

### **Committee of Adjustment Application to Planning Department**

### **Complete Application**

A complete development application consists of the following:

- 1. A properly completed and signed application form (signature must be original in planners file);
- Supporting information adequate to illustrate your proposal as indicated in Section H of this application form (plans are required in paper copy and digital PDF format);
- 3. Written authorization from all registered owners of the subject lands where the applicant is not the owner as per Section N; and,
- 4. Cash, debit or cheque payable to Norfolk County in the amount set out in the user fees By-Law.

The above information is required to ensure that your application is given full consideration. An incomplete or improperly prepared application will not be accepted and may result in delays during the processing of the application. This application must be typed or printed in ink and completed in full.

### Before an Application is Submitted

A pre-consultation meeting is not required for Committee of Adjustment applications; however, discussion with Planning Department staff prior to the submission of an application is strongly encouraged. The purpose of corresponding with a planner in advance is to provide the applicant with an opportunity to present the proposed application, to discuss potential issues and to determine the required information and materials to be submitted with the application in order for it to be considered complete by staff. It may be appropriate to seek the assistance of independent professional help (for example a planning consultant or engineer) for complex applications.

### **Processing the Development Application**

For an application to be deemed complete all of the components noted above are required. Incomplete applications will be identified and returned to the applicant. Staff have 30 days to review and deem an application complete.

Once an application has been deemed complete by a planner, it will be circulated to public agencies and County departments for review and comments. Notice of the application is also provided to adjacent land owners. The comments received assist the planner with the review and recommendation/approval of your application. Committee of Adjustment applications have a typical processing time of 2-3 months.



An additional fee will be required if a review by the Long Point Region Conservation Authority or by the Grand River Conservation Authority is deemed necessary by planning staff and/or by the Authority. A separate cheque payable to the Long Point Region Conservation Authority or the Grand River Conservation Authority is required in accordance with their fee schedule at the same time your application is submitted.

Additional studies required as part of the complete application shall be at the sole expense of the applicant. It should also be noted that in some instances peer reviews may be necessary to review particular studies and that the cost shall be at the expense of the applicant. The company to complete the peer review shall be selected by the County.

If the application is withdrawn prior to the circulation to commenting agencies, the entire original fee will be refunded. If withdrawn after the circulation to agencies, half the original fee will be refunded. No refund is available after the public meeting and/or approval of application.

### **Notification Sign Requirements**

Planning Department staff will post a notification sign on your property in advance of the public meeting. Please keep this sign posted until you have received a notice in the mail indicating that no appeals were received by the Clerk's Office. Applicants are responsible for removal of the sign following the appeal period. The signs are recyclable and can be placed in your blue box.

### **Contact Us**

For additional information or assistance in completing this application, please contact a planner at 519-426-5870 ext. 1842 or Committee.of.Adjustment@NorfolkCounty.ca

Please submit the completed application and fees to:

185 Robinson Street, Suite 200, Simcoe, ON N3Y 5L6



# Lot A

For Office Use Only: File Number Related File Number Pre-consultation Meeting Application Submitted Complete Application	BNPL2022328 ANPL2022329 - Oct 27, 2022 Nov 10, 2022	Application Fee Conservation Authority Fee Well & Septic Info Provided Planner Public Notice Sign	\$2886 + 1599 N/A Hydrogeo - new system proposed Hanne Yager		
Check the type of plan	nning application	(s) you are submitting.			
<ul> <li>□ Consent/Severance/Boundary Adjustment</li> <li>□ Surplus Farm Dwelling Severance and Zoning By-law Amendment</li> <li>□ Minor Variance</li> <li>□ Easement/Right-of-Way</li> </ul>					
Property Assessment	Roll Number:	33 10 541 020 48800 0000	<u> </u>		
A. Applicant Information	tion				
Name of Owner <u>Harvey Gedye and Lisa Gedye</u>					
It is the responsibility of the owner or applicant to notify the planner of any changes in ownership within 30 days of such a change.					
Address <u>1 St. Ladislaus St</u>		<u>t</u>			
Town and Postal Code	Courtland, N0J1	<u>E0</u>			
Phone Number	<u>519-535-7413</u>				
Cell Number	<u>519-535-7413</u>				
Email	polaris800xcsp@hotmail.com				
Name of Applicant	Harv Gedye				
Address	1 St Ladislaus St	St Ladislaus St			
Town and Postal Code Courtland, N		<u>E0</u>			
Phone Number					
Cell Number	519-535-7413				
Email	polaris800xcsp@	hotmail.com			



	me of Agent	Mary Elder, Elder Pla	ns Inc.
Ad	dress	32 Miller Cres	
To	wn and Postal Code	Simcoe, ON N3Y 4R1	<u>1</u>
Ph	one Number		
Се	ll Number	519-429-4933	
Em	ail	Elderplans2018@gma	ail.com_
all	• •		nould be sent. Unless otherwise directed, his application will be forwarded to the
$\boxtimes$	Owner	□ Agent	☐ Applicant
end	cumbrances on the s	ubject lands:	
<b>B.</b> 1.	Legal Description (in Block Number and L	Jrban Area or Hamlet):	vnship, Concession Number, Lot Number,
	Legal Description (in Block Number and U MID PLAN 607 LOT	clude Geographic Tow Irban Area or Hamlet):	vnship, Concession Number, Lot Number,
	Legal Description (in Block Number and U MID PLAN 607 LOT NORFOLK COUNTY Municipal Civic Addr Present Official Plan	relude Geographic Tow Jrban Area or Hamlet): 1 / ress: 1 St Ladislaus St Designation(s): Urba	vnship, Concession Number, Lot Number,
1.	Legal Description (in Block Number and UMID PLAN 607 LOT NORFOLK COUNT) Municipal Civic Addresent Official Plan Present Zoning: Han	relude Geographic Tow Jrban Area or Hamlet): 1 / ress: 1 St Ladislaus St Designation(s): Urban nlet Residential (RH)	vnship, Concession Number, Lot Number,  t  an Residential
1.	Legal Description (in Block Number and UMID PLAN 607 LOT NORFOLK COUNT) Municipal Civic Addresent Official Plan Present Zoning: Han	ress: 1 St Ladislaus Stanlet Residential (RH)	vnship, Concession Number, Lot Number,



4.	Please describe <b>all existing</b> buildings or structures on the subject lands and whether they are to be retained, demolished or removed. If retaining the buildings or structures, please describe the type of buildings or structures, and illustrate the setback, in metric units, from front, rear and side lot lines, ground floor area, gross floor area, lot coverage, number of storeys, width, length, and height on your attached sketch which must be included with your application:
	A single detached dwelling exists on the east side of the existing lot and will be retained. Attached is a survey sketch showing the set backs and proposed two lots.
5.	If an addition to an existing building is being proposed, please explain what it will be used for (for example a bedroom, kitchen, or bathroom). If new fixtures are proposed, please describe.  N/A
6.	Please describe <b>all proposed</b> buildings or structures/additions on the subject lands. Describe the type of buildings or structures/additions, and illustrate the setback, in metric units, from front, rear and side lot lines, ground floor area, gross floor area, lot coverage, number of storeys, width, length, and height on your attached sketch which must be included with your application:  Should the application to sever two lots be successful, a new single detached dwelling will be built on each lot. No details of these buildings are available but it is reasonable to expect all zoning setbacks can be achieved.
7.	Are any existing buildings on the subject lands designated under the $Ontario$ $Heritage\ Act$ as being architecturally and/or historically significant? Yes $\square$ No $\boxtimes$
	If yes, identify and provide details of the building:
8.	If known, the length of time the existing uses have continued on the subject lands:  The dwelling was built in April, 1998
9.	Existing use of abutting properties:
	Residential and institutional (cemetery and church)
10	Are there any easements or restrictive covenants affecting the subject lands?
	$\square$ Yes $\boxtimes$ No If yes, describe the easement or restrictive covenant and its effect:



# C. Purpose of Development Application

Note: Please complete all that apply.

### 1. Site Information

	Existing	Permitted	Provision	Proposed	Deficiency
Lot frontage	54.27m	30 m	Original lot	57.78m	LOT A
Lot depth	176.19m			30.0m	
Lot width	Varies, 30.01 min			57.78m min	
Lot area	0.671ha	0.4 ha		2006.6 sq m	1993.4 sq m
Lot coverage					
Front yard	13.5m	6m		6m min	
Rear yard	More than 147 m	9m		9m min	
Height	5.33m	11m		Less than 11m	
Left Interior side yard	11.45m	1.2m		1.2m min	
Right Interior side yard	none			1.2m min	
Exterior side yard (corner lot)	13.33m	6m			
Parking Spaces (number)	2	2		2	
Aisle width					
Stall size					
Loading Spaces					
Other					



2.	Please explain w By-law:	why it is not possible to comply with the provision(s) of the Zoning
	•	drogeological study tertiary septic system will appropriately address
		nitary servicing on the new lot.
3.	Description of la	nd intended to be severed in metric units:
	Frontage:	<u>57.78 m</u>
	Depth:	30.01 m
	Width:	<u>57.78 m</u>
	Lot Area:	2006.6 sq m
	Present Use:	vacant grassed lawn
	Proposed Use:	residential use in the form of a single detached dwelling
	Proposed final lo	ot size (if boundary adjustment):
	If a boundary ad	justment, identify the assessment roll number and property owner of
	the lands to which	ch the parcel will be added:
	•	nd intended to be retained in metric units:
	Frontage:	54.27m
	Depth:	<u>118.41m</u>
	Width:	<u>varies</u>
	Lot Area:	4013.2 sq m
	Present Use:	<u>residential</u>
	Proposed Use:	<u>residential</u>
	Buildings on reta	ained land: one single detached dwelling
4.	Description of pr	oposed right-of-way/easement in metric units:
	Frontage:	
	Depth:	



	Width:	
	Area:	
	Proposed Use:	
5.		in Norfolk County, which are owned and farmed by the applicant ne farm operation (Surplus Farm Dwelling Severances Only):
O۱	wners Name:	
Ro	oll Number:	
To	otal Acreage:	
W	orkable Acreage:	
Ex	isting Farm Type:	(for example: corn, orchard, livestock)
Dv	velling Present?:	☐ Yes ☐ No If yes, year dwelling built
O۱	wners Name:	
Ro	oll Number:	
То	otal Acreage:	
W	orkable Acreage:	
Ex	xisting Farm Type:	(for example: corn, orchard, livestock)
Dv	velling Present?:	☐ Yes ☐ No If yes, year dwelling built
O۱	wners Name:	·
Ro	oll Number:	
То	otal Acreage:	
W	orkable Acreage:	
Ex	xisting Farm Type:	(for example: corn, orchard, livestock)
D۷	welling Present?:	☐ Yes ☐ No If yes, year dwelling built



Ow	ners Name:	
Rol	l Number:	
Tot	al Acreage:	
Wo	rkable Acreage:	
Exi	sting Farm Type:	(for example: corn, orchard, livestock)
Dw	elling Present?:	$\Box$ Yes $\Box$ No If yes, year dwelling built
Ow	ners Name:	
Rol	l Number:	
Tot	al Acreage:	
Wo	rkable Acreage:	
Exi	sting Farm Type:	(for example: corn, orchard, livestock)
Dw	elling Present?:	☐ Yes ☐ No If yes, year dwelling built
No	te: If additional	space is needed please attach a separate sheet.
D.	Previous Use of	the Property
		n industrial or commercial use on the subject lands or adjacent  No □ Unknown
	If yes, specify the	uses (for example: gas station, or petroleum storage):
		believe the subject lands may have been contaminated by former or adjacent sites?□ Yes ⊠ No □ Unknown
	Open land before	nation you used to determine the answers to the above questions:  home built as per Neighbours in surrounding areas and back filled  Prainage department Norfolk County confirmed open land before



4.	If you answered yes to any of the above questions in Section D, a previous use inventory showing all known former uses of the subject lands, or if appropriate, the adjacent lands, is needed. Is the previous use inventory attached? $\square$ Yes $\square$ No		
E.	Provincial Policy		
1.	Is the requested amendment consistent with the provincial policy statements issued under subsection 3(1) of the <i>Planning Act, R.S.O. 1990, c. P. 13</i> ? $\boxtimes$ Yes $\square$ No		
	If no, please explain:		
2.	It is owner's responsibility to be aware of and comply with all relevant federal or provincial legislation, municipal by-laws or other agency approvals, including the Endangered Species Act, 2007. Have the subject lands been screened to ensure that development or site alteration will not have any impact on the habitat for endangered or threatened species further to the provincial policy statement subsection 2.1.7? ⊠ Yes □ No		
	If no, please explain:		
3.	Have the subject lands been screened to ensure that development or site alteration will not have any impact on source water protection? $\boxtimes$ Yes $\square$ No		
	If no, please explain:		
	Note: If in an area of source water Wellhead Protection Area (WHPA) A, B or C please attach relevant information and approved mitigation measures from the Risk Manager Official.		



١.	Are any of the following uses or features on the subject lands or within 500 metres of the subject lands, unless otherwise specified? Please check boxes, if applicable.
	Livestock facility or stockyard (submit MDS Calculation with application)
	☐ On the subject lands or ☐ within 500 meters – distance
	Wooded area  ☐ On the subject lands or ☒ within 500 meters – distance
	Municipal Landfill  ☐ On the subject lands or ☐ within 500 meters – distance
	Sewage treatment plant or waste stabilization plant  ☐ On the subject lands or ☐ within 500 meters – distance
	Provincially significant wetland (class 1, 2 or 3) or other environmental feature ☐ On the subject lands or ☐ within 500 meters − distance
	Floodplain  ☐ On the subject lands or ☐ within 500 meters – distance
	Rehabilitated mine site  ☐ On the subject lands or ☐ within 500 meters – distance
	Non-operating mine site within one kilometre  ☐ On the subject lands or ☐ within 500 meters – distance
	Active mine site within one kilometre  ☐ On the subject lands or ☐ within 500 meters – distance
	Industrial or commercial use (specify the use(s))  ☐ On the subject lands or ☐ within 500 meters – distance
	Active railway line  ☐ On the subject lands or ☐ within 500 meters – distance
	Seasonal wetness of lands  ☐ On the subject lands or ☑ within 500 meters – distance
	Erosion  ☐ On the subject lands or ☐ within 500 meters – distance
	Abandoned gas wells  ☐ On the subject lands or ☐ within 500 meters – distance



# F. Servicing and Access

1.	Indicate what services are available or proposed:		
	Water Supply		
		☐ Communal wells	
	☐ Individual wells	☐ Other (describe below)	
	Sewage Treatment		
	☐ Municipal sewers	☐ Communal system	
	⊠ Septic tank and tile bed in good working order		
	<u>Waterloo Biofilter Shallow Buried Trench – See H</u>	ydrogeological Assessment	
	Storm Drainage		
	Storm sewers	☐ Open ditches	
	☐ Other (describe below)		
2.	Existing or proposed access to subject lands:		
		☐ Provincial highway	
	☐ Unopened road	☐ Other (describe below)	
	Name of road/street: <u>Talbot Street</u>		
G.	Other Information		
1.	Does the application involve a local business? $\Box$	Yes ⊠ No	
	If yes, how many people are employed on the subject lands?		
2.	Is there any other information that you think may be useful in the review of this application? If so, explain below or attach on a separate page.		
	support the development proposal, I have provided a hy	-	

To support the development proposal, I have provided a hydrogeological assessment report that indicates lots will utilize an individual subsurface sewage disposal system equipped with a tertiary treatment capable of nitrate reduction. I have forwarded this report to a septic system company who has completed the site review and prepared a system design.

## **Henderson Excavating and Site Work**

52 Jerseyville Road



Brantford, Ontario N3T 5M1

Phone: (519) 751-6243

Email: hendersonexcavation@gmail.com

My existing septic system will need to be removed and a new system installed to accommodate requirements between property lines. I have highlighted this on the attached drawing competed by Kim Husted Surveying LTD.



### H. Supporting Material to be submitted by Applicant

In order for your application to be considered complete, folded hard copies (number of paper copies as directed by the planner) and an **electronic version (PDF) of the site plan drawings, additional plans, studies and reports** will be required, including but not limited to the following details:

- 1. Concept/Layout Plan
- 2. All measurements in metric
- 3. Existing and proposed easements and right of ways
- 4. Parking space totals required and proposed
- 5. All dimensions of the subject lands
- 6. Dimensions and setbacks of all buildings and structures
- 7. Location and setbacks of septic system and well from all existing and proposed lot lines, and all existing and proposed structures
- 8. Names of adjacent streets
- 9. Natural features, watercourses and trees

In addition, the following additional plans, studies and reports, including but not limited to, <b>may</b> also be required as part of the complete application submission:
☐ Zoning Deficiency Form
$\ \square$ On-Site Sewage Disposal System Evaluation Form (to verify location and condition)
☐ Environmental Impact Study
☐ Geotechnical Study / Hydrogeological Review
☐ Minimum Distance Separation Schedule
☐ Record of Site Condition

Your development approval might also be dependent on Ministry of Environment Conservation and Parks, Ministry of Transportation or other relevant federal or provincial legislation, municipal by-laws or other agency approvals.

All final plans must include the owner's signature as well as the engineer's signature and seal.



### I. Transfers, Easements and Postponement of Interest

The owner acknowledges and agrees that if required it is their solicitor's responsibility on behalf of the owner for the registration of all transfer(s) of land to the County, and/or transfer(s) of easement in favour of the County and/or utilities. Also, the owner further acknowledges and agrees that it is their solicitor's responsibility on behalf of the owner for the registration of postponements of any charges in favour of the County.

### **Permission to Enter Subject Lands**

Permission is hereby granted to Norfolk County officers, employees or agents, to enter the premises subject to this application for the purposes of making inspections associated with this application, during normal and reasonable working hours.

### Freedom of Information

For the purposes of the Municipal Freedom of Info.	rmation and Protection of Privacy Act,
I authorize and consent to the use by or the disclos	sure to any person or public body any
information that is collected under the authority of	the Planning Act, R.S.O. 1990, c. P.
13 for the purposes of processing this application.	
In left Lisa Medye	<u>001</u> 26,7022
wner/Applicant/Agent Signature	Date

### J. Owner's Authorization

If the applicant/agent is not the registered owner of the lands that is the subject of this application, the owner must complete the authorization set out below.

I/We HARVEY GEOME & LISA GEOME am/are the registered owner(s) of the lands that is the subject of this application.

I/We authorize Mary Elder of Elder Plans Inc. to make this application on

I/We authorize Mary Elder of Elder Plans Inc. \_\_\_\_\_\_\_ to make this application or my/our behalf and to provide any of my/our personal information necessary for the processing of this application. Moreover, this shall be your good and sufficient authorization for so doing.

Date

Owner

Owner

Owner

Date

Date

<sup>\*</sup>Note: If property is owned by an Ontario Ltd. Corporation, Articles of Incorporation are required to be attached to the application.



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information that is collected under the authority of	the Planning Act, R.S.O. 1990, c. P.
13 for the purposes of processing this application.	¥72
11 My disa Sedye	007 26,702
Owner/Applicant/Agent Signature	Date
J. Owner's Authorization	

If the applicant/agent is not the registered owner of the lands that is the subject of this application, the owner must complete the authorization set out below.

I/We <u>HAR VEY GENTE</u> am/are the registered owner(s) of the lands that is the subject of this application.

I/We authorize Mary Elder of Elder Plans Inc. \_\_\_\_\_\_ to make this application on my/our behalf and to provide any of my/our personal information necessary for the processing of this application. Moreover, this shall be your good and sufficient authorization for so doing.

Owner Date

Owner Date

Owner Date

Owner Date

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Freedom of Information	
For the purposes of the <i>Municipal Freedom of Info</i> lauthorize and consent to the use by or the discloinformation that is collected under the authority of 13 for the purposes of processing this application.	sure to any person or public body any the <i>Planning Act, R.S.O. 1990, c. P.</i>
frille / Dea Dedye	001 26,2022
Owner/Applicant/Agent Signature	Date
J. Owner's Authorization	
If the applicant/agent is not the registered owner of application, the owner must complete the authorized when the complete the	ation set out below.
lands that is the subject of this application.	
I/We authorize Mary Elder of Elder Plans Inc. my/our behalf and to provide any of my/our perso processing of this application. Moreover, this sha authorization for so doing.	nal information necessary for the
The deed	001 26, 2022
Owner	Date
Assa Dedye	Oct 26, 2022
Owner	Date

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Tel: 519.233.3500 Fax: 519.233.3501 P. O. Box 299 Clinton, Ontario NOM 1L0

December 2, 2021

Mr. Harvey Gedye 1 St. Ladislaus Street Courtland, ON NOJ 1E0 Wilson Associates

Consulting Hydrogeologists

Dear Mr. Gedye

Re:

Hydrogeological Assessment Proposed Residential Severance

1 St. Ladislaus Street, Community of Courtland, Norfolk County

It is proposed to sever two residential lots from the western portion of the existing  $\pm 0.67$ ha (1.66 acre) property at 1 St. Ladislaus Street in the Community of Courtland. The proposed two new lots will front on Talbot Street. The attached plan shows the layout of the site.

It is proposed to service the lots with water from the Courtland municipal water supply and an individual subsurface sewage disposal system.

To support the development proposal, a hydrogeological study was conducted involving the following:

- Exploratory test pits were completed within the proposed lots to collect representative soil samples for percolation rate analyses and to identify shallow groundwater conditions.
- Sewage system development density assessment under current Ministry of the Environment, Conservation and Parks (MECP) Procedure D-5-4 "Technical Guideline For Individual On-Site Sewage Systems: Water Quality Impact Risk Assessment", commonly known as the "nitrate guideline".

The above hydrogeologic investigative requirements were addressed through a test pit and groundwater sampling program conducted November 4, 2021 and a subsequent background hydrogeologic analysis. This report provides a summary of background hydrogeologic information, the results of the soils suitability study and comment regarding sewage impact potential.

### SITE SETTING, GEOLOGY AND HYDROGEOLOGY

The proposed lots are located within the southern portion of the Community of Courtland, at the southwest corner of the intersection of St. Ladislaus Street and Talbot Street. Frontage of the existing lot on St. Ladislaus Street is about 51m and frontage along Talbot Street is about 176m. The subject lands are cleared and grassed, with one single family residence at the northeast end of the property. The site exhibits a rolling overall relief, with a slope of about 4m towards a swale along the southeast side of the site. Lands surrounding the site are mostly

developed as residential or vacant lots, with a cemetery to the north.

No surface water bodies are located on or in the close vicinity of the site, the closest being Little Otter Creek about 175m to the south of the site.

The site is located within the Norfolk Sand Plain physiographic region of southern Ontario. According to the Ontario Geological Survey Map 2473 "Quaternary Geology of the Tillsonburg Area", the upper overburden in the vicinity of the site consists of glaciolacustrine shallow water deposits of sand. Historical local well records indicate that the upper sands are in the range of 1.5m to 2.1m deep. The overburden is regionally indicated to be approximately 50m deep, with the remainder of the overburden typically consisting of fine-grained deposits.

The bedrock beneath the site consists of limestone and dolostone of the Dundee Formation and the Detroit River Group.

Regionally the majority of local groundwater supplies are obtained from the upper granular deposits, where sufficiently deep. However, historical local wells have been completed in the bedrock aquifer due to the locally thin character of the upper granular deposits. The lower overburden typically provides little to no potential for groundwater supply due to its fine-grained character, and the bedrock is usually less often utilized due to the expense of deep drilling and the potential of obtaining aesthetically poor-quality water.

Shallow groundwater on the site will follow local drainage patterns, with a probable gradient to the south, towards Little Otter Creek.

### **SOILS INVESTIGATION**

### Test Pits:

Three exploratory test pits were excavated within the subject site on November 4, 2021. The test pits were each completed to a depth of 1.5 to 1.7m, the soil profile was logged in each pit and representative soil samples were collected from each identified soil horizon for subsequent classification, analysis and storage. The attached diagram shows the approximate test pit locations. The following table provides a summary of the analytical results for representative soil samples.

Table 1: Summary of Soil Analytical Data

Test Pit/	Depth	Grain-Size Distribution				"k" T-Time		
Sample	(m)	Clay %	Silt %	Sand %	Gravel %	(cm/sec)	(min/cm)	
TP1 S1	0.9	2	7	91	0	5x10 <sup>-3</sup>	8	
TP3 S2	0.5	9	29	62	0	6x10 <sup>-5</sup>	25	
TP3 S3	1.2	6	88	6	0	4x10 <sup>-5</sup>	30	

Note: The above coefficients of permeability ("k" values) and T-times (percolation rates) are estimates based on field observation, laboratory grain-size analysis, experience with similar soils and guidelines of the Ontario Building Code.

In summary, the soil profile at the test pits consisted of a fine sand (Unified Soil Classification Type "SP"), which is interpreted to exhibit a percolation rate in the range of 8 minutes/cm, overlying a silty sand to silt (Unified Soil Classification Type "SC" to "ML"), which is interpreted to exhibit a percolation rate in the range of 25 to 30min/cm.

The grain-size analysis curves are attached. The following provides a summary of the test pit logs:

TEST PIT 1 Depth (m) 0 - 0.20 0.20 - 0.58 0.58 - 1.52	Material dark brown TOPSOIL red-brown, loose, dry fine SAND with traces of silt and clay grey-brown, compact, dry to wet silty SAND with traces of clay
TEST PIT 2 Depth (m) 0 - 0.20 0.20 - 0.81 0.81 - 1.52	Material dark brown TOPSOIL red-brown, loose, dry fine SAND with traces of silt and clay grey-brown, compact, dry to wet silty SAND with traces of clay
TEST PIT 3 Depth (m) 0 - 0.30 0.30 - 0.81 0.81 - 1.65	Material dark brown TOPSOIL red-brown, loose, dry silty SAND with traces of clay grey-brown, compact, dry to wet SILT with traces of sand and clay

### **Shallow Groundwater Conditions:**

Emergent groundwater was observed below 1.1m in Test Pit 1, below 1.2m in Test Pit 2, and below 1.4m in Test Pit 3. Evidence of seasonally elevated groundwater conditions (i.e. soil discolouration and/or mottling) was observed in each soil profile below 0.8m.

### Septic System Design:

Under the Ontario Building Code, for a Class 4 sewage disposal system to operate effectively, the leaching bed must be located in soil with a percolation rate (T-time) of between 1 and 50 minutes per centimetre and the base of the absorption trenches must be situated at least 0.9m above the high ground water table, bedrock or a soil with a permeability of greater than 50 minutes per centimetre. To achieve a normal, in-ground installation, the high groundwater table, rock or soil with a permeability of greater than 50 min/cm must be situated at least 1.5 to 1.8 metres below grade.

Due to indications of elevated watertable conditions, the bases of tile trenches should be set no lower than 0.1m above current grade. Due to the limited thickness of the upper fine sand, a native soil design percolation rate of 30min/cm is recommended for design purposes.

A standard fill-based sewage disposal system will require a contact area based on a loading rate of 8L/m²/day (i.e. 200m² for a standard 3-bedroom home with a design sewage flow of 1,600L/day, or 250m² for a standard 4-bedroom home with a design sewage flow of 2.000L/day).

It is understood that the County typically requires that a full sewage system reserve area be utilized in lot design. As the lots will each be in excess of 2,000m² in area, sufficient area is available for a 200m² or 250m² primary sewage disposal area, 200m² or 250m² reserve sewage disposal area. Lot design will need to address setbacks to the house envelope and property lines.

### SEWAGE SYSTEM IMPACT ASSESSMENT

Under the current MECP "Technical Guideline For Individual On-Site Sewage Systems: Water Quality Impact Risk Assessment" (Procedure D-5-4, also known as the "nitrate guideline"), each proposed development of five lots or greater utilizing individual on-site sewage systems requires an assessment of groundwater impact potential. The purpose of the assessment is to ensure that the discharge from the individual on-site sewage systems will have a minimal effect on groundwater and the present or potential use of adjacent properties. The assessment involves a three-step process, with the need to advance to the next step dependant on the requirements of the previous step. Where the background nitrate content of shallow groundwater exceeds 10 mg/L, additional development cannot normally be supported.

A background nitrate content of 1mg/L is assumed for this analysis, based on the relatively large local residential lots.

Under Step 1 of the guideline, for developments where the lot size for each private residence within the development is one hectare or larger (with no lots being less than 0.8ha in area), the risk that the limits imposed by the guideline may be exceeded is considered acceptable with no additional hydrogeologic assessment. Step 1 of the guideline is not applicable.

Step 2 of the guideline is applicable where groundwater resources can be confidently demonstrated to be hydraulically isolated from potential sewage pathways. While the upper sands are locally relatively thin, records of shallow wells are indicated in the vicinity of the site, and therefore Step 2 of the guideline does not apply.

Under Step 3 of the guideline, a mass-balance calculation is used to determine the minimum size of the proposed lots. Under the current MECP guideline only infiltrating precipitation and the volume of water contained in the sewage may be considered as dilutants for the nitrate contained in septic effluent. To establish the infiltration rate, the percentage of the local water surplus which may infiltrate is calculated using the Rational Method approach. According to the soil evaluation, the upper soil profile consists of sand (infiltration factor 40%), the overall relief is rolling (infiltration factor 20%) and the cover is cleared (infiltration factor 10%), all resulting

in an infiltration factor of 70%. According to the 2009 Long Point Region, Kettle Creek and Catfish Creek Integrated Water Budget Final Report, the water surplus for the area is in the range of 435mm per year (Little Otter Creek sub-watershed, precipitation 970mm/year, evapotranspiration 535mm/year). As such, the annual infiltration rate will be 305mm (70% of 435mm), representing 31% of average annual precipitation in the sub-watershed.

The following mass-balance formula is used to calculate the maximum density of the proposed development (total area of parcel = 0.67ha) under the MECP guideline:

$$Q_TC_T = Q_SC_S + Q_PC_P$$

Where:

 $Q_T$  = Sum of  $Q_S$  and  $Q_P$ 

 $C_{\tau}$  = Nitrate concentration (10mg/L, maximum permitted under the guideline)

Q<sub>s</sub> = Volume of sewage (1000 L/day/lot, per MECP guideline)

C<sub>s</sub> = Nitrate content of sewage (40 mg/L)

 $Q_p = Infiltration (305mm/year x 0.67ha x 10,000L/mm/ha = 2.04x10^6L/yr)$ 

C<sub>P</sub> = Nitrate content of shallow groundwater (1mg/L assumed, see above)

Therefore:

$$(Q_s + 2.04x10^6L/yr) \times 10mg/L = (Q_s \times 40mg/L) + (2.04x10^6L/yr \times 1mg/L)$$
  
 $Q_s = 6.12x10^5L/year$ 

Number of Lots =  $6.12x10^5$ L/yr ÷ 1,000 L/day/lot ÷ 365 days/yr = 1.7 Lots

Based on the MECP-specified daily volume of sewage for the purposes of the Procedure D-5-4 assessment, and an infiltration rate of 305mm/year, the maximum number of lots on the parcel (0.67ha total) under the MECP guideline is 1.7 using conventional sewage disposal systems.

The above assessment approach, conducted in accordance with MECP guidelines, does not consider sewage dilution by groundwater flow-through nor does it consider denitrification processes in the subsurface. As such, the assessment will over-estimate the actual degree of groundwater impact of the proposed lots, this considered a safety factor.

For the three lots (retained lot plus two new lots) to be viable under the guideline, the two new lots will each be required to utilize an individual subsurface sewage disposal system equipped with tertiary treatment capable of nitrate reduction. The use of such systems is not contemplated for this purpose (or any other purpose) in the MECP guidelines due to the age of the guidelines (ca. 1996), however nitrate reducing treatment systems are now commonly used in the Province under CAN/BNQ 3680-600 Certified Treatment Technologies for total nitrogen reduction. The systems are commonly capable of a nitrate reduction in the order of 50%, or 20mg/L. The above mass-balance formula is revised to assume the use of nitrate reduction technology on the two new lots.

The retained lot may continue to utilize a conventional sewage disposal system.

$$Q_TC_T = Q_SC_S + Q_PC_P$$

### Where:

 $Q_T = Sum of Q_S and Q_P$ 

 $C_T = Maximum nitrate concentration (10mg/L)$ 

 $Q_s$  = Volume of sewage (1,000 L/day/lot)

C<sub>s</sub> = Nitrate content of sewage (one lot at 40mg/L, two lots at 20mg/L, 26.7mg/L average)

 $Q_P = Infiltration (2.04x10^6 L/yr, as above)$ 

 $C_P$  = Nitrate content of groundwater (1mg/L)

### Therefore:

$$(Q_s + 2.04x10^6L/yr) \times 10mg/L = (Q_s \times 26.7mg/L) + (2.04x10^6L/yr \times 1mg/L)$$
  
 $Q_s = 1.099x10^6L/year$ 

Number of Lots =  $1.099x10^6$ L/yr ÷ 1,000 L/day/lot ÷ 365 days/yr = 3.0 Lots

Based on the above, the sewage systems the two proposed lots will be required to utilize nitrate reduction technology capable of an average nitrate reduction of at least 50% (i.e. 20mg/L nitrate). Commercially-available sewage treatment systems (meeting CAN/BNQ 3680-600 Certified Treatment Technologies for total nitrogen reduction) are typically demonstrated to be capable of a nitrate reduction of 50% (or 20mg/L nitrate), and are capable of higher rates of reduction with additional treatment measures. Municipal support and long-term maintenance agreements for individual sewage treatment units are required.

The retained lot may continue to utilize a conventional sewage disposal system.

### CONCLUSIONS AND RECOMMENDATIONS

- 1. The soil profile at the proposed lots consisted of a fine sand (Unified Soil Classification Type "SP"), which is interpreted to exhibit a percolation rate in the range of 8 minutes/cm, overlying a silty sand to silt (Unified Soil Classification Type "SC" to "ML"), which is interpreted to exhibit a percolation rate in the range of 25 to 30min/cm.
- 2. Due to indications of elevated watertable conditions, the bases of tile trenches should be set no lower than 0.1m above current grade.
- 3. Due to the thin depth of the upper fine sand, a native soil design percolation rate of 30min/cm is recommended for design purposes. A standard fill-based sewage disposal system will require a contact area based on a loading rate of 8L/m²/day (i.e. 200m² for a standard 3-bedroom home with a design sewage flow of 1,600L/day, or 250m² for a standard 4-bedroom home with a design sewage flow of 2,000L/day).
- 4. Under MECP Procedure D-5-4, for the two new lots to be viable, both of the lots will be required to utilize an individual subsurface sewage disposal system equipped with tertiary treatment capable of nitrate reduction. The retained lot may continue to utilize a conventional sewage disposal system.

5. Based on the findings of the preceding analysis, development of the subject lands as three residential lots (one retained and two new lots) serviced by private sewage disposal systems is considered viable, subject to the conclusions, limitations and recommendations outlined in this report.

Should there be any questions regarding the above information and discussion, please do not hesitate to contact this office.

IAN D. WILSON ASSOCIATES LIMITED

Geoffrey Rether, B.Sc., P.Geo

GEOFFREY B. RETHER PRACTISING MEMBER

# MAP NORFOLK - Community Web Map



12/2/2021, 10:50:27 AM

Land Parcels 1 ST. LADIS

Plan Lines

SITE LAYOUT AND APPROXIMATE TEST PIT LOCATIONS 1 ST. LADISLAUS STREET, COURTLAND

FIGURE 1

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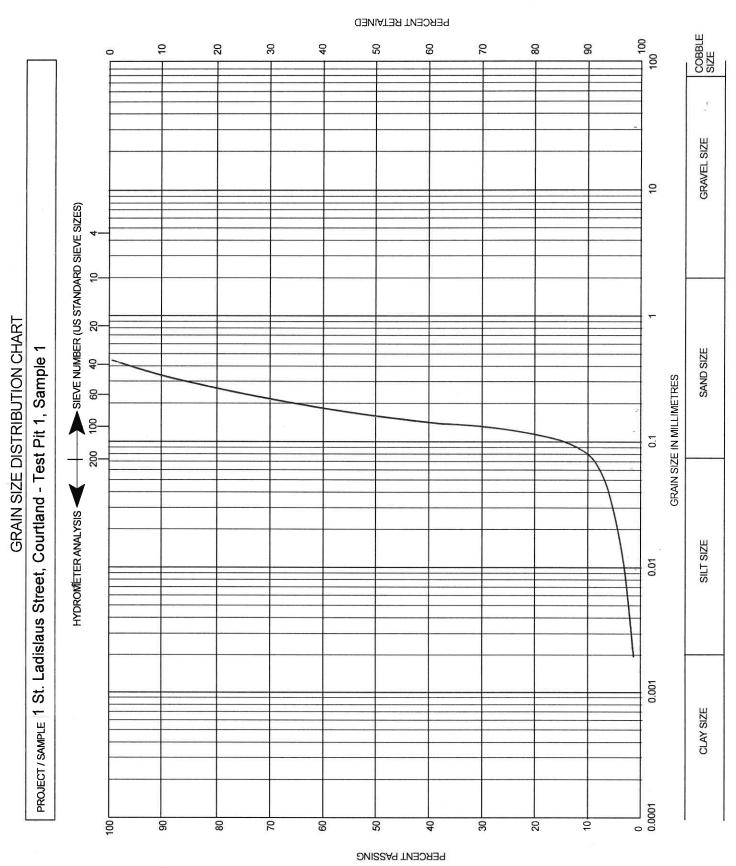
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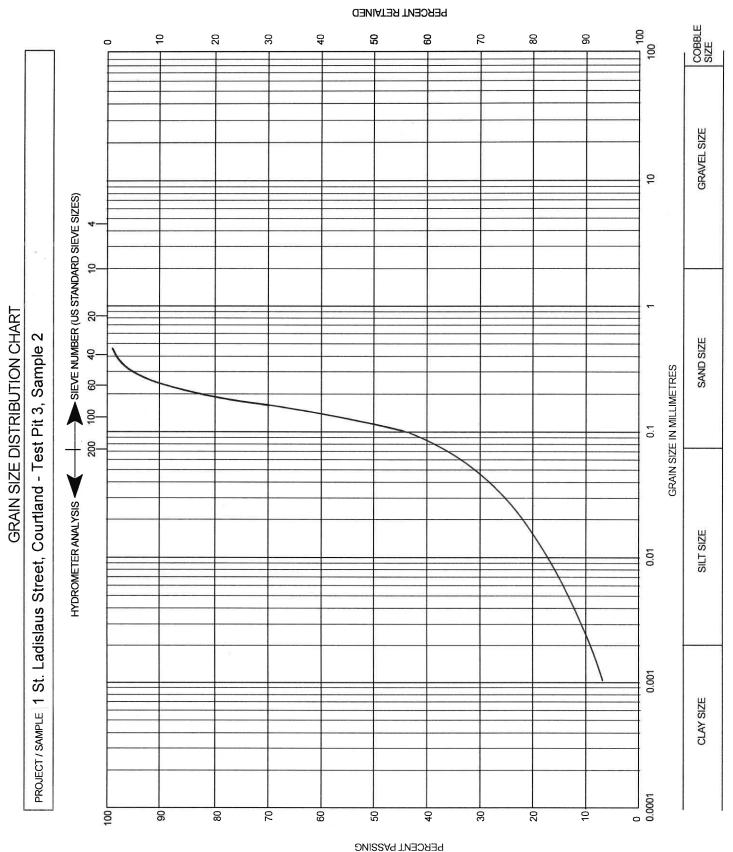
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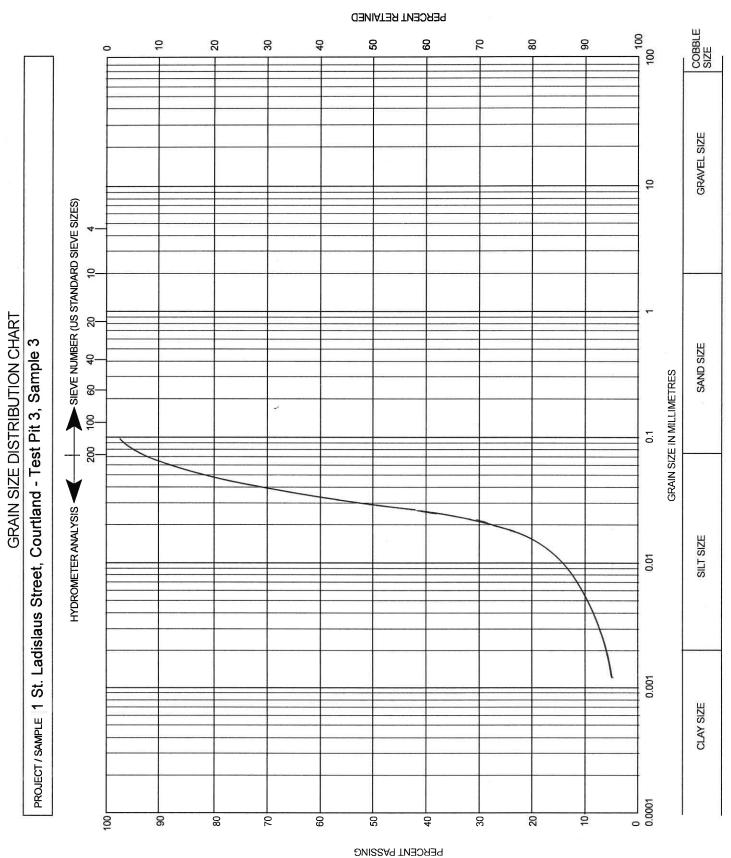
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IAN D. WILSON ASSOCIATES LIMITED



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Overburden and Bedrock Record		From ft.	To ft.	Depth(s) at which water(s) found	Kind of water (fresh, salty, sulphur)
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Licence Number. 427

I certify that the foregoing statements of fact are true.

Signature of Licensee

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# WATER WELL RECORD

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The Ontario Water Resources Act

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The Ontario Water Resources Act

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SALTY 6 MINERALY
FRESH 3 SULPHUR
SALTY 4 MINERAL 00101010 20017 GALVANIZED CONCRETE 61 PLUGGING & SEALING RECORD A [] GREN HOLE DEPTH SET AT . FEET 1 () STEEL 003 1 | FRESH 2 | SULPHUR 2 | SALIY 4 | MINERAL MATERIAL AND TYPE CEMENT GROUT. GALVANIZED 16qua 21 CONCRETE

OPEN HOLE 1 | FRESH 3 | SULPHUR 2 | SALIY 4 | MINERAL 1 D STEEL 22-25 # [] GALVANIZED 1 | FRESH 3 | SULPHUR
2 | SALTY 4 | MINERAL 26-21 10-33 6 4 17 OPEN HOLE PING TEST METHOD LOCATION OF WELL 2 C BAILER 0000 WATER LEVEL END OF PUMPING IN DIAGRAM BELOW SHOW DISTANCES OF WELL FROM ROAD AND STATIC WATER LEVELS DURING # CL. BECOVERY PUMPING TEST TO, DELHI 13/ 26-26 1028 GIVE RATE 1 DELEAR ¢ ☐ CLOUBY FEET RECONNENDED PUNP SETTING RECOMMENDED 45 FEET RATEDOOT THEFTS Courtland WATER SUPPLY
DESERVATION WELL
TEST HOLE 10 FINAL & ABANDONED, INSUFFICIENT SUPPLY . ABANDONES, POOR QUALITY STATUS LANGTON 7 TUNFINISHED OF WELL A TRECHARGE WELL 5 COMMERCIAL 1 POOMESTIC WATER COULING OR AL USE D 3 | IRRIGATION 4 D INDUSTRIAL

OTHER 9 D NOT USED DE CABLE TOOLS

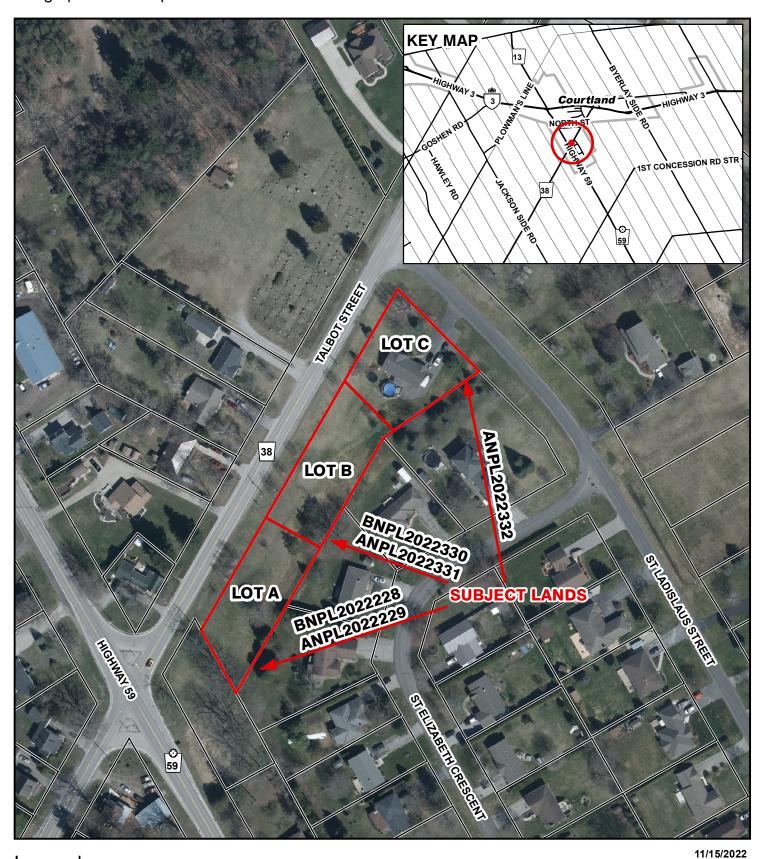
E DE ROTARY (CONVENTION

OF ROTARY (REVERSE) No 59 METHOD HWY OF DRILLING ROTAR DRILLERS BENARES 3030 150873 ONLY CONTRACTOR 210 USE 1,74 OFFICE CSS.S8

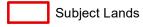
MINISTRY OF THE ENVIRONMENT COPY

FORM 7 07-091

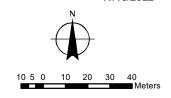
BNPL2022328, ANPL2022329 BNPL2022330, ANPL2022331 ANPL2022332



Legend



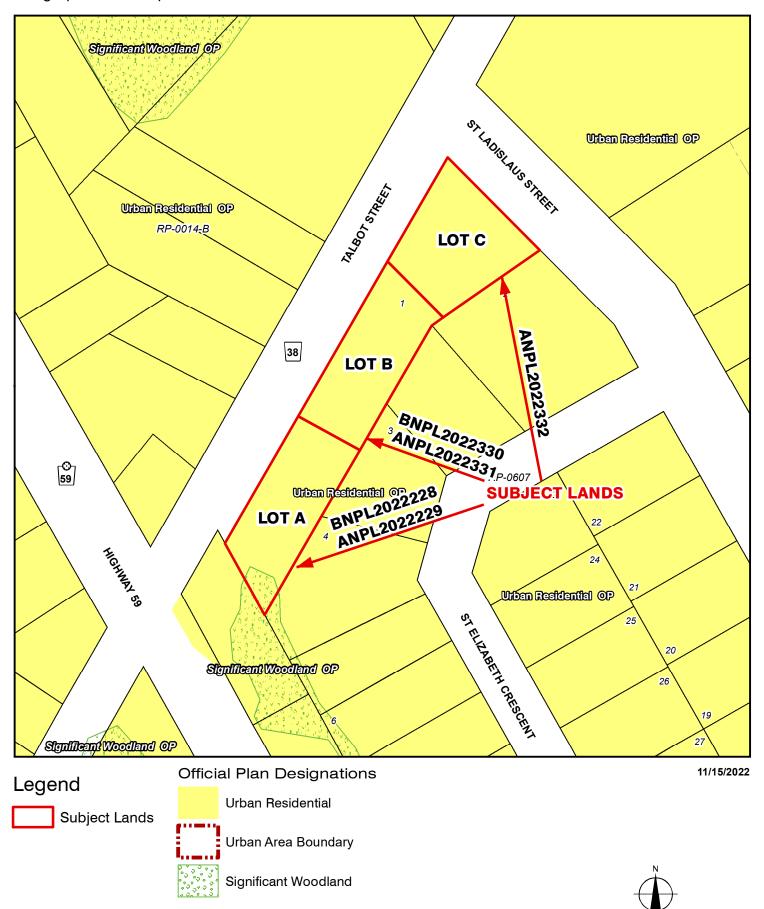
2020 Air Photo



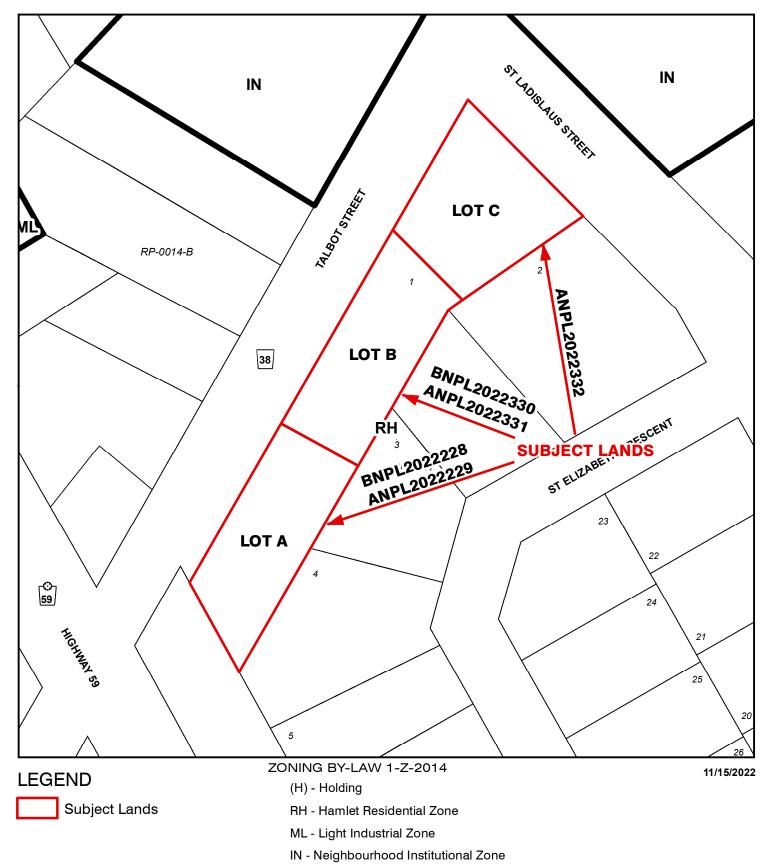
# MAP B OFFICIAL PLAN MAP

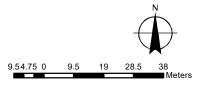
Geographic Township of MIDDLETON

BNPL2022328, ANPL2022329 BNPL2022330, ANPL2022331 ANPL2022332

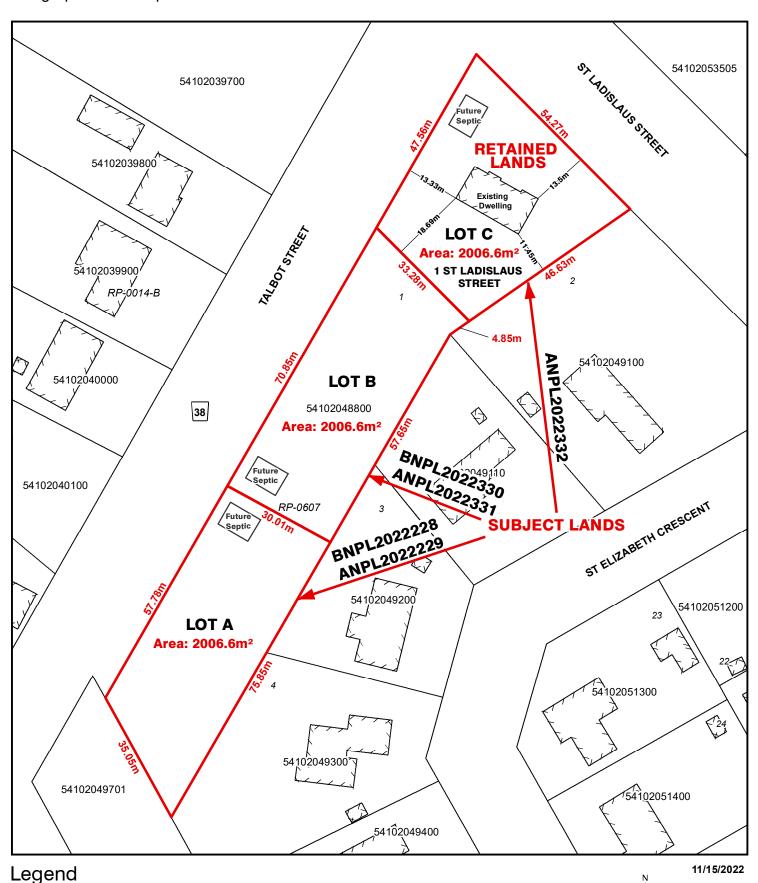


BNPL2022328, ANPL2022329 BNPL2022330, ANPL2022331 ANPL2022332





BNPL2022328, ANPL2022329 BNPL2022330, ANPL2022331 ANPL2022332



Subject Lands

7.5 3.75 0 7.5 15 22.5 30

### **LOCATION OF LANDS AFFECTED**

**CONCEPTUAL PLAN** 

Subject Lands

Geographic Township of MIDDLETON

BNPL2022328, ANPL2022329 BNPL2022330, ANPL2022331 ANPL2022332

7.5 3.75 0

