WELL

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



04681

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 275-380 2 ☐ ROTARY (CONVENTIONAL) 3 ☐ ROTARY (REVERSE) 4 ☐ ROTARY (AIR) 5 ☒ AIR PERCUSSION 0-275 6 ☐ BORING 7 ☐ DIAMOND 8 ☐ JETTING 9 ☐ DRIVING

CONTRACTOR
NAME OF WELL CONTRACTOR: Capital Water Supply Ltd. LICENCE NUMBER: 1558
ADDRESS: Box 490; Stittsville, Ont. K0A 3G0
NAME OF DRILLER OR BORER: S. Miller/J. Moore LICENCE NUMBER:
SIGNATURE OF CONTRACTOR: W Kavanagh SUBMISSION DATE: DAY 11 MO 12 YR 86

OFFICE USE ONLY
DATA SOURCE / CONTRACTOR / DATE RECEIVED 050287
DATE OF INSPECTION / INSPECTOR
REMARKS CSS.ES

FORM NO. 0506—4—77 FORM 7

MINISTRY OF THE ENVIRONMENT COPY

Ministry of the Environment
Ontario

The Ontario Water Resources Act
WATER WELL RECORD

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

11 | 1522376 | MUNICIP | CON.

COUNTY OR DISTRICT	TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE	CON., BLOCK, TRACT, SURVEY, ETC.	LOT
OTTAWA CARLETON	WEST CARLETON	3	Part of Lot 6

[redacted] Box 13090 KANATA ONT. K2K 1H3

DATE COMPLETED: DAY 6 MO 6 YR. 88

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	TO
BROWN	SAND	STONE's	PACKED	0'	9'
GREY	LIMESTONE			9'	70'
GREY BLACK	LIMESTONE			70'	130'

31

32

41 WATER RECORD

WATER FOUND AT - FEET	KIND OF WATER
128	1 ☐ FRESH 2 ☐ SALTY 3 ☒ SULPHUR 4 ☐ MINERALS 6 ☐ GAS
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERALS 6 ☐ GAS
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERALS 6 ☐ GAS
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERALS 6 ☐ GAS
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERALS 6 ☐ GAS

51 CASING & OPEN HOLE RECORD

INSIDE DIAM INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH - FEET FROM	TO
6 1/4" / 6"	1 ☒ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☒ OPEN HOLE 5 ☐ PLASTIC	1.88	0' / 22'	22' / 130'
	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE 5 ☐ PLASTIC			
	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE 5 ☐ PLASTIC			

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
1 ☐ PUMP 2 ☒ BAILER	12 GPM	2 HOURS __ MINS

STATIC LEVEL	WATER LEVEL END OF PUMPING	15 MINUTES	30 MINUTES	45 MINUTES	60 MINUTES
8 FEET	80 FEET	80 FEET	80 FEET	80 FEET	80 FEET

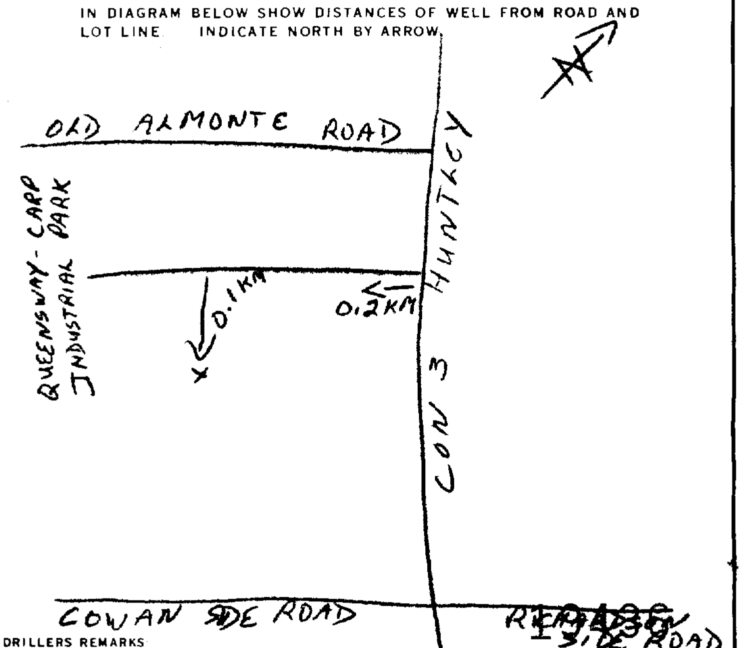
WATER LEVELS DURING: 1 ☐ PUMPING 2 ☐ RECOVERY

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: 100 FEET | RECOMMENDED PUMPING RATE: 9 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
9 ☐ DEWATERING

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 CONSTRUCTION

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

CONTRACTOR

NAME OF WELL CONTRACTOR: M. KAVANAGH & SON WELL DRILLING
WELL CONTRACTOR'S LICENCE NUMBER: 3142
ADDRESS: RR2 CARLETON PLACE
NAME OF WELL TECHNICIAN: Mike KAVANAGH
WELL TECHNICIAN'S LICENCE NUMBER: T-0194
SIGNATURE OF TECHNICIAN/CONTRACTOR: Michael Kavanagh
SUBMISSION DATE: DAY 7 MO. 06 YR. 88

OFFICE USE ONLY

DATA SOURCE | CONTRACTOR 3142 | DATE RECEIVED JUN 13 1988
DATE OF INSPECTION | INSPECTOR
REMARKS
CSS.ES

MINISTRY OF THE ENVIRONMENT COPY

FORM NO. 0506 (11/86) FORM 9

Ministry of the Environment
Ontario

The Ontario Water Resources Act

WATER WELL RECORD

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

11 1522596 MUNICIP 15005 CON.

COUNTY OR DISTRICT	TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE	CON. BLOCK, TRACT, SURVEY, ETC	LOT
Ottawa-Carleton	West Carleton - Huntley	Conc. 3	6

[redacted] 017 Route 117; St.Janvier, Mirabel,P.Q.

DATE COMPLETED: DAY 04 MO 07 YR 88

HWING | BC. | ELEVATION | JON ILO | 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	Clay		Packed	0	6
Gray	Clay	Boulders	Packed	6	9
Gray	Clay	Sand & Gravel	Packed	9	16
Gray	Limestone	Brown layers	Medium	16	125

31

32

41 WATER RECORD

WATER FOUND AT - FEET	KIND OF WATER
92	1 ☐ FRESH 2 ☐ SALTY 3 ☒ SULPHUR 4 ☐ MINERALS 6 ☐ GAS
118	1 ☐ FRESH 2 ☐ SALTY 3 ☒ SULPHUR 4 ☐ MINERALS 6 ☐ GAS
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERALS 6 ☐ GAS
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERALS 6 ☐ GAS
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERALS 6 ☐ GAS

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
6	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☒ OPEN HOLE 5 ☐ PLASTIC		22	125
	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE 5 ☐ PLASTIC			

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	20 GPM	2 HOURS ____ MINS

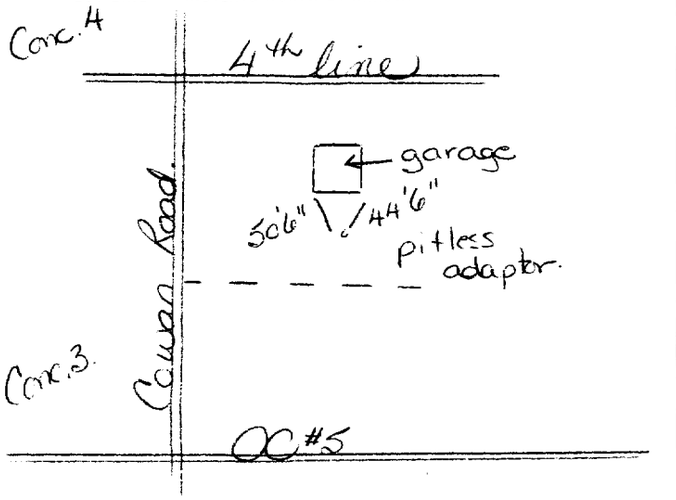
STATIC LEVEL	WATER LEVEL END OF PUMPING	WATER LEVELS DURING	15 MINUTES	30 MINUTES	45 MINUTES	60 MINUTES
3 FEET	20 FEET	1 ☒ PUMPING 2 ☐ RECOVERY	20 FEET	20 FEET	20 FEET	20 FEET

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

RECOMMENDED PUMP TYPE	RECOMMENDED PUMP SETTING	RECOMMENDED PUMPING RATE
☐ SHALLOW ☒ DEEP	60 FEET	5 GPM

LOCATION OF WELL

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



38189

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; 9 ☐ DEWATERING

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

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; ☐ DIGGING; ☐ OTHER

CONTRACTOR

NAME OF WELL CONTRACTOR: Capital Water Supply Ltd.
WELL CONTRACTOR'S LICENCE NUMBER: 1558
ADDRESS: Box 490; Stittsville, Ont. K0A 3G0
NAME OF WELL TECHNICIAN: S. Miller
WELL TECHNICIAN'S LICENCE NUMBER:
SIGNATURE OF TECHNICIAN/CONTRACTOR:
SUBMISSION DATE: DAY 04 MO 09 YR 88

OFFICE USE ONLY

DATA SOURCE | CONTRACTOR 1558 | DATE RECEIVED SEP 01 1988
DATE OF INSPECTION | INSPECTOR
REMARKS

CSS. ES

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FORM NO. 0506 (11/86) FORM 9

Ministry of the Environment
Ontario

The Ontario Water Resources Act

WATER WELL RECORD

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

11 — 1523221 — MUNICIP 15005 — CON. CON — 03

COUNTY OR DISTRICT: [redacted] — TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE: WEST CARLETON — CON. BLOCK, TRACT, SURVEY, ETC: #3 — LOT: 6

[redacted] R# 2 Carp — DATE COMPLETED: DAY 9 MO 9 YR 88

RING — 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	TOPSOIL		PACKED	0	1'
BROWN	SAND		FINE	1	10'
BROWN	SAND	BOULDERS GRAVEL	LOOSE	10'	16'
GREY	LIMESTONE	BLACK LIMESTONE & QUARTZ	MED, HARD	16'	45'

31

32

41 WATER RECORD

WATER FOUND AT - FEET	KIND OF WATER
26	1 ☒ FRESH 2 ☐ SALTY — 3 ☐ SULPHUR 4 ☐ MINERALS 6 ☐ GAS
41	1 ☒ FRESH 2 ☐ SALTY — 3 ☐ SULPHUR 4 ☐ MINERALS 6 ☐ GAS
	1 ☐ FRESH 2 ☐ SALTY — 3 ☐ SULPHUR 4 ☐ MINERALS 6 ☐ GAS
	1 ☐ FRESH 2 ☐ SALTY — 3 ☐ SULPHUR 4 ☐ MINERALS 6 ☐ GAS
	1 ☐ FRESH 2 ☐ SALTY — 3 ☐ SULPHUR 4 ☐ MINERALS 6 ☐ GAS

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	19
6	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☒ OPEN HOLE 5 ☐ PLASTIC		19	45
	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE 5 ☐ PLASTIC			

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.)
0	19	CEMENT GROUT

71 PUMPING TEST

PUMPING TEST METHOD: 1 ☒ PUMP 2 ☐ BAILER — PUMPING RATE: 20 GPM — DURATION OF PUMPING: 6 HOURS ___ MINS

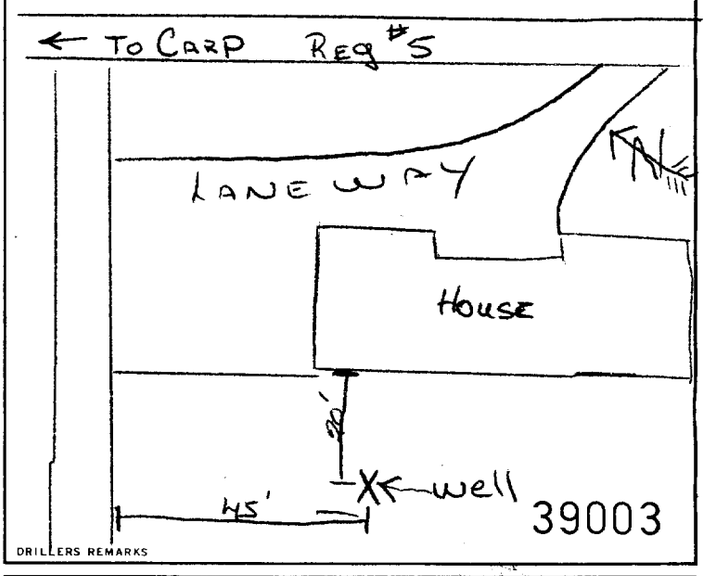
STATIC LEVEL	WATER LEVEL END OF PUMPING	WATER LEVELS DURING: 1 ☒ PUMPING 2 ☐ RECOVERY — 15 MINUTES	30 MINUTES	45 MINUTES	60 MINUTES
10 FEET	20 FEET	20 FEET	20 FEET	20 FEET	20 FEET

IF FLOWING, GIVE RATE — GPM — PUMP INTAKE SET AT: 20 FEET — WATER AT END OF TEST: 1 ☒ CLEAR 2 ☐ CLOUDY

RECOMMENDED PUMP TYPE: ☒ SHALLOW ☐ DEEP — RECOMMENDED PUMP SETTING: 30 FEET — RECOMMENDED PUMPING RATE: 15 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 — 9 ☐ DEWATERING

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

CONTRACTOR

NAME OF WELL CONTRACTOR: Valley Drilling Co Ltd — WELL CONTRACTOR'S LICENCE NUMBER: 5222

ADDRESS: PO Box 437 Carp, Ont

NAME OF WELL TECHNICIAN: Bill Bisson — WELL TECHNICIAN'S LICENCE NUMBER: T-0190

SIGNATURE OF TECHNICIAN/CONTRACTOR: X — SUBMISSION DATE: DAY ___ MO ___ YR ___

OFFICE USE ONLY

DATA SOURCE — CONTRACTOR: 5222 — DATE RECEIVED: JAN 09 1989

DATE OF INSPECTION — INSPECTOR

REMARKS: WDE

CSS.E.S

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Ministry of the Environment
Ontario

The Ontario Water Resources Act

WATER WELL RECORD

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

11 — 1523820 — MUNICIP 15005 — CON. CON — 03

COUNTY OR DISTRICT	TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE	CON. BLOCK, TRACT, SURVEY, ETC.	LOT
[redacted]	West Carleton	3	6

[redacted]. #3 Carp,Ontario K0A 1L0

DATE COMPLETED: DAY 11 MO 08 YR 89

RC — ELEVATION — RC — BASIN CODE — 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
Brown	Sand	Stones	Loose	0	6
Gray	Sand	Boulders	Packed	6	20
Gray	Limestone	Black Layers	Medium Soft	20	260

31

32

41 WATER RECORD

WATER FOUND AT - FEET	KIND OF WATER
22	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERALS 6 ☐ GAS
110	1 ☒ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERALS 6 ☐ GAS
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERALS 6 ☐ GAS
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERALS 6 ☐ GAS
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERALS 6 ☐ GAS

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
5 7/8	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☒ OPEN HOLE 5 ☐ PLASTIC		22	260
	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE 5 ☐ PLASTIC			

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.)
Grouted		Cement

71 PUMPING TEST

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

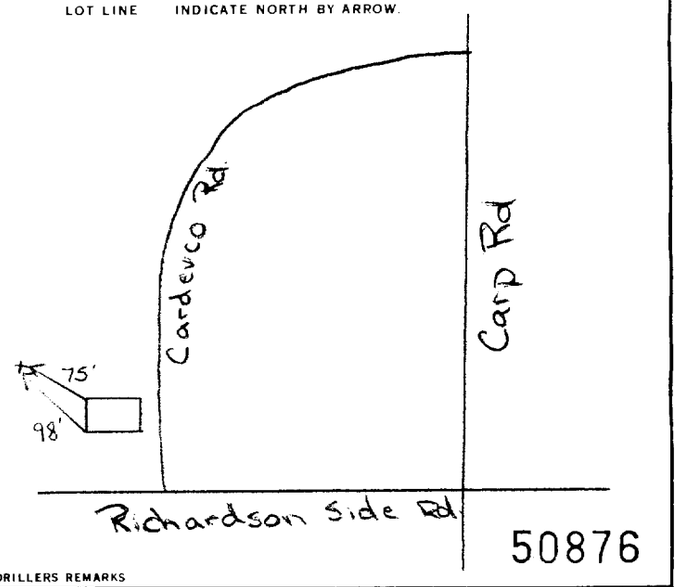
STATIC LEVEL	WATER LEVEL END OF PUMPING	WATER LEVELS DURING (1 ☒ PUMPING 2 ☐ RECOVERY)	15 MINUTES	30 MINUTES	45 MINUTES	60 MINUTES
8 FEET	125 FEET		120 FEET	125 FEET	125 FEET	125 FEET

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

RECOMMENDED PUMP TYPE	RECOMMENDED PUMP SETTING	RECOMMENDED PUMPING RATE
☐ SHALLOW ☒ DEEP	250 FEET	2 GPM

LOCATION OF WELL

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



50876

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

CONTRACTOR

NAME OF WELL CONTRACTOR: Capital Water Supply Ltd.
WELL CONTRACTOR'S LICENCE NUMBER: 1558
ADDRESS: Box 490 Stittsville, Ontario K2S 1A6
NAME OF WELL TECHNICIAN: J. Moore
WELL TECHNICIAN'S LICENCE NUMBER: T0096
SIGNATURE OF TECHNICIAN/CONTRACTOR: [signature]
SUBMISSION DATE: DAY 11 MO 08 YR 89

OFFICE USE ONLY

DATA SOURCE — CONTRACTOR: 1558 — DATE RECEIVED: SEP 12 1989
DATE OF INSPECTION — INSPECTOR
REMARKS

CSS,EC

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FORM NO. 0506 (11/86) FORM 9

Ministry of the Environment
Ontario

The Ontario Water Resources Act

WATER WELL RECORD

1527799

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

MUNICIP 1505 CON. CON 03

COUNTY OR DISTRICT [redacted] | TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE West Carleton (Huntley) | CON, BLOCK, TRACT, SURVEY, ETC CON #3 | LOT 6

[redacted] S. 164 CARDEUCO | DATE COMPLETED DAY 29 MO 10 YR 92

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH - FEET FROM	DEPTH - FEET TO
BROWN	FILL		PACKED	0	3'
BROWN	SAND.	BOULDERS.	LOOSE	3'	8'
BROWN	GRAVEL	BOULDERS.	LOOSE	8'	13'
GREY	LIMESTONE		MED	13'	50'

41 WATER RECORD

WATER FOUND AT - FEET	KIND OF WATER
35'	1 ☑ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERALS 6 ☐ GAS
N2'	1 ☑ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERALS 6 ☐ GAS
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERALS 6 ☐ GAS
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERALS 6 ☐ GAS
	1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERALS 6 ☐ GAS

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'
6"	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☑ OPEN HOLE 5 ☐ PLASTIC		22'	50'
	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE 5 ☐ PLASTIC			

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.)
0	20'	CEMENT GROUT.

71 PUMPING TEST

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

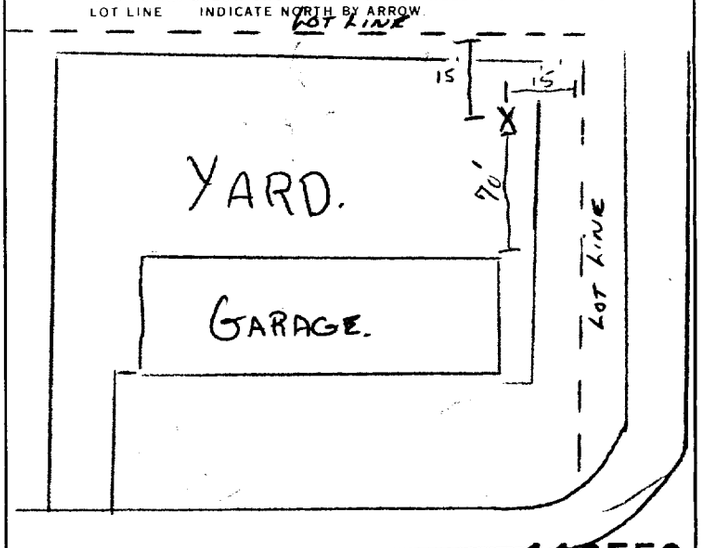
STATIC LEVEL	WATER LEVEL END OF PUMPING	WATER LEVELS DURING (1 ☑ PUMPING 2 ☐ RECOVERY)	15 MINUTES	30 MINUTES	45 MINUTES	60 MINUTES
0 FEET	20' FEET		FEET	FEET	FEET	FEET

IF FLOWING, GIVE RATE	PUMP INTAKE SET AT	WATER AT END OF TEST
GPM	20 FEET	1 ☑ CLEAR 2 ☐ CLOUDY

RECOMMENDED PUMP TYPE	RECOMMENDED PUMP SETTING	RECOMMENDED PUMPING RATE
☑ SHALLOW ☐ DEEP	20 FEET	10 GPM

LOCATION OF WELL

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



110552

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 ☐ DEWATERING

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 CONSTRUCTION

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

CONTRACTOR

NAME OF WELL CONTRACTOR: VALLEY DRILLING INC. | WELL CONTRACTOR'S LICENCE NUMBER: 5222

ADDRESS: Box P.O. 437 CARP, ONT

NAME OF WELL TECHNICIAN: Bill Bissett | WELL TECHNICIAN'S LICENCE NUMBER: T-0140

SIGNATURE OF TECHNICIAN/CONTRACTOR | SUBMISSION DATE: DAY ___ MO ___ YR. ___

OFFICE USE ONLY

DATA SOURCE | CONTRACTOR 5222 | DATE RECEIVED APR 05 1994

DATE OF INSPECTION | INSPECTOR

REMARKS

CSS. ES

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Ministry of Environment and Energy
Ontario

The Ontario Water Resources Act
WATER WELL RECORD

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

11 — 1529797 — Municipality 15005 — Con. CON 03

County or District	Township/Borough/City/Town/Village	Con block tract survey, etc.	Lot
[redacted]	West Carleton - Huntley	3	6

Address: R.R. #3, 1-247 Westbrook Rd. Carp, Ontario K0A 1L0 — Date completed: 15 day 12 month 97 year

21 — Northing — RC — Elevation — RC — Basin Code — 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
Brown	Sandy Soil	Stones	Dry	0	4
Brown	Sandy Clay		Wet	4	9
Gray	Sand & Gravel		Wet	9	12
Gray	Limestone		Medium	12	75

31

32

41 WATER RECORD

Water found at – feet	Kind of water
24	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 5 ☐ Gas
62	NOT TESTED

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	22.5
6	1 ☐ Steel 2 ☐ Galvanized 3 ☐ Concrete 4 ☒ Open hole 5 ☐ Plastic		22.5	75
	1 ☐ Steel 2 ☐ Galvanized 3 ☐ Concrete 4 ☐ Open hole 5 ☐ Plastic			

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	Depth set at – feet To	Material and type (Cement grout, bentonite, etc.)
20.5	5	Grouting - Cement (3)
5	0	Rock cuttings

71 PUMPING TEST

Pumping test method: 1 ☒ Pump 2 ☐ Bailer — Pumping rate: 25 GPM — Duration of pumping: 1 Hours ... Mins

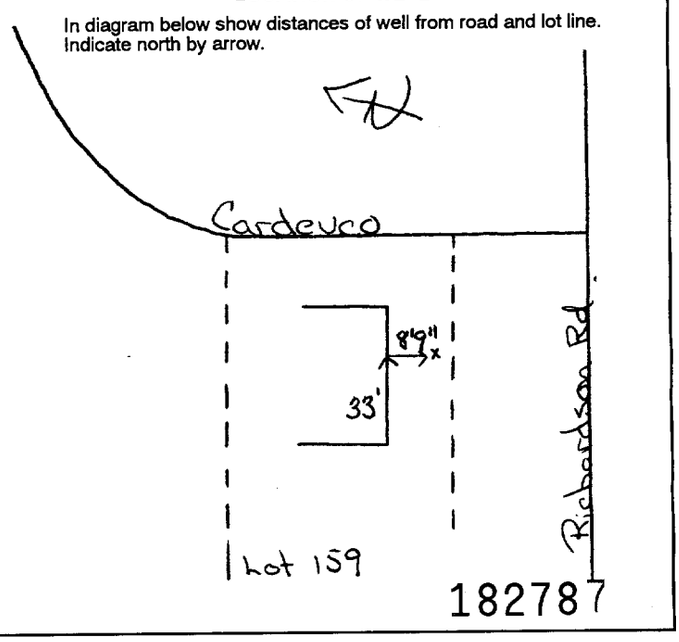
Static level	Water level end of pumping	Water levels during: 1 ☐ Pumping 2 ☒ Recovery	15 minutes	30 minutes	45 minutes	60 minutes
4'10"	30 feet		5'4" feet	4'11" feet	4'10" feet	4'10" feet

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: 30 feet — Recommended pump rate: 5 GPM

LOCATION OF WELL

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



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 used 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

Name of Well Contractor	Well Contractor's Licence No.
Capital Water Supply Ltd.	1558
Address: P.O. Box 490 Stittsville, Ontario K2S 1A6	
Name of Well Technician: S. Miller	Well Technician's Licence No.: T0097
Signature of Technician/Contractor	Submission date: day 16 mo 12 yr 97

MINISTRY USE ONLY

Data source — Contractor: 1558 — Date received: JAN 0 8 1998

Date of inspection — Inspector

Remarks

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Ministry of Environment and Energy
Ontario

The Ontario Water Resources Act
WATER WELL RECORD

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

11 | 1530340 | Municipality 15005 | Con. CON 03

County or District	Township/Borough/City/Town/Village	Con block tract survey, etc.	Lot
[redacted]	West Carleton - Huntley	3	6
	Address: 154 Colonnade Road Nepean,Ontario K2E 7J5	Date completed: 21 day 10 month 98 year	

21 | 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	Boulders & Gravel		0	11'6"

31

32

41 WATER RECORD

Water found at – feet	Kind of water
	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 6 ☐ Gas
	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 6 ☐ Gas
	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 6 ☐ Gas
	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 6 ☐ Gas
	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 6 ☐ Gas

51 CASING & OPEN HOLE RECORD

Inside diam inches	Material	Wall thickness inches	Depth – feet From	Depth – feet To
	1 ☐ Steel 2 ☐ Galvanized 3 ☐ Concrete 4 ☐ Open hole 5 ☒ Plastic		0	11'6"
	1 ☐ Steel 2 ☐ Galvanized 3 ☐ Concrete 4 ☐ Open hole 5 ☐ Plastic			
	1 ☐ Steel 2 ☐ Galvanized 3 ☐ Concrete 4 ☐ Open hole 5 ☐ Plastic			

SCREEN

Sizes of opening (Slot No.)	Diameter	Length
	2 inches	6'6" feet
Material and type: Gravel Packed	Depth at top of screen: 5 feet	

61 PLUGGING & SEALING RECORD

☐ Annular space ☐ Abandonment

Depth set at – feet From	To	Material and type (Cement grout, bentonite, etc.)
11'6"	0	Gravel Packed
3	0	Hole Plug

71 PUMPING TEST

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

Static level	Water level end of pumping	Water levels during 1 ☐ Pumping 2 ☐ Recovery: 15 minutes	30 minutes	45 minutes	60 minutes
feet	feet	feet	feet	feet	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: feet | Recommended pump rate: GPM

LOCATION OF WELL

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

194767

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 used
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

Name of Well Contractor	Well Contractor's Licence No.
Capital Water Supply Ltd.	1558
Address: P.O. Box 490 Stittsville,Ontario K2S 1A6	
Name of Well Technician: S. MIller	Well Technician's Licence No.: T0097
Signature of Technician/Contractor: [signature]	Submission date: day 23 mo 10 yr 98

MINISTRY USE ONLY

Data source	Contractor	Date received
	1558	DEC 08 1998
Date of inspection	Inspector	
Remarks		CSS. ES9

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Ministry of Environment and Energy
Ontario

The Ontario Water Resources Act

WATER WELL RECORD

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11

1530341

Municipality: 15005 Con.: CON 03

County or District	Township/Borough/City/Town/Village	Con block tract survey, etc.	Lot
[redacted]	West Carleton - Huntley	3	6

Address: [redacted]54 Colonnade Rd Nepean,Ontario K2E 7J5

Date completed: 21 day 10 month 98 year

21 — Northing — RC — Elevation — RC — Basin Code — 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
Brown	Sand	Boulders & Gravel		0	11'6"

31

32

41 WATER RECORD

Water found at – feet	Kind of water
	☐ Fresh ☐ Salty ☐ Sulphur ☐ Minerals ☐ Gas
	☐ Fresh ☐ Salty ☐ Sulphur ☐ Minerals ☐ Gas
	☐ Fresh ☐ Salty ☐ Sulphur ☐ Minerals ☐ Gas
	☐ Fresh ☐ Salty ☐ Sulphur ☐ Minerals ☐ Gas
	☐ Fresh ☐ Salty ☐ Sulphur ☐ Minerals ☐ Gas

51 CASING & OPEN HOLE RECORD

Inside diam inches	Material	Wall thickness inches	Depth – feet From	Depth – feet To
	☐ Steel ☐ Galvanized ☐ Concrete ☐ Open hole ☒ Plastic		0	11'6"
	☐ Steel ☐ Galvanized ☐ Concrete ☐ Open hole ☐ Plastic			
	☐ Steel ☐ Galvanized ☐ Concrete ☐ Open hole ☐ Plastic			

SCREEN

Sizes of opening (Slot No.)	Diameter	Length
	2 inches	6'6" feet

Material and type: Gravel Packed
Depth at top of screen: 5 feet

61 PLUGGING & SEALING RECORD

☐ Annular space ☐ Abandonment

Depth set at – feet From	To	Material and type (Cement grout, bentonite, etc.)
11'6"	3	Gravel Packed
3	0	Hole Plug

71 PUMPING TEST

Pumping test method: ☐ Pump ☐ Bailer
Pumping rate: GPM
Duration of pumping: .... Hours .... Mins

Static level	Water level end of pumping	Water levels during ☐ Pumping ☐ Recovery: 15 minutes	30 minutes	45 minutes	60 minutes
feet	feet	feet	feet	feet	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: feet
Recommended pump rate: 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 used
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.

194770

Name of Well Contractor: Capital Water Supply Ltd.
Well Contractor's Licence No.: 1558
Address: P.O. Box 490 Stittsville,Ontario K2S 1A6
Name of Well Technician: S. Miller
Well Technician's Licence No.: T0097
Signature of Technician/Contractor: [signature]
Submission date: day 23 mo 10 yr 98

MINISTRY USE ONLY

Data source — Contractor: 1558 — Date received: DEC 0 8 1998
Date of inspection — Inspector
Remarks

CSS. ES9

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Ontario

The Ontario Water Resources Act
WATER WELL RECORD

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11 (1 2) **1530342**

Municipality (10–14): 15095 Con. (15–22 23 24): CON 03

County or District	Township/Borough/City/Town/Village	Con block tract survey, etc.	Lot (25–27)
[redacted]	West Carleton – Huntley	3	6

Address: 54 Colonnade Rd. Nepean, Ontario K2E 7J5

Date completed (48–53): 21 day 10 month 98 year

21 (1 2) — T M (10) — Northing (12–17) — (18–24) — RC (25) — Elevation (26) — RC (30) — Basin Code (31) — i ii iii iv (47)

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	Boulders & Gravel		0	11'6"

31

32 (10 14 15 21 32 43 54 65 75 80)

41 WATER RECORD

Water found at – feet	Kind of water
10–13	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 6 ☐ Gas (14)
15–18	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 6 ☐ Gas (19)
20–23	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 6 ☐ Gas (24)
25–28	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 6 ☐ Gas (29)
30–33	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 6 ☐ Gas (34) (60)

51 CASING & OPEN HOLE RECORD

Inside diam inches	Material	Wall thickness inches	Depth – feet From	Depth – feet To
10–11	1 ☐ Steel (12) 2 ☐ Galvanized 3 ☐ Concrete 4 ☐ Open hole 5 ☒ Plastic		0	11'6" (13–16)
17–18	1 ☐ Steel (19) 2 ☐ Galvanized 3 ☐ Concrete 4 ☐ Open hole 5 ☐ Plastic			(20–23)
24–25	1 ☐ Steel (26) 2 ☐ Galvanized 3 ☐ Concrete 4 ☐ Open hole 5 ☐ Plastic			(27–30)

SCREEN

Sizes of opening (Slot No.) (31–33)	Diameter (34–38)	Length (39–40)
	2 inches	6'6" feet

Material and type	Depth at top of screen (41–44)	(30)
Gravel Packed	5 feet	

61 PLUGGING & SEALING RECORD

☒ Annular space ☐ Abandonment

Depth set at – feet From (10–13)	To (14–17)	Material and type (Cement grout, bentonite, etc.)
11'6" (18–21)	3 (22–25)	Gravel Packed
3 (26–29)	0 (30–33)	Hole Plug (80)

71 PUMPING TEST

Pumping test method (10): 1 ☐ Pump 2 ☐ Bailer

Pumping rate (11–14): GPM

Duration of pumping (15–16 17–18): ..... Hours ..... Mins

Static level (19–21) feet	Water level end of pumping (22–24) feet	Water levels during (25): 1 ☐ Pumping 2 ☐ Recovery			
		15 minutes (26–28) feet	30 minutes (29–31) feet	45 minutes (32–34) feet	60 minutes (35–37) feet

If flowing give rate (38–41) GPM	Pump intake set at feet	Water at end of test (42): ☐ Clear ☐ Cloudy
Recommended pump type: ☐ Shallow ☐ Deep (50–53)	Recommended pump setting (43–45) feet	Recommended pump rate (46–49) GPM

LOCATION OF WELL

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

194768

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 used
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.
Capital Water Supply Ltd.	1558
Address: P.O. Box 490 Stittsville, Ontario K2S 1A6	
Name of Well Technician: S. Miller	Well Technician's Licence No.: T0097
Signature of Technician/Contractor	Submission date: day 23 mo 10 yr 98

MINISTRY USE ONLY

Data source (58)	Contractor (59–62)	Date received (63–68) (80)
	1558	DEC 0 8 1998
Date of inspection	Inspector	
Remarks: CSS. ES9		

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Ministry of Environment and Energy
Ontario

The Ontario Water Resources Act
WATER WELL RECORD

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

11 (1 2) **1530343**

Municipality (10–14): 15005 Con. (15–22 23 24): CON 03

County or District	Township/Borough/City/Town/Village	Con block tract survey, etc.	Lot (25-27)
[redacted]	West Carleton - Huntley	3	6

Address: 54 Colonnade Rd Nepean,Ontario K2E 7J5

Date completed (48-53): 21 day 10 month 98 year

21 (1 2) — 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
Brown	Sand	Boulders & Gravel		0	11'6"

31

32 (10 14 15 21 32 43 54 65 75 80)

41 WATER RECORD

Water found at – feet	Kind of water
10-13	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 6 ☐ Gas (14)
15-18	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 6 ☐ Gas (19)
20-23	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 6 ☐ Gas (24)
25-28	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 6 ☐ Gas (29)
30-33	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 6 ☐ Gas (34) (60)

51 CASING & OPEN HOLE RECORD

Inside diam inches	Material	Wall thickness inches	Depth – feet From	Depth – feet To
10-11	1 ☐ Steel 2 ☐ Galvanized 3 ☐ Concrete 4 ☐ Open hole 5 ☒ Plastic (12)		0	11'6" (13-16) (20-23)
17-18	1 ☐ Steel 2 ☐ Galvanized 3 ☐ Concrete 4 ☐ Open hole 5 ☐ Plastic (19)			
24-25	1 ☐ Steel 2 ☐ Galvanized 3 ☐ Concrete 4 ☐ Open hole 5 ☐ Plastic (26)			(27-30)

SCREEN

Sizes of opening (Slot No.) (31-33)	Diameter (34-38)	Length (39-40)
	2 inches	6'6" feet

Material and type: Gravel Packed

Depth at top of screen (41-44): 5 feet (30)

61 PLUGGING & SEALING RECORD

☒ Annular space ☐ Abandonment

Depth set at – feet From (10-13)	Depth set at – feet To (14-17)	Material and type (Cement grout, bentonite, etc.)
11'6" (18-21)	3 (22-25)	Gravel Packed
3 (26-29)	0 (30-33)	Hole Plug (80)

71 PUMPING TEST

Pumping test method (10): 1 ☐ Pump 2 ☐ Bailer

Pumping rate (11-14): GPM

Duration of pumping (15-16 Hours, 17-18 Mins): ..... Hours ..... Mins

Static level (19-21) feet	Water level end of pumping (22-24) feet	Water levels during (25): 1 ☐ Pumping 2 ☐ Recovery			
		15 minutes (26-28) feet	30 minutes (29-31) feet	45 minutes (32-34) feet	60 minutes (35-37) feet

If flowing give rate (38-41)	Pump intake set at	Water at end of test (42)
GPM	feet	☐ Clear ☐ Cloudy

Recommended pump type	Recommended pump setting (43-45)	Recommended pump rate (46-49)
☐ Shallow ☐ Deep	feet	GPM

(50-53)

LOCATION OF WELL

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

194769

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 used
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.
Capital Water Supply Ltd.	1558

Address: P.O. Box 490 Stittsville,Ontario K2S 1A6

Name of Well Technician	Well Technician's Licence No.
S. Miller	T0097

Signature of Technician/Contractor: Walter Kavanagh

Submission date: day 23 mo 10 yr 98

MINISTRY USE ONLY

Data source (58)	Contractor (59-62)	Date received (63-68) (80)
	1558	DEC 0 8 1998

Date of inspection | Inspector

Remarks: CSS. ES9

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WATER WELL RECORD

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11 **1531132** Municipality 15005 Con. CON 03

County or District	Township/Borough/City/Town/Village	Con block tract survey, etc.	Lot
Ottawa Carleton	West Carleton - Huntley	3	6

Owner's surname / First Name	Address	Date completed
Pri-Tec Construction Ltd.	P.O. Box 13090 Kanata, Ontario K2K 1X3	5 day 6 month 00 year

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	Sandy & Gravel		Loose	0	3
Brown	Clay		Packed	3	15
Gray	Sandy Clay	Stones	Loose	15	27
Gray	Limestone		Medium Hard	27	33
Gray	Limestone		Badley Broken	33	40
Gray	Limestone		Medium Hard	40	75

31

32

41 WATER RECORD

Water found at - feet	Kind of water
33-40	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 5 ☐ Gas — NOT TESTED
	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 1/4	1 ☐ Steel 2 ☒ Galvanized 3 ☐ Concrete 4 ☐ Open hole 5 ☐ Plastic	.188	0	31
6	1 ☐ Steel 2 ☐ Galvanized 3 ☐ Concrete 4 ☒ Open hole 5 ☐ Plastic		31	75
	1 ☐ Steel 2 ☐ Galvanized 3 ☐ Concrete 4 ☐ Open hole 5 ☐ Plastic			

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	Depth set at - feet To	Material and type (Cement grout, bentonite, etc.)
30	0	Grouted - Cement (5)

71 PUMPING TEST

Pumping test method	Pumping rate	Duration of pumping
1 ☒ Pump 2 ☐ Bailer	30 GPM	1 Hours ..... Mins

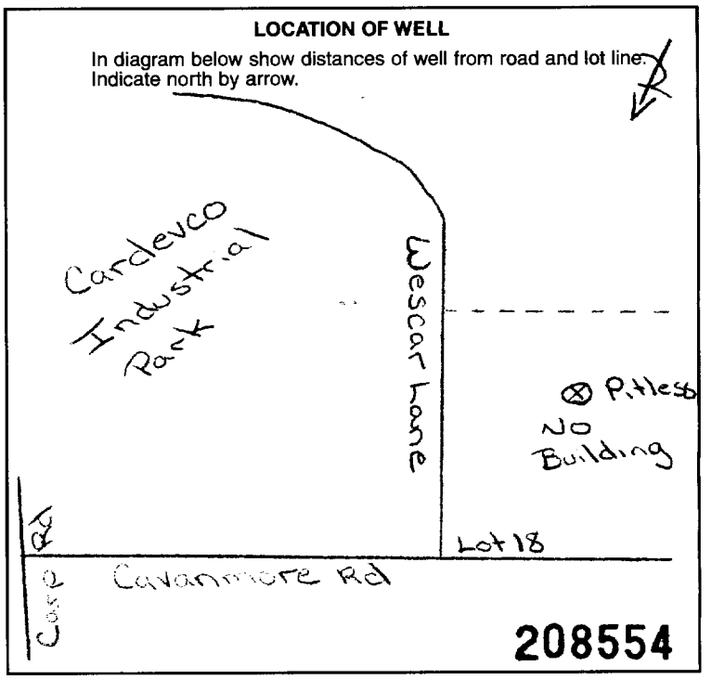
Static level	Water level end of pumping	Water levels during	15 minutes	30 minutes	45 minutes	60 minutes
15'10"	25 feet	1 ☒ Pumping 2 ☐ Recovery	70 feet	70 feet	50 feet	25 feet

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	30 feet	5 GPM

LOCATION OF WELL

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



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) ☒ mud 5 ☒ Air percussion 6 ☒ Boring 7 ☐ Diamond 8 ☐ Jetting 9 ☐ Driving 10 ☐ Digging 11 ☐ Other .....

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

Address
P.O. Box 490 Stittsville, Ontario K2S 1A6

Name of Well Technician	Well Technician's Licence No.
S. Miller	T0097

Signature of Technician/Contractor	Submission date
	day 6 mo 4 yr 00

MINISTRY USE ONLY

Data source	Contractor	Date received
	1558	JUN 20 2000

Date of inspection	Inspector

Remarks: CSS.ES0

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The Ontario Water Resources Act
WATER WELL RECORD

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11 (1 2) **1532398** Municipality 15005 (10 14) Con. CON (15 22 23 24) 03

County or District	Township/Borough/City/Town/Village	Con block tract survey, etc.	Lot (25-27)
Ottawa Carleton	West Carleton Huntley	3	6

[redacted]

Address: 357 William Mooney Rd., Carp ON. K0A 1L0

Date completed (48-53): 01 (day) 10 (month) 01 (year)

21 (1 2) | UTM (10) | Northing (12-17) | RC | Elevation (18-24) | RC (25) | Basin Code (26) | ii (30) | iii (31) | iv (47)

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			0	8
Brown	sandy clay	stones		8	16
Grey	limestone			16	125
	Note: Casing was left 12" aboce ground level at time of drilling.				

31 (10 14 15 21) | 32 (32 43 54 65 75 80)

41 WATER RECORD

Water found at - feet	Kind of water
69 (10-13)	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 6 ☐ Gas (14)
117 (15-18)	NOT TESTED (19)
(20-23)	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 6 ☐ Gas (24)
(25-28)	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 6 ☐ Gas (29)
(30-33)	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 6 ☐ Gas (34) (60)

51 CASING & OPEN HOLE RECORD

Inside diam inches	Material	Wall thickness inches	Depth - feet From	Depth - feet To
6 1/4	1 ☒ Steel (12) 2 ☐ Galvanized 3 ☐ Concrete 4 ☐ Open hole 5 ☐ Plastic	.188	0	21'6"
(17-18) 6	1 ☐ Steel (19) 2 ☐ Galvanized 3 ☐ Concrete 4 ☒ Open hole 5 ☐ Plastic		21'6"	(20-23) 125
(24-25)	1 ☐ Steel (26) 2 ☐ Galvanized 3 ☐ Concrete 4 ☐ Open hole 5 ☐ Plastic			(27-30)

SCREEN

Sizes of opening (Slot No.) (31-33)	Diameter (34-38) inches	Length (39-40) feet
Material and type	Depth at top of screen (41-44) feet	(30)

61 PLUGGING & SEALING RECORD

☒ Annular space ☐ Abandonment

Depth set at - feet From	Depth set at - feet To	Material and type (Cement grout, bentonite, etc.)
21'6" (10-13)	0 (14-17)	Grouted-cement (3)
(18-21)	(22-25)	
(26-29)	(30-33) (80)	

71 PUMPING TEST

Pumping test method (10)	Pumping rate (11-14)	Duration of pumping (15-16 Hours, 17-18 Mins)
1 ☒ Pump 2 ☐ Bailer	5 GPM	1 Hours

Static level (19-21)	Water level end of pumping (22-24)	Water levels during (25)	15 minutes (26-28)	30 minutes (29-31)	45 minutes (32-34)	60 minutes (35-37)
28'4" feet	60 feet	1 ☒ Pumping 2 ☐ Recovery	115 feet	90 feet	75 feet	60 feet

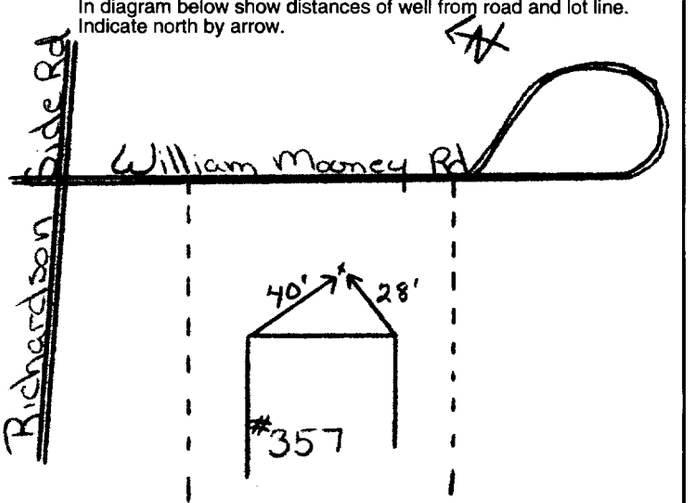
If flowing give rate (38-41)	Pump intake set at	Water at end of test (42)
GPM	feet	☐ Clear ☒ Cloudy

Recommended pump type	Recommended pump setting (43-45)	Recommended pump rate (46-49)
☐ Shallow ☒ Deep	100 feet	5 GPM

(50-53)

LOCATION OF WELL

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



230271

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.
Capital Water Supply Ltd.	1558
Address: Box 490, Stittsville, ON/ K2S 1A6	
Name of Well Technician	Well Technician's Licence No.
S. Miller	T0097
Signature of Technician/Contractor	Submission date: day 05 mo 10 yr 01

MINISTRY USE ONLY

Data source (58)	Contractor (59-62)	Date received (63-68) (80)
	1558	NOV 27 2001
Date of inspection	Inspector	
Remarks		CSS.ES1

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Ontario Ministry of the Environment

The Ontario Water Resources Act
WATER WELL RECORD

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Mark correct box with a checkmark, where applicable.

11 (1 2) **1532402** Municipality 15005 (10 14) Con. CON 03 (15 22 23 24)

County or District	Township/Borough/City/Town/Village	Con block tract survey, etc.	Lot (25-27)
Ottawa Carleton	West Carleton - Huntley	3	6
Owner's surname (28-47) / First Name	**Address**	**Date completed** (48-53)	
Gracey Construction	111 Manion Road Carp, Ontario K0A 1L0	23 day 10 mon 01 year	

21 (1 2) UTM Zone (10) Easting (12 17) Northing (18 24) RC (25) Elevation (26) RC (30) Basin Code (31) ii iii iv (47)

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			0	6
Gray	Limestone			6	75

31 (10 14 15 21) 32 (32 43 54 65 75 80)

41 WATER RECORD

Water found at - feet	Kind of water
(10-13) 62	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 6 ☐ Gas — NOT TESTED (14)
(15-18)	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 6 ☐ Gas (19)
(20-23)	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 6 ☐ Gas (24)
(25-28)	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 6 ☐ Gas (29)
(30-33)	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 6 ☐ Gas (34)

(60)

51 CASING & OPEN HOLE RECORD

Inside diam inches	Material	Wall thickness inches	Depth - feet From	Depth - feet To
6 1/4 (10-11)	1 ☒ Steel (12) 2 ☐ Galvanized 3 ☐ Concrete 4 ☐ Open hole 5 ☐ Plastic	.188	0	22.5 (15-16)
(17-18) 6	1 ☐ Steel (19) 2 ☐ Galvanized 3 ☐ Concrete 4 ☒ Open hole 5 ☐ Plastic		22.5	75 (20-23)
(24-25)	1 ☐ Steel (26) 2 ☐ Galvanized 3 ☐ Concrete 4 ☐ Open hole 5 ☐ Plastic			(27-30)

SCREEN

Sizes of opening (Slot No.) (31-33)	Diameter (34-38) inches	Length (39-40) feet
Material and type	Depth at top of screen (41-44) feet	(30)

61 PLUGGING & SEALING RECORD

☒ Annular space ☐ Abandonment

Depth set at - feet From (10-13)	Depth set at - feet To (14-17)	Material and type (Cement grout, bentonite, etc.)
21	0	Grouted - Cement (3)
(18-21)	(22-25)	
(26-29)	(30-33)	(80)

71 PUMPING TEST

Pumping test method (10): 1 ☒ Pump 2 ☐ Bailer

Pumping rate (11-14): 25 GPM

Duration of pumping (15-16): 1 Hours (17-18) Mins

Static level (19-21): 4'2" feet

Water level end of pumping (22-24): 20 feet

Water levels during (25): 1 ☒ Pumping 2 ☐ Recovery

15 minutes (26-28)	30 minutes (29-31)	45 minutes (32-34)	60 minutes (35-37)
70 feet	50 feet	50 feet	20 feet

If flowing give rate (38-41): GPM

Pump intake set at: feet

Water at end of test (42): ☐ Clear ☒ Cloudy

Recommended pump type: ☐ Shallow ☒ Deep (50-53)

Recommended pump setting (43-45): 50 feet

Recommended pump rate (46-49): 5 GPM

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)

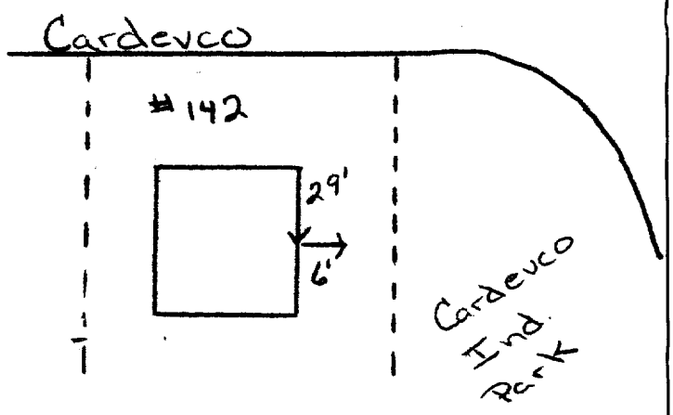
1 ☒ Domestic 2 ☐ Stock 3 ☐ Irrigation 4 ☐ Industrial 5 ☐ Commercial 6 ☐ Municipal 7 ☐ Public supply 8 ☐ Cooling & air conditioning 9 ☐ Not use 10 ☐ Other

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

LOCATION OF WELL

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



238005

Name of Well Contractor	Well Contractor's Licence No.
Capital Water Supply Ltd.	1558
Address	
P.O. Box 490 Stittsville, Ontario K2S 1A6	
Name of Well Technician	**Well Technician's Licence No.**
S. Miller	T0097
Signature of Technician/Contractor	**Submission date** day 24 mo 10 yr 01

MINISTRY USE ONLY

Data source (58)	Contractor (59-62)	Date received (63-68) (80)
	1558	NOV 28 2001
Date of inspection	Inspector	
Remarks		

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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 **1532757** Municipality 15005 Con. CON 03

County or District	Township/Borough/City/Town/Village	Con block tract survey, etc.	Lot
Ottawa Carleton	West Carleton - Huntley	3	6

Owner's surname / First Name	Address	Date completed
Gracey Construction	111 Manion Rd. R.R. #2 Car,Ontario K0A 1L0	29 day 4 month 02 year

21 UTM Zone | Easting | Northing | RC | Elevation | RC | Basin Code | 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
Brown & red	Sand			0	13
Gray	Sand & gravel			13	16
Gray	Limestone			16	60
		Note; Casing was left 1 foot above ground level			
		at time of drilling			

31

32

41 WATER RECORD

Water found at - feet	Kind of water
27	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 6 ☐ Gas
51	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 6 ☐ Gas
NOT TESTED	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 6 ☐ Gas
	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 6 ☐ Gas
	1 ☐ Fresh 2 ☐ Salty 3 ☐ Sulphur 4 ☐ Minerals 6 ☐ Gas

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	22.5
6	1 ☐ Steel 2 ☐ Galvanized 3 ☐ Concrete 4 ☒ Open hole 5 ☐ Plastic		22.5	60
	1 ☐ Steel 2 ☐ Galvanized 3 ☐ Concrete 4 ☐ Open hole 5 ☐ Plastic			

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	Depth set at - feet To	Material and type (Cement grout, bentonite, etc.)
21.5	0	Grouted - Cement (4)

71 PUMPING TEST

Pumping test method: 1 ☒ Pump 2 ☐ Bailer

Pumping rate: 15 GPM

Duration of pumping: 1 Hours Mins

Water levels during: ☒ Pumping 2 ☐ Recovery

Static level	Water level end of pumping	15 minutes	30 minutes	45 minutes	60 minutes
4'3" feet	25 feet	55 feet	40 feet	40 feet	25 feet

If flowing give rate: GPM

Pump intake set at: feet

Water at end of test: ☐ Clear ☒ Cloudy

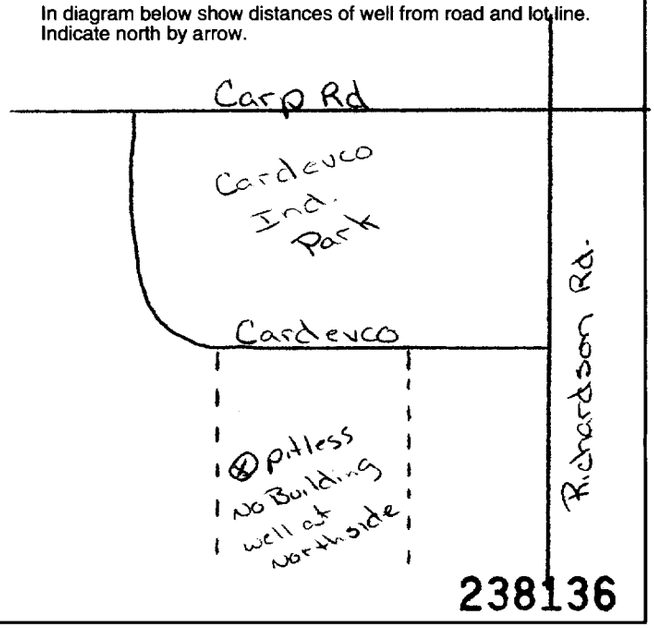
Recommended pump type: ☐ Shallow ☒ Deep

Recommended pump setting: 40 feet

Recommended pump rate: 5 GPM

LOCATION OF WELL

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



238136

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

Name of Well Contractor	Well Contractor's Licence No.
Capital Water Supply Ltd.	1558
Address: P.O. Box 490 Stittsville,Ontario K2S1A6	
Name of Well Technician: S. Miller	Well Technician's Licence No.: T0097
Signature of Technician/Contractor	Submission date: day 30 mo 4 yr 02

MINISTRY USE ONLY

Data source | Contractor: 1558 | Date received: MAY 06 2002

Date of inspection | Inspector

Remarks: CSS.ES2

0506 (07/00) Front Form 9

2 - MINISTRY OF THE ENVIRONMENT COPY

Ontario Ministry of the Environment

Well Tag Number (Place sticker and print number below)
A 035386
A035386

Well Record
Regulation 903 Ontario Water Resources Act

page ___ of ___

Instructions for Completing Form

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- **All metre measurements shall be reported to 1/10th of a metre.**
- Please print clearly in blue or black ink only.

Ministry Use Only
MUN | CON | LOT

Well Owner's Information and Location of Well Information

First Name	Last Name	Mailing Address (Street Number/Name, RR,Lot,Concession)
Gold Haven Construction		Box 72059

County/District/Municipality	Township/City/Town/Village	Province	Postal Code	Telephone Number (include area code)
Ottawa Carleton	Kanata	Ontario	K2K 2P4	613 724 8627

Address of Well Location (County/District/Municipality)	Township	Lot	Concession
Ottawa Carleton	West Carleton - Huntley	6	3

RR#/Street Number/Name	City/Town/Village	Site/Compartment/Block/Tract etc.
Wescar Lane	Carp	

GPS Reading: NAD 83 | Zone 18 | Easting 42 31 96 | Northing 501 58 13
Unit Make/Model: Garmin
Mode of Operation: ☐ Undifferentiated ☒ Averaged ☐ Differentiated, specify

Log of Overburden and Bedrock Materials (see instructions)

General Colour	Most common material	Other Materials	General Description	Depth From	Depth To (Metres)
Brown	Sand		Dry	0	1.21
Brown	Sand & Gravel		Wet	1.21	1.82
Brown	Clay		Loose	1.82	9.14
Gray	Sand & Boulders			9.14	10.66
Gray	Limestone			10.66	19.81

Hole Diameter

Depth From	Depth To (Metres)	Diameter (Centimetres)
0	11.27	22.75
11.27	19.81	15.39

Water Record

Water found at Metres	Kind of Water
13.71 m	☐ Fresh ☐ Sulphur ☐ Gas ☐ Salty ☐ Minerals ☐ Other:
18.28 m	☐ Fresh ☐ Sulphur ☐ Gas ☐ Salty ☐ Minerals ☐ Other: Not TESTED
___ m	☐ Fresh ☐ Sulphur ☐ Gas ☐ Salty ☐ Minerals ☐ Other:

After test of well yield, water was
☒ Clear and sediment free
☐ Other, specify

Chlorinated ☒ Yes ☐ No

Construction Record

Inside diam centimetres	Material	Wall thickness centimetres	Depth From	Depth To (Metres)
Casing				
15.86	☒ Steel ☐ Fibreglass ☐ Plastic ☐ Concrete ☐ Galvanized	.48	+ .45	11.27
	☐ Steel ☐ Fibreglass ☐ Plastic ☐ Concrete ☐ Galvanized			
	☐ Steel ☐ Fibreglass ☐ Plastic ☐ Concrete ☐ Galvanized			
Screen				
Outside diam	☐ Steel ☐ Fibreglass ☐ Plastic ☐ Concrete ☐ Galvanized	Slot No.		
No Casing or Screen				
15.39	☒ Open hole		11.27	19.81

Test of Well Yield

Pumping test method: submersible
Pump intake set at - (metres) 12.19
Pumping rate - (litres/min) 54.6
Duration of pumping 2 hrs + ___ min
Final water level end of pumping 1.87 metres
Recommended pump type. ☐ Shallow ☒ Deep
Recommended pump depth. 12.19 metres
Recommended pump rate. 45.5 (litres/min)
If flowing give rate - (litres/min)
If pumping discontinued, give reason.

Draw Down Time min	Draw Down Water Level Metres	Recovery Time min	Recovery Water Level Metres
Static Level	.91		
1	1.39	1	1.35
2	1.46	2	1.32
3	1.52	3	1.22
4	1.56	4	1.23
5	1.60	5	1.20
10	1.70	10	1.10
15	1.79	15	1.03
20	1.82	20	.97
25	1.84	25	.96
30	1.86	30	.94
40	1.86	40	.93
50	1.88	50	.92
60	1.88	60	.92

Plugging and Sealing Record

☒ Annular space ☐ Abandonment

Depth set at - Metres From	Depth set at - Metres To	Material and type (bentonite slurry, neat cement slurry) etc.	Volume Placed (cubic metres)
11.27	0	Grouted - Bentonite Slurry	.42m3

Method of Construction

☐ Cable Tool ☒ Rotary (air) ☐ Diamond ☐ Digging
☐ Rotary (conventional) ☒ Air percussion ☐ Jetting ☐ Other
☐ Rotary (reverse) ☐ Boring ☐ Driving

Water Use

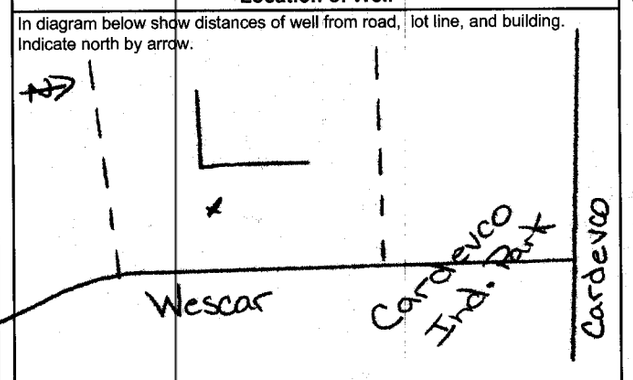
☒ Domestic ☐ Industrial ☐ Public Supply ☐ Other
☐ Stock ☐ Commercial ☐ Not used
☐ Irrigation ☐ Municipal ☐ Cooling & air conditioning

Final Status of Well

☒ Water Supply ☐ Recharge well ☐ Unfinished ☐ Abandoned, (Other)
☐ Observation well ☐ Abandoned, insufficient supply ☐ Dewatering
☐ Test Hole ☐ Abandoned, poor quality ☐ Replacement well

Location of Well

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



Audit No. Z 46974
Date Well Completed: YYYY 2006 MM 5 DD 30
Was the well owner's information package delivered? ☒ Yes ☐ No
Date Delivered: YYYY 2006 MM 6 DD 1

Well Contractor/Technician Information

Name of Well Contractor: Capital Water Supply Ltd.
Well Contractor's Licence No.: 1558
Business Address (street name, number, city etc.): Box 490 Stittsville, Ontario K2s 1A6
Name of Well Technician (last name, first name): Miller; Stephen
Well Technician's Licence No.: T0097
Signature of Technician/Contractor
Date Submitted: YYYY 2006 MM 6 DD 1

Ministry Use Only
Data Source
Contractor: 1558
Date Received: YYYY JUL 11 2006 MM DD
Date of Inspection: YYYY MM DD
Remarks
Well Record Number

0506E (09/03) Contractor's Copy ☐ Ministry's Copy ☐ Well Owner's Copy ☐

Cette formule est disponible en français

Ontario — Ministry of the Environment

Well Tag No. (place sticker and print number below): A 041980 — A041980

Well Record

Regulation 903 Ontario Water Resources Act

page ___ of ___

Instructions for Completing Form

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- Please print clearly in blue or black ink only.

Ministry Use Only

MUN	CON	LOT

Well Owner's Information and Location of Well Information

First Name	Last Name	Mailing Address (Street Number/Name, RR, Lot, Concession)
Mortgage Edge		144 Wescar Lane

County/District/Municipality	Township/City/Town/Village	Province	Postal Code	Telephone Number (include area code)
Ottawa Carleton	Carp	Ontario	KOA 1LO	613 836 1751

Address of Well Location (County/District/Municipality)	Township	Lot	Concession
Ottawa Carleton	West Carleton - Huntley	6	3

RR#/Street Number/Name	City/Town/Village	Site/Compartment/Block/Tract etc.
132 Wescar Lane	Carp	

GPS Reading	NAD	Zone	Easting	Northing	Unit Make/Model	Mode of Operation
	83	18	42 32 09	501 59 21	Garmin	☐ Undifferentiated ☒ Averaged ☐ Differentiated, specify

Log of Overburden and Bedrock Materials (see instructions)

General Colour	Most common material	Other Materials	General Description	Depth Metres From	Depth Metres To
Brown	Sandy Clay	Stones		0	3.65
Gray	Sandy Clay	Stones		3.65	7.31
Gray	Limestone	Dark Layers	Medium	7.31	52.72

Hole Diameter

Depth Metres From	Depth Metres To	Diameter Centimetres
0	8.22	22.75
8.22	52.72	15.23

Water Record

Water found at Metres	Kind of Water
50.59	☐ Gas ☐ Fresh ☐ Salty ☐ Sulphur ☐ Minerals ☐ Other: not tested
___ m	☐ Gas ☐ Fresh ☐ Salty ☐ Sulphur ☐ Minerals ☐ Other:
___ m	☐ Gas ☐ Fresh ☐ Salty ☐ Sulphur ☐ Minerals ☐ Other:

After test of well yield, water was: ☒ Clear and sediment free ☐ Other, specify

Chlorinated ☒ Yes ☐ No

Construction Record

Inside diam centimetres	Material	Wall thickness centimetres	Depth Metres From	Depth Metres To
Casing				
15.86	☒ Steel ☐ Fibreglass ☐ Plastic ☐ Concrete ☐ Galvanized	.48	+ .45	8.22
	☐ Steel ☐ Fibreglass ☐ Plastic ☐ Concrete ☐ Galvanized			
	☐ Steel ☐ Fibreglass ☐ Plastic ☐ Concrete ☐ Galvanized			
Screen (Outside diam)	☐ Steel ☐ Fibreglass ☐ Plastic ☐ Concrete ☐ Galvanized	Slot No.		
No Casing or Screen				
15.23	☒ Open hole		8.22	52.72

Test of Well Yield

Pumping test method: submersible

Pump intake set at - (metres): 45.71

Pumping rate - (litres/min): 40.95

Duration of pumping: 3 hrs + ___ min

Final water level end of pumping: 18.01 metres

Recommended pump type: ☐ Shallow ☒ Deep

Recommended pump depth: 30.47 metres

Recommended pump rate: 40.95 (litres/min)

If flowing give rate - (litres/min):

If pumping discontinued, give reason.

Draw Down Time min	Draw Down Water Level Metres	Recovery Time min	Recovery Water Level Metres
Static Level	4.49		
1	6.69	1	15.19
2	8.11	2	13.06
3	9.27	3	11.41
4	10.30	4	10.37
5	11.21	5	9.56
10	14.50	10	6.88
15	15.72	15	5.83
20	16.33	20	5.47
25	16.57	25	5.34
30	16.72	30	5.25
40	16.88	40	5.19
50	17.50	50	5.17
60	17.63	60	5.17

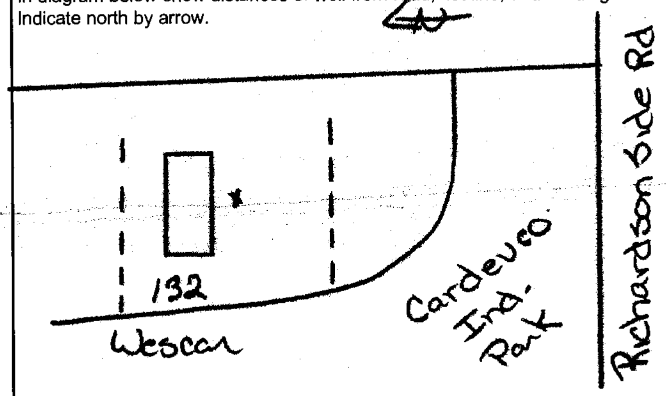
Plugging and Sealing Record

☒ Annular space ☐ Abandonment

Depth set at - Metres From	Depth set at - Metres To	Material and type (bentonite slurry, neat cement slurry) etc.	Volume Placed (cubic metres)
8.22	0	Grouted - Bentonite Slurry	.42m3

Location of Well

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



Method of Construction

☐ Cable Tool ☐ Rotary (conventional) ☐ Rotary (reverse) ☒ Rotary (air) ☒ Air percussion ☐ Boring ☐ Diamond ☐ Jetting ☐ Driving ☐ Digging ☐ Other

Water Use

☒ Domestic ☐ Stock ☐ Irrigation ☐ Industrial ☐ Commercial ☐ Municipal ☐ Public Supply ☐ Not used ☐ Cooling & air conditioning ☐ Other

Final Status of Well

☒ Water Supply ☐ Observation well ☐ Test Hole ☐ Recharge well ☐ Abandoned, insufficient supply ☐ Abandoned, poor quality ☐ Unfinished ☐ Dewatering ☐ Replacement well ☐ Abandoned, (Other)

Audit No. Z 47066

Date Well Completed: 2006 / 8 / 30

Was the well owner's information package delivered? ☒ Yes ☐ No

Date Delivered: 2006 / 8 / 31

Well Contractor/Technician Information

Name of Well Contractor: Capital Water Supply Ltd.

Well Contractor's Licence No.: 1558

Business Address (street name, number, city etc.): Box 490 Stittsville, Ontario K2S 1A6

Name of Well Technician (last name, first name): Miller, Stephen

Well Technician's Licence No.: T0097

Signature of Technician/Contractor: x [signature]

Date Submitted: 2006 / 8 / 31

Ministry Use Only

Data Source

Contractor: 1558

Date Received: NOV 17 2006

Date of Inspection

Remarks

Well Record Number

0506E (09/03)

Contractor's Copy ☐ Ministry's Copy ☐ Well Owner's Copy ☐

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Ontario Ministry of the Environment

Well Tag Number (Place sticker and print number below)
A 053904
A053904

Well Record
Regulation 903 Ontario Water Resources Act

page 1 of 3

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- Please print clearly in blue or black ink only.

Ministry Use Only
MUN | CON | LOT

Well Owner's Information and Location of Well Information

[redacted]

OTTAWA - City | West - Carleton | 10-11-12 | 24-30
RR#/Street Number/Name | City/Town/Village | Site/Compartment/Block/Tract etc.
126 - WESCAR - LANE | OTTAWA | 4M-356-4R-7616

GPS Reading: NAD 83 | Zone 18 | Easting 423356 | Northing 5015890
Unit Make/Model: Magellan | Mode of Operation: UTM | ☐ Undifferentiated ☑ Averaged ☐ Differentiated, specify

Log of Overburden and Bedrock Materials (see instructions)

General Colour	Most common material	Other Materials	General Description	Depth From	Depth To (Metres)
Brown	Sand.	Gravel-Boulders	Loose.	0	11.51
Grey	Limestone.		Hard.	11.51	22.72

Hole Diameter

Depth From	Depth To (Metres)	Diameter (Centimetres)
0	6.06	20.32

Water Record

Water found at ___ Metres / Kind of Water

10.60 m ☑ Fresh ☐ Sulphur ☐ Gas ☐ Salty ☐ Minerals ☐ Other:
___ m ☐ Fresh ☐ Sulphur ☐ Gas ☐ Salty ☐ Minerals ☐ Other:
___ m ☐ Fresh ☐ Sulphur ☐ Gas ☐ Salty ☐ Minerals ☐ Other:

After test of well yield, water was ☑ Clear and sediment free ☐ Other, specify

Chlorinated ☑ Yes ☐ No

Construction Record

Inside diam centimetres	Material	Wall thickness centimetres	Depth From	Depth To (Metres)
Casing				
15.55	☑ Steel ☐ Fibreglass ☐ Plastic ☐ Concrete ☐ Galvanized	0.48	0	11.51
	☐ Steel ☐ Fibreglass ☐ Plastic ☐ Concrete ☐ Galvanized			
	☐ Steel ☐ Fibreglass ☐ Plastic ☐ Concrete ☐ Galvanized			
Screen				
Outside diam	☐ Steel ☐ Fibreglass ☐ Plastic ☐ Concrete ☐ Galvanized	Slot No.		
No Casing or Screen				
15.55	☑ Open hole		11.51	22.72

Test of Well Yield

Pumping test method: Submersible

	Draw Down Time min	Draw Down Water Level Metres	Recovery Time min	Recovery Water Level Metres
Static Level		3.40		17.80
1	1	5.24	1	14.10
2	2	6.51	2	11.79
3	3	7.15	3	9.26
4	4	7.28	4	7.56
5	5	8.22	5	6.24
10	10	10.16	10	4.07
15	15	12.31	15	3.40
20	20	14.41	20	
25	25	16.20	25	
30	30	17.77	30	
40	40	17.79	40	
50	50	17.80	50	
60	60	17.80	60	

Pump intake set at - (metres) 19.69
Pumping rate - (litres/min) 58.50
Duration of pumping 2 hrs 02 min
Final water level end of pumping 17.80 metres
Recommended pump type. ☐ Shallow ☑ Deep
Recommended pump depth 19.69 metres
Recommended pump rate. 45.50 (litres/min)
If flowing give rate - (litres/min)
If pumping discontinued, give reason.

Plugging and Sealing Record

☑ Annular space ☐ Abandonment

Depth set at - From	Depth set at - To (Metres)	Material and type (bentonite slurry, neat cement slurry) etc.	Volume Placed (cubic metres)
0	6.06	Cement + Grout	120kg.

Method of Construction

☐ Cable Tool ☑ Rotary (air) ☐ Diamond ☐ Digging
☐ Rotary (conventional) ☐ Air percussion ☐ Jetting ☐ Other
☐ Rotary (reverse) ☐ Boring ☐ Driving

Water Use

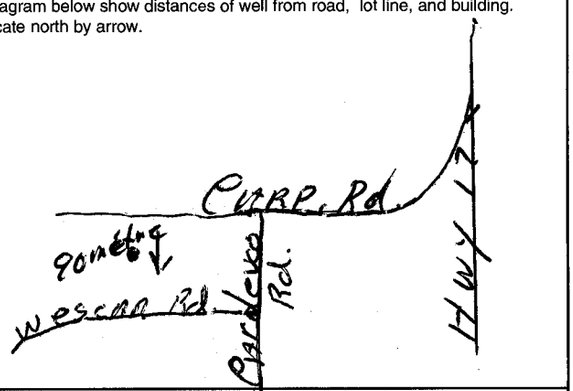
☐ Domestic ☐ Industrial ☐ Public Supply ☐ Other
☐ Stock ☑ Commercial ☐ Not used
☐ Irrigation ☐ Municipal ☐ Cooling & air conditioning

Final Status of Well

☑ Water Supply ☐ Recharge well ☐ Unfinished ☐ Abandoned, (Other)
☐ Observation well ☐ Abandoned, insufficient supply ☐ Dewatering
☐ Test Hole ☐ Abandoned, poor quality ☐ Replacement well

Location of Well

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



Audit No. Z 71634
Date Well Completed: 2006 / 11 / 20
Was the well owner's information package delivered? ☑ Yes ☐ No
Date Delivered: 2006 / 11 / 20

Well Contractor/Technician Information

Name of Well Contractor: DAR-WATER well Drilling | Well Contractor's Licence No.: 6006
Business Address (street name, number, city etc.): CP 98 - St Albert ON
Name of Well Technician (last name, first name): Desnoyers Louis | Well Technician's Licence No.: T-625
Signature of Technician/Contractor: X Louis Desnoyers | Date Submitted: 2006 / 11 / 24

Ministry Use Only

Data Source | Contractor: 6006
Date Received: DEC 18 2006 | Date of Inspection
Remarks | Well Record Number

0506E (08/2006) **Ministry's Copy**

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Ontario — Ministry of the Environment

Measurements recorded in: ☐ Metric ☒ Imperial

Well A 082436 (Tag Below) A082436

Well Record

Regulation 903 Ontario Water Resources Act

Page ____ of ____

[redacted]

Address of Well Location (Street Number/Name): #5630 Osgoode Main Street | Township: Osgoode | Lot: P/L 28 | Concession: 1

County/District/Municipality: Ottawa-Carleton | City/Town/Village: Osgoode | Province: Ontario | Postal Code:

UTM Coordinates: NAD 83 | Zone: 18 | Easting: 452738 | Northing: 4999486 | Municipal Plan and Sublot Number: PLAN RP5R 3449 Part 4 | Other:

Overburden and Bedrock Materials/Abandonment Sealing Record *(see instructions on the back of this form)*

General Colour	Most Common Material	Other Materials	General Description	Depth (m/ft) From	Depth (m/ft) To
	Sand, Gravel & Boulders			0	32'
	Grey & Brown Limestone			32'	228'
	Grey Sandstone			228'	295'

* OSGOODE ARENA *

Annular Space

Depth Set at (m/ft) From	To	Type of Sealant Used (Material and Type)	Volume Placed (m³/ft³)
42'	32'	Neat Cement Slurry	7.8
32'	0	Bentonite Slurry	16.8

Method of Construction

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

Well Use

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

Construction Record - Casing

Inside Diameter (cm/in)	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness (cm/in)	Depth (m/ft) From	Depth (m/ft) To
6"	Steel	.188"	+2'	42'
6"	Open hole		42'	295'

Construction Record - Screen

Outside Diameter (cm/in)	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (m/ft) From	Depth (m/ft) To

Status of Well

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

Results of Well Yield Testing

After test of well yield, water was:
☐ Clear and sand free
☐ Other, specify NOT TESTED

If pumping discontinued, give reason: X

Pump intake set at (m/ft): 280'

Pumping rate (l/min / GPM): 30

Duration of pumping: 1 hrs + 0 min

Final water level end of pumping (m/ft): 169'6"

If flowing give rate (l/min / GPM): 3

Recommended pump depth (m/ft): (3/4-10gpm) 200'

Recommended pump rate (l/min / GPM): 30

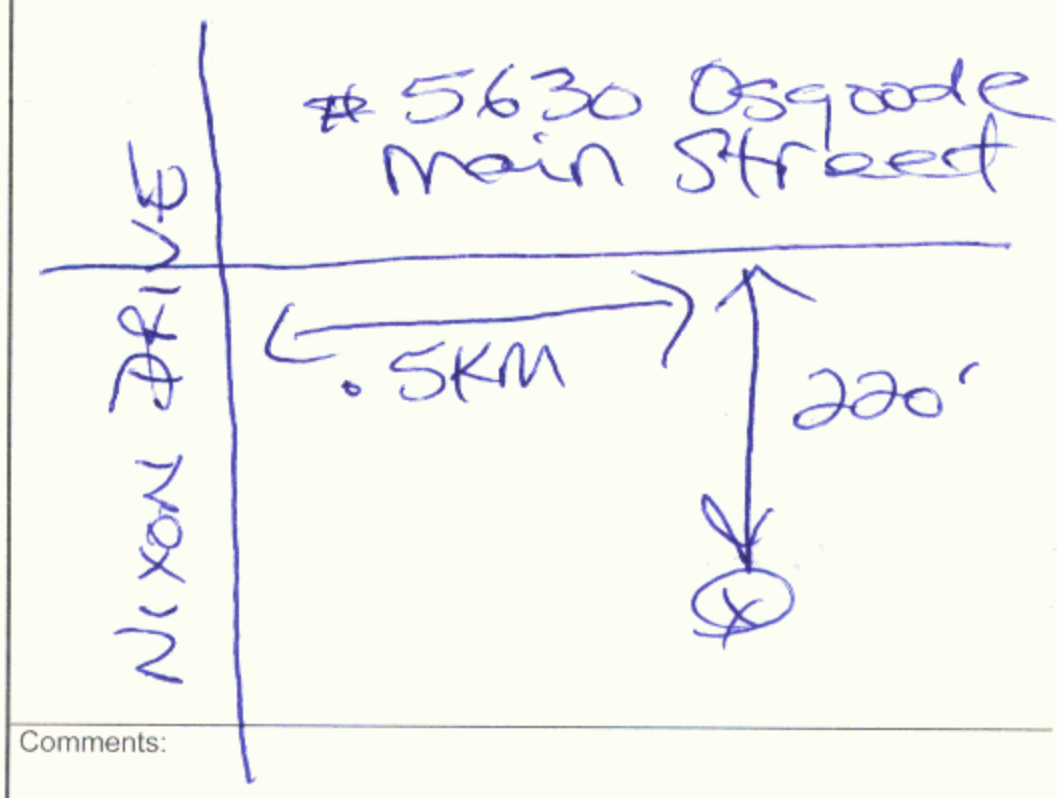
Well production (l/min / GPM): 30

Disinfected? ☒ Yes ☐ No

Draw Down Time (min)	Draw Down Water Level (m/ft)	Recovery Time (min)	Recovery Water Level (m/ft)
Static Level	18'7"		169'6"
1	31'7"	1	154'
2	40'6"	2	145'9"
3	47'6"	3	138'2"
4	55'	4	131'6"
5	62'5"	5	125'2"
10	94'8"	10	84'1"
15	121'6"	15	64'2"
20	132'2"	20	42'4"
25	142'2"	25	30'4"
30	151'5"	30	24'9"
40	160'1"	40	21'2"
50	166'4"	50	18'7"
60	169'6"	60	+

Map of Well Location

Please provide a map below following instructions on the back.



Comments:

Water Details

Water found at Depth	Kind of Water	
155 (m/ft)	☐ Gas	☐ Fresh ☒ Untested ☐ Other, specify
231 (m/ft)	☐ Gas	☐ Fresh ☒ Untested ☐ Other, specify
263 (m/ft)	☐ Gas	☐ Fresh ☒ Untested ☐ Other, specify

Hole Diameter

Depth (m/ft) From	Depth (m/ft) To	Diameter (cm/in)
0'	295'	6"

Well Contractor and Well Technician Information

Business Name of Well Contractor: AIR ROCK DRILLING CO LTD | Well Contractor's Licence No.: 1119

Business Address (Street Number/Name): RR#1 | Municipality: RICHMOND

Province: ONT | Postal Code: K0A2Z0 | Business E-mail Address:

Bus. Telephone No. (inc. area code): 613 838 2170 | Name of Well Technician (Last Name, First Name): GRAHAM RYAN

Well Technician's Licence No.: T3484 | Signature of Technician and/or Contractor: | Date Submitted: 20090727

Well owner's information package delivered: ☒ Yes ☐ No

Date Package Delivered: 20090622

Date Work Completed: 20090617

Ministry Use Only

Audit No. Z 94712

Received AUG 06 2009

0506E (12/2007)

Ministry's Copy

Ontario — Ministry of the Environment

Measurements recorded in: ☐ Metric ☒ Imperial

Well T**A 082584** Below)

A082584

Well Record

Regulation 903 Ontario Water Resources Act

Page ____ of ____

[redacted]

Address of Well Location (Street Number/Name)	Township	Lot	Concession
#153 Cardevco Road	West Carleton	6	3

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

UTM Coordinates	Zone	Easting	Northing	Municipal Plan and Sublot Number	Other
NAD 83	18	423156	5016047	PLAN 4M-356 Block 9&12	

Overburden and Bedrock Materials/Abandonment Sealing Record *(see instructions on the back of this form)*

General Colour	Most Common Material	Other Materials	General Description	Depth (m/ft) From	Depth (m/ft) To
	Sand			0	15
	Grey limestone			15	60

PLAN 4R-8368 Part 3 & 6

Annular Space

Depth Set at (m/ft) From	To	Type of Sealant Used (Material and Type)	Volume Placed (m^3/ft^3)
19'	0	Neat Cement Slurry	7.8

Method of Construction

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

Well Use

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

Construction Record - Casing

Inside Diameter (cm/in)	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness (cm/in)	Depth (m/ft) From	Depth (m/ft) To
6"	Steel	.188"	+2'	19'
6"	Open hole		19'	60'

Construction Record - Screen

Outside Diameter (cm/in)	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (m/ft) From	Depth (m/ft) To
	~~Material~~	~~Slot No.~~		

Status of Well

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

Water Details

Water found at Depth (m/ft)	Kind of Water	Hole Diameter Depth From (m/ft)	Hole Diameter Depth To (m/ft)	Diameter (cm/in)
30 ☐ Gas	☐ Fresh ☒ Untested	0	60'	6"
48 ☐ Gas	☐ Fresh ☒ Untested			
51 ☐ Gas	☐ Fresh ☒ Untested			

Results of Well Yield Testing

After test of well yield, water was:
☐ Clear and sand free
☐ Other, *specify* NOT TESTED

If pumping discontinued, give reason: X

Pump intake set at (m/ft) 50

Pumping rate (l/min / GPM) 20

Duration of pumping 1 hrs + 0 min

Final water level end of pumping (m/ft) 8' 1"

If flowing give rate (l/min / GPM) X

Recommended pump depth (m/ft) 50' (1/2HP)

Recommended pump rate (l/min / GPM) 20

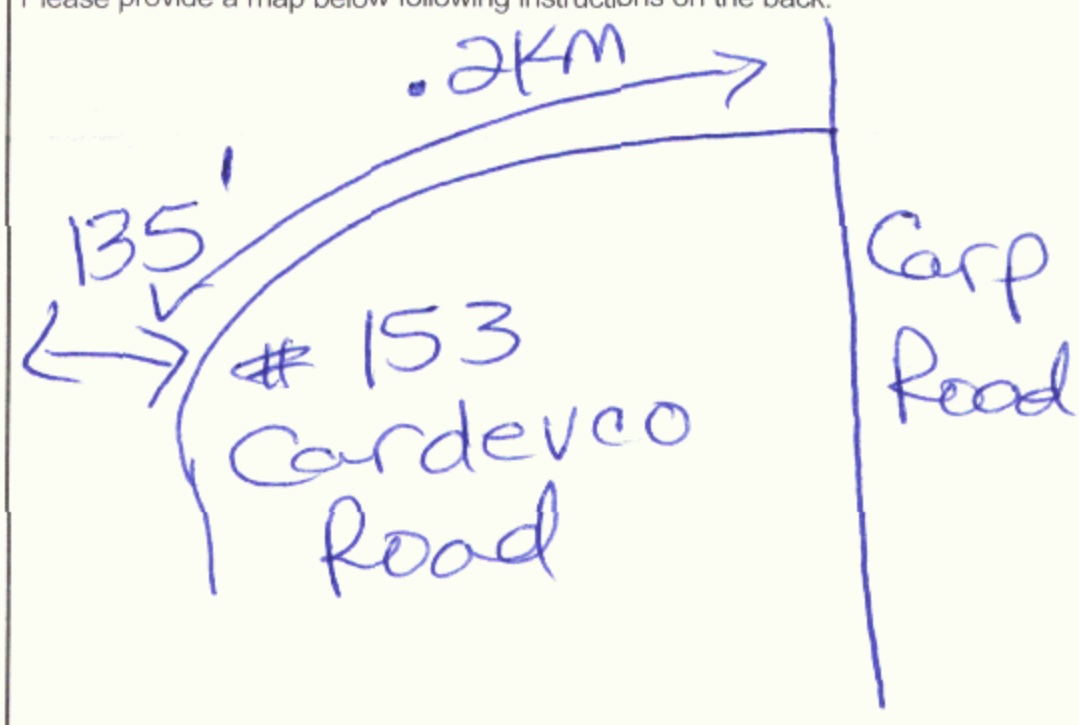
Well production (l/min / GPM) 20

Disinfected? ☒ Yes ☐ No

Draw Down Time (min)	Draw Down Water Level (m/ft)	Recovery Time (min)	Recovery Water Level (m/ft)
Static Level	5'6"		8'1"
1	6'4"	1	6'6"
2	6'6"	2	6'5"
3	6'8"	3	6'4"
4	6'9"	4	6'3"
5	7'	5	6'2"
10	7'3"	10	5'8"
15	7'5"	15	5'6"
20	7'6"	20	
25	7'7"	25	
30	7'7"	30	
40	7'9"	40	
50	8'	50	
60	8'1"	60	

Map of Well Location

Please provide a map below following instructions on the back.



Comments:

Well Contractor and Well Technician Information

Business Name of Well Contractor	Well Contractor's Licence No.
AIR ROCK DRILLING CO LTD	1119

Business Address (Street Number/Name)	Municipality
RR#1	RICHMOND

Province	Postal Code	Business E-mail Address
ONT	K0A2Z0	

Bus. Telephone No. (inc. area code)	Name of Well Technician (Last Name, First Name)
6138382170	PURCELL SHAWN

Well Technician's Licence No.	Signature of Technician and/or Contractor	Date Submitted
T2122		20090727

Well owner's information package delivered	Date Package Delivered	Date Work Completed
☒ Yes ☐ No	20090707	20090706

Ministry Use Only

Audit No. Z 94721

AUG 06 2009

Received

0506E (12/2007)

Ministry's Copy

Ontario 19 Ministry of the Environment

Measurements recorded in: ☒ Metric ☐ Imperial

Well Tag No. (Place ... Below) A093965 **A 093965**

Well Record

Regulation 903 Ontario Water Resources Act

7062 Page ____ of ____

Well Owner's Information

First Name	Last Name / Organization	E-mail Address	☐ Well Constructed by Well Owner
D. DOREN	EXCAVATION		

Mailing Address (Street Number/Name)	Municipality	Province	Postal Code	Telephone No. (inc. area code)
117 WESCAR LANE.	CARP	ON		

Well Location

Address of Well Location (Street Number/Name)	Township	Lot	Concession
117 WESCAR LANE			

County/District/Municipality	City/Town/Village	Province	Postal Code
	CARP	Ontario	

UTM Coordinates NAD 83	Zone	Easting	Northing	Municipal Plan and Sublot Number	Other
	18	432280	5015733		

Overburden and Bedrock Materials/Abandonment Sealing Record (see instructions on the back of this form)

General Colour	Most Common Material	Other Materials	General Description	Depth (m/ft) From	Depth (m/ft) To
BRN	FILL	GRAVEL	LOOSE.	0	1-22
BRN	CLAY	SILT	SOFT	1-22	2-44
GRY	CLAY	SILT	WET	2-44	5-79

Annular Space

Depth Set at (m/ft) From	To	Type of Sealant Used (Material and Type)	Volume Placed (m^3/ft^3)
0	0.3	CONCRETE.	
0.3	0.91	BENTONITE	
0.91	5-79	SAND	

Method of Construction

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

Well Use

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

Construction Record - Casing

Inside Diameter (cm/in)	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness (cm/in)	Depth (m/ft) From	Depth (m/ft) To
4.07	PLASTIC	.368	0	1-22

Status of Well

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

Construction Record - Screen

Outside Diameter (cm/in)	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (m/ft) From	Depth (m/ft) To
4.82	PLASTIC	10	1-22	5.79

Water Details

Water found at Depth (m/ft)	Kind of Water: ☐ Fresh ☐ Untested ☐ Gas ☐ Other, specify

Hole Diameter

Depth (m/ft) From	To	Diameter (cm/in)
0	5-79	8.25

Well Contractor and Well Technician Information

Business Name of Well Contractor	Well Contractor's Licence No.
Strata Soil Sampling	7191

Business Address (Street Number/Name)	Municipality
#2-147 West Beaver Creek	Richmond

Province	Postal Code	Business E-mail Address
ON	K4B1C6	

Bus. Telephone No. (inc. area code)	Name of Well Technician (Last Name, First Name)
905 764 9300	Doucet, Travis

Well Technician's Licence No.	Signature of Technician and/or Contractor	Date Submitted
3154		2010/04/01

Results of Well Yield Testing

After test of well yield, water was:
☐ Clear and sand free
☐ Other, specify

If pumping discontinued, give reason:

Pump intake set at (m/ft)

Pumping rate (l/min / GPM)

Duration of pumping ____ hrs + ____ min

Final water level end of pumping (m/ft)

If flowing give rate (l/min / GPM)

Recommended pump depth (m/ft)

Recommended pump rate (l/min / GPM)

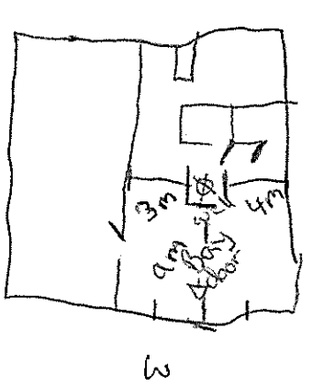
Well production (l/min / GPM)

Disinfected? ☐ Yes ☐ No

	Draw Down Time (min)	Draw Down Water Level (m/ft)	Recovery Time (min)	Recovery Water Level (m/ft)
Static Level				
1			1	
2			2	
3			3	
4			4	
5			5	
10			10	
15			15	
20			20	
25			25	
30			30	
40			40	
50			50	
60			60	

Map of Well Location

Please provide a map below following instructions on the back.



Comments:

Well owner's information package delivered ☐ Yes ☐ No

Date Package Delivered Y Y Y Y M M D D

Date Work Completed 2010/01/15

Ministry Use Only

Audit No. Z100175

Received MAR 0 4 2010

Ontario — Ministry of the Environment

Measurements recorded in: ☑ Metric ☐ Imperial

Well Tag No. (Place Sticker and/or Print Below) A093964 **A 093964**

Well Record

Regulation 903 Ontario Water Resources Act

7062 Page ____ of ____

Well Owner's Information

First Name	Last Name / Organization	E-mail Address	☐ Well Constructed by Well Owner
P. DOREN	EXCAVATION		

Mailing Address (Street Number/Name)	Municipality	Province	Postal Code	Telephone No. (inc. area code)
117 WESCAR LANE	CAMP	ON		

Well Location

Address of Well Location (Street Number/Name)	Township	Lot	Concession
117 WESCAR LANE			

County/District/Municipality	City/Town/Village	Province	Postal Code
	CAMP	Ontario	

UTM Coordinates NAD 8 3	Zone	Easting	Northing	Municipal Plan and Sublot Number	Other
	18	423288	5015730		

Overburden and Bedrock Materials/Abandonment Sealing Record *(see instructions on the back of this form)*

General Colour	Most Common Material	Other Materials	General Description	Depth (m/ft) From	Depth (m/ft) To
BRN	FILL	GRAVEL	LOOSE	0	1.22
BRN	CLAY	SILT	SOFT	1.22	2.44
GRY	CLAY	SILT	SOFT/WET	2.44	5.49

Annular Space

Depth Set at (m/ft) From	To	Type of Sealant Used (Material and Type)	Volume Placed (m³/ft³)
0	0.3	CONCRETE	
0.3	0.61	BENTONITE	
0.61	5.49	SAND	

Method of Construction

☐ Cable Tool ☐ Diamond ☐ Public ☐ Commercial ☐ Not used
☐ Rotary (Conventional) ☐ Jetting ☐ Domestic ☐ Municipal ☐ Dewatering
☐ Rotary (Reverse) ☐ Driving ☐ Livestock ☐ ~~Test Hole~~ ☐ ~~Monitoring~~
☐ Boring ☐ Digging ☐ Irrigation ☐ Cooling & Air Conditioning
☐ Air percussion ☐ Industrial
☐ Other, specify DIRECT PUSH ☐ Other, specify

Construction Record - Casing

Inside Diameter (cm/in)	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness (cm/in)	Depth (m/ft) From	Depth (m/ft) To
4.03	PLASTIC	.368	0	0.91

Construction Record - Screen

Outside Diameter (cm/in)	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (m/ft) From	Depth (m/ft) To
4.87	PLASTIC	10	0.91	5.49

Status of Well

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

Water Details

Water found at Depth (m/ft)	Kind of Water: ☐ Fresh ☐ Untested ☐ Gas ☐ Other, specify

Hole Diameter

Depth (m/ft) From	To	Diameter (cm/in)
0	5.49	8.25

Results of Well Yield Testing

After test of well yield, water was:
☐ Clear and sand free
☐ Other, specify

If pumping discontinued, give reason:

Pump intake set at (m/ft)

Pumping rate (l/min / GPM)

Duration of pumping ____ hrs + ____ min

Final water level end of pumping (m/ft)

If flowing give rate (l/min / GPM)

Recommended pump depth (m/ft)

Recommended pump rate (l/min / GPM)

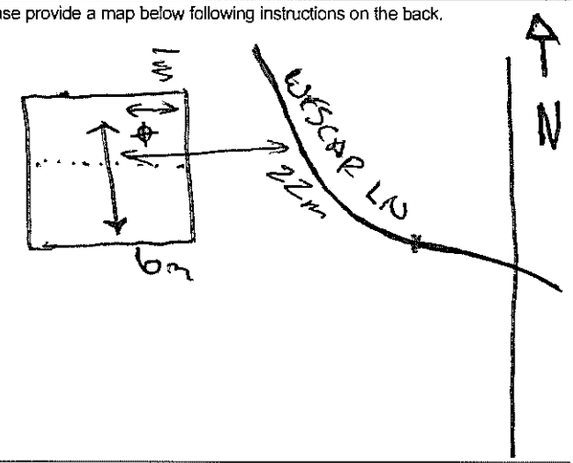
Well production (l/min / GPM)

Disinfected? ☐ Yes ☐ No

	Draw Down Time (min)	Draw Down Water Level (m/ft)	Recovery Time (min)	Recovery Water Level (m/ft)
Static Level				
1			1	
2			2	
3			3	
4			4	
5			5	
10			10	
15			15	
20			20	
25			25	
30			30	
40			40	
50			50	
60			60	

Map of Well Location

Please provide a map below following instructions on the back.



Comments:

Well Contractor and Well Technician Information

Business Name of Well Contractor	Well Contractor's Licence No.
Strata Soil Sampling	7241

Business Address (Street Number/Name)	Municipality	Province	Postal Code	Business E-mail Address
#2-147 West Beaver Creek	Richmond Hill	ON	L4B 1C6	

Bus. Telephone No. (inc. area code)	Name of Well Technician (Last Name, First Name)	Well Technician's Licence No.	Signature of Technician and/or Contractor	Date Submitted
905 764 9274	Robinson Travis	3159		2010/01/15

Well owner's information package delivered ☐ Yes ☐ No

Date Package Delivered Y Y Y Y M M D D

Date Work Completed 2010/01/15

Ministry Use Only

Audit No. Z 100177

Received MAR 01 2010

Ontario — Ministry of the Environment

Measurements recorded in: ☑ Metric ☐ Imperial

Well Tag No. (Place Sticker and/or Print Below): A 093962 A093962

Well Record

Regulation 903 Ontario Water Resources Act

Page 1 of 2

Well Owner's Information

First Name	Last Name / Organization	E-mail Address	☐ Well Constructed by Well Owner
D. OOREN	EXCAVATION		

Mailing Address (Street Number/Name)	Municipality	Province	Postal Code	Telephone No. (inc. area code)
117 WESCAR	CAMP	ON		

Well Location

Address of Well Location (Street Number/Name)	Township	Lot	Concession
117 WESCAR LANE -			

County/District/Municipality	City/Town/Village	Province	Postal Code
	CAMP	Ontario	

UTM Coordinates	Zone	Easting	Northing	Municipal Plan and Sublot Number	Other
NAD 83	18	423299	5761736		

Overburden and Bedrock Materials/Abandonment Sealing Record *(see instructions on the back of this form)*

General Colour	Most Common Material	Other Materials	General Description	Depth (m/ft) From	Depth (m/ft) To
BRN	FILL	GRAVEL	~~TO~~ PACKED	0	1.22
BRN	CLAY	SILT.	~~&~~ DENSE.	1.22	1.5
GRY	CLAY	SILT.	SOFT	1.5	2.13

Annular Space

Depth Set at (m/ft) From	Depth Set at (m/ft) To	Type of Sealant Used (Material and Type)	Volume Placed (m^3/ft^3)
0	0.3	CONCRETE.	
0.3	0.91	BENTONITE.	
0.91	2.13	SAND	

Method of Construction

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

Well Use

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

Construction Record - Casing

Inside Diameter (cm/in)	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness (cm/in)	Depth (m/ft) From	Depth (m/ft) To
3.45	PLASTIC	10	0	1.22

Construction Record - Screen

Outside Diameter (cm/in)	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (m/ft) From	Depth (m/ft) To
4.71	PLASTIC	10	1.22	2.13

Status of Well

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

Water Details

Water found at Depth (m/ft)	Kind of Water: ☐ Fresh ☐ Untested ☐ Gas ☐ Other, specify	Hole Diameter Depth (m/ft) From	Depth (m/ft) To	Diameter (cm/in)
		0	2.13	5.71

Results of Well Yield Testing

After test of well yield, water was:
☐ Clear and sand free
☐ Other, specify

If pumping discontinued, give reason:

Pump intake set at (m/ft)

Pumping rate (l/min / GPM)

Duration of pumping ____ hrs + ____ min

Final water level end of pumping (m/ft)

If flowing give rate (l/min / GPM)

Recommended pump depth (m/ft)

Recommended pump rate (l/min / GPM)

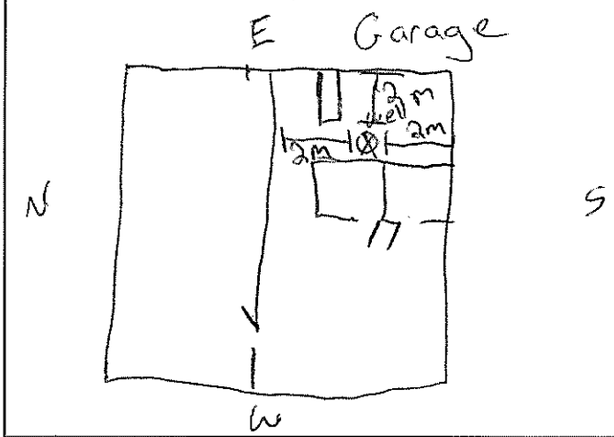
Well production (l/min / GPM)

Disinfected? ☐ Yes ☐ No

	Draw Down Time (min)	Draw Down Water Level (m/ft)	Recovery Time (min)	Recovery Water Level (m/ft)
Static Level				
1			1	
2			2	
3			3	
4			4	
5			5	
10			10	
15			15	
20			20	
25			25	
30			30	
40			40	
50			50	
60			60	

Map of Well Location

Please provide a map below following instructions on the back.



Well Contractor and Well Technician Information

Business Name of Well Contractor	Well Contractor's Licence No.
Strata Soil Sampling	7214

Business Address (Street Number/Name)	Municipality	Province	Postal Code	Business E-mail Address
#2-147 West Beaver Creek	Richmond Hill	ON	L4B 1C6	

Bus. Telephone No. (inc. area code)	Name of Well Technician (Last Name, First Name)	Well Technician's Licence No.	Signature of Technician and/or Contractor	Date Submitted
(905) 764-9380	Robinson Travis	3159		2010/02/24

Comments:

Well owner's information package delivered	Date Package Delivered	Date Work Completed
☐ Yes ☐ No		2010/01/28

Ministry Use Only

Audit No. Z 100176

Received MAR 0 1 2010

Ontario — Ministry of the Environment

Measurements recorded in: ☑ Metric ☐ Imperial

Well Tag No. (Place Sticker at) A093972 **A 093972**

Well Record

903 Ontario Water Resources Act

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Well Owner's Information

First Name	Last Name / Organization	E-mail Address	☐ Well Constructed by Well Owner
D. DOREN	EXCAVATION		

Mailing Address (Street Number/Name)	Municipality	Province	Postal Code	Telephone No. (inc. area code)
117 WESCAR LANE	CARP	ON		

Well Location

Address of Well Location (Street Number/Name)	Township	Lot	Concession
117 WESCAR LANE			

County/District/Municipality	City/Town/Village	Province	Postal Code
	CARP	Ontario	

UTM Coordinates	Zone	Easting	Northing	Municipal Plan and Sublot Number	Other
NAD 83	18	423497	5015739		

Overburden and Bedrock Materials/Abandonment Sealing Record *(see instructions on the back of this form)*

General Colour	Most Common Material	Other Materials	General Description	Depth (m/ft) From	Depth (m/ft) To
BRN	FILL	GRAVEL	LOOSE.	0	1.22
BRN	CLAY	SILT.	SOFT.	1.22	2.44
GRY	CLAY	SILT.	SOFT/WET.	2.44	5.79

Annular Space

Depth Set at (m/ft) From	To	Type of Sealant Used (Material and Type)	Volume Placed (m³/ft³)
0	0.91		
0	0.3	CONCRETE.	
0.3	0.91	BENTONITE.	
0.91	5.79	SAND	

Method of Construction

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

Well Use

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

Construction Record - Casing

Inside Diameter (cm/in)	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness (cm/in)	Depth (m/ft) From	Depth (m/ft) To
4.03	PLASTIC	.368	0	1.22

Status of Well

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

Construction Record - Screen

Outside Diameter (cm/in)	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (m/ft) From	Depth (m/ft) To
4.82	PLASTIC	10	1.22	5.79

Water Details

Water found at Depth (m/ft)	Kind of Water: ☐ Fresh ☐ Untested ☐ Gas ☐ Other, specify

Hole Diameter

Depth (m/ft) From	To	Diameter (cm/in)
0	5.79	825

Results of Well Yield Testing

After test of well yield, water was:
☐ Clear and sand free
☐ Other, specify _____

If pumping discontinued, give reason:

Pump intake set at (m/ft)

Pumping rate (l/min / GPM)

Duration of pumping _____ hrs + _____ min

Final water level end of pumping (m/ft)

If flowing give rate (l/min / GPM)

Recommended pump depth (m/ft)

Recommended pump rate (l/min / GPM)

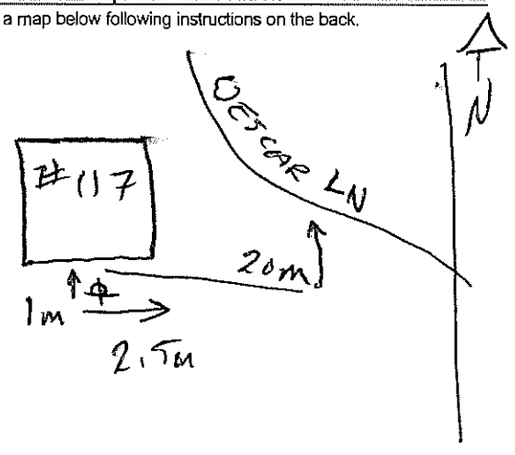
Well production (l/min / GPM)

Disinfected? ☐ Yes ☐ No

	Draw Down Time (min)	Draw Down Water Level (m/ft)	Recovery Time (min)	Recovery Water Level (m/ft)
Static Level				
1			1	
2			2	
3			3	
4			4	
5			5	
10			10	
15			15	
20			20	
25			25	
30			30	
40			40	
50			50	
60			60	

Map of Well Location

Please provide a map below following instructions on the back.



Comments:

Well Contractor and Well Technician Information

Business Name of Well Contractor	Well Contractor's Licence No.
Strata Soil Sampling	7014

Business Address (Street Number/Name)	Municipality
#2-147 West Beaver Creek	Richmond Hill

Province	Postal Code	Business E-mail Address
ON	L4B1C6	

Bus. Telephone No. (inc. area code)	Name of Well Technician (Last Name, First Name)
(905) 764-9380	Robinson Travis

Well Technician's Licence No.	Signature of Technician and/or Contractor	Date Submitted
31594		2010/01/29

Well owner's information package delivered ☐ Yes ☐ No

Date Package Delivered: _____

Date Work Completed: 2010/01/15

Ministry Use Only

Audit No. Z 100178

Received MAR 01 2010

Ontario — Ministry of the Environment

Well Record

Regulation 903 Ontario Water Resources Act

Measurements recorded in: ☑ Metric ☐ Imperial

Well Tag No. *(Place Sticker and/or Print Below)* A093972

7265 Page 1 of 4

Well Owner's Information

First Name	Last Name / Organization	E-mail Address	☐ Well Constructed by Well Owner
1278439	Ontario Limited		

Mailing Address (Street Number/Name)	Municipality	Province	Postal Code	Telephone No. *(inc. area code)*
1525 Ortona Ave	ottawa	ON	K2C1W2	

Well Location

Address of Well Location (Street Number/Name)	Township	Lot	Concession
117 Wescar Ln			

County/District/Municipality	City/Town/Village	Province	Postal Code
	Carp	Ontario	

UTM Coordinates	Zone	Easting	Northing	Municipal Plan and Sublot Number	Other
NAD 83	18	423280	5015754		

Overburden and Bedrock Materials/Abandonment Sealing Record *(see instructions on the back of this form)*

General Colour	Most Common Material	Other Materials	General Description	Depth (m/ft) From	Depth (m/ft) To

Annular Space

Depth Set at (m/ft) From	To	Type of Sealant Used *(Material and Type)*	Volume Placed (m^3/ft^3)
0	.31	Concrete	
.31	1.83	Benseal	
1.83		Grout slurry	

Method of Construction

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

Well Use

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

Construction Record - Casing

Inside Diameter (cm/in)	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness (cm/in)	Depth (m/ft) From	Depth (m/ft) To
4.03	PVC	.368		

Construction Record - Screen

Outside Diameter (cm/in)	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (m/ft) From	Depth (m/ft) To
4.82	PVC	10		

Status of Well

☐ Water Supply
☐ Replacement Well
☑ Test Hole
☐ Recharge Well
☐ Dewatering Well
☐ Observation and/or Monitoring Hole
☐ Alteration (Construction)
☐ Abandoned, Insufficient Supply
☐ Abandoned, Poor Water Quality
☑ Abandoned, other, *specify* not needed
☐ Other, *specify*

Water Details

Water found at Depth (m/ft)	Gas	Kind of Water	Other, specify
	☐	☐ Fresh ☐ Untested	
	☐	☐ Fresh ☐ Untested	
	☐	☐ Fresh ☐ Untested	

Hole Diameter

Depth (m/ft) From	To	Diameter (cm/in)
0	1.83	20.32

Results of Well Yield Testing

After test of well yield, water was:
☐ Clear and sand free
☐ Other, *specify*

If pumping discontinued, give reason:

Pump intake set at *(m/ft)*

Pumping rate *(l/min / GPM)*

Duration of pumping ____ hrs + ____ min

Final water level end of pumping *(m/ft)*

If flowing give rate *(l/min / GPM)*

Recommended pump depth *(m/ft)*

Recommended pump rate *(l/min / GPM)*

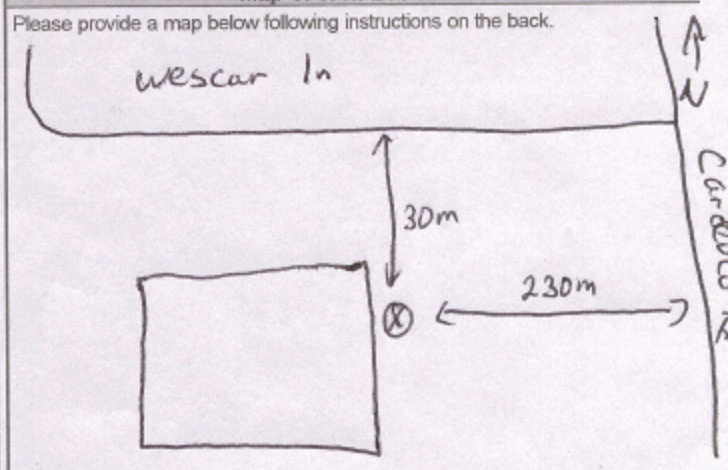
Well production *(l/min / GPM)*

Disinfected? ☐ Yes ☐ No

Draw Down Time (min)	Draw Down Water Level (m/ft)	Recovery Time (min)	Recovery Water Level (m/ft)
Static Level			
1		1	
2		2	
3		3	
4		4	
5		5	
10		10	
15		15	
20		20	
25		25	
30		30	
40		40	
50		50	
60		60	

Map of Well Location

Please provide a map below following instructions on the back.



Comments:

Well Contractor and Well Technician Information

Business Name of Well Contractor	Well Contractor's Licence No.
Stratasoil Sampling	7241

Business Address (Street Number/Name)	Municipality
2147 West Beaver Creek	Richmond Hill

Province	Postal Code	Business E-mail Address
ON	L4B1C6	wrecords@stratasoil.com

Bus. Telephone No. *(inc. area code)*	Name of Well Technician (Last Name, First Name)
9057644930	Mayr, Mike

Well Technician's Licence No.	Signature of Technician and/or Contractor	Date Submitted
3448		2010/03/31

Well owner's information package delivered: ☐ Yes ☐ No

Date Package Delivered: Y Y Y Y M M D D

Date Work Completed: 2010019

Ministry Use Only

Audit No. z111784

MAY 03 2010 Received

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Ministry's Copy

BB, 1796

Ontario — Ministry of the Environment

Measurements recorded in: ☑ Metric ☐ Imperial

Well Tag No. *(Place Sticker and/or Print Below)* A093963

Well Record

Regulation 903 Ontario Water Resources Act

7265

Well Owner's Information

First Name	Last Name / Organization	E-mail Address	☐ Well Constructed by Well Owner
1279439	Ontario Limited		

Mailing Address (Street Number/Name)	Municipality	Province	Postal Code	Telephone No. *(inc. area code)*
1525 Ortona Ave	Ottawa	ON	K2C1W2	

Well Location

Address of Well Location (Street Number/Name)	Township	Lot	Concession
117 Wescar Ln			

County/District/Municipality	City/Town/Village	Province	Postal Code
	Carp	Ontario	

UTM Coordinates	Zone	Easting	Northing	Municipal Plan and Sublot Number	Other
NAD 83	18	423280	5015739		

Overburden and Bedrock Materials/Abandonment Sealing Record *(see instructions on the back of this form)*

General Colour	Most Common Material	Other Materials	General Description	Depth (m/ft) From	Depth (m/ft) To

Annular Space

Depth Set at (m/ft) From	To	Type of Sealant Used (Material and Type)	Volume Placed (m³/ft³)
0	.31	Concrete	
.31	1.83	Bentseal	
1.83		Grout Slurry	

Method of Construction

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

Well Use

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

Construction Record - Casing

Inside Diameter (cm/in)	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness (cm/in)	Depth (m/ft) From	Depth (m/ft) To
3.45	PVC	.356		

Construction Record - Screen

Outside Diameter (cm/in)	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (m/ft) From	Depth (m/ft) To
4.21	PVC	10		

Status of Well

☐ Water Supply
☐ Replacement Well
☐ Test Hole
☐ Recharge Well
☐ Dewatering Well
☐ Observation and/or Monitoring Hole
☐ Alteration (Construction)
☐ Abandoned, Insufficient Supply
☐ Abandoned, Poor Water Quality
☑ Abandoned, other, *specify* not needed
☐ Other, *specify*

Water Details

Water found at Depth (m/ft)	Gas	Kind of Water: Fresh	Untested	Other, specify

Hole Diameter

Depth (m/ft) From	To	Diameter (cm/in)
0	1.83	20.32

Results of Well Yield Testing

After test of well yield, water was:
☐ Clear and sand free
☐ Other, *specify*

If pumping discontinued, give reason:

Pump intake set at *(m/ft)*

Pumping rate *(l/min / GPM)*

Duration of pumping ____ hrs + ____ min

Final water level end of pumping *(m/ft)*

If flowing give rate *(l/min / GPM)*

Recommended pump depth *(m/ft)*

Recommended pump rate *(l/min / GPM)*

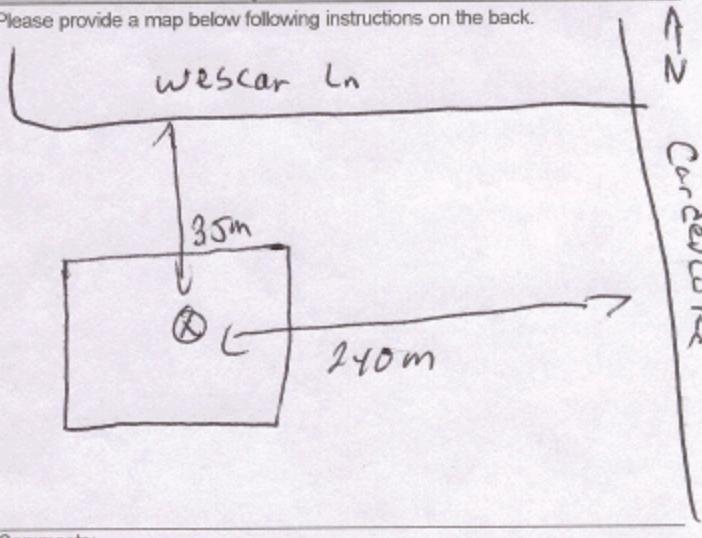
Well production *(l/min / GPM)*

Disinfected? ☐ Yes ☐ No

	Draw Down Time (min)	Draw Down Water Level (m/ft)	Recovery Time (min)	Recovery Water Level (m/ft)
Static Level				
1			1	
2			2	
3			3	
4			4	
5			5	
10			10	
15			15	
20			20	
25			25	
30			30	
40			40	
50			50	
60			60	

Map of Well Location

Please provide a map below following instructions on the back.



Comments:

Well Contractor and Well Technician Information

Business Name of Well Contractor	Well Contractor's Licence No.
Strata Soil Sampling	7241

Business Address (Street Number/Name)	Municipality
2-147 West Beaver Creek	Richmond Hill

Province	Postal Code	Business E-mail Address
ON	L4B1C6	wrecords@stratasoil.com

Bus. Telephone No. *(inc. area code)*	Name of Well Technician (Last Name, First Name)
9057649304	Muir, Mike

Well Technician's Licence No.	Signature of Technician and/or Contractor	Date Submitted
3448		2010 03 31

Well owner's information package delivered: ☐ Yes ☐ No

Date Package Delivered: Y Y Y Y M M D D

Date Work Completed: 2010 03 19

Ministry Use Only

Audit No. z111785

MAY 03 2010 Received

Ministry's Copy

Ontario — Ministry of the Environment

Measurements recorded in: ☑ Metric ☐ Imperial

Well Tag No. *(Place Sticker and/or Print Below)* A093965

Well Record

Regulation 903 Ontario Water Resources Act

7265

Well Owner's Information

First Name	Last Name / Organization	E-mail Address	☐ Well Constructed by Well Owner
1278439	Ontario limited		

Mailing Address (Street Number/Name)	Municipality	Province	Postal Code	Telephone No. *(inc. area code)*
1525 Ortona Ave	Ottawa	ON	K2C1W2	

Well Location

Address of Well Location (Street Number/Name)	Township	Lot	Concession
117 Wescar Ln			

County/District/Municipality	City/Town/Village	Province	Postal Code
	Carp	Ontario	

UTM Coordinates	Zone	Easting	Northing	Municipal Plan and Sublot Number	Other
NAD 83	18	423278	5015743		

Overburden and Bedrock Materials/Abandonment Sealing Record *(see instructions on the back of this form)*

General Colour	Most Common Material	Other Materials	General Description	Depth (m/ft) From	Depth (m/ft) To

Annular Space

Depth Set at (m/ft) From	To	Type of Sealant Used (Material and Type)	Volume Placed (m³/ft³)
0	.31	Concrete	
.31	1.83	Bensal	
1.83		Grout slurry	

Method of Construction

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

Well Use

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

Construction Record - Casing

Inside Diameter (cm/in)	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness (cm/in)	Depth (m/ft) From	Depth (m/ft) To
4.03	PVC	.368		

Construction Record - Screen

Outside Diameter (cm/in)	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (m/ft) From	Depth (m/ft) To
4.82	PVC	10		

Status of Well

☐ Water Supply
☐ Replacement Well
☐ Test Hole
☐ Recharge Well
☐ Dewatering Well
☐ Observation and/or Monitoring Hole
☐ Alteration (Construction)
☐ Abandoned, Insufficient Supply
☐ Abandoned, Poor Water Quality
☑ Abandoned, other, *specify* not needed
☐ Other, *specify*

Water Details

Water found at Depth (m/ft)	Kind of Water	Gas	Other, specify
	☐ Fresh ☐ Untested	☐	
	☐ Fresh ☐ Untested	☐	
	☐ Fresh ☐ Untested	☐	

Hole Diameter

Depth (m/ft) From	Depth (m/ft) To	Diameter (cm/in)
0	1.83	20.32

Results of Well Yield Testing

After test of well yield, water was:
☐ Clear and sand free
☐ Other, *specify*

If pumping discontinued, give reason:

Pump intake set at *(m/ft)*

Pumping rate *(l/min / GPM)*

Duration of pumping ____ hrs + ____ min

Final water level end of pumping *(m/ft)*

If flowing give rate *(l/min / GPM)*

Recommended pump depth *(m/ft)*

Recommended pump rate *(l/min / GPM)*

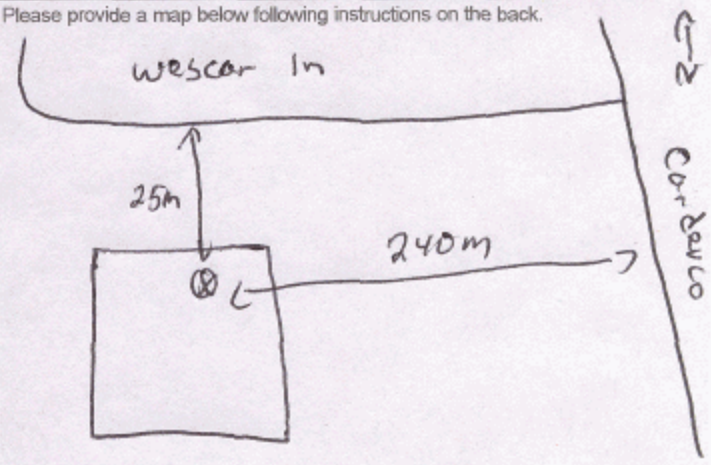
Well production *(l/min / GPM)*

Disinfected? ☐ Yes ☐ No

	Draw Down Time (min)	Draw Down Water Level (m/ft)	Recovery Time (min)	Recovery Water Level (m/ft)
Static Level				
1			1	
2			2	
3			3	
4			4	
5			5	
10			10	
15			15	
20			20	
25			25	
30			30	
40			40	
50			50	
60			60	

Map of Well Location

Please provide a map below following instructions on the back.



Comments:

Well Contractor and Well Technician Information

Business Name of Well Contractor	Well Contractor's Licence No.
Strata Soil Sampling	7241

Business Address (Street Number/Name)	Municipality
2147 west Beaver Creek Dr	Richmond Hill

Province	Postal Code	Business E-mail Address
ON	L4B1C6	wrecords@stratasoil.com

Bus. Telephone No. *(inc. area code)*	Name of Well Technician (Last Name, First Name)
9057649304	Muir, Mike

Well Technician's Licence No.	Signature of Technician and/or Contractor	Date Submitted
3148		2010 03 31

Well owner's information package delivered ☐ Yes ☐ No

Date Package Delivered

Date Work Completed 2010 03 19

Ministry Use Only

Audit No. z111786

Received MAY 03 2010

Ministry's Copy

Ontario — Ministry of the Environment

Measurements recorded in: ☑ Metric ☐ Imperial

Well Tag No. *(Place Sticker and/or Print Below)* A093964

Well Record

Regulation 903 Ontario Water Resources Act

7265 Page 4 of 4

Well Owner's Information

First Name	Last Name / Organization	E-mail Address	☐ Well Constructed by Well Owner
1278439	Ontaria Limited		

Mailing Address (Street Number/Name)	Municipality	Province	Postal Code	Telephone No. *(inc. area code)*
1525 Ortona Ave	Ottawa	ON	K2C1W2	

Well Location

Address of Well Location (Street Number/Name)	Township	Lot	Concession
117 Wescar Ln			

County/District/Municipality	City/Town/Village	Province	Postal Code
	Carp	Ontario	

UTM Coordinates	Zone	Easting	Northing	Municipal Plan and Sublot Number	Other
NAD 83	18	423276	5015759		

Overburden and Bedrock Materials/Abandonment Sealing Record *(see instructions on the back of this form)*

General Colour	Most Common Material	Other Materials	General Description	Depth (m/ft) From	Depth (m/ft) To

Annular Space

Depth Set at (m/ft) From	To	Type of Sealant Used *(Material and Type)*	Volume Placed (m^3/ft^3)
0	.31	Concrete	
.31	1.83	Bensea l	
1.83		Grout Slurry	

Method of Construction

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

Well Use

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

Construction Record - Casing

Inside Diameter *(cm/in)*	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness *(cm/in)*	Depth (m/ft) From	Depth (m/ft) To
4.03	PVC	.368		

Construction Record - Screen

Outside Diameter *(cm/in)*	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (m/ft) From	Depth (m/ft) To
4.82	PVC	10		

Status of Well

☐ Water Supply
☐ Replacement Well
☐ Test Hole
☐ Recharge Well
☐ Dewatering Well
☐ Observation and/or Monitoring Hole
☐ Alteration (Construction)
☐ Abandoned, Insufficient Supply
☐ Abandoned, Poor Water Quality
☑ Abandoned, other, *specify* not needed
☐ Other, *specify*

Water Details

Water found at Depth (m/ft)	Kind of Water	
	☐ Fresh ☐ Untested	☐ Gas ☐ Other, *specify*
	☐ Fresh ☐ Untested	☐ Gas ☐ Other, *specify*
	☐ Fresh ☐ Untested	☐ Gas ☐ Other, *specify*

Hole Diameter

Depth (m/ft) From	To	Diameter *(cm/in)*
0	1.83	20.32

Results of Well Yield Testing

After test of well yield, water was:
☐ Clear and sand free
☐ Other, *specify*

If pumping discontinued, give reason:

Pump intake set at *(m/ft)*

Pumping rate *(l/min / GPM)*

Duration of pumping ____ hrs + ____ min

Final water level end of pumping *(m/ft)*

If flowing give rate *(l/min / GPM)*

Recommended pump depth *(m/ft)*

Recommended pump rate *(l/min / GPM)*

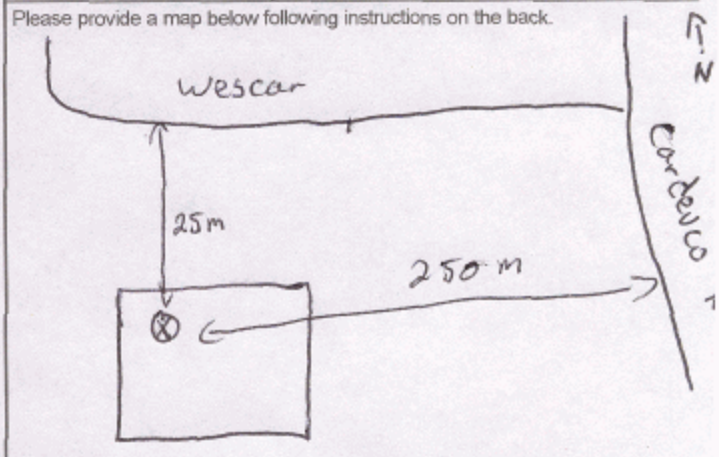
Well production *(l/min / GPM)*

Disinfected? ☐ Yes ☐ No

	Draw Down Time *(min)*	Draw Down Water Level *(m/ft)*	Recovery Time *(min)*	Recovery Water Level *(m/ft)*
Static Level				
1			1	
2			2	
3			3	
4			4	
5			5	
10			10	
15			15	
20			20	
25			25	
30			30	
40			40	
50			50	
60			60	

Map of Well Location

Please provide a map below following instructions on the back.



Comments:

Well Contractor and Well Technician Information

Business Name of Well Contractor	Well Contractor's Licence No.
Strata Soil Sampling	7241

Business Address (Street Number/Name)	Municipality
2-147 West Beaver Creek Dr	Richmond Hill

Province	Postal Code	Business E-mail Address
ON	L4B1C6	wrecords@stratasoil.com

Bus. Telephone No. *(inc. area code)*	Name of Well Technician (Last Name, First Name)
9057649304	Muir, Mike

Well Technician's Licence No.	Signature of Technician and/or Contractor	Date Submitted
3148		2010/03/31

Well owner's information package delivered ☐ Yes ☐ No

Date Package Delivered

Date Work Completed 2010/03/19

Ministry Use Only

Audit No. z111783

MAY 03 2010 Received

0506E (2007/12)

Ministry's Copy

BB, 1296

Ontario Ministry of the Environment

Well Record

Regulation 903 Ontario Water Resources Act

Well Tag No. A104867

Measurements recorded in: [X] Metric [ ] Imperial

Page 1 of 1

Well Owner's Information

First Name	Last Name / Organization	E-mail Address	[ ] Well Constructed by Well Owner
	MARWICK HOLDINGS	%BAIRD CONST. MGMT	

Mailing Address (Street Number/Name)	Municipality	Province	Postal Code	Telephone No. (inc. area code)
141 WESCAR	CARP	ON	K0A1L0	(613)831-7044

Well Location

Address of Well Location (Street Number/Name)	Township	Lot	Concession
131 WESCAR	HUNTLEY	6	3

County/District/Municipality	City/Town/Village	Province	Postal Code
OTTAWA/CARLETON	CARP	Ontario	K0A1L0.

UTM Coordinates	Zone	Easting	Northing	Municipal Plan and Sublot Number	Other
NAD 8 3	18	423212	5015770	PLAN 4M-356	BLOCKS 28&31.

Overburden and Bedrock Materials/Abandonment Sealing Record (see instructions on the back of this form)

General Colour	Most Common Material	Other Materials	General Description	Depth (m/ft) From	To
GREY	CLAY	SAND.		0.00	4.61
GREY	TILL	SAND, GRAVEL, BOULDERS		4.61	7.32
GREY	LIMESTONE	SHALE		7.32	35.08 (115').

Annular Space

Depth Set at (m/ft) From	To	Type of Sealant Used (Material and Type)	Volume Placed (m³/ft³)
0.00	8.23	Bentonite grout/holeplug Sealant.	0.30

Results of Well Yield Testing

After test of well yield, water was: [X] Clear and sand free [ ] Other, specify

If pumping discontinued, give reason: N/A.

Pump intake set at (m/ft): 9.15m (30').

Pumping rate (l/min / GPM): 54lpm (12gpm).

Duration of pumping: 6 hrs + 0 min

Final water level end of pumping (m/ft): 2.64m (8.6').

If flowing give rate (l/min / GPM): N/A.

Recommended pump depth (m/ft): 9.15m (30').

Recommended pump rate (l/min / GPM): 45lpm (10gpm)

Well production (l/min / GPM): 1450lpm (10gpm).

Disinfected? [X] Yes [ ] No

Draw Down Time (min)	Water Level (m/ft)	Recovery Time (min)	Water Level (m/ft)
Static Level	2.42		
1	2.45	1	2.61
2	"	2	2.57
3	"	3	2.53
4	"	4	2.50
5	"	5	2.49
10	2.49	10	2.48
15	2.53	15	"
20	2.59	20	"
25	2.62	25	"
30	2.63	30	"
40	2.64	40	2.47
50	"	50	"
60	"	60	2.46.

Method of Construction

[ ] Cable Tool [ ] Rotary (Conventional) [ ] Rotary (Reverse) [ ] Boring [X] Air percussion [ ] Other, specify [ ] Diamond [ ] Jetting [ ] Driving [ ] Digging

Well Use

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

Construction Record - Casing

Inside Diameter (cm/in)	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness (cm/in)	Depth (m/ft) From	To
15.88	Steel A589	0.48	+0.60	8.23

Status of Well

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

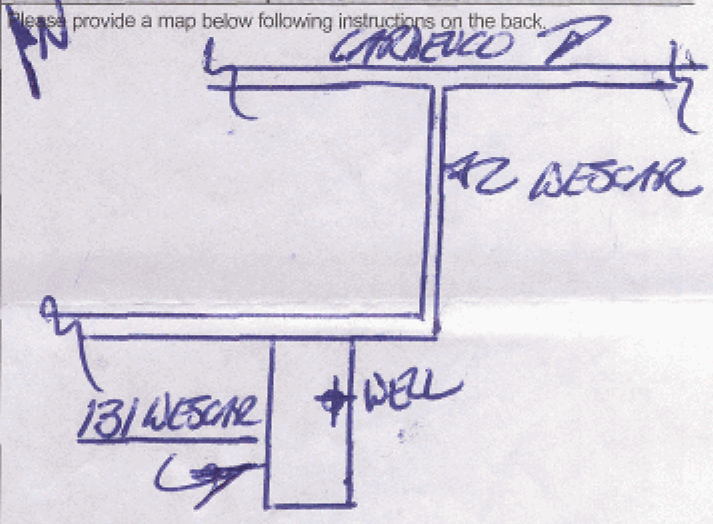
Construction Record - Screen

N/A.

Outside Diameter (cm/in)	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (m/ft) From	To

Map of Well Location

Please provide a map below following instructions on the back.



Comments:

Water Details

Water found at Depth (m/ft)	Kind of Water
21.9	[ ] Fresh [X] Untested [ ] Gas [ ] Other, specify
28.9	[ ] Fresh [X] Untested [ ] Gas [ ] Other, specify
31	[ ] Fresh [X] Untested [ ] Gas [ ] Other, specify

Hole Diameter

Depth (m/ft) From	To	Diameter (cm/in)
8.23	35.08	15.24

Well Contractor and Well Technician Information

Business Name of Well Contractor	Well Contractor's Licence No.
STANTON DRILLING INC	4875

Business Address (Street Number/Name)	Municipality
157 FILE ARCHES DR, BOX 219	PAKENHAM

Province	Postal Code	Business E-mail Address
ON	K0A2X0	Stanton.drilling@bellnet

Bus. Telephone No. (inc. area code)	Name of Well Technician (Last Name, First Name)
(613)624-5622	STANTON, PETER

Well Technician's Licence No.	Signature of Technician and/or Contractor	Date Submitted
0086.	[signature]	2011 02 25

Well owner's information package delivered	Date Package Delivered	Date Work Completed
[X] Yes [ ] No	2011 02 25	2011 02 23

Ministry Use Only

Audit No. Z102951

Received: APR 05 2011

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Ontario — Ministry of the Environment

Measurements recorded in: [X] Metric [ ] Imperial

Well Tag No. (Affix Sticker and/or Print Below) **A117442**

Well Record

Regulation 903 Ontario Water Resources Act

Page 1 of 1

[redacted]

Address of Well Location (Street Number/Name)	Township	Lot	Concession
125 WESCAR	HUNTLEY	6	3

County/District/Municipality	City/Town/Village	Province	Postal Code
OTTAWA CARLETON.	CARP	Ontario	K0A 1L0.

UTM Coordinates	Zone	Easting	Northing	Municipal Plan and Sublot Number	Other
NAD 83	18	423224	5015753		

Overburden and Bedrock Materials/Abandonment Sealing Record *(see instructions on the back of this form)*

General Colour	Most Common Material	Other Materials	General Description	Depth (m/ft) From	Depth (m/ft) To
BROWN/GREY	SAND	CLAY,		0.00	2.89
GREY	TILL	SAND, GRAVEL, BOULDERS		2.89	7.02
GREY	LIMESTONE	SHALE		7.02	35.08 (115').

Annular Space

Depth Set at (m/ft) From	To	Type of Sealant Used (Material and Type)	Volume Placed (m³/ft³)
0.00	8.69	Holeplug bentonite grout sealant.	0.26

Method of Construction

[ ] Cable Tool [ ] Diamond
[ ] Rotary (Conventional) [ ] Jetting
[ ] Rotary (Reverse) [ ] Driving
[ ] Boring [ ] Digging
[X] Air percussion
[ ] Other, specify

Well Use

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

Construction Record - Casing

Inside Diameter (cm/in)	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness (cm/in)	Depth (m/ft) From	Depth (m/ft) To
15.88	Steel A589	0.48	+.46	8.69

Construction Record - Screen N/A.

Outside Diameter (cm/in)	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (m/ft) From	Depth (m/ft) To

Status of Well

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

Water Details

Water found at Depth (m/ft)	Gas	Kind of Water	Other, specify
22	[ ]	[ ] Fresh [X] Untested	
29	[ ]	[ ] Fresh [X] Untested	
31	[ ]	[ ] Fresh [X] Untested	

Hole Diameter

Depth (m/ft) From	To	Diameter (cm/in)
0.69	35.08	15.24

Results of Well Yield Testing

After test of well yield, water was:
[X] Clear and sand free
[ ] Other, specify

If pumping discontinued, give reason: N/A.

Pump intake set at (m/ft): 12.2m (40').

Pumping rate (l/min / GPM): 45lpm (10gpm)

Duration of pumping: 6 hrs + 0 min

Final water level end of pumping (m/ft): 2.11 (6.91')

If flowing give rate (l/min / GPM): N/A.

Recommended pump depth (m/ft): 12.2m (40').

Recommended pump rate (l/min / GPM): 45lpm (10gpm)

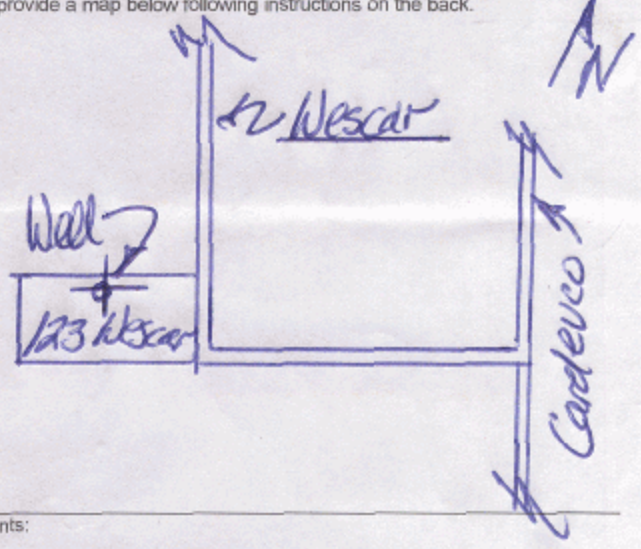
Well production (l/min / GPM): 745lpm (5 10gpm)

Disinfected? [X] Yes [ ] No

Draw Down Time (min)	Draw Down Water Level (m/ft)	Recovery Time (min)	Recovery Water Level (m/ft)
Static Level	1.79		
1	1.88	1	2.02
2	1.92	2	1.98
3	1.95	3	1.95
4	1.99	4	1.925
5	2.00	5	1.91
10	2.04	10	1.86
15	2.06	15	1.84
20	2.08	20	1.83
25	2.09	25	1.82
30	2.09	30	1.81
40	2.095	40	1.81
50	2.10	50	1.81
60	2.11	60	1.81

Map of Well Location

Please provide a map below following instructions on the back.



Comments:

Well Contractor and Well Technician Information

Business Name of Well Contractor	Well Contractor's Licence No.
STANLEY DRILLING INC	4875

Business Address (Street Number/Name)	Municipality
BOX 219, 157 FIVE ARCHES DR	PAKENHAM

Province	Postal Code	Business E-mail Address
ON	K0A 2X0	Stanleydrilling@bell.net.

Bus. Telephone No. (inc. area code)	Name of Well Technician (Last Name, First Name)
(613) 624-5622	STANLEY, PETER

Well Technician's Licence No.	Signature of Technician and/or Contractor	Date Submitted
0086	[signature]	2011/06/29

Well owner's information package delivered	Date Package Delivered	Date Work Completed
[X] Yes [ ] No	2011/06/[illegible]	2011/06/02

Ministry Use Only

Audit No. z132976

JUL 08 2011 Received

Ministry's Copy

Ontario Ministry of the Environment

Measurements recorded in: ☐ Metric ☐ Imperial

We Tag#: A135308 (Print Below)

A135308

Well Record

Regulation 903 Ontario Water Resources Act

Page ____ of ____

Well Owner's Information

First Name	Last Name / Organization	E-mail Address	☐ Well Constructed by Well Owner
	Akman Construction		

Mailing Address (Street Number/Name)	Municipality	Province	Postal Code	Telephone No. (inc. area code)
123 Cardevco Road	Carp	ON	K0A 1L0	

Well Location

Address of Well Location (Street Number/Name)	Township	Lot	Concession
123 Cardevco Road	West Carleton	6	3

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

UTM Coordinates	Zone	Easting	Northing	Municipal Plan and Sublot Number	Other
NAD 8 3	18	423286	5015933	4R8368	Part 9 & 12

Overburden and Bedrock Materials/Abandonment Sealing Record *(see instructions on the back of this form)*

General Colour	Most Common Material	Other Materials	General Description	Depth (m/ft) From	Depth (m/ft) To
	Sand & Gravel	& Boulders		0	11
Grey & Brown	Limestone			11	78
Grey & Brown	Limestone			78	93
Grey & Brown	Limestone			93	100

Annular Space

Depth Set at (m/ft) From	To	Type of Sealant Used (Material and Type)	Volume Placed (m^3/ft^3)
20	0	Neat cement	15.6

Method of Construction

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

Well Use

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

Construction Record - Casing

Inside Diameter (cm/in)	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness (cm/in)	Depth (m/ft) From	Depth (m/ft) To
6 1/4"	Steel	.188"	+2	20
5 15/16"	Open Hole		20	100

Construction Record - Screen

Outside Diameter (cm/in)	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (m/ft) From	Depth (m/ft) To

Status of Well

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

Water Details

Water found at Depth (m/ft)	Kind of Water	
78	☐ Fresh ☒ Untested	☐ Gas ☐ Other, specify
93	☐ Fresh ☒ Untested	☐ Gas ☐ Other, specify
	☐ Fresh ☐ Untested	☐ Gas ☐ Other, specify

Hole Diameter

Depth (m/ft) From	To	Diameter (cm/in)
0	20	9 3/4"
20	100	5 15/16"

Results of Well Yield Testing

After test of well yield, water was:
☐ Clear and sand free
☐ Other, specify Not tested

If pumping discontinued, give reason: X

Pump intake set at (m/ft): 90

Pumping rate (l/min / GPM): 20

Duration of pumping: 1 hrs + 0 min

Final water level end of pumping (m/ft): 19.7

If flowing give rate (l/min / GPM): X

Recommended pump depth (m/ft): 90

Recommended pump rate (l/min / GPM): 20

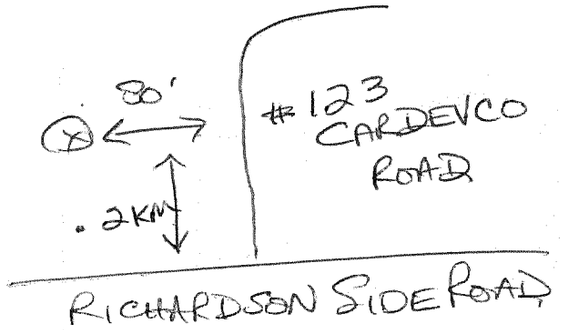
Well production (l/min / GPM): 20+

Disinfected? ☒ Yes ☐ No

Draw Down Time (min)	Draw Down Water Level (m/ft)	Recovery Time (min)	Recovery Water Level (m/ft)
Static Level	7.6		19.7
1	13.7	1	7.6
2	14.2	2	7.6
3	14.8	3	7.6
4	15.1	4	7.6
5	15.4	5	7.6
10	17.3	10	7.6
15	18.4	15	7.6
20	19.5	20	7.6
25	19.6	25	7.6
30	19.6	30	7.6
40	19.7	40	7.6
50	19.7	50	7.6
60	19.7	60	7.6

Map of Well Location

Please provide a map below following instructions on the back.



Comments:
1/2 HP - 10 GPM SET AT 90 FT

Well Contractor and Well Technician Information

Business Name of Well Contractor	Well Contractor's Licence No.
Air Rock Drilling Co. Ltd.	1119

Business Address (Street Number/Name)	Municipality
6659 Franktown Road, RR#1	Richmond

Province	Postal Code	Business E-mail Address
ON	K0A 2Z0	air-rock@sympatico.ca

Bus. Telephone No. (inc. area code)	Name of Well Technician (Last Name, First Name)
6138382170	Graham, Ryan

Well Technician's Licence No.	Signature of Technician and/or Contractor	Date Submitted
T3484		2013 10 31

Well owner's information package delivered	Date Package Delivered	Date Work Completed
☒ Yes ☐ No	2013 10 10	2013 10 08

Ministry Use Only

Audit No. Z 155253

Received NOV 06 2013

Ministry's Copy

Ontario — Ministry of the Environment and Climate Change

Well Record

Regulation 903 Ontario Water Resources Act

Measurements recorded in: ☑ Metric ☐ Imperial

Well Tag No. *(Place Sticker and/or Print Below)* A261077 Tag#:A261077

S-23157 Page _____ of _____

Well Owner's Information

First Name	Last Name / Organization	E-mail Address	☐ Well Constructed by Well Owner
	Ironsides Canada Inc.		

Mailing Address (Street Number/Name)	Municipality	Province	Postal Code	Telephone No. (inc. area code)
4243 rue Marcel Lacasse	Brossard	QC	J4Z 1N4	450 970 8899

Well Location

Address of Well Location (Street Number/Name)	Township	Lot	Concession
100-120 Cardevco Rd			

County/District/Municipality	City/Town/Village	Province	Postal Code
	Carp	Ontario	K0A 1L0

UTM Coordinates	Zone	Easting	Northing	Municipal Plan and Sublot Number	Other
NAD 83	18	423447	5015952		

Overburden and Bedrock Materials/Abandonment Sealing Record *(see instructions on the back of this form)*

General Colour	Most Common Material	Other Materials	General Description	Depth (m/ft) From	Depth (m/ft) To
BRN	gravel	sand	dense	0	.31
BRN	sand	gravel	soft	.31	1.22
~~BRN~~ GRY	sandstone		layered	1.22	6.1

Annular Space

Depth Set at (m/ft) From	To	Type of Sealant Used (Material and Type)	Volume Placed (m³/ft³)
0	.31	concrete/flushmount	
.31	2.74	bentonite	
2.74	6.1	filter sand	

Method of Construction

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

Well Use

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

Construction Record - Casing

Inside Diameter (cm/in)	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness (cm/in)	Depth (m/ft) From	Depth (m/ft) To
5.20	PVC	.390	0	3.1

Construction Record - Screen

Outside Diameter (cm/in)	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (m/ft) From	Depth (m/ft) To
6.03	PVC	10	3.1	6.1

Status of Well

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

Water Details

Water found at Depth (m/ft)	☐ Gas	Kind of Water: ☐ Fresh ☐ Untested ☐ Other, specify
Water found at Depth (m/ft)	☐ Gas	Kind of Water: ☐ Fresh ☐ Untested ☐ Other, specify
Water found at Depth (m/ft)	☐ Gas	Kind of Water: ☐ Fresh ☐ Untested ☐ Other, specify

Hole Diameter

Depth (m/ft) From	Depth (m/ft) To	Diameter (cm/in)
0	1.22	11.43
1.22	6.1	7.60

Results of Well Yield Testing

After test of well yield, water was:
☐ Clear and sand free
☐ Other, specify _____

If pumping discontinued, give reason:

Pump intake set at (m/ft)

Pumping rate (l/min / GPM)

Duration of pumping _____ hrs + _____ min

Final water level end of pumping (m/ft)

If flowing give rate (l/min / GPM)

Recommended pump depth (m/ft)

Recommended pump rate (l/min / GPM)

Well production (l/min / GPM)

Disinfected? ☐ Yes ☐ No

	Draw Down Time (min)	Draw Down Water Level (m/ft)	Recovery Time (min)	Recovery Water Level (m/ft)
Static Level				
1			1	
2			2	
3			3	
4			4	
5			5	
10			10	
15			15	
20			20	
25			25	
30			30	
40			40	
50			50	
60			60	

Map of Well Location

Please provide a map below following instructions on the back.

NW

Comments:

Well Contractor and Well Technician Information

Business Name of Well Contractor	Well Contractor's Licence No.
Strata Drilling Group	7124

Business Address (Street Number/Name)	Municipality
165 Shields Court	Markham

Province	Postal Code	Business E-mail Address
ON	L3R 9W7	wrecords@stratasoil.com

Bus. Telephone No. (inc. area code)	Name of Well Technician (Last Name, First Name)
905 940 7899	

Well Technician's Licence No.	Signature of Technician and/or Contractor	Date Submitted

Well owner's information package delivered ☐ Yes ☐ No

Date Package Delivered: _____

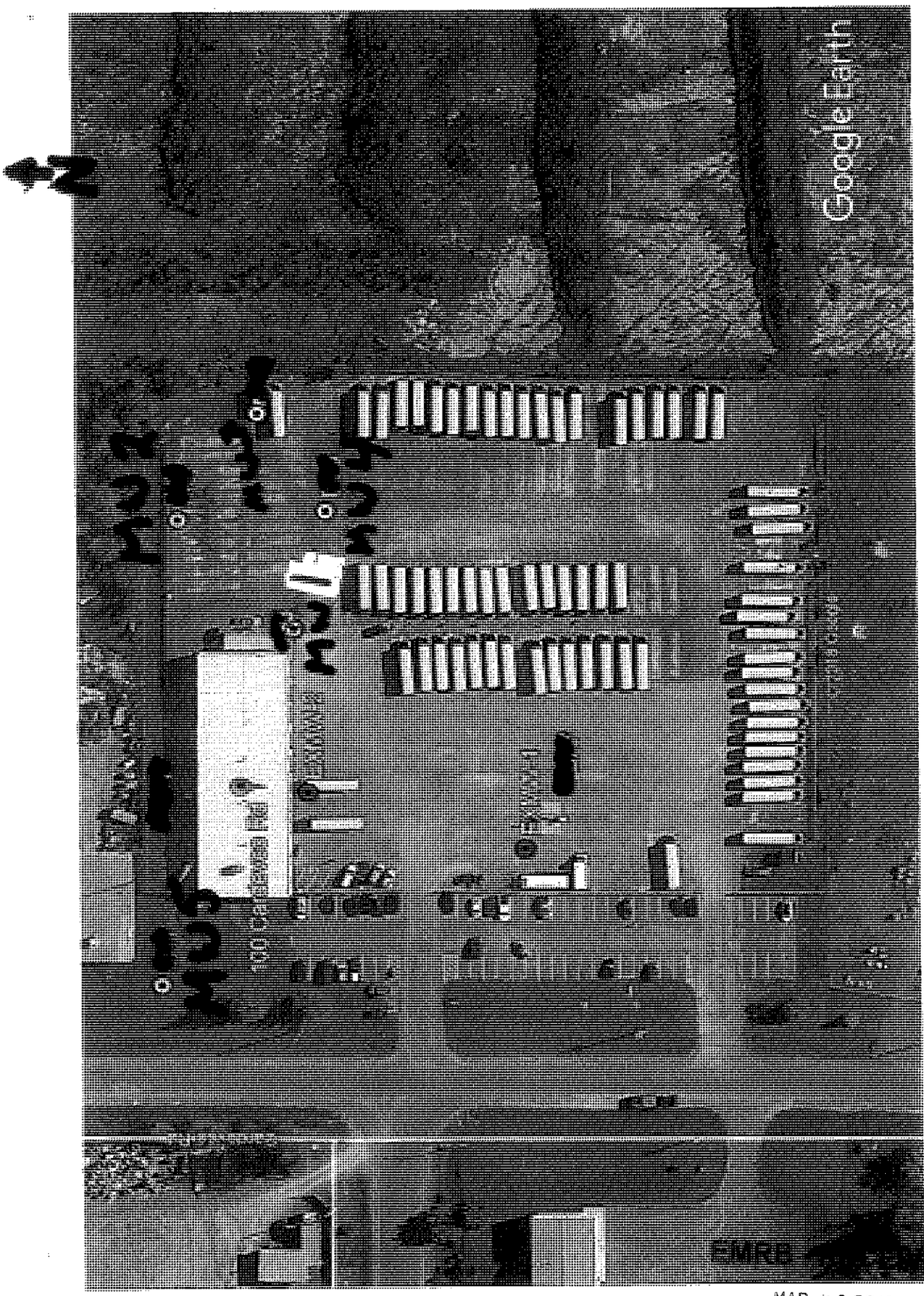
Date Work Completed: 2019/03/06

Ministry Use Only

Audit No. Z229576

MAR 0 8 2019

Received



EMRB

MAR 08 2019

C-7241
Z229576

Ontario

Ministry of the Environment and Climate Change

Measurements recorded in: ☑ Metric ☐ Imperial

Well Tag No. (Place Sticker and/or Print Below) A261078 Tag#:A26 78

Well Record

...ulation 903 Ontario Water Resources Act

S-23157 Page ____ of ____

Well Owner's Information

First Name	Last Name / Organization	E-mail Address	☐ Well Constructed by Well Owner
	Transdev Canada Inc.		

Mailing Address (Street Number/Name)	Municipality	Province	Postal Code	Telephone No. (inc. area code)
4243 rue Marcel Lacasse	Brossard	QC	J7L1N4	4507087899

Well Location

Address of Well Location (Street Number/Name)	Township	Lot	Concession
100-120 Caldwell Rd			

County/District/Municipality	City/Town/Village	Province	Postal Code
	~~Ottawa~~ - Carp	Ontario	K0A1L0

UTM Coordinates	Zone	Easting	Northing	Municipal Plan and Sublot Number	Other
NAD 83	18	423452	5061982		

Overburden and Bedrock Materials/Abandonment Sealing Record *(see instructions on the back of this form)*

General Colour	Most Common Material	Other Materials	General Description	Depth (m/ft) From	Depth (m/ft) To
GRY	gravel	sand	dense	0	.31
BRN	sand	gravel	soft	.31	.61
GRY	Sandstone		layered	.61	3.1

Annular Space

Depth Set at (m/ft) From	To	Type of Sealant Used (Material and Type)	Volume Placed (m³/ft³)
0	.31	concrete/Slushmount	
.31	1.22	bentonite	
1.22	3.1	filter sand	

Method of Construction

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

Well Use

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

Construction Record - Casing

Inside Diameter (cm/in)	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness (cm/in)	Depth (m/ft) From	Depth (m/ft) To
5.20	PVC	.390	0	1.52

Construction Record - Screen

Outside Diameter (cm/in)	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (m/ft) From	Depth (m/ft) To
6.03	PVC	10	1.52	3.1

Status of Well

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

Water Details

Water found at Depth (m/ft)	☐ Gas	Kind of Water: ☐ Fresh ☐ Untested ☐ Other, specify ____
Water found at Depth (m/ft)	☐ Gas	Kind of Water: ☐ Fresh ☐ Untested ☐ Other, specify ____
Water found at Depth (m/ft)	☐ Gas	Kind of Water: ☐ Fresh ☐ Untested ☐ Other, specify ____

Hole Diameter

Depth (m/ft) From	To	Diameter (cm/in)
0	.61	11.43
.61	3.1	7.62

Results of Well Yield Testing

After test of well yield, water was:
☐ Clear and sand free
☐ Other, specify ____

If pumping discontinued, give reason:

Pump intake set at (m/ft)

Pumping rate (l/min / GPM)

Duration of pumping ____ hrs + ____ min

Final water level end of pumping (m/ft)

If flowing give rate (l/min / GPM)

Recommended pump depth (m/ft)

Recommended pump rate (l/min / GPM)

Well production (l/min / GPM)

Disinfected? ☐ Yes ☐ No

	Draw Down Time (min)	Draw Down Water Level (m/ft)	Recovery Time (min)	Recovery Water Level (m/ft)
Static Level				
1			1	
2			2	
3			3	
4			4	
5			5	
10			10	
15			15	
20			20	
25			25	
30			30	
40			40	
50			50	
60			60	

Map of Well Location

Please provide a map below following instructions on the back.

MAP 2

Comments:

Well Contractor and Well Technician Information

Business Name of Well Contractor	Well Contractor's Licence No.
Strata Drilling Group	7141

Business Address (Street Number/Name)	Municipality
165 Shields Court	Markham

Province	Postal Code	Business E-mail Address
ON	L3R8V2	mreardon@stratadrill.com

Bus. Telephone No. (inc. area code)	Name of Well Technician (Last Name, First Name)
905 944 0119	

Well Technician's Licence No.	Signature of Technician and/or Contractor	Date Submitted

Well owner's information package delivered ☐ Yes ☐ No

Date Package Delivered: ____

Date Work Completed: 2019/03/06

Ministry Use Only

Audit No. Z298199

MAR 08 2019

Received

C-7241
2290199

Ontario

Ministry of the Environment and Climate Change

Measurements recorded in: ☑ Metric ☐ Imperial

Well Tag No. (Place Sticker and/or Print) A261082 Tag#:A261082

Well Record

ulation 903 Ontario Water Resources Act

S-23157

Page _____ of _____

Well Owner's Information

First Name	Last Name / Organization	E-mail Address	☐ Well Constructed by Well Owner
	Transdev Canada Inc.		

Mailing Address (Street Number/Name)	Municipality	Province	Postal Code	Telephone No. (inc. area code)
4243 rue Marcel Lacasse	Brossard	QC	J7L 1N4	4509708899

Well Location

Address of Well Location (Street Number/Name)	Township	Lot	Concession
100-120 Cardevco Rd			

County/District/Municipality	City/Town/Village	Province	Postal Code
	Ottawa / Carp	Ontario	K0A 1L0

UTM Coordinates	Zone	Easting	Northing	Municipal Plan and Sublot Number	Other
NAD 83	18	423376	5015925		

Overburden and Bedrock Materials/Abandonment Sealing Record *(see instructions on the back of this form)*

General Colour	Most Common Material	Other Materials	General Description	Depth (m/ft) From	Depth (m/ft) To
BRN	top soil		dense	0	.31
BRN	sand	gravel	soft	.31	1.22
GRY	sandstone		layered	1.22	3.35

Annular Space

Depth Set at (m/ft) From	Depth Set at (m/ft) To	Type of Sealant Used (Material and Type)	Volume Placed (m³/ft³)
0	.31	concrete	
.31	1.68	bentonite	
1.68	3.35	filter sand	

Method of Construction

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

Well Use

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

Construction Record - Casing

Inside Diameter (cm/in)	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness (cm/in)	Depth (m/ft) From	Depth (m/ft) To
5.20	PVC	.390	0	1.83

Construction Record - Screen

Outside Diameter (cm/in)	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (m/ft) From	Depth (m/ft) To
6.03	PVC	10	1.83	3.35

Status of Well

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

Water Details

Water found at Depth (m/ft)	☐ Gas	Kind of Water: ☐ Fresh ☐ Untested ☐ Other, specify

Hole Diameter

Depth (m/ft) From	Depth (m/ft) To	Diameter (cm/in)
0	2.13	11.43
2.13	3.35	7.62

Results of Well Yield Testing

After test of well yield, water was:
☐ Clear and sand free
☐ Other, specify _____

If pumping discontinued, give reason:

Pump intake set at (m/ft)

Pumping rate (l/min / GPM)

Duration of pumping _____ hrs + _____ min

Final water level end of pumping (m/ft)

If flowing give rate (l/min / GPM)

Recommended pump depth (m/ft)

Recommended pump rate (l/min / GPM)

Well production (l/min / GPM)

Disinfected? ☐ Yes ☐ No

	Draw Down Time (min)	Draw Down Water Level (m/ft)	Recovery Time (min)	Recovery Water Level (m/ft)
Static Level				
1			1	
2			2	
3			3	
4			4	
5			5	
10			10	
15			15	
20			20	
25			25	
30			30	
40			40	
50			50	
60			60	

Map of Well Location

Please provide a map below following instructions on the back.

NWS

Comments:

Well Contractor and Well Technician Information

Business Name of Well Contractor	Well Contractor's Licence No.
Strata Drilling Group	7121

Business Address (Street Number/Name)	Municipality
165 Shields Court	Markham

Province	Postal Code	Business E-mail Address
ON	L3R 8V2	wrecords@stratasoil.com

Bus. Telephone No. (inc. area code)	Name of Well Technician (Last Name, First Name)
9059907919	

Well Technician's Licence No.	Signature of Technician and/or Contractor	Date Submitted

Well owner's information package delivered ☐ Yes ☐ No

Date Package Delivered

Date Work Completed 2019/01/07

Ministry Use Only

Audit No. Z302863

MAR 0 8 2019

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C-7241
Z302863

Ontario (https://www.ontario.ca/page/government-ontario)

Map: Well records

This map allows you to search and view well record information from reported wells in Ontario.

Full dataset is available in the Open Data catalogue (https://data.ontario.ca/dataset/well-records) .

Go Back to Map

Well ID

Well ID Number: 7344968
Well Audit Number: *Z317325*
Well Tag Number: *A274753*
This table contains information from the original well record and any subsequent updates.

Well Location

Address of Well Location	128 Cardevco Rd
Township	HUNTLEY TOWNSHIP
Lot	
Concession	
County/District/Municipality	OTTAWA-CARLETON
City/Town/Village	Carp
Province	ON
Postal Code	n/a
UTM Coordinates	NAD83 — Zone 18 Easting: 423430.00 Northing: 5015991.00
Municipal Plan and Sublot Number	

Other	

Overburden and Bedrock Materials Interval

General Colour	Most Common Material	Other Materials	General Description	Depth From	Depth To
GREY	GRVL	STNS	LOOS	0 m	.31 m
BRWN	SAND	STNS	SOFT	.31 m	.91 m
GREY	LMSN	SNDS	LYRD	.91 m	4.57 m

Annular Space/Abandonment Sealing Record

Depth From	Depth To	Type of Sealant Used (Material and Type)	Volume Placed
0 m	.31 m	CONCRETE Monument	
.31 m	1.22 m	BENTONITE	
1.22 m	4.57 m	FILTER SAND	

Method of Construction & Well Use

Method of Construction	Well Use
Air Percussion	
	Monitoring and Test Hole

Status of Well

Monitoring and Test Hole

Construction Record - Casing

Inside Diameter	Open Hole or material	Depth From	Depth To

4.03 cm	PLASTIC	0 m	1.52 m

Construction Record - Screen

Outside Diameter	Material	Depth From	Depth To
4.82 cm	PLASTIC	1.52 m	4.57 m

Well Contractor and Well Technician Information

Well Contractor's Licence Number: 7241

Results of Well Yield Testing

After test of well yield, water was	
If pumping discontinued, give reason	
Pump intake set at	
Pumping Rate	
Duration of Pumping	
Final water level	
If flowing give rate	
Recommended pump depth	
Recommended pump rate	
Well Production	
Disinfected?	

Draw Down & Recovery

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

Water Details

Water Found at Depth	Kind

Hole Diameter

Depth From	Depth To	Diameter
	4.57 m	7.62 cm
0 m		11.43 cm

Audit Number: Z317325

Date Well Completed: August 28, 2019

Date Well Record Received by MOE: October 09, 2019

Related

How to use a Ministry of the Environment map (https://www.ontario.ca/page/how-use-ministry-environment-map#wells)

Technical documentation: Metadata record (https://data.ontario.ca/dataset/well-records/resource/3031344e-e3f2-48d5-888c-c1deadfd2f77)

Updated: October 18, 2021
Published: March 20, 2014

Certificate of Analysis

eurofins | Environment Testing

Client: Paterson Group
9 Auriga Dr
Nepean, ON
K2E 7T9
Attention: Mr. Alex Schopf
PO#: 55854
Invoice to: Paterson Group

Report Number: 1986671
Date Submitted: 2022-09-23
Date Reported: 2022-09-29
Project: PH4600
COC #: 900644

Group	Analyte	MRL	Units	Guideline	Lab I.D. Sample Matrix Sample Type Sampling Date Sample I.D.	1652758 Water 2022-09-22 GW1	1652759 Water 2022-09-22 GW2
Anions	Cl	1	mg/L	AO 250		185	191
	F	0.10	mg/L	MAC 1.5		0.41	0.42
	N-NO2	0.10	mg/L	MAC 1.0		<0.10	<0.10
	N-NO3	0.10	mg/L	MAC 10.0		<0.10	<0.10
	SO4	1	mg/L	AO 500		75	75
General Chemistry	Alkalinity as CaCO3	5	mg/L	OG 30-500		287	289
	Colour (Apparent)	2	TCU	AO 5		90*	86*
	Conductivity	5	uS/cm			1160	1180
	DOC	0.5	mg/L	AO 5		3.5	3.2
	pH	1.00		6.5-8.5		8.15	8.15
	Phenols	0.001	mg/L			<0.001	<0.001
	S2-	0.01	mg/L	AO 0.05		0.02	0.02
	TDS (COND - CALC)	1	mg/L	AO 500		754*	767*
	Turbidity	0.1	NTU	AO 5		13.2*	11.6*
Hardness	Hardness as CaCO3	1	mg/L	OG 80-100		457*	462*
Hydrocarbons	F1 (C6-C10)	20	ug/L			<20	<20
	F1-BTEX (C6-C10)	20	ug/L			<20	<20
	F2 (C10-C16)	20	ug/L			<20	<20
	F3 (C16-C34)	50	ug/L			<50	<50
	F4 (C34-C50)	50	ug/L			<50	<50
Indices/Calc	Ion Balance	0.01				1.01	1.01
Metals	Ag	0.0001	mg/L			<0.0001	<0.0001
	Al	0.01	mg/L	OG 0.1		<0.01	<0.01
	As	0.001	mg/L	IMAC 0.01		<0.001	<0.001
	B	0.01	mg/L	IMAC 5.0		0.02	0.02

Guideline = ODWSOG *** = Guideline Exceedence**

Results relate only to the parameters tested on the samples submitted.
Methods references and/or additional QA/QC information available on request.

MRL = Method Reporting Limit, AO = Aesthetic Objective, OG = Operational Guideline, MAC = Maximum Acceptable Concentration, IMAC = Interim Maximum Acceptable Concentration, STD = Standard, PWQO = Provincial Water Quality Guideline, IPWQO = Interim Provincial Water Quality Objective, TDR = Typical Desired Range

eurofins | Environment Testing

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Group	Analyte	MRL	Units	Guideline	Lab I.D. Sample Matrix Sample Type Sampling Date Sample I.D.	1652758 Water 2022-09-22 GW1	1652759 Water 2022-09-22 GW2
Metals	Ba	0.01	mg/L	MAC 1.0		0.58	0.59
	Be	0.0005	mg/L			<0.0005	<0.0005
	Ca	1	mg/L			127	129
	Cd	0.0001	mg/L	MAC 0.005		<0.0001	<0.0001
	Co	0.0002	mg/L			<0.0002	<0.0002
	Cr	0.001	mg/L	MAC 0.05		<0.001	<0.001
	Cu	0.001	mg/L	AO 1		<0.001	<0.001
	Fe	0.03	mg/L	AO 0.3		1.34*	1.21*
	Hg	0.0001	mg/L	MAC 0.001		<0.0001	<0.0001
	K	1	mg/L			3	3
	Mg	1	mg/L			34	34
	Mn	0.01	mg/L	AO 0.05		0.13*	0.13*
	Mo	0.005	mg/L			<0.005	<0.005
	Na	1	mg/L	AO 200		79	82
	Ni	0.005	mg/L			<0.005	<0.005
	Pb	0.001	mg/L	MAC 0.010		<0.001	<0.001
	Sb	0.0005	mg/L	IMAC 0.006		<0.0005	<0.0005
	Se	0.001	mg/L	MAC 0.05		<0.001	<0.001
	Sr	0.001	mg/L			0.720	0.724
	Tl	0.0001	mg/L			<0.0001	<0.0001
	U	0.001	mg/L	MAC 0.02		<0.001	<0.001
	V	0.001	mg/L			<0.001	<0.001
	Zn	0.01	mg/L	AO 5		<0.01	<0.01
Microbiology	Escherichia Coli	0	ct/100mL	MAC 0		0	0
	Total Coliforms	0	ct/100mL	MAC 0		0	0

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COC #: 900644

Group	Analyte	MRL	Units	Guideline	1652758 Water 2022-09-22 GW1	1652759 Water 2022-09-22 GW2
	Lab I.D. / Sample Matrix / Sample Type / Sampling Date / Sample I.D.					
Nutrients	N-NH3	0.020	mg/L		0.140	0.130
	Total Kjeldahl Nitrogen	0.100	mg/L		0.358	0.188
PHC Surrogate	Alpha-androstrane	0	%		101	103
Subcontract	Tannin & Lignin	0.1	mg/L		1.3	1.2
VOCs Surrogates	1,2-dichloroethane-d4	0	%		106	112
	4-bromofluorobenzene	0	%		82	82
	Toluene-d8	0	%		96	93
Volatiles	1,1,1,2-tetrachloroethane	0.5	ug/L		<0.5	<0.5
	1,1,1-trichloroethane	0.4	ug/L		<0.4	<0.4
	1,1,2,2-tetrachloroethane	0.5	ug/L		<0.5	<0.5
	1,1,2-trichloroethane	0.4	ug/L		<0.4	<0.4
	1,1-dichloroethane	0.4	ug/L		<0.4	<0.4
	1,1-dichloroethylene	0.5	ug/L	MAC 14	<0.5	<0.5
	1,2-dichlorobenzene	0.4	ug/L	MAC 200	<0.4	<0.4
	1,2-dichloroethane	0.5	ug/L	IMAC 5	<0.5	<0.5
	1,2-dichloropropane	0.5	ug/L		<0.5	<0.5
	1,3,5-trimethylbenzene	0.3	ug/L		<0.3	<0.3
	1,3-dichlorobenzene	0.4	ug/L		<0.4	<0.4
	1,3-Dichloropropylene (cis+trans)	0.05	ug/g		<0.05	<0.05
	1,4-dichlorobenzene	0.4	ug/L	MAC 5	<0.4	<0.4
	Acetone	30	ug/L		<30	<30
	Benzene	0.5	ug/L	MAC 1	<0.5	<0.5
	Bromodichloromethane	0.3	ug/L		<0.3	<0.3
	Bromoform	0.4	ug/L		<0.4	<0.4
	Bromomethane	0.5	ug/L		<0.5	<0.5

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COC #: 900644

Group	Analyte	MRL	Units	Guideline	1652758 Water 2022-09-22 GW1	1652759 Water 2022-09-22 GW2
	Lab I.D. / Sample Matrix / Sample Type / Sampling Date / Sample I.D.					
Volatiles	c-1,2-Dichloroethylene	0.4	ug/L		<0.4	<0.4
	c-1,3-Dichloropropylene	0.5	ug/L		<0.5	<0.5
	Carbon Tetrachloride	0.2	ug/L	MAC 2	<0.2	<0.2
	Chloroethane	0.5	ug/L		<0.5	<0.5
	Chloroform	0.5	ug/L		<0.5	<0.5
	Dibromochloromethane	0.3	ug/L		<0.3	<0.3
	Dichlorodifluoromethane	0.5	ug/L		<0.5	<0.5
	Dichloromethane	4.0	ug/L	MAC 50	<4.0	<4.0
	Ethylbenzene	0.5	ug/L	MAC 140	<0.5	<0.5
	Ethylene Dibromide	0.2	ug/L		<0.2	<0.2
	Hexane	5	ug/L		<5	<5
	m/p-xylene	0.4	ug/L		<0.4	<0.4
	Methyl Ethyl Ketone (MEK)	10	ug/L		<10	<10
	Methyl Isobutyl Ketone (MIBK)	10	ug/L		<10	<10
	Methyl Tert Butyl Ether (MTBE)	2	ug/L	AO 15	<2	<2
	Monochlorobenzene	0.5	ug/L	MAC 80	<0.5	<0.5
	o-xylene	0.4	ug/L		<0.4	<0.4
	Styrene	0.5	ug/L		<0.5	<0.5
	t-1,2-Dichloroethylene	0.4	ug/L		<0.4	<0.4
	t-1,3-Dichloropropylene	0.5	ug/L		<0.5	<0.5
	Tetrachloroethylene	0.3	ug/L	MAC 10	<0.3	<0.3
	Toluene	0.4	ug/L	MAC 60	<0.4	<0.4
	Trichloroethylene	0.3	ug/L	MAC 5	<0.3	<0.3
	Trichlorofluoromethane	0.5	ug/L		<0.5	<0.5
	Vinyl Chloride	0.2	ug/L	MAC 1	<0.2	<0.2

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Date Reported: 2022-09-29
Project: PH4600
COC #: 900644

Group	Analyte	MRL	Units	Guideline	Lab I.D. Sample Matrix Sample Type Sampling Date Sample I.D.	1652758 Water 2022-09-22 GW1	1652759 Water 2022-09-22 GW2
Volatiles	Xylene; total	0.5	ug/L	MAC 90		<0.5	<0.5

Guideline = ODWSOG *** = Guideline Exceedence**

Results relate only to the parameters tested on the samples submitted.
Methods references and/or additional QA/QC information available on request.

MRL = Method Reporting Limit, AO = Aesthetic Objective, OG = Operational Guideline, MAC = Maximum Acceptable Concentration, IMAC = Interim Maximum Acceptable Concentration, STD = Standard, PWQO = Provincial Water Quality Guideline, IPWQO = Interim Provincial Water Quality Objective, TDR = Typical Desired Range

patersongroup Consulting Engineers

154 Colonnade Road South, Ottawa, Ontario K2E 7J5

SOIL PROFILE AND TEST DATA

Geotechnical Investigation
Prop. Industrial Redevelopment - 135 Cardevco Road
Carp, Ontario

DATUM Geodetic

REMARKS

BORINGS BY Backhoe **DATE** November 12, 2021

FILE NO. PG6018

HOLE NO. TP 1-21

SOIL DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE % RECOVERY	SAMPLE N VALUE or RQD	DEPTH (m)	ELEV. (m)	Pen. Resist. Blows/0.3m ● 50 mm Dia. Cone ○ Water Content %	Piezometer Construction
GROUND SURFACE									
Asphaltic concrete 0.09		G	1			0	118.65		
FILL: Crushed stone 0.10									
FILL: Brown silty sand with crushed stone, gravel, occasional cobbles		G	2						
0.60									
Rigid insulation 0.70									
Compact to dense, brown **SILTY SAND**		G	3			1	117.65		
1.80									
End of Test Pit									
Bottom of thickened concrete slab encountered at 0.56m depth.									
Underside of 100mm dia. PVC drainage pipe at 0.56m depth.									
(TP dry upon completion)									

Pen. Resist. Blows/0.3m: 20 40 60 80

Water Content %: 20 40 60 80

Shear Strength (kPa): 20 40 60 80 100

▲ Undisturbed △ Remoulded

patersongroup Consulting Engineers

154 Colonnade Road South, Ottawa, Ontario K2E 7J5

SOIL PROFILE AND TEST DATA

Geotechnical Investigation
Prop. Industrial Redevelopment - 135 Cardevco Road
Carp, Ontario

DATUM Geodetic

REMARKS

BORINGS BY Backhoe **DATE** November 12, 2021

FILE NO. PG6018

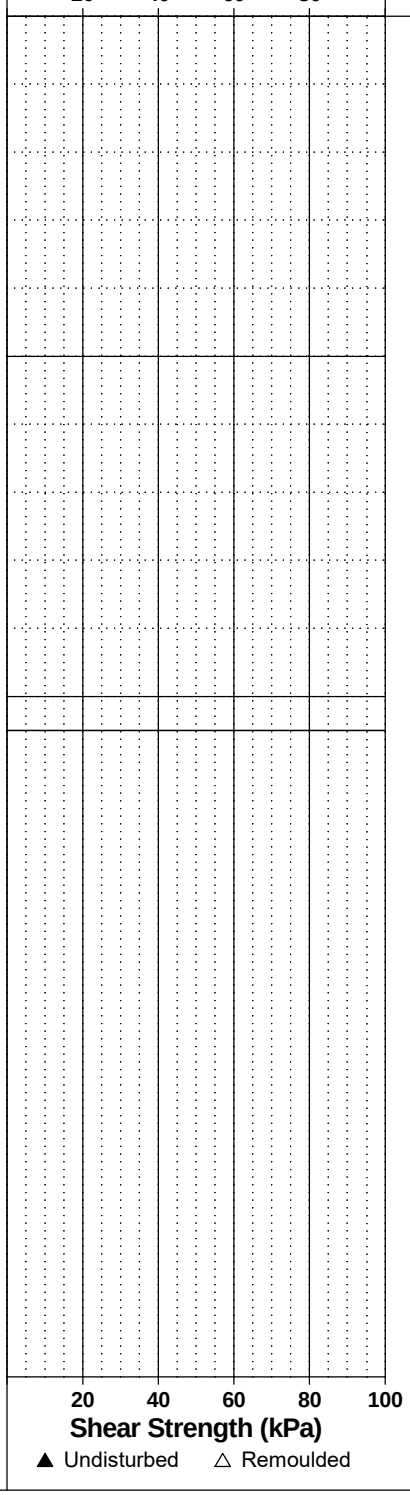
HOLE NO. TP 2-21

SOIL DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE % RECOVERY	SAMPLE N VALUE or RQD	DEPTH (m)	ELEV. (m)	Pen. Resist. Blows/0.3m ● 50 mm Dia. Cone ○ Water Content %	Piezometer Construction
GROUND SURFACE						0	118.67		
TOPSOIL 0.10									
FILL: Brown silty sand with crushed stone, gravel and cobbles, trace asphalt 0.60		G	1						
Rigid insulation 0.70									
FILL: Crushed stone 1.00		G	2			1	117.67		
Compact to dense, brown **SILTY SAND**		G	3						
2.10						2	116.67		
End of Test Pit									

Bottom of thickened concrete slab encountered at 0.56m depth.

Underside of 100mm dia. PVC drainage pipe at 0.56m depth.

(TP dry upon completion)



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154 Colonnade Road South, Ottawa, Ontario K2E 7J5

SOIL PROFILE AND TEST DATA

Geotechnical Investigation
Prop. Industrial Redevelopment - 135 Cardevco Road
Carp, Ontario

DATUM Geodetic

REMARKS

BORINGS BY Backhoe **DATE** November 12, 2021

FILE NO. PG6018

HOLE NO. TP 3-21

SOIL DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE % RECOVERY	SAMPLE N VALUE or RQD	DEPTH (m)	ELEV. (m)	Pen. Resist. Blows/0.3m ● 50 mm Dia. Cone ○ Water Content %	Piezometer Construction
GROUND SURFACE									
TOPSOIL 0.12						0	118.55		
FILL: Brown silty sand with crushed stone, gravel and cobbles, trace asphalt 0.60		G	1						
Rigid insulation 0.70									
Compact to dense, brown **SILTY SAND**		G	2			1	117.55		
1.60 End of Test Pit									
Bottom of thickened concrete slab encountered at 0.56m depth.									
Underside of 100mm dia. PVC drainage pipe at 0.56m depth.									
(TP dry upon completion)									

Pen. Resist. Blows/0.3m: 20 40 60 80

Shear Strength (kPa): 20 40 60 80 100

▲ Undisturbed △ Remoulded

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154 Colonnade Road South, Ottawa, Ontario K2E 7J5

SOIL PROFILE AND TEST DATA

Geotechnical Investigation
Prop. Industrial Redevelopment - 135 Cardevco Road
Carp, Ontario

DATUM Geodetic

REMARKS

BORINGS BY Backhoe **DATE** November 12, 2021

FILE NO. PG6018

HOLE NO. TP 4-21

SOIL DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE % RECOVERY	SAMPLE N VALUE or RQD	DEPTH (m)	ELEV. (m)	Pen. Resist. Blows/0.3m ● 50 mm Dia. Cone ○ Water Content %	Piezometer Construction
GROUND SURFACE						0	118.77		
TOPSOIL 0.05									
FILL: Crushed stone and gravel 0.20		G	1						
FILL: Brown silty sand with gravel 0.40		G	2						
		G	3			1	117.77		
Compact to dense, brown **SILTY SAND**		G	4			2	116.77		▽
						3	115.77		
3.50 End of Test Pit									
(Groundwater infiltration at 2.0m depth)									

Pen. Resist. Blows/0.3m: ● 50 mm Dia. Cone; ○ Water Content %
20 40 60 80

20 40 60 80 100
Shear Strength (kPa)
▲ Undisturbed △ Remoulded

patersongroup Consulting Engineers

154 Colonnade Road South, Ottawa, Ontario K2E 7J5

SOIL PROFILE AND TEST DATA

Geotechnical Investigation
Prop. Industrial Redevelopment - 135 Cardevco Road
Carp, Ontario

DATUM Geodetic

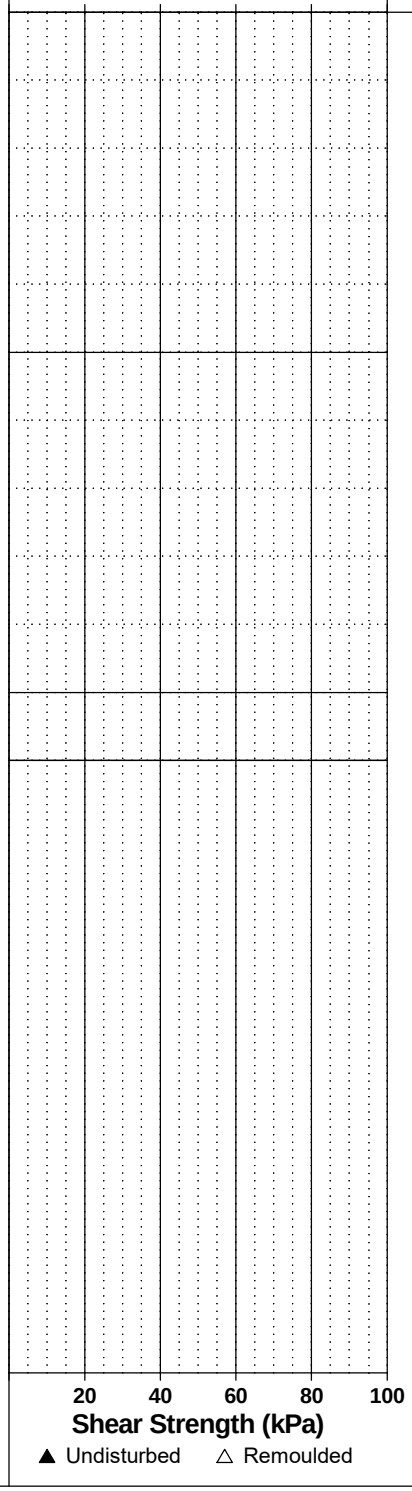
REMARKS

BORINGS BY Backhoe **DATE** November 12, 2021

FILE NO. PG6018

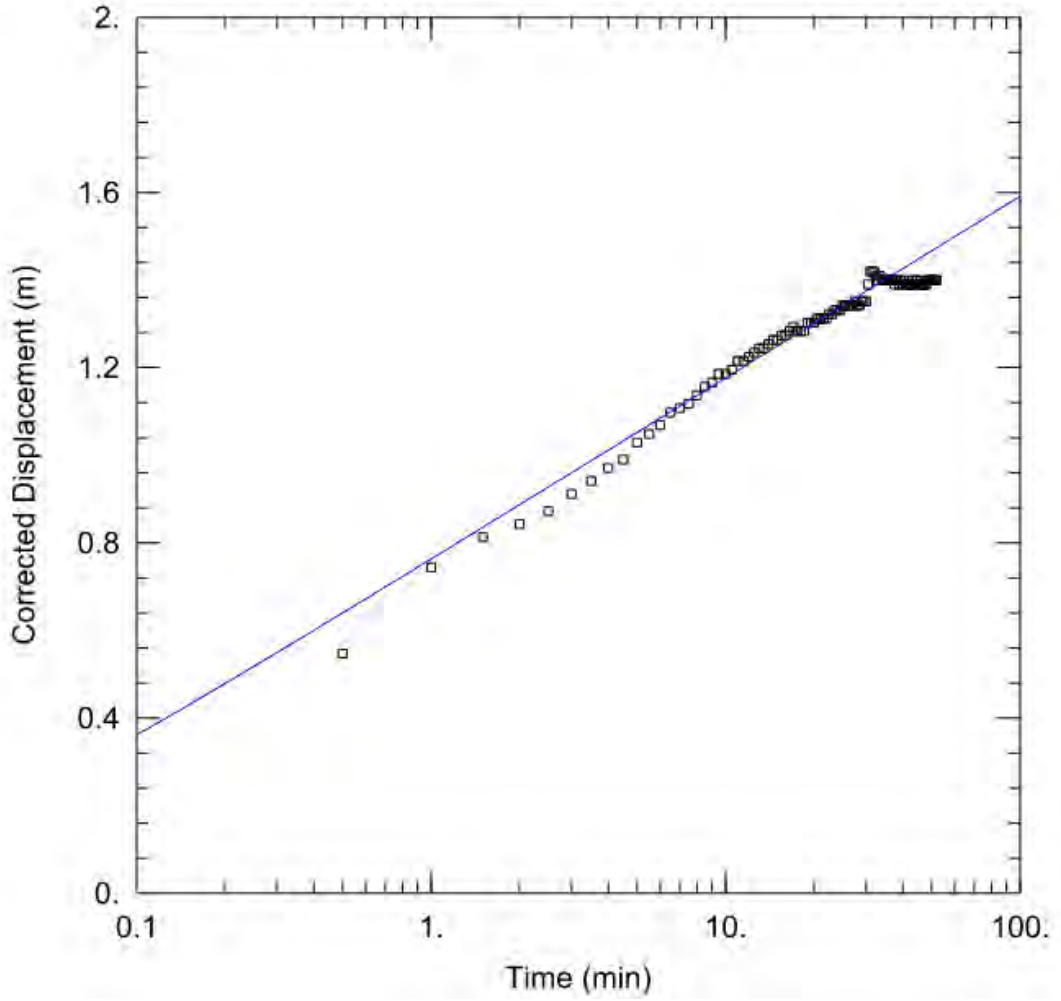
HOLE NO. TP 5-21

SOIL DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE % RECOVERY	SAMPLE N VALUE or RQD	DEPTH (m)	ELEV. (m)	Pen. Resist. Blows/0.3m ● 50 mm Dia. Cone ○ Water Content %	Piezometer Construction
GROUND SURFACE									
Asphaltic concrete 0.05 **FILL:** Crushed stone 0.15		G	1			0	118.31		
		G	2			1	117.31		
GLACIAL TILL: Very dense, brown silty sand with gravel, cobbles and boulders						2	116.31		
2.20									
End of Test Pit Practical refusal to excavation at 2.20m depth (Groundwater infiltration at 1.9m depth)									



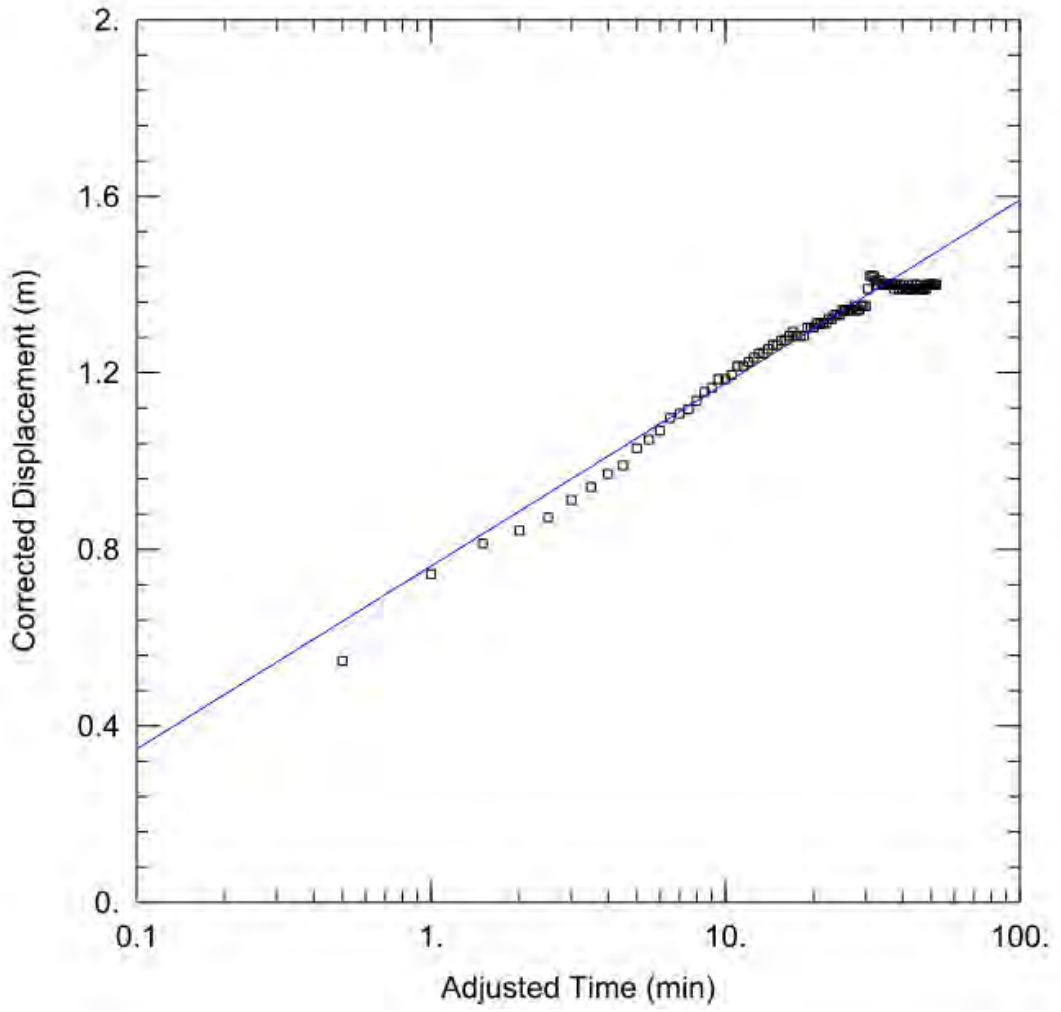
Pumping Test Analysis Report

File No.	PH4600	Well ID:	TW1
Date:	Thursday, September 27	Solution Method:	**Theis**
Client:	Premier Bus Lines. Ltd	Transmissitivity (m2/day):	17.17
Site Address:	135 Cardevco Rd, Carp	Discharge Rate (L/min)	27
Project:	Site Plan Control Application	Analysis performed by:	AS



Pumping Test Analysis Report

File No.	PH4600	Well ID:	TW1
Date:	Thursday, September 27	Solution Method:	**Cooper-Jacob**
Client:	Premier Bus Lines. Ltd	Transmissitivity (m2/day):	17.17
Site Address:	135 Cardevco Rd, Carp	Discharge Rate (L/min)	27
Project:	Site Plan Control Application	Analysis performed by:	AS



Pumping Test Analysis Report

File No.	PH4600
Date:	Thursday, September 27
Client:	Premier Bus Lines. Ltd
Site Address:	135 Cardevco Rd, Carp
Project:	Site Plan Control Application

Summary Table:

Solution Method:	Well ID:	Transmissitivity (m2/day):
Theis	TW1	17.17
Cooper-Jacob	TW1	17.17
Average:		**17.17**

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PH4600

135 Cardevco, Carp, ON

PREDICTIVE NITRATE IMPACT ASSESSEMENT

(Completed using the site specific sewage system)

Infiltration Factors		
Topography	0.20	
Soil	0.40	
Cover	0.10	
Total	**0.70**	
Site Characteristics		
Area of Site :	2024	m^2
Total of roof areas:	277	m^2
Total area of paved driveway areas:	667	m^2
Roof + paved driveway areas	944	m^2
Impervious Area	944	m^2
Percent Impervious Area =	47	%
Infiltration Area =	1080	m^2
Septic Effluent		
Concentration of Effluent (Cs) =	18.44	mg/L
Daily Sewage Flow (Qs)=	0.876	m^3
See Notes below.		
Infiltration Calculation		
Nitrate concentration in precipitation (C_i) =	0	mg/L
Surplus Water (Environment Canada)	379	mm/yr
Factored Water Surplus =	265	mm/yr
Infiltration % due to stormwater management measures	-	%
Infiltration rate from stormwater management measures =	0	mm/yr
Infiltration Flow Entering the System (Q_i) =	1	m^3/day
Mass Balance Model (MOEE, 1995)		
$C_T = (Q_bC_b+Q_eC_e+Q_iC_i)/(Q_b+Q_e+Q_i)$ = Cumulative Nitrate Concentration		
Q_b = flow entering the system across the upgradient area	0	m^3/day
C_b = background nitrate concentration	0	mg/L
Q_e = flow entering the system from the septic drainfield	0.876	m^3/day
C_e = concentration of nitrates in the septic effluent	18.444	mg/L
Q_i = flow entering the system from infiltration	1	m^3/day
C_i = Concentration of nitrates in the infiltrate	0	mg/L
C_T =	**9.73**	**mg/L**

Notes: Site characteristic values were measured as approximate values from the available site plan. Daily Sewage Flow volume was calculted by Paterson Group.

patersongroup
135 Cardevco Road
PH4600

TW1	inputs		
pH	8.15	A	0.19
TDS	767	B	2.37
Hardness	462	C	2.26
Alkalinity	289	D	2.46
Temp.	10.6		
		pHs =	7.133434026

Langelier Saturation Index (LSI) Calculation

(Langelier, 1936)

LSI = pH - pHs

pHs = (9.3 + A + B) - (C + D)

Where:

A = (Log10 [TDS] - 1) / 10

B = -13.12 x Log10 (oC + 273) + 34.55

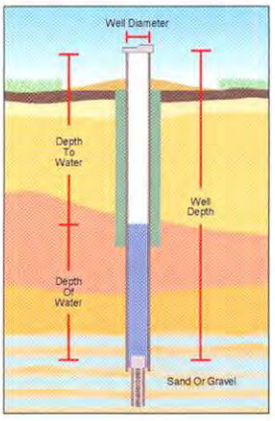
C = Log10 [Ca2+ as CaCO3] - 0.4

D = Log10 [alkalinity as CaCO3]

LSI = 1.0

LSI	Effect
0.5 to 2	**Water is super saturated and tends to precipitate a scale layer of calcium carbonate (scale forming but non-corrosive)**
0 to 0.5	**Water is super saturated and tends to precipitate a scale layer of calcium carbonate (slightly scale forming and corrosive).**
0	Water is saturated (in equilibrium) with calcium carbonate. A scale layer of calcium carbonate is neither precipitated nor dissolved.
0 to -0.5	Water is under saturated and tends to dissolve solid calcium carbonate (slightly corrosivebut non-scale forming).
-0.5 to -2	Water is under saturated and tends to dissolve solid calcium carbonate (seriously corrosive).

Disinfection Instruction Sheet



If your drinking water continues to test positive on repeated submissions, consult your local health unit, which can help you interpret the results of your tests and provide you with advice on what measures you can take to safeguard your drinking water.

The first step in identifying the reason for repeated adverse water quality is to conduct a visual inspection of your well. Start with a close look at your well. The area around it should be clear of any potential contaminant sources, such as pets, lawn care products, and gardens. Once you're satisfied that the area around your well is okay, take a good, close look at the well itself. If you have an older well, make sure that the cap and the sealant around the well casing isn't cracked or damaged. If it is, you need to fix or replace it right away.

If the source of the problem can't be detected, consult a licensed well contractor right away to identify the source of the problem and eliminate it. You can save yourself a lot of money by doing this instead of rushing out to buy a home treatment device that may be expensive to install, operate, and maintain. And it may not eliminate the source of your trouble.

(If you have a cistern, please talk to your public health unit about disinfection requirements.)

1. Measure the diameter of the well.
2. Measure the well depth and the static or resting water level, then calculate the depth of water in the well.
3. Using the table on this sheet, measure out the amount of bleach needed. (The table gives the volume of bleach needed for different well sizes.) Then, pour the mixture into your well.
4. If possible, mix the water in the well. This can be accomplished by attaching a hose to a tap, running water from the well, through the hose and back into the well.
5. After adding chlorine to the well, remove or bypass any carbon filters that are in the system for water treatment. If you don't, these filters will remove the chlorine from the water, and any pipes beyond the filter will not get disinfected. Replace with new filters after chlorination to avoid reintroducing bacteria into the system.
6. Run water at every faucet in the house (and barn, if you have one) until a strong chlorine odour is detected. Be aware that your nose may lose its ability to detect chlorine.
7. If there is no chlorine smell or it is very weak, add more bleach to the well and repeat Step 6 above.
8. Drain the water heater and fill with chlorinated water.
9. Backflush the water softener and all water filters (except carbon filters).
10. Let the chlorinated water stand in the system for at least 12 hours.
11. Clear chlorine from the well by running an outside hose to the ground surface. Then, run clear water through the faucets until the water no longer smells of chlorine.
12. Avoid putting too much chlorine into the septic system because the bacteria needed for septic decomposition may be killed.
13. Do not drink the water without boiling it until test results show the water is safe to drink.

Volume of Bleach to Add for Every 3 Metres (10 Feet) of Water in the Well*

Casing Diameter		Volume of Unscented Bleach (5.25% solution)
Millimetres	Inches	Millilitres
50	2	6
100	4	30
150	6	60
200	8	100
250	10	200
300	12	250
400	16	400
500	20	650
600	24	900
900	36	2000 (2 litres)
1200	48	3600 (3.6 litres)

For example: If you have 6 metres (20 feet) of water in your well and it has a casing diameter of 100 mm or 4 inches, you would add 60 mm or 2 fluid ounces of bleach.

* For questions or more information on how to disinfect your well, contact your local health unit.

For more information

Ontario Government Ministry Abbreviations

Ministry of Health and Long-Term Care
MOHLTC (also MOH)

Ministry of the Environment
MOE (also MOEE)

Ontario Ministry of Agriculture and Food
OMAF (also OMAFRA)

Ontario Government Information Lines

MOE Public Information Centre: 1-800-565-4923

MOE Water Well Records: 1-888-396-9355

MOHLTC INFOline: 1-800-268-1154

OMAF Agricultural Information Contact Centre: 1-877-424-1300

Ontario Government Web Sites

MOE: www.ene.gov.on.ca

MOHLTC: www.health.gov.on.ca

OMAF: www.gov.on.ca/omaf

Publications available on-line

Health Canada: www.hc-sc.gc.ca

- *A Guide to Well Water Treatment and Maintenance;*
- *Water treatment devices for disinfection of drinking water.*

MOHLTC: www.health.gov.on.ca

- *How to use water safely during a "Boil Water Advisory";*
- *E. coli Bacteria;*
- List of Public Health Units in Ontario.

OMAF: www.gov.on.ca/omaf

- *Assessing the Potential for Ground Water Contamination on Your Farm*, Publication 97-017;
- *Best Management Practices: Water Wells*, OMAFRA and Agriculture and Agri-Food Canada, 2003 (to order).

MOE: www.ene.gov.on.ca

- *Important Facts About Water Well Construction*, Publication 3788;
- *Water Wells and Groundwater Supplies: The Protection of Water Quality in Bored and Dug Wells*, Information Sheet PIB 601b;
- *Water Wells and Groundwater Supplies: The Protection of Water Quality in Drilled Wells*, Information Sheet PIB 602b.

Ontario

Manganese in Drinking Water Fact Sheet

WHAT IS MANGANESE?

Manganese is a naturally occurring element that is an essential nutrient for humans and animals. It is found in many foods, as well as in air, water, soil, and rocks.[1] Manganese makes up 0.1% of the Earth's crust, and can be found as a component of other minerals like sulfides, oxides, carbonates, and silicates.[2] Manganese is used in the manufacture of various products including iron and steel alloys, batteries, glass, fireworks, fertilizers, cosmetics, paints, and cleaning and disinfection products.[1,2] Manganese can also be purchased as a nutritional supplement.[2]

HOW DOES MANGANESE GET INTO DRINKING WATER?

Manganese is naturally occurring in many surface and ground waters. Manganese can also be dissolved from soils, sand and rocks to enter surface and ground waters.[1] Human activities like mining, industrial discharges, or landfills may also contribute to manganese in surface and ground waters.[1,2] In general, manganese can be found at higher concentrations in groundwater compared to surface water.[2] Some lakes and reservoirs can also have higher levels of manganese due to natural water chemistry.[2]

Permanganate, a compound that contains manganese, may also be added to water during the treatment of drinking water to remove other chemicals (e.g., for the removal of iron).[2,3]

HOW DOES MANGANESE INTAKE AFFECT MY HEALTH?

Too much or too little manganese in your body can lead to health problems.

Manganese deficiency: Manganese deficiency is rare and symptoms are not well defined. Health effects observed in individuals with diets very low in manganese include skin rashes, slow nail growth, reduced bone density, loss of pigmentation in hair, and low cholesterol levels.[2]

Manganese excess: There are few reports of adverse health effects from people who ingest too much manganese from food and water.[1] Recent evidence reviewed by Health Canada indicates that high levels of manganese in drinking water may impact memory and learning, behaviour, and fine motor control in infants and young children.[2,4] Formula-fed infants may be more susceptible to health risks if water with high concentrations of manganese is used to prepare formula. This is because infant brains are rapidly developing, they drink more water in proportion to their body weight, and they absorb more manganese and are less able to remove

it from their bodies compared to other age groups.[3] For adults and older children, short term exposure to manganese in drinking water at levels slightly above the guideline is unlikely to cause negative health effects.[3]

Health Canada notes that exposure to manganese while showering (either through breathing in water vapour or absorption through skin) is likely to be negligible.[2]

WHAT ARE THE LEVELS OF MANGANESE FOUND IN CANADIANS?

For most Canadians, diet is the main source of manganese. The Canadian Health Measures Survey (CHMS) is a national survey that collects information about the general health of Canadians and includes measurements of chemicals in blood and urine samples.[5] The objective of the chemical measurements in the CHMS survey is to establish baseline levels in the Canadian population. Given that manganese is an essential trace element, its presence in the blood and urine of Canadians is expected. Manganese in blood and urine can be interpreted as an indicator of exposure, but does not necessarily mean that health effects will occur.[5] Data collected from 2007 to 2011 for the CHMS found that the average levels of manganese measured in the blood of people in the Canadian population (aged 3 to 79) ranged from 8.8 – 11 µg/L.[6] More information on the CHMS and the levels of manganese in Canadians can be obtained by visiting the Canadian Biomonitoring Dashboard.[6]

ARE THERE STANDARDS FOR MANGANESE IN DRINKING WATER?

The Ontario Drinking Water Standard (ODWS) published in 2006 sets an aesthetic objective for manganese in drinking water at 0.05 mg/L.[7] The aesthetic objective is not intended to prevent health effects (e.g., not a health-based standard), but instead is intended to prevent the discolouration and staining of fixtures, and the undesirable taste caused by higher levels of manganese in water.

The Canadian Drinking Water Guideline for manganese developed by Health Canada stipulates a maximum acceptable concentration (MAC) in drinking water of 0.12 mg/L and an aesthetic objective of 0.02 mg/L.[2] The MAC is a health-based value intended to be protective of neurological effects in infants, the most sensitive population, and therefore it is also protective for chronic exposure in children and adults.[2]

ARE THERE OTHER STANDARDS OR GUIDELINE VALUES FOR MANGANESE?

The main source of exposure to manganese is via food, with grains, nuts and vegetables contributing the most to a person's daily intake of manganese. The average dietary intakes of manganese across all age groups according to the Canadian Total Diet Study (TDS) were estimated to range between 44.0 to 61.3 µg/kg of bodyweight per day (based on data gathered from different Canadian cities for the TDS).[2] Health Canada has also established Adequate Intake Levels for manganese ranging with age or lifestage from 0.003 to 2.6 mg/day and Tolerable Upper Intake Levels ranging from 2 to 11 mg/day.[8]

Infant formula sold in Canada is regulated to contain a minimum of 5 µg of manganese per 100 available kilocalories (equivalent to 3.33 µg per 100 mL of ready-to-feed formula); a maximum amount of manganese has not been set for infant formula.[9]

HOW CAN I TELL IF MY DRINKING WATER HAS HIGH MANGANESE LEVELS?

Water testing is the only way to know if manganese is present. Although water with elevated levels of manganese may impart a bitter metallic taste, tint water purplish brown or black (water discolouration may occur at concentrations as low as 0.005 to 0.02 mg/L), and stain laundry and plumbing fixtures;[2,10,11] but these issues can also be caused by other chemicals.

WHAT SHOULD I DO IF A HIGH LEVEL OF MANGANESE IS FOUND IN MY WELL WATER?

For households who do not obtain their drinking water from a municipal source, a residential drinking water treatment device may be an option to reduce manganese concentrations in drinking water. Options can be explored with professionals specialized in water treatment, but examples of treatment processes effective at removing manganese include reverse osmosis, ion exchange (including water softeners and other cation exchange systems) and oxidizing filters.[2] As with any water treatment system, it is important to follow the manufacturer's recommendations for operation and maintenance (e.g., replacement of filter media).

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5. Health Canada. Second Report on Human Biomonitoring of Environmental Chemicals in Canada: Manganese [Internet]. 2013. Available from: https://www.canada.ca/en/health-canada/services/environmental-workplace-health/reports-publications/environmental-

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6. Government of Canada. Canadian Biomonitoring Dashboard [Internet]. 2024. Available from: https://health-infobase.canada.ca/biomonitoring/about.html

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11. World Health Organization (WHO). Manganese in drinking-water: Background document for development of WHO Guidelines for drinking-water quality [Internet]. 2021. Available from: https://www.who.int/publications/i/item/WHO-HEP-ECH-WSH-2021.5

Please note: This fact sheet was created by Ottawa Public Health in consultation with Public Health Ontario.

WASTEWATER TECHNOLOGY

NSF/ANSI Standard 245 - *Wastewater Treatment Systems – Nitrogen Reduction*

Final Report:

Premier Tech Aqua
Ecoflo Coco Filter ECDn Model Series
15/03/055/0030

NSF International
789 N. Dixboro Road
PO Box 130140
Ann Arbor, Michigan 48113-0140 USA

Evaluation Report:
Ecoflo Coco Filter ECDn Model Series
Wastewater Treatment System

Under the provisions of NSF/ANSI Standard 245
Wastewater Treatment Systems – Nitrogen Reduction

January 2016

EXECUTIVE SUMMARY

Testing of the Ecoflo Coco Filter ECDn Model Series was conducted under the provisions of NSF/ANSI Standard 245 for Residential Wastewater Treatment Systems (April 2013 revision). NSF/ANSI Standard 245 was developed by the NSF Joint Committee on Wastewater Technology.

The performance evaluation was conducted at the NSF Wastewater Technology Testing Facility located in Waco, Texas, using wastewater diverted from the Waco municipal wastewater collection system, which serves predominantly residential development. The evaluation consisted of sixteen weeks of dosing at design flow, seven and one half weeks of stress testing and an additional two and one half weeks of dosing at design flow. The stress weeks were repeated due to sampling error and the test was extended for 35 weeks. Sampling started in the spring and continued through summer and fall, covering a range of operating temperatures.

Over the course of the evaluation, the average influent Total Nitrogen was 40.4 mg/L, ranging between 20.9 and 77.4 mg/L. The Ecoflo Coco Filter ECDn Model Series produced an average effluent Total Nitrogen of 18.6 mg/L, which resulted in a 53.89% reduction in the influent Total Nitrogen. The Ecoflo Coco Filter ECDn Model Series produced an effluent that successfully met the performance requirements established by NSF/ANSI Standard 245.

The Ecoflo Coco Filter ECDn Model Series produced an effluent that successfully met the performance requirements established by NSF/ANSI Standard 40 for Class I effluent:

> The maximum 7-day arithmetic mean was 13 mg/L for $CBOD_5$ and 9 mg/L for total suspended solids, both below the allowed maximums of 40 and 45 mg/L, respectively. The maximum 30-day arithmetic mean was 5 mg/L for $CBOD_5$ and 5 mg/L for total suspended solids, both below the allowed maximums of 25 mg/L and 30 mg/L, respectively.

The effluent pH during the entire evaluation ranged between 6.6 and 7.3, within the required range of 6.0 to 9.0. The Ecoflo Coco Filter ECDn Model Series met the requirements for noise levels (less than 60 dbA at a distance of 20 feet), color, threshold odor, oily film and foam.

PREFACE

Performance evaluation of nitrogen reduction for residential wastewater treatment systems is achieved within the provisions of NSF/ANSI Standard 245: Wastewater Treatment Systems – Nitrogen Reduction (April 2013), prepared by the NSF Joint Committee on Wastewater Technology and adopted by the NSF Board of Trustees.

Conformance with the Standard is recognized by issuance of the NSF Mark. This is not to be construed as an approval of the equipment, but a certification of the data provided by the test and an indication of compliance with the requirements expressed in the Standard.

Systems conforming to Standard 245 are classified as having met the requirements of the Standard. Permission to use the NSF Mark is granted only after the equipment has been tested and found to perform satisfactorily, and all other requirements of the Standard have been satisfied. Continued use of the Mark is dependent upon evidence of compliance with the Standard and NSF General and Program Specific Policies, as determined by periodic reinspection of the equipment at the factory, distributors and reports from the field.

NSF Standard 245 requires the testing laboratory to provide the manufacturer of a residential wastewater treatment system a report including significant data and appropriate commentary relative to the performance evaluation of the plant. NSF policy specifies provision of performance evaluation reports to appropriate state regulatory agencies at publication. Subsequent direct distribution of the report by NSF is made only at the specific request of or by permission of the manufacturer.

The following report contains results of the entire testing program, a description of the plant, its operation and key process control equipment, and a narrative summary of the test program, including test location, procedures and significant occurrences. The plant represented herein reflects the equipment authorized to bear the NSF Mark.

CERTIFICATION

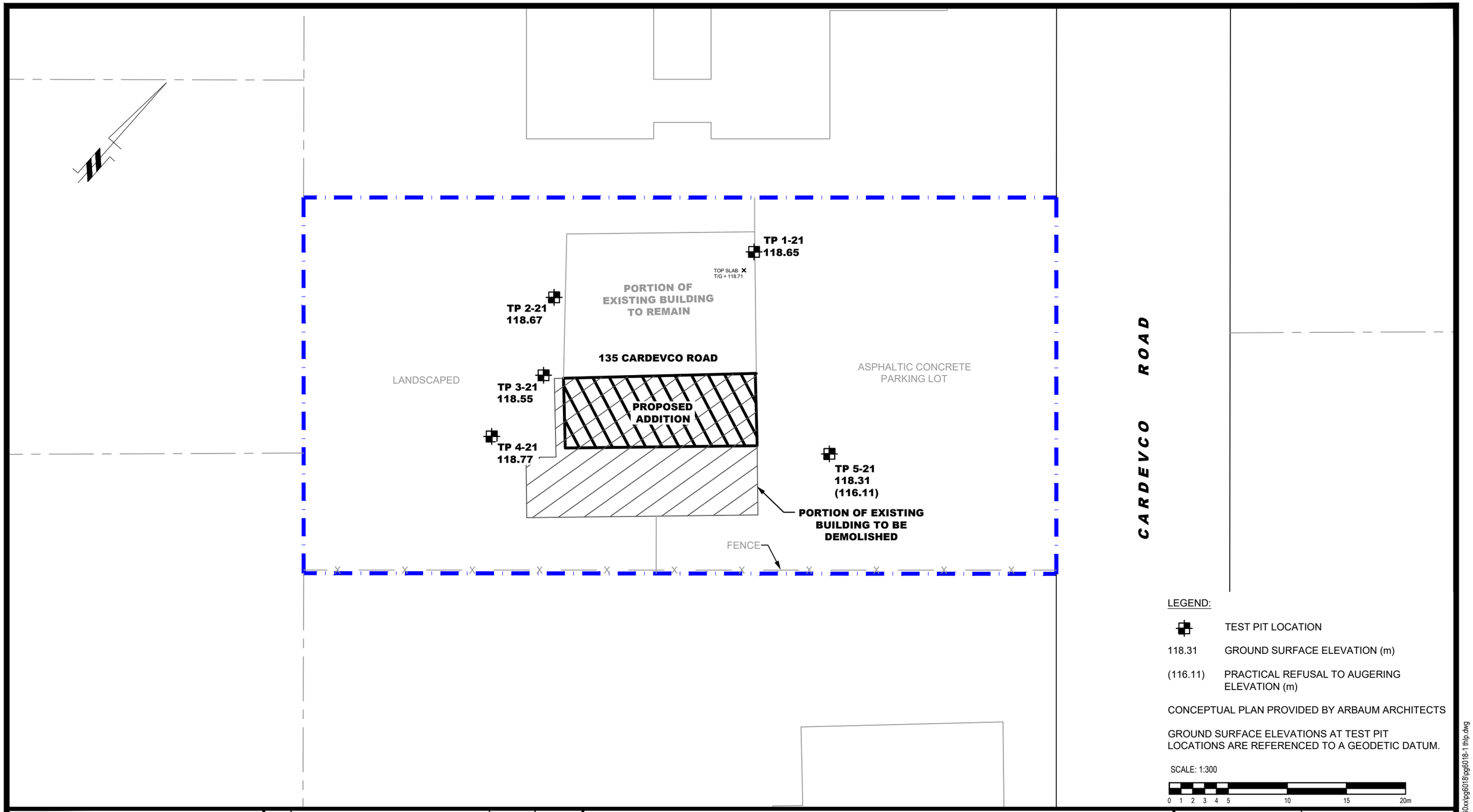
NSF International has determined by performance evaluation under the provisions of NSF/ANSI Standard 245 (revised April 2013) that the Model Number Ecoflo Coco Filter ECDn Model Series manufactured by Premier Tech Aqua has fulfilled the requirements of NSF/ANSI Standard 245. The Ecoflo Coco Filter ECDn Model Series has therefore been authorized to bear the NSF Mark so long as Manufacture continues to meet the requirements of Standard 245 and NSF General and Program Specific Policies.

General performance evaluation and stress tests were performed at the Wastewater Technology Site located at the NSF Wastewater Technology Testing Facility located in Waco, Texas. The raw wastewater used in the test was residential wastewater. The characteristics of the wastewater during the test are included in the tabulated data of this report.

The observations and analyses included in this report are certified to be correct and true copies of the data secured during the performance tests conducted by NSF on the wastewater treatment system described herein. The manufacturer has agreed to present the data in this certification in its entirety whenever it is used in advertising, prospectuses, bids or similar uses.

Jenny Oorbeck
General Manager
Sustainability

Sharon Stiener
Business Unit Manager
Wastewater



LEGEND:

⌖	TEST PIT LOCATION
118.31	GROUND SURFACE ELEVATION (m)
(116.11)	PRACTICAL REFUSAL TO AUGERING ELEVATION (m)

CONCEPTUAL PLAN PROVIDED BY ARBAUM ARCHITECTS

GROUND SURFACE ELEVATIONS AT TEST PIT LOCATIONS ARE REFERENCED TO A GEODETIC DATUM.

SCALE: 1:300

0 1 2 3 4 5 10 15 20m

patersongroup
consulting engineers

154 Colonnade Road South
Ottawa, Ontario K2E 7J5
Tel: (613) 226-7381 Fax: (613) 226-6344

NO.	REVISIONS	DATE	INITIAL

PREMIER BUS LINES INC.

GEOTECHNICAL INVESTIGATION
PROPOSED INDUSTRIAL REDEVELOPMENT
135 CARDEVCO ROAD

OTTAWA (CARP), ONTARIO

Title:

TEST HOLE LOCATION PLAN

Scale: 1:300	Date: 11/2021
Drawn by: JM	Report No.: PE6018-1
Checked by: MS	Dwg. No.: PG6018-1
Approved by: DJG	Revision No.:

11x17

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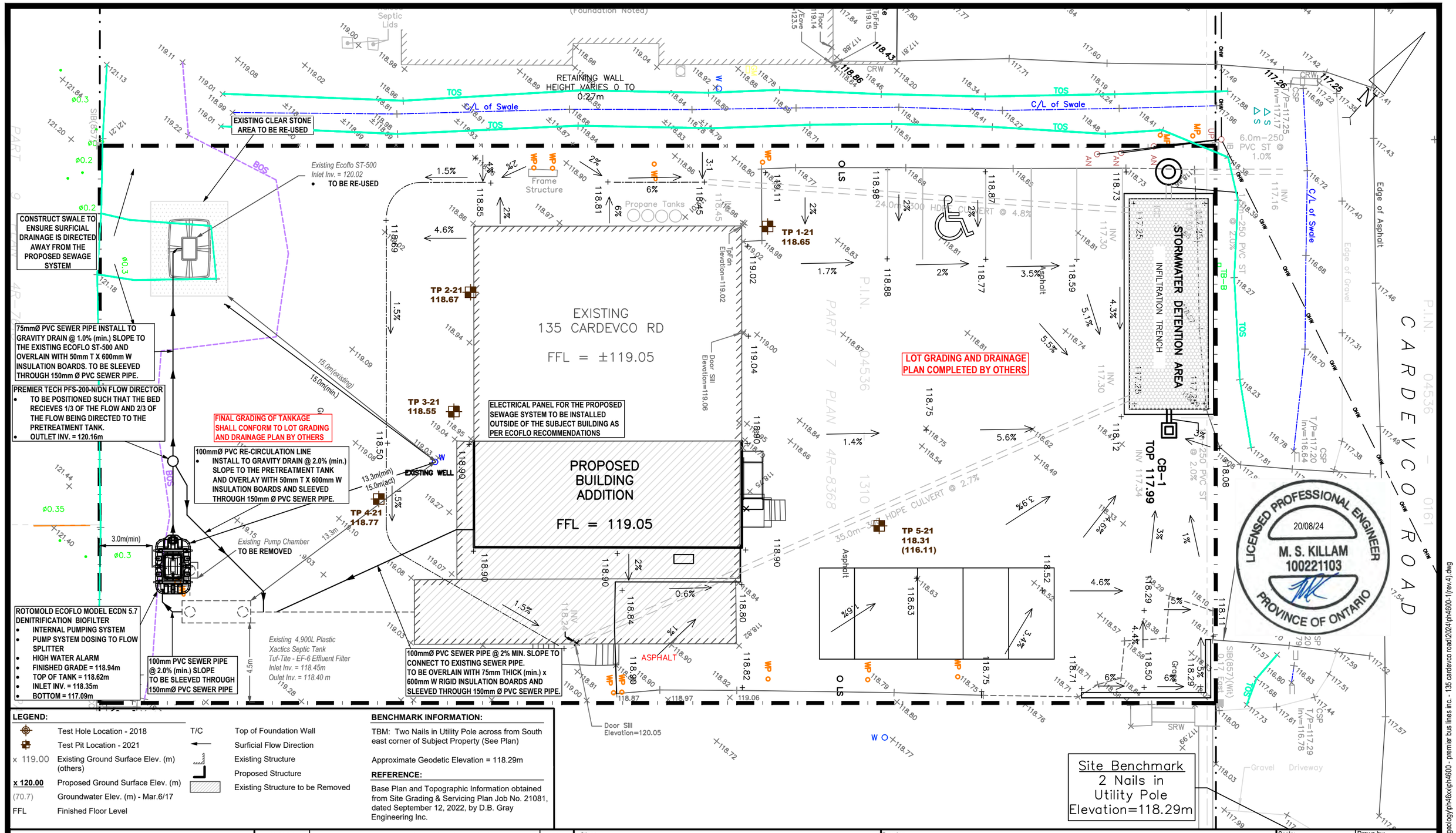


LEGEND:

	Test Hole Location - 2018	T/C	Top of Foundation Wall
	Test Pit Location - 2021		Surficial Flow Direction
x 119.00	Existing Ground Surface Elev. (m) (others)		Existing Structure
x 120.00	Proposed Ground Surface Elev. (m)		Proposed Structure
(70.7)	Groundwater Elev. (m) - Mar.6/17		Existing Structure to be Removed
FFL	Finished Floor Level		

BENCHMARK INFORMATION:

TBM: Two Nails in Utility Pole across from South east corner of Subject Property (See Plan)

Approximate Geodetic Elevation = 118.29m

REFERENCE:

Base Plan and Topographic Information obtained from Site Grading & Servicing Plan Job No. 21081, dated September 12, 2022, by D.B. Gray Engineering Inc.

PATERSON GROUP
9 AURIGA DRIVE
OTTAWA, ON
K2E 7Z9
TEL: (613) 226-7381

DD/MM/YY	Description	Rev.
20/08/24	Revised to Re-Use Existing Open-Bottom Ecoflo	4
20/06/24	Revised to Ecoflo Treatment System	3
19/03/24	Revised as per City comments	2
14/10/22	Issued for Septic Permit	1

Client: **PREMIER BUS LINES INC.**

Project: **PROPOSED ADDITION TO COMMERCIAL BUILDING**
135 CARDEVCO ROAD
OTTAWA (CARP), ONTARIO

Drawing: **SEWAGE SYSTEM LAYOUT PLAN (ECOFLO DE-NITRIFICATION SYSTEM)**

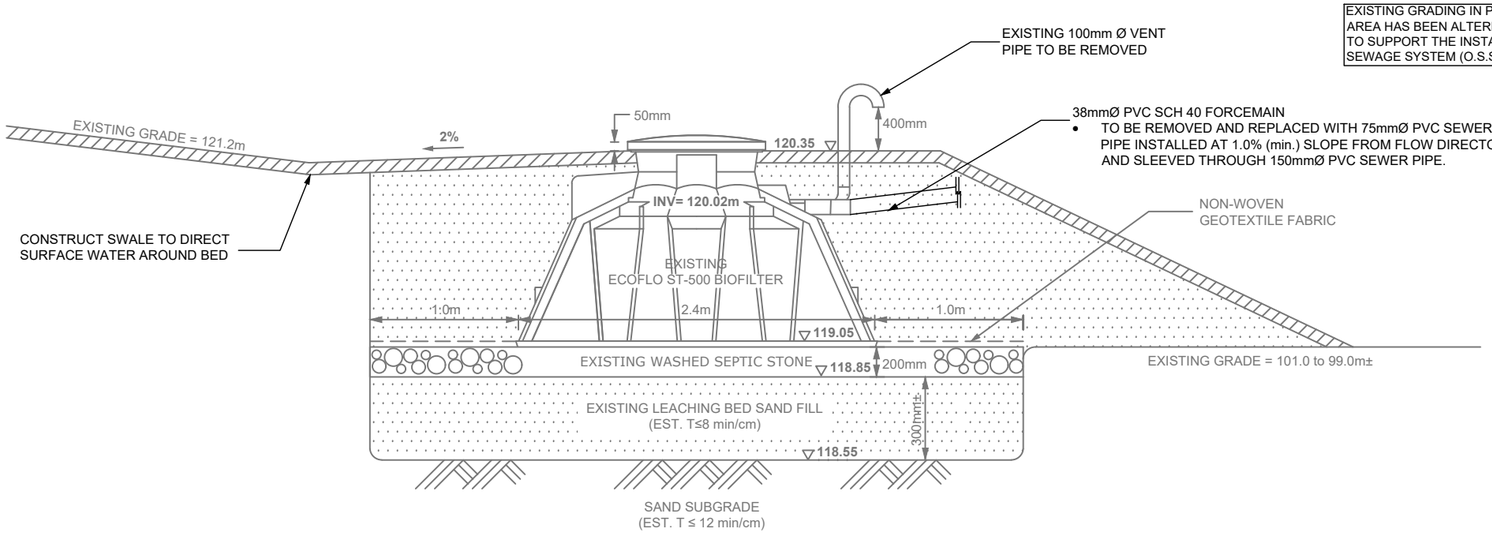
Scale: 1:200	Drawn by: HV
Date: 08/2024	Checked by: MK
Drawing no.: **PH4600-1(rev.4)**	

p:\autocad drawings\hydrogeology\ph46xx\ph4600 - premier bus lines inc. - 135 cardevco road\2024\ph4600-1(rev.4).dwg

SUBJECT DRAWING SHALL BE READ IN CONJUNCTION WITH PATERSON GROUP DRAWING PH4600-1(rev.4)

PROPOSED GRADING SHALL SUPPORT LOT GRADING AND DRAINAGE PLAN BY OTHERS.

EXISTING GRADING IN PROPOSED LEACHING BED AREA HAS BEEN ALTERED FROM THE ORIGINAL GRADE TO SUPPORT THE INSTALLATION OF THE EXISTING SEWAGE SYSTEM (O.S.S.O. PERMIT No 18-565).



PROFILE

N.T.S.

NOTES:

1) ESTIMATE OF DAILY SEWAGE FLOW (Q)

THE PROPOSED SEWAGE SYSTEM REPLACEMENT, HAS BEEN DESIGNED TO SUIT THE NITRATE REDUCTION REQUIREMENTS OF PROPOSED ADDITION/RENOVATION WORKS OF THE BUILDING. THE DESIGN FLOW RATE HAS NOT BEEN INCREASED FROM THE EXISTING SEWAGE SYSTEM AS PER O.S.S.O. PERMIT No. 18-565, HOWEVER, BASED ON DISCUSSION WITH O.S.S.O. IT HAS BEEN DISCUSSED THAT A MORE ACCURATE METHOD OF FLOW RATE CALCULATION BE USED. THE BUILDING CONSISTS OF A MAINTENANCE GARAGE USAGE WHICH CAN BE CONSIDERED TO BE MOST SIMILAR TO FACTORY TYPE FLOWS. THE SEWAGE FLOW FOR THE EXISTING OCCUPANCY HAS BEEN CALCULATED AS FOLLOWS,

- No. OF EMPLOYEES = 2 x 75 L/DAY = 150 L/DAY
- OFFICE SPACE 90m² = (90m²/9.3) x 75 L/DAY = 726 L/DAY

DESIGN SEWAGE FLOW RATE = 876 L/DAY

2) SOIL CONDITIONS

SOILS INFORMATION GATHERED BY PATERSON GROUP INC. ON SEPTEMBER 12, 2017 & NOVEMBER 12, 2021

TH 1-18, ELEV. 119.09m		TP 2-21, ELEV. 118.67m		TP 3-21, ELEV. 118.55m	
0-0.29	GRAVEL	0-0.10	TOPSOIL	0-0.12	TOPSOIL
0.29-1.20	SAND, TRACE GRAVEL	0.10-0.60	FILL: SISA, GRAVEL	0.12-0.60	FILL: SISA CRUSHED STONE
		0.60-0.70	RIGID INSULATION	0.60-0.70	RIGID INSULATION
		0.70-1.00	FILL: CRUSHED STONE	0.70-1.60	BROWN SILTY SAND
		1.00-2.10	BROWN SILTY SAND		
- TH DRY UPON COMPLETION		- TP DRY UPON COMPLETION		- TP DRY UPON COMPLETION	

3) PRETREATMENT TANK

- EXISTING 4,900 L PLASTIC XACTICS TANK c/w TUF-TITE EF-6 EFFLUENT FILTER SHALL BE PUMPED AND RE-USED.

4) TREATMENT UNIT

- THE TREATMENT UNIT SHALL CONSIST OF AN ECOFLO MODEL ECDN5.7 DE-NITRIFICATION ROTOMOLD BIOFILTER. MAXIMUM TREATMENT CAPACITY = 1,755L/D.
- THE TREATMENT UNIT SHALL BE INSTALLED IN SERIES AND DOWNSTREAM FROM THE PRETREATMENT TANK.
- CONNECT PRETREATMENT TANK TO TREATMENT UNIT WITH 100mm PVC SEWER PIPE INSTALLED AT 2.0% MINIMUM SLOPE.
- THE TREATMENT UNIT SHALL PRODUCE TERTIARY TREATMENT QUALITY EFFLUENT IN ACCORDANCE TO ITEM 3 OF TABLE 8.6.2.2.A OF THE ONTARIO BUILDING CODE.
- THE TREATMENT UNIT MUST BE INSTALLED ACCORDING TO THE MANUFACTURER'S SPECIFICATIONS BY A CERTIFIED INSTALLER.
- 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 MUST EXTEND TO THE GROUND SURFACE.
- THE TREATMENT UNIT SHALL BE EQUIPPED WITH A SINGLE TIME OPERATED EFFLUENT PUMP, WHICH WILL PUMP THE EFFLUENT TO A PREMIER TECH MODEL PFS-200N/DN SPLITTER VALVE. (DENITRIFICATION UNIT).

5) FLOW SPLITTER

- THE SPLITTER VALVE SHALL BE INSTALLED LEVEL ON A BED OF COMPACTED SAND.
- THE SPLITTER VALVE CONTAINS TWO (2) OUTLETS. ONE OUTLET RE-CIRCULATES 2/3 OF THE EFFLUENT TO THE PRIMARY CHAMBER OF THE TANK, VIA GRAVITY, USING A 100mmØ PVC SEWER PIPE. THE OTHER OUTLET DISCHARGES 1/3 OF THE EFFLUENT, VIA GRAVITY, USING A 75mmØ SEWER PIPE.
- 75mmØ SEWER PIPE SHALL BE INSTALLED TO GRAVITY DRAIN @ 1.0% (min.) SLOPE TO THE EXISTING ECOFLO ST-500 AND SHALL BE OVERLAIN WITH 50mm T x 600mm W RIGID INSULATION BOARDS.
- THE PUMP SHALL BE OPERATED BY A PREMIER TECH MODEL DCU 100 TIME DOSING CONTROL PANEL.
- A 38mmØ SCH40 PVC FORCEMAIN SHALL BE USED TO CARRY THE EFFLUENT FROM THE PUMP CHAMBER (LOCATED WITHIN TREATMENT UNIT) TO THE FLOW SPLITTER.
- THE FORCEMAIN SHALL BE INSTALLED TO GRAVITY DRAIN TO TREATMENT UNIT
- FORCEMAIN SHALL BE INSTALLED ON A 150mm THICK LAYER OF COMPACTED SAND BEDDING.
- ALL PIPING SHALL BE SLEEVED THROUGH A 150mm PVC SEWER PIPE.

4) TYPE 'A' DISPERSAL BED SIZING REQUIREMENTS

- STONE AREA REQUIRED = Q/50 = 876/75 =11.7m²
- EXISTING STONE AREA PROVIDED = 5.4m x 4.4 = 23.8m²
- SAND AREA REQUIRED = 876(12)/850 = 12.4m²
- SAND AREA PROVIDED = 5.4m x 4.4m = 23.8m² + NATIVE

8) EXISTING TYPE 'A' BED

- EXISTING ECOFLO ST-500 BIOFILTER AND EXISTING CLEAR STONE AREA SHALL BE RE-USED AS THE TYPE 'A' BED FOR THE PROPOSED SYSTEM ALTERATIONS.
- THE FINAL LANDSCAPED GRADING SHALL DIRECT SURFACE WATER AWAY FROM THE BIOFILTER.
- ENSURE THAT SURFACE WATER IS DIRECTED AWAY FROM THE BIOFILTER.

9) MINIMUM CLEARANCE DISTANCE FROM LEACHING BED

- 3.0m FROM ANY PROPERTY LINE
- 5.0m FROM ANY STRUCTURE; 5.0m TO ANY STRUCTURE WITHOUT PERIMETER DRAINAGE
- 15.0m FROM ANY DRILLED WELL; 31.1m TO ANY DUG OR SANDPOINT WELL

10) MINIMUM CLEARANCE DISTANCE FROM TANK(S)

- 1.5m FROM ANY STRUCTURE
- 13.3m FROM SUBJECT DRILLED WELL AND 15.0m FROM ANY OTHER DRILLED WELL (AS PER EXISTING)
- 3.0m FROM ANY PROPERTY LINE

11) GENERAL

- ELECTRICAL PANEL FOR TANKAGE SHALL BE LOCATED OUTSIDE OF SUBJECT BUILDING NEAREST THE TANKAGE AS RECOMMENDED BY ECOFLO.
- SNOW STORAGE SHALL NOT BE PLACED OVER THE SEWAGE SYSTEM COMPONENTS.
- THE SEWAGE SYSTEM HAS NOT BEEN DESIGNED TO SUPPORT TRAFFIC LOADING, AND AS SUCH, THE RISK OF ANY VEHICULAR TRAFFIC SHOULD BE MINIMIZED WITH THE INSTALLATION OF PROTECTIVE BOLLARDS.
- THE BACKFILLING OF THE SEWAGE SYSTEM SHOULD MINIMIZE THE RISK OF OVER COMPACTION WITH THE USE RUBBER TRACKED EQUIPMENT AND BY AVOIDING THE CREATION OF ANY CONSTRUCTION ROUTES OR PATHWAYS OVER THE SYSTEM.
- THE BACKWASH WATERS FROM ANY WATER TREATMENT UNIT, SUCH AS WATER SOFTENER, SHOULD NOT DISCHARGE INTO THE SEWAGE SYSTEM.
- THE SEWAGE SYSTEM HAS BEEN DESIGNED TO ACCEPT ONLY WATER FROM DOMESTIC TYPE FIXTURES - NO FLOOR DRAINS, WASHWATER, ETC ARE TO BE DIRECTED TO SYSTEM.
- CONTRACTOR SHALL BE QUALIFIED AND REGISTERED UNDER PART 8 OF THE ONTARIO BUILDING CODE.
- ALL WORK SHALL BE CARRIED OUT IN ACCORDANCE WITH THE LATEST BY-LAWS, CODES AND REGULATIONS.
- CONTRACTOR SHALL REVIEW DRAWINGS IN DETAIL AND SHALL INFORM THE CONSULTANT OF ANY ERRORS AND/OR OMISSIONS ON DESIGN DRAWINGS IMMEDIATELY.
- CONTRACTOR SHALL BE RESPONSIBLE TO LOCATE AND PROTECT ALL EXISTING UNDERGROUND SERVICES.
- CONTRACTOR SHALL VISIT THE SITE AND REVIEW ALL DOCUMENTATION TO BECOME FAMILIAR WITH THE SITE AND SUBSURFACE SOIL CONDITIONS TO DETERMINE SUITABLE METHODS OF CONSTRUCTION.
- THE FIRM OF PATERSON GROUP INC. HAS PROVIDED DESIGN SERVICES ONLY FOR THE SUBJECT SEWAGE SYSTEM. THE DESIGN HAS BEEN CARRIED OUT IN ACCORDANCE WITH THE MANUFACTURER'S GUIDELINES AND OUR INTERPRETATION OF PART 8 OF THE ONTARIO BUILDING CODE.
- IF THIS FIRM IS TO COMPLETE ANY CONSTRUCTION INSPECTION(S), ADDITIONAL FEES MAY BE APPLIED. CONFIRMATION OF PAYMENT WILL BE REQUIRED PRIOR TO THE INSPECTION.
- THE TEST HOLE INFORMATION PROVIDED, IS INTENDED TO BE USED FOR DESIGN PURPOSES ONLY, AND SHOULD NOT BE RELIED UPON FOR CONSTRUCTION PURPOSES. IF DISCREPANCIES ARE FOUND DURING THE CONSTRUCTION PROCESS, IT IS THE CLIENT'S RESPONSIBILITY TO CONTACT THIS FIRM TO MAKE ANY NECESSARY COMMENTS OR REVISIONS. ADDITIONAL REVISIONS ARE NOT CONSIDERED PART OF THE DESIGN WORKS AND WILL BE CONSIDERED AS AN ADDITIONAL COST.
- REFER TO PATERSON GROUP DRAWING No. PH4600-1(rev.3) FOR THE SEWAGE SYSTEM LAYOUT.

LICENSED PROFESSIONAL ENGINEER
20/08/24
M. S. KILLAM
100221103
PROVINCE OF ONTARIO

DD/MM/YY	DESCRIPTION	REV.
20/08/24	Revised to Re-Use Existing Ecoflo	4
20/06/24	Revised to Ecoflo Treatment Unit	3
19/03/24	Issued for Preliminary Review	2
14/10/22	Issued for Septic Permit	1
26/09/22	Issued for Preliminary Review	0

Consultant:

PATERSON GROUP
9 AURIGA DRIVE
OTTAWA, ON
K2E 7S9
TEL: (613) 226-7381

Client:

PREMIER BUS LINES INC.

Project:

PROPOSED ADDITION TO COMMERCIAL BUILDING

135 CARDEVCO ROAD
OTTAWA (CARP), ONTARIO

Drawing:

SEWAGE SYSTEM DETAIL & NOTES

Scale:	Drawn by:
N.T.S.	HV
Date:	Checked by:
08/2024	MK

Drawing No.:

PH4600-2(rev.4)

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