

For Office Use Only:

File Number	_____	Application Fee	_____
Related File Number	_____	Conservation Authority Fee	_____
Pre-consultation Meeting	_____	Well & Septic Info Provided	_____
Application Submitted	_____	Planner	_____
Complete Application	_____	Public Notice Sign	_____

Check the type of planning application(s) you are submitting.

- ☐ Consent/Severance/Boundary Adjustment
- ☐ Surplus Farm Dwelling Severance and Zoning By-law Amendment
- ☐ Minor Variance
- ☐ Easement/Right-of-Way

Property Assessment Roll Number: _____**A. Applicant Information****Name of Owner** _____

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 _____**Town and Postal Code** _____**Phone Number** _____**Cell Number** _____**Email** _____**Name of Applicant** _____**Address** _____**Town and Postal Code** _____**Phone Number** _____**Cell Number** _____**Email** _____

Name of Agent

Address

Town and Postal Code

Phone Number

Cell Number

Email

Please specify to whom all communications should be sent. Unless otherwise directed, all correspondence and notices in respect of this application will be forwarded to the owner and agent noted above.

☐ Owner

☐ Agent

☐ Applicant

Names and addresses of any holder of any mortgagees, charges or other encumbrances on the subject lands:

B. Location, Legal Description and Property Information

1. Legal Description (include Geographic Township, Concession Number, Lot Number, Block Number and Urban Area or Hamlet):

Municipal Civic Address: _____

Present Official Plan Designation(s): _____

Present Zoning: _____

2. Is there a special provision or site specific zone on the subject lands?

☐ Yes ☐ No If yes, please specify:

3. Present use of the subject lands:

4. Please describe **all existing** 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:

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.

6. Please describe **all proposed** 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:

7. Are any existing buildings on the subject lands designated under the *Ontario Heritage Act* as being architecturally and/or historically significant? Yes ☐ No ☐

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:

9. Existing use of abutting properties:

10. Are there any easements or restrictive covenants affecting the subject lands?

☐ Yes ☐ No If yes, describe the easement or restrictive covenant and its effect:

C. Purpose of Development Application

Note: Please complete all that apply. **Failure to complete this section will result in an incomplete application.**

1. Site Information (Please refer to Zoning By-law to confirm permitted dimensions)

	Existing	Permitted	Provision	Proposed	Deficiency
Lot frontage					
Lot depth					
Lot width					
Lot area					
Lot coverage					
Front yard					
Rear yard					
Height					
Left Interior side yard					
Right Interior side yard					
Exterior side yard (corner lot)					
Parking Spaces (number)					
Aisle width					
Stall size					
Loading Spaces					
Other					

2. Please explain why it is not possible to comply with the provision(s) of the Zoning By-law:

3. **Consent/Severance/Boundary Adjustment:** Description of land intended to be severed in metric units:

Frontage: _____

Depth: _____

Width: _____

Lot Area: _____

Present Use: _____

Proposed Use: _____

Proposed final lot size (if boundary adjustment): _____

If a boundary adjustment, identify the assessment roll number and property owner of the lands to which the parcel will be added: _____

Description of land intended to be retained in metric units:

Frontage: _____

Depth: _____

Width: _____

Lot Area: _____

Present Use: _____

Proposed Use: _____

Buildings on retained land: _____

4. **Easement/Right-of-Way:** Description of proposed right-of-way/easement in metric units:

Frontage: _____

Depth: _____

Width: _____
Area: _____
Proposed Use: _____

5. Surplus Farm Dwelling Severances Only: List all properties in Norfolk County, which are owned and farmed by the applicant and involved in the farm operation

Owners Name: _____
Roll Number: _____
Total Acreage: _____
Workable Acreage: _____
Existing Farm Type: (for example: corn, orchard, livestock) _____
Dwelling Present?: ☐ Yes ☐ No If yes, year dwelling built _____
Date of Land Purchase: _____

Owners Name: _____
Roll Number: _____
Total Acreage: _____
Workable Acreage: _____
Existing Farm Type: (for example: corn, orchard, livestock) _____
Dwelling Present?: ☐ Yes ☐ No If yes, year dwelling built _____
Date of Land Purchase: _____

Owners Name: _____
Roll Number: _____
Total Acreage: _____
Workable Acreage: _____
Existing Farm Type: (for example: corn, orchard, livestock) _____
Dwelling Present?: ☐ Yes ☐ No If yes, year dwelling built _____
Date of Land Purchase: _____

Owners Name: _____
Roll Number: _____
Total Acreage: _____
Workable Acreage: _____
Existing Farm Type: (for example: corn, orchard, livestock) _____
Dwelling Present?: ☐ Yes ☐ No If yes, year dwelling built _____
Date of Land Purchase: _____

Owners Name: _____
Roll Number: _____
Total Acreage: _____
Workable Acreage: _____
Existing Farm Type: (for example: corn, orchard, livestock) _____
Dwelling Present?: ☐ Yes ☐ No If yes, year dwelling built _____
Date of Land Purchase: _____

Note: If additional space is needed please attach a separate sheet.

D. All Applications: Previous Use of the Property

1. Has there been an industrial or commercial use on the subject lands or adjacent lands? ☐ Yes ☐ No ☐ Unknown

If yes, specify the uses (for example: gas station, or petroleum storage):

2. Is there reason to believe the subject lands may have been contaminated by former uses on the site or adjacent sites? ☐ Yes ☐ No ☐ Unknown

3. Provide the information you used to determine the answers to the above questions:

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? ☐ Yes ☐ No

E. All Applications: Provincial Policy

1. Is the requested amendment consistent with the provincial policy statements issued under subsection 3(1) of the *Planning Act*, R.S.O. 1990, c. P. 13? ☐ Yes ☐ 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? ☐ Yes ☐ 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.

4. All Applications: 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. All Applications: Servicing and Access

1. Indicate what services are available or proposed:

Water Supply

- | | |
|--|---|
| <input type="checkbox"/> Municipal piped water | <input type="checkbox"/> Communal wells |
| <input type="checkbox"/> Individual wells | <input type="checkbox"/> Other (describe below) |
-

Sewage Treatment

- | | |
|---|---|
| <input type="checkbox"/> Municipal sewers | <input type="checkbox"/> Communal system |
| <input type="checkbox"/> Septic tank and tile bed in good working order | <input type="checkbox"/> Other (describe below) |
-

Storm Drainage

- | | |
|---|---------------------------------------|
| <input type="checkbox"/> Storm sewers | <input type="checkbox"/> Open ditches |
| <input type="checkbox"/> Other (describe below) | |
-

2. Existing or proposed access to subject lands:

- | | |
|---|---|
| <input type="checkbox"/> Municipal road | <input type="checkbox"/> Provincial highway |
| <input type="checkbox"/> Unopened road | <input type="checkbox"/> Other (describe below) |

Name of road/street:

G. All Applications: Other Information

1. Does the application involve a local business? ☐ 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.

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, **may** also be required as part of the complete application submission:

- ☐ 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

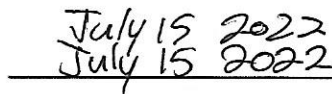
Permission is hereby granted to Norfolk County officers, employees or agents, to enter the premises subject to this application for the purposes of making inspections associated with this application, during normal and reasonable working hours.

Freedom of Information

For the purposes of the *Municipal Freedom of Information and Protection of Privacy Act*, I authorize and consent to the use by or the disclosure 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.


Maria Froese

Owner/Applicant/Agent Signature


July 15 2022
July 15 2022

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 Abram and Mary Froese am/are the registered owner(s) of the lands that is the subject of this application.

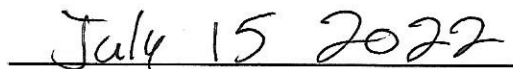
I/We authorize Mary Elder of Elder Plans Inc. to make this application on my/our behalf and to provide any of my/our personal information necessary for the processing of this application. Moreover, this shall be your good and sufficient authorization for so doing.



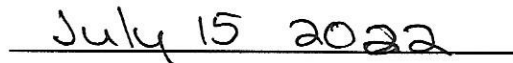
Owner


Maria Froese

Owner


July 15 2022

Date


July 15 2022

Date

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

I. Transfers, Easements and Postponement of Interest

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Owner/Applicant/Agent Signature

Maria Fruese

July 15 2022

Date

J. Owner's Authorization

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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

Maria Fruese

Owner

July 15 2022

Date

July 15 2022

Date

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

K. Declaration

I, Mary Elder of Norfolk County

solemnly declare that:

all of the above statements and the statements contained in all of the exhibits transmitted herewith are true 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*.

Declared before me at:

Mary Elder
Owner/Applicant/Agent Signature

In _____

This _____ day of _____

A.D., 20____

A Commissioner, etc.

K. Declaration

I, _____ of _____

solemnly declare that:

all of the above statements and the statements contained in all of the exhibits transmitted herewith are true 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*.

Declared before me at:

Owner/Applicant/Agent Signature

In _____

This _____ day of _____

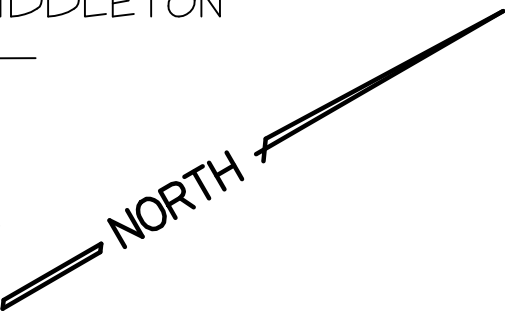
A.D., 20____

A Commissioner, etc.

PREPARED FOR PROPOSED SEVERANCE
FOR: ABRAM FROESE

164

164



1 1/2 STOREY DWELLING
AREA = 184.1 SQ. METRES
HEIGHT = 5.0m

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

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PROPERTY DESCRIPTION
PART OF LOT 164
CONCESSION SOUTH OF
TALBOT ROAD
GEOGRAPHIC TOWNSHIP
OF MIDDLETON
NORFOLK COUNTY

KIM HUSTED SURVEYING LTD.
ONTARIO LAND SURVEYOR
30 HARVEY STREET, TILLSBURG ONTARIO, N4G 3J8
PHONE: 519-842-3638 FAX: 519-842-3639

PROJECT: 21-17678

ABRAM FROESE

REF:
FILE

DWG.	WLF
CKD.	JGD

PREPARED FOR PROPOSED SEVERANCE
FOR: ABRAM FROESE

AREA = 0.202 HECTARES
(TO BE RETAINED)

AREA = 0.243 HECTARES
(TO BE SEVERED)



1 1/2 STOREY DWELLING
AREA = 184.1 SQ. METRES
HEIGHT = 5.0m

CAUTION

Instructions for Completing the Evaluation Form for Existing On-Site Sewage Systems

General Information Applicable to Sewage Evaluations:

1. Please complete the following form by checking appropriate lines and filling out blanks.
2. This Evaluation Form must be completed by a "Qualified" person engaged in the business of constructing on site, installing, repairing, servicing, cleaning or emptying sewage systems.
3. If sewage system malfunctions are found during an evaluation (surfacing or discharge of improperly treated sewage effluent) which indicate a possible health hazard or nuisance, orders may be issued for correction.
4. Evaluations should be scheduled accordingly so as not to delay the application process.
5. Completed Forms MUST be submitted **no later than 30 days** prior to the scheduled public meeting. Failure to meet this date may cause the application to be deferred.
6. Completed Forms must be returned to:

Building Division

Simcoe Office
8 Schellburg Ave.
Simcoe, ON N3Y 2J4
Fax: (519) 426-1186

Langton Office
22 Albert St.
Langton, ON N3Y 2J4
Fax: (519) 875-4789

7. Evaluation Forms will become part of the property records of Norfolk County Building Division.
8. No On-Site Sewage System Evaluation will be conducted where:
 - snow depth exceeds two (2) inches, or
 - grass and brush exceeds twelve (12) inches
9. The comments that are given as a result of this evaluation are rendered without complete knowledge or observation of some of the individual components of the sewage system and applies only to the date and time the evaluation is conducted.

Revised: March 24, 2011



Evaluation Form for Existing On-Site Sewage Systems

Date: July 2009

OFFICE USE ONLY		FILE NO.:		DATE RECEIVED:	
PROPERTY INFORMATION		Municipal Address: 1912 TALBOT ST. COURTAID.			
Owner: ABE FROESE		Lot:		Concession:	
Lot Area:		Lot Frontage:		Assessment Roll No.	
PURPOSE OF EVALUATION		<input type="checkbox"/> Consent <input type="checkbox"/> Minor Variance <input type="checkbox"/> Site Plan <input type="checkbox"/> Zoning <input type="checkbox"/> Other _____			
BUILDING INFORMATION		<input checked="" type="checkbox"/> Residential <input type="checkbox"/> Commercial <input type="checkbox"/> Industrial <input type="checkbox"/> Agricultural			
Building Area:		No. of Bedrooms:		No. of Fixture Units:	
Is the building currently occupied? Yes / No If No, how long?					
EVALUATOR'S INFORMATION		Evaluator's Name: RICHARD MILLEN		Company Name: MILLEN CONSTRUCTION	
Address: 1507 NCR 45 LANGTON AL.		Postal Code: N0E 1G0		Phone: 519 403 8590	
Email: millenconstruct@gmail.com		BCIN # 46141			
SITE EVALUATION		Ground Cover (trees, bushes, grass, impermeable surface): GRASS		Soil Type: CLAY	
Site Slope: <input type="checkbox"/> Flat <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Steep		Soil Conditions: <input type="checkbox"/> Wet <input checked="" type="checkbox"/> Dry		Depth of Water Table: 6 ft.	
Surface Discharge Observed: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		Odour Detected: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		Current Weather (at time of evaluation): SUNNY 24°C	
SYSTEM EVALUATION		Class of System: <input type="checkbox"/> 1 (Privy) <input type="checkbox"/> 2 (Greywater) <input type="checkbox"/> 3 (Cesspool) <input checked="" type="checkbox"/> 4 (Leaching Bed) <input type="checkbox"/> 5 (Holding Tank)			
Tank: <input checked="" type="checkbox"/> Pre-cast <input type="checkbox"/> Plastic <input type="checkbox"/> Fibre Glass <input type="checkbox"/> Wood <input type="checkbox"/> Other _____		Size: 1000 Gal.		Pump: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Distribution System: Area: <input type="checkbox"/> Trench Bed <input checked="" type="checkbox"/> Filter Medium		No. of Tile Runs: 4		Total Length of Tile: 80	
Distance Between Tile Runs: 4'-0"					
Tile Material: <input checked="" type="checkbox"/> PVC <input type="checkbox"/> Clay <input type="checkbox"/> Other		Ends: <input checked="" type="checkbox"/> Capped <input type="checkbox"/> Joined		Cover: <input checked="" type="checkbox"/> Filter Cloth <input type="checkbox"/> Sand <input checked="" type="checkbox"/> Top Soil <input type="checkbox"/> Seeded	
Setbacks:		Tank		Distribution Pipe	
Distance to Buildings & Structures (ft)		5'		20'-0	
Distance to Bodies of Water (ft)		NA.		NA.	
Distance to Nearest Well (ft)		Municipal Water ← 5			
Distance to Proposed Property Lines		Front 47 Rear 100 Side 20 Side 20		Front 25 Rear 170 Side 20 Side 20	

OVERALL SYSTEM RATING

☒ System Working Properly / No Work Required☐ System Functioning / Maintenance Required☐ System Not Functioning / Minor Repair Required☐ System Failure/Major Repair / Replacement Required**Note:**

Any repair/replacement of an on site sewage system requires a building permit. Contact the Norfolk County Building Division at (519) 426-4377 for more information.

Additional Comments:

GOOD.

VERIFICATION

OWNER:

The owner is responsible for having a site evaluation conducted of the above mentioned property. Neither the evaluation nor the approval thereof shall in any way exempt the owner(s) from complying with the Ontario Building Code or any other applicable law.

I, _____ (the owner of the subject property) hereby authorize the above mentioned evaluator to act on my behalf with respect to all matters pertaining to the existing on-site sewage system evaluation.



Owner Signature

June 8 22

Date

EVALUATOR:

1. I, Richard Nixon declare that this site evaluation is accurate as of the date of inspection. No determination of future performance can be made due to unknown conditions, future water usage over the life of the system, abuse of the system and/or inadequate maintenance, all of which may adversely affect the life of the system. This evaluation does not grant or imply any guarantee or warranty of the future performance of the sewage system. The undersigned takes no responsibility for the accuracy of existing or proposed property lines, whether measured or implied.



Evaluator Signature

June 8/22

Date

BUILDING DIVISION COMMENTS

Comments: _____

I, _____ have reviewed the information contained in this form as submitted.

Chief Building Official or designate

Date

Revised: March 24, 2012

DATE: JUNE 8/22

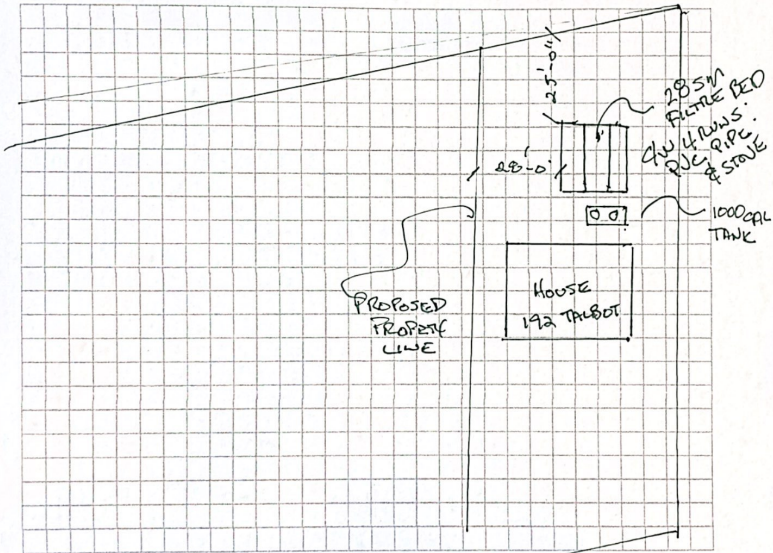
APPLICATION NUMBER: _____

OWNER: ABE FROESE

EVALUATOR: R. NIELSEN

PROPERTY ADDRESS: 192 TALBOT COURT RD.

Please provide a DIMENSIONED sketch drawing indicating EXISTING AND PROPOSED property lines, existing roads and driveways, location of all existing buildings, location of existing wells, and location of existing septic tanks and tile beds.



PREPARED BY: _____

NOTE: The above sketch is not to exact scale.

November 8, 2021

Mr. Richard Millen
Millen Construction
1507 Norfolk County Road 45
Langton, ON
N0E 1G0

Wilson Associates

Consulting Hydrogeologists

Dear Mr. Millen:

Re: Hydrogeological Assessment - Proposed Residential Severance
192 Talbot Street, Community of Courtland, Norfolk County

It is proposed to sever one residential lot from the existing 0.44ha property at 192 Talbot Street in the community of Courtland. The proposed severed lot will occupy the vacant southern half of the existing lot, and the retained lot will occupy the northern half of the existing lot. The attached sketch shows the location and layout of the site.

It is proposed to service the new lot 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 new lot area 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 October 12, 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 lot is located within the southeastern portion of the Community of Courtland, on the southeast side of Talbot Street, about 215m southwest of Main Street. Total frontage of the existing lot on Talbot Street is about 38m and the depth of the existing lot is about 74m. The existing lot is cleared and grassed, and contains one single family house in the lot's north half. The site exhibits a relatively flat relief, with a slight slope to the south or southeast. Lands to

the west, north and south are occupied by residential or commercial lots. Lands to the east are in agricultural use.

No surface water bodies are located on or in the close vicinity of the site, the closest being Little Otter Creek about 700m to the east 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 fine sand likely underlain by Port Stanley Till, a silt to silty clay glacial till. Historical well records indicate that the upper sands are locally in the range of 0.9m to 2.4m 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 slight gradient to the south or east, towards Little Otter Creek.

SOILS INVESTIGATION

Test Pits:

Two exploratory test pits were excavated within the proposed lot area on October 12, 2021. The test pits were each completed to a depth of 1.5m, 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/ Sample	Depth (m)	Grain-Size Distribution				“k” (cm/sec)	T-Time (min/cm)
		Clay %	Silt %	Sand %	Gravel %		
TP1 S1	0.3	3	13	84	0	1×10^{-3}	12
TP2 S2	1.2	36	56	8	0	10^{-7}	>50

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 with some silt (Unified Soil Classification Type “SM”), which is interpreted to exhibit a percolation rate in the range of 12 minutes/cm, overlying a clayey silt (Unified Soil Classification Type “CL”), which is interpreted to exhibit a percolation rate in excess of 50min/cm due to clay content.

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 - 0.71

0.71 - 1.52

Material

black TOPSOIL

red-brown, loose, dry to wet fine SAND with some silt and traces of clay

grey-brown, dense, wet clayey SILT with traces of sand

TEST PIT 2**Depth (m)**

0 - 0.23

0.23 - 0.45

0.45 - 1.52

Material

black TOPSOIL

red-brown, loose, dry to wet fine SAND with some silt and traces of clay

grey-brown, dense, wet clayey SILT with traces of sand

Shallow Groundwater Conditions:

Emergent groundwater was observed below 0.5m in both test pits. Evidence of seasonally elevated groundwater conditions (i.e. soil discolouration and/or mottling) was observed in each soil profile below 0.4m.

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 0.5m above current grade. Due to the limited thickness of the upper fine sand, a native soil design percolation rate of >50min/cm is recommended for design purposes, as applicable.

A standard fill-based sewage disposal system will require a contact area based on a loading rate of 4L/m²/day (i.e. 400m² for a standard 3-bedroom home with a design sewage flow of 1,600L/day, or 500m² 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 should be available for a 400m² or 500m² primary sewage disposal area, 400m² or 500m² reserve sewage disposal area, depending on house design. 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 flat to rolling (infiltration factor 25%) and the cover is cleared (infiltration factor 10%), all resulting in an infiltration factor of 75%. 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 326mm (75% of 435mm), representing 34% of average annual precipitation in the sub-watershed.

The following mass-balance formula is used to calculate the maximum density of the proposed retained and severed lots (total area of parcel = 0.44ha) under the MECP guideline:

$$Q_T C_T = Q_S C_S + Q_P C_P$$

Where:

Q_T = Sum of Q_S and Q_P

C_T = Nitrate concentration (10mg/L, maximum permitted under the guideline)

Q_S = Volume of sewage (2 lots @ 1000 L/day/lot, per MECP guideline)

C_S = Nitrate content of sewage (40 mg/L)

Q_P = Infiltration (326mm/year x 0.44ha x 10,000L/mm/ha = 1.43×10^6 L/yr)

C_P = Nitrate content of shallow groundwater (1mg/L assumed, see above)

Therefore:

$$(Q_S + 1.43 \times 10^6 \text{ L/yr}) \times 10 \text{ mg/L} = (Q_S \times 40 \text{ mg/L}) + (1.43 \times 10^6 \text{ L/yr} \times 1 \text{ mg/L})$$

$$Q_S = 4.29 \times 10^5 \text{ L/year}$$

$$\text{Number of Lots} = 4.29 \times 10^5 \text{ L/yr} \div 1,000 \text{ L/day/lot} \div 365 \text{ days/yr} = 1.1 \text{ Lots}$$

Based on the MECP-specified daily volume of sewage for the purposes of the Procedure D-5-4 assessment, and an infiltration rate of 326mm/year, the maximum number of lots on the parcel (0.44ha total) under the MECP guideline is 1 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 two lots to be viable under the guideline, either both of the lots will be required to utilize an individual subsurface sewage disposal system equipped with tertiary treatment capable of nitrate reduction (to an N-I level of nitrate reduction (50%) under CAN/BNQ 3680-600) or one of the lots will be required to utilize an individual subsurface sewage disposal system equipped with tertiary treatment capable of nitrate reduction (to an N-II level of nitrate reduction (75%) under CAN/BNQ 3680-600). 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 above mass-balance formula is revised to assume the use of nitrate reduction technology (to an N-II level of nitrate reduction (75%) under CAN/BNQ 3680-600) on one of the lots.

$$Q_T C_T = Q_S C_S + Q_P C_P$$

Where:

Q_T = Sum of Q_S and Q_P

C_T = Maximum nitrate concentration (10mg/L)

Q_S = Volume of sewage (2 lots @ 1000 L/day/lot, per MECP guideline)

C_S = Nitrate content of sewage (one lot untreated at 40mg/L and one lot treated to 10mg/L, averaging 25mg/L)

Q_P = Infiltration (1.43×10^6 L/yr)

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

Therefore:

$$(Q_S + 1.43 \times 10^6 \text{ L/yr}) \times 10 \text{ mg/L} = (Q_S \times 25 \text{ mg/L}) + (1.43 \times 10^6 \text{ L/yr} \times 1 \text{ mg/L})$$

$$Q_S = 8.58 \times 10^5 \text{ L/year}$$

$$\text{Number of Lots} = 8.58 \times 10^5 \text{ L/yr} \div 1,000 \text{ L/day/lot} \div 365 \text{ days/yr} = 2.4 \text{ Lots}$$

Based on the above, the sewage system on the proposed severed lot will be required to utilize nitrate reduction technology capable of an average nitrate reduction of at least 75% (i.e. 10mg/L nitrate, to an N-II level of nitrate reduction (75%) under CAN/BNQ 3680-600). Municipal support and long-term maintenance agreements for individual sewage treatment units are required.

Based on the above, if treatment to an N-I level of nitrate reduction (50%) under CAN/BNQ 3680-600 is utilized, both lots will be required to incorporate nitrate reduction treatment to an N-I level, which will actually reduce the overall level of impact from using an N-II level of treatment on one of the lots as the average nitrate content of sewage from the two lots will be reduced to 20mg/L.

CONCLUSIONS AND RECOMMENDATIONS

1. The soil profile consisted of a fine sand with some silt (Unified Soil Classification Type "SM"), which is interpreted to exhibit a percolation rate in the range of 12 minutes/cm, overlying a clayey silt (Unified Soil Classification Type "CL"), which is interpreted to exhibit a percolation rate in excess of 50min/cm due to clay content.
2. Due to indications of elevated watertable conditions, the bases of tile trenches should be set no lower than 0.5m above current grade.

3. A standard fill-based sewage disposal system will require a contact area based on a loading rate of $4\text{L/m}^2/\text{day}$ (i.e. 400m^2 for a standard 3-bedroom home with a design sewage flow of $1,600\text{L/day}$, or 500m^2 for a standard 4-bedroom home with a design sewage flow of $2,000\text{L/day}$).
4. Under MECP Procedure D-5-4, for the two lots to be viable, one of the lots will be required to utilize an individual subsurface sewage disposal system equipped with tertiary treatment capable of an N-II level of nitrate reduction (75%) under CAN/BNQ 3680-600. If treatment to an N-I level of nitrate reduction (50%) under CAN/BNQ 3680-600 is utilized, both lots will be required to incorporate nitrate reduction treatment to an N-I level.
5. Based on the findings of the preceding analysis, development of the subject lands as two residential 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.



MAP NORFOLK - Community Web Map



11/5/2021, 2:54:18 PM

SITE LAYOUT AND APPROXIMATE TEST PIT LOCATIONS

192 TALBOT STREET, COURTLAND

- ☐ Land Parcels
- ☐ Plan Lines
- ☐ DraftPlan

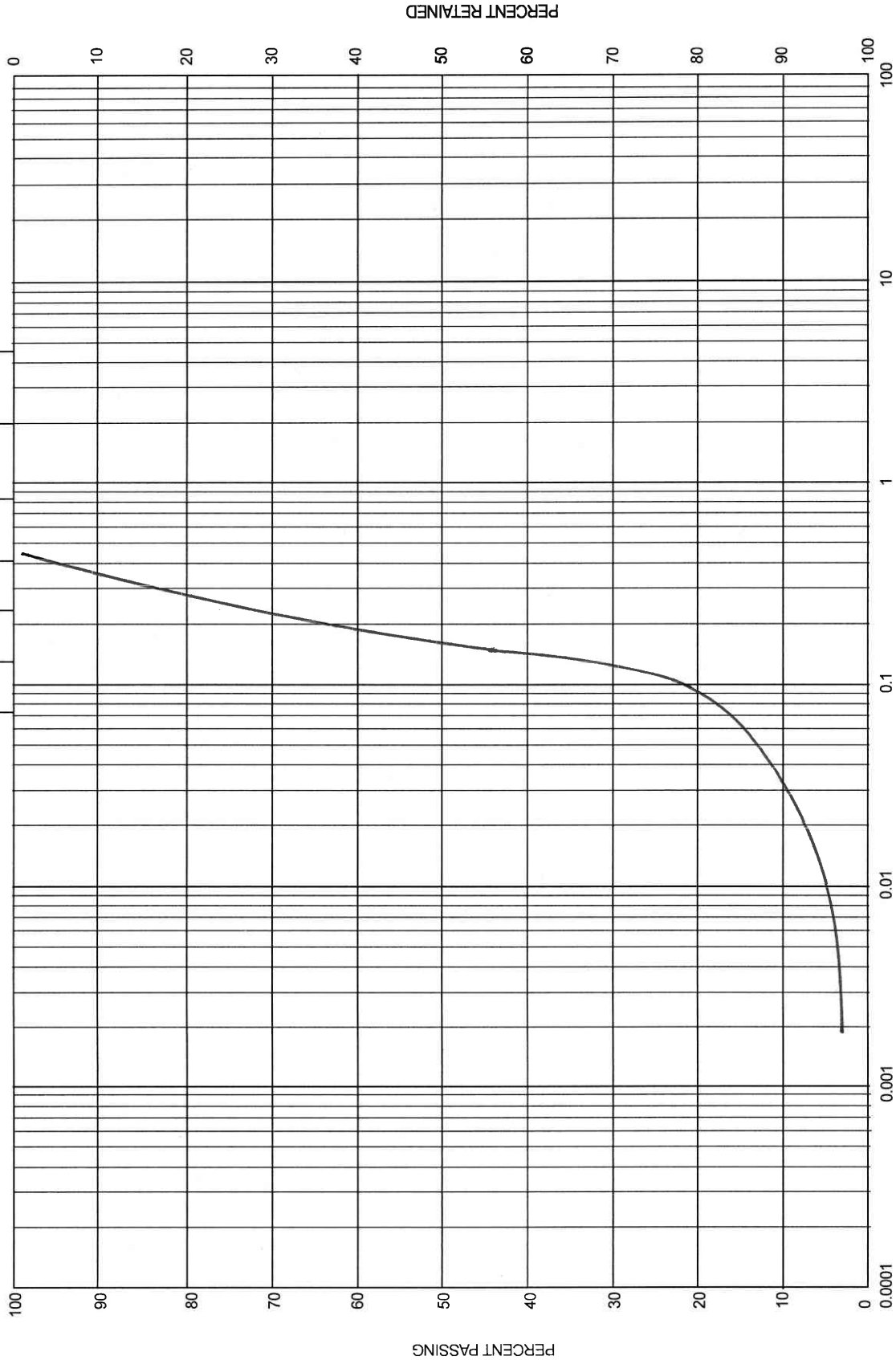
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Queen's Printer for Ontario
Norfolk GIS

GRAIN SIZE DISTRIBUTION CHART

PROJECT / SAMPLE 192 Talbot Street, Courtland - Test Pit 1, Sample 1

HYDROMETER ANALYSIS ← | → SIEVE NUMBER (US STANDARD SIEVE SIZES)

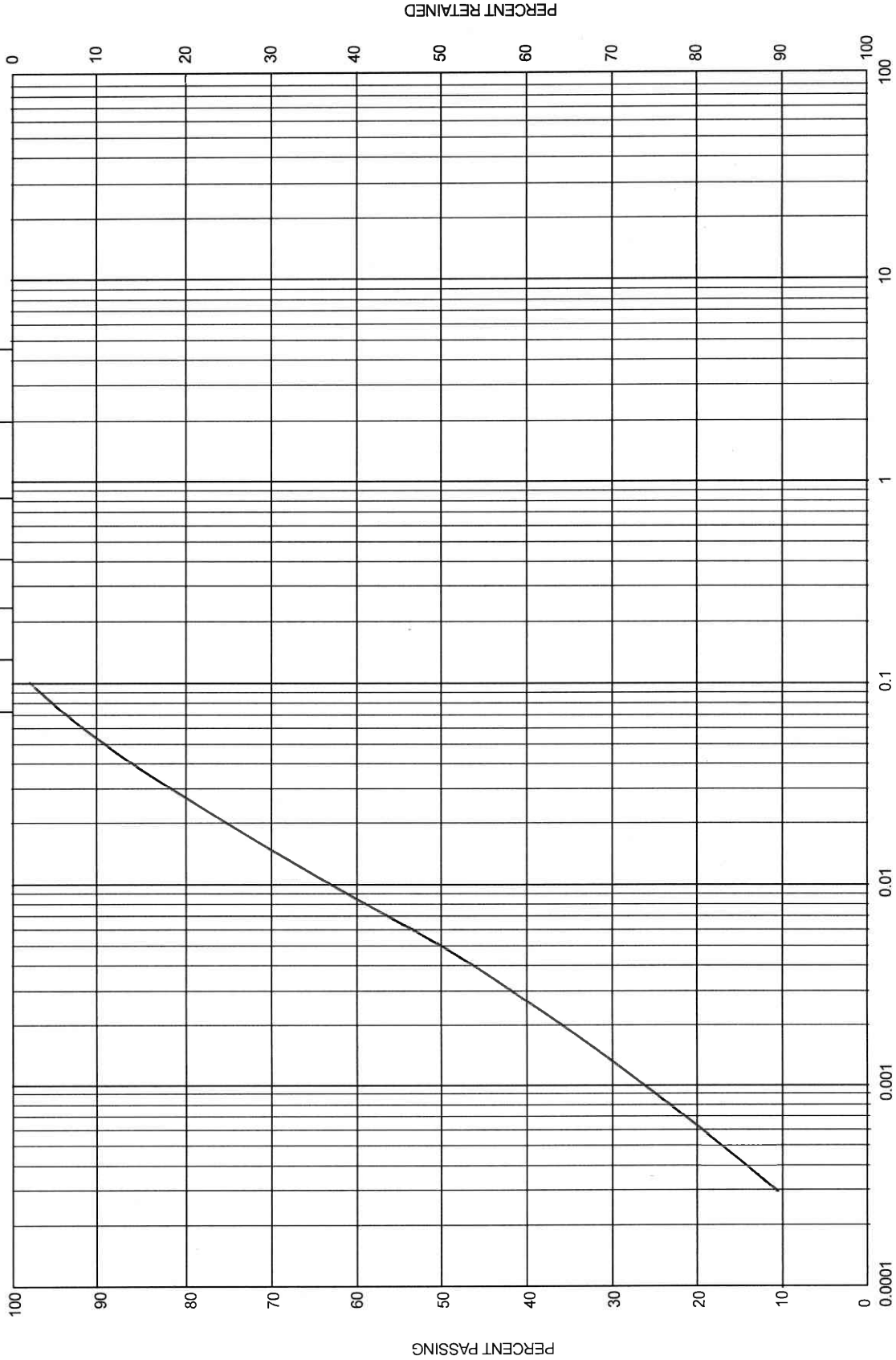


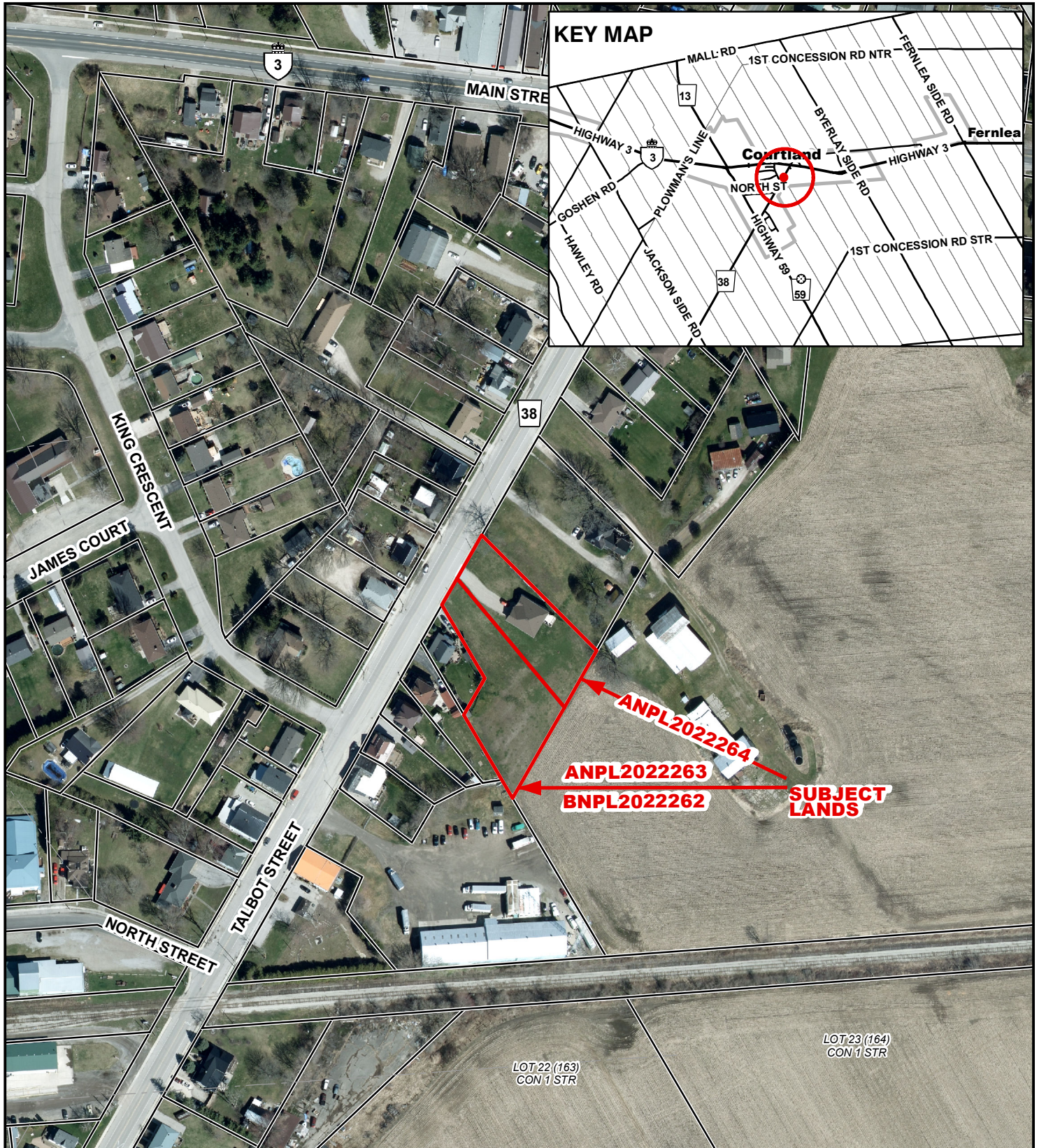
CLAY SIZE		SILT SIZE		SAND SIZE		GRAVEL SIZE		COBBLE SIZE	

GRAIN SIZE DISTRIBUTION CHART


PROJECT / SAMPLE 192 Talbot Street, Courtland - Test Pit 2, Sample 2

HYDROMETER ANALYSIS ← → SIEVE NUMBER (US STANDARD SIEVE SIZES)





Legend

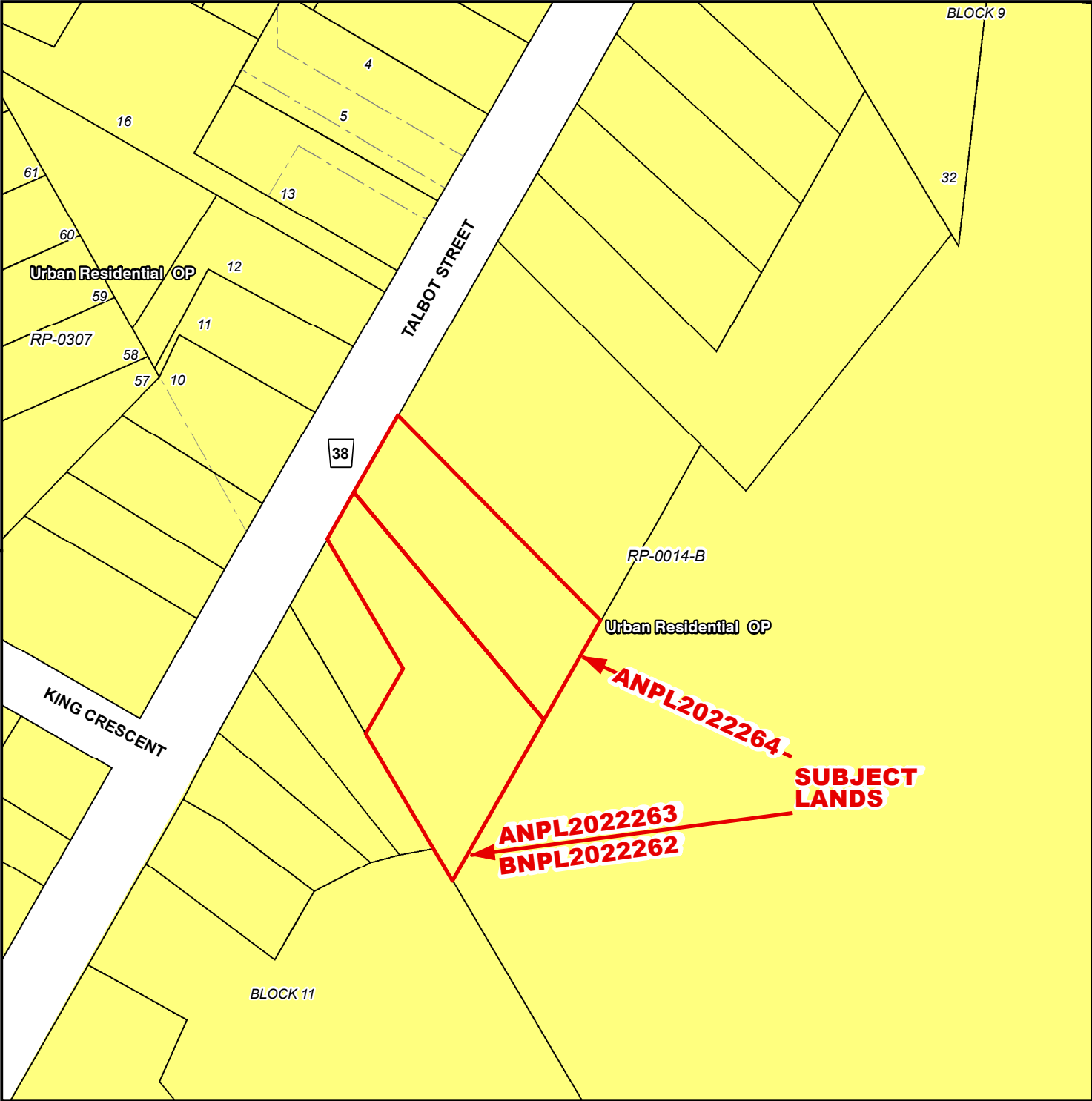
 Subject Lands

2020 Air Photo

8/31/2022



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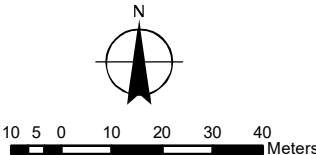
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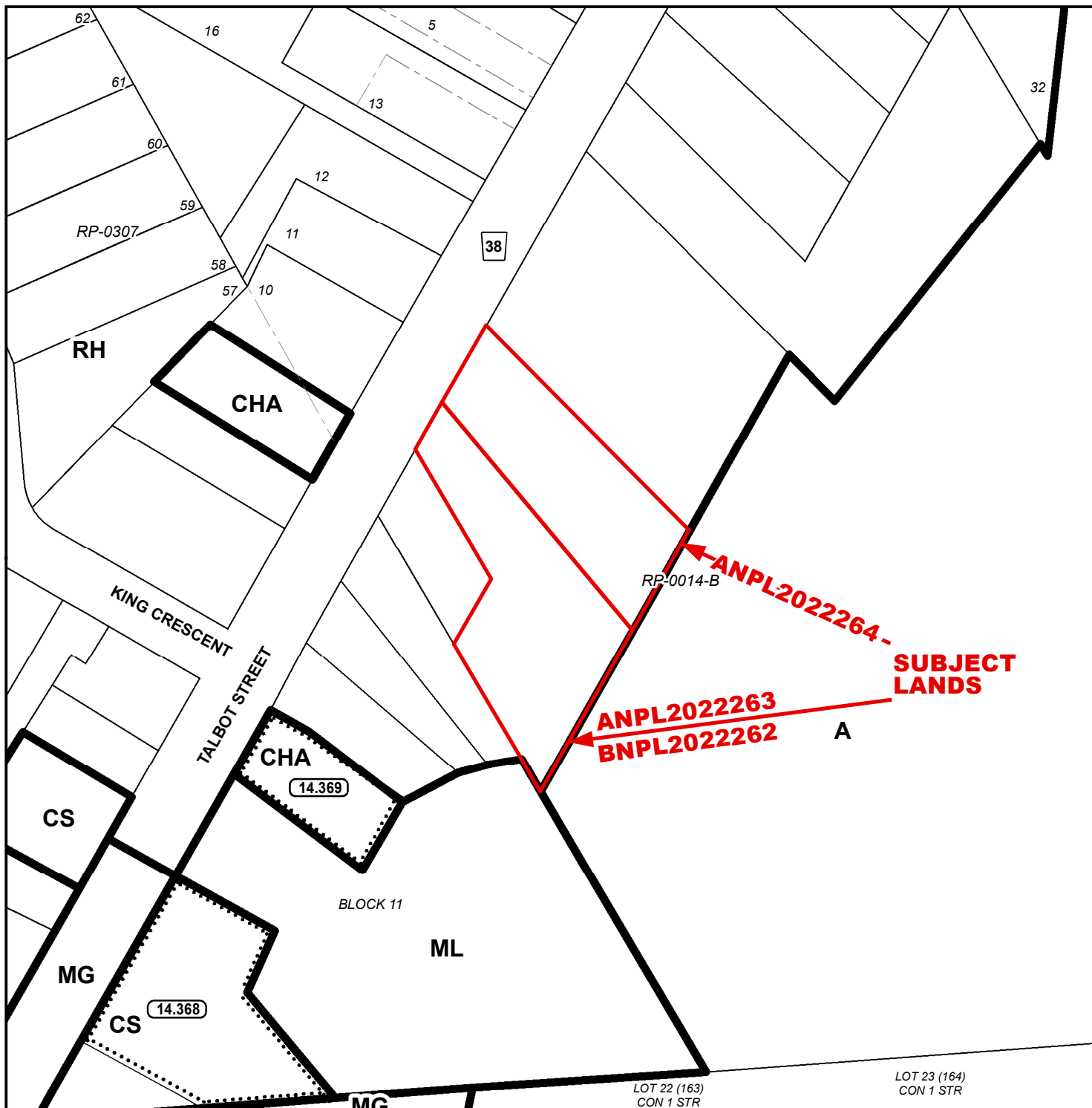
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Official Plan Designations

- Urban Residential
- Urban Area Boundary

8/31/2022





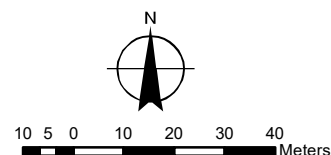
LEGEND

Subject Lands

ZONING BY-LAW 1-Z-2014

8/31/2022

- (H) - Holding
- A - Agricultural Zone
- CHA - Hamlet Commercial Zone
- CS - Service Commercial Zone
- MG - General Industrial Zone
- RH - Hamlet Residential Zone
- ML - Light Industrial Zone



MAP D

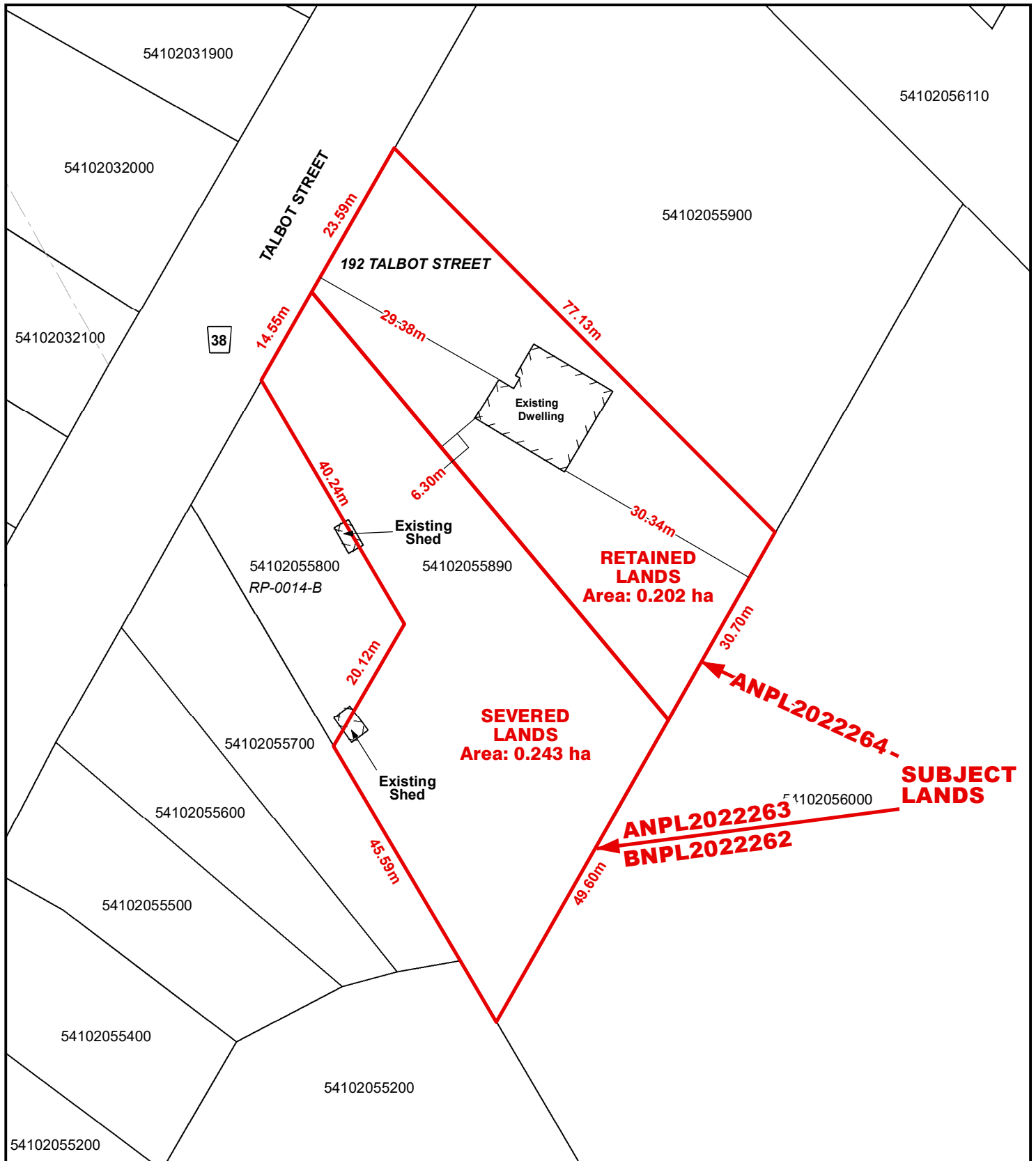
CONCEPTUAL PLAN

Geographic Township of MIDDLETON

BNPL2022262

ANPL2022263

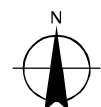
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Legend

Subject Lands

8/31/2022



6 3 0 6 12 18 24 Meters

LOCATION OF LANDS AFFECTED

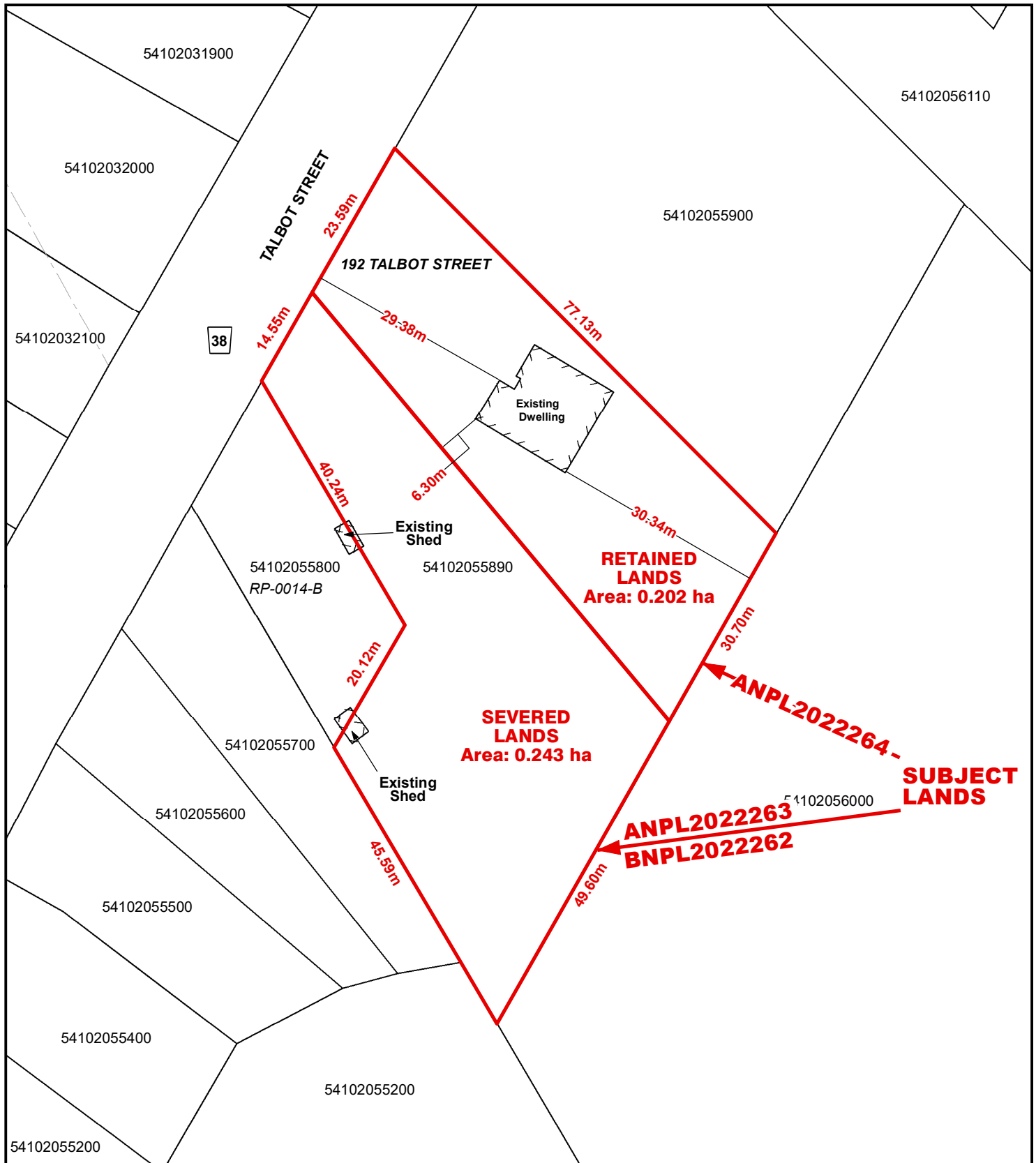
CONCEPTUAL PLAN

Geographic Township of MIDDLETON


BNPL2022262

ANPL2022263

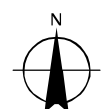
ANPL2022264



Legend

 Subject Lands

8/31/2022



6 3 0 6 12 18 24 Meters