TOWNSHIP OF PUSLINCH
EST 1850

Affidavit

Township of Puslinch
7404 Wellington County Rd 34, Puslinch, ON N0B 2J0
(519) 763-1226

Cloudpermit application number
CA-3523001-P-2025-68

Applicant, Property owner, Payer

Last name	First name	Corporation or partnership
Coffelt	Dana	
Street address	Unit number	Lot / Con.
20 Rhodes Rd		
Municipality	Province	Postal code
Puslinch	Ontario	N0B 2J0
Other phone	Mobile phone [redacted]	
Fax	Email [redacted]	

Subject Land Information

Address	Legal description	Roll number
20 RHODES ROAD PVT (Primary)	PLAN 560 LOT 9 TOG WITH ROW	2301000003044000000

Sworn Declaration of Applicant

Complete in the presence of a Commissioner for taking affidavits

I, Dana Coffelt, solemnly declare that the information required under Schedule 1 to Ontario Regulation 545/06 and provided by the Applicant is accurate and that the information contained in the documents that accompany this application is accurate, and I make this solemn declaration conscientiously believing it to be true, and knowing that it is of the same force and effect as if made under oath and by virtue of the Canada Evidence Act.

Signature of Applicant (sign in the presence of a Commissioner for taking affidavits) [redacted]

Signature of Commissioner for taking affidavits	Municipality	Day, month, year
[redacted]	Township of Puslinch	22/August/2025

Place an imprint of your stamp below

Laura Elizabeth Emery, a Commissioner, etc.,
Province of Ontario, for the Corporation of the
Township of Puslinch.
Expires August 31, 2026.

Affidavit and signatures

Applicant

The Dana Coffelt, Applicant is required to agree to erect and maintain a sign on the subject lands and to permit Township employees/representatives to enter the lands for site visits. The sign will be provided to the applicant for posting on the property by Township planning staff along with instructions on how and where to post the sign. The sign must be posted at least 10 days prior to the Committee of Adjustment meeting date for the application and must remain on the property until the 20 day appeal period is expired.

Notice with respect to collection of personal information

Personal information on this form is collected under the authority of the Planning Act. The information is used for the purpose of processing this application and administering the legislation and is maintained in accordance with the Municipal Freedom of Information and Protection of Privacy Act. Questions regarding the collection of this information may be directed to the Township Clerk's office.

The Township of Puslinch is committed to providing accessible formats and communication supports for people with a disability. If another format would work better for you, please contact the Township Clerk's office for assistance.

Digitally signed on 2025-07-29, 11:04:57 p.m. EDT by Dana Coffelt.

Send correspondence to

Send correspondence to

☑ Owner(s) ☐ Agent ☐ Others

Who to send the Invoice to

☑ Owner ☐ Agent ☐ Other

Provide a description of the "entire" property

Concession	Lot	Registered Plan Number
20 Rhodes Road	PLAN 560 LOT 9 TOG WITH ROW	2301000003044000000
Area in Hectares	**Area in Acres**	**Depth in Meters**
0.22983026012141	0.567922941	94.27

Depth in Feet	Frontage in Meters	Frontage in Feet	Width of road allowance (if known)
1014.7138	24.38	262.42414	

Reason for Application

Please indicate the Section of the Planning Act under which this application is being made

☑ Section 45(1) relates to a change to a by-law standard (e.g. setbacks, frontage, height, etc.)

☐ Section 45(2) relates to a change to or expansion of an existing legal non- conforming use

What is the nature and extent of the relief that is being applied for?

This Minor Variance Application is for placement of an accessory shed between the house and the water frontage.

Why is it not possible to comply with the provisions of the by-law?

The home was built forward of the 30-metre water setback, and in order to place a shed where it will serve its intended purpose—providing accessible storage for lakefront-related tools and equipment—it would ideally be situated within that setback area. Due to the configuration of the lot, existing structures, and natural features such as slope and vegetation, there is no practical location outside this zone that allows for both functional access and minimal environmental disruption. The remainder of the lot is largely occupied by the septic system, leaving no viable alternative for relocation. Moving the shed farther from the water would compromise its usability and result in greater land disturbance impacting tree cover and drainage patterns. The proposed placement allows for reasonable and effective use of the property while maintaining a compact footprint and minimizing environmental impact.

What is the current Official Plan and zoning status?

Official Plan Designation

Secondary Agricultural

Zoning Designation

Resort Residential

What is the access to the subject property?

☐ Provincial Highway ☐ Continually maintained municipal road ☐ Seasonally maintained municipal road

☑ Other ☐ Continually maintained county road

If other please specify

private road, privately maintained

What is the name of the road or street that provides access to the subject property?

Rhodes Road PVT

If access is by water only, please describe the parking and docking facilities used or to be used and the approximate distance of these facilities from the subject land to the nearest public road.

Existing and Proposed Service		
Indicate the applicable water supply and sewage disposal:		
Private Well	☑ Existing	☐ Proposed
Communal Water	☐ Existing	☐ Proposed
Provincial Water Taking Permit	☐ Existing	☐ Proposed
Private Septic	☑ Existing	☐ Proposed
Communal Septic	☐ Existing	☐ Proposed
Other Provincial Waste Water System	☐ Existing	☐ Proposed

How is storm drainage provided? *

☐ Storm Sewers ☐ Ditches ☑ Swales

☐ Other means

Existing Subject and Abutting Property Land Uses, Buildings and their Locations	
What is the existing use of the subject property? Resort Residential	What is the existing use of the abutting properties? Resort Residential

Provide the following details for all existing buildings on the subject land		
Main Building Height in Meters 11	Main Building Height in Feet 33	Percentage Lot Coverage in Meters 28.1472944%
Percentage Lot Coverage in Feet 28.1472945%	Number of Parking Spaces 2	Number of Loading Spaces
Number of Floors 2	Total Floor Area in Square Meters 646.91	Total Floor Area in Square Feet 6963.28129
Ground Floor Area (Exclude Basement) in Square Meters 350	Ground Floor Area (Exclude Basement) in Square Fee 3767.37	

Provide the following details for all buildings proposed for the subject land		
Main Building Height in Meters 3.048	Main Building Height in Feet 10	Percentage Lot Coverage in Meters 0.388055515%
Percentage Lot Coverage in Feet 0.388055595%	Number of Parking Spaces 0	Number of Loading Spaces 0
Number of Floors 1	Total Floor Area in Square Meters 8.91869	Total Floor Area in Square Feet 96
Ground Floor Area (Exclude Basement) in Square Meters 8.91869	Ground Floor Area (Exclude Basement) in Square Fee 96	

What is the location of all buildings existing and proposed for the subject property? (specify distances from front, rear and side lot lines)

Front Yard in Meters	Front Yard in Feet	Rear Yard in Meters
16.07	52.723097	44.91
Rear Yard in Feet	**Side Yard (interior) in Meters**	**Side Yard (interior) in Feet**
147.34252	3	9.84252
Side Yard (Exterior) in Meters	**Side Yard (Exterior) in Feet**	
n/a	n/a	

What are the dates of acquisition and construction of subject property and building property

Date of acquisition of subject property	Date of construction of buildings property	How long have the existing uses continued on the subject property?
2018	2021	4 years

Has the owner previously applied for relief in respect of the subject property?

☐ Yes ☑ No

Other Related Planning Applications

Planning Application: Official Plan Amendment	Planning Application: Zoning By-Law Amendment
☐ Yes ☑ No	☐ Yes ☑ No
Planning Application: Plan of Subdivision	**Planning Application: Consent (Severance)**
☐ Yes ☑ No	☐ Yes ☑ No
Planning Application: Site Plan	**Planning Application: Minor Variance**
☐ Yes ☑ No	☐ Yes ☑ No

Minor Variance Application must be commissioned

Please confirm the following

☑ I understand that prior to the Minor Variance Application being deemed complete it must be commissioned by all registered owners or the agent responsible for the application.

PUSLINCH LAKE

305.4
305
305.5
305.5
305.4
305.5
ARMOURSTONE RETAINING WALL
6.0 m FRONT YARD SET BACK
16.07 m
14.96 m
ARMOURSTONE RETAINING WALL
305.4 GRCA FLOOD LINE
305.4
3.00 m
PROPOSED TWO-STOREY DWELLING
GROUP C OCCUPANCY, OBC PART 9
NON-SPRINKLERED
FFE: 306.34
33.29 m
NEIGHBOURING TWO-STORey DWELLING
3.0 m SIDE YARD SET BACK
LOT 8
305
305.4
305.5
3.00 m
18.38 m
3.00 m
306
ARMOURSTONE RETAINING WALL
N 17° 09' 15" W 85.4
3.0 m SIDE YARD SET BACK
N 17° 09' 15" W 103.0
306.5
307
307.5
44.91 m
NEIGHBOURING CONCRETE FOUNDATION
6.0 m REAR YARD SET BACK
N 72° 46' 10" E 24.384
RHODES ROAD
307

Van Harten SURVEYING INC.
LAND SURVEYORS and ENGINEERS

March 23, 2022
30422-21

Slotegraaf Construction
1741 Bishop Street North
Cambridge, Ontario
N1T 1N5

Attention: Aaron Borgdorff

Dear Sir:

Re: Sewage System Design
20 Rhodes Road
All of Lot 9, Plan 560
Township of Puslinch

1.0 Introduction

Van Harten Surveying Inc. is pleased to submit this report for the sewage system design recently completed for the above referenced site located on the north side of Rhodes Road, on the south shore of Puslinch Lake as shown on the Key Map in Appendix A. This work was authorized by Mr. Aaron Borgdorff from Slotegraaf Construction.

In 2021 a permit application was made for the construction of a new privately serviced dwelling at 20 Rhodes Road. For this work, Van Harten Surveying Inc. conducted a topographic survey, MGM Consulting Inc. completed a site grading design and FlowSpec Engineering completed a sewage system design. Permits were issued by the Grand River Conservation Authority (GRCA) and Township of Puslinch and the dwelling is currently under construction.

The purpose of this engineering task is to identify the subsurface conditions at the subject property and prepare a revised sewage system design for construction that complies with the Ontario Building Code (OBC) and suitable for updating the permit issued by the Township.

2.0 Background Information

FlowSpec Engineering was retained to prepare a sewage system design for permit application and a copy of this design was provided to Van Harten Surveying Inc. to use as a reference for the current design. Relevant information has been taken from the FlowSpec Engineering design and is included with this report as Appendix B.

Referring to Appendix B, four test pits were advanced in the proposed leaching bed area. The conditions encountered fill or topsoil overlying sand and silt till. Groundwater seepage was observed in Test Pit 2 at a depth of 1.7 m. No free groundwater was observed in Test Pits 1, 3 and 4.

FlowSpec Engineering calculated a peak daily design sewage flow of Q = 5,750 L/day for the proposed residence and assigned a percolation rate of T = 30 min/cm for the soils that were encountered. An ATL Sewage System was proposed in the southeast corner of the lot and a permit was issued for construction.

3.0 Sewage System Design

The project involves the construction of a new privately serviced single-family residence at 20 Rhodes Road. The purpose of this work is to update a sewage system design that was used for permit application. The following paragraphs of this report provide a summary of necessary design parameters and details of the proposed sewage system.

A percolation rate of T = 30 min/cm is chosen for design purposes referencing the design completed by FlowSpec Engineering. This will be confirmed in the field at the time of installation. Based on floor plans provided at the time of application, a peak sewage flow rate of Q = 5,750 L/day was calculated by FlowSpec Engineering. Van Harten Surveying Inc. concurs with this sewage flow rate.

As instructed, the approved ATL Sewage System is to be replaced with a Waterloo Biofilter Level IV treatment unit meeting the CAN/BNQ 3680-600 standard. Given the limited area and soil conditions, a shallow buried trench leaching bed is proposed. Details regarding the proposed system are found in the following paragraphs.

R.P. Magahay, B.A. **J.E. Buisman**, B.E.S., B.Sc., O.L.S. **R.M. Mak**, B.Sc., O.L.S. **J.M. Laws**, B.Sc., O.L.S. **J.M. Duffy**, P.Eng.

The sewage system proposed for the subject property comprises a Waterloo Biofilter Model No AD-BA60 listed on the Annex to the BNQ Certificate of Conformity. A minimum 11,328 L anaerobic digester complete with an internal pump chamber with a minimum pumping capacity of 3,000 L shall be installed upstream of a biofilter tank equipped with a minimum foam volume of 8.4 m^3. The effluent from the digester will be time-dosed over foam filter media contained in the biofilter tank and the aerobically treated effluent collected at the base of this tank will be time-dosed to the leaching bed with a portion recirculated to the inlet of the digester for additional treatment.

Referring to the design drawing and considering Unit Precast Ltd. as the supplier, an ADIPC-18200 is proposed upstream of a BT-13600. Depending on the installing contractor, another supplier of the Waterloo Biofilter product may be chosen. Any altered configuration from what is shown on the design drawing must be one that is listed in the Annex to the BNQ Certificate of Conformity.

The treated effluent will be pumped evenly over a 24-hour period to a shallow buried trench leaching bed designed in accordance with Section 8.7.6 of the 2012 OBC. The pump utilized to dose the leaching bed shall provide a minimum of 600 mm head measured at the furthest point in the system. The distribution system comprises 5 runs of 24.4 m length of shallow buried trench installed at 2.0 m spacing. While the length of shallow buried trench is based on the underlying native soil, it is recommended that sand fill be imported to the site as indicated on the design drawing to provide a better drainage environment and minimize the potential of smearing during excavation.

In Accordance with 8.7.2.2 (2) and as noted on the attached design drawing, the header line and distribution pipes within a leaching bed shall be constructed to allow for future subsurface detection by magnetic means, by means of a 14-gauge TW solid copper light coloured plastic coated tracer wire or by another means of subsurface detection. Future detection of the sewer line between the house and tank as well as between the tank and leaching bed may also be beneficial and should be considered by the installer.

Please refer to Appendix A for design drawings of the proposed sewage system illustrating the depth and area of imported material, and for construction and inspection requirements.

4.0 Operation and Maintenance

The sewage system must be operated within the parameters for which it was designed and must be maintained according to Section 8.9 of the OBC. Proper use and maintenance of the system is necessary to minimize the potential of failure and to maximize the life of the system. Please refer to Appendix A for general operation and maintenance guidelines.

In accordance with 8.6.2.2 of the OBC, the owner shall obtain from the manufacturer of the chosen treatment unit, literature regarding the operating, servicing, and maintenance requirements of the unit and its related components to ensure proper operation in accordance with the design and specifications.

The owner shall not operate the treatment system until they have entered into an agreement with a person who possesses a copy of a technical manual and is authorized by the manufacturer to service and maintain the chosen system. The person authorized to carry out the service work must notify the Chief Building Official if their agreement has been terminated or if the owner of the system denies access.

The person authorized by the manufacturer of the system shall take a grab sample of the treated effluent to determine the level of $CBOD_5$ and suspended solids with results submitted promptly to the chief building official. The samples shall be taken once in the first twelve months and once each year thereafter as detailed in 8.9.2.4 (2). The concentration of $CBOD_5$ and suspended solids is deemed to comply with Table 8.6.2.2 when it does not exceed 20 mg/L for each of these parameters. In the event that test results do not comply with Table 8.6.2.2, resampling shall be completed in accordance with 8.9.2.4 (4). Please refer to 8.9.2.4 for details regarding the sampling requirements.

5.0 Water Supply

Referring to the design drawing, the water supply for the house being constructed at 20 Rhodes Road will be provided by a new drilled well located on the north side of the residence to replace a previously decommissioned well on the property. No other wells were found by FlowSpec to be in the immediate vicinity of the proposed sewage system.

Referring to the design drawing, the proposed sewage system is located much more than 15 m away from an existing drilled well to the east. The well location for the lot to the west was not found by FlowSpec. The builder and installing contractor should make an effort to identify the well location to help ensure that adequate separation is met.

6.0 Approval and Construction Requirements

This report must be submitted along with a completed application to the Township of Puslinch for review and approval, prior to construction of the proposed sewage system. Any technical questions arising from the review of the report should be directed to Van Harten Surveying Inc.

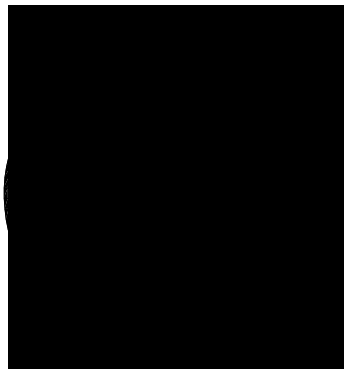
Copies of this report may be submitted to various licensed contractors to obtain cost estimates to install the proposed sewage system. The contractor shall contact Van Harten Surveying Inc. to clarify any questions concerning the installation requirements and to carry out the construction inspection requirements outlined in Appendix A.

7.0 Closure

The completed sewage system design and report is specific to the subject property and cannot be applied to different properties. The proposed system exceeds the minimum requirements of the OBC, given the design percolation rate and peak daily sewage flow, and is suitable for review and approval by the Township of Puslinch. It is noted that all private on-site sewage systems have a limited capacity, and it is the sole responsibility of the owner to expand or replace the system in the future if it becomes necessary.

I trust that this report and design has been completed within our terms of reference and is suitable for your present requirements. Please contact our office if you have any questions or require further consultation.

Van Harten Surveying Inc.



John Duffy, P.Eng.
Consulting Engineer

Encl. Appendix A – Specifications and Design Drawing
Encl. Appendix B – Background Information

APPENDIX A
SPECIFICATIONS AND DESIGN DRAWING

R.P. Magahay, B.A. **J.E. Buisman**, B.E.S., B.Sc., O.L.S. **R.M. Mak**, B.Sc., O.L.S. **J.M. Laws**, B.Sc., O.L.S. **J.M. Duffy**, P.Eng.

SEWAGE SYSTEM MATERIALS

1. All material utilized in the construction of the proposed sewage system must conform to the requirements of the 2012 Ontario Building Code.
2. The chosen treatment unit shall be CAN/BNQ 3680-600 certified.
3. A treatment unit that contains mechanical components shall be equipped with an audible and visual warning alarm so located to warn the occupants of the building served or the operator of the treatment unit of a malfunction in the operation of the treatment unit.
4. All treatment units shall permit the sampling of effluent.
5. The pump chamber shall provide sufficient storage volume so that the effluent is evenly dosed on an hourly basis over a 24 hour period.
6. Sewer line shall be no less than 100 mm (4 inch) trade size PVC pipe. Pressurized distribution pipe used in the sewage system shall be no less than 25 mm (1 inch) trade size and have orifices of at least 3 mm in diameter spaced equally along the length of the pipe. Every pressurized distribution pipe shall be self-draining so as to prevent freezing of its contents.
7. Chambers shall be constructed with Infiltrator EQ24 or equivalent.
8. The sand layer shall be comprised of sand that has a percolation time of T = 5 to 10 min/cm with not more than 5% fines passing through a 0.074 mm (No. 200) sieve.

CONSTRUCTION REQUIREMENTS

1. The installation of the leaching bed must conform to the various construction requirements in Division B-Part 8 of the 2012 OBC.
2. The contractor is to strip topsoil and stockpile this material away from the proposed leaching bed area. Once removed, the area is to be sub excavated to the specified subgrade elevations and scarified perpendicular to the slope of the subgrade.
3. Approved sand fill is to be end-dumped at the edge of the prepared leaching bed and either pushed or cast across the open subgrade. Dump trucks are not to travel across the prepared subgrade.
4. Shallow buried trench is to be constructed in absorption trenches at minimum 2.0 m spacing. The effluent shall be evenly distributed through the system while providing a pressure head of not less than 600 mm when measured to the most distant point from the pump.
5. The header and pressurized distribution pipes within the leaching bed shall be constructed so that they can be detected by magnetic means; by means of a 14 gauge TW solid copper light coloured plastic coated tracer wire; or other means of subsurface detection.
6. The sewage system is to be backfilled immediately following inspection. Topsoil is to be placed and grass growth established as soon as possible. Surface grading shall conform to the approved lot grading plan.

R.P. Magahay, B.A. **J.E. Buisman**, B.E.S., B.Sc., O.L.S. **R.M. Mak**, B.Sc., O.L.S. **J.M. Laws**, B.Sc., O.L.S. **J.M. Duffy**, P.Eng.

INSPECTION REQUIREMENTS

1. The contractor shall contact the local township or municipality at the start of the project to determine what inspections would be required by them to permit backfilling of the system.
2. The contractor shall contact Van Harten Surveying Inc. to carry out a base inspection prior to placing sand fill. The purpose of the inspection is to certify that soil and groundwater conditions are consistent with the design, and that the base is properly graded and scarified.
3. The contractor shall contact Van Harten Surveying Inc. to carry out a second inspection prior to backfilling, once the tanks and pipes are constructed. The purpose of this inspection is to certify that the tanks and leaching bed are constructed in accordance with the design.
4. It is recommended that Van Harten Surveying Inc. be retained to carry out a final inspection of the sewage system once the system is backfilled (mandatory in some municipalities). The purpose of the inspection is to certify that the sewage system has been properly backfilled and graded in accordance with Section 8.7.2.1. (3) of the OBC and that grass growth has been established.

OPERATION AND MAINTENANCE

1. The sewage system must be operated and maintained in accordance with Section 8.9 of the OBC.
2. Referring to 8.9.2.4, a grab sample of treated effluent shall be taken within the first twelve months of operation and once each year thereafter to determine the level of $CBOD_5$ and suspended solids. The concentration of $CBOD_5$ and suspended solids is deemed to comply with Table 8.6.2.2 when it does not exceed 20 mg/L for each of these parameters. In the event that test results do not comply with Table 8.6.2.2, resampling shall be completed in accordance with 8.9.2.4 (4). The results of all sampling events are to be submitted promptly to the local chief building official.
3. Excessive use of bleaches and other cleaning agents can kill bacteria in the sewage system and cause operation problems. Water softener and other backwash discharge are harmful to sewage systems and shall not be connected to the sanitary sewer. Paint and other solvents can destroy the biological operation of the system and shall not be discharged to the system. The sewage system is designed for domestic sewage only.
4. The owner shall use reasonable water conservation techniques to not overload the system with excessive peak flows or high day to day average daily water use.
5. All unnecessary sources of water shall be removed from the sewage system. For example, sump pump discharge and roof leaders should discharge to properly graded swales away from the septic tank and leaching bed.
6. The leaching bed should be provided with grass cover to reduce the amount of infiltration and promote evaporation and transpiration of water from the ground.
7. The owner must operate and maintain the system within the limits of the design and Section 8.9 of the OBC.

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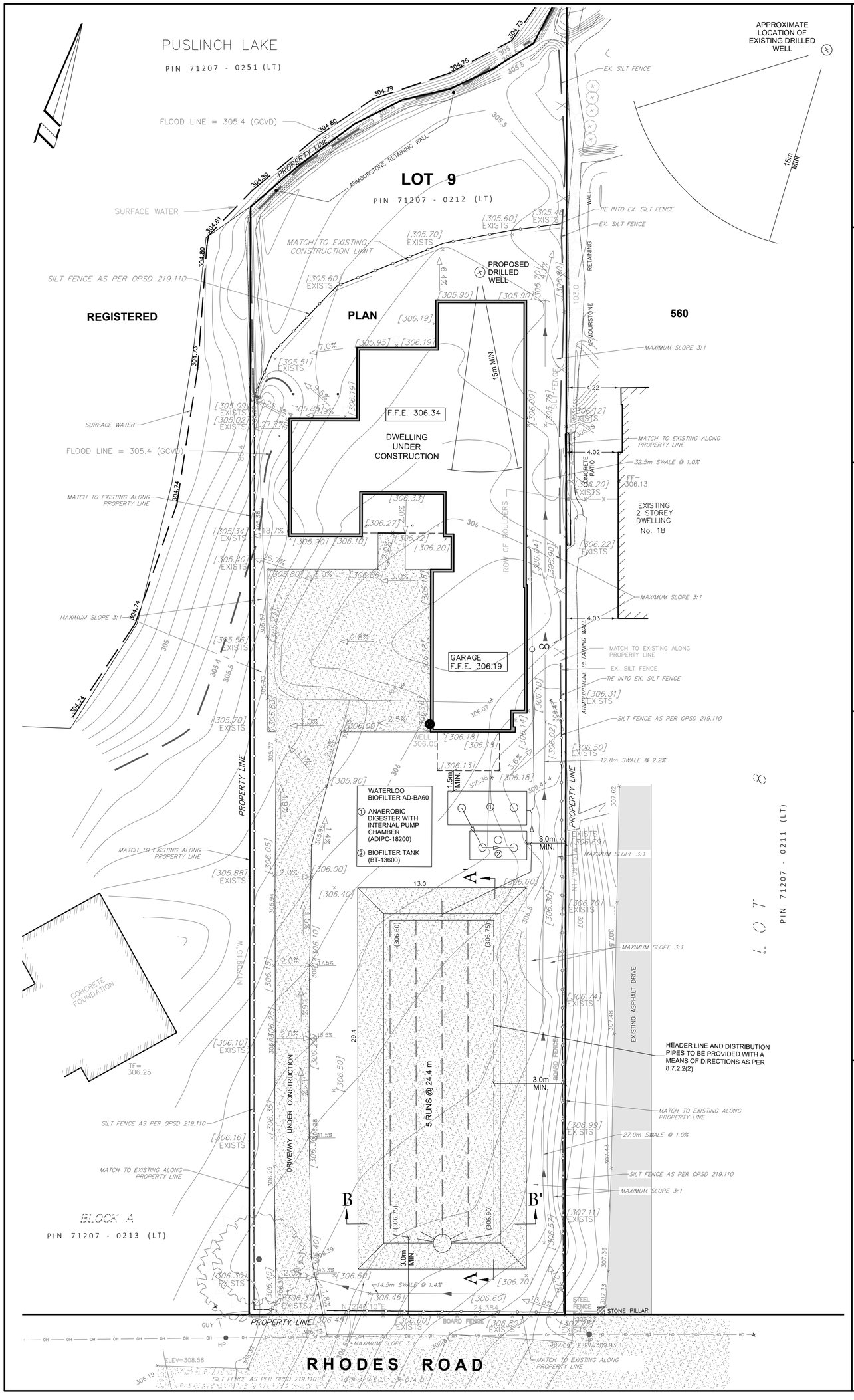
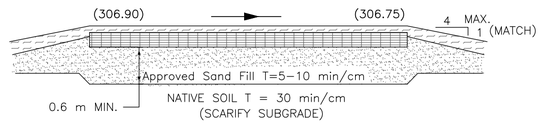
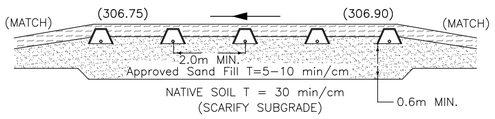


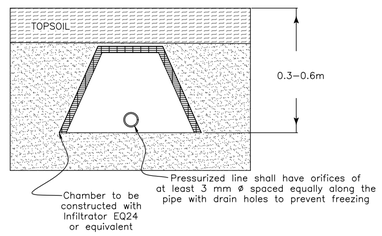
CROSS-SECTION A-A'
(N.T.S)



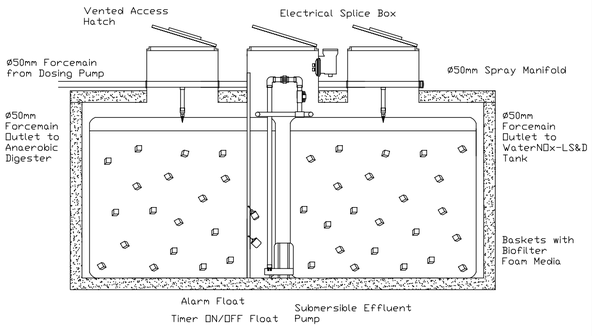
CROSS-SECTION B-B'
(N.T.S)



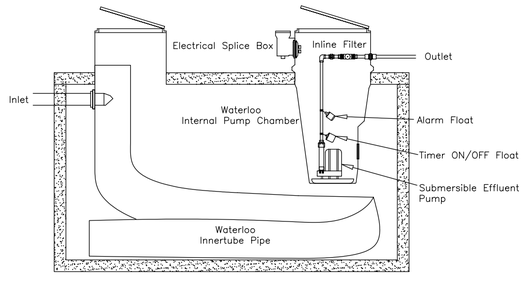
SHALLOW BURIED TRENCH DETAIL
(N.T.S)



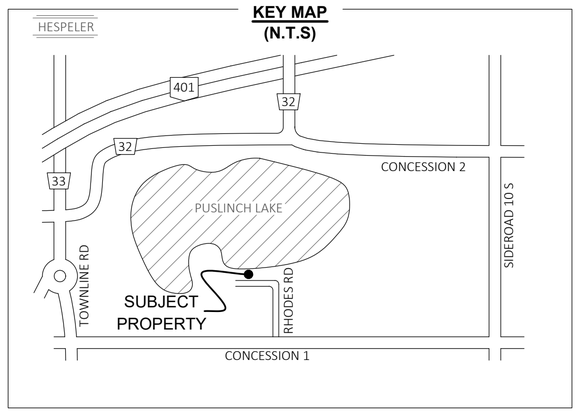
TWO WIRE MESH BASKET TANK DETAIL
(N.T.S)



ANAEROBIC DIGESTER WITH INTERNAL PUMP CHAMBER DETAIL
(N.T.S)



KEY MAP
(N.T.S)



LEGEND:

- *[395.70]* - PROPOSED ELEVATION (MGM CONSULTING INC.)
- (395.70) - PROPOSED ELEVATION (VAN HARTEN SURVEYING)
- *394.82* - EXISTING ELEVATION (VAN HARTEN SURVEYING)
- - SLOPE
- - DIRECTION OF FLOW
- -SHALLOW BURIED TRENCH
- - SILT FENCE
- - AREA OF SAND
- - TREE
- - TREELINE
- - WELL

CALL BEFORE YOU DIG

THE LOCATION OF SERVICES ON THIS DRAWING ARE ONLY APPROXIMATE AND BASED ON SURFACE FEATURES LOCATED AT THE TIME OF THE TOPOGRAPHIC SURVEY. PRIOR TO ANY CONSTRUCTION IT IS THE RESPONSIBILITY OF THE CONTRACTOR/BUILDER TO ENSURE THE EXACT LOCATION OF ALL UTILITIES.

SEWAGE SYSTEM DESIGN NOTES:

(Refer to Van Harten Surveying Inc. design report for material, construction, inspection and other details)

Q = 5,750 L/Day
T = 30 min/cm
Level IV Treatment Unit Selected Waterloo Biofilter Model AD-BA60
Anaerobic Digester Size = 11,328 L MIN.
Pump Chamber Size = 3,000 L MIN.
Foam Volume = 8.4 m^3 MIN.
Sand Area =380 m^2
Shallow Buried Trench Distribution Pipe Length = (5 runs of 24.4 m) = 122 m

SEWAGE SYSTEM DESIGN FOR:

PROPOSED DWELLING
20 RHODES ROAD
LOT 9, PLAN 560
TOWNSHIP OF PUSLINCH

NO.	REVISION	BY	DATE

DRAWING REVISION SCHEDULE

PREPARED FOR: SLOTEGRAAF CONSTRUCTION INC.

PROJECT No. 30422-21

DRAWING SCALE 1 : 200

CAUTION:
- THIS IS NOT A PLAN OF SURVEY AND SHALL NOT BE USED FOR TRANSACTION OR MORTGAGE PURPOSES.
- IT IS THE BUILDER'S RESPONSIBILITY TO ENSURE THE PROPOSED FOOTING ELEVATION AND PLUMBING ALLOWS GRAVITY CONNECTION TO THE SEWAGE SYSTEM.
- SOIL BEARING CAPACITY SHOULD BE VERIFIED AT THE TIME OF CONSTRUCTION.
- THE BUILDER MUST ENSURE A MINIMUM OF 1.22m OF EARTH COVER OVER THE FOOTINGS FOR FROST PROTECTION.
- THIS SKETCH IS BASED OFF A SITE PLAN DONE BY MGM CONSULTING INC.
- THIS SKETCH IS PROTECTED BY COPYRIGHT

[redacted]

Van Harten SURVEYING INC.
LAND SURVEYORS and ENGINEERS

Kitchener	Guelph	Orangeville
Ph: 519-742-8371	Ph: 519-821-2763	Ph: 519-940-4110

www.vanharten.com info@vanharten.com

DRAWN BY: JRH	CHECKED BY: JMD	PROJECT No. 30422-21

Mar 23, 2022-2:42:16 PM
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APPENDIX B
BACKGROUND INFORMATION

R.P. Magahay, B.A. **J.E. Buisman**, B.E.S., B.Sc., O.L.S. **R.M. Mak**, B.Sc., O.L.S. **J.M. Laws**, B.Sc., O.L.S. **J.M. Duffy**, P.Eng.

Derivation of Design Parameters

Soil percolation time (i.e., infiltration rate) and peak wastewater flow were the principal parameters used for the design of the WTS. FlowSpec derived these parameters as presented in the following sections.

Soil Percolation Time

A soil percolation time was assessed for the design using the following methodology: i) classification of each relevant soil deposit using the Unified Soil Classification System, ii) correlation with a percolation time using OBC Supplementary Standard SB-6, "Percolation Time and Soil Descriptions", and iii) modification, as necessary, to account for observed physical characteristics (i.e., density, consistency, and structure). The following table summarizes the assessment:

Soil Description	Unified Soil Classification	Percolation Time (min/cm)
SAND AND SILT TILL, trace to some gravel	SM-ML	30

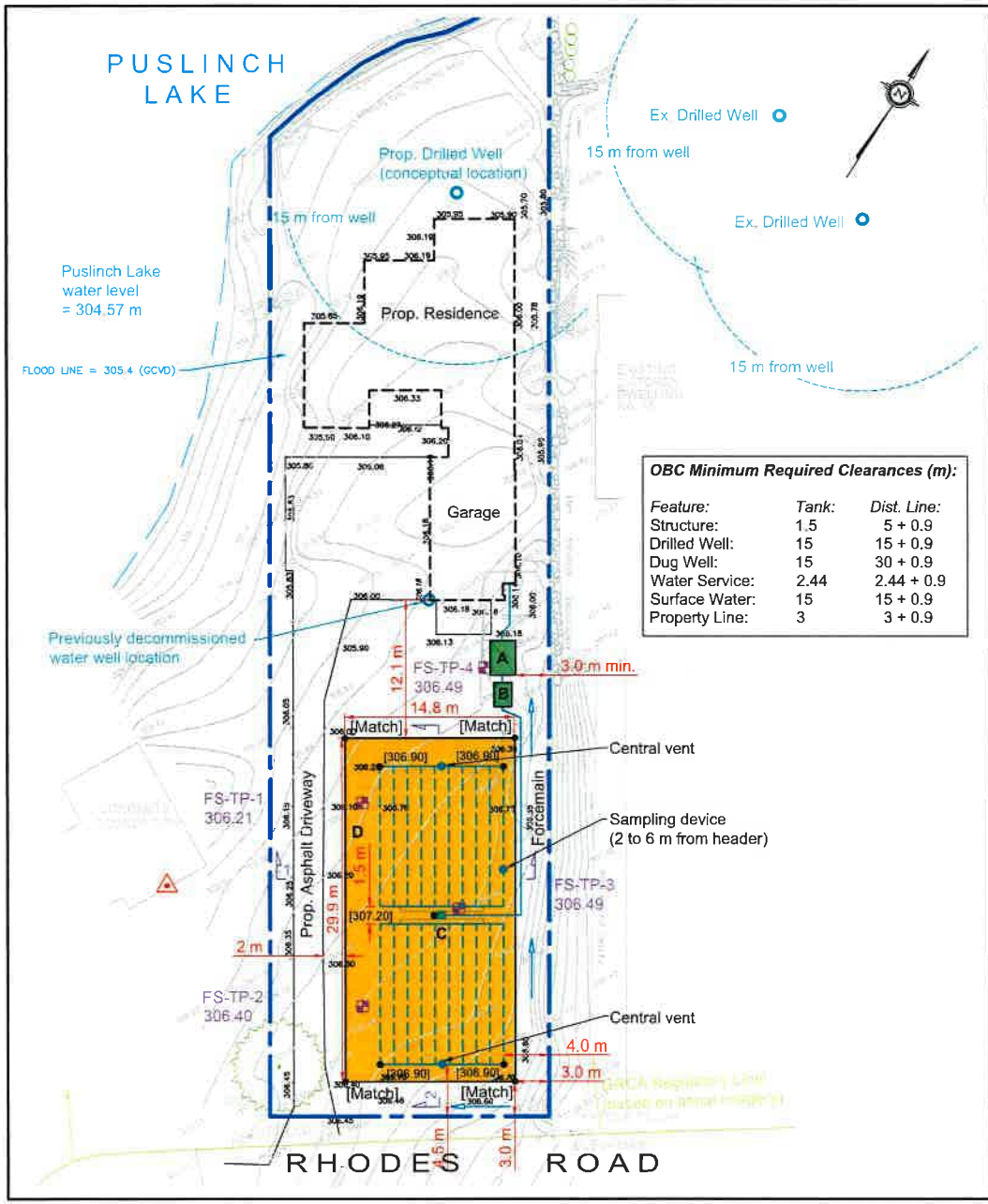
Based on founding of the bed on the sand and silt till deposit, a soil percolation time of 30 min/cm was used for the design.

Peak Wastewater Flow

A peak wastewater flow was calculated for the design using occupancy data supplied by the client/ owner and prescribed flow-rates from OBC Table 8.2.1.3.A. The following table outlines the calculation:

	Occupancy Data	OBC Peak Wastewater Flow (L/day)
A	4 bedrooms	2,000
B	0 bedrooms over 5	0
C	647 m^2 finished floorspace (above-grade storeys only)	3,750
D	46 plumbing fixture units per OBC Table 7.4.9.3.	1,300
	Total = A + (greater of B, C, and D)	**5,750**

An OBC peak wastewater flow of 5,750 L/day was used for the design.



OBC Minimum Required Clearances (m):

Feature:	Tank:	Dist. Line:
Structure:	1.5	5 + 0.9
Drilled Well:	15	15 + 0.9
Dug Well:	15	30 + 0.9
Water Service:	2.44	2.44 + 0.9
Surface Water:	15	15 + 0.9
Property Line:	3	3 + 0.9

Design Parameters:

Peak wastewater flow (Q_P): 5,750 L/day
Soil percolation time (T): 30 min/cm

Post-Construction Requirements:

1. Do not discharge non-domestic wastewater to the WTS (e.g., water-softener, iron-filter, industrial, paint, pool, hot-tub, or floor-drain wastewater).
2. Direct all snow storage, ground-surface drainage, roof downspouts, and sump-pump lines away from the bed.
3. Do not irrigate over the WTS.
4. Do not direct any water to subsurface perforated drainage pipes in the vicinity of the WTS.
5. Do not install ground-source heat loops within the envelope of the WTS.
6. Maintain short grass growth on the bed and mow with low tire-pressure equipment only.

Key Components:

A Septic tank: 11,500 L (minimum)

B Pump tank: 3,150 L (minimum)

C Polylok distribution box, including downward-facing inlet, insulation, and ground-surface access

D Infiltrator ATL BMEC bed:
- Infiltrator ATL conduit length: 244.0 m (20 lines x 12.2 m, 80 conduits)
- Infiltrator specified system sand area: 442 m²

Elevations (m):

Distribution box inlet inv.	= 306.50
Header pipe inv.	= 306.40
Base of ATL conduits	= 306.30
Base of ATL System Sand	= 306.00
Base of sand (subgrade)	= 305.70

Notes:

1. Ensure the existing septic tank (location unknown) has been decommissioned by one of the following methods: i) complete removal and disposal, ii) breakage of the top and bottom of the tank and filling with compacted soil, or iii) filling with unshrinkable concrete backfill if beneath a driveway.
2. Drain the forcemain to the pump tank by sloping the forcemain toward the tank and drilling a drain-hole in the pipe within the tank.
3. In areas where fill and peat extend below the subgrade elevation (FS-TP-1), scarify the subgrade to a minimum depth of 600 mm.

FlowSpec ENGINEERING

FlowSpec Engineering Ltd., 31 McBrine Drive, Unit 1, Kitchener, ON N2R 1J1
Office: 519-744-9336 Web: www.flowspec.ca

Legend:

- 306.20 — Ex. Ground-Surface Elevation (m)
- 306.20 — Prop. Ground-Surface Elevation (m) (Others)
- [100.00] — Prop. Ground-Surface Elevation (m) (FlowSpec)
- Property Line (subject property)
- Test Pit Location
- 100.00 — Test Pit Ground-Surface Elevation (m)
- Prop. Sewer (unless noted otherwise)
- Prop. Distribution Line
- Prop. Swale
- Prop. ATL Specified System Sand Cross-Section (refer to Dwg. 2)
- Temporary Benchmark: Top of concrete foundation of partially built residence west of site, Elev. 306.25 m (geodetic datum)

Dwg. Ref.: MGM Consulting Inc., Site Grading Plan, File No. 2021-023, Dwg. No. CV-1

Client:	Peg Architects Inc.
Project:	Design of Wastewater Treatment System Proposed Residence Coffelt Property
Location:	20 Rhodes Road, Puslinch Lake Township of Puslinch
Drawing:	Preliminary Layout

No.	Revision	Date	Checked

[redacted]

Scale: 0 5 10 15
1:400

Design: BS	Checked: DM
Drawn: BS	
Date:	August 27, 2021
File No.:	00696-1
Drawing No.:	1