September 16, 2026 FINAL

2522082 Ontario Inc.
Attention: Del Terrelonge
240 Chrislea Road, Suite 125
Woodbridge, Ontario L4L 8V1

Re: Hydrogeological and Servicing Assessment in Support of Proposed Severance and Additional Residential Unit
1329 County Road 7, Prince Edward County, Ontario
Pinchin File: 363896.001

Pinchin Ltd. (Pinchin) was retained by 2522082 Ontario Inc. by Mr. Del Terrelonge to complete a Hydrogeological and Servicing Assessment in Support of Proposed Severance and Additional Residential Unit on a proposed severance located at 1329 County Road 7 in The County of Prince Edward.

This report presents the technical investigations required to support the severance application, including well quantity and quality testing, assessment of potential impacts on neighbouring groundwater users, septic servicing evaluation, and nitrate impact assessment. The report also provides the information required by the County of Prince Edward Comprehensive Zoning By-law, as amended, to satisfy the Servicing Report requirements for an additional residential unit in a non-settlement area where municipal water and sanitary services are not available and the lot area is less than three (3) acres. Approval of the Servicing Report is required to demonstrate compliance with the Zoning By-law as part of a Building Permit application for the proposed additional residential unit.

1.0 BACKGROUND INFORMATION

Location of the Lot

The Subject Property (the Site) is located at 1329 County Road 7, Prince Edward County. The location of the Site is shown on Figures 1 and 2, and all figures are appended to this report as Appendix I. Specifics for the location of the lot are listed below:

- Civic Address: 1329 County Road 7, Prince Edward County
- Roll Number: 135070101005200
- Lot Size: ~3.6 ha

Existing Residential Unit

The existing residential unit is a two-storey dwelling located approximately 20 m setback from County Road 7. Specifics of the existing residential unit are listed below:

- Number of Bedrooms: 4
- Square Footage: ~1915 square feet (~178 m^2)
- Plumbing Fixtures: 14

Proposed Additional Residential Unit

The applicant is proposing an addition to the existing farmhouse dwelling for a three-bedroom additional residential unit (ARU). The specifics of the proposed ARU are listed below:

- Number of Bedrooms: 3
- Square Footage: ~1326 square feet (~123 m^2)
- Plumbing Fixtures: 8

2.0 PRIVATE WELLS

The existing residential unit and the proposed ARU are to be supplied with potable water from a dug/blasted well located 46 m west-northwest of the existing residential unit. The well was constructed by Frank's Drilling & Blasting Ltd; a licensed well contractor (6881) with construction completed on November 25, 2025. The well is a 0.90 m inside diameter concrete casing with a wall thickness of 0.076 m. The well depth is 6.7 m below ground surface. Well casing extends to 0.45 m above ground surface, and the ground slopes away from the well in the immediate area. The area around the well is generally flat. The well is properly tagged as A403050. Based on the well record for the well and by observations in the field, the well is noted to conform to O. Reg. 903 standard. The well record is included in Appendix IV.

Well yield testing was completed by the well contractor. The well was pumped at 567 liters per minute (LPM) for 60 minutes for a total water volume of approximately 34,020 L. The water level at the end of pumping was 6.1 mbgs, and during a 60-minute recovery period, the water level recovered to 5.11 mbgs. The well contractor listed the well production rate at 111.86 LPM. The well record indicates that the well was disinfected.

Water Supply – Quantity

The Servicing Report Guidelines provided by the County indicate that pumping tests on dug wells must be completed within the June 1 through October 31 period only. This is to avoid potential bias in the results and interpretation from periods of higher recharge in the early spring and late autumn. Testing of the supply well was therefore conducted on June 18, 2026.

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The Client retained Dedicated Environmental to provide pumping support for the pumping test. The well was disinfected by chlorination as per the shock chlorination procedure *Well Regulations – Well Disinfection (Technical Bulletin 1 of 11)*. After approximately 16 hours of contact time (i.e., the next day), the pumping test was conducted.

The pumping test and groundwater sampling event were completed by placing a 2-hp pump near the bottom of the well. The pump was powered by a small portable generator. The pumping rate was controlled by a dedicated flow valve that maintained the discharge rate for the duration of the pumping test. The pumped water was discharged to the ground approximately 45 m to the northeast of the well in a direction that was observed to gently slope away from the well head. The pumping rate was selected based on the D-5-5 minimum requirement of 13.75 Lpm and to ensure that the well could sustain the pumping rate for the duration of the pumping test. The minimum duration of the pumping test was 360 mins (6 hrs).

The pumping test rate was calculated based on the number of people determined by calculating the number of bedrooms in the existing residential unit (5) plus one and the number of bedrooms in the proposed additional residential unit (3) plus one for a total number of people equalling 10. Guideline D-5-5 issued by the Ministry of Environment, Conservation and Parks (MECP) indicates that the per-person requirement shall be 450 litres per day. Peak demand occurs for a period of 120 minutes each day. This is equivalent to a peak demand rate of 3.75 litres/minute for each person. For the pumping test, the minimum pumping rate would therefore be 3.75 × 10 = 37.5 LPM.

The pumping test and sampling event was completed on June 18, 2026. The pumping rate for the pumping test was 90 LPM. The pumping test duration was 390 minutes (6.5 hours) with the objective being to drawdown the water level in the well to as close as practically possible to the operating limits of the well and monitoring drawdown and recovery as outlined in the Section 4: Alternative Considerations in the Servicing Report Guideline. Water level and flow rate was monitored and recorded manually by the well contractor, and the water level was also monitored by a Solinst level-logger data logger placed in the well. The data logger was placed in the well the day prior to the test and remained in the well until retrieved on June 21.

After 390 minutes of pumping, the water level in the well was 5.37 metres below top of casing approaching the pump intake level. Just prior to stopping the pumping, the free chlorine in the groundwater discharge was measured in the field using a Hach DR900 multiparameter portable colorimeter. The value was below detection (0.00 mg/L), and Pinchin staff collected a groundwater sample from the well for water quality analysis. Samples were collected in laboratory-supplied, single-use bottles, stored on ice, and delivered to the laboratory for analysis.

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A plot of water drawdown during the pumping test is included as Figure 4. During the 6 hours of pumping, a total of approximately 35,100 L of water were pumped from the well. The maximum drawdown observed in the pumping well was to 5.37 mbtoc (a drawdown of 3.71 m from static water level). When pumping stopped, the water level in the well recovered to 100% within 8.7 hours. Figure 5 is a plot of recovery. A summary of the pumping test results is included as Table 1 below.

Table 1: Summary of Pumping Test for Well A403050

Duration of Pumping Test (min)	Pumping Rate (Lpm)	Static Water Level (mbtoc)	Maximum Drawdown Level (mbtoc)	Maximum Drawdown (m)	Total volume pumped (L)	Recovery in 1-hr (%)	Recovery in 4-hr (%)	Time to recover 100% Recovery (hrs)
390	90	1.66	5.37	3.71	35,100	14 %	61 %	8.7 hrs

The pumping test data show that the well is more than capable of supplying the water quantity requirements of the existing residential unit and the proposed additional residential unit.

Water Supply – Quality

The summary of the groundwater analytical results along with the ODWQS Health Related Maximum Allowable Concentration (MAC) and Aesthetic Objective (AO), as well as the Aesthetic Limits as listed in the MECP D-5-5 Guideline are presented in Table 2 in Appendix II. The laboratory Certificate of Analysis for the groundwater samples is provided in Appendix III. Residual chlorine was measured in the field and confirmed to be below detection prior to collection of the raw groundwater samples.

The analytical water quality results for raw groundwater sample that was collected as part of the pumping included overgrown results for the bacteriological parameters and several parameters that exceeded aesthetic and/or operational criteria. Based on these results, a disinfection event was completed to attempt to remove bacteria. The well was disinfected by chlorination as per the shock chlorination procedure Well Regulations – Well Disinfection (Technical Bulletin 1 of 11) and additionally included surging the well to move the chlorinated water in and out of the immediate formation. This surging was done by pumping approximately 2000L into disinfected totes and allowing partial recovery of the water level in the well; followed by replacing the water from the totes to provide a positive hydraulic head and push water into the formation. These surging steps were repeated three times over the course of a day. The free chlorine concentration in the well was tested at the end of the day and adjusted to 200 mg/L. After suitable contact time, the free chlorine in the well was tested and was still above 120 mg/L. The well was pumped to waste until the free chlorine was below detection (0.00 mg/L), and a raw groundwater sample was collected by Pinchin staff and submitted for bacteriological parameter analysis. The results

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showed a marked improvement with zero e. coli, but some total coliform and fecal coliform bacteria remained. Table 3 summarizes the parameters exceeding ODWQS criteria.

Table 3: Water Quality Exceedance Summary

Parameter	Units	ODWQS Standards		Sample Designation	
		Standard	Type of Standard	A403050	A403050
				18-06-2026	13-07-2026
E. Coli	CFU/100mL	0	MAC	NDOGT	0
Total Coliforms	CFU/100mL	0	MAC	NDOGT	65
Fecal Coliforms	CFU/100mL	-	-	NDOGT	10
DOC	mg/L	5	AO	8.3	-
Colour	TCU	5	AO	12	-
Hardness	mg/L	500 / 80-100	AO / OG	224	-
Turbidity	NTU	5	AO	15.3	-
Sodium	mg/L	20 / 200	MAC* / AO	84.5*	-

Dug/blasted wells can be extremely challenging to disinfect because of the potential introduction of surface contamination to the large amount of backfill material from the excavation and blasting during construction. It is challenging to ensure chlorinated water contacts the backfill and disturbed excavation area. However, the disinfection event demonstrated significant improvement in water quality with respect to bacterial parameters. The presence of the bacterial parameters cannot be attributed to the aquifer with certainty; as opposed to regrowth after disinfection from areas where the disinfectant was unable to effectively contact the backfill. It is further noted that a dug/blasted well by its near surface nature is more vulnerable to potential contamination from infiltration despite the clay boundary within the top portion of the well bore construction. It is for this reason that the Client has chosen to move directly to incorporating a registered engineered drinking water system for water supply for the existing residential and proposed additional residential units. The Client has retained Pinchin for the design and testing of the system, which will become a registered system, and that work is underway, including consultation with appropriate agencies and development of treatment component specifications. The treatment train will certainly include appropriate filtration prior to disinfection mechanisms and additional treatment steps for any aesthetic or operational parameters of concern. The engineering report for the drinking water system will be submitted separately, and it is anticipated that installation and testing will be a required condition for occupancy, and that the requirement of the treatment system and the testing and reporting that goes along with such a system will be put on title.

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Noting that bacterial and all other parameters will be considered in the drinking water design report following comments are provided on the general treatability of the aesthetic and/or operational parameters:

Dissolved Organic Carbon (DOC): the DOC concentration in the raw groundwater sample was 8.3 mg/L compared to the ODWQS Aesthetic Objective (AO) of 5 mg/L. The concentration in the sample was only marginally above the AO and within treatable limits. If the user finds the water unpalatable, there are several potential treatment options readily available. These include:

- Coagulation and Flocculation: Uses metal salts (like alum) to target and remove larger, hydrophobic (water-fearing) organic molecules.
- Activated Carbon: Uses powdered (PAC) or granular activated carbon (GAC) to adsorb smaller, low-molecular-weight compounds.
- Biological Filtration: Uses slow sand filters or biologically active carbon (BAC) to break down biodegradable organic carbon naturally.
- Membrane Filtration: Uses advanced barriers like nanofiltration or reverse osmosis to physically strain out dissolved carbon fractions.

Colour: The analytical result for colour in the raw groundwater sample (12 TCU) compared to the ODWQS Aesthetic Objective (AO) of 5 mg/L. Colour is directly affected by DOC constituents, and as noted, the DOC was also elevated. It is expected that treatment of DOC will result in a reduction in colour in the water supply. If the colour is still objectionable, additional treatment options include ozonation and advanced oxidation.

Hardness: The analytical result for hardness in the raw groundwater sample was 224 mf/L CaCo3. Hardness has an Operational Guideline of 80 to 100 mg/L; a range considered to provide an acceptable balance between corrosion and incrustation and to aid in source selection when applicable. Water supplies with a hardness greater than 200 mg/L are considered poor, but tolerable. Hardness in excess of 500 mg/L in drinking water is unacceptable for most domestic purposes; however, neither the MECP D-5-5 nor the ODWQS guidance provide an upper limit for treatability. If the Client finds the water unpalatable or wishes to reduce any scaling that may occur, a water softener solution would readily provide treatment. Such systems are readily available.

Sodium: The analytical result for sodium in the raw groundwater sample was 84.5 mg/L compared to the Warning Level MAC of 20 mg/L. This health-related limit is a "warning level" only. Exceedance calls for a recommendation that the local Medical Officer of Health be notified to alert persons with medical conditions or dietary restrictions. It is often the case that a note is put on title that sodium exceeded the Warning Level MAC. The sodium concentration in the raw groundwater did not exceed the aesthetic criteria for sodium (200 mg/L).

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The raw groundwater does not meet the biological MAC criteria, and safe potable water will be supplied via a registered drinking water system with appropriate testing and reporting.

Potential for interference

The MECP Water Well Records database was queried for water wells within 500 m of the property boundary and twenty-five well records were identified. The locations of these wells are shown on Figure 3. One well record was for shallow test wells and not related to potential potable supply. Nineteen of the wells were drilled and four (4) were dug/blasted. Overburden thickness ranged from 0.3 m to 15.2 m with an average of 2.0 m. The depth at which the well driller identified first water found was highly variable and ranged from 1.52 m to 63.4 m. Seven of the well records indicated that the well was dry or had insufficient supply to be deemed usable. One well was abandoned because of poor water quality. Recommended pumping rates ranged from “low – requiring a trickle system” to as high as 99 Lpm. Ignoring these outliers, the reported recommended pumping rate was generally in the range suitable for a single-family dwelling type domestic supply. Two well records place wells on the Site. Well 5302262 was a drilled well, is listed as a good yielding well, but was not in use and abandoned because of suspected water quality issues. Well 5301535 was a dry well drilled in 1956. This well is presumed to be abandoned because the well could not be found on Site. The closest dug well is approximately 230 m to east of the Site along Regional Road 7. The closest well to the Site is located approximately 105 m from the Site (or 195 m from the Site well) on the developed property to the west. This well (5301537) is a 16.8 m deep drilled well with water bearing features reported at 15.24 metres below ground surface. This well is not utilizing the same source as the Site well and is a considerable distance away from the Site. No adverse effects from the new well servicing the existing and proposed residential units are to be expected.

The review of available water well records reflect the variable nature of the depth to useable water bearing units and the potential presence of poor water quality or insufficient yield. Potable water supply wells are present in the shallow bedrock and even within thicker overburden (where present). The data from the water well records for wells within approximately 500 m of the Site property boundary are summarized in Table 4 in Appendix IV.

Based on the review of available information, it is Pinchin’s opinion that the well servicing the existing and proposed residential units does not pose a risk to the quality or quantity of nearby groundwater users.

3.0 ON-SITE SEWAGE DISPOSAL SYSTEMS

As outlined in Section 3 of the Servicing Report Guidelines, lots that are serviced by on-Site sewage disposal systems are required to meet the following conditions for On-Site Sewage Disposal Systems. These conditions are put in place to protect both public health and the environment, consistent with the D-5-4 Assessment and supporting guidance from the *Hydrogeological Technical Information*

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Requirements for Land Development Applications April 1995 by the Ontario Ministry of Environment and Energy (MOEE). The Servicing Report Guideline provides guidance on the methodology that is to be used, including determination of background nitrate concentrations, or defensible assumptions of a reasonable value to be used. The infiltration value used for the assessment calculation must reflect the characteristics of the local soils, topography and recorded meteorological data, including temperature and total precipitation conditions.

As per Section 3(h)(i) of the Servicing Report Guideline, the on-site sewage disposal system proposed is classified as *"Scenario 1: One Septic System Servicing Both Units."* A new sewage disposal system sized to service both the existing residential unit and the proposed ARU has been designed by a certified septic designer and installer (Q-Logic Water Ltd). The Class 4 sewage system permit (PEC-2025-605) is appended to this report as Appendix V. Based on the supplied information, the proposed system meets appropriate setbacks and is sized appropriately. There is sufficient space on the lot for a replacement system if required; and therefore, no decommissioning plan for an existing system is required as part of the Servicing Report.

Background Nitrate Justification

Water chemistry was not available for any dug/blasted wells in the vicinity of the Site, so the nitrate concentration result from the raw water sample collected during the hydrogeological assessment of the well was used. This value is considered extremely conservative as it is believed that remnants of nitrate from the blasting of the well into the limestone bedrock and backfill blast rock were still present and will slowly dissipate with natural groundwater flow/recharge and with well use. No manure storage facilities were identified in the vicinity, and limited agricultural activity is present within 500 m of the Site. The Site property and the adjoining parcel immediately to the north of the Site are not cropped. Nevertheless, the nitrate concentration result of 3.23 mg/L was used in the nitrate calculation process.

Infiltration Rate Assessment

To calculate an appropriate infiltration rate, Site specific climatic and physiographic parameters must be used.

Meteorological data

The closest meteorological stations to the Subject Site with appropriate data sets are the stations in Point Petre (~25 km to the south-southwest), Mountainview (~ 30 km to the west-northwest) and Bellville (~34 km to the northwest). The data from station at Belleville was used because it is located close to the water on a narrower (protected) reach of water (as is the subject property). The Mountainview station is located more inland. However, it is noted that the data values and ranges are similar between the two stations. The Point Petre location is on the extreme southwest part of the County and faces out to Lake Ontario.

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The Belleville Station (6150689) is currently operated by CCN and is located at Latitude 44°09'02.052" N, Longitude 77°23'41.046" W and an elevation of 76.20 masl.

Environment and Natural Resources Canada Canadian Climate Normals 1981-2010 Station Data for average monthly temperature and total precipitation for the Belleville Station are summarized in Table 5.

Table 5: Summary of Meteorological Data - Canada Canadian Climate Normals 1981-2010

Belleville Meteorological Station (6150689)		
Period	**Monthly Mean Temperature (°C)**	**Total Precipitation (mm)**
JAN	-6.7	67.3
FEB	-0.5	58.1
MAR	-0.4	62.4
APR	7.0	75.8
MAY	13.7	81.3
JUN	19.0	74.5
JUL	21.8	65.1
AUG	20.8	75.5
SEP	16.3	91.9
OCT	9.5	85.2
NOV	3.6	95.7
DEC	-2.6	79.1
Annual	**8.5**	**76.0**

Physiographic Considerations

According to the physiographic classification of Chapman and Putnam (2007), the subject property is located within the Prince Edward Peninsula physiographic region of Southern Ontario. The region is characterized by generally low relief underlain by Paleozoic sedimentary bedrock / limestone plains. Surficial deposits are predominantly present as a thin veneer of drift. Topography is generally flat in the area and specifically so on the subject property. Based on these observations, the most appropriate infiltration coefficient associated with Topography is 0.3.

The Ministry of Agriculture, Food and Agribusiness AgMap provides the following useful classifications and descriptions of soils in the area that includes the Site:

- **Hydrologic soil group:** CLASS B. Hydrologic soil groups are used to estimate runoff from precipitation. Classification of soils by their reference to intake rate of infiltration of water is influenced by texture, organic matter content, stability of the soil aggregates and

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soil horizon development. Class B soils have a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

- **Ontario Soil Survey Complex:** Farmington Loam. A shallow, well-drained dark brown loam topsoil overlaying a flat limestone bedrock plateau classified as well-drained because water readily flows laterally or into underlying limestone. The lack of soil depth gives it low water storage capacity.

As part of other investigations, a series of test pits were advanced in an area approximately 70 m north of the Site. Overburden thickness ranging from 0.33 m to 0.76 m and an average thickness of 0.63 m. Samples for four test pits were submitted for grain size analysis and percolation (T-time) estimates. Results of the grain size analysis are included as in Appendix VI and summarized in Table 6 below:

Table 6. Summary of grain size analysis results

Test Pit ID	Gravel (%)	Sand (%)	Silt (%)	Clay (%)	Estimated T-Time (mins/cm)
TP-1	64	12	15	8	4 - 12
TP-3	76	14	7	3	4 - 12
TP-5	80	9	7	4	4 - 12
TP-6	12	58	22	8	8 - 20

Cover Type

The choices for the infiltration factor options associated with cover are limited to cultivated land and woodland with the cultivated land option being more of a catchall category that is usually applied to both cultivated lands and other non-woodland situations such as lawns etc. The infiltration factor for cultivated lands is the lower value of the two, and therefore, is a more conservative selection. Based on the available options, the more appropriate infiltration coefficient associated with cover is 0.1. The infiltration factor selections are summarized in Table 7.

Table 7: Summary of Infiltration Factor Selections.

Site Characteristic	Infiltration Factor
Topography	
Flat Land, average slope < 0.6 m/km	**0.3**
Rolling Land, average slope 2.8 m to 3.8 m/km	0.2
Hilly Land, average slope 28 m to 47 m/km	0.1

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Site Characteristic	Infiltration Factor
Soils	
Tight impervious clay	0.1
Medium combinations of clay and loam	**0.2**
Open Sandy loam	0.4
Cover	
Cultivated Land	**0.1**
Woodland	0.2
Sum of Infiltration Factors	**0.6**

Nitrate Calculations

The MECP D-5-4 calculation for determining the nitration concentration at the property boundary for a typical residential unit on a single lot is understood to be:

$$C = C_{BK} + \frac{40g}{1000\,L + I}$$

Where *I* is further defined as:

$$I = \frac{(A_P)(i)(1000\,L/m^3)}{365\,days/year}$$

And where:

C = Concentration of Nitrate at the Property Boundary, g/L
C_{BK} = Background Concentration of Nitrate, g/L
I = Available Infiltration, L/day
A_P = Pervious Area of the property, m^2
i = infiltration value based on local soil conditions, m/year

The above D-5-4 equation has been modified in Servicing Report Guidelines to represent the existing and the ARU on a single lot. For the subject property, the appropriate scenario is *Scenario 1* where both the existing residential unit and the proposed ARU are serviced by a single septic system.

$$C = C_{BK} + \frac{40g + N_L}{1000\,L + I}$$

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Where N_L and I are further defined as:

$$N_L = (N_{LP})(P_A)$$

$$I = \frac{(A_P)(i)(1000\ L/m^3)}{365\ days/year}$$

The detailed calculations for available infiltration as a function of both mean monthly temperature and total monthly precipitation and site-specific available infiltration area and physiographic parameters are detailed in the Nitrate Calculation Worksheet appended to this report as Appendix VII.

The ARU has three (3) bedrooms, and as a measure of conservatism, it was assumed that a maximum of two (2) persons per bedroom for a total of six (6) persons. This is the value assigned to the parameter P_A which is multiplied by the additional nitrate allotment per person (10 mg/L) to constitute the total additional nitrate loading from the proposed ARU.

The calculated nitrate concentration at the property boundary was calculated to be 5.1 mg/L, and this demonstrates that nitrate-nitrogen levels at the property boundary will not exceed 10 mg/L (0.01 g/L).

4.0 SUMMARY AND CONCLUSIONS

Based on the work completed, the following conclusions are provided:

1. An Additional Residential Unit is proposed as an extension to existing residential home located at 1329 County Road 7, Prince Edward County.
2. A new dug/blasted well was constructed at the Site in November 2025 and tested in mid-June 2026. The well was pumped for 390 minutes to near empty levels. The free chlorine was shown to be below 0.00 mg/L, and a water sample was collected for water quality analysis. Recovery of the water level in the well was monitored, and 100% recovery occurred in 8.7 hours. Water quantity was shown to easily meet the required demand of the existing and proposed residential units. Based on review of MECP water well records, no concerns with potential quality or quantity interference to nearby groundwater users is expected.
3. Raw groundwater quality did not meet ODWS MAC criteria for Total coliforms, e. coli, and fecal coliforms. The well was aggressively disinfected and resampled for biological parameters. The second sample showed marked improvement; however, total coliforms and fecal coliforms were still detected. E. coli was not detected. Based on the known challenges in disinfection of dug/blasted wells, the Client chose to address water quality issues by having a regulated small drinking water system incorporated into the potable water supply. The engineering report for the regulated small drinking water system is in preparation. Coordination with the County is planned. It is expected that the drinking

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water system and its associated testing will be a condition of occupancy and placed on title. Other aesthetic/operational parameters noted as exceeding criteria are easily treatable and will be incorporated into the drinking water system treatment train.

4. A new sewage disposal system sized to service both the existing residential unit and the proposed additional residential unit has been designed by a certified septic designer and installer and has been permitted by the County. The designer's calculations, design and setbacks are appropriate.
5. Nitrate assessment:
    a. The background nitrate concentration used in the nitrate calculations was the nitrate result from the hydrogeological testing of the dug/blasted well on Site. It is believed that some remaining nitrate was present from the blasting activity and biased the background concentration high. Nevertheless, this value was used as a conservative background concentration.
    b. Meteorological data and climate normals for the Belleville station, along with site-specific infiltration conditions, were used in the calculation of infiltration.
    c. The nitrate calculation followed the methodology outlined in the Servicing Report Guidelines for *Scenario 1* where the existing residential unit and the proposed additional residential unit are both serviced by a single, appropriately sized septic system.
    d. The calculated nitrate concentration at the property boundary was calculated to be 5.1 mg/L, and this demonstrates that nitrate-nitrogen levels at the property boundary will not exceed 10 mg/L (0.01 g/L).

Based on the results of the hydrogeological assessment and servicing review, the existing residential unit and proposed Additional Residential Unit can be adequately serviced by the new private well and approved on-site sewage disposal system. Adequate groundwater quantity has been demonstrated, no adverse interference with neighbouring groundwater users is expected, and the calculated nitrate concentration at the property boundary is below the applicable criterion. Potable water will be supplied through the proposed regulated engineered drinking water treatment system, which will be installed, commissioned, and operated in accordance with the relevant regulatory standards.

5.0 TERMS AND LIMITATIONS

This Hydrogeological and Servicing Assessment in Support of Proposed Severance and Additional Residential Unit was performed for 2522082 Ontario Inc. as response to comments from the municipality on the Client's initial application.

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Conclusions derived are specific to the immediate area of study and cannot be extrapolated extensively away from a sample location. Samples have been analyzed grain size analysis by sieve and hydrometer.

No environmental assessment can wholly eliminate uncertainty regarding the potential for recognized environmental conditions on a property. Performance of this Hydrogeological and Servicing Assessment in Support of Proposed Severance and Additional Residential Unit is intended to reduce but not eliminate uncertainty regarding the potential for recognized environmental conditions on the Site.

This Hydrogeological and Servicing Assessment in Support of Proposed Severance and Additional Residential Unit was performed in general compliance with currently acceptable practices for environmental site investigations and specific Client requests as applicable to this Site.

Should you have any questions or concerns regarding the contents of this letter, please contact Philip Tibble at 613.449.3731 or ptibble@pinchin.com.

Yours truly,

Pinchin Ltd.

Prepared by:

PROFESSIONAL GEOSCIENTIST
PHILIP A. TIBBLE
PRACTISING MEMBER
1107
ONTARIO

Philip Tibble M.Sc., P.Geo.
Senior Technical Manager (Hydrogeology)

Reviewed by:

Tim McBride, B.Sc., P.Geo., QP_{ESA}
Practice Specialist – Hydrogeology
Director, Northern Ontario

Encl.: Appendix I – Figures
Appendix II – Groundwater Analytical Results
Appendix III – Laboratory Certificate of Analysis
Appendix IV – Water Well Records
Appendix V – Septic Design Permit
Appendix VI – Grain Size Analysis
Appendix VII – Nitrate Calculation Worksheet

Template: Master Letter Template, July 16, 2025

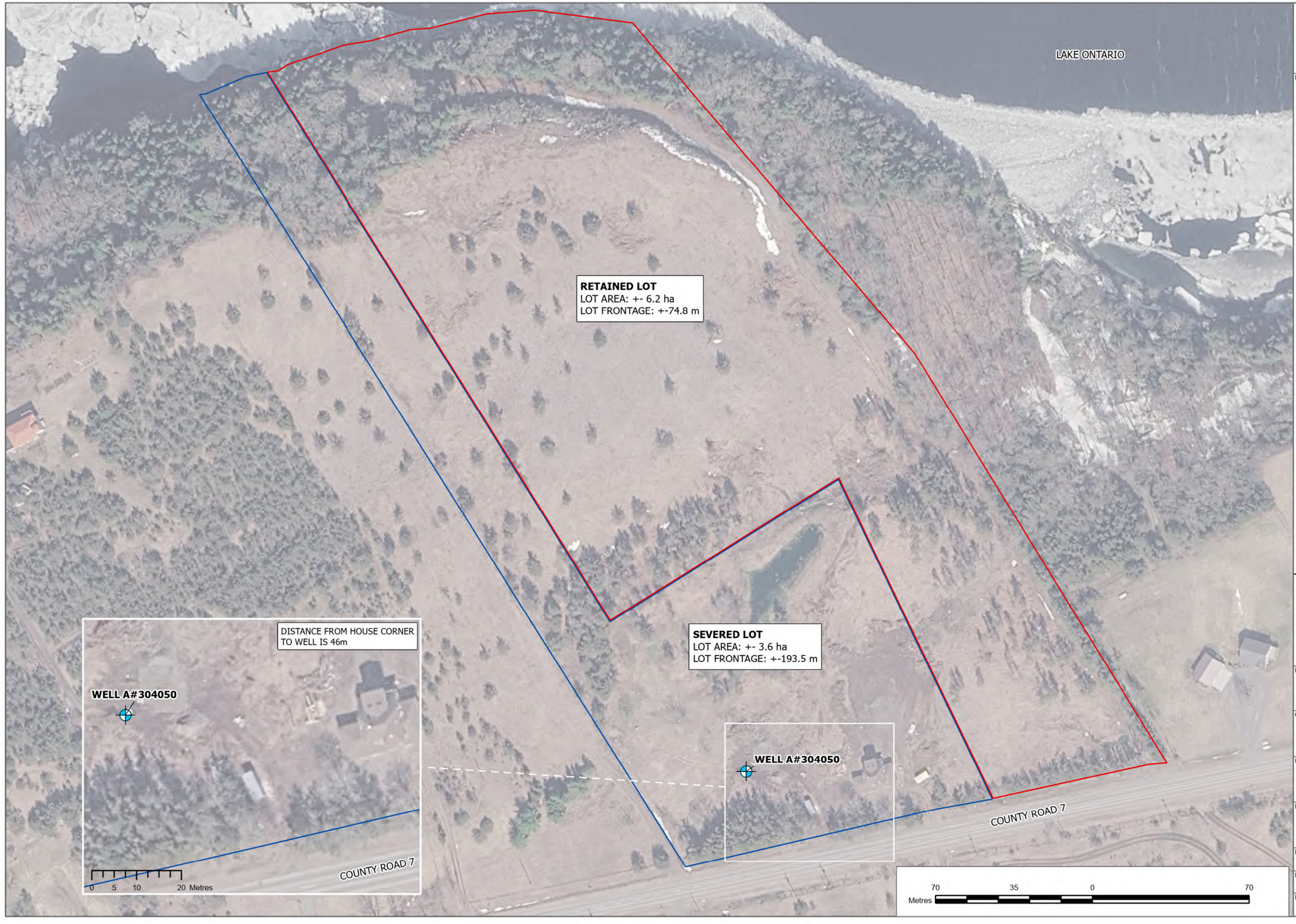
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APPENDIX I
Figures



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PROJECT NAME:	HYDROGEOLOGICAL ASSESSMENT IN SUPPORT OF ADDITIONAL RESIDENTIAL UNIT				
CLIENT NAME:	520082 ONTARIO INC.				
PROJECT LOCATION:	1315, 1329, 1357 COUNTRY ROAD #7., PRINCE EDWARD, ONTARIO				
FIGURE NAME:	KEY MAP				FIGURE NUMBER: 1
PROJECT NUMBER: 363896.001	SCALE: AS SHOWN	DRAWN BY: CF	REVIEWED BY: PT	DATE: SEPTEMBER 2026	



N

LEGEND

- GROUNDWATER MONITORING WELL
- PROPOSED SEVERED PROPERTY
- PROPOSED RETAINED PROPERTY

NOTES:
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2) This drawing may have been reduced. All scale notations indicated are based on a 11"x17" format drawings.
3) Legend is color dependent. Non-colour copies may alter interpretation.
4) Coordinate system: NAD 1983 CSRS UTM Zone 18N.
5) Source: Pinchin Ltd., © OpenStreetMap (and) contributors, CC-BY-SA.

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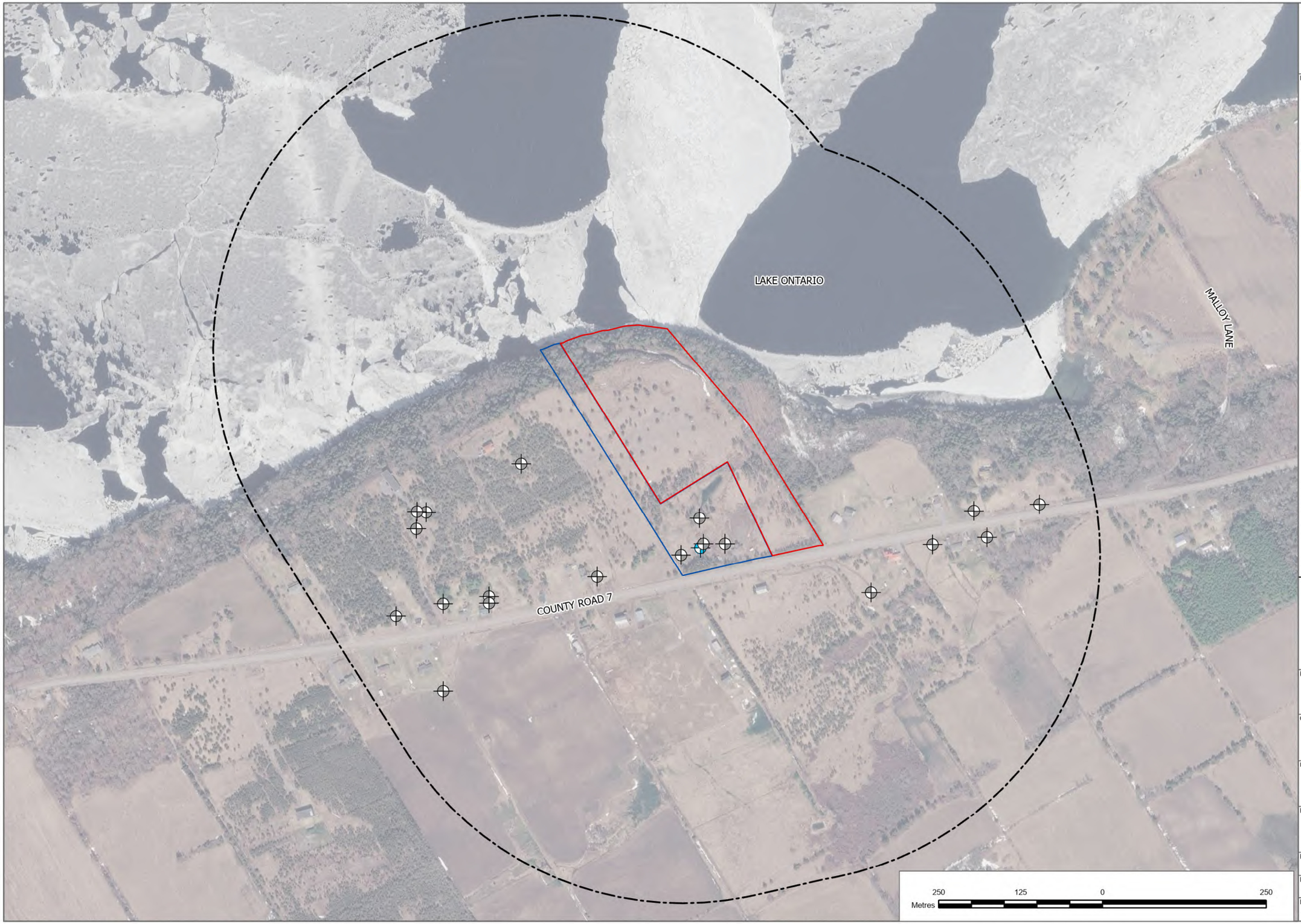
PROJECT NAME
HYDROGEOLOGICAL ASSESSMENT IN SUPPORT OF ADDITIONAL RESIDENTIAL UNIT

CLIENT NAME
520082 ONTARIO INC.

PROJECT LOCATION
1315, 1329, 1357 COUNTRY ROAD #7., PRINCE EDWARD, ONTARIO

FIGURE NAME
SITE PLAN

PROJECT NUMBER:	SCALE
363896.001	AS SHOWN
DRAWN BY: CF	REVIEWED BY: PT
DATE: SEPTEMBER 2026	FIGURE NUMBER: 2



N

LEGEND

- MECP WELL
- GROUNDWATER MONITORING WELL
- 500m BUFFER
- PROPOSED SEVERED PROPERTY
- PROPOSED RETAINED PROPERTY

NOTES:
1) Proprietary information may not be reproduced or divulged without prior written consent of Pinchin Ltd.
2) This drawing may have been reduced. All scale notations indicated are based on a 11"x17" format drawings.
3) Legend is color dependent. Non-colour copies may alter interpretation.
4) Coordinate system: NAD 1983 CSRS UTM Zone 18N.
5) Source: Pinchin Ltd., © OpenStreetMap (and) contributors, CC-BY-SA.

PINCHIN

PROJECT NAME
HYDROGEOLOGICAL ASSESSMENT IN SUPPORT OF ADDITIONAL RESIDENTIAL UNIT

CLIENT NAME
520082 ONTARIO INC.

PROJECT LOCATION
1315, 1329, 1357 COUNTRY ROAD #7., PRINCE EDWARD, ONTARIO

FIGURE NAME
MECP WELL RECORDS WITHIN 500M OF POPOSED SEVERED PROPERTY

PROJECT NUMBER:	SCALE
363896.001	**AS SHOWN**
DRAWN BY: **CF**	REVIEWED BY: **PT**
DATE: **SEPTEMBER 2026**	FIGURE NUMBER: **3**

Figure 4: Pumping Test - Drawdown and Recovery

Pumping Well A403050. 90 LPM. 390 minutes pumping. June 18, 2026

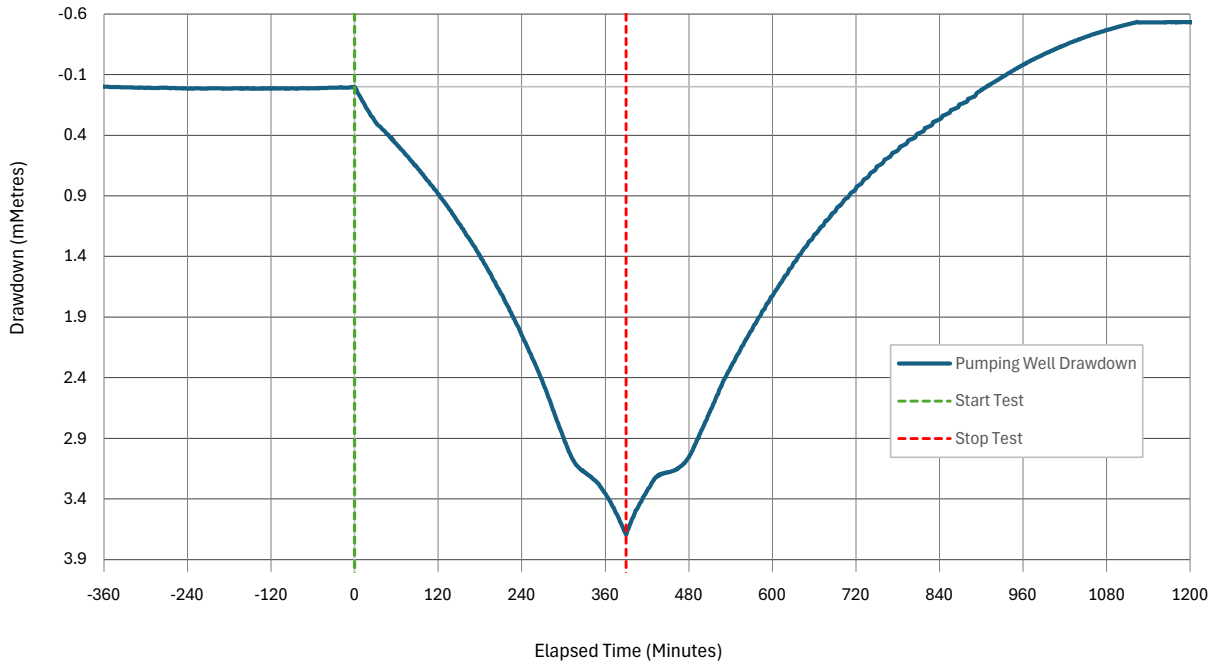
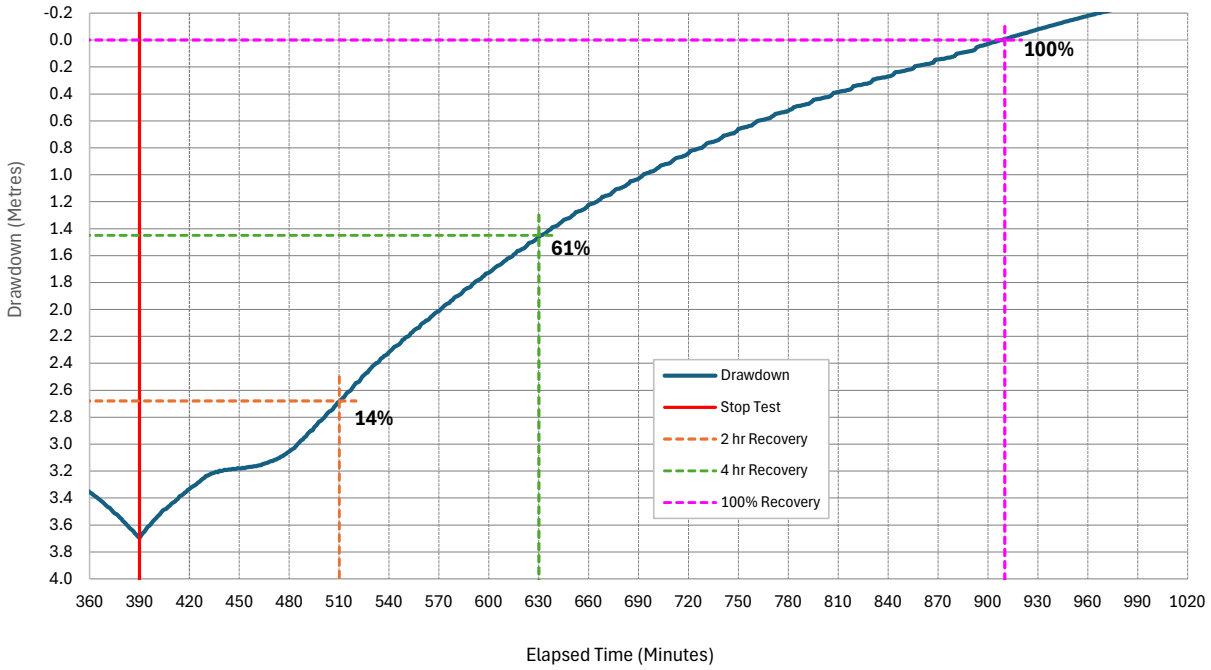


Figure 5: Recovery AssessmentRecovery

Pumping Well A403050: June 18, 2026



APPENDIX II

Groundwater Analytical Results

TABLE 2
RAW WELL WATER SAMPLE ANALYTICAL RESULTS (Well #A403050)
2522082 Ontario Inc.
1329 County Road 7, Prince Edward County, Ontario

Parameter	Units	MDL	ODWQS Standards		Sample Designation	
			Standard	Type of Standard	Sample Collection Date (dd/mm/yyyy)	
					A403050	A403050
					18-06-2026	13-07-2026
Microbiological Parameters						
E. Coli	CFU/100mL	1	0	MAC	**NDOGT**	0
Total Coliforms	CFU/100mL	1	0	MAC	**NDOGT**	**65**
Fecal Coliforms	CFU/100mL	1	-	-	**NDOGT**	**10**
General Inorganics						
Alkalinity, total	mg/L	5	30-500	OG	304	-
Ammonia as N	mg/L	0.05	-	-	2.39	-
Dissolved Organic Carbon	mg/L	0.8	5	AO	**8.3**	-
Colour	TCU	2	5	AO	**12**	-
Conductivity	µS/cm	1	-	-	837	-
Hardness	mg/L	0.02	500 / 80-100	AO / OG	**224**	-
pH	pH Units		6.5-8.5	OG	7.6	-
Total Dissolved Solids	mg/L	3	500	-	441	-
Turbidity	NTU	0.1	5	AO	**15.3**	-
Anions						-
Chloride	mg/L	0.5	250	AO	62.7	-
Fluoride	mg/L	0.1	1.5	MAC	< 0.1	-
Nitrate as N	mg/L	0.05	10	MAC	3.23	-
Nitrite as N	mg/L	0.05	1	MAC	< 0.05	-
Sulphate	mg/L	1	500	AO	27	-
Metals						-
Calcium	mg/L	0.02	-	-	77.9	-
Iron	mg/L	0.005	0.3	AO	0.081	-
Magnesium	mg/L	0.2	-	-	12.1	-
Manganese	mg/L	0.001	0.05	AO	0.014	-
Potassium	mg/L	0.1	-	-	9.4	-
Sodium	mg/L	0.2	20 / 200	MAC* / AO	**84.5***	-

Notes:

Ontario Drinking Water Quality Standards

Type of Standard
MAC: Maximum Acceptable Concentration
AO: Aesthetic Objective
OG: Operational Guidelines

BOLD	Exceed MAC Standard
BOLD	Exceeds AO or OG Standard
BOLD	Reportable Detection Limit Exceeds Standard
BOLD*	* This health-related limit for sodium is a "warning level" only. Exceedance calls for a recommendation that the local Medical Officer of Health be notified in order to alert persons with relevant medical conditions. Sodium also has an Aesthetic Objective of 200 mg/L. Technical Support Document for Ontario Drinking Water Standards, Objectives and Guidelines June 2003 Revised June 2006 (PIBS 4449e01)

APPENDIX III

Laboratory Certificate of Analysis

CADUCEON ENVIRONMENTAL LABORATORIES

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CERTIFICATE OF ANALYSIS

Final Report

C.O.C.: G131538 **REPORT No: 25-003371 - Rev. 0**

Report To:
Pinchin Ltd. - Kingston
1456 Centennial Dr, Suite 2
Kingston, ON K7P 0K4

CADUCEON Environmental Laboratories
285 Dalton Ave
Kingston, ON K7K 6Z1

Attention: Phil Tibble

DATE RECEIVED: 2025-Feb-06
DATE REPORTED: 2025-Feb-12
SAMPLE MATRIX: Ground Water

CUSTOMER PROJECT: 323474.001
P.O. NUMBER:

Analyses	Qty	Site Analyzed	Authorized	Date Analyzed	Lab Method	Reference Method
Anions (Liquid)	1	OTTAWA	PCURIEL	2025-Feb-07	A-IC-01	SM 4110B
Colour (Liquid)	1	OTTAWA	STAILLON	2025-Feb-10	A-COL-01	SM 2120C
Cond/pH/Alk Auto (Liquid)	1	OTTAWA	SBOUDREAU	2025-Feb-10	COND-02/PH-02/A LK-02	SM 2510B/4500H/ 2320B
Coliforms - DC Media (Liquid)	1	KINGSTON	BBURTCH	2025-Feb-06	ECTC-001	MECP E3407
DOC/DIC (Liquid)	1	OTTAWA	ASCHNEIDER	2025-Feb-10	C-OC-01	EPA 415.2
Fecal Coliforms (Liquid)	1	KINGSTON	BBURTCH	2025-Feb-06	FC-001	SM 9222D
Ion Balance (Calc)	1	OTTAWA	ASCHNEIDER		CP-028	MECP E3196
ICP/OES (Liquid)	1	OTTAWA	APRUDYVUS	2025-Feb-10	D-ICP-01	SM 3120B
Ammonia (Liquid)	1	KINGSTON	DCASSIDY	2025-Feb-07	NH3-001	SM 4500NH3
Turbidity (Liquid)	1	OTTAWA	LMACGREGOR	2025-Feb-07	A-TURB-01	SM 2130B

R.L. = Reporting Limit
NC = Not Calculated
Test methods may be modified from specified reference method unless indicated by an *

Michelle Dubien
Data Specialist

The analytical results reported herein refer to the samples as received and relate only to the items tested. Reproduction of this analytical report in full or in part is prohibited without prior consent from Caduceon Environmental Laboratories.

Parameter	Units	R.L.	Limits	DWG	Client I.D.: A415018 Sample I.D.: 25-003371-1 Date Collected: 2025-Feb-06 -
Total Coliform (DC Media)	CFU/100mL	1	0	MAC	0
E coli (DC Media)	CFU/100mL	1	0	MAC	0
Background (DC Media)	CFU/100mL	1			0
Fecal Coliform	CFU/100mL	1	0	MAC	0
Alkalinity(CaCO3) to pH4.5	mg/L	5	500	OG	274
TDS (Calc. from Cond.)	mg/L	3	500	AO	298
Conductivity @25°C	uS/cm	1			574
pH @25°C	pH units	-	8.5	OG	8.15
Colour	TCU	2	5	AO	<2
Turbidity	NTU	0.1	5	AO	1.2
Fluoride	mg/L	0.1	1.5	MAC	<0.1
Chloride	mg/L	0.5	250	AO	12.2
Nitrate (N)	mg/L	0.05	10.0	MAC	0.09
Nitrite (N)	mg/L	0.05	1.0	MAC	<0.05
Sulphate	mg/L	1	500	AO	27
Ammonia (N)-Total (NH3+NH4)	mg/L	0.05			<0.05
Dissolved Organic Carbon	mg/L	0.8	5	AO	<0.8
Hardness (as CaCO3)	mg/L as CaCO3	0.02	100, 500	OG, D55	310
Calcium	mg/L	0.02			69.4
Iron	mg/L	0.005	0.3	AO	0.162
Magnesium	mg/L	0.02			33.2

Michelle Dubien
Data Specialist

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Parameter	Units	R.L.	Limits	DWG	Client I.D.: A415018 Sample I.D.: 25-003371-1 Date Collected: 2025-Feb-06
Manganese	mg/L	0.001	0.05	AO	0.013
Potassium	mg/L	0.1			1.1
Sodium	mg/L	0.2	200, 20, 20	AO, WL, MAC	4.1
Anion Sum	meq/L	-			6.40
Cation Sum	meq/L	-			6.41
% Difference	%	-			0.113
TDS (Ion Sum Calc)	mg/L	1	500	AO	312
Conductivity Calc	µmho/cm	-			583

DWG - Drinking Water Guidelines
ODWS - Ontario Drinking Water Standards
AO - Aesthetic Objectives
IMAC - Interim Maximum Acceptable Concentration
MAC - Maximum Acceptable Concentration
ODWO - D-5-5 Objective
OG - Operational Guidelines
WL - Warning Level - Sodium Restricted Diets

Summary of Exceedances

Operational Guidelines

A415018	Found Value	Limit
Hardness (as CaCO3)	310	100

Michelle Dubien
Data Specialist

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CADUCEON ENVIRONMENTAL LABORATORIES

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CERTIFICATE OF ANALYSIS

Final Report

C.O.C.: G135216 **REPORT No: 26-021278 - Rev. 0**

Report To:
Pinchin Ltd. - Kingston
1456 Centennial Dr, Suite 2
Kingston, ON K7P 0K4

CADUCEON Environmental Laboratories
285 Dalton Ave
Kingston, ON K7K 6Z1

Attention: Phil Tibble

DATE RECEIVED: 2026-Jul-13
DATE REPORTED: 2026-Sep-01
SAMPLE MATRIX: Ground Water

CUSTOMER PROJECT:
P.O. NUMBER:

Analyses	Qty	Site Analyzed	Authorized	Date Analyzed	Lab Method	Reference Method
Coliforms - DC Media (Liquid)	1	KINGSTON	BBURTCH	2026-Jul-13	ECTC-001	MECP E3407
Fecal Coliforms (Liquid)	1	KINGSTON	BBURTCH	2026-Jul-13	FC-001	SM 9222D

R.L. = Reporting Limit
NC = Not Calculated
Test methods may be modified from specified reference method unless indicated by an *

				Client I.D.	A304050
				Sample I.D.	26-021278-1
				Date Collected	2026-Jul-13
Parameter	Units	R.L.	Limits	DWG	-
Total Coliform (DC Media)	CFU/100mL	1	0	MAC	65
E coli (DC Media)	CFU/100mL	1	0	MAC	0
Fecal Coliform	CFU/100mL	1	0	MAC	1

DWG - Drinking Water Guidelines
ODWS - Ontario Drinking Water Standards
AO - Aesthetic Objectives
IMAC - Interim Maximum Acceptable Concentration
MAC - Maximum Acceptable Concentration
ODWO - D-5-5 Objective
OG - Operational Guidelines
WL - Warning Level - Sodium Restricted Diets

Michelle Dubien
Data Specialist

The analytical results reported herein refer to the samples as received and relate only to the items tested. Reproduction of this analytical report in full or in part is prohibited without prior consent from Caduceon Environmental Laboratories.

Summary of Exceedances		
Maximum Acceptable Concentration		
A304050	**Found Value**	**Limit**
Total Coliform (DC Media)	65	0
Fecal Coliform	1	0



Michelle Dubien
Data Specialist

The analytical results reported herein refer to the samples as received and relate only to the items tested. Reproduction of this analytical report in full or in part is prohibited without prior consent from Caduceon Environmental Laboratories.

APPENDIX IV

Water Well Records

Well Record - Regulation 903

Ontario Water Resources Act

General Instructions and Explanations for completing a Well Record

A completed electronic Well Record Form must be delivered to the well purchaser and the owner of the land on which the well is situated within 14 days after the date on which the well's structural stage is complete. The electronic Well Record must also be forwarded within 30 days after the date on which the well's structural stage is complete to the ministry through email to the following email address: WellRecordSubmission@ontario.ca

False and Misleading Information

Subsection 98(2) of the *Ontario Water Resources Act*, R.S.O. 1990 c. O. 40, states that:

“No person shall orally, in writing or electronically, give or submit false or misleading information in any statement, document or data, to any provincial officer, the Minister, the Ministry or the Agency, any employee in or agent of the Ministry or the Agency, or any person involved in carrying out a program of the Ministry or the Agency in respect of any matter related to this Act or the regulations.”

Further, subsection 98(3) of the Act states that:

“No person shall include false or misleading information in any document or data required to be created, stored or submitted under this Act.”

Measurements

All measurements must be recorded in the specified unit, metric or imperial by checking off the applicable box on the top of the form. You must use the checked unit consistently throughout the well record. Measurements must be reported to 1/10th of a metre if the unit is a metre. All measurements of depth must be referenced to ground surface.

Well Owner’s Information

A “well owner” means the owner of land upon which a well is situated and includes a tenant or lessee of the land and a well purchaser. If the “well owner” is an individual, record the owner’s last name and first name or if the “well owner” is a business, government or other organization, record the name in the “organization” area.

Well Location

Street Number/Name and City/town/Village must be provided, if available.

Geographic Township, Concession and Lot must be reported if the well is located in an area where such information exists.

UTM Coordinates must be recorded each time a Well Record is completed. Click the button [Test UTM in Map] to use the UTM Coordinates to plot the location to Google map. This allows verification of the UTM Coordinates. This will also automatically populate the County/District.

Municipal Plan and Sublet Number may be provided, if available.

Overburden and Bedrock Materials

For each formation encountered during construction, choose words from the lists that best describe the formation on the basis of general colour, most common material, other materials, and general description of the formation.

General Colours are White, Yellow, Grey, Brown, Blue, Red, Green and Black.

Examples of Materials are: Fill, Silt, Top Soil, Coarse Sand, Slate, Muck, Gravel, Limestone, Dolomite, Quartzite, Peat, Stones, Fine Sand, Shale, Granite, Clay, Boulders, Medium Sand, Sandstone, and Greenstone.

Some definitions are as follows:

- Clay: Composed of very fine particles. Forms dense hard lumps or clods when dry and a very elastic putty-like mass when wet. It can be rolled between fingers to form a long, flexible ribbon.
- Silt: Grain size, midway between sand and clay. It may form clods which, when broken, feel soft and floury. When moist, it will form a cast that can be handled freely without breaking. Rolled between thumb and finger, it will not "ribbon" but will give a broken appearance.

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- Sand: Grains are loose and granular and may be seen and felt readily. Squeezed in the hand when dry, it falls apart when the pressure is released. Squeezed when moist, it will form a cast that will crumble when touched. Should be listed as fine sand, medium sand or coarse sand.
- Gravel: Rock fragments greater than 0.3 cm in diameter.

Examples of General Descriptions are Loose, Cemented, Previously Dug or Bored, Porous, Layered, Previously Drilled, Dense, Soft, Wood Fragments, Packed, Hard.

Abandonment

To report abandonment of a well, check off the applicable box in Type on the top of the form. Details of abandonment must be recorded in the Abandonment and Sealing Section. Additional comments may be entered in the comments box under the Information section.

Annular Space

Record all material placed in the annular space around the single casing or around the permanent outer casing. If the well is a telescoped well [i.e., a well with an outer casing and inner casing(s)] or if the well is a multi-level nested test hole, report the depth from, depth to, material and volume placed for the annular space between two different sized casings or between the inner casing(s) and the side of the well in the “Comments” area of this electronic well record form.

Method of Construction

If the equipment used to construct the well is not on the list, check “Other (specify)” and record the type of equipment, check each equipment that applies.

Well Use

If the well’s use is not provided on the list, check “Other (specify)” and record the use of the well. If the well has multiple uses, check each use that applies.

Status of Well

If the well’s status is not provided on the list, check “Other (specify)” and record the use of the well. If the well has multiple statuses, check each use that applies.

Construction Record – Casing and Open Hole

Use negative values to report the top of casing above ground surface. For example, if the top of the casing is 0.4 metres above the ground surface and the bottom of the casing 6.0 metres below the ground surface, record the casing “Depth From” as -0.4.

If the top of casing is located below the ground surface (e.g., if a test hole is constructed and the top of casing is located below the ground surface in a flush mounted well vault), report the top of the casing from below ground surface. For example, if the top of the casing is 0.1 metres below the ground surface and the bottom of the casing is 6 metres below the ground surface, record the casing “Depth From” as 0.1.

Note: If a drive shoe is used, the shoe is considered casing and it must be reported if the shoe has a different inside diameter thickness.

If a portion of the well was created an open hole, record the location of the open hole on a separate row, including the diameter and the depth (top and bottom of open hole) from the ground surface.

Construction Record – Well Screen

A “well screen” means perforated pipe or tubing, unsealed concrete tiles or other material installed in a well to filter out particulate matter and form the water intake zone. Therefore, the length of a well screen includes any slotted or perforated area and unsealed area of pipe or tiles.

Water Details

- if groundwater was located, record the depth from the ground surface to the location of the groundwater resource, and
- record if the groundwater quality is “Untested,” “Fresh” (i.e., not salty), or “Other (specify).” If “Other (specify)” is recorded, use the “Other (specify)” dropdown list toselect the type of groundwater (e.g., salty, blackish water, yellowish water, mineralized, etc.).

Check off “Gas” if natural gas was encountered during well construction.

Note: Natural gas encounters need to be immediately reported to the ministry at 1-800-268-6060, well purchaser and the owner of the land.

Results of Well Yield Testing

Check off “Pumping Discontinued” if pumping was discontinued before 1 hour of continuous pumping. Explain the reason why pumping was discontinued or in some cases not performed (e.g., the well went dry, impossible to install pump in small diameter well, static water level from test hole or dewatering well was obtained and is reported instead of completing a yield test etc.).

Note: Equipment breakdown is not an acceptable reason for checking off “Pumping Discontinued” on the well record form. If groundwater in the well is flowing out of the well, provide the rate of flow, and check off “Flowing Well” (i.e., static water level above the ground surface).

In the “Results of Well Yield Testing” section of the well record form, record:

- the depth to the intake of the pump,
- the rate of pumping and duration of pumping period during the yield test,
- the final water level when pumping stops,
- water level measurements made during pumping (drawdown) and recovery. All water level measurements must be referenced from below the ground surface for each time interval specified in the drawdown and recovery boxes.

If the water level measurements remain the same over a period of time, continue to measure and report the same water level measurement for the remaining pumping or recovery time intervals.

If pumping continuously for at least 1 hour, but the design of the well does not allow for water level measurements (e.g., driven point well), the person constructing the well is not required to report drawdown or recovery water level measurements.

Map of Well Location

In the “Map of Well Location” section of the well record form, click the map area to attach a map of the well location. The map must show sufficient information to locate the well, including:

- a mark on the map showing the well,
- a scale on the map, and
- where available, the name of the structure, street or surface water body nearest to the well.

Note: More than one map can be added to the well record form by clicking on “Add Map (+)” to add an additional map.

Information

Record any additional information (e.g., observations, tests, additional licensed well technicians who worked on the well, additional annular space details for a telescoped well or a multi-level nested test hole, reasons for not providing a well owner information package) in the comments area.

Declaration

Check the declaration statement to confirm that the person constructing the well agrees with the following statement: “I hereby confirm that I am the person who constructed the well and I hereby confirm that the information on the form is correct and accurate”.

Validate

Click the validate button. If there is no missing information, you will be asked to enter the well tag again to make sure the well tag is entered correctly (only enter the numeric portion of the tag number). The audit number will then be changed from “**incomplete**” to an assigned audit number. The signature field will then be available. Click on “signature” to enter the well technician’s electronic signature. For instructions on how to create an electronic signature, please visit the Adobe Digital IDs website using the following link: https://helpx.adobe.com/acrobat/using/digital-ids.html

Notice of Collection of Personal Information

Personal information contained on this form is collected pursuant to sections 35-50 and 75(2) of the *Ontario Water Resources Act* and section 16.3 of the Wells Regulation. This information will be used for the purpose of maintaining a public record of wells in Ontario. This form and the information contained on the form will be stored in the Ministry's well record database and made publicly available. Questions about this collection should be directed to the Water Well Customer Service Representative at the Wells Help Desk, 125 Resources Road, Toronto Ontario M9P 3V6, at 1-888-396-9355 or wellshelpdesk@ontario.ca.

Fields marked with an asterisk (*) are mandatory.

Well Tag Number *
A 403050

Type *

☑ Construction ☐ Abandonment

Measurement recorded in: *

☑ Metric ☐ Imperial

1. Well Owner's Information

Last Name and First Name, or Organization is mandatory. *

Last Name	First Name
Organization	**Email Address**
2522082 Ontario Inc.	

Current Address

Unit Number	Street Number *	Street Name *	City/Town/Village	
	240	Chrislea Rd, Suite 125	Woodbridge	
Country	**Province**		**Postal Code**	**Telephone Number**
Canada	ON		L4L 8VL	

2. Well Location

Address of Well Location

Unit Number	Street Number *	Street Name *	Township	
	1329	County Rd 7	Marysburgh	
Lot	**Concession**	**County/District/Municipality**		
PT LT 61	Bayside	Prince Edward County		
City/Town		**Province**	**Postal Code**	
Picton		Ontario	K0K 2T0	

UTM Coordinates	Zone *	Easting *	Northing *		Municipal Plan and Sublot Number
NAD 83	18	339717	4877961	Test UTM in Map	

Other

3. Overburden and Bedrock Material *

Well Depth * 6.71 (m)

General Colour	Most Common Material	Other Materials	General Description	Depth From	Depth To

				(m)	(m)
Black	Topsoil			0	0.3
Brown	Shale			0.3	1.6
Grey	Limestone			1.6	6.71

4. Annular Space *

Depth From (m)	Depth To (m)	Type of Sealant Used (Material and Type)	Volume Placed (cubic metres)
0.1	2.5	Clay	20

5. Method of Construction *

☐ Cable Tool ☐ Rotary (Conventional) ☐ Rotary (Reverse) ☐ Boring ☐ Air percussion ☐ Diamond
☐ Jetting ☐ Driving ☑ Digging ☐ Rotary (Air) ☐ Augering ☐ Direct Push
☐ Other (specify)

6. Well Use *

☐ Public ☐ Industrial ☐ Cooling & Air Conditioning
☑ Domestic ☐ Commercial ☐ Not Used
☐ Livestock ☐ Municipal ☐ Monitoring
☐ Irrigation ☐ Test Hole ☐ Dewatering
☐ Other (specify)

7. 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)

8. Construction Record - Casing * (use negative number(s) to indicate depth above ground surface)

Inside Diameter (cm)	Open Hole **or** Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness	Depth From (m)	Depth To (m)
90	Concrete	7.6	-0.45	6.71

9. Construction Record - Screen

Outside Diameter (cm)	Material (Plastic, Galvanized, Steel)	Slot Number	Depth From (m)	Depth To (m)

10. Water Details

Water found at Depth		Kind of water				
3 (m)	☐ Gas	☑ Fresh	☐ Untested	☐ Other		

11. Hole Diameter

Depth From (m)	Depth To (m)	Diameter (cm)
0	6.71	103

12. Results of Well Yield Testing

☐ Pumping Discontinued

Explain

If flowing give rate

☐ Flowing _____ (L/min)

Draw down

Time (min)	Static Level	1	2	3	4	5	10	15	20	25	30	40	50	60
Water Level (m)	1.07													6.10

Recovery

Time (min)	1	2	3	4	5	10	15	20	25	30	40	50	60
Water Level (m)	6.10												5.11

After test of well yield, water was

☑ Clear and sand free ☐ Other (specify)

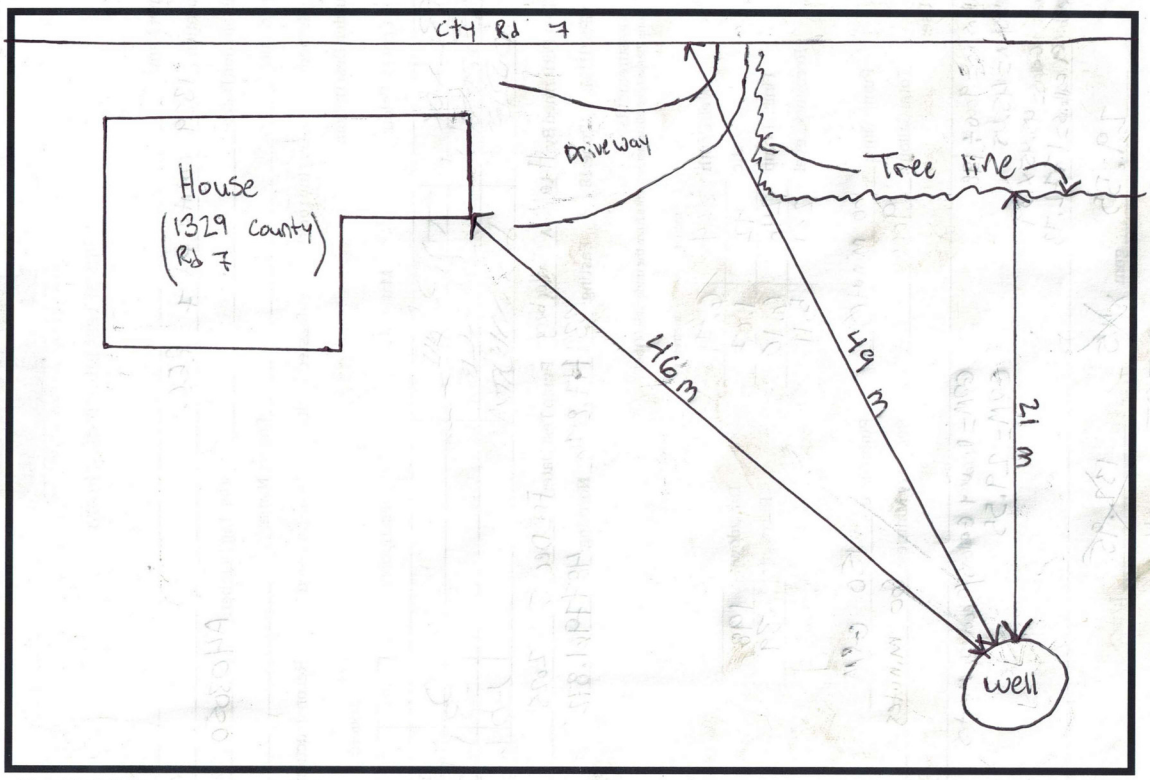
Pump intake set at	Pumping rate	Duration of pumping	Final water level end of pumping	Disinfected? *
6.71 (m)	567 (L/min)	1 hrs + 0 min	6.1 (m)	☑ Yes ☐ No

Recommended pump depth	Recommended pump rate	Well production
6.71 (m)	(L/min)	111.86 (L/min)

13. Map of Well Location *

Map 1. Please Click the map area below to import an image file to use as the map. ☑ Make map area bigger

Map Area



14. Information

Well owner's information package delivered	Date Package Delivered (yyyy/mm/dd)	Date Work Completed (yyyy/mm/dd) *
☑ Yes ☐ No	2025/12/15	2025/11/25

Comments

15. Well Contractor and Well Technician Information

Business Name of Well Contractor *	Well Contractor's License Number *
Frank's Drilling & Blasting Ltd.	6881

Business Address

Unit Number	Street Number	Street Name *
		PO Box 100

City/Town/Village *	Province	Postal Code *
Newburgh	ON	K0K 2S0

Business Telephone Number	Business Email Address
613-378-2178	info@fdbltd.com

Last Name of Well Technician *	First Name of Well Technician *	Well Technician's License Number *
Parr	Greg	2603

16. Declaration *

☑ I hereby confirm that I am the person who constructed the well and I hereby confirm that the information on the form is correct and accurate.

Last Name	First Name	Email Address
Parr	Greg	greg@fdbltd.com

Signature	Date Submitted (yyyy/mm/dd)
Greg Parr Digitally signed by Greg Parr Date: 2025.12.15 10:59:07 -05'00'	2025/12/15

17. Ministry Use Only

Audit Number

Z4HA 9ENK

TABLE 4
Summary of MECP Water Well Records Within 500m of the Site
2522082 Ontario Inc.
1329 County Road 7, Prince Edward County, Ontario

Well Record I.D.	Well Tag Number	Well Type	Well Depth (m)	Overburden Thickness (m)	Unit(s) Well Completed In	Recommended Pumping rate (LPM)	Date of Completion (mm-dd-yyyy)	Water Found at (mbgs)	Static Water Level (mbgs)	Height Water Rises (m)
5301534	N/A	Drilled	10.7	1.52	Limestone	22.7	08/14/1962	5.49	1.22	4.27
5301535	N/A	Drilled	18.3	1.52	Limestone	DRY	08/22/1956	DRY	-	-
5301536	N/A	Drilled	15.8	1.22	Limestone	45.5	06/13/1957	9.14	3.05	6.09
5301537	N/A	Drilled	16.8	1.52	Limestone	13.6	10/18/1962	15.24	11.58	3.66
5301538	N/A	Drilled	18.3	1.22	Limestone	DRY	08/24/1967	DRY	-	-
5302262	N/A	Drilled	11.3	1.22	Limestone	27.3	12/16/1970	11.23	1.52	9.71
5302451	N/A	Drilled	10.7	1.83	Limestone	27.3	05/04/1972	9.75	0.61	9.14
5302465	N/A	Drilled	22.9	1.52	Limestone	DRY	06/20/1972	DRY	-	-
5302525	N/A	Drilled	28.3	1.52	Limestone	DRY	05/20/1972	DRY	-	-
5302566	N/A	Drilled	66.8	2.74	Limestone	22.7	10/27/1972	63.4	30.18	33.22
5302567	N/A	Drilled	39.6	1.83	Limestone	22.7	09/16/1972	36.88	7.92	28.96
5304129	N/A	Drilled	30.5	1.52	Limestone	DRY	10/08/1981	DRY	-	-
5306372	N/A	Drilled	9.1	0.91	Limestone	LOW	06/30/1997	3.35	1.22	2.13
5307301	A001088	Drilled	6	1	Limestone	12	07/22/2004	5	4	1
5307323	A008404	Drilled	56.7	0.3	Limestone	ABANDONED	07/15/2004	22.7	-	-
7105414	A070832	Drilled	25.9	15.2	Limestone	4	05/10/2005	18.3	4.77	13.5
7197700	A125105	DUG	4.3	4.3	Overburden	13.6	02/12/2013	1.52	1.62	-0.1
7313346	A207360	Drilled	18.3	0.3	Limestone	DRY	01/27/2018	DRY	-	-
7349252	A195994	DUG	6.5	0.3	Limestone	99	12/06/2019	4	2.92	1.1
7395282	A207360	Drilled	N/A	NA	NA	ABANDONED	08/21/2021	DRY	-	-
7403648	A306142	Drilled	N/A	NA	NA	NA	10/07/2021	NA	NA	NA
7415265	A000063	DUG	5.64	0.31	Limestone	45.5	03/29/2022	1.83	1.96	-0.1
7415266	A334382	DUG	5.49	1.22	Limestone	45.5	03/29/2022	3.05	0.38	2.7
7420981	A332010	Drilled	43.3	0.91	Limestone	31.8	06/01/2022	23.8	6.6	17.2
7431035	A352524	NA	N/A	NA	NA	NA	09/16/2022	NA	NA	NA

APPENDIX V

Septic Design Permit

PRINCE EDWARD COUNTY
BUILDING DEPARTMENT

Adam Dutton
Deputy Chief Building Official

Sewage System / Multiple Dwelling (New) Permit

Permit Set 1329 COUNTY RD 7 P# PEC-2025-605 R# 1350701010052000000

PERMIT INFORMATION

Address	Permit number	Date issued
1329 COUNTY RD 7	PEC-2025-605	2026-01-08

REVIEWED BY

If you have any questions regarding the review of these drawings please contact:

Zoning Review	Application in General	10 Day Review
Rachel Hardon rhardon@pecounty.on.ca	Rachel Hardon rhardon@pecounty.on.ca	Adam Dutton adutton@pecounty.on.ca

INSTRUCTION AND ATTENTION

It is the responsibility of the Applicant to print **full** size the entire approved permit package and provide at the time of inspection.

All Engineered product shop drawings shall be stamped by a licensed Professional Engineer of Ontario.

Shop drawings will be reviewed for approval by a Building Official.

Products requiring the submission of shop drawings include but not limited to, roof trusses, floor systems and wood beams.

TABLE OF CONTENTS

Cover page	1
Building Permit	2-3
Septic design forms	4-7
Application for a Permit to Construct or Demolish	8
Supplemental information for the application	9-10
Required Inspections	11

PRINCE EDWARD COUNTY
BUILDING DEPARTMENT

Ryan Arcand
Chief Building Official

Sewage System / Multiple Dwelling (New) Permit

Permit Set 1329 COUNTY RD 7 P# PEC-2025-605 R# 1350701010052000000

LOCATION OF WORK

Address	Zoning	Legal description
1329 COUNTY RD 7		CON 1 BS PT LOT 61 PLAN RD20;PART 2

PERMIT INFORMATION

Permit number	Date applied	Date issued
PEC-2025-605	2025-12-07	2026-01-08
Status		
Issued		
Permit fee	**YOUR INSPECTOR IS**	**Completion date**
$600.00 CAD	Adam Dutton	-
Reviewed by	**Value of construction**	**Gross area**
Adam Dutton, Rachel Hardon	40000 CAD	200.0 m²

GRANTED TO

Applicant, Designer, Sewage system installer	Architectural consultant	Property owner
Q-Logic Water Ltd. Jamie Quigley 352 Marsh Rd Belleville, Ontario K8N 4Z7 Company BCIN 39241 Individual BCIN 105632	Jaime Vega 1329 Cty RD 7 Picton, Ontario K0K2T0	2522082 Ontario Inc Del Terreloonge 240 Chrislea Rd Suite 125 Woodbridge, Ontario L4L8V1

DESIGN CLASS 4 FILTER BED SEPTIC SYSTEM TO SERVICE PROPOSED MULTI FAMILY DWELLING.

Personal information contained in this form and schedules is collected under the authority of subsection 8(1.1) of the Building Code Act, 1992, and will be used in the administration and enforcement of the Building Code Act, 1992.

This permit is granted subject to the terms on the Application and on condition that work authorized by the permit shall be completed in all respects in accordance with the plans, specifications and any other information on the basis of which the Permit was issued. For Building Permits, Prince edward County requires notice to be given to the Chief Building Official by the permit holder in advance stages of construction specified in Subsection 2.4.5 of the Ontario Building Code and as indicated on the Notice to Owners and Builders attached to the permit drawings.

THIS PERMIT MUST BE POSTED ONSITE. THE PLANS AND SPECIFICATIONS REVIEWED AND ISSUED BY THE BUILDING AND DEVELOPMENT DEPARTMENT MUST ALSO BE KEPT ONSITE AND MADE AVAILABLE TO INSPECTORS AS REQUIRED BY LAW.

INSPECTIONS

Inspections are mandatory for any construction, alterations or demolition for which a building permit is issued. To ensure compliance with structural, health and safety standards established by the Ontario Building Code, inspections are provided by building and mechanical inspectors and are required during all stages of construction. Inspections are also undertaken to ensure that construction is done with the benefit of a building permit.

TO SCHEDULE AN INSPECTION PLEASE USE CLOUDPERMIT OR CALL 613.476.2148 EXT. 2040 OR EMAIL BUILDING@PECOUNTY.ON.CA



REVISED
(Added Washing Machine, Removed ALL Laundry Tubs)

Sewage System Permit Application

PERMIT NUMBER: _____

Please Print and Complete All Sections. Application must include two (2) diagrams

1. Owner Information
Name: Del Terrelonge
Mailing Address: 1329 Cty Rd 7
City: P.E.C
Phone (h): 6132807637 Phone (w): _____

2. Agent Information
Name: J Quigley / D-tugiz
Mailing Address: 352 Marsh Rd.
City: Bellevue
Phone: 885 8026 Licence #: _____

3. Propose to Construct (construct/alter/enlarge) a Class 4 (2-5) sewage system to serve a Multiple Family Dwelling (single family dwelling/motel/cottage/etc.)

4. Property Description
Lot: _____ Concession: _____ Ward _____
Sub Lot No.: _____ Plan No.: _____ Lot Size: (m^2) _____
Roll Number: _____

5. Directions to Lot (including 911 address): 1329 Cty Rd 7

6. Dwelling: [ ] New dwelling [✓] Existing Dwelling Addition to existing building: [✓] Yes [ ] No
No. of bedrooms: existing 5 proposed 2 Are new plumbing fixtures proposed: [✓] Yes [ ] No

7. Water Supply [ ] Proposed [ ] Existing (*Please include a copy of the well record*)
[✓] Dug or bored well [ ] Drilled Well [ ] Municipal [ ] Other: _____ Casing Depth (m): 6m

Primary Unit
4 Bed. 2000L

8. Fixture Units	No.	Units	Total
Bathroom Group		x 6	
Bathtub		x 1.5	
Toilet		x 4	
Clothes Washer		x 1.5	
Dishwasher		x 1.5	
Laundry Tubs		x 1.5	
Shower Drain		x 1.5	
Floor Drain		x 2	
Sinks		x 1.5	
Other: _____		*Total No. of Units*	

3 full Bth 18
1 Kit. Sink 1.5
1 Dishwa. 1.5
2 Washm. 3
24

9. Sub-surface Conditions Encountered

Rock & GWT	Depth (m)	Soil Type
	0	Topsoil
	0.25	Sandy clay till
	0.50	
	0.75	↓
	1.00	
	1.25	
	1.50	

GWT – Ground Water Table
Estimated Percolation Rate of Existing Soils: _____
Estimated Percolation Rate of Imported Soils: _____

4 x 50L = 200L

10. Sewage System Design/Description:
[ ] Class 2 Grey-water Leaching Pit [ ] Class 3 Cesspool [ ] Class 4 Leaching Bed (Conventional)
[✓] Class 4 Leaching Bed (Filter Media Bed Systems) [ ] Class 4 (other) [ ] Class 5 Holding Tank

1915 sqft (178 m^2)
2200L/day

a) Class 2 Grey Water Leaching Pit:
Wall Structure [ ] Concrete Block [ ] Rock [ ] Other: _____
Soils [ ] Use Existing [ ] Import Soils (Describe): _____
Pit Dimensions Length: _____ Width: _____ Depth: _____

b) Class 3 Cesspool (Please Describe): _____

Secondary Unit
3 Bed 1600L

c) Class 4 Leaching Bed Sewage Systems – Septic Tank Information:
[ ] Existing tank OR [✓] New - approved tank [✓] Concrete tank OR [ ] Polyethylene tank
Daily Design Sewage Flow (DDSF): 3800 liters/day
Septic Tank Capacity: DDSF X 2: 7600 liters (min. 3,600 L) 2000gL Tank.

2 full Bth 12
1 Kit Sink 1.5
1 Dishwa. 1.5
1 Washing 1.5
16.5

Class 4 Leaching Bed (Conventional Trench Bed):
[ ] In-ground trench bed system [✓] Partially raised bed [ ] Fully raised bed Mantle is: [ ] Existing Soils OR [ ] Imported Soils
[ ] Header Pipe [ ] Distribution box
Length of Tile Bed: 9.5m Width of Tile Bed: 4m Total area of Tile Bed: 38m^2 No. of Runs of Tile: 4 Each Bed
Length of Tile Runs: 8.5m Total Length of Tile: 34m Diameter of Tile: 3" ✓ Diameter of Tile: 4" _____
Treatment Unit: [ ] Yes [✓] No Pump Required: [ ] Yes [✓] No

Class 4 (Other): Please Describe: x2 Filter Beds & 1 tank to service both dwellings.

1337 sqft (125 m^2)
1600 L/day

d) Class 5 Holding Tank: Manufacturer: _____ Daily Flow: _____
7 Day Holding Capacity: _____ Tank Size: _____

11. I certify that the above information is complete and correct and I agree to comply with the provisions of the building and zoning by-laws of the County of Prince Edward. I also understand that it is my responsibility to arrange for the necessary inspections as required by the Inspector at the time of permit issuance.

2200+ 1600 = 3800L/day

Owner's Signature _____ Date 12/05/25

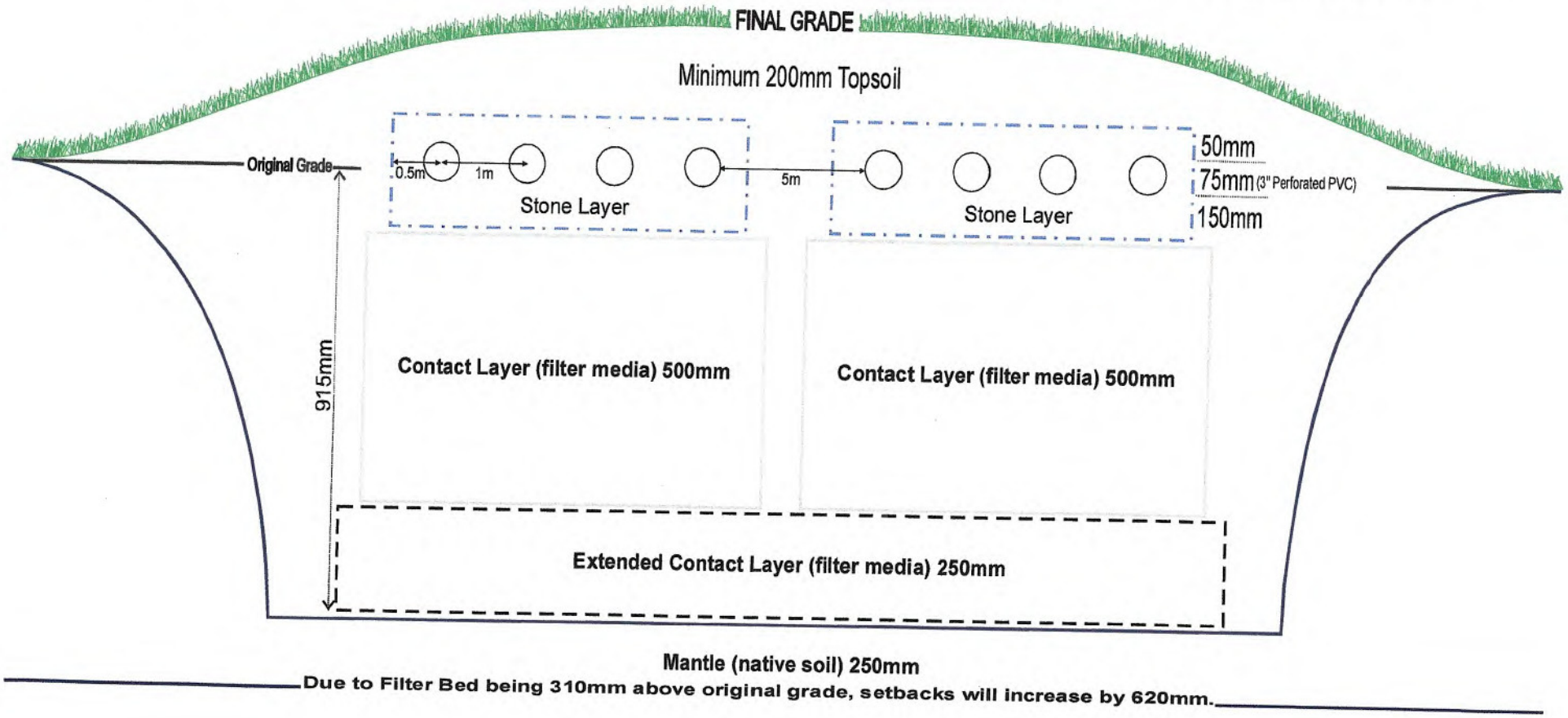
Agent/Installer's Signature _____

FILTER MEDIA SEPTIC SYSTEM - CROSS SECTION VIEW

IN ORDER TO DIVERT SURFACE WATER AND REDUCE ERROSION, FINISHED GRADE WILL BE SLIGHTLY ELEVATED, IN THE CENTER OF THE SEPTIC BED

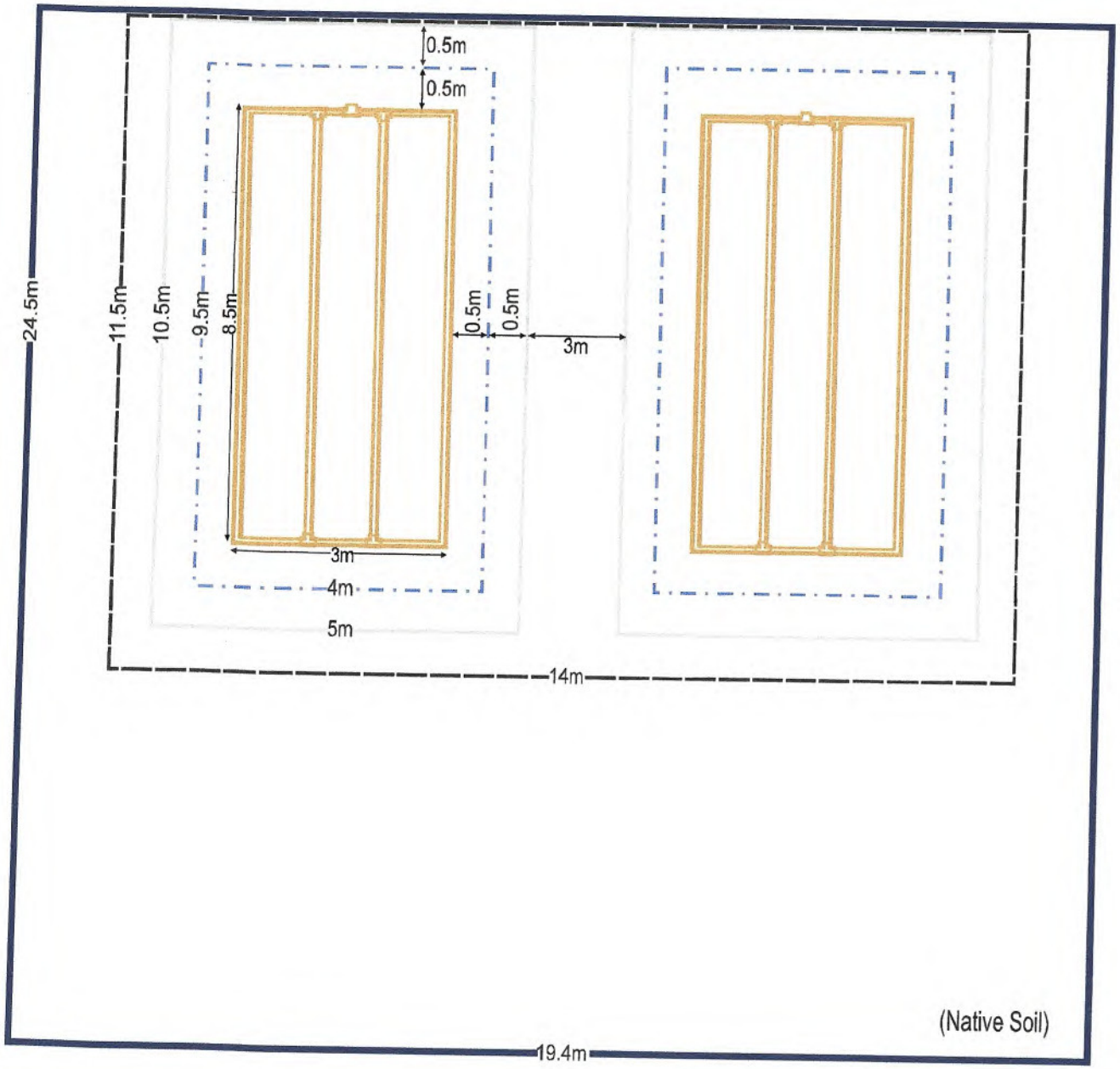
SIDES TAPERED OFF NO MORE THAN 1:4 SLOPE

INSTALLER TO SUPPLY AND LAY GRASS SEED, GERMINATION PROCESS IS OWNERS RESPONSIBILITY AND IS REQUIRED FOR SOIL STABILIZATION



Due to Filter Bed being 310mm above original grade, setbacks will increase by 620mm.

Filter Media (Double) Bed Dimensions



Stone Area 38m2 (3/4" clear) 9.5m x 4m x 0.3m
{ 31'2" x 13'2" x 1' }

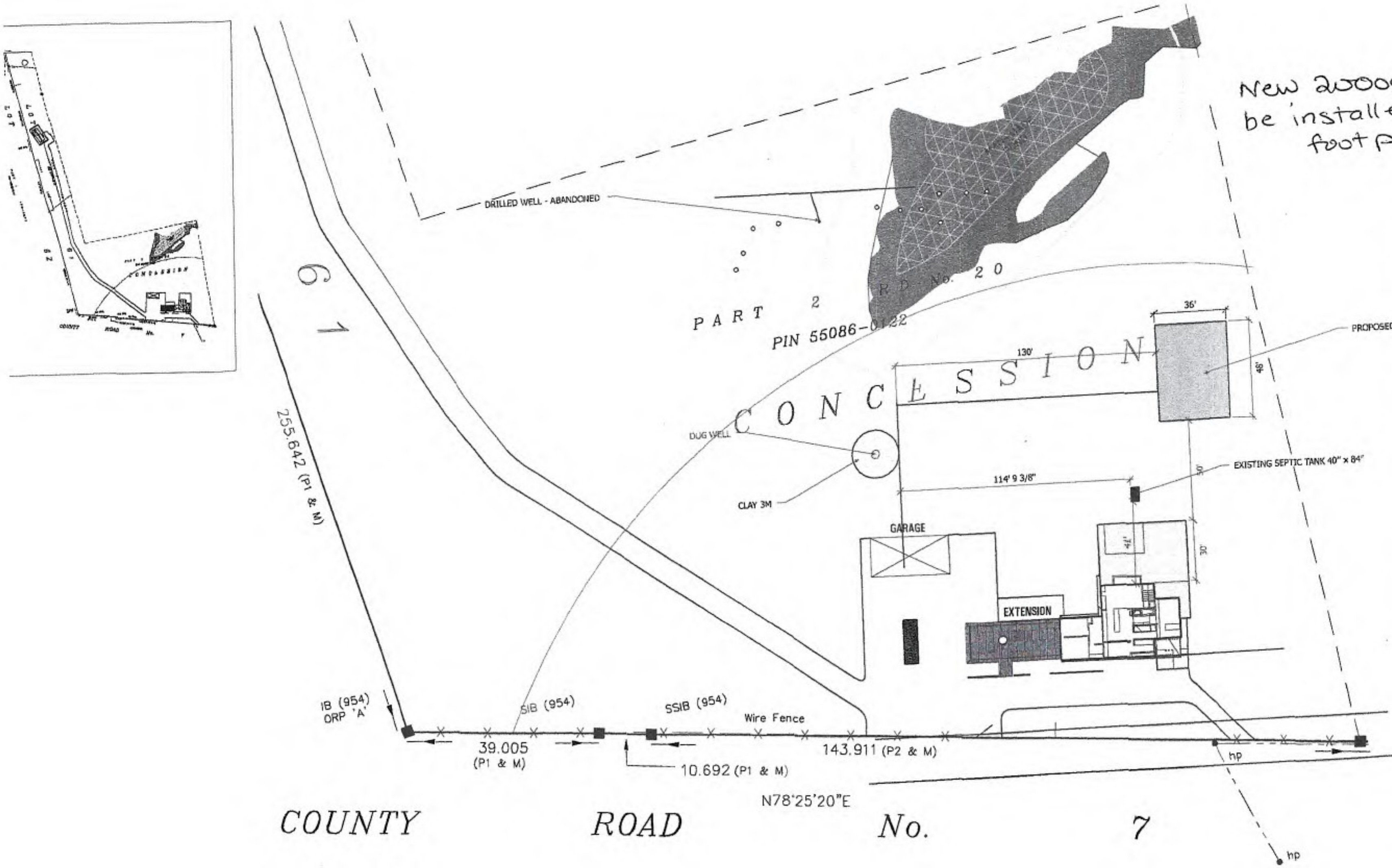
Contact Area 52.5m2 (filter media) 10.5m x 5m x 0.5m
{ 34'6" x 16'5" x 1'8" }

Extended Contact 161m2 (filter media) 11.5m x 14m x 0.25m
{ 37'9" x 45' x 10" }

Mantle 475m2 **(Native Soil)** 24.5m x 19.4m x 0.25m
{ 80'5" x 63'7" x 10"' }

- Each bed contains 4 runs, 6m in length.
- Piping to be used; 3 inch perforated pvc pipe.
- All piping indentified with tracer wire.
- Filter cloth place over gravel, prior to backfill

New 2000gL tank to be installed in existing footprint.



PROJECT ADDRESS: THE REACH - 1329 COUNTY ROAD 7 PRINCE EDWARD, ON K0K2T0

DRAWING TITLE: SITE PLAN

PAGE: 01

REF NO: SEPTEMBER 29, 2025

THE REACH - 1329 COUNTY ROAD 7 PRINCE EDWARD, ON K0K2T0

SITE PLAN

GENERAL NOTES: Reproduction of the architectural, design plans contained herein, either in whole or in part, including any form of copying and/or preparation of derivative works thereof, for any reason without prior written permission, is strictly prohibited. Even upon receipt of full payment of the contractural financial renumeration for the architectural, design and plans, it will in no way transfer any copyright or other ownership interest, in it, to the buyer. Further, the purchase of additional sets of the architectural, design plans at a reduced price from the original set or as part of a multiple set package does not convey to the buyer a license to use the architectural, design plans without the specific written authorization of rhd design office outlining the terms of use. Similarly, the purchase of reproducible sets carries the same copyright protection. To use any of the architectural, design plans more than once, and to avoid any copyright license infringement, it is necessary to contact rhd design office the originator and author of the architectural, design and plans to receive a release and license for any extended usage. Whereas a purchaser of PDFs, CAD and other reproducible material is granted a license to make copies, it should be noted that as copyrighted material, making photocopies from blueprints is illegal without the strict written permission of the author rhd design office.

Application for a Permit to Construct or Demolish

Project information		
Unit number	Lot / con.	Postal code K0K 2T0
Plan number / other description		
Estimated cost of construction 40000 CAD	Area of work 200.0 m²	

Purpose of application	
Proposed use of building Multi Family Dwelling	Current use of building Single Family Dwelling
Description of proposed work Design Class 4 Filter Bed Septic System to service proposed multi family dwelling.	

Supplemental Information for the Application

Area and Height		
Area of work, residential	Area of work, non-residential	
Gross floor area	Residential gross floor area	Non-residential gross floor area
Finished basement area	New paved area	Building height

Occupancy	
Tank description	Fill type
Occupant load	Total number of beds

Use of Unit	
Proposed use of unit	Present use of unit

Amount of Units/Stories		
Amount of dwelling units lost	Amount of dwelling units created	Total amount of dwelling units
Amount of stories		

Change of Use
Change of use

Additional Spaces			
Number of affected tenant spaces	Number of buildings	Number of catchbasins	Number of tents

Parking		
Existing parking	Required parking	Proposed parking
Required bicycle spaces	Proposed bicycle spaces	

Drainage

Drainage

☐ Storm drainage ☐ Sanitary drainage

Energy	
Rated energy output	Location of energy unit

Deck and Garage	
Is there a deck or garage attached?	
☐ Deck	☐ Garage

Building Classification		
Type of institutional	Building classification - part 2 (OBC)	

Renovations	
Select applied renovations	
☐ Interior	☐ Exterior

Other		
Residential / non-residential	☐ Shell fit out	☐ Sprinklered building

PRINCE EDWARD COUNTY
BUILDING DEPARTMENT

Ryan Arcand
Chief Building Official

REQUIRED INSPECTIONS

Name	Description
Septic Prior to Backfill	Septic Prior to Backfill
Septic Tank Installation	Installation of new or replacement septic tank
Septic Final	Septic Final

INSTRUCTIONS

THE PERMIT HOLDER AND/OR PROPERTY OWNER IS RESPONSIBLE FOR ENSURING THAT ALL REQUIRED/APPLICABLE INSPECTIONS ARE SCHEDULED AND THAT THE PERMIT IS COMPLETE
WHAT INFORMATION MUST BE PROVIDED AT THE TIME OF INSPECTION?

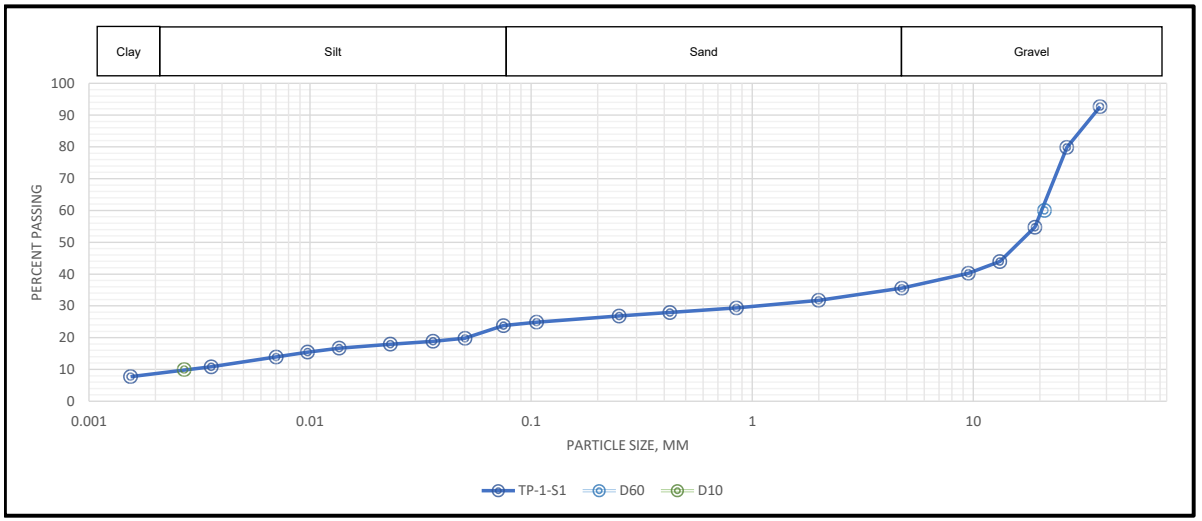
- THE PERMIT
- THE APPROVED SET OF PLANS THAT HAVE BEEN INCLUDED WITH YOUR PERMIT PACKAGE
- ANY TEST RECORDS OR RELEVANT DOCUMENTATION
- SAFE ACCESS TO THE SITE AND THE AREAS WHERE INSPECTION ARE TO BE PERFORMED.

APPENDIX VI

Grain Size Analysis

Malroz Engineering Inc. Laboratory
614 Norris Court, Unit 5
Kingston, ON, K7P 2R9

Particle Size Analysis (LS-702)



Clay (%)	Silt (%)	Sand (%)	Gravel (%)
8	15	12	64
GRAVEL, some silt, some sand, trace clay			

Lab #: SA26-006A
Client: Pinchin Ltd.
Client Ref #: 366864
Location: -
Sample ID: TP-1-S1

Tested: TB
Date: 2026-03-09

Coefficient of Uniformity, Cu: 7777.8

Effective size, D10 (mm): 0.003

Validated:

Date: 3/13/2026

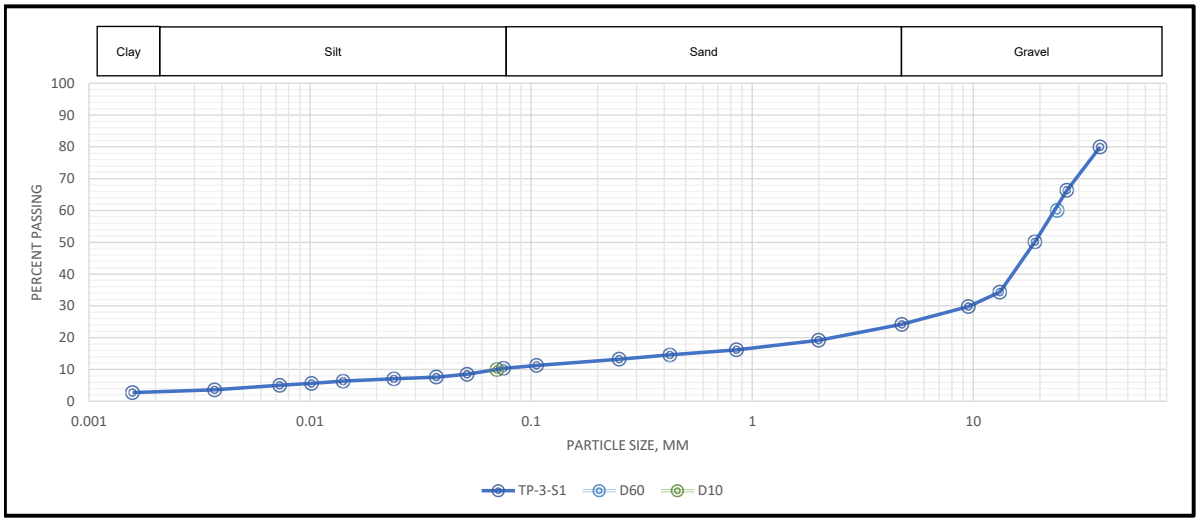
Notes: Estimated 'T' time: 4 -12 mins/cm
T-time is estimated from grain size data only, in comparison to OBC 2024 SB-6, and based solely on the sample as received.

Supplementary Data:

Volume of bulb, V_B (cm^3)	57	Specific Gravity, GS (assumed):	2.7
Length of Bulb, L_2 (cm)	13.60	Dispersing Agent (g/L):	40
Scale Dimension, h_s (cm/Div.)	0.18	Area of Cylinder, A (cm^2)	28.3
Maximum Particle Size (mm):	19	0' to Top of Bulb, L_1 (cm)	11.0

Malroz Engineering Inc. Laboratory
614 Norris Court, Unit 5
Kingston, ON, K7P 2R9

Particle Size Analysis (LS-702)



Clay (%)	Silt (%)	Sand (%)	Gravel (%)
3	7	14	76
GRAVEL, some sand, trace silt, trace clay			

Lab #: SA26-006A
Client: Pinchin Ltd.
Client Ref #: 366864
Location: -
Sample ID: TP-3-S1

Tested: TB
Date: 2026-03-09

Coefficient of Uniformity, Cu: 342.9
Effective size, D10 (mm): 0.070

Validated:

Date: 3/13/2026

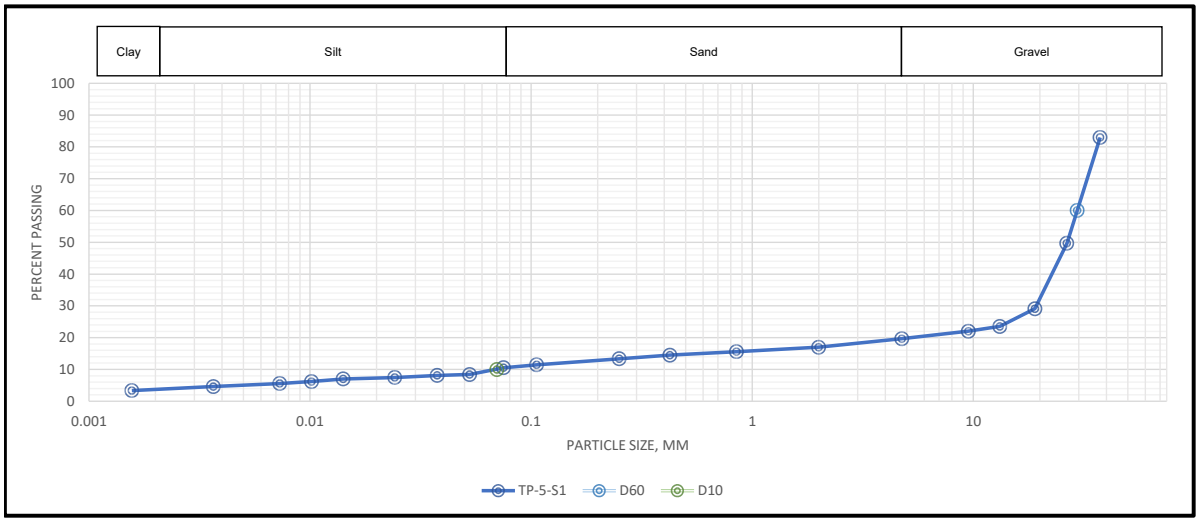
Notes: Estimated 'T' time: 4 - 12 mins/cm
T-time is estimated from grain size data only, in comparison to OBC 2024 SB-6, and based solely on the sample as received.

Supplementary Data:

Volume of bulb, V_B (cm^3)	57	Specific Gravity, GS (assumed):	2.7
Length of Bulb, L_2 (cm)	13.60	Dispersing Agent (g/L):	40
Scale Dimension, h_s (cm/Div.)	0.18	Area of Cylinder, A (cm^2)	28.3
Maximum Particle Size (mm):	19	0' to Top of Bulb, L_1 (cm)	11.0

Malroz Engineering Inc. Laboratory
614 Norris Court, Unit 5
Kingston, ON, K7P 2R9

Particle Size Analysis (LS-702)



Clay (%)	Silt (%)	Sand (%)	Gravel (%)
4	7	9	80
GRAVEL, trace sand, trace silt, trace clay			

Lab #: SA26-006C
Client: Pinchin Ltd.
Client Ref #: 366864
Location: -
Sample ID: TP-5-S1

Tested: TB
Date: 2026-03-09

Coefficient of Uniformity, Cu: 421.4
Effective size, D10 (mm): 0.070

Validated:

Date: 3/13/2026

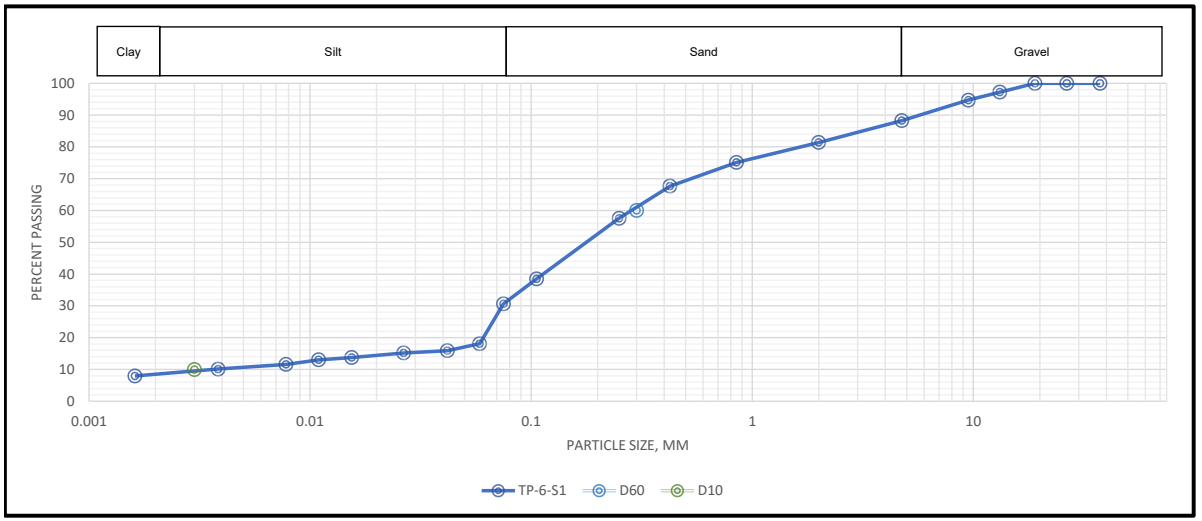
Notes: Estimated 'T' time: 4 - 12 mins/cm
T-time is estimated from grain size data only, in comparison to OBC 2024 SB-6, and based solely on the sample as received.

Supplementary Data:

Volume of bulb, V_B (cm^3)	57	Specific Gravity, GS (assumed):	2.7
Length of Bulb, L_2 (cm)	13.60	Dispersing Agent (g/L):	40
Scale Dimension, h_s (cm/Div.)	0.18	Area of Cylinder, A (cm^2)	28.3
Maximum Particle Size (mm):	19	0' to Top of Bulb, L_1 (cm)	11.0

Malroz Engineering Inc. Laboratory
614 Norris Court, Unit 5
Kingston, ON, K7P 2R9

Particle Size Analysis (LS-702)



Clay (%)	Silt (%)	Sand (%)	Gravel (%)
8	22	58	12
silty SAND, some gravel, trace clay			

Lab #: SA26-006D
Client: Pinchin Ltd.
Client Ref #: 366864
Location: -
Sample ID: TP-6-S1

Tested: TB
Date: 2026-03-09

Coefficient of Uniformity, Cu: 100.0
Effective size, D10 (mm): 0.003

Validated:
Date: 3/13/2026

Notes: Estimated 'T' time: 8 - 20 mins/cm
T-time is estimated from grain size data only, in comparison to OBC 2024 SB-6, and based solely on the sample as received.

Supplementary Data:

Volume of bulb, V_B (cm^3)	57	Specific Gravity, GS (assumed):	2.7
Length of Bulb, L_2 (cm)	13.60	Dispersing Agent (g/L):	40
Scale Dimension, h_s (cm/Div.)	0.18	Area of Cylinder, A (cm^2)	28.3
Maximum Particle Size (mm):	19	0' to Top of Bulb, L_1 (cm)	11.0

CERTIFIED BY CCIL Canadian Council of Independent Laboratories For specific tests as listed on www.ccil.com

APPENDIX VII

Nitrate Calculation Worksheet

NITRATE CALCUALTION WORKSHEET

Methodology

Modified Nitrate Calculation:
The above D-5-4 equation has been modified to represent the existing and the additional residential unit on a single lot. Use the appropriate equation (Scenario 1 or Scenario 2) below to calculate the Concentration of Nitrate at the Property Boundary.

Scenario 1, one septic system servicing the existing and additional residential units

$$C = C_{BK} + \frac{40g + N_L}{1000\ L + I}$$

$$N_L = (N_{LP})(P_A)$$

N_L = Additional Nitrate loading, g
P_A = Number of Additional People - Scenario 1, Number of people in the additional residential unit

Parameter Summary

Parameter	Value	Units
C_{bk}	0.0032	g/L
I	51680	L/day
Ap	3279	m2
i	5.75	m/y
N_L	60	g
N_P	6	#

NITRATE CALCULATION

$$C = C_{BK} + \frac{40g + N_L}{1000\ L + I}$$

$$C = \frac{40 + 10}{1000 + 4276}$$

C =	**0.00510**	**g/L**
	5.10	**mg/L**

SITE Potential Evapotranspiration

Temperature			Potential Evapotranspiration				
Period	Monthly Mean T (°C) Belleville Stn	i	Annual Heat Index (I)	Monthly PET (unadjusted)	Correction Factor	PET	Annual PET (mm/yr)
JAN	-6.7	0.00	40.39	0.00	0.80	0.00	622.15
FEB	-0.5	0.00		0.00	0.81	0.00	
MAR	-0.4	0.00		0.00	1.02	0.00	
APR	7.0	1.66		29.86	1.13	33.74	
MAY	13.7	4.60		63.97	1.28	81.88	
JUN	19.0	7.55		92.70	1.29	119.58	
JUL	21.8	9.29		108.35	1.31	141.94	
AUG	20.8	8.66		102.73	1.21	124.30	
SEP	16.3	5.98		77.90	1.04	81.02	
OCT	9.5	2.64		42.22	0.94	39.69	
NOV	3.6	0.00		0.00	0.79	0.00	
DEC	-2.6	0.00		0.00	0.70	0.00	
Annual	8.5						

PET unadjusted calculation

$$PET(unadjusted) = 16\left(\frac{10\,T}{I}\right)^a$$

Annual Heat Index

i = (T/5)^1.514
I = Sum of monthly i values

Calculation of 'a' (exponent in PET calculation)

$a = (6.7\times10^{-7}*I^3) - (7.71\times10^{-5}*I^2)+(0.01792*I) + (0.49239)$

a = 1.13

PET Correction Factor by Latitude

Latitude in °	J	F	M	A	M	J	J	A	S	O	N	D
0	1.04	0.94	1.04	1.01	1.04	1.01	1.04	1.04	1.01	1.04	1.01	1.04
10	1.00	0.91	1.03	1.03	1.08	1.06	1.08	1.07	1.02	1.02	0.98	0.99
20	0.95	0.90	1.03	1.05	1.13	1.11	1.14	1.11	1.02	1.00	0.93	0.94
30	0.90	0.87	1.03	1.08	1.18	1.17	1.20	1.14	1.03	0.98	0.89	0.88
35	0.87	0.85	1.03	1.09	1.21	1.21	123	1.16	1.03	0.97	0.86	0.85
40	0.84	0.83	1.03	1.11	1.24	1.25	1.27	1.18	1.04	0.96	0.83	0.81
45	0.80	0.81	1.02	1.13	1.28	1.29	1.31	1.21	1.04	0.94	0.79	0.75
50	0.74	0.78	1.02	1.15	1.33	1.36	1.37	1.25	1.06	0.92	0.76	0.70

Table 8.14: Adjustment Factors for Thornthwaite Values of E_p

SITE INFILTRATION

Precipitation

Period	Monthly Precipitation (mm) Belleville Stn
JAN	67.3
FEB	58.1
MAR	62.4
APR	75.8
MAY	81.3
JUN	74.5
JUL	65.1
AUG	75.5
SEP	91.9
OCT	85.2
NOV	95.7
DEC	79.1
Annual	911.9

Areas	Units	SITE
Total	m^2	36,000
Impervious - ERU	m^2	1,200
Impervious - ARU	m^2	1,400
Impervious - Lane	m^2	310
Pervious Lawn/other	m^2	33,090

Infiltration Factor

Topography	0.3
Soils	0.2
Cover	0.1
TOTAL =	**0.6**

Potential Infiltration

PI = (Precipitation - PET)* Infiltration Coefficient

PI =	173.9	mm/yr

Infiltration	Units	SITE
AREA	m^2	33,090
Infiltration	mm/yr	5,753

Infiltration Factor

Table 2: Infiltration Factors

Description of Area/Development Site	Value of Infiltration Factor
TOPOGRAPHY	
■ Flat land, average slope not exceeding 0.6 m per km	0.30
■ Rolling land, average slope of 2.8 m to 3.8 m per km	0.20
■ Hilly land, average slope of 28 m to 47 m per km	0.10
SOIL	
■ Tight impervious clay	0.10
■ Medium combinations of clay and loam	0.20
■ Open sandy loam	0.4
COVER	
■ Cultivated lands	0.1
■ Woodland	0.2