The Corporation of the Municipality of Whitestone

Agenda of Regular Council Meeting
Tuesday October 4, 2022

Dunchurch Community Centre

and

Join Zoom Meeting **(Video)**
https://us02web.zoom.us/j/84700399599

(Phone Call Only)
Dial +1 647 558 0588 then Enter Meeting ID: 84700399599#

Meetings are recorded. Both the audio and video are posted on the Municipal Website

---

1. Call to Order and Roll Call **6:30 p.m.**

National Anthem

Indigenous Land Acknowledgement Statement

The Municipality of Whitestone recognizes all of Canada resides on traditional, unceded and/or treaty lands of the Indigenous People of Turtle Island.

We recognize our Municipality on The Robinson Huron Treaty territory is home to many past, present and future Indigenous families.

This acknowledgment of the land is a declaration of our commitment and collective responsibility to reconcile the past, and to honour and value the culture, history and relationships we have with one another.

2. Disclosure of Pecuniary Interest

3. Approval of Agenda ®

4. Presentations and Delegations

4.1 Whitestone Agricultural Committee
Presentation of *DRAFT* Animal Bylaw ®

4.2 Lorimer Lake Association, Cecelia Parks and Gary Monaghan
Lorimer Lake – Lake Capacity discussion ®

Matters Arising from Presentations and Delegations

Move into Committee of the Whole ®

5. Planning Items

5.1 Consent Application B43/2022(W) – SKEBA ®
- Memorandum from John Jackson, Planner dated September 12, 2022

5.2 Consent Application B50/2022(W) – STILES ®
- Memorandum from John Jackson, Planner dated September 14, 2022

5.3 Consent Application B50/2022(W) – BLACK ®
- Memorandum from John Jackson, Planner dated September 7, 2022

5.4 Proposed Official Plan Amendment #3 – Lorimer Lake ®
- Report from Mayor George Comrie dated September 20, 2022.

Reconvene into Regular Meeting ®

Matters Arising from Committee of the Whole

6. Public Meeting - None

7. Consent Agenda ®
Items listed under the Consent Agenda are considered routine and will be enacted in one motion. A Member of Council may request one or more items to be removed from the Consent Agenda for separate discussion and/or action.

7.1 Council and Committee Meeting Minutes
7.1.1 Special Council Meeting Minutes for Monday, September 19, 2022
7.1.2 Regular Council Meeting Minutes for Tuesday, September 20, 2022.

7.2 Unfinished Business (listed on pages 4-9)

Matters Arising from Consent Agenda

8. Accounts Payable
8.1 Accounts Payable ®

9. Staff Reports - None

10. By-Laws
10.1 By-law 52-2022, being a By-law for the Appointment of Integrity Commissioner Services for the Municipality of Whitestone ®

11. Business Matters - None

11. Correspondence

Matters Arising from Correspondence

12. Councillor Items

13. Questions from the Public

14. Confirming By-law ®

15. Adjournment ®

UNFINISHED BUSINESS

DATE	ITEM AND DESCRIPTION	ASSIGNED TO	STATUS
2018	Official Plan Amendment (OPA) Number 2 Private Road Development Land uses on vacant lots and Trailers and Campers	Planning Consultant / Staff	At the Regular Council meeting of June 7, 2022, Council passed By-law 27-2022 being a By-law to adopt Official Plan Amendment No. 2 to the Official Plan for the Municipality of Whitestone. The Municipality has forwarded the appropriate documentation to the Ministry of Municipal Affairs and Housing (MMAH) Update on approval protocols to Council at the Regular Council meeting of September 6, 2022 Revised notice posted as of September 9, 2022 There are no appeals to OPA2 Next steps: Planning Consultant John Jackson will provide a report to the October 18, 2022 Regular Council meeting in respect to the necessary Zoning By-law Amendments
April 2019	Animal and Bird Control By-law	Agricultural Committee	Update on this matter as of March 16, 2020: A proposed/draft By-law currently under review by the By-law Enforcement Officers (March 2020) and the Committee. Presentation to Council of a DRAFT By-law for information and discussion scheduled for the Regular Council meeting of October 4, 2022 by the Agricultural Committee
March 15, 2021	Review of By-law 20-2014 (being a By-law for the licensing, regulating/governing of rental units in Whitestone)	Ad Hoc Committee	The Committee is currently working the Planner John Jackson to make revisions to the Zoning By-law in respect of reference to Short Term Rental Units.

			On June 7, 2022 Council passed a By-law to amend the Municipality's Zoning By-law in regards to a revision of the definition of Short Term Rental Unit. The last date for filing a notice of appeal was the 11th day of July, 2022 A revised By-law for the licensing, regulating/governing of rental units and protocol is in process and will be shared with Council in December 2022 or January 2023
AS OF JANUARY 2022			
Feb 22, 2022	Staff Report PW-2022-01 Churlee Road Boat Launch **THAT** the Council of the Municipality of Whitestone does hereby receive Staff Report PW-2022-01 (Churlee Road Boat launch) for information, **AND THAT** the Council of the Municipality of Whitestone does hereby provide the following direction: Staff to investigate further requirements for boat launching on the north basin of Whitestone Lake	Manager of Public Works	Report presented at the September 6, 2022 Regular Council meeting. Follow-up from the September 6, 2022 Council meeting – staff to consider the possibility of a boat launch adjacent to a CRA that runs off of Farley's Road.
March 15, 2022	By-law 16-2022, being a By-law for a Zoning By-law amendment to rezone Part of Lot 39, Concession A, geographic Township of McKenzie, now in the Municipality of Whitestone from the Rural (RU) Zone to a Rural (RU) Exception Zone – ANDERSON/PATTERSON *"4.04.8…A garage/storage building up to 150 m² may be permitted on Part of Lot 32, Concession 1 in the geographic Township of McKenzie subject to a minimum set back from Debois Trail of 20 metres and all other*	Planning Staff and CBO	To be reviewed with the Applicant January 2024

	applicable requirements for the Rural (RU) Zone for a period of 3 years from the date of passage of this By-law." *"On March 15, 2025, Special Exception No. 4.04.8 will no longer be in force and in effect and the lands will be subject to the provisions of the zoning By-law as if the Exception RU-4.04.8 was never in place. Upon the expiry of this date, the provision of 34(9) shall not apply."*		
April 19, 2022	Report from WahWashKesh Landings Task Force regarding Paid and Enforced Parking. **THAT** the Council of the Municipality of Whitestone does hereby receive the report of the WahWashKesh Landings Task Force dated April 19, 2021 regarding paid and enforced parking for information, and consider its recommendations	Mayor Comrie with assistance of staff as needed	Ongoing
	Report from WahWashKesh Landings Task Force regarding Paid and Enforced Parking. **THAT** the Council of the Municipality of Whitestone does hereby approve in principle the introduction of paid and enforced parking at the WahWashKesh landings, as soon as practical.	Mayor Comrie with assistance of staff as needed	Anticipated for 2023
	Report from WahWashKesh Landings Task Force regarding Paid and Enforced Parking. **THAT** the Council of the Municipality of Whitestone does hereby request staff to bring forward an amendment to By-law 38-2016, being a By-law to regulate traffic and to govern and control the parking of vehicles within the Municipality of Whitestone, in support of the implementation of enforced parking at the WahWashKesh landings, as soon as practical	Mayor Comrie with assistance of staff as needed	

	Report from WahWashKesh Landings Task Force regarding Paid and Enforced Parking. **THAT** the WahWashKesh Landings Task Force develop an implementation plan for paid and enforced permit parking at the WahWashKesh landings in cooperation with the WahWashKesh Conservation Association and Municipal Staff.	Mayor Comrie with assistance of staff as needed	
	Report from WahWashKesh Landings Task Force regarding Paid and Enforced Parking. **THAT** the WahWashKesh Landing Task Force negotiate a revised agreement with the WahWashKesh Conservation Association with respect to the WahWashKesh landings, following the WWKCA 2022 AGM, for ratification by Whitestone Council.	Mayor Comrie with assistance of staff as needed	
June 7, 2022	Request from Board Chairperson, West Parry Sound Recreation and Cultural Centre, Draft Agreement for consideration **THAT** the Council of the Municipality of a Whitestone requests the CAO/Clerk to review the terms of the Draft Agreement in respect of the Municipality of Whitestone financial commitments to the West Parry Sound Recreation and Cultural Centre, with representatives of the Steering Committee and the Municipal Services Board and report back to Council at a future date with recommendations	CAO/Clerk	Agreement discussed at September 20, 2022 Regular Council meeting. Amendments agreed to by Council. CAO/Clerk to seek guidance in respect of entering into the agreement during Lame Duck.
	ADMIN-2022-09 Lorimer Lake Resort Property – wetlands / beaver pond **THAT** the Council of the Municipality of Whitestone does hereby receive report ADMIN-2022-09 (Lorimer Lake Resort property – wetlands / beaver pond) for information.	Planning Consultant	**Clerks Note:** Members of Council had an interest in pursuing this matter further with a request to: • Provide a report on EP Zones that were inadvertently eliminated from the Zoning Maps in 2018 • A typical Fill By-law

			• A typical Site Alteration By-law and • A review of how other local Municipalities manage EP Zones In progress; no date has been set by the Consultant at this time for completion.
July 5, 2022	AMBIANCE FINE HOMES INC. Proposed Zoning By-law amendment is to rezone part Lots 40 and 41, Concession A, in the geographic Township of Hagerman and fronting on Highway 124, from the Industrial Pit (M2) Zone to the Industrial (M1) Zone. **THAT** the Council of the Municipality of Whitestone receives the Ambiance Fine Homes Inc. Proposed Zoning By-law amendment to rezone part of Lots 40 and 41, Concession A, in the geographic Township of Hagerman and fronting on Highway 124, from the Industrial Pit (M2) Zone to the Industrial (M1) Zone for information. **AND THAT** the following direction is hereby provided with respect to the next steps: A peer review to be conducted of the planning, environmental, and socio-economic issues associated with the application to address the questions raised by the public, and suggest mitigation measures, at the applicant's cost	CAO/Clerk and Planning Consultant	Per media release on September 21, 2022 an appeal to the Local Planning Appeal Tribunal (LPAT) has been received and is in progress.
July 19, 2022	Subdivision Application S01/2022(W) – STO NETWORK CONSULTING INC., 12628465 CANADA INC. (Graham Keene)**THAT** staff work with John Jackson and the applicant to address the concerns raised in the Public Meeting	Staff and Planning Consultant	Review in progress – The report expected for October 4, 2022 Regular Council has been delayed; no date has been provided at this time.
August 2, 2022	**THAT** the Council of the Municipality of Whitestone does hereby receive the request from the Whitestone McKellar Lions Club for a	Manager of Public Works	In progress; delivery three (3) to four (4) weeks as of September 14, 2022

	new Bottle Shed at the Aulds Road Landfill for information purposes; **AND THAT** Staff find the necessary funds in the current year's budget		
September 6, 2022	Reminder of the installation of a plaque honouring former Mayor Chris Armstrong, at the Gooseneck Lake boat launch new dock	Staff	Plaque has been ordered, expected delivery is week of October 10, 2022.
	Fire Fighter Certification (per correspondence from Fire Marshal's Office) - Funding opportunity	Fire Chief	In progress
September 20, 2022	Staff will consider accessibility needs at the Dundome, the Community Centre and Municipal Office for the 2023 budget	Public Works Manager	2023 Budget

END

Correspondence

(listed in the order they were received by the Clerks Department)

A. Town of Parry Sound letter to Graydon Smith, MPP regarding completion of four lane of Highway 69 and 400 dated September 16, 2022.
B. Town of Parry Sound letter to Stephen Lecce, Minister of Education regarding the Parry Sound Mega School dated September 16, 2022.
C. Tay Valley Township resolution regarding the OMAFRA Ontario Wildlife Damage Compensation Program Administration Fee dated August 31, 2022.
D. Township of Alnwick/Haldimand resolution regarding the OMAFRA Ontario Wildlife Damage Compensation Program Administration Fee dated September 23, 2022.
E. Ministry of Municipal Affairs and Housing letter from Minister Steve Clark regarding public consultation in land use planning process dated September 26, 2022.
F. Municipality of Grey Highlands resolution regarding fines for speeding over 20 km/hr dated September 26, 2022.
G. Kris and Yannick Bigourdan, et al email regarding parking at the end of Farley's Road dated September 26, 2022.
H. Office of the Chief Veterinarian for Ontario letter regarding avian influenza (H5N1) in domestic poultry dated September 23, 2022.
I. Dunchurch Agricultural Society letter dated September 21, 2022.

PRESENTATIONS AND DELEGATIONS

THE CORPORATION OF THE MUNICIPALITY OF WHITESTONE

BY-LAW NO. xx-2020

Being a By-Law to Regulate the Care and Control of Livestock in Rural Residential and Waterfront Residential Property

---

WHEREAS sections 8, 9 and 10 of the *Municipal Act*, 2001, R.S.O, authorize the Municipality of Whitestone to pass by-laws necessary or desirable for municipal purposes, and in particular paragraphs 5, 8 and 9 of subsection 10(2) authorize by-laws respecting: the economic, social and environmental well-being of the municipality; the protection of persons and property; and animals;

AND WHEREAS subsection 103 (1) of the *Municipal Act*, 2001, R.S.O provides that if a By-law is passed regulating or prohibiting with respect to the being at large of animals, the By-law may provide for the seizure and impounding of animals being at large and the sale of impounded animals;

AND WHEREAS section 425 of the *Municipal Act*, 2001, R.S.O as amended authorizes the Municipality of Whitestone to pass By-laws indicating that a person who contravenes a By-law of the Municipality of Whitestone passed under that Act is guilty of an offence;

AND WHEREAS the *Municipal Act*, 2001, R.S.O further authorizes the Municipality of Whitestone, amongst other things, to delegate its authority, to impose fees or charges, to provide for inspections, and to make orders to discontinue activity or to do work;

NOW THEREFORE the Council of the Corporation of the Municipality of Whitestone hereby enacts as follows:

Short Title
This by-law shall be known as the Animal By-Law.

1. DEFINITION

In this By-Law:

“Animal” refers to a wide range of species that may be owned and cared for (excluding cats and dogs);

“Animal husbandry” shall mean the branch of agriculture concerned with animals that are raised for meat, fiber, milk, eggs, or other products. It includes day-to-day care, selective breeding and the raising of livestock;

“At large” means being found outside of the owner’s property;

"Council" shall mean the elected Members of the Municipal Council of the Corporation of the Municipality of Whitestone;

"Dwelling unit" shall mean a building, room or rooms occupied or intended for use as a housekeeping unit in which sanitary, cooking, living and sleeping facilities exist;

"Livestock" refers to Animals that are kept for agricultural purposes, such as cattle, poultry, goats, horses, sheep, pigs, donkeys, emu, ostriches, alpacas, llamas and other animals;

"Municipality" shall mean the Corporation of the Municipality of Whitestone;

"Officer" means a By-Law Enforcement Officer appointed by Council as a Municipal agent to enforce the provisions of this By-law or the OPP;

"OMAFRA" refers to the Ontario Ministry of Agriculture, Food, and Rural Affairs;

"Owner" shall mean any person who possesses or harbours an animal, and where the owner is a minor, the person responsible for the custody of the minor, and includes a person who is temporarily the keeper or in control of the animal, and the word "owns" has a similar meaning;

"Poultry" shall mean domesticated fowl collectively, such as chickens, turkeys, ducks, geese, pheasants, and guinea fowl.

2. GENERAL PROVISIONS

Every person who practices animal husbandry within the Municipality shall ensure that such animal(s) is provided with:

a) A clean and sanitary environment free from an accumulation of fecal matter;

b) Adequate and appropriate care, food, water, shelter, shade, and opportunity for physical activity.

3. ENFORCEMENT

Upon receiving a complaint, a By-Law Enforcement Officer (Officer) is authorized to enter onto land at a reasonable time for the purpose of enforcing the provisions of the By-law and shall enter into an investigation to determine whether the By-law is contravened.

a) Every person who contravenes any provision of this By-law, is guilty of an offence and upon conviction liable to the penalties as prescribed by the *Provincial Offences Act*, R.S.O. 1990 c.P33. If this By-law is contravened and a conviction entered, the court in which the conviction has been entered and any court of competent jurisdiction thereafter may, in addition to any other remedy and to any penalty that is imposed, make an order prohibiting the continuation or repetition of the offence by the person convicted.

    i. The Officer should make reasonable effort to contact the property owner before entering the land for the purpose of investigation to determine if this By-Law is being complied with.

ii. The Officer shall work with the municipality and local ratepayers to deliver and return any livestock at large safely to their properties.

iii. Should an animal require veterinary care due to being at large the owner of the animal will be responsible for the associated fees (direct and indirect) and charges.

iv. The Officer shall wear the proper footwear and clothing as outlined by OMAFRA to reduce the risk of cross contamination between properties.

v. In the case of a sick or injured animal, the Officer shall attempt to seek the care of a veterinarian.

4. RESPONSIBILITIES OF THE OWNER

a) No owner shall permit their livestock to trespass on private property. No animals shall be allowed to roam free in a manner that allows them to enter the roadway, trespass on public property or trespass on neighbouring properties. Animals are free to range safely within the confines of the owner's own property.

b) No owner shall allow their livestock to be on a public road or trail or in a public place at any time unless the animal is on a leash or lead and under their control.

c) The owner of livestock shall clean up and dispose of any excrement left by their animal on any property other than their own.

d) No owner shall permit any livestock, owned or in their care, to make excessive or any unnecessary noise that is likely to disturb any inhabitant of the Municipality.

e) Accessory buildings related to animal husbandry must meet municipal building standards such as setbacks from neighbouring properties and dwellings.

f) All accessory buildings related to animal husbandry must ensure proper security, ventilation/heating if required, and sufficient space to maintain good animal husbandry practices.

g) All buildings must be kept in good repair and maintained in a sanitary condition and free of vermin and obnoxious smells and substances.

h) All manure must be properly stored and disposed of. No manure is permitted to be disposed of at the landfill. Manure must be stored at least 15m from a drilled well and 30m from other wells and water sources. Best practices for manure and nutrient management plans are outlined on the **OMAFRA** website according to the type of animal husbandry taking place on the property.

i) As per the Ontario Ministry of Agriculture and Food Guidelines, livestock producers in Ontario currently have several options for managing dead animals on their property, including pick-up by a licensed deadstock company, burial, incineration, and composting. Regulation stipulates specific setback distances for deadstock composting that apply to neighbouring land uses and sensitive features, such as wells and surface water

j) All animal care must meet the minimum standards outlined by the Ontario Ministry of Agriculture, Food and Rural Affairs. http://www.omafra.gov.on.ca/english/index.html

k) Property owners have the option of using a provincially licensed meat plant to process their livestock or butchering them themselves. Property owners can slaughter animals and process the carcasses on their property at any time of the year provided all the following conditions are met:

   i. The animals must be slaughtered for consumption by the owner or the owner's immediate family only.
   ii. The slaughter must be preformed on the owner's premises by the owner or a certified examiner and the meat from an animal slaughtered under this option cannot be sold, delivered or transported off the property under any circumstances.
   iii. Property owners should perform any slaughter of animals in a dignified manner and be sensitive to their neighbours.

l) All waterways must be protected from the contamination and erosion livestock can cause with a 20m set back from the high-water line on all properties

5. OBSTRUCTION

a) No **person** shall hinder or obstruct, or attempt to hinder or obstruct, any person exercising a power or performing a duty under this By-law. PENALTIES

Any person who contravenes any of the provisions of this By-law will be charged under the *Provincial Offences Act*, and shall be liable, for each contravention and each day of contravention shall constitute a separate offence.

6. VALIDITY

That all sections of this By-law shall be deemed to be separate and independent therefore validity of any section or provision thereof shall not affect the remaining sections.

If there is a conflict between a provision of any provincial or federal Act or a regulation under the Act, or any other Act relating to animals, and the provisions of this by-law, the provision that is the most restrictive in relation shall prevail.

7. GENERAL EXEMPTIONS `

General exemptions shall apply to:

a) an animal center operated by the Ontario Society of the Prevention of Cruelty to Animals or the Municipality or its designated agent;

b) a veterinary hospital under the care of a licensed veterinarian;

c) premises registered as a research facility pursuant to the *Animals for Research Act*, R.S.O. 1990, c.A.22;

d) a person or persons conducting a rodeo, fair, circus or petting zoo provided the event or program is sanctioned by the Municipality;

e) the keeping of livestock for use, propagation or for profit where they are kept pursuant to all applicable provincial and federal statues, where agricultural uses are permitted by the zoning bylaws. This includes but is not limited to cattle, sheep, pigs, goats, horses, poultry, alpacas, etc.

THAT this Bylaw shall have precedence over any other By-law or schedule of a By-law currently in effect are set out in that By-law.

8. EFFECTIVE DATE

THAT this By-law shall come into force and take effect upon passage by Council.

Read a **First** and **Second** time this ____ day of _____, 202x.

_____

Mayor George Comrie

_____

CAO/Clerk Michelle Hendry

Read a **Third** time and **Passed, Signed** and **Sealed** this ____ day of _____, 202x**.**

_____

Mayor George Comrie

_____

CAO/Clerk Michelle Hendry

October 4, 2022

DRAFT Animal By-law

Comments from John Jackson regarding Zoning By-law compliance.

The municipality's DRAFT animal By-law can be interpreted to be in compliance with the zoning By-law as follows.

1. Keeping of animals in accordance with the animal by-law is to be considered an accessory use for all zones:

"3.03 Accessory Uses
a) Where this By-law provides that land may be used or that a building or structure may be erected, altered or used for a purpose, that purpose shall be deemed to include any accessory building or structure or any use incidental thereto. Except as may be provided in this By-law, an accessory building, structure or use may only be established once the main building, structure or use has been established."

2.Use of accessory buildings for animals is permitted in all zones subject to the provisions of the animal by-law:

"e) The use of any accessory building or structure, other than a sleeping cabin, for human habitation is not permitted, except where a dwelling unit is a permitted accessory use. The use of any accessory building or structure for the keeping of animals, other than domestic pets, is not permitted in any Residential or Waterfront Zone unless specifically authorized by the provisions of that zone or except in accordance with any applicable by-law of the municipality."

I believe the new by-law is not in conflict with the municipality's zoning by-law.

LORIMER LAKE ASSOCIATION

Presentation to Whitestone

Council October 4, 2022

WHAT WE WILL DISCUSS TONIGHT

- What is the definition of a lake that is **at capacity**
- Recent data obtained for Lorimer Lake in terms of **dissolved oxygen** and **calcium concentrations**
- **Stressors and lake planning**
- Proposed **amendment** to the **official plan**
- Future **goals**

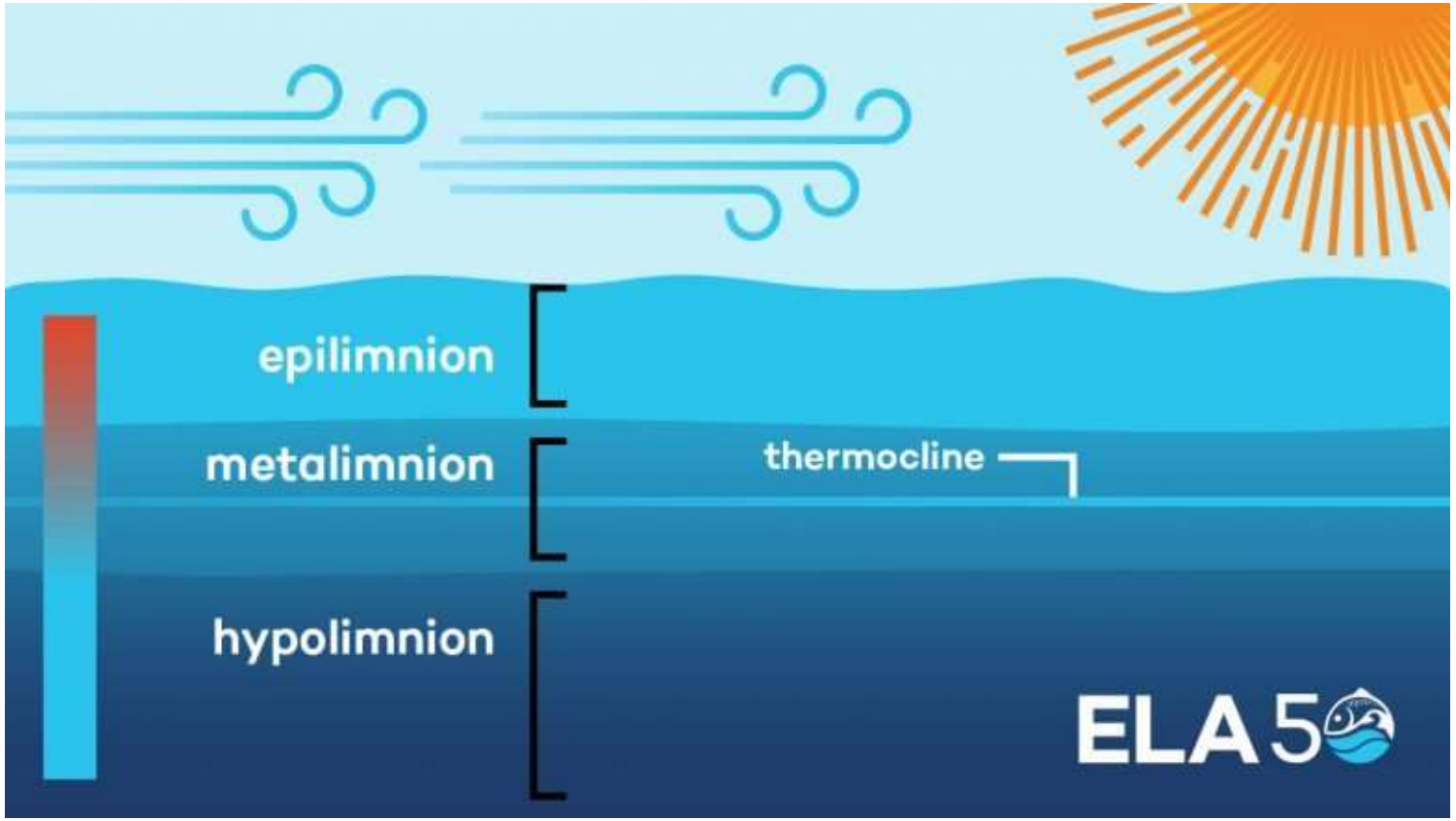
WHAT IS A LAKE THAT IS AT CAPACITY?

A recent email from Sam Jefferis, a Management Biologist at the Ministry of Natural Resources and Forestry (MNRF) in the Parry Sound District received by LLA, states the following:

- "MNRF's role in lake capacity is generally limited to **impacts on Lake Trout** (dissolved oxygen levels). If the dissolved oxygen for a lake trout lake is below **7ppm** the lake is to be considered at **development capacity**".

Note: PPM is an equivalent measure to Mg/l when we measure dissolved oxygen

OVERVIEW OF OUR TESTING PROCESS

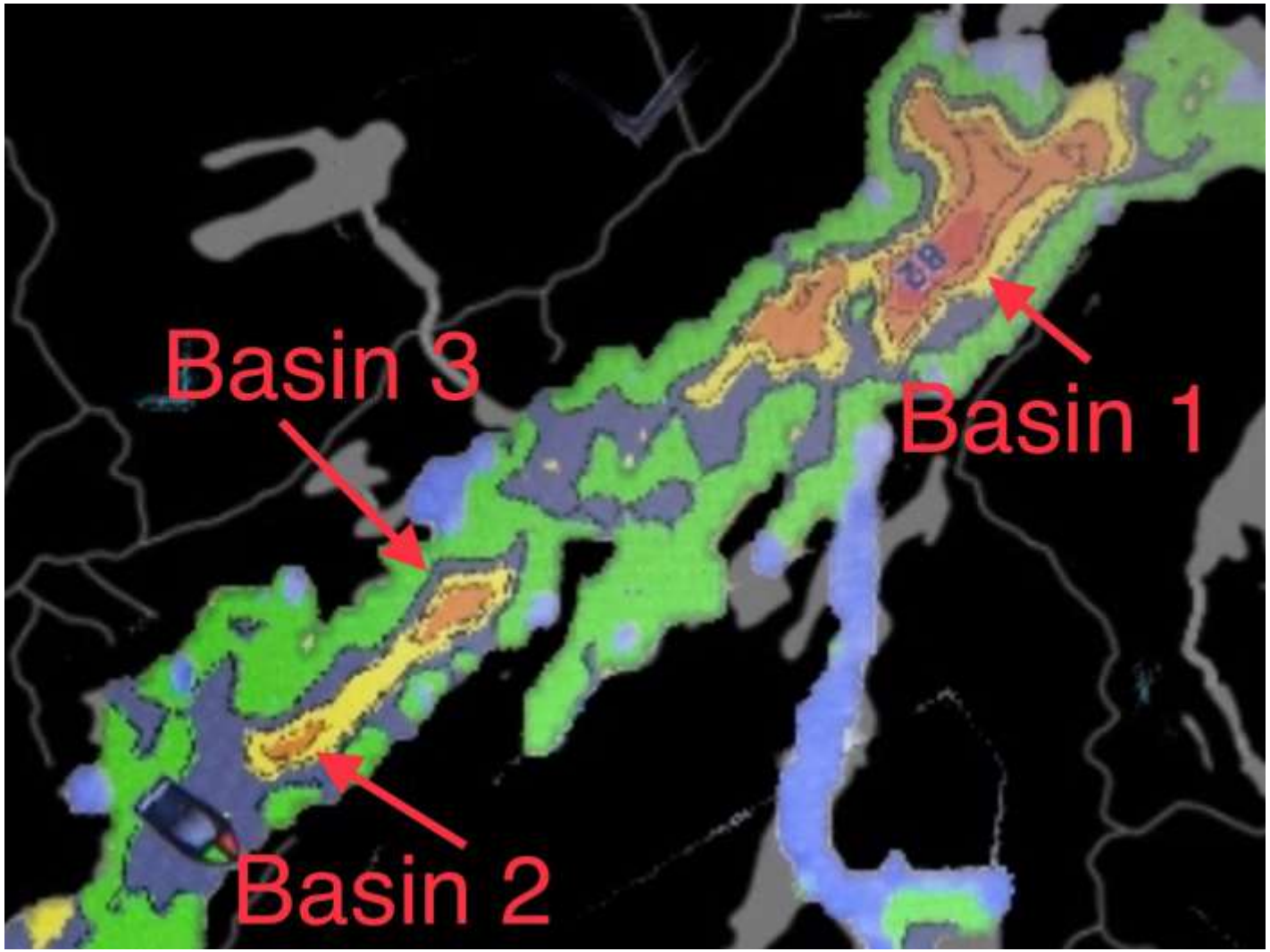


Key Parameters

- The warmer water on the top, is less dense and contains the most dissolved oxygen
- The cooler water at the bottom is denser and contains the least amount of dissolved oxygen
- Lake trout will move from the deeper colder waters to find more oxygen when needed
- The ministries and the LLA in conjunction with the WCA, have measured the DO in September when Oxygen levels are at their lowest
- We will be highlighting the data received from the 10 to 15 metre mark

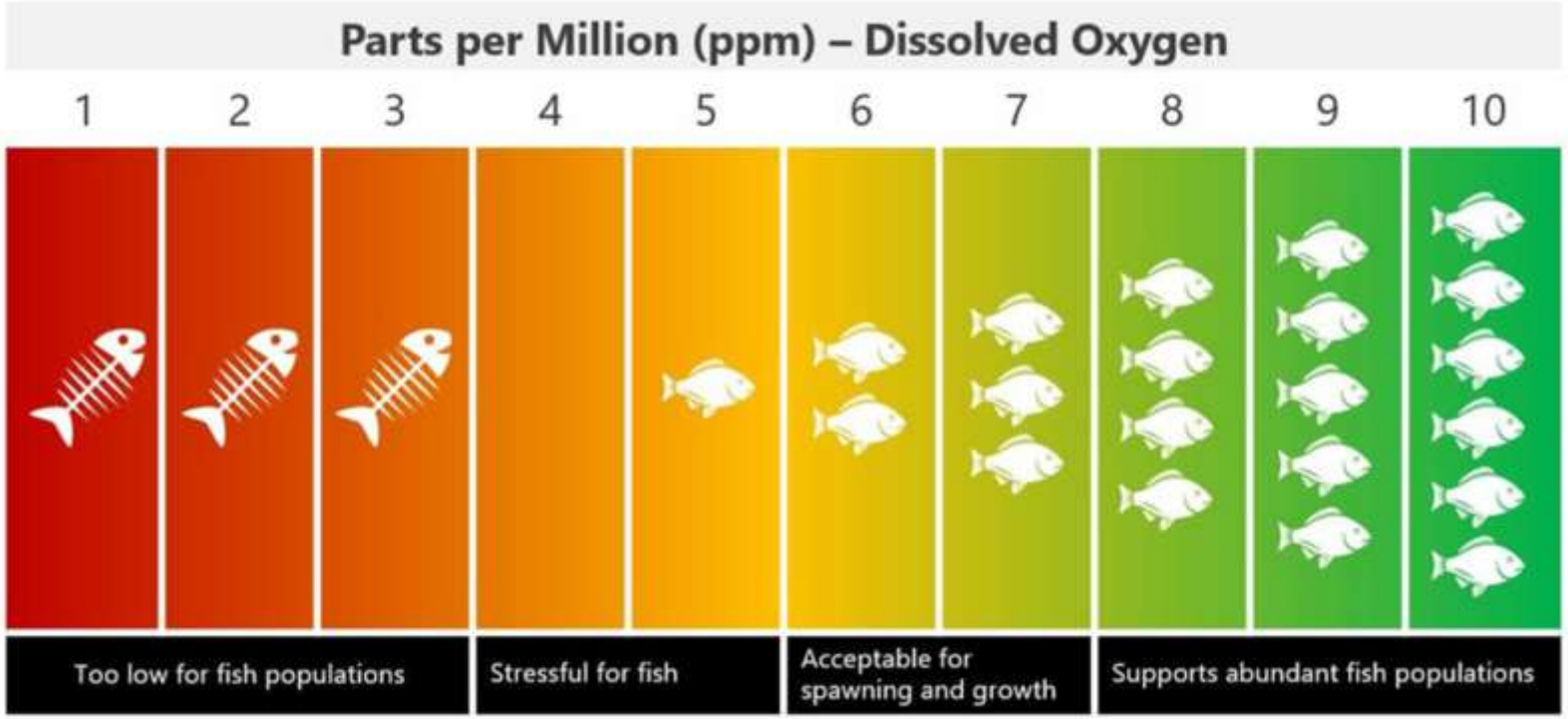
Source: https://www.iisd.org/ela/blog/commentary/lakes-stratify-turn-explain-science-behind-phenomena/

WHERE DID THE MNRF OBTAIN THEIR INFORMATION AND WHERE ARE WE CONTINUING TO TEST?



Basin 1, which is the **largest AND deepest basin**

THE DISSOLVED OXYGEN SCALE

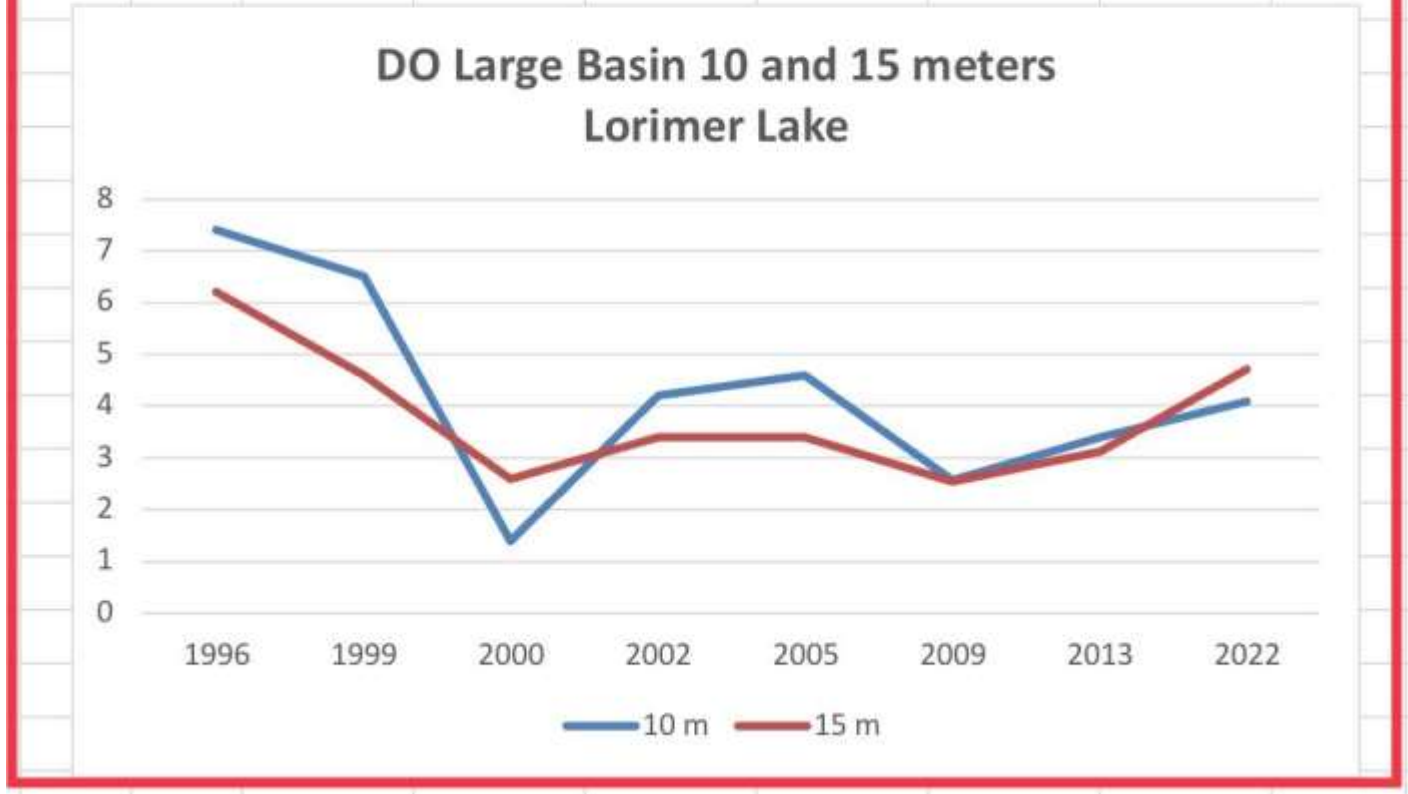


Key Notes

- If the Dissolved Oxygen content is 6 ppm or greater, fish will thrive and grow.
- Between 4 and 5 ppm, it is stressful for fish
- Below 3 ppm, it is undesirable and becomes deadly with prolonged exposure

DISSOLVED OXYGEN DATA RECEIVED FROM THE MNRF AND FROM DATA COLLECTED BY THE LLA AND WCA1996-2022

	1996	1999	2000	2002	2005	2009	2013	2022
10 m	7.4	6.5	1.4	4.2	4.6	2.57	3.4	4.1
15 m	**6.2**	**4.6**	**2.6**	**3.4**	**3.4**	**2.54**	**3.11**	**4.7**



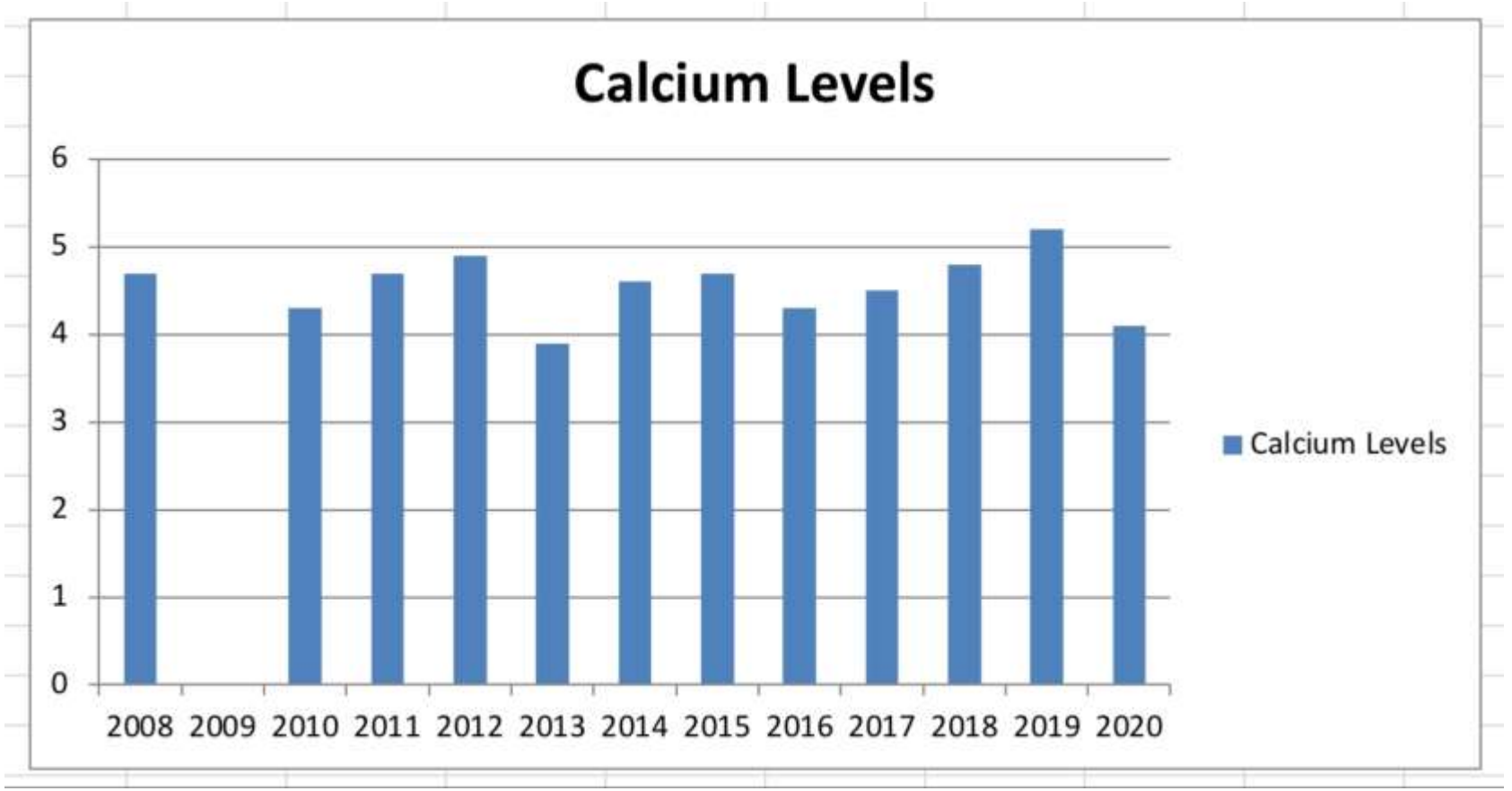
Note: a lake trout lake below 7 PPM is considered a lake at Capacity

Note: data was taken in mid September each year, when oxygen levels are normally low

Recall from the previous slide:

- If the Dissolved Oxygen content is 6 ppm or greater, fish will thrive and grow
- Between 4 and 5 ppm, it is stressful for fish
- Below 3 ppm, it is undesirable and becomes deadly with prolonged exposure

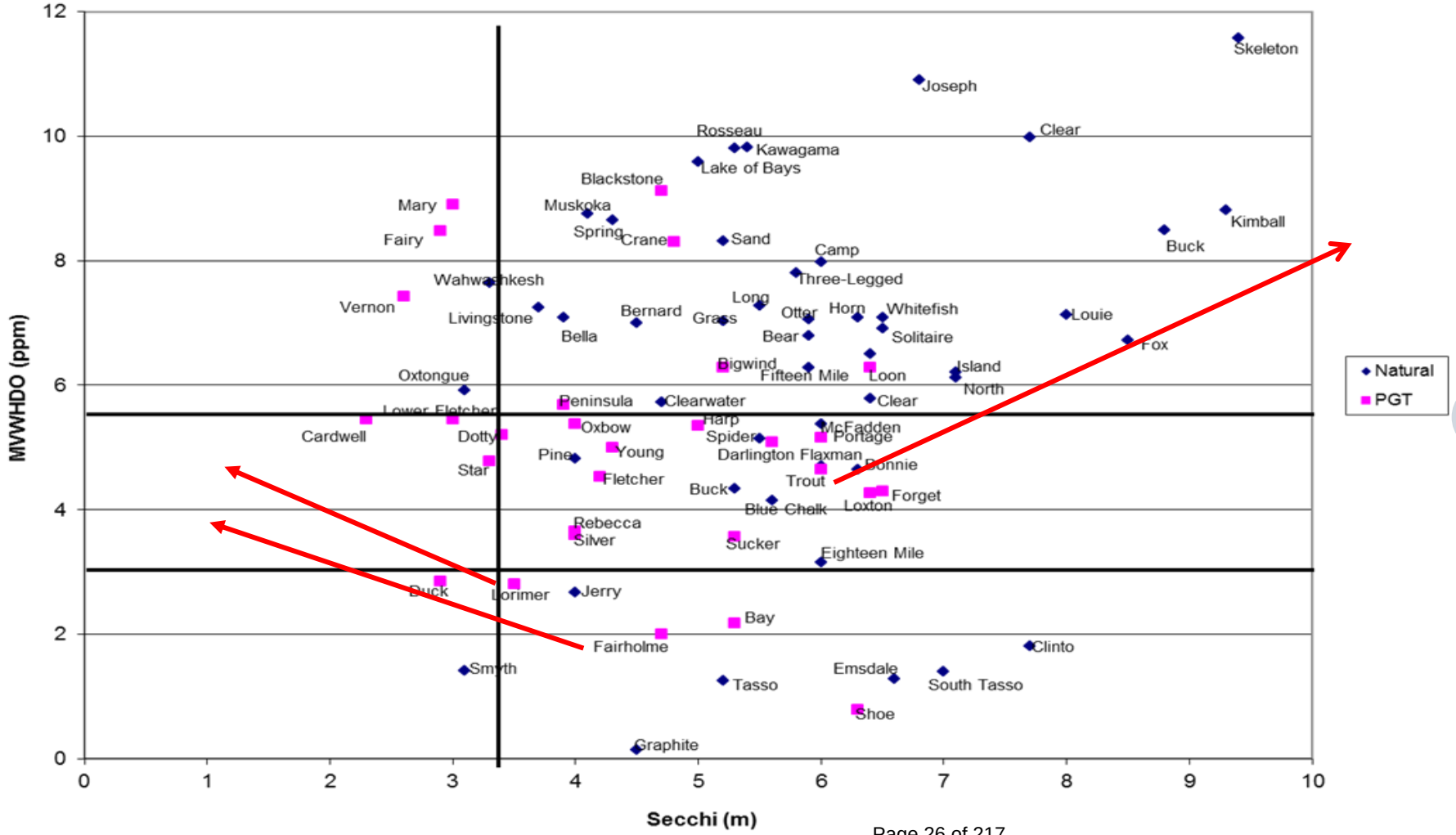
LORIMER LAKE'S CALCIUM LEVELS



Key Notes

- Fish require calcium for strengthening bones
- Deforestation and climate change are some of the major causes of a decrease in calcium in Lorimer Lake
- The loss in Calcium can affect the growth, reproduction, and survival of many organisms including phytoplankton, fish, and birds

LORIMER LAKE'S DISSOLVED OXYGEN AND SECCHI DEPTH IS LOWER THAN MANY LAKES IN OUR AREA



Page 26 of 217

Note: Trout Lake and Fairholme lake are also cold water, trout lakes at capacity

Key Notes

- Nutrient loading due to deforestation results in a reduction in the secchi depth
- Clearer water allows more light to reach vegetation and the vegetation produces Oxygen
- Darker water=more algae and when it decomposes = less oxygen
- Data received in 2015 from Steve Scholten (MNRF), parry sound district

RESULTS REGARDING THE DATA WE HAVE GATHERED

- As you can see Lorimer Lake's Dissolved Oxygen levels are well **below the 7 ppm** that defines a **lake at capacity**
- Surprisingly our Lake Trout are surviving, but any further **increase in phosphorous** and **a decrease in calcium levels**, due to an increase in development, can rapidly **change their sustainability**
- Our lake does have **groundwater inputs**, in certain areas, which help to **supply oxygen** to the lake and to the trout
- In the past, severances have been **controlled** and we have managed to stay **above 3 PPM** from 2013 to 2022, which is **deadly** for lake trout
- The question is, how many **new severances** per year can be permitted **without endangering** our lake trout?

WHAT THE ENVIRONMENTAL CONSULTANTS ARE SAYING

- It is **not just septic systems** that should be looked at when we are looking to preserve lake quality
- **Stressors:** social density, boats, storm water, runoff from roads, more fishing, deforestation, climate change, faulty septic systems etc.
- We are talking about the **Cumulative Impact**
- **Lake Classification is needed: set aside lake trout lakes early** and work with the remainder of the lakes
- **Best Management Practices:** Social density: number of lots, lot frontage, according to size of lake
- Municipality can drive through their own policies

FUTURE GOALS

- Work with council to **limit the amount** of severances on Lorimer Lake
- A **lake study** should be completed
- A paleontologist can be hired to look at the **history of the lake** and when certain events within the watershed occurred, for example **deforestation**, which could have effected our **dissolved oxygen content**

PLANNING ITEMS

John Jackson Planner, Inc.
1 Mall Drive Unit #2, Parry Sound, Ontario P2A 3A9
Tel: (705) 746-5667 E-Mail: JJPlan@Vianet.ca

CONSENT APPLICATION NO. B43/2022(W)

PART OF LOT 10, CONCESSION 3

GEOGRAPHIC Township OF HAGERMAN

PART 1 OF 42R-20387

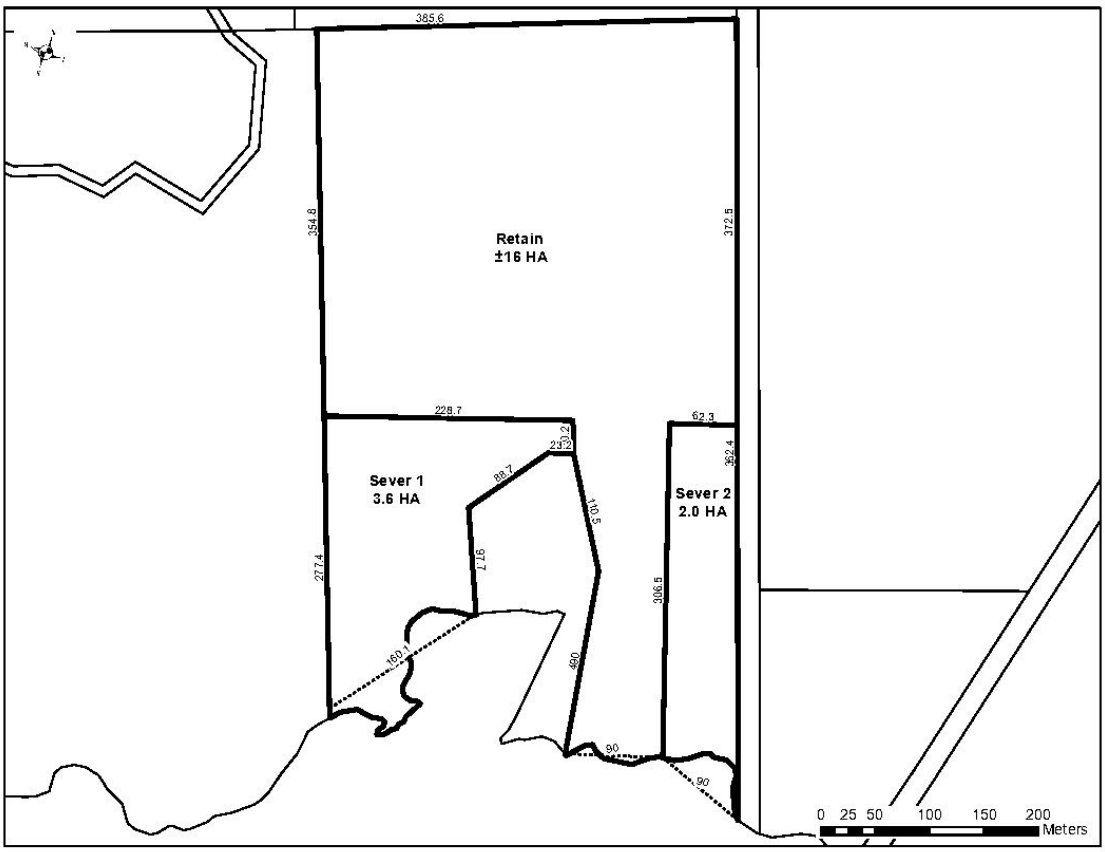
ROLL # 4939 0100 010 3500

Applicants: Ilona and Chris Skeba

September 12, 2022

PROPOSED CONSENT

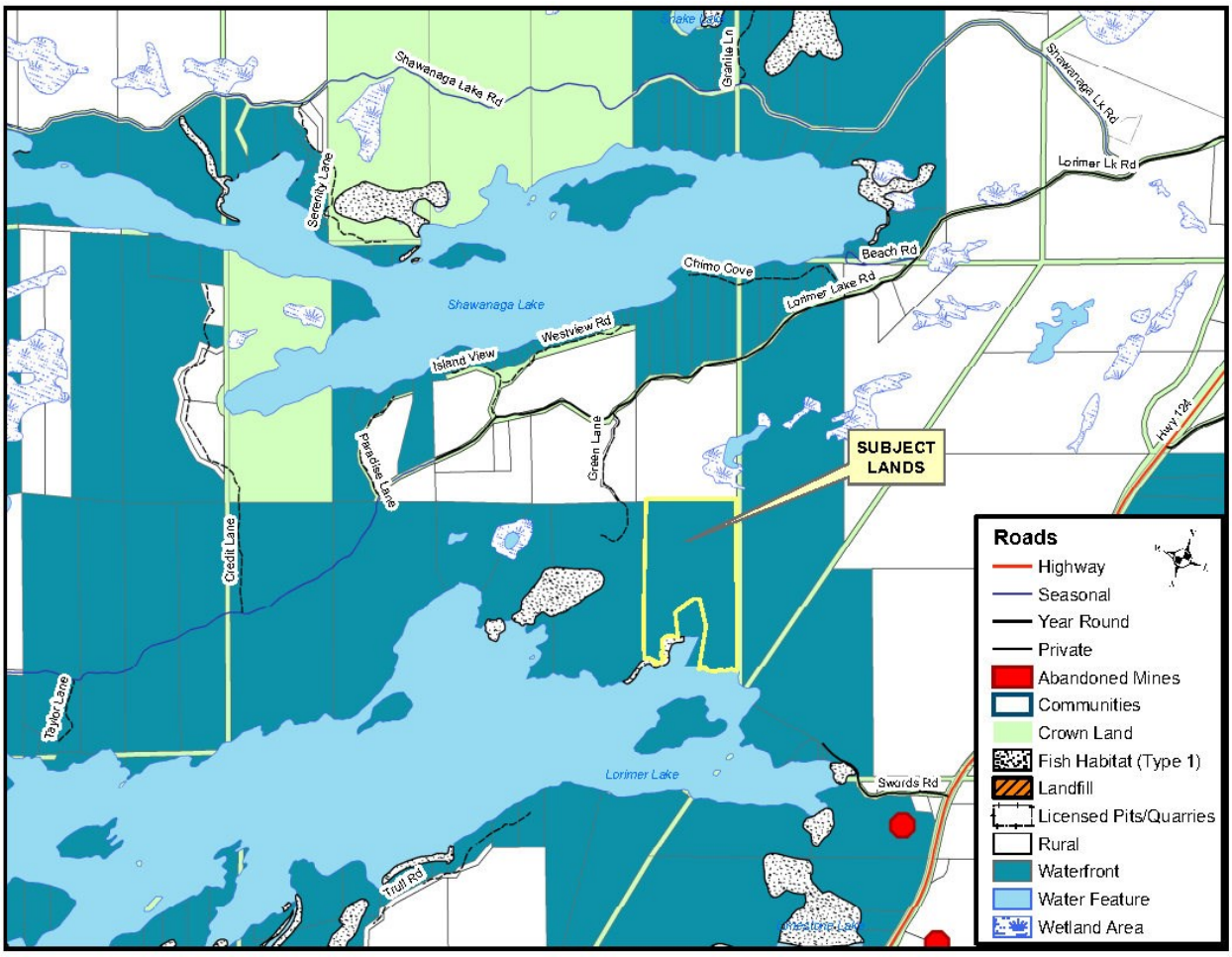
The Skebas are proposing to create two new lots on Lorimer Lake accessed off Green Lane.



The resultant lots are showing a minimum lake frontage of 90 metres and an area of 2.0 hectares.

OFFICIAL PLAN

The official plan for the Municipality of Whitestone designates the subject lands as Waterfront.

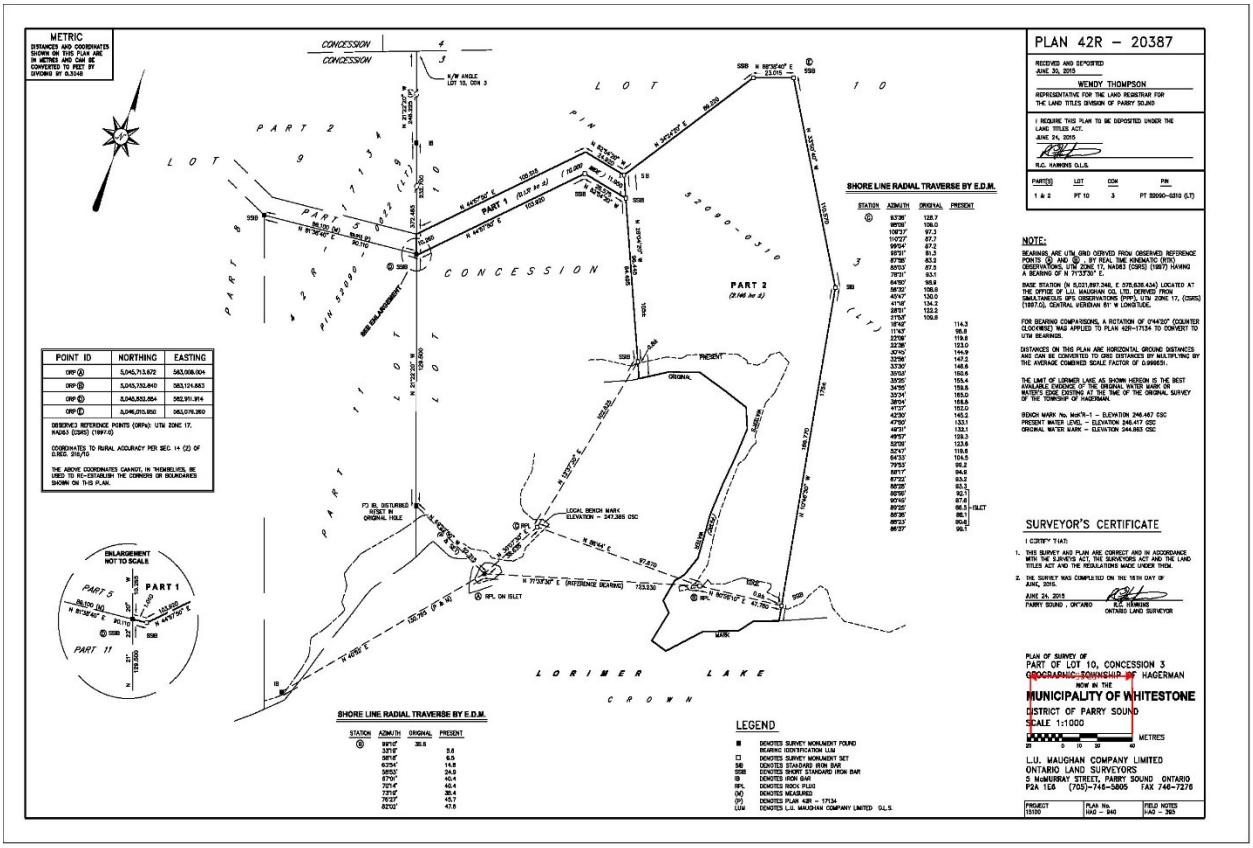


There also appears to be a “band” of Fish Habitat identified along the western lot frontage where the existing development is located.

PROPERTY DESCRIPTION

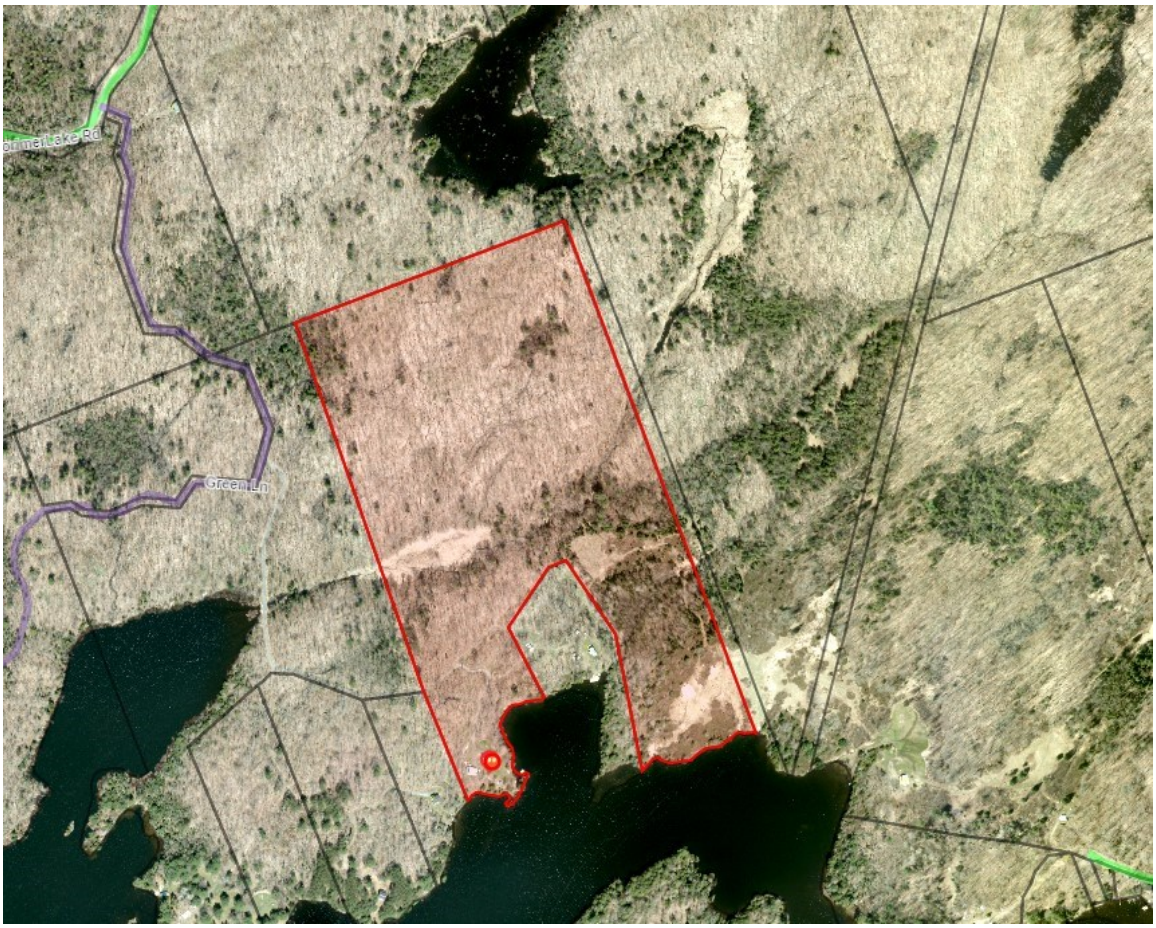
The property is referred to as 300 Green Lane that is a private road accessed off Lorimer Lake Road.

The property is described as Part 1 of Survey Plan No. 42R-20387.

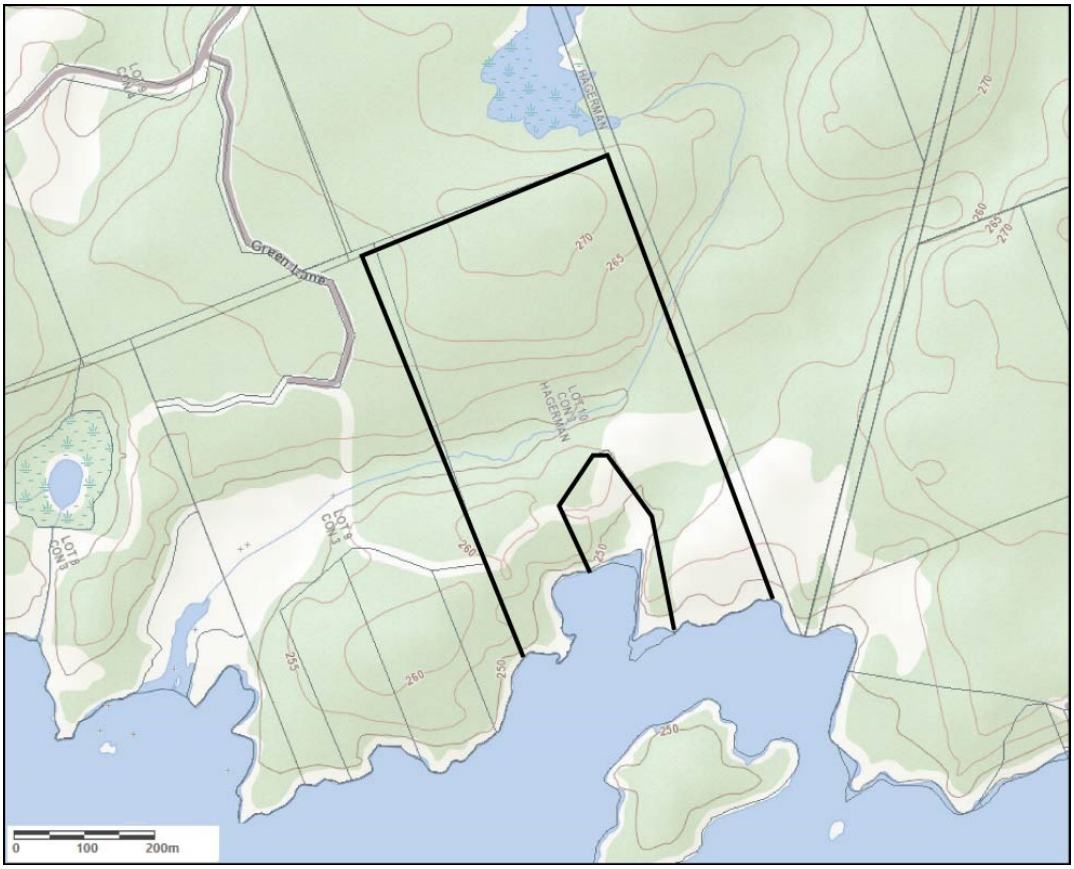


There is an existing cottage on the southwest corner of the property.

The west side of the property is predominantly hardwoods, while the east side of the parcel is hemlock and pines.



The lands have moderate slopes with few constraints to development.



LORIMER LAKE

Given the background on Lorimer Lake, the applicant has retained an environmental consultant to assess the impact of the proposed consent on the water quality of the lake. This concern has been the general theme behind a policy on the lake that has traditionally discouraged any further development on the lake.

The consultants report explains the background to the matter of nutrient inputs associated with new development. It has become clear that earlier correlation between development and water quality degradation was false. This falsehood was qualified to the heavily mineralized soils that are slightly acidic found on the Canadian Shield.

These measures have been difficult for many to understand or accept. There continues to be a notion that the best path for lake planning on trout lakes is to restrict future development. There is no longer any science to base such a policy framework.

It has been repeated many times that the most appropriate approach for planning on such lakes is to use a bio-physical approach where development is judged based upon protecting natural heritage features, recognizing physical constraints, quantifying legitimate character features.

(See Site Evaluation Report by Michaelski Nielson dated August 2015).

It is anticipated that the planning board will be receiving additional objections to further lot creation on Lorimer Lake.

RECOMMENDATION

That the consent proposing to create two new waterfront lots on Lorimer Lake accessed by a private right-of-way as applied or by Ilona and Chris Skeba in Consent Application No. B43/2022(W) be approved subject to the following conditions:

1) Payment of a fee in lieu of parkland in accordance with the Municipality's fee By-Law;

2) That the owner enters into a 51(26) consent agreement to include:

    a) The implementation of the mitigation measures set out in the Hutchison Environmental Sciences Report dated August 31, 2022;
    b) Recognizing the private access road to the newly created lots and limiting the liability and responsibility of the Municipality to provide for road services; and
    c) Implementing those septic system design measures to ensure the retention of phosphorous.

3) 911 Addressing; and

4) Payment of any applicable planning fees.

Respectfully submitted,

John Jackson M.C.I.P., R.P.P.

JJ; jc

SITE EVALUATION AND IMPACT ASSESSMENT LORIMER LAKE

MUNICIPALITY OF WHITESTONE

Prepared for:

Walter and Wesley Robbins

August 2015

August 13, 2015

Walter and Wesley Robbins
5957 Slaters Road
Gormley, Ontario
L0H 1G0

Re: Lorimer Lake; Our File 6406

Messrs. Robbins:

Enclosed please find our report entitled **Site Evaluation and Impact Assessment – Lorimer Lake, Municipality of Whitestone** (August 2015).

Should you have any questions, or if further clarification is required, do not hesitate to call.

Yours truly,

MICHALSKI NIELSEN ASSOCIATES LIMITED
Per:

Michael Michalski
Senior Advisor and Limnologist

c.c.: Christian Piersanti
Stephen Fahner
John Jackson

TABLE OF CONTENTS

1 INTRODUCTION

1.1 Purpose and Scope of Study

Walter and Wesley Robbins own two adjoining lots on the southern shoreline of Lorimer Lake. The lot owned by Water Robbins is Part Lot 9, Concession 2, Hagerman – 446 Trull Road, while that of Wesley Robbins is Part Lot 9, Concession 2 – 450 Trull Road, both in the Municipality of Whitestone (**Figure 1**). According to a Planning Report prepared by John Jackson Planner, the lot owned by Walter Robbins has 285.7 metres (m) of frontage and is 12.9 hectares (ha) in area; it is 933 m deep. Similar dimensions for the lot owned by Wesley Robbins are 289.0 m, 12.9 ha and 1,008 m. Each of the lots has a cottage and septic tank tile field, and each is accessed by an existing right-of-way.

Both property owners have an interest in dividing the two lots in half. In this regard, both applied to the Parry Sound Area Planning Board (PSAPB) for separate consents, which were granted on April 28, 2014 (**Appendix A**). On May 16, 2014, the PSAPB was informed of a Notice of Appeal on behalf of Jake Kuperhause and Celine Dupont; there were a number of reasons for the appeal, one of which related to the at-capacity character of Lorimer Lake (**Appendix B**).

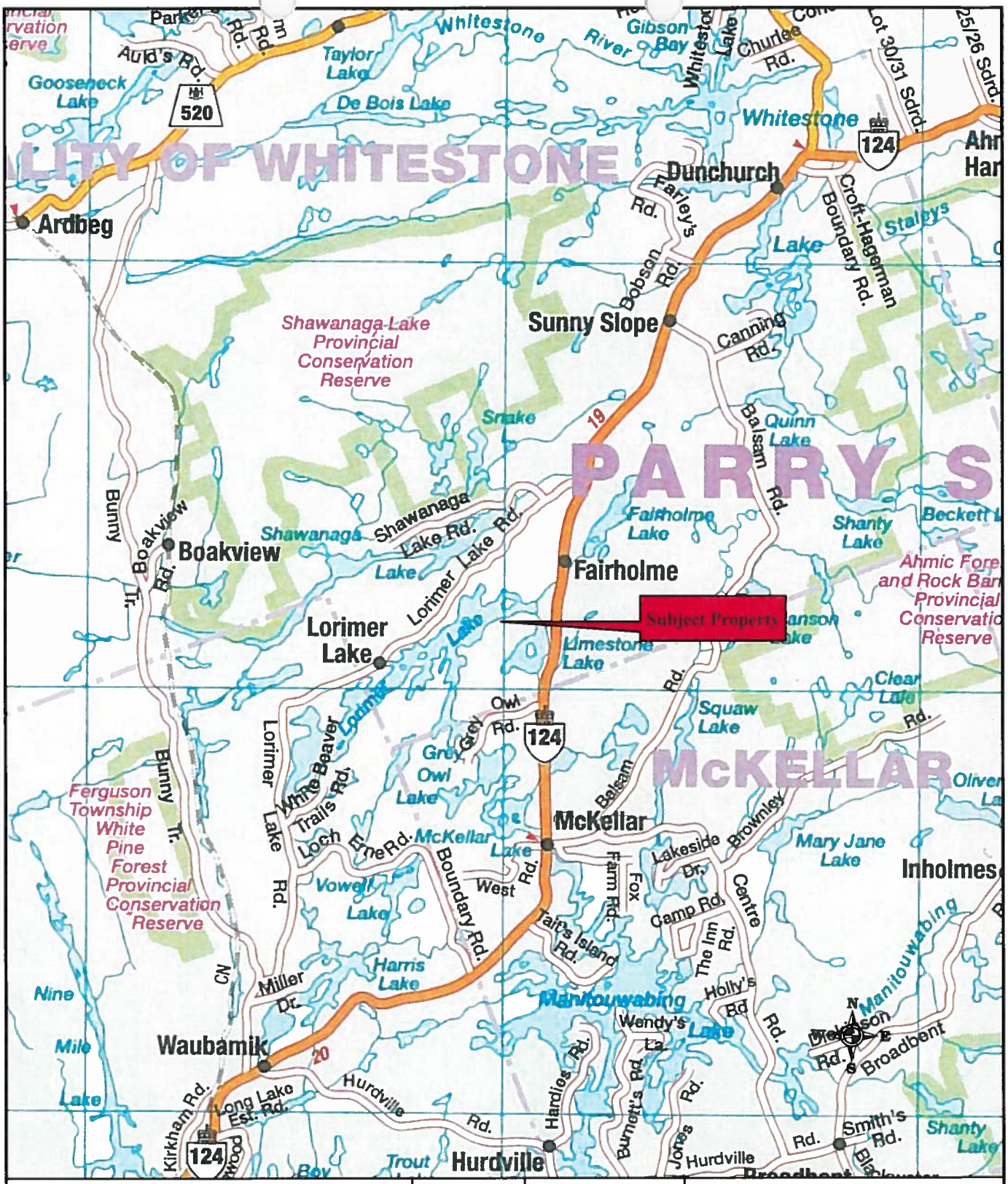
In late February of 2015, Michalski Nielsen Associates Limited was approached by Dirk Blyleven, on behalf of the land owners to review and evaluate technical information relating to the at-capacity designation, and to recommend measures that would not further aggravate this designation. Through subsequent discussions, a retainer evolved to address the following.

1. Confirmation of the biophysical capabilities of the subject properties to support shoreline residential development, including locations where sewage treatment and boat docking facilities could be located.

2. Assessment of the at-capacity status of Lorimer Lake.

3. Identification, of any provincial and local policies that would enable shoreline lot creation on at-capacity lake trout lakes.

4. Identification, evaluation and recommendations of any technologies that are presently recognized by the Ministry of the Environment and Climate Change (MoECC) and the Ministry of Natural Resources and Forestry (MNRF) to reduce sewage and stormwater-related phosphorus.



Project Name: Sewage Disposal System Report	Date Initiated: Jan '07	Filename: Figure1_6406	**FIGURE 1**
Prepared For:	**Location of Subject Property Lorimer Lake**		
Michalski Nielsen ASSOCIATES LIMITED	Rev. No: 0	Drawn By: JN	Scale: 1:125 000	Project Number: 6406

5. Ensuring that the development plans that are proposed for the lots to be created comply with relevant environmental policies set out in the 2014 **Provincial Policy Statement (PPS)** and the **Official Plan for the Municipality of Whitestone** (2006) **(Whitestone OP)**.

Since being retained, **Amendment No. 1 (OPA 1)** to the **Whitestone OP** was approved by the Ministry of Municipal Affairs and Housing (MMAH) on April 30, 2015 (**Appendix C**). Because **OPA 1** has a number of policies that could potentially be detrimental and inconsistent with policies in the **Whitestone OP** which was in full force when the severance applications were made, the landowners referred **OPA 1** to the Ontario Municipal Board (May 8, 2015). This appeal has now been consolidated with the two consent appeals, and will be heard at the hearing commencing on August 19, 2015. As **OPA 1** contains a number of policies relating to the at-capacity lake trout issue, Michalski Nielsen Associates Limited was asked to provide comments and recommendations that are in keeping with the science of the day, particularly as **OPA 1** relates to controlling and virtually eliminating phosphorus inputs from shoreline residential development.

1.2 At-capacity Lake Trout Lakes – Rationalization

As indicated in the **Whitestone OP** (see Section 17.06.1), Lorimer Lake is identified as an at-capacity lake trout lake. All references herein to the **Whitestone OP** are to the Plan in effect on November 25, 2013 for the property owned by Wesley Robbins and November 26, 2013 for lands owned by Walter Robbins. One of the reasons for Lorimer Lake being at-capacity is because it is over-supplied with natural and artificial or human-made loadings of phosphorus; these inputs indirectly contribute to a loss of dissolved oxygen in the lake's deeper cold waters in the late summer and early fall. The low levels are not sufficient to provide adequate habitat for lake trout, a highly valued species in Ontario's ecosystem.

Phosphorus is the key or limiting nutrient that in surface waters governs the production of algae; in some circumstance, these microscopic single-celled plants can develop to periodic bloom proportions. The blooms typically consist of blue-green algal species which can influence drinking water supplies and recreational uses owing to their ability to manufacture toxins; as well, they can produce unpleasing surface scums that diminish the aesthetic quality of lakes. To this point, such conditions have not been reported from Lorimer Lake. As mentioned above, there is a second and equally serious problem results when the algal cells settle from the upper well-illuminated waters and decompose in a lake's bottom strata; the decomposition process robs the dissolved oxygen from the deeper layers, thereby negatively

impacting on lake trout habitat. Information on dissolved oxygen in late summer in Lorimer Lake is presented in Section 2.1 of this **Site Evaluation and Impact Assessment (SEIA)**.

Being designated as at-capacity means no further lot creation or redevelopment, unless an applicant can demonstrate how new phosphorus loads can be controlled to the virtual point of their elimination. In terms of causal effects relating to the at-capacity designation for Lorimer Lake, there are two primary sources of phosphorus that are associated with shoreline development, one being sewage-related, and the other being stormwater. Of the two, phosphorus loadings from sewage are by far the larger. The main problem is that at present, there are no household sewage treatment systems that are recognized in the **Ontario Building Code (OBC)** as capable of reducing phosphorus. It is on this point that Walter and Wesley Robbins retained the services of Michalski Nielsen Associates Limited, that is, to provide technical information and approaches that would enable new lot creation while at the same time preventing any further deterioration of water quality in Lorimer Lake.

This **SEIA** first describes the temperature and dissolved oxygen regimes in Lorimer Lake, as critical parameters in the at-capacity determination. It then provides an up-to-date technical basis (inclusive of the implementation details) that would enable new lot creation to proceed on the subject property, and concludes with a section on policy compliance. Also included are sections that deal with existing conditions (with a focus on terrain conditions), docking structures and species at risk, as per the *Endangered Species Act, 2007* (*2007 ESA*). However, the obvious focus of this **SEIA** is to present new information on how shoreline lot creation can be achieved on at-capacity lake trout lakes while not negatively impacting downgradient water quality.

2 TECHNICAL JUSTIFICATION FOR DESIGNATING AT CAPACITY LAKE TROUT LAKES AND POLICY IMPLICATIONS

2.1 Temperature and Dissolved Oxygen

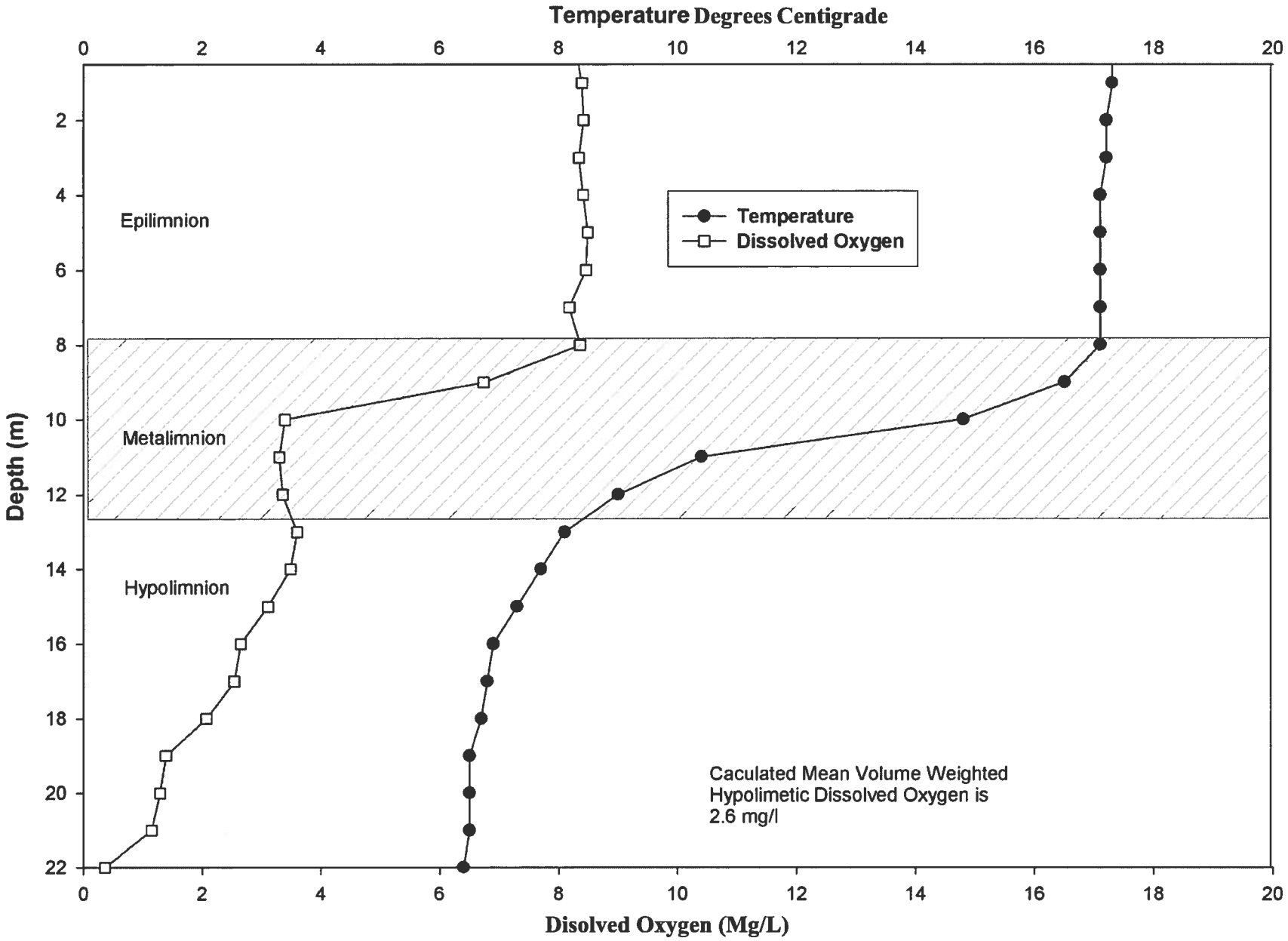
Figure 2 shows the vertical distribution of temperature and dissolved oxygen in Lorimer Lake on September 23, 2013. The profile was determined by the MNRF and represents data collected from a single deep-water location; it also shows the approximate position of the three summertime temperature layers. The upper stratum in which the temperature is more or less uniform throughout is called the epilimnion; the metalimnion is the intermediate zone in which the temperature declines rapidly with depth; and the deep coldwater zone, called the hypolimnion, is where the temperature is again fairly uniform with depth. This type of stratification is typical of Ontario's Precambrian Shield lake trout lakes. Scientists have noted that the beginning and end of the stratification period have been changing over the past three decades. The changes are almost certainly linked to the warmer air temperatures associated with climate change (Hondzo 1993); in turn, these may be influencing some attributes of lakes, including algal communities and concentrations of deep water dissolved oxygen.

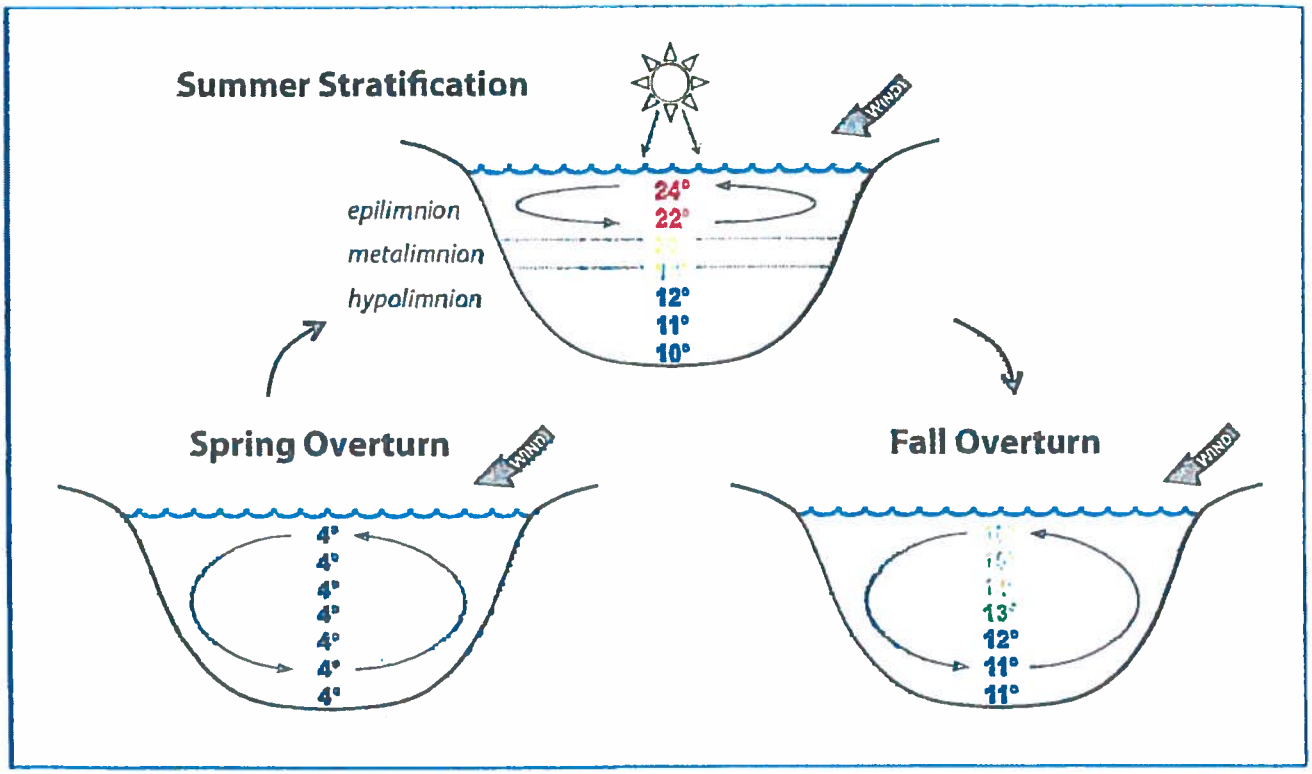
Changes in dissolved oxygen concentrations with depth and season depend, for the most part, on the depth of the lake. In lakes such as Lorimer Lake, the warm surface, epilimnetic waters float on the cooler, more dense metalimnetic layer during the summer months. The difference in density (i.e., the surface waters are less dense than the underlying metalimnion) creates a resistance to water column mixing by wind action; in fact, many lake trout lakes do not become uniformly mixed until the surface waters cool in the fall, when they undergo their "fall turnover". During the summer stratification period, the surface epilmnetic waters are constantly being mixed by wind action and are well supplied with oxygen through photosynthesis by algae; as a result, they have high concentrations of dissolved oxygen, as does Lorimer Lake (**Figure 2**). In contrast, the bottom waters are limited in their ability to replenish their oxygen supply, and must rely on oxygen derived during the "spring turnover" (i.e., the second period of a year when a lake's oxygen resource is naturally replenished) to offset respiration and decomposition of sedimented and sedimenting organic material, including algae produced in the lake's upper strata. The typical spring and fall turnovers that "bookend" the summer stratification are illustrated in **Figure 3**.

As indicated by the Ministry of the Environment and Ministry of Natural Resources (1979):

> " . . . In many lakes which exhibit thermal stratification between spring and fall turnover, the decomposition of organic matter utilizes the total oxygen supply of the bottom waters of the lake. This is a **natural** process and is not confined to lakes which support shoreline

Figure 2. Water temperature and disolved oxygen profiles in Lorimer Lake on September 23, 2013. All data provided by the Ministry of Natural Resources and Forestry.





Seasonal stratification and overturn typically seen in Lake Simcoe

Figure 3. Seasonal stratification and overturn typically seen in Ontario's deep-water lake trout lakes (reproduced from Lake Simcoe Region Conservation Authority 2010).

> development. It is not unusual or unexpected to discover severe oxygen depletion in the bottom waters of totally undeveloped lakes . . . In addition to the natural conditions of lakes, it is recognized that cultural enrichment resulting from human activities within a lake's drainage basins can influence its water quality conditions (Page 5).

It is important to note that factors other than depth and anthropogenic or human-made loadings of phosphorus can influence concentrations of dissolved oxygen in the bottom waters of lake trout lakes. In the preceding paragraph, mention is made of climatic influences. Also, the natural shape of a lake's basin or its morphometry can strongly influence the summertime/early fall oxygen regime; for example, undeveloped lakes having "deep holes" are typically characterized by poor oxygen conditions in their deeper waters. In this regard, an analysis of morphometric data from 22 Precambrian Shield lakes in Haliburton County and the District Municipality of Muskoka revealed that the shape of a lake's basin can exert a very large influence on dissolved oxygen profiles in late summer, **which is very much a natural condition**. Another potential factor relates to the dam on Grey Owl Lake which may have had an influence on levels of dissolved oxygen and other habitat features. As well, the introduction of various species, especially smelt, has probably had a negative impact on the ability of Lorimer Lake to support a self-sustaining population of lake trout. Based on a 1931 survey undertaken by the then Department of Lands and Forests, lake trout were present in Lorimer Lake. At that time, the lake likely supported a small native population (Steve Scholten, MNRF, personal communication, July 27, 2015) (**Appendix D**). Fourcorners Lake is an example of an at-capacity lake trout lake in the Municipality of Dysart et al; it has no development on it shoreline or within its watershed, and has less than optimal lake trout habitat. Its late-summer, deep-water oxygen regime relates entirely to natural causes. In terms of evaluating the effects of new shoreline development on late summer, deep water lake trout habitat, causes other than shoreline development are rarely if ever considered as contributing elements.

Figure 2 clearly indicates that dissolved oxygen diminished with depth on September 23rd, with near anaerobic or oxygen-poor conditions occurring at or near bottom. This oxygen distribution is referred to as clinograde. Of particular importance is the very large diminishment through the melalimnion, that is, from about 8.0 milligrams per litre (mg/L) at 8.0 m of depth to 3.6 mg/L at 10.0 m of depth. As discussed above, this reduction relates primarily to decomposition of sedimenting algal cells, with the dense waters of the layer slowing the sedimentation process.

The MNRF now evaluates the sufficiency of lake trout habitat by means of a Mean Volume Weighted Hypolimnetic Dissolved Oxygen (MVWHDO) criterion. It was formally adopted as MNRF policy in 2006, following posting on the Province's Environmental Registry. The approach scores each coldwater

layer by combining the dissolved oxygen concentration with its percentage volume of coldwater for that stratum. In this way, each stratum represents a portion of lake trout habitat based on late summer temperature and oxygen regimes (typically between August 15th and September 15th). The sum of the scores is then used to determine the quality of lake trout habitat. More simply put, the MVWHDO is the average concentration of dissolved oxygen in the cooler, deeper waters in late summer. A value of 7.0 mg/L or greater is considered acceptable for lake trout communities. In support of this value, the MNRF has determined that juvenile lake trout need at least 7.0 mg/L, expressed as the MVWHDO. Staff of the Ministry apply the criterion in the context of Policy 2.1.8 of the **PPS** (i.e., Development and site alteration shall not be permitted on adjacent lands to fish habitat unless no negative impacts have been demonstrated).

Figure 2 shows a MVWHDO concentration of 2.6 mg/L for Lorimer Lake on September 23, 2013, which is well-below the 7.0 mg/L limit. What this means with respect to new shoreline lot creation is that the Province will not recommend approval of any new severances or subdivisions that are within 300 m of the Lake, or any other development or redevelopment project that would increase the annual load of phosphorus, unless it can be otherwise demonstrated that the proposal will have no negative impacts on late summer, deep-water lake trout habitat.

2.2 Phosphorus

Phosphorus is present naturally in all lakes, rivers and streams. Its natural sources are: runoff from the landscape; inflowing tributaries, upstream lakes, wetlands, etc.; atmospheric deposition falling directly onto the lake's surface; and bottom sediments, both by re-suspension processes in shallow lakes and re-solubilization under anoxic or anaerobic conditions in deep lakes. Artificial or man-made sources include sewage treatment systems (inclusive of septic tank tile fields) and land use changes such as clearing of trees and shrubs, replacement of the natural environment by lawns, driveways and parking areas, and application of fertilizers and increased erosion caused by disturbing the natural shoreline.

In general, concentrations of phosphorus in lakes that are less than 0.010 mg/L do not result in high algal densities, while concentrations that exceed 0.020 mg/L can typically produce troublesome levels of algae to the point of bloom formation. Concentrations that are between 0.010 mg/L and 0.020 mg/L can result in nuisance algal conditions, assuming other nutrients and temperatures are optimal. Data for the surface waters of Lorimer Lake are 0.012 mg/L in 1996 (**Appendix E**) and 0.010 mg/L on April 27, 2015

(Michalski Nielsen Associates Limited), confirming that nuisance algal densities are not likely to occur in the Lake.

2.3 Provincial Position Regarding No Further Lot Creation

It is in the context of the above-described water quality conditions that the Province's no further lot creation position was advanced to many municipalities years ago and continues to be the policy of the day. To reiterate, the MVWHDO value for Lorimer Lake is insufficient to support a healthy lake trout fishery. It is for this reason that the Province considers the Lake as being highly sensitive to shoreline development, and has been recommending for some time that no new planning approvals should be granted that would allow new lot creation or more intense development within 300 m of the Lake's shoreline.

However, there are a number of exceptions that are recognized by the MoECC and MNRF, which would not result in decreased water quality, as follows:

- new residential, commercial or industrial development is connected to a municipal sewage treatment facility;
- new tile fields are set back at least 300 m from the shoreline of a lake, or such that drainage from the tile fields would flow at least 300 m to the lake;
- all new tile fields are located such that they would drain into the drainage basin of another waterbody, which is not at-capacity; or
- to separate existing habitable dwellings, each having a separate septic system, provided that the land use would not change.

A fifth criterion for flexibility is now acceptable to the MoECC; its origin is the 2010 **Lakeshore Capacity Assessment Handbook (LCAH)**, which was prepared to provide guidance to municipalities responsible for approving new development along the shoreline of Precambrian Shield lake trout. In a subsection relating to criteria for analyzing soil conditions, the **Handbook** states:

- Where a site specific soils investigation prepared by a qualified professional has been completed showing the following site conditions:

- the site where the septic tile-bed is to be located, and the region below and 15 metres down-gradient of this site, toward the lakeshore or a permanently-flowing tributary, across the full width of the tile bed, consist of deep (more than three metres), native and undisturbed, non-calcareous (<1% CaCO3 equivalent by weight) overburden with acid-extractable concentrations of iron and aluminum of >1% equivalent by weight (following Robertson 2005, 2006, Appendix B). Soil depth shall be assessed with test pits and/or boreholes at several sites. Samples for soils chemistry should be taken at a depth adjacent to, or below, the proposed tile bed; and
- an unsaturated zone of at least 1½ metres depth exists between the tile bed and the shallowest depth (maximum) extent of the water table. The position of the water table shall be assessed with test pits during the periods of maximum soils saturation (e.g., in the spring, following snowmelt, or late fall) (Page 38).

To comply with the above site conditions, it is necessary to have 3.0 m or more of native and undisturbed soils in locations where the tile bed is to be located. This condition is a substantial constraint to new lot creation, as there are few shoreline properties on lake trout lakes in Precambrian Shield cottage country that have such deposits. Not being able to meet this criterion means that new development would not be permitted. While not specifically stated, this criterion also implies that the importation of fill would not be acceptable insofar as phosphorus attenuation is concerned. The soil capability guidelines set out in the 2010 **LCAH** may in theory appear to be helpful; however, in practice, they are counterintuitive.

As noted above, the second exception implies that a tile field must be set back more than 300 m from the lake in order to have zero or near-zero impacts. This warrants further comment. Three hundred metres first appeared in 1975 in "A Simple Method for Predicting the Capacity of a Lake for Development Based on Lake Trophic Status" (Dillon, P.J. and F.H. Rigler, Journal Fisheries Research Board Canada 32:1519-1531). The publication was prepared by Dr. Peter Dillon quite soon after he joined the Limnology and Toxicity Section of the then MoE; at the time, the principal author of this report was Supervisor of the Section. The 305 m next appeared as a one-liner in the Province's 1986 **Trophic State Component of the Lakeshore Capacity Study**. What is important is that there never was any scientific justification associated with the selection of the setback; it was indeed quite arbitrary. Its initial intent was to define the limits for a lake capacity modeling exercise and that is all. In this regard, it represented the area within which shoreline lots (or more correctly tile fields) would be counted as one of the input parameters to the model. When it comes to a site specific parcel of land, it is scientifically impossible to support a position that says at 299 m from the shoreline of a lake, all of the phosphorus associated with man-made development is eventually going to get into a lake, but at 300 m, zero impacts can be guaranteed. The initial limit was never meant to be absolutely applied, but to reflect a land area within which a landscape's biophysical attributes (i.e., slopes; vegetation cover; overland drainages; and soil type, texture, depth,

internal drainage, phosphorus uptake capability; etc.) would determine setback requirements for any specific circumstance. However, over the years, its intent was modified, and the 300 m setback is now cast in stone.

Interestingly, there is no formal provincial policy, directive, or regulation which indicates that 300 m is a safe limit. The way it becomes policy is that provincial authorities require that it be included in official plans of municipalities having at-capacity lakes within their jurisdictions. In commenting on the 300 m buffer, Ontario Municipal Board member David Culham concluded that with respect to using it as a land use planning determinant for prohibiting development, it lacks a solid scientific foundation (Decision 3126, November 30, 2005, Page 10) (**Appendix F**).

Importantly, the Province specifically recognizes the need for planning authorities to protect, improve or restore the quality/quantity of water features in the **PPS**. In this regard, Policy 2.2.1 g) which is a new inclusion states that, "Planning authorities shall protect, improve, or restore the quality and quantity of water by ensuring consideration of environmental lake capacity where applicable." While there is no definition of "environmental lake capacity" in Section 6.0 of the **PPS**, it is obvious that by virtue of including this policy in 2.2 Water, its intent is to focus on water quality (or its surrogate, lake trophic state) as a determinant of "environmental lake capacity". Policy 2.2.1 h), while not new has relevance to the two lot creation applications; it speaks to ensuring that stormwater management practices need to minimize both volumes and contaminant loads, and maintain or increase the extent of vegetation cover and pervious surfaces.

Also relevant here are sections of the ***Lake Simcoe Protection Act, 2008*** and the **Lake Simcoe Protection Plan (LSPP)**. The ***Act*** provides a legislative framework including:

- clear objectives for protecting and restoring the ecological health of the Lake and its watershed;
- a requirement for scientific and stakeholder committees to provide advice; and
- legal authority to create regulations that provide even further protection.

The **LSPP** was approved on June 2, 2009; it provides direction for watershed protection and focuses efforts to restore the health of Lake Simcoe, including:

- restoring the health of the coldwater fishery and other aquatic life;

- improving water quality, including reducing the amount of phosphorus going into the Lake, and the development of a Phosphorus Reduction Strategy;
- maintaining water quality;
- protecting and rehabilitating important natural areas such as shorelines; and
- addressing impacts of invasive species, climate change and recreational activities.

Lake Simcoe is technically an at-capacity lake trout lake with its MVWHDO less than 7.0 mg/L, and concentrations of phosphorus exceeding 0.020 mg/L in parts of the Lake. Regardless of being at-capacity, new development and re-development is ongoing, both on the shoreline of the Lake and within its watershed. Mitigation measures are required such that no further additions or net increases would result.

As explained in the **Lake Simcoe Phosphorus Reduction Strategy** (2010), " . . . Protecting Lake Simcoe and reducing the phosphorus load to the Lake is a priority; the realization of this goal requires a balanced approach which must acknowledge the anticipated populations and employment growth in the watershed as well as the expense required to implement the actions recommended in this document." With respect to shoreline development setbacks, Designated Policy 6.2 of the ***Lake Simcoe Protection Plan*** states that, " . . . The minimum vegetation protection zone in a shoreline built-up area is 30 metres from the Lake Simcoe shoreline, or larger if determined appropriate by an evaluation required by policy 6.3. The vegetation protection zone for the remaining Lake Simcoe shoreline, outside of existing settlement areas and outside of shoreline built-up areas, is 100 metres from the Lake Simcoe shoreline." The obvious question is, what motivates the Province to require 300 metre setbacks for sewage treatment systems for at-capacity lake trout lakes throughout Ontario, but when it comes to Lake Simcoe, a lesser vegetation protection zone (i.e., 100 metres from the shoreline) is acceptable? This apparent inconsistency is indeed a paradox when it comes to balancing the merits of new shoreline development on the one hand and the necessity of protecting environmental features and functions on the other. Just as there is no science behind the 300 m requirement, there is similarly no scientific evidence to substantiate that a 100 m vegetation protection zone is acceptable from the perspective of guaranteeing or ensuring zero or near-zero impacts from sewage-related phosphorus.

2.4 Lake Specific Policy for Lorimer Lake – Official Plan for the Municipality of Whitestone

Section 17.06 sets out specific policies for Lorimer Lake, recognizing its at-capacity status, as follows.

17.06 Lorimer Lake

17.06.1 Lorimer Lake is managed as a lake trout lake and the lake has been identified as being at capacity as far as the ability of the lake to withstand any additional nutrients associated with additional lot creation if the lake trout fishery is to be sustained. The dissolved oxygen in the lake would indicate that the fishery is at fatal stress levels; however, recent samplings indicate a continued trout population.

17.06.2 Lorimer Lake will continue to be considered a lake that is at capacity and no further land division will be permitted on the lake except where no additional impact will occur as a result of that land division. This is restricted to consents to separate existing viable dwellings, new lots where the septic system has no impact on the lake because the sewage system, including gray water, is set back at least 300 metres from the shoreline or where the septic system drains at least 300 metres away from the lake.

17.06.3 The standard for any new lots that may comply with the "no impact" policy above shall be at a premium so that frontages are at least 150 metres and lot areas are no less than 2.25 hectares.

17.06.5 Waterfront areas of Lorimer Lake will be zoned in a Holding Zone allowing single family dwellings on existing lots of record. Land division of these lands would only be permitted subject to complying with the policies of this plan.

17.06.6 The "H" holding symbol will be removed for those lands eligible for a consent once an agreement has been executed ensuring the nutrient management of the newly created lot.

17.06.7 Only one new lot may be created by consent for a parcel that is eligible for consent in accordance with the policies of this Plan.

17.06.8 A maximum of five new lots may be created over a five year period with a limit of one lot per land owner in any calendar period. Applications for new lots over the five year period will be allotted on a first come, first serve basis and no repeat applications will be considered until the end of the five year period. At the end of the five year period, an additional five year period may be commenced using the same principles including a principle of fair share if any applications in the second period are repeat applicants.

17.06.9 For newly created lots, building permits will not be issued until proof of completion of sewage systems, including gray water, has been received by the Municipality as outlined above.

17.06.10 All of Lorimer Lake shall be identified as a site plan control area. Any new development will be subject to site plan control. Site plans will be required to ensure the protection and maintenance of a 15 metres natural vegetation buffer along and back from the controlled high water mark. Such site plans will be registered against the lands to which they apply.

17.06.11 It is understood that Lorimer Lake is only a marginal level one or oligitrophic waterbody and retains this status only until the lake becomes reclassified as a warm water fishery or mesotrophic lake. Regardless of this inevitable reclassification to a middle level lake, it will be the policy of this plan to preserve the highest water quality status of Lorimer Lake as possible, by ensuring that there is no deterioration in water quality. This will be accomplished by following the above restrictive land division policies even after the lake may be reclassified.

The Report to Planning Board – Consent Applications for Wesley and Walter Robbins prepared by John Jackson, John Jackson Planner Inc. (January 7, 2014) explains how the PSAPB and Municipality of Whitestone interprets the above policies.

> "The language of the policy was set out to only recognize the exceptions set out by the M.N.R. and M.O.E. (Section 17.06.2). However, the municipality and the planning board had interpreted this policy to recognize 'non-impact' lots within 300 metres of the lake where a septic system could include those design parameters confirming that there would be no perceptible added nutrient load to the lake.
>
> The policies also included additional performance standards recognizing a lake neighbourhood that had effectively been 'shut down' for decades that could now entertain limited additional lot creation. These policies include:
>
> - 150 metre frontages (90 metres was the norm);
> - 2.25 hectares (0.6 hectares was the norm);
> - application of the 'H' symbol; and
> - limited lot creation to one per year for five years.
>
> The planning board and municipality followed the policy for five years beginning in 2008 upon approval of the charter official plan. These historical lot creations included a number of non-impact lots established on the basis of location as well as septic system design criteria and not the 300 metre."

The above policies and position of the Municipality of Whitestone continues to be in effect, recognizing that sections of **OPA 1** (which is to be adjudicated by the Ontario Municipal Board) could substantially constrain additional development opportunities for Lorimer Lake.

3 RECOGNIZED PHOSPHORUS REDUCTION MEASURES – SEWAGE AND STORMWATER

This section presents up-to-date information on new technologies to reduce sewage-related phosphorus that would enable new lot creation on at-capacity lake trout lakes, while at the same time preventing any further deterioration in water quality. The initiatives set out herein are motivated in part by the **LSPP**, coupled with recent Ontario Municipal Board settlements on three designated at-capacity lake trout lakes (Limerick Lake and Red Horse Lake in southeastern Ontario and Lake Manitou on Manitoulin Island).

3.1 Sewage-related Phosphorus Reduction

As noted earlier, there are two sources of phosphorus resulting from shoreline development, conventional sewage treatment systems, and overland or stormwater runoff. Until recently, sufficient information was not available to provide Provincial officials with a level of comfort about phosphorus removal technologies for individual households which, if implemented correctly, would effectively result in shoreline lots that would have minimal or non-detectable impacts. For technologies to meet this threshold, they need to demonstrate that regardless of a lake's sensitivity, they do not cause any changes in surface water concentrations of phosphorus or deep-water dissolved oxygen, meaning any changes would not be analytically detectable. The phosphorus removal technologies presented herein are recognized by the MoECC and Ministry of Municipal Affairs and Housing (MMAH) as having considerable promise; however, staff of the Ministries are of the opinion that further testing is required in a variety of landscapes and on a limited number of at-capacity lake trout lakes. To be clear, the technologies described herein are not yet included in the **OBC**, nor is there any time frame for taking any initiatives to include the technologies.

3.1.1 *Scientific Literature*

With respect to sewage-related phosphorus that enters a tile or drain field, the scientific debate relates to whether or not it moves in soils, and to what extent. What is known is that in acidic soils which are common throughout Ontario's Precambrian Shield, aluminum is the dominant ion that reacts with phosphorus. The first products formed are amorphous (shapeless) aluminum and iron phosphates, which gradually change into inert compounds that resemble crystalline varisate (an aluminum phosphate compound), and stregnite (an iron phosphate compound). This means that the reaction processes are permanent and will not move in the soil. If the phosphorus does not move in the soil, then it cannot be taken up by plants or loaded to a lake.

There are differences between phosphorus attenuation by soils in Precambrian Shield settings (which typically are acidic and have low concentrations of calcium carbonate) and off-Shield soils (which are basic and rich in calcium carbonate). To demonstrate, information is presented in **Table 1** from two scientific publications and two reports prepared by Dr. Will Robertson of the University of Waterloo; Dr. Robertson is the MoECC's scientific advisor on matters relating to the mobility of sewage-related phosphorus in soils. The documents are included in **Appendix G**. The results in **Table 1** clearly show that Precambrian Shield acidic soils are more effective than calcareous soils in retaining sewage-related phosphorus.

Because of the importance of soil conditions insofar as new lot creation and related phosphorus loading are concerned, **Table 2** was prepared. It summarizes research on the mobilization of phosphorus from small scale sewage treatment systems, and the ability of soils to negate movement. Twenty-eight publications are cited. Most of the citations relating to Ontario's Shield country are from refereed journals, and all indicate that phosphorus is retained by soils; in most cases, the retention is substantial and permanent. The publication titled, "Limnology, plumbing and planning: Evaluation of nutrient-based limits to shoreline development in Precambrian Shield watersheds" constitutes a chapter in the **Handbook of Water Sensitive Planning and Design** (Lewis Publishers, CRC Press 2002); it is included in **Appendix H**. Its primary conclusion (which presents long term data from lakes in the Muskoka River watershed) is that the assumption that 100% of phosphorus in septic systems within 300 m of a lakeshore was mobile, could not be substantiated scientifically, either on an empirical or mechanistic basis.

3.1.2 *Sewage Treatment Systems that Remove Phosphorus*

For new lots to be created (or for that matter, for development of existing lots of record or for redevelopment), phosphorus reduction can be achieved using either a conventional septic tank and tile field constructed of tested B horizon Precambrian Shield soils, or the Waterloo Biofilter modified to reduce phosphorus, or Premier Tech Aqua's phosphorus removal unit. The Waterloo Biofilter relies on an electrocoagulation process whereby iron combines with phosphorus to form an inert compound. Premier Tech Aqua has been relying on aluminum as a means of reducing phosphorus through electrocoagulation; this process (as well as that presently being tested by engineers associated with the Waterloo Biofilter) is recognized by the MoECC as warranting further evaluation in Ontario's lakeshore environs. If additional protection is warranted, the partially treated effluent from both the Waterloo Biofilter and the Premier Tech Aqua system can be discharged to drain fields that are constructed with B horizon Precambrian Shield soils having a demonstrated high capability to retain phosphorus through adsorption (a non-

Table 1. Phosphorus reduction capabilities in calcareous and non-calcareous soils reported by Dr. W.D. Robertson, Department of Earth Sciences, University of Waterloo.

Publication	Calcareous	Non-calcareous	Phosphate phosphorus (mg/L)		% Reduction
			Effluent (N)	Plume (N)	
1998[1]	Cambridge		6.4 (21)	4.9 (26)	23.4
	Camp Henry		11.8 (1)	1.1 (9)	90.7
	Long Point[1]		6.2 (12)	2.8 (13)	54.8
	Long Point[2]		7.1 (1)	4.8 (1.6)	32.4
	Langton		8.2 (6)	1.3 (10)	84.1
		Delawana	1.2 (3)	0.3 (15)	75.0
		Harp Lake	8.9 (2)	0.03 (3)	99.7
		Lake Muskoka	12.1 (10)	0.05 (27)	99.6
2003[2]	Cambridge		6.3 (4)	4.8 (7)	23.8
		Lake Joseph	6.3 (1)	0.06 (13)	99.0
		Lake Muskoka	13.0 (5)	0.016 (8)	99.9
2005[3]		Lake Joseph	1.2 (1)	<0.02 (6)	98.3
		Lake Muskoka	13.5 (10)	<0.02 (7)	99.8[5]
		Killarney	6.5 (1)	<0.02 (10)	99.7
			9.8 (1)	<0.02 (9)	99.8
		Sturgeon Bay	5.3 (1)	<0.02 (3)	99.6
			6.7 (1)	0.78 (3)	88.4
2006[4]		Sturgeon Bay	8.9 (1)	0.06 (10)	99.3

1 Robertson, W.D., S.L. Schiff, and C.J. Ptacek. 1998. Review of Phosphate Mobility and Persistence in 10 Septic System Plumes. **Ground Water**, 36: 1000-010.

2 Robertson, W.D. 2003. Enhanced Attenuation of Septic System Phosphate in Noncalcareous Sediments. **Ground Water**, 41: 48-56.

3 Robertson, W.D. 2005. 2004 Survey of Phosphorus Concentrations in Five Central Ontario Septic System Plumes. Report prepared for Ministry of the Environment. 7 pages plus table and figures.

4 Robertson, W.D. 2006. Phosphorus Distribution in a Septic System Plume on Thin Soil Terrain in Ontario Cottage Country. Report prepared for the Ministry of the Environment. 7 pages plus tables and figures.

5 Robertson, W.D. Percent reduction determined using effluent data (13.5 mg/L) from Muskoka site presented in Enhanced Attenuation of Septic System Phosphate in Noncalcareous Sediments. **Ground Water**, 41: 48-56.

Table 2. Sewage effluent, phosphorus and soils literature review, modified from Riverstone Environmental Solutions Inc. (2008).

Date	Author(s)	Summary
1976	Viraraghaven and Warnock[1]	Most groundwater samples below a septic tile field operating for three years showed phosphate concentrations lower than background levels.
1976	Reneau and Pettry[1]	No soluble phosphorus in a slowly moving water table below a four and fifteen year old septic system in sandy loam soils, and orthophosphate concentrations below 0.2 µg/L at points 3 m from the tiles.
1977	Sawhney and Starr[1]	Sampling tubes installed below and downgradient from a tile field showed that soil 15 cm – 30 cm from the tiles was removing most of the outflow phosphate after six years of use. Also showed that wetting/drying (alternate operation of two trenches) "regenerated" the soils phosphorus removal capacity.
1979	Reneau[1]	Studied transfer of effluent from 10 domestic septic tank systems all greater than 12 years old, to an agricultural tile drain. Varying soil phosphorus attenuation was found, with 99% removal within 8 m to 30 m from the outflows
1979	Jones and Lee[1]	Concluded, "no evidence for phosphate transport from septic tank effluent was found in any of the monitoring wells" after sampling 15 points within 10 m – 100 m from a four year old septic tile field.
1981	Aulenbach et al.[1]	According to the Scope Newsletter, "estimated 85% overall removal of phosphorus from sewage in septic tank systems (including soil retention and assuming 5% of systems failing) around Lake George, New York State."
1983	Gilliom and Parmont[1]	Concluded, "movement of more than 1% effluent phosphorus to the lake was rare" from a study of eight septic systems ranging between 20 and 40 years of age adjacent to a small lake.

Table 2 (Cont'd).

Date	Author(s)	Summary
1988	Chen[1]	Found that, "of 45 groundwater sampling points situated 0 m to 3 m below the surface, and up to 100 m from 17 different septic tank systems situated near the shores of lakes in northern and eastern New York State, only four showed phosphate concentrations >0.1 mg P/L".
1988	Johnson and Atwater[1]	Showed, "96% to 99% removal of soluble phosphate with three different soil types (three loamy sands, three sands) in 3 m long channels.
1989	Alhajjar et al.[1]	Compared phosphorus contamination of groundwater for nine septic systems and concluded, "there was zero probability of more than 5% of phosphate reaching groundwater in all cases, with mean phosphate transfer < 0.1 mg P/L in all cases".
1989	Reneau, Hagedorn and Degan[1]	Concluded, "most field studies indicate that P contamination is limited to shallow groundwater adjacent to on-site waste water disposal systems and that P sorption continues under saturated conditions".
1991	Robertson et al.	On the Muskoka River near Bracebridge, from a septic system in operation for one year on a poorly buffered, carbonate-depleted sand aquifer, and in Cambridge from a septic system in operation for over twelve years on a carbonate-rich sand aquifer, tests showed high levels (about 10 mg/L) of phosphorus in the septic tank effluent, while concentrations were substantially attenuated immediately below the tile field, with no detectable phosphate phosphorus (<0.02 mg/L) observed in the groundwater zone.
1992	Wieskel and Howes[1]	Looked at nutrients from four different 10 – 75 year old septic tank systems situated close to Buttermilk Bay, Massachusetts, and concluded that approx 0.3% of the effluent phosphorus would reach the bay.

Table 2 (Cont'd).

Date	Author(s)	Summary
1993	Wood	In research undertaken as part of a Master's of Science degree, phosphorus levels from a septic system installed in 1962 to serve a shoreline seasonal residence on Harp Lake, northeast of Huntsville were analysed. The septic system was located 0.66 metres above the water table and 15.8 metres from the shoreline of the lake. Between 1962 and 1992, there was no maintenance to either the tile field or the steel septic tank. Wood reported slightly elevated phosphorus in the groundwater of the terrestrial and aquatic zones, and most of the phosphorus from 30 years of use was found directly under the tile field (within 14 cm of the drains). Soil phosphorus concentrations below and downgradient from this horizon were at background levels.
1995	Robertson[1]	Reported further monitoring results from the Cambridge domestic septic tank site (see 1991 above). Phosphate levels stabilized at 1 mg P/L in the septic plume, and "analysis of dilution factors led to the conclusion that around 25% of septic tank effluent P continued to be attenuated in the vadose zone"; the attenuation is most likely the result of mineral precipitation, and higher attenuation values are obtained at lower pH levels (acidic waste water or soil conditions).
1995	Robertson and Blowes[1]	A septic tank system serving a seasonal cottage was studied for four years after installation in Sudbury. The native soil was poorly buffered silt, and an acid contamination plume developed in the ground, but with limited phosphate mobility. There was no phosphate migration significantly beyond the infiltration bed gravel layer over the study period.
1996 1999	Harmon et al.[1] Robertson and Harman[1]	These two studies looked at effluent plumes from three septic systems serving a 200-pupil school for nearly 50 years and a seasonal 200-person campsite for five and for 25 years (two outflows). Following this extended use, approximately 85% of phosphate was being retained in the first 30 cm past the tiles. Phosphate above background levels was detectable up to 75 m away from the older system (mobile groundwater), but not beyond. They concluded that over long periods of use of septic tanks, long-term migration of phosphorus in the groundwater zone may occur.

Table 2 (Cont'd).

Date	Author(s)	Summary
1998	Zanini, Robertson *et* al.	Studies continued on the school plume (as above) and on three domestic septic tank systems also in Ontario: Cambridge (operational approx 20 years), Muskoka (10 years), and Harp Lake (30 years). Results showed high phosphorus removal within the first 10 cm – 30 cm of soil around infiltration pipes. Based on soil iron content, they estimated that it would take approximately 35 years to saturate the first 25 cm around the infiltration pipes.
1998	Robertson et al.	Studied phosphate distribution in ten mature septic system plumes, and revealed that in six cases (primarily those on calcareous sands, and south of the southern limit of the Precambrian Shield), relatively large plumes were present (>10 m in length), and phosphate concentrations of 0.5 mg/L to 5.0 mg/L were higher than normally found in uncontaminated aquatic ecosystems. At the other four sites, on acidic and on Precambrian Shield non-calcareous sands and silt- and clay-rich sediments, high phosphate concentrations occurred only within three metres of the infiltration pipes. Concentrations of phosphorus in the Precambrian Shield plumes appeared to be strongly controlled by mineral precipitation reactions that occur in close proximity to the infiltration pipes. Concluded that results open up the possibility of modifying septic system design to achieve improved phosphate attenuation.
1998	Ptacek[1]	Studied an effluent plume situated on sand and found, "phosphate concentrations higher than background (but low at <0.02 mg P/L) up to 60 m away from the septic tank in part of the soil groundwater (non-surface groundwater with low oxygen levels). This shows that septic tank outflows can contribute phosphate to surface waters where septic tanks are relatively close to surface waters (<100 m) and in sand substrate (rather than soil) over an impermeable layer".
2000	Robertson[1]	Research, "in a two-year field experiment using a lysimeter containing natural sandy soils, showed that septic tank effluent soluble phosphate levels were brought down below the detection limit (<0.005 mg P/L). Only around 0.2% of soil iron had been used, forming stable coatings on the soil particles, suggesting that the system would remain effective for many years".

Table 2 (Cont'd).

Date	Author(s)	Summary
2003	Robertson	Robertson's fundamental conclusion that phosphorus is strongly attenuated in acidic soils remained consistent. The data show that under acidic conditions, permanent phosphorus attenuation is carried out by high levels of aluminum combining to produce an aluminum/phosphate complex on sand grains below the infiltration bed.
2005	Zhang	The author used path analysis and multiple regression to examine the relationships between phosphorus adsorption and levels of iron and aluminum in different soils and found that extractable (acidified aluminum ammonium oxalate) aluminum and iron were the two most important properties related to the adsorption of phosphorus in soil.
2002	Hutchinson	Presents results of a re-evaluation of nearly 25 years of data from over 125 lakes in the District Municipality of Muskoka. The assumption that 100% of the phosphorus entering a septic system will ultimately be expressed as increased trophic state in downgradient lakes, "has only been tested indirectly" and that, "recent investigations of septic system geochemistry and the mechanisms of phosphorus mineralization in soil suggest that this assumption is debatable where soils are present between a septic system and a waterbody and that 100% phosphorus export is, in fact, unlikely". Dr. Hutchinson recommends that the phosphorus contribution from sewage septic systems be reduced by 74% for those lakes with suitable soils in their catchments.

Table 2 (Cont'd).

Date	Author(s)	Summary
Aug 2003 through Oct 10, 2008	Branson property (Michalski Nielsen Associates Limited)	In a site plan agreement with Mr. Branson and the County of Haliburton, monitoring was undertaken on concentrations of phosphorus in the sewage before entering the tile field, and concentrations after treatment. The concentrations after treatment were captured in five permanent sampling wells installed to bedrock when the tile field was constructed, four in each of the corner areas and one in the centre. The phosphorus capacity of soil used to construct the tile field ranged between 75 mg and 150 mg of phosphorus/100 grams of soil. Nineteen sets of results show a very significant reduction in total phosphorus (i.e., continuously greater than 99%).
2006	Paterson et al.	The position of the Ministry of Environment differs from the recent science regarding the sewage-related phosphorus attenuating ability of soils. This publication updates the approach in that it recognizes that phosphorus attenuation may occur in some watersheds and probably increases with distance from the lake's shoreline. The publication notes, "First, in watersheds (or portions of watersheds) with shallow (generally <3 m) or absent soils, and with exposed or fractured bedrock, the existing assumption of zero retention is applied . . . Second, at sites where deeper (generally >3 m), non-calcareous native soils are present, the modeller may use the coefficients outlined in Table 3. Here, the degree of attenuation increases with distance from the shoreline, with an assumption of zero export at distances of >300 m (Hutchinson 2002). Third, in cases where site-specific characteristics demonstrate that retention of septic system phosphorus may occur over the long term, attenuation factors may be developed for consideration by local planning authorities and plugged into the model.

Table 2 (Cont'd).

Date	Author(s)	Summary
No date	Lacosse and Fanfan	Monitoring of the Ecoflow Biofilter followed by 12 inches of soil demonstrated that the former reduces total phosphorus by 12% on average. The combination of the biofilter and drain field provides an overall removal of 98% of the total phosphorus present in the septic tank effluent. The monitoring covered a period of 40 months, and no influence was noted with respect to soil permeability. It was concluded that the phosphorus fixation related to the adsorption on the surface of metallic elements, particularly iron and aluminum. The life span of the treatment train insofar as phosphorus retention is concerned was estimated to be about 20 years, without accounting for the contribution in iron, aluminum, humic and fulvic acids associated with the peat-based filtering media.
Date	**Author(s)**	**Summary**
1976	Viraraghaven and Warnock[1]	Most groundwater samples below a septic tile field operating for three years showed phosphate concentrations lower than background levels.
1976	Reneau and Pettry[1]	No soluble phosphorus in a slowly moving water table below a four and fifteen year old septic system in sandy loam soils, and orthophosphate concentrations below 0.2 µg/L at points 3 m from the tiles.
1977	Sawhney and Starr[1]	Sampling tubes installed below and downgradient from a tile field showed that soil 15 cm – 30 cm from the tiles was removing most of the outflow phosphate after six years of use. Also showed that wetting/drying (alternate operation of two trenches) "regenerated" the soils phosphorus removal capacity.
1979	Reneau[1]	Studied transfer of effluent from 10 domestic septic tank systems all greater than 12 years old, to an agricultural tile drain. Varying soil phosphorus attenuation was found, with 99% removal within 8 m to 30 m from the outflows

Table 2 (Cont'd).

Date	Author(s)	Summary
1979	Jones and Lee[1]	Concluded, "no evidence for phosphate transport from septic tank effluent was found in any of the monitoring wells" after sampling 15 points within 10 m – 100 m from a four year old septic tile field.
1981	Aulenbach et al.[1]	According to the Scope Newsletter, "estimated 85% overall removal of phosphorus from sewage in septic tank systems (including soil retention and assuming 5% of systems failing) around Lake George, New York State."
1983	Gilliom and Parmont[1]	Concluded, "movement of more than 1% effluent phosphorus to the lake was rare" from a study of eight septic systems ranging between 20 and 40 years of age adjacent to a small lake.
1988	Chen[1]	Found that, "of 45 groundwater sampling points situated 0 m to 3 m below the surface, and up to 100 m from 17 different septic tank systems situated near the shores of lakes in northern and eastern New York State, only four showed phosphate concentrations >0.1 mg P/L".
1988	Johnson and Atwater[1]	Showed, "96% to 99% removal of soluble phosphate with three different soil types (three loamy sands, three sands) in 3 m long channels.
1989	Alhajjar et al.[1]	Compared phosphorus contamination of groundwater for nine septic systems and concluded, "there was zero probability of more than 5% of phosphate reaching groundwater in all cases, with mean phosphate transfer < 0.1 mg P/L in all cases".
1989	Reneau, Hagedorn and Degan[1]	Concluded, "most field studies indicate that P contamination is limited to shallow groundwater adjacent to on-site waste water disposal systems and that P sorption continues under saturated conditions".

Table 2 (Cont'd).

Date	Author(s)	Summary
1991	Robertson et al.	On the Muskoka River near Bracebridge, from a septic system in operation for one year on a poorly buffered, carbonate-depleted sand aquifer, and in Cambridge from a septic system in operation for over twelve years on a carbonate-rich sand aquifer, tests showed high levels (about 10 mg/L) of phosphorus in the septic tank effluent, while concentrations were substantially attenuated immediately below the tile field, with no detectable phosphate phosphorus (<0.02 mg/L) observed in the groundwater zone.
1992	Wieskel and Howes[1]	Looked at nutrients from four different 10 – 75 year old septic tank systems situated close to Buttermilk Bay, Massachusetts, and concluded that approx 0.3% of the effluent phosphorus would reach the bay.
1993	Wood	In research undertaken as part of a Master's of Science degree, phosphorus levels from a septic system installed in 1962 to serve a shoreline seasonal residence on Harp Lake, northeast of Huntsville were analysed. The septic system was located 0.66 metres above the water table and 15.8 metres from the shoreline of the lake. Between 1962 and 1992, there was no maintenance to either the tile field or the steel septic tank. Wood reported slightly elevated phosphorus in the groundwater of the terrestrial and aquatic zones, and most of the phosphorus from 30 years of use was found directly under the tile field (within 14 cm of the drains). Soil phosphorus concentrations below and downgradient from this horizon were at background levels.
1995	Robertson[1]	Reported further monitoring results from the Cambridge domestic septic tank site (see 1991 above). Phosphate levels stabilized at 1 mg P/L in the septic plume, and "analysis of dilution factors led to the conclusion that around 25% of septic tank effluent P continued to be attenuated in the vadose zone"; the attenuation is most likely the result of mineral precipitation, and higher attenuation values are obtained at lower pH levels (acidic waste water or soil conditions).

Table 2 (Cont'd).

Date	Author(s)	Summary
1995	Robertson and Blowes[1]	A septic tank system serving a seasonal cottage was studied for four years after installation in Sudbury. The native soil was poorly buffered silt, and an acid contamination plume developed in the ground, but with limited phosphate mobility. There was no phosphate migration significantly beyond the infiltration bed gravel layer over the study period.
1996 1999	Harmon et al.[1] Robertson and Harman[1]	These two studies looked at effluent plumes from three septic systems serving a 200-pupil school for nearly 50 years and a seasonal 200-person campsite for five and for 25 years (two outflows). Following this extended use, approximately 85% of phosphate was being retained in the first 30 cm past the tiles. Phosphate above background levels was detectable up to 75 m away from the older system (mobile groundwater), but not beyond. They concluded that over long periods of use of septic tanks, long-term migration of phosphorus in the groundwater zone may occur.
1998	Zanini, Robertson *et* al.	Studies continued on the school plume (as above) and on three domestic septic tank systems also in Ontario: Cambridge (operational approx 20 years), Muskoka (10 years), and Harp Lake (30 years). Results showed high phosphorus removal within the first 10 cm – 30 cm of soil around infiltration pipes. Based on soil iron content, they estimated that it would take approximately 35 years to saturate the first 25 cm around the infiltration pipes.
1998	Robertson et al.	Studied phosphate distribution in ten mature septic system plumes, and revealed that in six cases (primarily those on calcareous sands, and south of the southern limit of the Precambrian Shield), relatively large plumes were present (>10 m in length), and phosphate concentrations of 0.5 mg/L to 5.0 mg/L were higher than normally found in uncontaminated aquatic ecosystems. At the other four sites, on acidic and on Precambrian Shield non-calcareous sands and silt- and clay-rich sediments, high phosphate concentrations occurred only within three metres of the infiltration pipes. Concentrations of phosphorus in the Precambrian Shield plumes appeared to be strongly controlled by mineral precipitation reactions that occur in close proximity to the infiltration pipes. Concluded that results open up the possibility of modifying septic system design to achieve improved phosphate attenuation.

Table 2 (Cont'd).

Date	Author(s)	Summary
1998	Ptacek[1]	Studied an effluent plume situated on sand and found, "phosphate concentrations higher than background (but low at <0.02 mg P/L) up to 60 m away from the septic tank in part of the soil groundwater (non-surface groundwater with low oxygen levels). This shows that septic tank outflows can contribute phosphate to surface waters where septic tanks are relatively close to surface waters (<100 m) and in sand substrate (rather than soil) over an impermeable layer".
2000	Robertson[1]	Research, "in a two-year field experiment using a lysimeter containing natural sandy soils, showed that septic tank effluent soluble phosphate levels were brought down below the detection limit (<0.005 mg P/L). Only around 0.2% of soil iron had been used, forming stable coatings on the soil particles, suggesting that the system would remain effective for many years".
2003	Robertson	Robertson's fundamental conclusion that phosphorus is strongly attenuated in acidic soils remained consistent. The data show that under acidic conditions, permanent phosphorus attenuation is carried out by high levels of aluminum combining to produce an aluminum/phosphate complex on sand grains below the infiltration bed.
2005	Zhang	The author used path analysis and multiple regression to examine the relationships between phosphorus adsorption and levels of iron and aluminum in different soils and found that extractable (acidified aluminum ammonium oxalate) aluminum and iron were the two most important properties related to the adsorption of phosphorus in soil.

Table 2 (Cont'd).

2002	Hutchinson	Presents results of a re-evaluation of nearly 25 years of data from over 125 lakes in the District Municipality of Muskoka. The assumption that 100% of the phosphorus entering a septic system will ultimately be expressed as increased trophic state in downgradient lakes, "has only been tested indirectly" and that, "recent investigations of septic system geochemistry and the mechanisms of phosphorus mineralization in soil suggest that this assumption is debatable where soils are present between a septic system and a waterbody and that 100% phosphorus export is, in fact, unlikely". Dr. Hutchinson recommends that the phosphorus contribution from sewage septic systems be reduced by 74% for those lakes with suitable soils in their catchments.
Aug 2003 through Oct 10, 2008	Branson property (Michalski Nielsen Associates Limited)	In a site plan agreement with Mr. Branson and the County of Haliburton, monitoring was undertaken on concentrations of phosphorus in the sewage before entering the tile field, and concentrations after treatment. The concentrations after treatment were captured in five permanent sampling wells installed to bedrock when the tile field was constructed, four in each of the corner areas and one in the centre. The phosphorus capacity of soil used to construct the tile field ranged between 75 mg and 150 mg of phosphorus/100 grams of soil. Nineteen sets of results show a very significant reduction in total phosphorus (i.e., continuously greater than 99%).
2006	Paterson et al.	The position of the Ministry of Environment differs from the recent science regarding the sewage-related phosphorus attenuating ability of soils. This publication updates the approach in that it recognizes that phosphorus attenuation may occur in some watersheds and probably increases with distance from the lake's shoreline. The publication notes, "First, in watersheds (or portions of watersheds) with shallow (generally <3 m) or absent soils, and with exposed or fractured bedrock, the existing assumption of zero retention is applied . . . Second, at sites where deeper (generally >3 m), non-calcareous native soils are present, the modeller may use the coefficients outlined in Table 3. Here, the degree of attenuation increases with distance from the shoreline, with an assumption of zero export at distances of >300 m (Hutchinson 2002). Third, in cases where site-specific characteristics demonstrate that retention of septic system phosphorus may occur over the long term, attenuation factors may be developed for consideration by local planning authorities and plugged into the model.

Table 2 (Cont'd).

Date	Author(s)	Summary
No date	Lacosse and Fanfan	Monitoring of the Ecoflow Biofilter followed by 12 inches of soil demonstrated that the former reduces total phosphorus by 12% on average. The combination of the biofilter and drain field provides an overall removal of 98% of the total phosphorus present in the septic tank effluent. The monitoring covered a period of 40 months, and no influence was noted with respect to soil permeability. It was concluded that the phosphorus fixation related to the adsorption on the surface of metallic elements, particularly iron and aluminum. The life span of the treatment train insofar as phosphorus retention is concerned was estimated to be about 20 years, without accounting for the contribution in iron, aluminum, humic and fulvic acids associated with the peat-based filtering media.

1 Information referenced from Scope Newsletter January 2006.

permanent reaction) and mineralization with reactive aluminum and reactive iron (a permanent reaction). Where B horizon soils need to be imported they will need to be tested to ensure a high phosphorus reducing potential. Both the Waterloo Biofilter and the Premier Tech Aqua technologies are already approved for tertiary treatment under the **OBC**; however, tertiary treatment in the context of the **OBC** does not mean phosphorus removal/reduction.

In the following paragraphs, the three technologies mentioned above are further described.

i. ***Long Term Monitoring of B Horizon Precambrian Shield Soils.*** Michalski Nielsen Associates Limited has been monitoring the effectiveness of B horizon Precambrian Shield soils insofar as phosphorus reduction is concerned at a conventional septic tank tile field on the south basin of Kushog Lake in the Township of Algonquin Highlands, County of Haliburton (i.e., commonly referred to as the Branson/Sanderson site). In this circumstance, the entire tile field was constructed of imported and tested B horizon Precambrian soils. The monitoring commenced in 2003, after five years of extended seasonal use by the landowners. Five permanent sampling wells were installed in the leaching bed when it was constructed, one in each of the four corner areas, and one in the centre (**Figure 4**). The depth of the wells to bedrock ranged between 1.75 m and 2.0 m. As an objective, staff of the then MoE determined that phosphorus reduction in the order of 90% would need to be achieved. At this point, there are 25 sets of monitoring data collected between August 12, 2003 and November 2, 2011 (**Table 3**). There are five critical results, as follows.

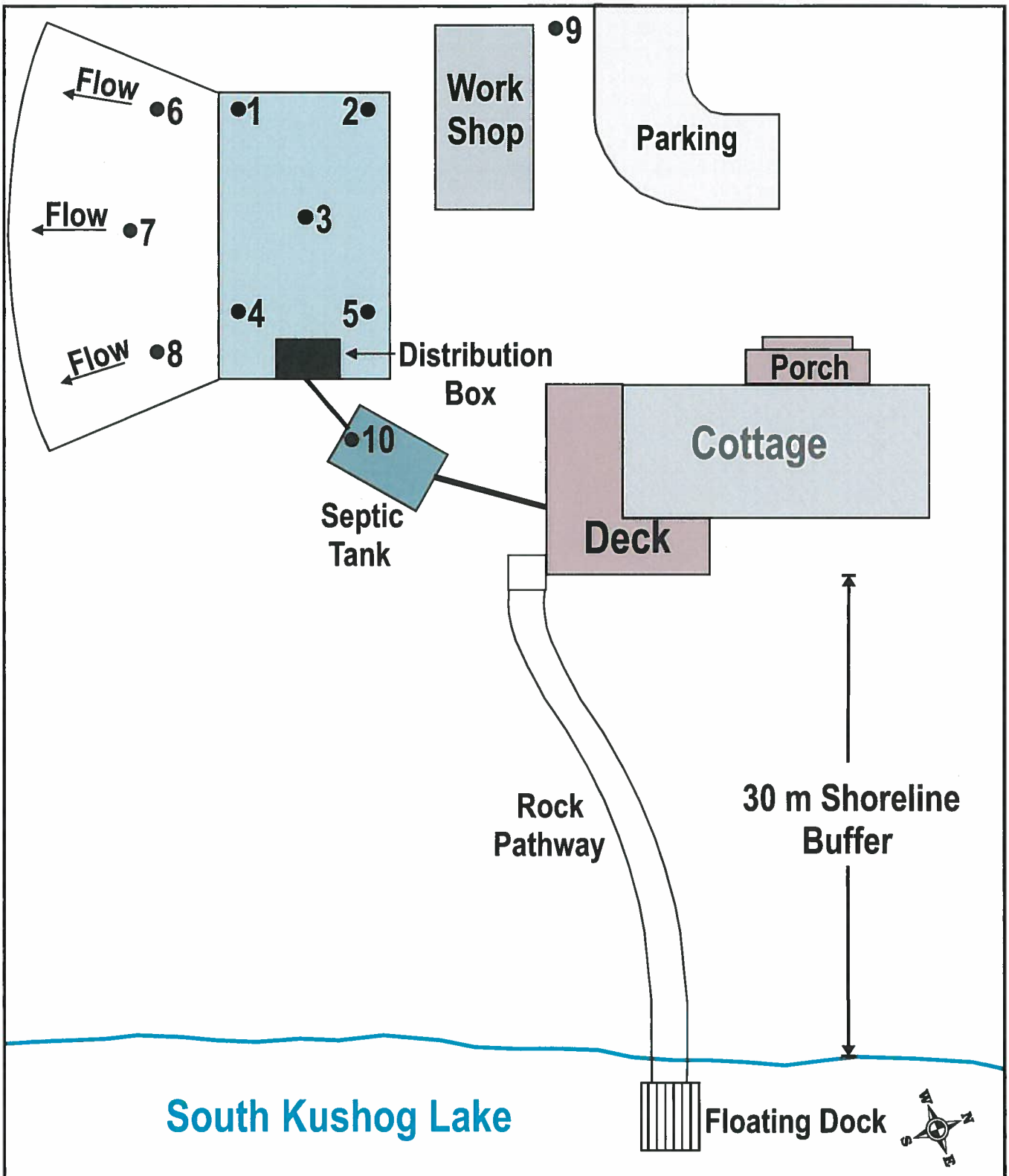
    1. There is a very significant reduction in phosphorus, typically greater than 97%, and in 20 cases out of 25, greater than 99%.

    2. The then MoE's objective of 90% reduction was achieved for all samples.

    3. There is no evidence after 14 years of use that the soils are running out of their capability to retain phosphorus.

    4. The entire tile field was constructed of imported B horizon soils; this contrasts with the Province's earlier mentioned requirement that at least 3.0 m of "native and undisturbed soils" are required for new lot creation on at-capacity lake trout lakes (**Lakeshore Capacity Assessment Handbook** 2010).

    5. The findings are consistent with the scientific results achieved by Dr. Robertson in his evaluations of the mobility of sewage-related phosphorus in tile fields located in Precambrian Shield settings.



Project Name: Scoped Environment Impact Assessment	Date Initiated: 2015	Filename: Lorimer Lake	FIGURE 4
Prepared For: Lorimer Lake	Sketch of developed portion of Sanderson lot on western shore of South Kushog Lake, showing location of tile field sampling wells		
Michalski Nielsen Associates Limited	Rev. No: 0	Drawn By: JN	Scale: Not to scale	Project Number: 6406

Table 3. Sewage related phosphorus reduction at Branson/Sanderson site, South Kushog Lake. Values for raw sewage and the samples from each piezometer are shown as milligrams of phosphorus per litre.

Date	Raw	Piezometer Numbers					Average % Reduction
		1 (NE)	2 (NW)	3 (Centre)	4 (SW)	5 (SE)	
August 12, 2003	9.1	0.04	1.30	0.02	0.01	0.02	97.0
December 2, 2003	9.2	0.36	0.05	0.07	0.03	0.05	98.8
June 10, 2004	10.9	0.2	–	0.01	0.03	0.07	99.4
May 16, 2005	9.5	0.04	0.02	0.01	0.01	0.01	99.8
May 31, 2005	8.7	0.02	0.13	0.005	0.01	0.01	99.6
August 26, 2005	10.4	0.85	0.06	0.06	0.06	0.04	97.9
November 11, 2005	9.6	0.01	0.17	0.02	0.02	0.01	99.6
November 14, 2005	9.6	0.01	0.01	0.01	0.01	0.01	99.9
April 18, 2006	11.4	0.007	0.011	0.012	0.008	0.007	99.9
October 11, 2006	8.5	0.005	0.052	0.005	0.056	0.017	99.7
May 17, 2007	13.9	0.011	0.042	0.006	<0.005	<0.005	99.9
May 22, 2007	10.1	0.012	0.051	0.011	<0.005	0.008	99.8
September 6, 2007	22.8	0.043	0.114	0.450	0.263	0.026	99.4
October 4, 2007	7.9	0.059	–	–	0.107	0.023	99.3
October 10, 2007	8.03	0.020	0.023	–	0.005	0.005	99.9
April 28, 2008	9.14	0.013	0.030	–	0.011	0.006	99.9
May 22, 2008	9.53	0.012	0.051	0.011	<0.008	0.008	99.9
June 6, 2008	8.60	0.020	0.012	0.019	0.006	<0.005	99.9
July 10, 2008	7.90	<0.005	0.008	<0.005	<0.005	0.005	99.9
November 3, 2008	9.60	0.008	0.018	0.010	<0.005	0.009	99.8
August 15, 2009	10.2	0.009	0.006	0.011	0.013	<0.005	99.9
November 12, 2009	13.7	0.156	0.660	0.070	0.064	0.175	98.4
June 26, 2010	14.6	0.235	0.144	0.295	0.082	0.328	98.4
October 17, 2011	9.9	0.222	0.041	0.102	0.008	0.028	99.5
November 2, 2011	11.6	0.022	0.022	0.122	0.023	0.026	99.6

There are a number of advantages with the B horizon soil technology. First, it relies on the biophysical attributes of the natural landscape to achieve benefits. Second, it is simple and passive; once in place, homeowners have only normal maintenance to worry about. Third, costs are only slightly higher than what is required for a typical or conventional tile field. Experience in the Muskoka/Haliburton area is that contractors tend to prefer scavenging soils from within a property, on the basis that soil specifications are satisfactory, and that an adequate supply is available. If not, imported soils from outside the lot are needed. Fourth, no long term maintenance agreement with a provider is needed, nor are there ambiguities with second and third landowners regarding the continuation of maintenance agreements. Fifth, and most importantly, the phosphorus reduction capability is an added benefit with respect to what is typically provided by **OBC** approved treatment systems.

The principal author of this report has had discussions with Victor Castro, Surface Water Group Leader, Technical Support Section, MoECC relating to the clearance of conditions of approval at the Kushog Lake property, insofar as the above monitoring results are concerned. On October 29, 2013, this gentleman forwarded a letter to Dawn Newhook, Municipal Clerk, Township of Algonquin Highlands, stating in part that, " . . . These results are very encouraging and are consistent with research findings from other similar studies on septic systems constructed with imported and native acidic soils on the Precambrian Shield. These studies have shown that while adsorption processes slow down the movement of phosphorus, mineralization processes can result in the immobilization and long term retention of phosphorus in the soils." (**Appendix I**). From the perspective of the current owners of the property, an important sentence is, " . . . the MOE would not object to the Township returning the financial security to the owner. We will recommend to Mr. Michalski that he continue to monitor the sewage system to provide a long term record of phosphorus retention at this site; however, this will be done in the context of research and does not need to be tied to the financial security." It is the opinion of the principal author of this **SEIA** that this is likely one of the first times the MoECC has commented so positively about this technology.

ii. ***Modification to Waterloo Biofilter.*** An amendment to reduce phosphorus has been added to the Waterloo Biofilter and tested at a Husky Truck Stop Service Centre near London (**Appendix J**). It includes the incorporation of an iron plate into the technology; the plate is subjected to an electric current, and iron-phosphate compounds are immediately formed in a fine-grained particulate form. The advantage over phosphorus retention by tile bed soils is that both the phosphorus and the iron

chemically bind in a fine particulate form in the septic tank. The particles then pass to the Biofilter or to a tile field/filter bed; in effect, the iron and phosphate arrive together such that they do not have to "seek each other out". The benefit is that the phosphate molecules are removed permanently from the sewage; the actual volume of the iron/phosphate precipitate is so small that plugging of a tile/filter bed is not an issue. A custom designed electric panel controls the electrochemical performance. Testing started on September 10, 2010 with daily monitoring and operation focusing on electrical parameters, electrochemical cell performance and flow rate. Samples from the influent and effluent streams were taken twice every week since monitoring commenced. Phosphorus was reduced from between 13 mg/L and 19 mg/L, to less than 2.0 mg/L, as total phosphorus. Benefits of the technology are: (a) a simple abiotic process; (b) no handling of chemicals; (c) no pH balancing; (d) easy maintenance with yearly electrode replacement; (e) low operating costs; (f) applicable to both calcareous and non-calcareous landscapes; and (g) the phosphorus reduction occurs within an enclosed unit which can easily and efficiently be monitored.

In a more recent scientific paper describing phosphorus removal in residential filtration beds, Jowett et al (2013) reported that after a few weeks, the concentration of total phosphorus of 6.0 mg/L to 10 mg/L in the sewage was lowered to 0.03 mg/L to 0.3 mg/L at 300 millimetres (mm) of depth in the leaching bed, to 0.02 mg/L to 0.08 mg/L at 600 mm of depth, and to 0.02 mg/L to 0.03 mg/L at 900 mm (**Appendix K**). The concentration of phosphorus in the septic water averaged 0.11 mg/L, 0.05 mg/L and 0.03 mg/L respectively at these three soil depths, for very high percentage removal rates of 98%, 99% and >99% respectively. The authors' conclusions are impressive and consistent with those found at the Branson/Sanderson site on Kushog Lake, as follows.

> "The Waterloo EC-P technology removes total phosphorus from sewage by mimicking the formation and function of iron-rich B horizon soils and has been successfully tested at a variety of field sites and conditions. It is thought that insoluble iron-phosphate minerals precipitate in a filtration component following pre-treatment like a septic tank. The filtration component can be clean foam or sand or soil that is otherwise poor in total phosphorus removal capacity. The following characteristics are demonstrated: low energy consumption; temperature independence; no effect on pH; and no disposal issues as a concentrated sludge or slag. **Retrofitting the unit into existing conventional septic systems means that all residences close to phosphorus-sensitive water bodies can improve total phosphorus removal from their sewage in a cost-effective manner** (emphasis added)."

iii. ***Premier Tech Aqua Sewage Treatment System.*** Premier Tech Aqua's phosphorus reduction technology for application to individual homes is further detailed in **Appendix L**. It involves an electrocoagulation process in which a current is passed through a series of aluminum electrodes; phosphorus is retained as a precipitant or coagulant. The process has been evaluated and approved by the independent Bureau de Normalisation du Québec (BNQ) for use in the Province of Quebec. It is achieving in excess of 99% phosphorus reduction. Electrode replacement has been estimated to be every one to two years for permanent occupancy, every three to five years for extended seasonal or secondary homes, and every five years plus for seasonal occupancy. Premier Tech Aqua describes the following as features of the technology.

1. Easy to operate – does not require any specific intervention.
2. No stocking or handling of chemical products.
3. No or limited impacts on pH.
4. Less sludge production (75% less than conventional chemical addition).
5. Continuous self-cleaning of the electrodes (i.e., prevention of coating).
6. Separation of flocs (solids) by lamellar decontamination.
7. Operates on-demand only.

3.2 Stormwater-related Phosphorus Reduction

New development can change the way the earth receives stormwater or overland runoff through the introduction of hard surfaces such as roofs or paved laneways and parking areas. This increase in imperviousness reduces the amount of rain and snow that can infiltrate into the soil. As rainwater or snowmelt runs from a roof, it picks up natural debris and sediment, as well as various pollutants that may have been introduced by development including suspended solids, phosphorus, bacteria, etc., and can transport them as far as the downgradient lake. As well, the runoff from hard surfaces are more sudden, possibly increasing erosion and resulting in loose soil and exposed tree roots. There are two management techniques that can help diminish the impacts of stormwater runoff resulting from shoreline development: natural shoreline buffers; and infiltration trenches (commonly referred to as french drains or soakaway pits).

The key question continues to be, how wide does the natural buffer strip need to be? Very clearly, depending on a variety of biological and physical circumstances, buffer widths can vary substantially from a very few metres where sandy soils prevail to well over 100 m on clay soils. The investigation by Woodard and Rock entitled **Control of Residential Stormwater by Natural Buffer Strips** (1995) is relevant to the subject property. The authors monitored two slope categories: 1% to 5%; and 10% to 15%. All slopes were at least 46 m in length and tested in intervals of 8.0 m, so that the buffer strip effectiveness would be examined as a function of length. As summarized by Beacon Environmental (2013), " . . . The authors found that natural buffer strips can be an effective method of reducing concentrations of phosphorus and total suspended solids in runoff. For all sites studies, 15 m of undisturbed buffer strips brought phosphorus concentrations within average control values. Slopes up to 12% did not significantly change the buffer strips' ability to remove phosphorus; accordingly, the authors concluded that as long as there is sufficient ground cover and a stable soil matrix, and channelization, 15 m was a sufficient recommendation for most sites below 12%. As indicated earlier, Section 17.06.10 of the **Whitestone OP** requires that a 15 m natural vegetation buffer be incorporated in site plan control agreements for Lorimer Lake. However, the MoECC and MNRF, because of the sensitivity of the Lake to artificial loadings of phosphorus, require a 30 m natural shoreline buffer, which is consistent with the recommendation of Beacon Environmental for the initial severance in 2013.

4 EXISTING CONDITIONS, IMPACT ANALYSIS AND PROPOSAL TO CREATE TWO NEW LOTS WHILE PROTECTING WATER QUALITY AND LAKE TROUT HABITAT

4.1 Terrain Conditions

4.1.1 Approach

The following information on terrain conditions was collected on April 27, 2015, with an emphasis on those parts of the proposed lots to be created that can support residential development, including areas considered suitable for sewage treatment systems, as follows.

- Soil texture, depth, compaction and colour characteristics, using a manual soil auger where terrain conditions are flat and suitable for conventional tile fields.

- Overland drainage based on local topography, and internal soil drainage from observations of soil moisture content through augered profiles.

- Slope estimated visually.

- Methods consistent with the Canadian Soil Information System were used to document existing conditions at locations having potential for Class IV sewage systems, as required by the **OBC**. As mentioned above, the types of soil layers, their depth, thickness and characteristics, and colour of the B horizon were recorded. Also, a sample of B horizon soil was collected from the area of the drain field for the proposed severed lot on Wesley Robbins property, and forwarded to Caduceon Environmental Laboratories in Peterborough for estimates of phosphorus retention capabilities, iron, aluminum, particle size distribution, calcium carbonate content, and estimated percolation time.

4.1.2 Bedrock

Bedrock throughout the property and environs belongs to the Central Gneiss Belt of the Grenville Province in the Canadian Shield Physiographic Region. In the northern part of the property, it relates to a diverse group of clastic metasedimentary rocks formed during the middle to late Precambrian era (i.e., metamorphosed rock fragments that have been mechanically transported from their place of origin). The dominant types in this acidic group include gneisses, quartzite, marble and breccia. The bedrock in the southern part of the property similarly belongs to the middle to late Precambrian Era, although it is comprised of mafic rock (i.e., igneous rocks of dark-coloured materials, composed chiefly of magnesium and iron).

The present surficial deposits are a result of the advance and retreat of the last continental glaciation of North America, during the Quaternary Period. Considerable volumes of meltwater were generated by and discharged from, the receding glaciers; debris was subsequently deposited as stratified sediments under the glacier and along the ice margin (i.e., glaciofluvial ice-contact deposits) and beyond the ice margin in rivers and streams (i.e., glaciofluvial outwash deposits), lakes (i.e., glaciolacustrine and lacustrine deposits), and seas (i.e., glaciomarine and marine deposits).

The primary Quaternary deposit on the subject property is a bedrock drift complex of discontinuous till covering more than 50% of the underlying bedrock.

4.1.3 Topography and Overland Drainage

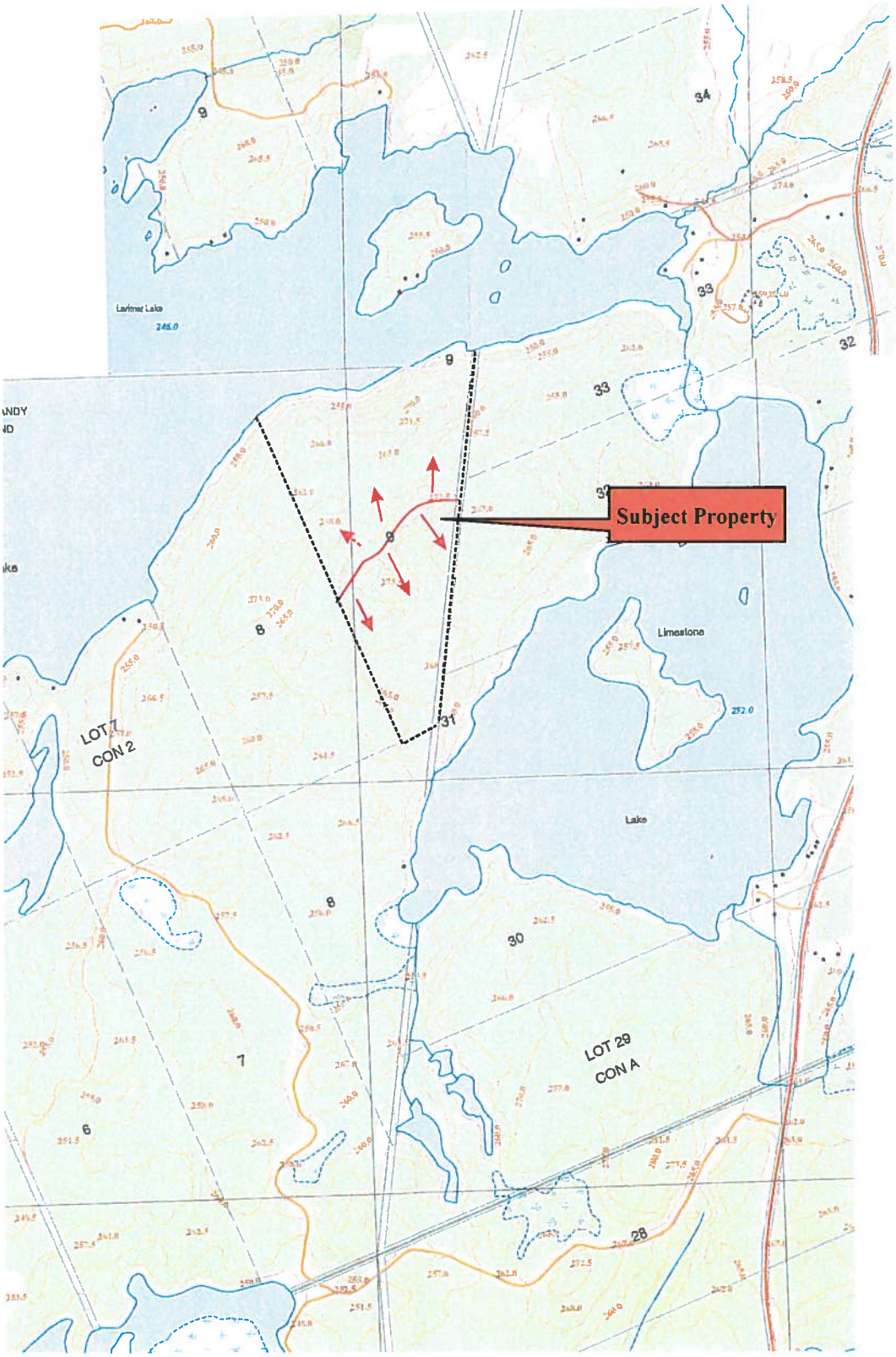
No surveyed topographical information is available for the subject property. However, the 1:10,000 Ontario Base Map, supplemented with field observations, indicate that topography varies considerably from relatively flat (i.e., 0% to 10%) to areas of steeper slopes (i.e., >25%). Typically, there is a steep (i.e., 20% to 30%) but short slope 20 m to 30 m in width from the high water mark of Lorimer Lake to a gently rolling central area with localized flat terrain. It is in this part of the property where the proposed development will be located. Upgradient of the central area, slopes are steep and high with challenging bedrock ridges and knobs. Within the subject property, the topography elevates from about 250 metres above sea level (masl) to nearly 274 masl.

Overland drainage in the northern part of the property is to Lorimer Lake, while runoff from southern area is southwards to Limestone Lake (**Figure 5**).

No permanently, intermittently or seasonally flowing streams or wetlands were identified during the site visit of April 27, 2015.

4.1.4 Soil Conditions

Soil profiles were examined using a manual auger in areas deemed appropriate for supporting tile fields/tile beds. The majority of the soils are classified as Monteagle, a very strongly acidic sandy loam with good drainage (Hoffman *et al* 1964) (from Beacon Environmental 2013). The horizon depths and textures are uniform throughout the two properties. The B horizon consists of well-drained fresh to moist mineral soils (i.e., fine to medium compacted silty sands with some gravel); the depth of the B horizon is about 0.4 m (**Table 4**); its colour is a dark orangy/brown. The orange colouration indicates a high amount



Project Name: Lorimer Lake	Date : Aug 13 2015	Filename: Figure 5.	**FIGURE 5**

Map Source: MNR OBM 1:10,000 - 1984 Published 1998/Nad 27
Sheet 10 17 5900 50450 & 10 17 5800 5040 - Parry Sound

Michalski Nielsen
ASSOCIATES LIMITED

Direction of Overland Drainage, Lorimer Lake - Robbins Propery

Rev. No: 0	Drawn By: KLF	Scale: Not to Scale	Project Number: 6406

Table 4. Physical properties of soils in tile bed locations on proposed lots to be severed. Soil descriptions made on April 27, 2015.

Check Point	Soil Depth (m)	Soil Texture	Soil Moisture	Relief
Proposed Severed Lot, Walter Robbins	0.0 – 0.02 0.02 – 0.05 0.05 – 0.65 0.65	• Typical humus with thin layer of loose leaf detritus, twigs and woody material. • Ah[1] horizon contains moderately loose, well-drained, grey medium to fine sandy loam. • B horizon contains orangy brown dry silty sand with some gravel; colour becomes lighter with depth. • Refusal due to bedrock.	• Well-drained throughout profile.	• 0% - 2% slope and mainly flat, in primarily hardwoods.
Proposed Severed Lot, Wesley Robbins	0.0 – 0.03 0.03 – 0.06 0.06 – 0.50 0.50	• Typical humus with thin layer of loose leaf detritus, twigs and woody material. • Ah[1] horizon contains moderately loose, well-drained, grey medium to fine sandy loam. • B horizon contains silty sand with some gravel; colour becomes lighter with depth. • Refusal due to bedrock.	• Well drained through Ah[1] profile. • Fresh to moist in B horizon, moderately well-drained.	• 0% - 5% slope, in primarily hardwoods.

of iron and excellent ability to irreversibly complex phosphorus; the colour becomes lighter with depth. Of importance is that the B Horizon is recognized by the MoECC and MNRF as having significant phosphorus retention capability; more specifically, **Inland Lake Trout Management in Southeastern Ontario** (1993) states that, " . . . Suitable material (for retaining phosphorus) is available at most deposit sites. Generally, it is the top one metre of material overlying the main pit deposits which is characteristically light brown or red in colour. The deeper pit run material has a poor phosphorus retention capability, and is not suitable for the bed construction on lake trout lakes."

Because of the uniformity of the B horizon soil conditions throughout the central part of the property, only one soil sample needed to be collected for laboratory analysis; as indicated earlier, it was taken from the proposed tile bed site for the severed lot on the property owned by Wesley Robbins. The results are presented in **Table 5**. Soil particle size analyses were performed according to ASTM D-422 (American Society for Testing and Material Standards Test D-422). This method covers the quantitative determination of the distribution of particle sizes in the soils. The distribution of particle sizes larger than 0.075 millimetres (mm) (retained on this No. 200 sieve) is determined by sieving, while the distribution of particle sizes smaller than 0.075 mm is determined by a sedimentation process, using a hydrometer to obtain the necessary data. The T-time estimate was made by a professional engineer, based on effective grain size (D10) diameter of the sample, and charts in the **OBC**. The results shown in **Table 5** indicate an overall percolation rate of 12 minutes/centimetre (min/cm), which is suitable for utilization in construction of tile fields.

The phosphorus uptake capacity estimate is very high (3,330 micrograms per gram of soil [μg/g]) (**Table 5**). Very high levels of extractable iron and extractable aluminum were also measured; these metals are important in mineralization processes with sewage-related phosphorus, which as mentioned earlier, is a permanent reaction. In the opinion of Michalski Nielsen Associates Limited, the values are sufficiently high to conclude that there is an almost unlimited potential in the on-site B horizon soils for sequestering phosphorus. The acidic nature of the soils is deterministic in producing the very low calcium carbonate content. Non-calcareous soils are those with less than 1% $CaCO_3$ equivalent by weight; as indicated in **Table 5**, the $CaCO_3$ content fulfills this criterion.

4.1.5 Vegetation

The 20 m to 30 m wide riparian area adjacent to the shoreline of Lorimer Lake is generally comprised of coniferous forest. The canopy consists mainly of mid-aged to mature eastern hemlock, with lesser

Table 5. Physical and chemical properties of B horizon soil relating to phosphorus uptake capability, tile bed of proposed severed lot of Wesley Robbins, April 27, 2015.

Sample Location	Particle Size Analysis	Extractable Aluminum	Total Aluminium (μg/g)	Extractable Iron (μg/g)	Total Iron (μg/g)	24 Hour Phosphorus Adsorption Ratio (μg/g)	$CaCO_3$ (% by weight)	Estimated Percolation Rate (min/cm)
Proposed tile field on lot to be severed (Property of Wesley Robbins)	silty sand with some gravel in B horizon	4,360	14,300	14,100	62,400	3,330	0.040	12

amounts of eastern white cedar, white pine, red maple and sugar maple, with the occasional balsam fir in the understorey. The shrub layer is sparse because of poor light penetration through the canopy; it consists mainly of regenerating eastern hemlock with some striped maple.

Upgradient of the riparian area, hardwoods dominate; sugar maple makes up the majority of the canopy, with smaller amounts of red oak, basswood, white ash and ironwood. The understorey is sparse, consisting primarily of sugar maple.

4.2 Overall Development Capability

The proposed two lots to be created by severance can impact on the natural environment in a number of ways. Of primary concern is the layout of the dwelling units, their sewage treatment systems, other infrastructure requirements, and related landowner activities, all in relation to the property's important biophysical features. Regarding shoreline development in general, it needs to be understood that, whenever it occurs in a substantially undeveloped landscape, which characterizes most of Ontario's Precambrian Shield, impacts on the site's natural attributes are inevitable. What is important is whether the development will have a negative impact(s) on downgradient water quality, and on any locally, regionally, provincially or nationally important heritage features, and whether the scale of the proposal will affect the ability of the surrounding landscape to support such features. Typically, new shoreline residential lots will have potential to alter the environment through: impacts of treated sewage effluent on downgradient surface and groundwater; sedimentation and erosion during clearing and the subsequent construction period; generation of stormwater runoff following development; and alteration of habitat of species at risk. Not only can the impacts be short term (i.e., during the construction and build-out period), but long term (i.e., resulting from landowner activities).

Each of the above issues is addressed in this section. The comments in the following pages are intended to provide prescriptions on mitigation measures that need to be implemented. The recommendations set out herein also assume that mechanisms can be put in place whereby all aspects of the development can be implemented so as to ensure meaningful environmental mitigation.

Frontage and area dimensions for the proposed retained and severed lots are shown below; they comply with section 17.06.3 of the **Municipal OP**.

Lot	Frontage (metres)	Area (hectares)
Walter Robbins		
a) Retained	150	6.3
b) Severed	145[1]	6.3
Wesley Robbins		
a) Retained	150	5.8
b) Severed	150	5.8

[1] Subject to approval of minor variance.

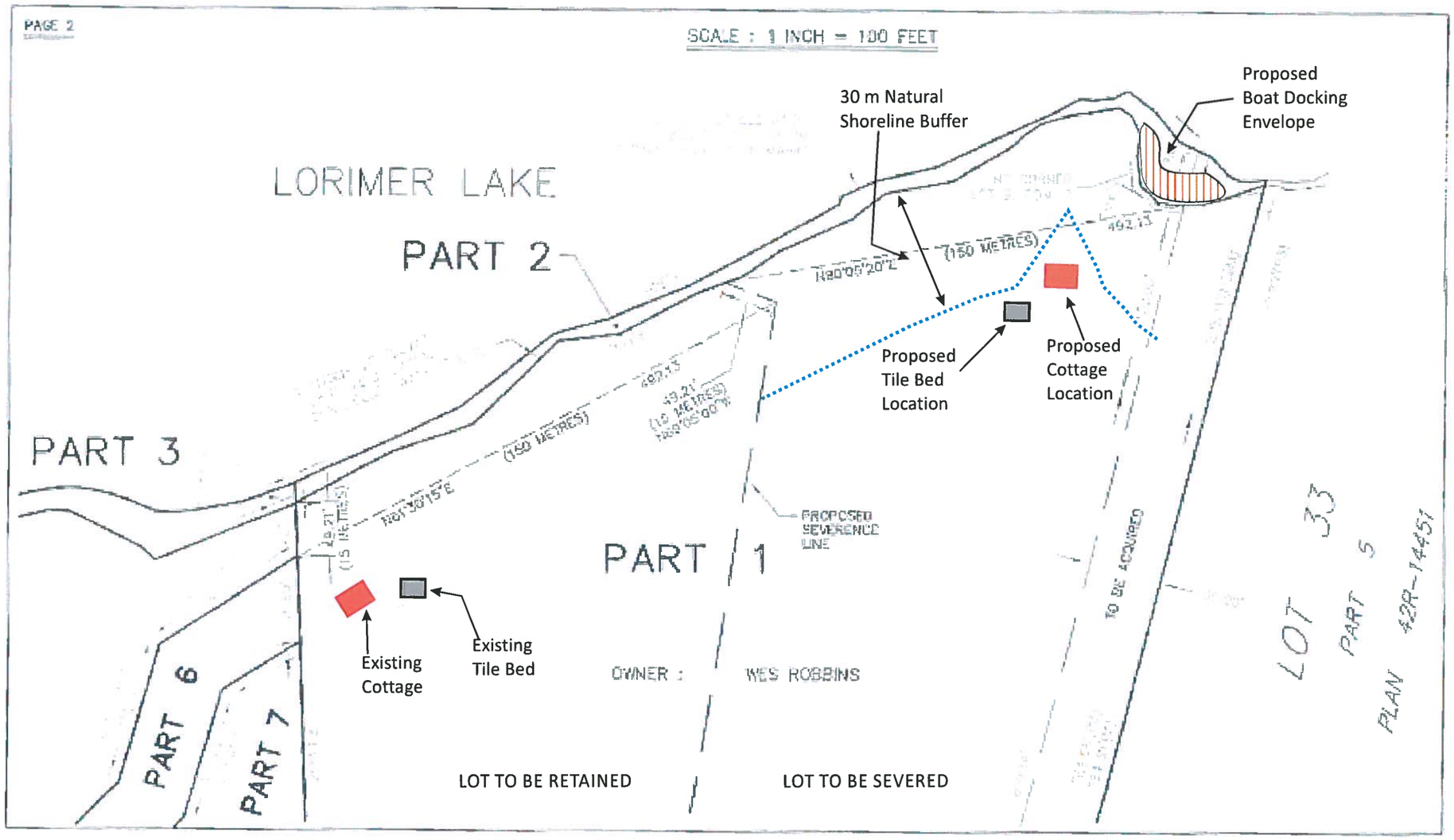
Based on terrain conditions, the subject property can support the two new lots. The lot layouts in **Figures 6** and **7** not only comply with policies set out in Section 17.06 of the **Whitestone OP** and relevant conditions of consent (**Appendix A**), but will also ensure that the very attractive features of the landscape will be maintained. Each lot is quite large relative to the areas that will be developed, with the two residences focusing on Lorimer Lake; most of the forested areas within each of the proposed lots will remain in their natural condition. As mentioned earlier, immediately upgradient from the shoreline, the landscape is moderately steep; however, farther inland where development is proposed, there are locally flat and well-drained areas.

The subject property can readily accommodate the proposed two shoreline residential lots. The moderately steep slopes immediately upgradient from Lorimer Lake can be dealt with through site planning and design, with the construction of buildings, drain fields and parking areas located where areas of flatter land prevail. A second constraint which relates to shallow soils over bedrock, can be handled either by using fill from within the proposed lots, or importation from a nearby aggregate source.

4.3 Sewage Treatment Systems and Impact Mitigation

4.3.1 Locations of Drain Fields

The specific rationale used to identify the types of constraints for locating a conventional tile field is as follows. First, the desirable site conditions according to the **OBC** are identified (**Tables 6** and **7**). Subsequently, individual site parameters (specific soil, slope, and site drainage characteristics) are evaluated in order to identify those which represent constraints to locating conventional tile field systems. The specific constraints occurring are then highlighted, and the development capabilities assessed based on the degree and extent of these constraints.



LEGEND

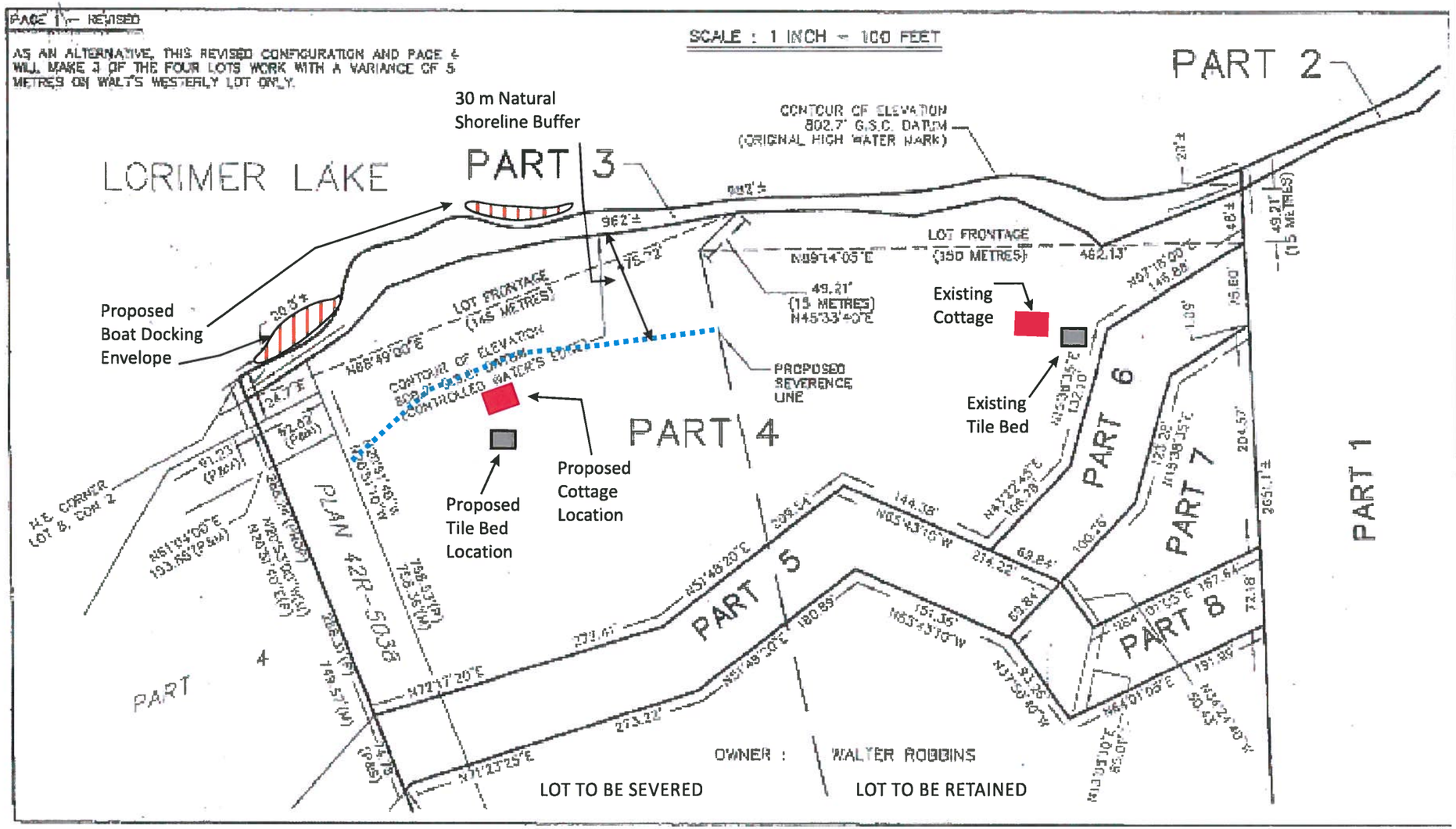
- Property Boundary
- 30 m Setback
- Proposed Docking
- Building Envelope
- Tile Bed

For Graphical Purposes only not intended to replace a legal survey

Figure 6. Proposed Location for Cottage and Tile Bed (lot to be severed)

30 metre shoreline buffer and boat docking envelopes are also shown

Michalski Nielsen Associates Limited	Prepared For: Wesley Robbins	Project Number: 6406	Date Initiated: July 29, 2015	Scale: Not to Scale
	Project Name: Lorimer Lake - OMB Material	File Name: Robbins	Drawn By: KLF	Rev. No: 0



LEGEND

- Property boundary
- 30 m Setback
- Proposed Docking
- Building Envelope
- Tile Bed

For Graphical Purposes only not intended to replace a legal survey

Figure 7. Proposed Location for Cottage and Tile Bed (lot to be severed)

30 metre shoreline buffer and boat docking envelopes are also shown

Michalski Nielsen Associates Limited	Prepared For: Wesley Robbins	Project Number: 6406	Date Initiated: July 29, 2015	Scale: Not to Scale
	Project Name: Lorimer Lake - OMB Material	File Name: Robbins	Drawn By: KLF	Rev. No: 0

Table 6. Physical site suitabilities for the installation of conventional septic tank-tile field systems.

Site parameter	Site suitabilities
Soil conditions	Deep native soils having good internal drainage characteristics are most desirable as filter mediums, as they combine the qualities of relatively unimpeded flow while at the same time allowing adsorption of nutrients contained within the effluent. Very course textured soils are too permeable, and do not retain water sufficiently long to allow for adsorption, while dense, fine textured soils are too impermeable and impede flows within tile fields. Both soil types are unacceptable as filter mediums, and require importation of suitable fill to construct raised tile beds. Similarly, shallow but permeable soils over dense subsoils and/or bedrock require fill importation to provide a minimum elevation of 0.9 metres (m) between the bottoms of adsorption trenches and the impermeable surface, as required by Ontario regulations. Organic soils require excavation and replacement with suitable mineral soils.
Slope conditions	Flat, level sites are most desirable, requiring no special techniques for installation. Progressively steeper slopes pose increasingly greater problems necessitating the use of special installation techniques, or regrading where feasible. Tile fields cannot be installed on slopes greater than 25% according to Ontario regulations governing domestic waste systems.
Site drainage	Ontario regulations for domestic sewage systems indicate that the bottom of the distribution pipes of the tile field must be elevated a minimum of 0.90 m above the maximum ground water table. Consequently, well drained sites are desirable. Imperfectly to poorly drained sites necessitate fill importation to develop raised tile beds which provide the minimum elevation of 0.90 m, while sites subject to flooding hazard are unacceptable.
Setbacks from surface water and wells	The 1997 Ontario Building Code requires a minimum setback of 15 m from surface streams and wells

Note: Information in the above table was summarized from Section 8 and the Supplemental Guidelines of the 2006 **Ontario Building Code**.

Table 7. Site development capability/constraint attributes of individual physical characteristics.

Site characteristic	Capability/constraint attributes
Soil Conditions	
Gravel Very coarse sand	generally unsuitable as filter mediums for tile fields due to excessively rapid permeability; necessitates fill importation for raised tile beds
Sandy loams Loamy sands	well suited as filter mediums
Fine sandy loams Loams Silty loams	moderately well suited as filter mediums
Clay loams Moderately dense clays	poorly suited as filter mediums due to slow internal drainage characteristics; necessitate fill importation for partially to fully raised tile beds
Dense clays Bedrock	unsuitable as filter mediums; necessitate fill importation to develop fully raised beds and mantles
Slope class	
Level (0%-3%)	most desirable condition; high capability requiring no site modification
Low to moderate (4%-10%)	minor constraint, may require slight modification of tile field installation or grading
Moderately steep (9%-15%) to steep (11%-25%)	poorly suited for tile fields, necessitating special tile field installation methods and/or extensive regrading
Very steep (>25%)	unacceptable for installing tile fields without regrading or filling
Site drainage class	
Well drained	most desirable condition for tile beds, high capacity requiring no site modification
Moderately drained	moderately suited for tile beds; but may necessitate slight site modification through minimal fill importation
Poorly drained	poorly suited for tile beds, necessitating importation of moderate to high volumes of suitable fill material to develop required distance between adsorption trenches and maximum water table elevation
Very poorly drained	unsuitable without very high volumes of fill; unacceptable where sites are subject to flooding

Note: Information in the above table was summarized from Section 8 and the Supplemental Guidelines of the 2006 **Ontario Building Code**.

According to the **OBC**, sewage treatment systems require a minimum depth of 0.9 m between the bottom of the absorption trenches and the maximum elevation of impervious surfaces (bedrock) or groundwater. For the areas selected for sewage disposal beds (**Figures 6** and **7**), manual auger holes indicate that the depth of soil is less than the required amount for a conventional distribution bed. Accordingly, fill will be needed for constructing the sewage drain fields. As indicated earlier, the fill can be readily scavenged from within the property; alternately, off-site fill, for example, from a nearby aggregate facility would be acceptable. However, testing would need to be undertaken to ensure a high phosphorus retention capability. Final design will confirm specific fill requirements. The drain fields located in the areas shown in **Figures 6** and **7** may require the construction of downgradient mantles because the natural soil depths do not always meet the requirements of the **OBC**. The **OBC** indicates that slopes exceeding 25% are unacceptable for a drain field; such slopes do not occur in areas proposed for the distribution beds; the disposal beds are in flat areas. As well, the regulations require a minimum setback of 15 m from the edge of a disposal bed to surface waters including tributaries. As indicated in **Figures 6** and **7**, all of the tile fields are well in excess of 30 m from the shoreline.

Based on the above, the types and degree of physical limitations do not preclude the installation of sewage treatment systems on the proposed new lots. In this regard, Michalski Nielsen Associates Limited recommends that:

- **sewage disposal beds be located on relatively flat terrain, well back from the shoreline of Lorimer Lake, as approximately shown in Figures 6 and 7.**

Figures 6 and **7** also show other development features, including preliminary locations of building sites and areas suitable for docking.

4.3.2 Impacts of Treated Sewage

4.3.2.1 Nitrate Nitrogen

Contamination of groundwater by nitrate nitrogen is often a concern with respect to septic tank-tile field leachate. This parameter is normally two to seven times the MoECC's Drinking Water Objective of 10 mg/L in tile field effluent, and because it is not retained on soil particles, it can travel significant distances with the effluent plume.

A numerical limit has not been established by Ontario for nitrate nitrogen in surface waters, although it is recognized that elevated levels may contribute to nuisance vascular and aquatic plant growth; however,

this parameter is rarely limiting to aquatic enrichment. As well, it is not toxic to fish at levels found in lakes and streams. Regardless of concentrations of nitrate nitrogen which would leave the proposed lots via drain field effluent plumes, the soils will effectively denitrify any nitrate nitrogen to nitrogen gas.

By maintaining a reasonable distance between the proposed tile field beds and the shoreline of Lorimer Lake, and by maintaining the existing forested riparian buffer (see Section 4.4), any negative impacts will be mitigated to near zero or zero in terms of potential contamination of downgradient surface waters from sewage-related nitrate nitrogen. Policy 17.06.01 of the **Whitestone OP** requires that new development will be subject to site plan control to ensure the protection and maintenance of a 15 m natural vegetation buffer along and back from the controlled high water mark. This will ensure that any nitrate nitrogen of tile field origin will be mitigated.

If groundwater is the preferred source of domestic supply for the new landowners, the wells could be drilled many metres into the bedrock before an acceptable supply is reached. This water source, therefore, would be well-separated from drain field plumes, which are typically above the bedrock and in shallow soil conditions. As well, the proposed lots to be created are sufficiently large that the required 15 m separation distance can be readily achieved between the sewage treatment systems and the wellheads. Accordingly, there is very little if any risk of true groundwater being contaminated by sewage-related nitrate nitrogen, and virtually zero risk if the wells are located upgradient of the drain fields, and/or 15 m away from them.

4.3.2.2 Microbiological Contamination

Bacteria in water can be divided into two groups: indigenous microbial flora, and disease-carrying (pathogenic) microbes. The latter group has the capacity to infect the human body, and is most important in the context of water quality in recreational lakes.

Microbiological contamination of water has long been a concern to the public. Bacteria, specifically the coliform group, are used as an indicator for the potential presence or absence of pathogenic or disease-producing bacteria and other organisms. Some types of coliform bacteria (total coliforms) are naturally found in soil and in surface water. Total coliform exist in animal waste, soil and vegetation. In this connection, *Escherichia coli* (*E. coli*) or fecal coliforms are found exclusively in the intestinal tracts of warm-blooded animals. An abundance of fecal coliforms present in water typically indicates contamination of excreta from warm-blooded animals, including humans, failing septic tank-tile field

systems, runoff from livestock areas, or wildlife. Ingestion of fecal coliform may result in intestinal and upper respiratory illness.

According to the MoECC's Provincial Water Quality Objectives (1994), levels of *E. coli* were established for application by local Medical Officers of Health to swimming and bathing beaches, and were based on a recreational water quality guideline established by the Ontario Ministry of Health. The guideline is, ". . . based on a geometric mean of levels of *E. coli* determined from a minimum of five samples per site taken within a given swimming area and collected within a one month period. If the geometric mean *E. coli* level for the sample series at a given site exceeds 100 per 100 mL, the site should be considered unsuitable for swimming and bathing. *E. coli* was selected for the guideline because studies determined that, among bacteria of the coliform group, *E. coli* is the most suitable and specific indicator of fecal contamination."

Of interest here are the preliminary results of detailed work carried out under the auspices of the Lakeshore Capacity Study. This was a six year interministerial project to development predictive methods to permit scientific assessments of the capabilities of aquatic and terrestrial systems to sustain shoreline development. In reporting on findings of lakes in the Muskoka-Haliburton area, microbiologists confirmed that fecal coliform and streptococci bacteria, " . . .can be expected to occur more frequently and in higher numbers in samples collected from single tiered cottage shorelines than in samples secured from undeveloped waters. However, bacterial densities found on developed shorelines would not be expected to produce a significant public health hazard." (Ontario Ministries of the Environment, Housing and Natural Resources 1978).

If surface or groundwater is used as a source of supply, there are a variety of commercial treatment units on the market to effectively diminish or remove bacteria, protozoa, and other organic and inorganic particulates and odours. As mentioned earlier, should a drilled well be installed and used, the proposed lots are sufficiently large to ensure a minimum 15 m separation distance between the well heads and drain fields, thereby minimizing any potential for cross-contamination, as required by the **OBC**.

4.3.2.3 Mitigation of Sewage Related Phosphorus

In Section 3.1, a brief literature review on the ability of soils to retain phosphorus was presented, as well as a presentation of monitoring data from the Branson/Sanderson tile field which was constructed using B horizon Precambrian Shield soils to demonstrate their ability to retain phosphorus. Herein, an estimate of

the life span of soils for retaining phosphorus found at the location of the drainfield for the proposed lot to be severed on property owned by Wesley Robbins is presented.

Part of the **OBC**, and more specifically, Clause 8.7.3.2 (1)(e), requires the bottom of the absorption trenches (tiles) to be, " . . . located so that the bottom of the trench is not less than 900 millimetres (mm) above the high groundwater table, rock (bedrock) or soil, with a percolation rate of more than 50 minutes." During the field investigation, in the area proposed for the tile field, soil depth was recorded using a manual soil auger, and was found to be less than the required 0.9 m. Therefore, the importation of fill to a depth of about 0.5 m will be needed, meaning the depth of the on-site B horizon is approximately 0.4 m. As noted above, the B horizon soils are orangy-brown, dry silty sands in the area proposed for the drainfield.

As described earlier, the native B horizon soils have a very high capability to retain phosphorus through adsorption, which is not a permanent reaction, and mineralization with reactive iron and aluminum, which is a permanent reaction. The results of the laboratory analyses are presented in **Table 5**. The life span of a disposal bed or drain field was determined on the basis of extended seasonal occupancy for a typical four bedroom home discharging 1,000 litres per day (L/day) of sewage.

Volume of Disposal Bed: Typical surface dimensions of a conventional leaching bed are 18 m by 11 m (198 m^2). The following life span calculation of a disposal bed is to demonstrate the effectiveness and longevity of 0.4 m of B horizon Precambrian Shield soils. A conservative soil percolation estimate of 12 cm/min was used, which in turn requires that the area of the tile bed be approximately 198 m^2. Given a depth of B horizon soils of 0.4 m, then the total volume of native on-site soil available for phosphorus uptake is:

= 198 m^2 x 0.40 m

= 79.2 m^3

Assuming a soil bulk density of 1.7 grams/cubic centimetre (g/cm^3), or 1,700 kilograms/cubic metres (kg/m^3), the total mass of this soil is:

= 79.2 m^3 x 1,700 kg/m^3

= 13.46 x 10^4 kg.

Phosphorus Retention Capacity of Disposal Field: Based on a 24 hour phosphorus retention capacity estimate of 3.330 µg/g soil (or 3,330 mg phosphorus/kg soil) (see **Table 5**), the total phosphorus adsorption capacity of the bed would be:

= 13.46×10^4 kg soil x 3,330 mg phosphorus/kg soil

= 448 kg phosphorus

Life Span of Disposal Field: To determine the life span of a leaching bed, two parameters are needed: a typical occupancy rate for extended seasonal residency and the amount of phosphorus contributed by each resident per year of use. Regarding the former, a value of 1.27 capita years/year/unit is used (Paterson et al. 2006). A value of 0.66 kg/capita year/year approximates the amount of phosphorus contributed per capita year/year of use (Paterson et al. 2006).

Accordingly, the life span of 0.4 m of native soils that will be incorporated into the tile bed is:

$$= \frac{448 \text{ kg phosphorus}}{1.27 \text{ capita years/year/unit} \times 0.66 \text{ kg/capita year/year}}$$

= 533 years

In considering this value, there are a number of points that require clarification.

First, the high life span estimate is due mainly to the very high phosphorus adsorption ratio, which is amongst the highest the principal author has encountered in Ontario's south/central Precambrian Shield cottage country.

Second, and most importantly, phosphorus retention by any soils, other than those directly associated with the 0.40 m of on-site B horizon soil, was not taken into account, for example, between the tile bed and Lorimer Lake, or the additional 0.5 m of soils that would be required to construct a raised system.

Third, in the calculations, bulk density, depth of infiltration and even distribution of phosphorus within the effluent plume were assumed; some variation can be expected for these parameters.

Fourth, the phosphorus analysis and related calculations were based on adsorption alone; it needs to be appreciated that the adsorption process is not a permanent reaction. However, there are very high quantities of reactive iron and reactive aluminum in the on-site soils (**Table 5**); these chemicals, in various

geochemical formulations, will be instrumental in irreversibly or permanently complexing phosphorus through geochemical mineralization. Accordingly, any retention beyond electrostatic binding or the adsorption process (that is, via mineralization with aluminum and iron) will further reduce the risk of aquatic enrichment; however, the extent of this benefit is non-quantifiable.

Given that the life span of a conventional tile field from hydrological and microbiological perspectives is estimated to be between 30 and 50 years, depending on use, level of maintenance and other biophysical factors, with the importation of appropriate fill (i.e., to approximately 0.5 m of depth) having a high capability to retain phosphorus, the drain field will have a longer life expectancy from a phosphorus attenuation perspective, than from hydrological and bacterial considerations. Because the drain field is going to be upgraded or rejuvenated as a maintenance requirement, or quite possibly as a result of redevelopment, long before it will run out of ability to retain phosphorus, it will have zero to near-zero impact on phosphorus loadings to and concentrations in Lorimer Lake (i.e., analytically not detectable).

In summary, the subject properties have more than adequate space for locating conventional tile fields, well-back from the shoreline of Lorimer Lake. To construct partially raised beds, fill will need either to be scavenged from within each of the proposed lots or imported, and it should have a high capability to retain phosphorus. In this regard Michalski Nielsen Associates Limited recommends that:

- **to the greatest extent possible, the new lot owners and/or their contractors make use of on-site B horizon Precambrian Shield soils in constructing their tile/drain fields, owing to their high and beneficial capabilities to irreversibly complex phosphorus;** and
- **if imported soil is needed either for raised tile beds or mantles, it should be of B horizon Precambrian Shield origin, and have a tested high capability to retain phosphorus through adsorption (i.e., 100 micrograms phosphorus per gram of soil or greater) and high concentrations of reactive iron and reactive aluminum for permanent mineralization reactions.**

4.4 Impact Mitigation of Phosphorus in Stormwater Runoff

As indicated in Section 3.1.2, there are two management techniques that can assist in attenuating the impacts of stormwater runoff: natural shoreline buffers; and infiltration trenches (commonly referred to as french drains or soakaway pits).

A shoreline buffer functions by: filtering overland runoff and slowing it down to enable infiltration; absorbing nutrients through plant uptake, including nitrogen and phosphorus; providing canopy cover,

shade, and food and habitat for wildlife and fish; controlling erosion; protecting the market value of lakefront properties; and maintaining shoreline aesthetics. Scientists are convincingly demonstrating that natural shoreline buffers need to be much wider than previously thought, in order to carry out all of their natural functions. In this regard, the transition zone from lake to land has been referred to as the "Ribbon of Life." As emphasized in **On The Living Edge** (Conservation Ontario and Rideau Valley Conservation Authority, 2003), "If there is one single message that every one of us who lives beside water, or has water running through our property, can benefit from, it is the value of the buffer zone, and the importance of protecting it". In addition to protecting the natural buffer as a biological and physical entity, it is important to restrict activities within it that would otherwise undermine its integrity. This does not mean that the buffer is an absolute "no touch" area; such a restriction is not practical. Rather, it should be approached as being disturbed as little as possible. In this connection, trees should not be cut nor vegetation cleared within it, except for: a 2.0 m wide pathway to the shoreline; safety (i.e., removal of dead trees or trees of poor health); and selective cutting or limbing for the reasonable provision of views.

While recognizing that Section 17.06.10 of the **Whitestone OP** requires, " . . . a 15 m natural vegetation buffer along and back from the controlled high water mark", this is not sufficient given the sensitive nature of Lorimer Lake. Accordingly, Michalski Nielsen Associates Limited recommends that:

- **30 metre natural shoreline buffers from the high water mark of Lorimer Lake be implemented on both lots to be created and via inclusion in a site development plan;** and

- **restrictions on activities in the 30 metre natural buffers be implemented through any development or servicing agreement to be executed between the Municipality of Whitestone and the applicants. The restrictions would require that the setbacks be altered or disturbed as little as possible, and trees should not be cut, nor vegetation cleared within them, except for access (i.e., two metre wide pathways to the shoreline of Lorimer Lake), safety, or selective cutting or limbing for the reasonable provision of views.**

The use of French drains for treating stormwater runoff from hard surfaces such as roofs and parking areas is recommended as a practical method to decrease potential water quality impacts. French drains are shallow excavations lined with filter fabric and filled with crushed stone to create underground reservoirs for stormwater runoff. The runoff gradually percolates through the drains and into the surrounding soil. Not only do French drains reduce the volume of overland runoff, they are able to remove suspended solids and phosphorus, and can provide groundwater recharge, although in Precambrian Shield cottage country, recharge is not as effective as in off-Shield areas. Accordingly, Michalski Nielsen Associates Limited recommends that:

- **French drains or soakaway pits should be used for treating stormwater runoff from roof tops, driveways and parking areas, as a method of decreasing any potential phosphorus and other contaminant loadings to Lorimer Lake.**

4.5 Erosion Control and Protection of Vegetation

Even though construction will be well upgradient from Lorimer Lake, measures should be employed to ensure that the possibility of sediment laden runoff is contained. During the period of land clearing, grubbing and construction, Michalski Nielsen Associates Limited recommends that:

- **prior to construction, any areas that are not to be entered into should be clearly flagged, including the 30 metre natural shoreline buffers**;
- **sediment and erosion control works, in the form of silt fencing be installed downgradient from all construction sites;** and
- **the sediment and erosion protection measures be maintained in good working order until the exposed soils have been fully stabilized or otherwise greened up with vegetation plantings.**

4.6 Reduction of Sewage-related Phosphorus from Proposed Shoreline Lots to be Created

As indicated earlier, there are a number of sewage treatment technologies that show promise in terms of substantially reducing phosphorus. Herein, direction is provided on a phosphorus mitigation measure that is currently recognized by Provincial authorities for application on at-capacity lake trout lakes. It is acknowledged that the proposed technology is not included in the **OBC**; in fact, the **OBC** does not even acknowledge that nutrients such as phosphorus and nitrogen are potential pollutants to lake trout lakes or for that matter any lakes, regardless of typology.

The recommendations which are set out later in this section for the two shoreline lots are not precedent setting. As indicated earlier, they are motivated in part by the permissiveness of the **LSPP** and in part by three recent Ontario Municipal Board settlements regarding development proposals on at-capacity lake trout lakes. The three settlements are being implemented through the Province's Pilot Program, which is an initiative to further advance the science relating to sewage-related phosphorus mobility in soils; the settlements are briefly summarized below.

Limerick Lake. In March of 2012, an Ontario Municipal Board settlement was reached with respect to the disposition of 31 lots on the shoreline of Limerick Lake, an at-capacity lake trout lake in the Township of Limerick, near Bancroft. The negotiated settlement recommended direct approval of eight of the 31 lots, subject to a number of conditions including monitoring of the tile beds with respect to the capability of soils to retain phosphorus. Tile fields for four of the lots would be constructed using tested B horizon Precambrian Shield soils. The soils could be obtained either from within the subject lots or from a nearby aggregate facility. Investigations by Michalski Nielsen Associates Limited years ago revealed that the subject property is well supplied with B horizon soils that have a huge potential to attenuate sewage and stormwater related phosphorus. Otherwise, everything else is as required by the **OBC**. The sewage treatment systems for the remaining four lots need to be Premier Tech Aqua's Ecoflow units; treated sewage from the peat beds would be directed to a tile field/filter bed constructed on tested B horizon Precambrian Shield soils. Monitoring is required for a period of three years. Development of the remaining 23 lots would be dependent on the results of the monitoring program; approval to proceed with the outstanding lots would come from the Ontario Municipal Board. A copy of the Board's decision, together with the executed Minutes of Settlement, can be found in **Appendix M**.

Red Horse Lake. Since the decision on Limerick Lake, agreement was reached on a second at-capacity lake trout lake, Red Horse Lake, which is a put-grow-and-take lake trout lake in the Township of Leeds and the Thousand Islands near Gananoque. The proposal involved six lots, all to be created by the severance process. The Province was in agreement with approving outright all six lots; it wanted the Waterloo Biofilter modified to reduce phosphorus applied to three of the lots, and Premier Tech Aqua's phosphorus reduction unit applied to the balance. For an added level of support, both systems would discharge into tile fields or filter beds constructed with Precambrian Shield B horizon soils having a demonstrated high capability to remove phosphorus through permanent mineralization with iron and aluminum. As mentioned earlier, the Waterloo Biofilter technology relies on passing an electric current through an iron plate located either within the septic tank or in a separate chamber outside the tank. The iron reacts with the phosphorus and precipitates it on the filter media (i.e., foam particles or sand). The Premier Tech Aqua approach involves an electric current passing through an aluminum plate, with similar complexing of the phosphorus. The Ontario Municipal Board's Decision and Order and Conditions of Severance Approval are included in **Appendix N**.

Lake Manitou. The applicant wanted approval for 21 lots on the shoreline of Lake Manitou, an at-capacity lake trout lake in the Town of Northeastern Manitoulin and the Islands. The matter was referred

to the Ontario Municipal Board because the Province did not provide its comments to the approving authority within the 180 day time limit for official plan amendments. The applicant and the Province agreed that six lots would be approved outright. Three would be serviced using the B horizon soils and three using the Waterloo Biofilter modified to reduce phosphorus. The balance of the lots (except for two that would be approved as of right) would need to await the results of the three years of monitoring. The settlement was approved by the Ontario Municipal Board in an oral decision on April 2, 2015; the terms of settlement are included in **Appendix O**.

Given the above, and the strong and convincing science described earlier regarding the benefits of using B horizon Precambrian Shield soils in constructing tile/drain fields, as well as the excellent conditions within the subject properties, Michalski Nielsen Associates Limited recommends that:

- **new lot owners and/or their contractors make use of on-site B horizon soils in constructing their tile/drain fields, owing to the high and beneficial capabilities of such soils to irreversibly complex phosphorus;** and
- **for any imported soils needed to construct the leaching beds, the new lot owners and/or their contractors be required to use tested B horizon soils that have high capabilities to retain phosphorus (i.e., in the order of 100 milligrams phosphorus per 100 grams of soil), based on electrostatic adsorption or binding, and mineralization with reactive iron and reactive aluminum.**

4.7 Servicing Options

4.7.1 Water

Municipal services are not an option for the two development proposals, as none are available in the area. Private communal services are also not an option. They would be more costly than individual services, and are not needed to provide safe drinking water.

Individual on-site water services are appropriate. Regarding surface water, Lorimer Lake constitutes a viable and practical source of domestic water. As indicated earlier, and of importance to individual lot owners, is that there are a variety of commercial treatment units on the market that can effectively attenuate/remove bacteria, protozoa, other particulates, sulphur and iron, and odour, should there be a problem. While no testing was undertaken to confirm the presence of groundwater as a viable source of domestic supply, there is no reason to expect that adequate quantities cannot be obtained. As well, the proposed lots are sufficiently large to ensure a minimum 15 m separation distance between well heads and

drain fields dedicated for sewage disposal. Accordingly, Michalski Nielsen Associates Limited recommends that:

- **the proposed lots to be created be serviced by water from Lorimer Lake for domestic supply purposes (the option remains, however, for the new owners to consider groundwater as an alternative);** and
- **homeowners be made aware of the advisability of treating water from Lorimer Lake with commercially available treatment systems.**

4.7.2 Sewage

Municipal services are also not an option for this development; in this regard, there are no communal sewage treatment systems that are close enough for connections. Private communal systems are also not an option. They would be considerably more costly than would individual privately owned and maintained facilities, nor are they needed to safely treat residents' sewage and protect the environment. Individual on-site sewage systems are appropriate, and tile field envelopes have been approximately located on each lot (**Figures 6** and **7**).

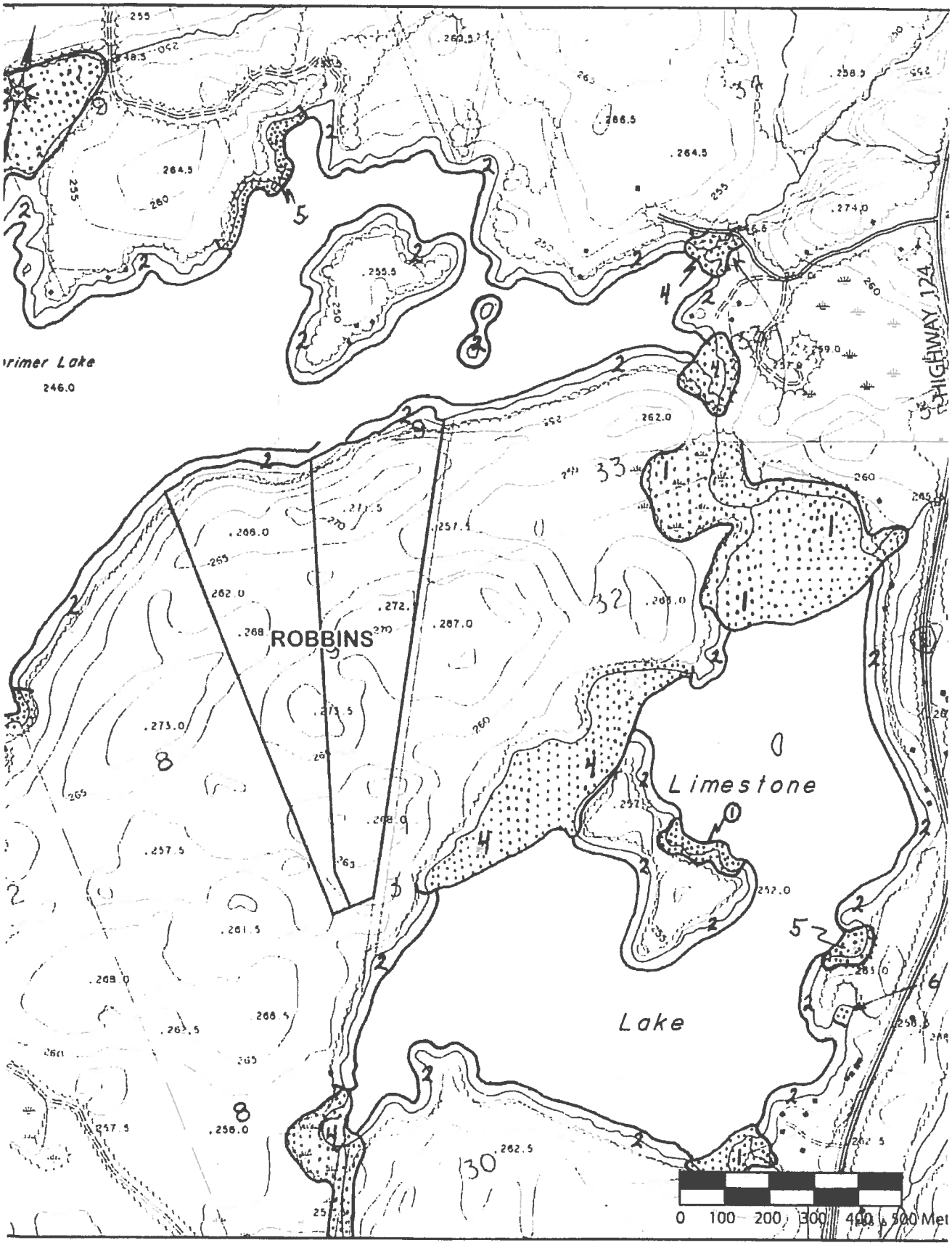
Prior to the issuance of a building permit, further soil testing may be needed at the specific locations where the disposal bed/drain fields are going to be constructed to determine/confirm the appropriate size and design of the units. Based on the terrain analysis described herein, the proposed lots have more than enough area for accommodating **OBC** requirements. Nonetheless, the new lot owners may want to install **OBC** approved filter beds or tertiary treatment units described in the Supplementary Standards of the **OBC**; these have the advantage of requiring less area for the drain field. As a consequence, less tree/forest removal is needed. Accordingly, Michalski Nielsen Associates recommends that:

- **the proposed lots be serviced using conventional tile fields or Ontario Building Code approved filter beds, or tertiary treatment units.**

4.8 Guidelines for Constructing Boat Docks

Most of the lakebed fronting the subject property is suitable for boat docking from a physical perspective. Water depths typically increase rapidly from shore, thereby ensuring sufficient depth for vessels with long-shafted motors. Fish habitat is classified as Type 2, meaning it is moderately sensitive to shoreline development, and although important to fish populations, is not considered critical (e.g., feeding areas and open water habitats of lakes) (**Figure 8**). Reasonable pathways through the 30 m natural shoreline buffer

Figure 8. Ministry of Natural Resources and Forestry fish habitat typology for eastern end of Lorimer Lake.



to the shoreline of Lorimer Lake are available on both of the proposed lots to be created. Accordingly, Michalski Nielsen Associates Limited recommends that:

- **docking structures for the proposed lots be located within the envelopes shown in Figures 6 and 7.**

Policies for the protection of fish habitat in Ontario are multi-jurisdictional, and sometimes conflict between agencies. However, the ultimate goal is to ensure that nearshore fish habitat is not diminished or destroyed by activities resulting from land use planning decisions. In Ontario, two agencies have primary responsibility for managing and protecting fish and fish habitat. One is the MNRF, through Section 2.1.6 of the 2014 **PPS** which states that, "development and site alteration shall not be permitted in fish habitat except in accordance with provincial and federal requirements". This policy also directs planners to the ultimate authority for protecting fish habitat in Canada, the federal Department of Fisheries and Oceans (DFO), through its administration of the *Fisheries Act*. As a result of amendments to the *Act* made in 2012, a number of changes were made on how the Department protects fish and fish habitat. Historically, habitat and deleterious substance provisions were used as primary protection for the environment. The old Section 35 habitat provisions prohibited the harmful alteration, disruption or destruction (HADD) of fish habitat, unless an authorization was issued. A HADD without an authorization was a punishable offense. The new Section 35 states, "No person shall carry on any work, undertaking or activity that results in serious harm to fish that are part of a commercial, recreational or Aboriginal fishery, or to fish that support such a fishery." The key changes are: the harm now has to be a serious harm, not just any harm; and the fish that are harmed have to be part of a commercial, recreational or Aboriginal fishery, or support such a fishery. Serious harm is defined as, " . . . the death of fish or any permanent alteration to, or destruction of, fish habitat." This definition does not include a prohibition against the "disruption" of fish habitat (i.e., temporary alteration), as did the old version of subsection 35(1).

The DFO has identified those types of projects where its review is **not** required for dock or boathouse construction. In this regard, a review is **not** needed for new construction, repair or rebuild of a floating, cantilevered or post or pile supported facility. If the facility is a new or rebuild of an open-faced crib dock or boathouse built entirely on natural bedrock or sand bottom having a total combined footprint (for both existing and proposed cribs) of 15 square metres (m^2) or less, then a DFO review is similarly not needed. Shoreline residents are still obligated to avoid causing serious harm to fish by implementing the appropriate best management measures that are set out in the DFO's **Operational Statement for Dock and Boathouse Construction (Appendix O)** (personal communication, Emily Morton, DFO, March 26,

2014). In addition to outlining conditions under which the Department does **not** need to approve a dock or boathouse, the **Operational Statement** requests notification of project commencement. If all of the conditions cannot be met, then the project may result in a violation of subsection 35(1) of the *Fisheries Act*, and the landowner could be subject to enforcement action. If a landowner is uncertain as to whether his/her project needs review by DFO, telephone contact can be made with staff of the Burlington offices of DFO (1-855-852-8320).

The proposed lots have more than adequate space for locating docks. They can be floating or post or pile-supported, or crib-based as long as the footprints of the cribs on the lake bottom do not exceed 15 square metres (m^2). If a landowner has an interest in constructing a conventional crib-based dock that in total has a footprint on the lake bed that exceeds 15 m^2, than a work permit from the MNRF under the *Public Lands* Act may be required. Accordingly, Michalski Nielsen Associates Limited recommends that:

- **the types of docking structures that are most suitable are floating or post/pile supported, or are constructed of cribs that have a footprint on the lake bed less than 15 square metres**;
- **the new landowners be made aware of:**
  - **their habitat protection obligations under the *Fisheries Act*;**
  - **the Department of Fisheries and Oceans Operational Statement for Dock and Boathouse construction (Version 3), and the need to contact the Department of Fisheries and Oceans should either the landowners not wish to adhere to, or are unsure whether their plans would adhere to the Operational Statement**; and
  - **the need to possibly obtain approvals from the Ministry of Natural Resources and Forestry for crib docks exceeding a 15 square metre footprint on the lakebed.**

In summary, Michalski Nielsen Associates Limited is of the opinion that appropriate docking structures can be constructed for the proposed lots, within the envelopes shown on **Figures 6** and **7**.

4.9 Species at Risk Protection

The Parry Sound area has great biological diversity with respect to habitats of a variety of well-known animals and plants. It also has species which are unique and rare to the landscape. Ontario's *2007 ESA* became law on June 30, 2008. A regulation under this legislation classifies species at risk as extinct, extirpated (not extinct but no longer found in Ontario), endangered, threatened, or special concern. The primary focus of the *Act* relates to the protection and recovery of endangered and threatened species.

The legislation prohibits harming, harassing, capturing, or possessing an endangered, threatened, or extirpated species. It also prohibits damaging or destroying the habitats of endangered or threatened species, and in some cases extirpated species. In some circumstances, the habitat of a species is prescribed by a regulation under the *Act*, for example, by a mapped boundary. Where no such regulation has been made, the habitat is defined as "the area on which the species depends, directly or indirectly, to carry on its life processes, including life process such as reproduction, rearing, hibernation, migration or feeding", including dens, nests, etc. It is important to note that under this definition, the species must be present for habitat to exist.

The legislation also seeks to balance social, economic, and cultural considerations with the protection and recovery of species and their habitats. Regulations under the *Act* exempt certain activities from the above prohibitions, and the *Act* allows the MNRF to issue permits or letters of advice that allow activities to occur that would otherwise be prohibited.

Both the species themselves and their habitats require an increased level of consideration and effort for their continued protection, not only from development impacts but also from longer term activities. New lot owners need to be advised that endangered, threatened and special concern species and their habitats exist in the area, and may prevail within their lands. It is the responsibility of each landowner to identify any species and their habitats within their properties, prior to undertaking work and to ensure that the work/activity will not result in negative impacts. These legal obligations apply only to endangered and threatened species and their habitats, but of course, special concern species and their habitats should also be protected to the greatest extent possible.

Many of the species at risk known to occur within an area are extremely difficult to observe, even when known to be present. Because of the very low probability of observing the species during one or even several visits, the most efficient and effective way to investigate a property's attributes is to identify habitat possibilities, rather than conduct intensive searches for the species itself.

Based on a review of **MNR Resource Information Package for Official Plan Municipality of Whitestone** (January 2012), the following threatened species are known and expected to occur in the Municipality of Whitestone.

- Barn Swallow;
- Blanding's Turtle;

- Bobolink;
- Eastern Hog-nosed Snake;
- Eastern Meadowlark;
- Massasauga Rattlesnake;
- Whip-poor-will; and
- Chimney Swift.

According to the Ministry, " . . . There are no endangered species whose range is known or expected to extend into the Municipality of Whitestone at this time."

The following summarizes habitat conditions for the above-listed species, based on the information package provided by the MNRF, and comments on their potential presence on the subject properties.

Barn Swallows inhabit various open spaces including agricultural, rural and urban areas, shorelines, wetlands, road and utility right-of-ways, and clearings in forested areas. Their open-topped mud nests are typically built on man-made structures such as boathouses, sheds, houses, barns, sand/salt storage facilities, bridges, docks, highway underpasses and culverts. While potential habitats are available within the subject properties, just as they are throughout much of the Municipality, the species has not been observed on the subject properties (Wesley Robbins, personal communication).

Blanding's Turtle is primarily an aquatic species, preferring shallow water with high levels of nutrients, organic soils and rich vegetation. Habitat preferences are variable in that they have been known to use swamps, ponds (both manmade and natural), marshes, fens, bogs and vernal pools. Studies have also shown that juveniles and adults will use different habitat types; juveniles tend to prefer areas with dense aquatic cover (thick sphagnum and emergent vegetation), while adults, which are less reclusive, can be found in areas of open vegetation, muskrat houses, etc. (Committee on the Status of Endangered Wildlife in Canada 2005). Nesting sites include areas with good sun exposure and loose substrates (sand and gravel); but, the species also uses rock crevices with organic soils, including dry conifer forests (Committee on the Status of Endangered Wildlife in Canada 2005). Blanding's turtle is also extremely mobile and will travel substantial distances to reach nesting, hibernation and/or summer habitats. Because there are no swamps, fens, open water marshes and bogs within the subject properties, and the open waters of Lorimer Lake experiences periodic boat traffic, its presence is not anticipated.

Bobolink and Eastern Meadowlark inhabit old fields, meadows, grasslands, pastures and hay fields, which are not present on the two landholdings. Accordingly, their presence is not expected.

Chimney Swifts until their recent decline, could be found close to human habitation, using chimneys and other man-made structures such as air vents, open wells and even outhouses as suitable nesting and roosting sites. Roosting structures may be used by hundreds of swifts. Contributing to their decline has been a loss of habitat because of factors such as chimney modernization and other alterations to man-made structures as a means of preventing occupation by nesting and roosting birds. The species has not been observed on the subject properties (Wesley Robbins, personal communication), nor is it expected in future.

The **Eastern Hog-nosed Snake** which is afforded species and habitat protection under the *2007 ESA* could occur on the subject property. The snake is a habitat generalist, and travels extensively through a variety of landscapes; it prefers open areas of sand or fine gravel with open woods. Such habitats are marginal on the subject properties. It also occurs in brush lands, fields, forest edges, and otherwise disturbed habitats including man-made structures. While there is potential for the eastern hog-nosed snake to travel through the subject property, there are limited sites that would constitute preferred habitat. Given that it has been known to utilize woodpiles and outbuildings, the removal of vegetation and exposing of soils as part of the construction program for the proposed lots may provide habitat opportunities in future. Such opportunistic situations are no different than anywhere else in the Parry Sound area.

The largest remaining contiguous portion of the range of **Massasauga Rattlesnakes** in Ontario is found along the shoreline of eastern Georgian Bay, and inland about 50 kilometres (km). Their key habitats are rock barrens and wetlands. While there are localized and discontinuous rock barrens on the subject properties, there are no wetlands; accordingly, their presence is not expected.

Whip-poor-will requires a mix of both open and forested areas in close proximity to one another such as rock barrens, old barns, and other disturbed sites in a state of early to mid-succession. This mosaic of habitats is not present on the landholdings, and its presence is not anticipated.

Notwithstanding the above, Michalski Nielsen Associates Limited recommends that:

- **new landowners recognize there is potential habitat potential for Barn Swallow, and the eastern hog-nosed snake to occur on the subject properties from time to time. It is the responsibility of landowners to consult with the local Ministry of Natural Resources and Forestry office prior to undertaking any site work. This is particularly important if activities not addressed herein are proposed, as additional**

species may be listed and protected under the *Endangered Species Act* or the –status and protection level of currently listed species may change;

- **generalized fact sheets about potential spaces at risk in the area (typically available from the Ministry of Natural Resources and Forestry) should be made available to construction crews by the new landowners. This will assist in ensuring appropriate best management practices during construction if the subject species are encountered or otherwise observed.**

New landowners should appreciate that amendments periodically are made to Ontario regulation 230/08 and Ontario Regulation 242/08 under the *2007 ESA*. Information contained in this **SEIA** as it relates to species of conservation interest is accurate to July 2015.

5 POLICY COMPLIANCE, CONCLUSIONS AND RECOMMENDATIONS

5.1 Compliance With Environmental Policies

The results of this site potential/constraint and impact analysis indicate that the subject lands can sustain two new lots. They will be large with considerable shoreline frontages; in this regard, more than adequate area is available for accommodating dwellings and accessory buildings, sewage disposal sites, driveways and parking areas, and docking facilities. Each lot will obtain potable water either from the surface waters of Lorimer Lake, or drilled or constructed wells; sewage will be treated with conventional septic tank tile fields, or **OBC** approved filter beds, or tertiary treatment units described in the Supplementary Standards of the **OBC**. Phosphorus removal technologies will be incorporated into the sewage treatment systems. The following commentary summarizes how the proposed lots to be created comply with various provincial and local environmental planning policies.

5.1.1 2014 Provincial Policy Statement

There are a number of provincial policies that apply to the subject property.

- no development or site alteration is permitted in significant habitat of endangered and threatened species;
- no development or site alteration is permitted in fish habitat, except in accordance with provincial and federal requirements;
- no development or site alteration is permitted adjacent to fish habitat, except where no negative impacts are demonstrated;
- protection of surface and groundwater quality; and
- ensuring the consideration of environmental lake capacity, where applicable.

Of the species at risk regulated under the *ESA*, specialized habitat was not confirmed for any species on the subject properties, except perhaps the Eastern hog-nosed Snake and possibly Barn Swallow. Both species are threatened in Ontario and are afforded habitat protection under the legislation. While not encountered, according to the MNRF, the two species have been reported from the Municipality of Whitestone. In the opinion of Michalski Nielsen Associates Limited, there is potential for the Eastern Hog-nosed Snake to travel through the property from time to time; however, there are limited sites that

would constitute preferred habitat. Given that the species has been known to utilize woodpiles and outbuildings, the removal of vegetation and exposing of soils as part of the construction process could provide habitat opportunities in future. Such opportunistic situations for both the Eastern hog-nosed Snake and the Barn Swallow are no different than anywhere else in the Parry Sound area. Recommendations are made herein that echo the position of the MNRF.

With respect to water quality, and more specifically, ensuring that concentrations of MVWHDO in Lorimer Lake are not further diminished, recommendations are included to reduce sewage-related phosphorus that is based on settlements on Limerick Lake which were approved by the Ontario Municipal Board on May 9, 2012, and Red Horse Lake and Lake Manitou which were approved by the Ontario Municipal Board on June 6, 2014 and April 2, 2015, respectively. The three lakes are at-capacity lake trout lakes. It is appreciated and acknowledged that none of the recommended technologies are included in the **OBC** for reducing sewage-related phosphorus. However, the science is solid and convincing, and the MoECC clearly recognizes the phosphorus attenuating capabilities of acidic Precambrian Shield B horizon soils; as well, soil conditions within the subject properties are very well suited to retain sewage and stormwater-related phosphorus.

Treatment of stormwater runoff will be achieved by the implementation of a 30 m natural shoreline buffer as shown in **Figures 6** and **7** coupled with French drains for treating runoff from roofs and laneways and parking areas.

Given the above, there is every scientific reason to believe that sewage and stormwater-related phosphorus will be retained within the proposed lots and will not enter the surface waters of Lorimer Lake. With implementation of the recommendations set out herein, the issue of environmental lake capacity is very much a moot point.

Accordingly, it is the opinion of Michalski Nielsen Associates Limited that there will be no discernible or detectable changes in concentrations of phosphorus in the surface waters of Lorimer Lake, nor any alterations in late summer deep-water lake trout habitat, thereby complying with provisions of Sections 2.1.8 and 2.2 in the PPS. As well, information is presented to show that the quality of groundwater will not be negatively impacted from treated sewage, again demonstrating compliance with the PPS.

5.1.2 The Municipality of Whitestone

Michalski Nielsen Associates Limited clearly recognizes that Lorimer Lake is an at-capacity lake trout lake, and that Council will not generally consider any further lot creation on such lakes. However, some relief is provided in parts of Section 17.06 (Lorimer Lake) of the **Whitestone OP** which are relevant to the subject applications, as follows.

> 17.06.2 Lorimer Lake will continue to be considered a lake that is at capacity and no further land division will be permitted on the lake except where no additional impact will occur as a result of that land division. This is restricted to consents to separate existing viable dwellings, new lots where the septic system has no impact on the lake because the sewage system, including gray water, is set back at least 300 metres from the shoreline or where the septic system drains at least 300 metres away from the lake.
>
> 17.06.3 The standard for any new lots that may comply with the "no impact" policy above shall be at a premium so that frontages are at least 150 metres and lot areas are no less than 2.25 hectares.
>
> 17.06.5 Waterfront areas of Lorimer Lake will be zoned in a Holding Zone allowing single family dwellings on existing lots of record. Land division of these lands would only be permitted subject to complying with the policies of this plan.
>
> 17.06.6 The "H" holding symbol will be removed for those lands eligible for a consent once an agreement has been executed ensuring the nutrient management of the newly created lot.
>
> 17.06.10 All of Lorimer Lake shall be identified as a site plan control area. Any new development will be subject to site plan control. Site plans will be required to ensure the protection and maintenance of a 15 metres natural vegetation buffer along and back from the controlled high water mark. Such site plans will be registered against the lands to which they apply.

As explained by John Jackson, John Jackson Planner, Inc., " . . . the municipality and the planning board had interpreted this policy (i.e., 17.06.2) to recognize "non-impact" lots within 300 metres of the lake where a septic system could include those design parameters confirming that there would be no perceptible added nutrient loading to the lake." Policies 17.06.3, 17.06.5, 17.06.6 and 17.06.10 were included the **Whitestone OP** to support policy 17.06.2. This is precisely the approach taken in this **SEIA**; it is not precedent setting, being based on the protocols established for other projects involving at-capacity lake trout lakes as well as Limerick Lake, Red Horse Lake, and Lake Manitou. As well, the MoECC clearly recognizes the effectiveness of the abatement technologies recommended herein for both sewage

and stormwater-related phosphorus, particularly given its direct involvement in the settlement discussions relating to the above projects.

In the opinion of Michalski Nielsen Associates Limited, this **SEIA** satisfies the relevant sections of **Whitestone OP**, insofar as environmental/resource compliance is concerned.

While a number of important environmental concerns have been addressed in this **SEIA**, its focus has been on the at-capacity lake issue. The root of this problem relates to loadings of sewage and stormwater-related phosphorus, both of which are associated with shoreline residential development. It is acknowledged that the sewage-related phosphorus reduction technology recommended herein has not yet been incorporated into the **OBC**; as indicated earlier, the Province has no time frame for taking any initiatives to include the technology in the **OBC**. However, there can be little doubt that the approach has a scientifically demonstrated capability to reduce sewage-related phosphorus. It is not without significance in thinking through the consequences of having the technology readily available for application on a broad scale. In this regard, the following benefits are suggested.

1. Not only will the technology maintain the quality of lakes not yet developed, it will improve enrichment conditions in surface waters where shoreline development has historically degraded water quality. In other words, the retroactive cleaning up of phosphorus loadings from existing development would be instrumental in returning lakes much closer to their natural or pre-development conditions. It is recognized that such improvements could only be realized in decades rather than in years; however, this should not deter environmental agencies from taking action sooner rather than later. Based on experience, the principal author of this **SEIA** is of the opinion that members of Council for virtually every municipality that has recreational lakes, rivers and streams within its jurisdiction, as well as permanent and seasonal shoreline residents, would welcome unconditionally such technologies. Accordingly, from a broad or Ontario-wide perspective, there are enormous environmental, social and economic benefits associated with formally recognizing the technology.

2. Most municipal plans in south-central Ontario's cottage country have a listing of at-capacity lakes. As an example, the **Official Plan of the Municipality of Dysart et al** lists nineteen lakes as being at-capacity, essentially meaning no further lot creation. On a broader Provincial basis, the number of at-capacity lakes by policy is likely in the hundreds. This does not take into account a recent MNRF policy not to undertake any further Crown land dispositions on lake trout

lakes, regardless of being at capacity or not, primarily because of the phosphorus loading issue. Apart from the water quality improvements that could be realized, the demand for the technology is enormous, and not just for at-capacity lake trout lakes, but for all lakes, rivers and streams. And, application would not just be limited to new lot creation; it would also apply to re-development where improvements/expansions to sewage treatment systems are required.

3. The MoECC's objectives for surface water concentrations of phosphorus encourage the addition of artificial loadings of this plant nutrient to reach a certain level or value. There is no question but that the objectives have served a useful function over the past 40 to 50 years, and the Province's lake trophic state model has provided an equally important role in ensuring that the objectives are not exceeded. While some may argue that the permitting of artificially generated phosphorus loadings to a lake, river or stream until a specific objective is reached is a retrograde approach, the reality is that historically there has not been any practical or guaranteed phosphorus reduction alternatives that have been acceptable to the Province. However, circumstances have changed and new technologies are now virtually on the shelf which will diminish if not eliminate such loadings. The obvious benefits relate to lake and ecosystem health; however, an indirect benefit would be to remove this a long-standing and time consuming issue from the agendas of environmental protection agencies.

5.2 Conclusions and Recommendations

1. The subject property can support a total of two new shoreline residential lots.

2. The proposed new lots are sufficiently large that residences, tile fields and related infrastructure locations will be considerably set back from the high water mark of Lorimer Lake.

3. The acidic native Precambrian Shield B horizon soils at locations where drain fields are proposed have a demonstrated high capability to retain phosphorus; all imported soils to construct raised tile beds and mantles must have a similarly high capability, determined by laboratory testing.

4. The estimated phosphorus retention life expectancy of a drain field constructed with B horizon soils taken from the subject lands to a depth of 0.4 m, and assuming extended seasonal use and a four bedroom home, is over 500 years, primarily because of the very high phosphorus adsorption ratio of the on-site soils.

5. An evaluation of nitrate nitrogen impacts demonstrates that the quality of surface and groundwater will not be negatively impacted on from treated sewage.

6. Policies from Section 17.06 of the **Whitestone OP** are interpreted by the Municipality of Whitestone and the PSAPB as recognizing the benefits of "non-impact" lots as far as artificial loadings of phosphorus are concerned. This is precisely the direction taken in this **SEIA**. In the opinion of Michalski Nielsen Associates Limited, there will be no appreciable man-made loadings of phosphorus to Lorimer Lake; accordingly, there will be no changes in concentrations of phosphorus in the Lake's surface waters, nor any negative impacts on late summer, deep-water dissolved oxygen (i.e., any water quality changes will be scientifically or analytically not detectable).

7. Thirty metre natural shoreline buffers or setbacks coupled with the construction of French drains (infiltration chambers or soakaway pits) are proposed for the two new lots to attenuate phosphorus in stormwater runoff (i.e., roof tops, driveways and parking areas).

8. During the construction period, installation of a variety of erosion and sediment control works is proposed, followed by restoration with appropriate plantings and/or seed mixtures.

9. The Eastern Hog-nosed Snake, and the Barn Swallow, both of which are afforded habitat protection under Ontario's *2007 ESA*, have been reported in the Municipality of Whitestone. They have not been observed on the subject properties. The potential for these species to occur on the subject lands is considered to be opportunistic, similar to other landscapes throughout the Parry Sound area.

Given the above, Michalski Nielsen Associates Limited recommends that approval be granted to create two new lots, subject to the following recommendations, which are repeated from earlier sections of this **SEIA**.

Capability of Subject Property for Class IV Sewage Treatment Systems

- **Sewage disposal beds (either conventional septic tank tile fields or Ontario Building Code approved filter beds or tertiary treatment units described in the Supplementary Standards of the OBC) be located on relatively flat terrain, well back from the shoreline of Lorimer Lake, as approximately shown in Figures 6 and 7.**

Sewage-related Phosphorus Reduction

- **New lot owners and/or their contractors make use of on site B horizon Precambrian Shield soils in constructing their tile/drain fields, owing to their high and beneficial capabilities to irreversibly complex phosphorus.**
- **For any imported soils needed to construct leaching beds, the lot owners and/or their contractors be required to use tested B horizon soils that have high capabilities to retain phosphorus (i.e., in the order of 100 milligrams phosphorus per 100 grams of soil), based on electrostatic binding, and mineralization with reactive iron and reactive aluminum.**

Natural Shoreline Buffers and Phosphorus Reduction from Stormwater Runoff

- **Thirty metre natural shoreline buffers from the high water mark of Lorimer Lake be implemented on both lots to be created via inclusion in a site development plan.**
- **Restrictions on activities in the 30 metre natural buffers be implemented through any development or servicing agreement to be executed between the Municipality of Whitestone and the applicants. The restrictions would require that the setbacks be altered or disturbed as little as possible, and trees should not be cut, nor vegetation cleared within them, except for access (i.e., two metre wide pathways to the shoreline of Lorimer Lake), safety, or selective cutting or limbing for the reasonable provision of views.**
- **French drains or soakaway pits should be used for treating stormwater runoff from roof tops, driveways and parking areas, as a method of decreasing any**

Domestic Water Supply

- **The proposed lots to be created be serviced by water from Lorimer Lake for domestic supply purposes (the option remains, however, for the new owners to consider groundwater as an alternative).**
- **Homeowners be made aware of the advisability of treating water from Lorimer Lake with commercially available treatment systems.**

Docking Structures

- **Docking structures for the proposed lots be located within the envelopes shown in Figures 6 and 7.**
- **The types of docking structures that are most suitable are floating or post/pile supported, or are constructed of cribs that have a footprint on the lake bed less than 15 square metres;**

- **The new landowners be made aware of:**
  - **their habitat protection obligations under the *Fisheries Act*;**
  - **the Department of Fisheries and Oceans Operational Statement for Dock and Boathouse construction (Version 3), and the need to contact the Department of Fisheries and Oceans should either the landowners not wish to adhere to, or are unsure whether their plans would adhere to the Operational Statement**; and
  - **the need to possibly obtain approvals from the Ministry of Natural Resources and Forestry for crib docks exceeding a 15 square metre footprint on the lakebed.**

Control of Erosion and Sediment

- **Prior to construction, any areas that are not to be entered into should be clearly flagged, including the 30 metre natural shoreline buffer.**
- **Sediment and erosion control works, in the form of silt fencing be installed downgradient from all construction sites.**
- **The sediment and erosion protection measures be maintained in good working order until the exposed soils have been fully stabilized or otherwise greened up with vegetation plantings.**

Species of Conservation Concern

- **New landowners recognize there is potential habitat for Barn Swallow, and the Eastern Hog-nosed Snake to occur on the subject properties from time to time. It is the responsibility of landowners to consult with the local Ministry of Natural Resources and Forestry office prior to undertaking any site work. This is particularly important if activities not addressed herein are proposed, as additional species may be listed and protected under the *Endangered Species Act* or the status and protection level of currently listed species may change.**
- **Generalized fact sheets about potential spaces at risk in the area (typically available from the Ministry of Natural Resources and Forestry) should be made available to construction crews by the new landowners. This will assist in ensuring appropriate best management practices during construction if the subject species are encountered or otherwise observed.**

6 REFERENCES

Beacon Environmental.

2013. **Water Quality Impact Assessment, Lorimer Lake, Municipality of Whitestone.** Prepared for Brent Duprey.

Committee on the Status of Endangered Wildlife In Canada.

2005. Available at http://www.cosewic.gc.ca/eng/sct5/index_e.cfm [Accessed April 2013

Conservation Ontario and Rideau Valley Conservation Authority.

2003. **On The Living Edge**.

Dillon, P.J. and F.H. Rigler.

1975. A Simple Method for Predicting the Capacity of a Lake for Development Based on Lake Trophic Status" (Journal Fisheries Research Board Canada 32:1519-1531).

Hoffman, D.W., B.C. Mathews and R.E. Wickland.

1964. **Soil Associations of Southern Ontario**, Report No. 30 of the Ontario Soil Survey, Canada Department of Agriculture.

Hondzo, M. Stefan.

1993. **Regional water temperature characteristics of lakes subjected to climate change. Climate Change 24. 187-211**.

Hutchinson, N.J.

2002. Limnology, plumbing and planning: Evaluation of nutrient-based limits to shoreline development in Precambrian Shield watersheds. In: **Handbook of Water Sensitive Planning and Design**. Edited by Robert L. France. Lewis Publishers.

Ministry of the Environment.

2010. **Provincial Water Quality Objectives**

Ministry of the Environment and Ministry of Natural Resources.

1993. **Inland Lake Trout Management in Southeastern Ontario.**

Ministry of Environment, Ministry of Housing and Ministry of Natural Resources.

2010. **Lakeshore Capacity Assessment Handbook.**

1978. **Lakeshore Capacity Study**. Progress Report.

Paterson, A.M., P.J. Dillon, N.J. Hutchinson, M.N. Futter, B.J. Clark, R.B. Mills, R.A. Reid and W.A. Scheider.

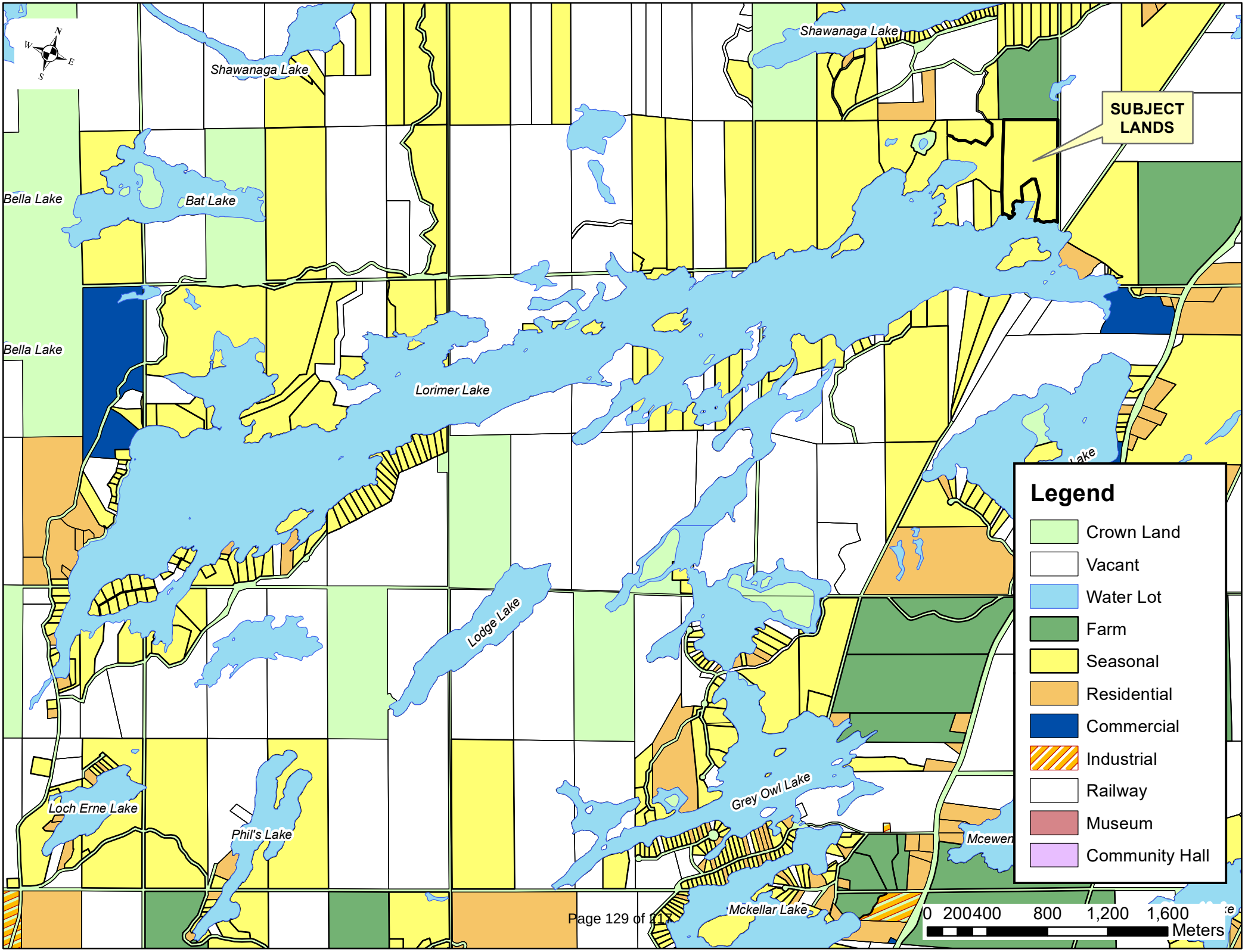
2006. **A Review of the Components, Coefficients and Technical Assumptions of Ontario's Lakeshore Capacity Model**. Lakes and Reservoir Management. 22(1): 7-18.

Province of Ontario.

2007. ***Endangered Species Act 2007.***

Woodard, S.E. and C.A. Rock.

1995. **Control of Residential Stormwater by Natural Buffer Strips**. Lake and Reservoir Management. 11(1): 37-45.


Shawanaga Lake
Shawanaga Lake
SUBJECT LANDS
Bella Lake
Bat Lake
Bella Lake
Lorimer Lake
Lodge Lake
Loch Erne Lake
Phil's Lake
Grey Owl Lake
Mcewen
Mckellar Lake
Legend
Crown Land
Vacant
Water Lot
Farm
Seasonal
Residential
Commercial
Industrial
Railway
Museum
Community Hall
0 200400 800 1,200 1,600
Meters

1-5 Chancery Lane, Bracebridge, ON P1L 2E3 | 705-645-0021
www.environmentalsciences.ca

August 31, 2022 Project No. 220085

Ilona Skeba
Via email: 4510chris@gmail.com

Dear Ilona,

Re: 300 Green Lane, Lorimer Lake, Municipality of Whitestone Site-Specific Septic Assessment

INTRODUCTION

Hutchinson Environmental Sciences Ltd. (HESL) conducted an assessment of topography, drainage and soils at 300 Green Lane, Municipality of Whitestone, Ontario (the property) to determine if the native soil on two proposed severed lots could treat septic effluent from in-ground leaching fields to a level that would protect water quality in Lorimer Lake. Consistent with Provincial Policy and the Municipality of Whitestone's Official Plan, the work was conducted to assess whether the proposed severance could have an adverse effect on water quality in Lorimer Lake from septic effluence if the properties were developed with residential dwellings

Lorimer Lake is an "at-capacity" lake in the Municipality's Official Plan, and additional development requires assessment by a qualified environmental professional to identify potential adverse effects to the lake from septic-related phosphorus (particularly the phosphate ion which can degrade water quality via eutrophication, nuisance algae and aquatic plant growth, and reduce dissolved oxygen). The assessment was conducted by David Leeder, P.Geo. Limited, a Qualified Person (QP) in the Province of Ontario, with assistance from Emily Ham, Geoscientist-in-Training (GIT).

BACKGROUND

Property Information

The property's legal description is Hagerman Concession 3 Part Lot 10 and RP 42R20387 Part 1 (300 Green Lane). 300 Green Lane is a 25 ha parcel of land, with 418 m of frontage on Lorimer Lake, and approximately 635 m of lot depth back from the lake. The property's septic class by the Municipality is "S – Property uses septic bed", which is currently in use on the property.

Existing Property Conditions

The property is on the northeast shore of Lorimer Lake (Figure 1). The property has a horseshoe shape, with the "top" of the horseshoe along the north property boundary of the "tips" of the horseshoe on the south limits at Lorimer Lake. A third-party property (251 Green Lane) is in the "center" of the horseshoe.

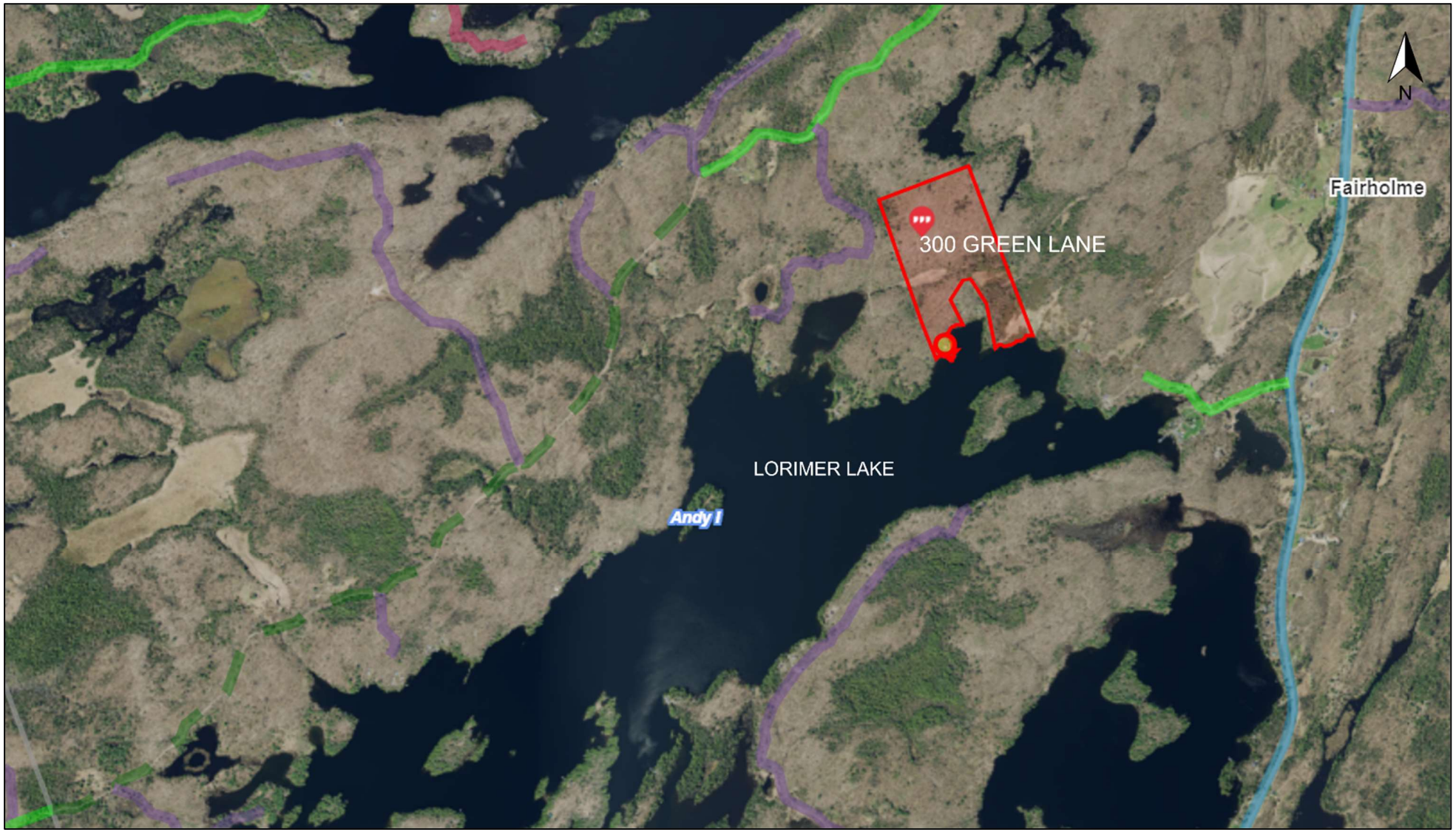


Figure 1. Location of the property.

Access to the property is via Green Lane (a private road) with a gravel driveway that enters the property from its west side. Green Lane connects to Lorimer Lake Road, to the north.

There is an existing cottage near the southwest tip of the property; no other buildings are on the property. The gravel driveway runs from roughly northeast to southeast, crossing to 251 Green Lane in the “center” of the horseshoe. There is a cottage on the 251 Green Lane property; the remaining surrounding lots are vacant based on aerial photograph review. Key features of the property are shown in Figure 2.

Soils on the property are thin, fine-grained silt and sand over Precambrian mafic (amphibolite, gabbro, diorite) and gneiss bedrock (Ontario Geological Survey, 2008).

Topography on the property is defined by two high rock knols: one along the north property boundary and one in the south-central portion of the property. The knol at the northern property boundary is the topographic high (270 m above sea level – ASL). Topography on the northern portion of the property is moderate, with grades of approximately 5% up to 30% (in isolated areas) and the ground’s surface dipping generally to the south, with a low area bisecting the property occupied by a watercourse with in-line wetland. South of the watercourse and in-line wetland, the land rises slightly to a small flat area, before dipping steeply (up to 25%) to the south and east where the lowest part of the property exists (250 m ASL). A thicket forest occupies this low area, which ultimately drains to Lorimer Lake. South of the thicket, the land rises steeply (up to 40% grades in some areas), before sloping gently (5 to 10% grade) towards Lorimer Lake on the east side of the ‘horseshoe’. On the west portion of the property, the ground rises more gently (slopes of less than 10%) to the northern apex of the west side of the horseshoe, before dipping at grades up to 20%, south towards Lorimer Lake. and there are no drainage features. Topography and drainage are shown in Figure 3.

Surface water drains with topography. Only the southern 1/4 of the property drains towards Lorimer Lake – the balance drains towards the watercourse-wetland feature that bisects the centre of the property, which subsequently drains west towards a wetland. On the southeast corner of the property, drainage is towards the low thicket swamp area (northern portion) which ultimately infiltrates to the subsurface or possibly drains to Lorimer Lake during high water; the southern limits of the southeast corner drain towards Lorimer Lake by overland flow. On the southwest portion of the property, drainage is generally indirect towards Lorimer Lake via overland flow. During the June 27 and 28, 2022 site visits when the water table was high, no water flow or persistent drainage towards Lorimer were observed on the southern portions of the property, suggesting most runoff water infiltrates to the subsurface.

Shallow groundwater in subsurface soil migrates with topography, similar to surface water, with flow direction further influenced by the presence of bedrock beneath the surface. Groundwater in the deeper bedrock regime may migrate in the general direction of topography through fractures in the rock. However, the bedrock is highly folded with discontinuous rock fractures on and around the property and contiguous groundwater migration distance within bedrock is limited.

Figure 2. Key property features.

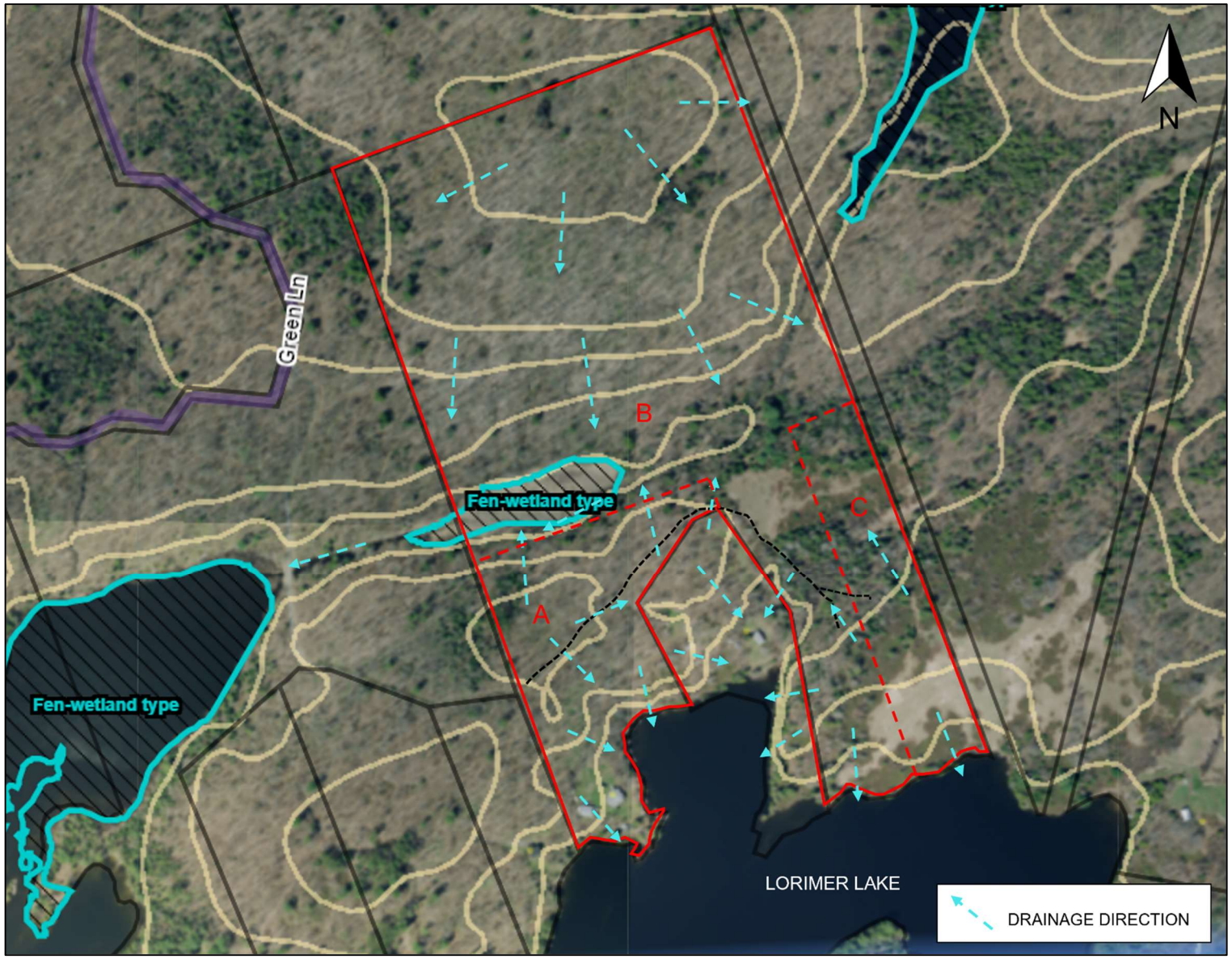


Figure 3. Topography, drainage and wetland features.

Figure 4. Ecological Land Classification cover types.

The majority of the property is forested with tree species typical of the Great Lakes-St. Lawrence mixed forest, with three naturally occurring forest ecosite types per the Ontario Ministry of Natural Resources "Ontario Ecological Land Classification" (ELC,1998) and based on observations at the property (Figure 4):

- FOM5: Mixed Forest;
- FOD5-3: Deciduous Forest, Dry-Fresh Sugar Maple – Oak type;
- SWM6-2: Swamp, Mixed.

Two cultural ecosite types are present on the southeast limit of the property (CUT2-1: Cultural Alvar Woodland type; and CUM1: Mineral Cultural Meadow) that are the result of old field succession occurring on a former farmstead, that was last used for agriculture in the 1980s, based on conversation with neighbours at 251 Green Lane (pers. comm., 28 June, 2022).

Provincial and Municipal Mapping identified a fen-type wetland in the west-central portion of the property, in the drainage-way wetland system, which drains to a larger off-property wetland to the west and subsequently Lorimer Lake. No wetland was identified on the proposed lot severances.

The area around the existing cottage is cleared, with landscaped grass cover.

Proposed Severance

The proposed severance will result in four separate parcels (Figure 2). The proposed lots are referred to as "A" (southwest parcel/retained lot where existing house/cottage is located), "B" (north central parcel), and "C" (southeast parcel). A cottage may be built on each of proposed lots B or C in the future. No changes to the retained lot are proposed.

Regulatory Framework

Lorimer Lake is listed as an "at capacity lake" in the Municipality of Whitestone's Official Plan (OP):

17.06.1 Lorimer Lake is managed as a lake trout lake and the lake has been identified as being at capacity as far as the ability of the lake to withstand any additional nutrients associated with additional lot creation if the lake trout fishery is to be sustained. The dissolved oxygen in the lake would indicate that the fishery is at fatal stress levels, however, recent sampling indicates a continued trout population.

17.06.2 Lorimer Lake will continue to be considered a lake that is at capacity and no further land division will be permitted on the lake except where no additional impact will occur as a result of that land division. This is restricted to consents to separate existing viable dwellings, new lots where the septic system has no impact on the lake because the sewage system, including gray water, is set back at least 300 metres from the shoreline or where the septic system drains at least 300 metres away from the lake.

Lorimer Lake is also listed as a "Put-Grow-Take Lake Trout Lake" in Inland Ontario Lakes Designated for Lake Trout Management (MNRF, 2015). Waterfront development and the potential influx of sewage-related phosphorus to an adjacent waterbody can be a stressor on Lake Trout habitat because increased phosphorus concentrations can cause increased algal and plant growth, which can cause decreased

dissolved oxygen concentrations through decomposition. Lake Trout have specific dissolved oxygen habitat requirements (i.e., 7 mg/L of mean hypolimnetic dissolved oxygen concentration).

The Lakeshore Capacity Model was developed by the Province of Ontario to determine suitable development capacity on lakes through an assessment of phosphorus and dissolved oxygen concentrations. In the case of Lorimer Lake, the lake is currently over capacity in terms of Provincial guidelines. The Lakeshore Capacity Assessment Handbook (Ministry of the Environment, 2010) states that new lot creation on at-capacity lakes should only be allowed:

- *To separate existing habitable dwellings, each of which is on a lot that is capable of supporting a Class 4 sewage system, provided that the land use would not change and there would be no net increase in phosphorus loading to the lake;*
- *Where all new tile fields would be located such that they would drain into a drainage basin which is not at capacity; or*
- *Where all new tile fields would be set back at least 300 metres from the shoreline of lakes, or such that drainage from the tile fields would flow at least 300 metres to the lake.*

The following additional site-specific criteria can be applied where new development is proposed on at-capacity lakes and where certain municipal planning tools and agreements are in place such as a Development Permit System under the Planning Act, and/or site plan control under the Planning Act, and site alteration and tree-cutting by-laws under the Municipal Act:

- *Where a site-specific soils investigation prepared by a qualified professional has been completed showing the following site conditions:*
    - *The site where the septic tile-bed is to be located, and the region below and 15 metres down-gradient of this site, toward the lakeshore or a permanently-flowing tributary, across the full width of the tile bed, consist of deep (more than three metres), native and undisturbed, non-calcareous (<1% Ca equivalent by weight) overburden with acid-extractable concentrations of iron and aluminum of >1% equivalent by weight (following Robertson 2005, 2006). Soil depth shall be assessed with test pits and/or boreholes at several sites. Samples for soil chemistry should be taken at depth adjacent to, or below, the proposed tile bed; and*
    - *An unsaturated zone of at least 1.5 metres depth exist between the tile bed and the shallowest depth (maximum extent) of the water table. The position of the water table shall be assessed with test pits during the periods of maximum soils saturation (e.g., in the spring, following snowmelt, or late fall).*

Septic-Related Phosphorus Attenuation

Published site-specific studies over the past 20 years, including those that informed the Lakeshore Capacity Assessment Handbook (Ministry of Environment, 2010) have consistently shown that septic system-related phosphorus is immobilized in Precambrian shield soils, such as those on the property. Soils that contain greater than 1% aluminum + iron (>10,000 µg/g), and less than 1% calcium (<10,000 µg/g) are suitable to

attenuate phosphorus in septic effluent to protect at-capacity lakes from additional phosphorus loading (Ministry of Environment, 2010).

Mechanistic evidence (Stumm and Morgan, 1970; Jenkins et al., 1971; Isenbeck-Schroter et al., 1993) and direct observations made in septic systems (Willman et al., 1981; Zanini et al., 1997; Robertson et al., 1998; Robertson, 2003) all show strong adsorption of phosphate on charged soil surfaces and mineralization of phosphate with iron and aluminum in soil. The mineralization reactions are favoured in acidic and mineral-rich groundwater on the Precambrian shield (Robertson et al., 1998; Robertson, 2003), such that over 90% of septic phosphorus may be immobilized. The mineralization reactions appear to be permanent (Isenbeck-Schroter et al., 1993) and many studies conclude that most septic phosphorus is stable within 0.5 to 1 m of the tile drains in a septic field (Robertson et al., 1998, Robertson, 2003, Robertson 2012).

Most recently, Robertson et al. (2019) synthesized phosphorus concentrations in groundwater plumes from 24 septic systems throughout Ontario that were monitored over a 30-year period. Phosphorus removal averaged 97% at the non-calcareous sites (such as those found on the property) within leaching fields and proximal plumes, within 10 m of the leaching fields, regardless of site age or septic effluent loading rate.

The condition noted in the Lakeshore Capacity Handbook to permit development on at-capacity lakes (i.e., septic setback of 300 m from a lake) is highly conservative (overly protective) for most Precambrian shield soils, because phosphorus attenuation in acidic soils with <1% calcium and >1% iron + aluminum has been demonstrated to consistently occur over much shorter distances (0.5 to 10 m).

OBJECTIVE

The site-specific soil and drainage assessment was conducted to identify drainage path(s) to the lake (if any) from the proposed severed lots, describe soil conditions that could attenuate septic-related phosphorus, and indicate whether phosphorus in septic effluent could be attenuated before reaching Lorimer Lake.

METHODS

Provincial Guidelines and Standard of Care

The site-specific soil and drainage assessment was conducted consistent with the guidance in the Lakeshore Capacity Assessment Handbook (Ministry of the Environment, 2010), the methods in the Province of Ontario's "D-5-4 Individual On-Site Sewage Systems: Water Quality Impact Risk Assessment" (August, 1996), and Ontario Regulation 244/09. Soil sampling was consistent with the requirements of Ontario Regulation 153/04 and the Standard of Care provided by qualified environmental professionals in the Province of Ontario. The documented property conditions and subsequent data interpretation considered peer-reviewed long-term studies of septic-related phosphorus in Canadian shield soils.

General Approach

A site visit was conducted on 28 June, 2022, and consisted of the following:

- A reconnaissance of the property to help identify important features, confirm property boundaries, and identify potential future building sites;
- Visual characterization of topography, drainage features, soil saturation, rock outcrops and natural heritage features;
- Selection of candidate sites for a septic leaching bed on each of lots B and C, that were within a reasonable distance from the preferred building locations, and where drainage was away from Lorimer Lake and no saturated soil was present;
- Excavating test pits at candidate septic sites to assess soil type, depth to bedrock or groundwater, and collecting soil samples for laboratory analysis consistent with D-5-4 Assessment methods; and,
- Excavating test pits at candidate septic sites and conducting soil percolation testing to assess the infiltration capacity of soils, per D-5-4 Assessment methods.

The site visit was conducted in the summer after a wet spring season. Property boundaries, road features, aerial imagery, and interpreted topography were obtained from the West Parry Sound Geography Network (online, last accessed 12 July, 2022).

Test Pit Excavating and Soil Sampling

Three test pits were hand-excavated at candidate septic sites on each of proposed lots B and C. The topography was too rugged, and the site was too densely treed to access with a drill rig or small excavator, without causing unacceptable property damage. The test pit that best represented “average” soil conditions in the area of each lot assessed, was selected for further characterization. The following characterization was conducted at the selected test pits excavated on each of lots B and C (TP22-02 and TP22-01, respectively; Figure 5):

- The physical soil conditions were logged (apparent compaction, soil colour, soil texture, and apparent moisture/water saturation);
- A soil sample was collected from the soil type-depth interval that comprised the greatest proportionate volume (i.e., the ‘thickest’ soil layer) in each test pit, representing soil that was likely to have the strongest influence on septic effluent attenuation; and,
- Each soil sample was placed in a clean, laboratory-supplied container, sealed, and preserved for shipping to ALS Environmental in Waterloo, Ontario for analysis of reactive iron, aluminum and calcium, and pH. ALS is a CALA accredited laboratory.

All soil samples were collected using stainless steel tools per Ontario Regulation 153/04 requirements.

Test Pit Percolation Testing

Percolation testing was conducted in each selected test pit per D-5-4 Assessment guidance, and consisted of the following:

- At each candidate septic site, the selected test pit was excavated to the soil depth that was most likely to have the strongest effect on septic effluent treatment using a clean, decontaminated shovel;
- Loose soil was removed from the walls and floors of the test pit using the shovel;

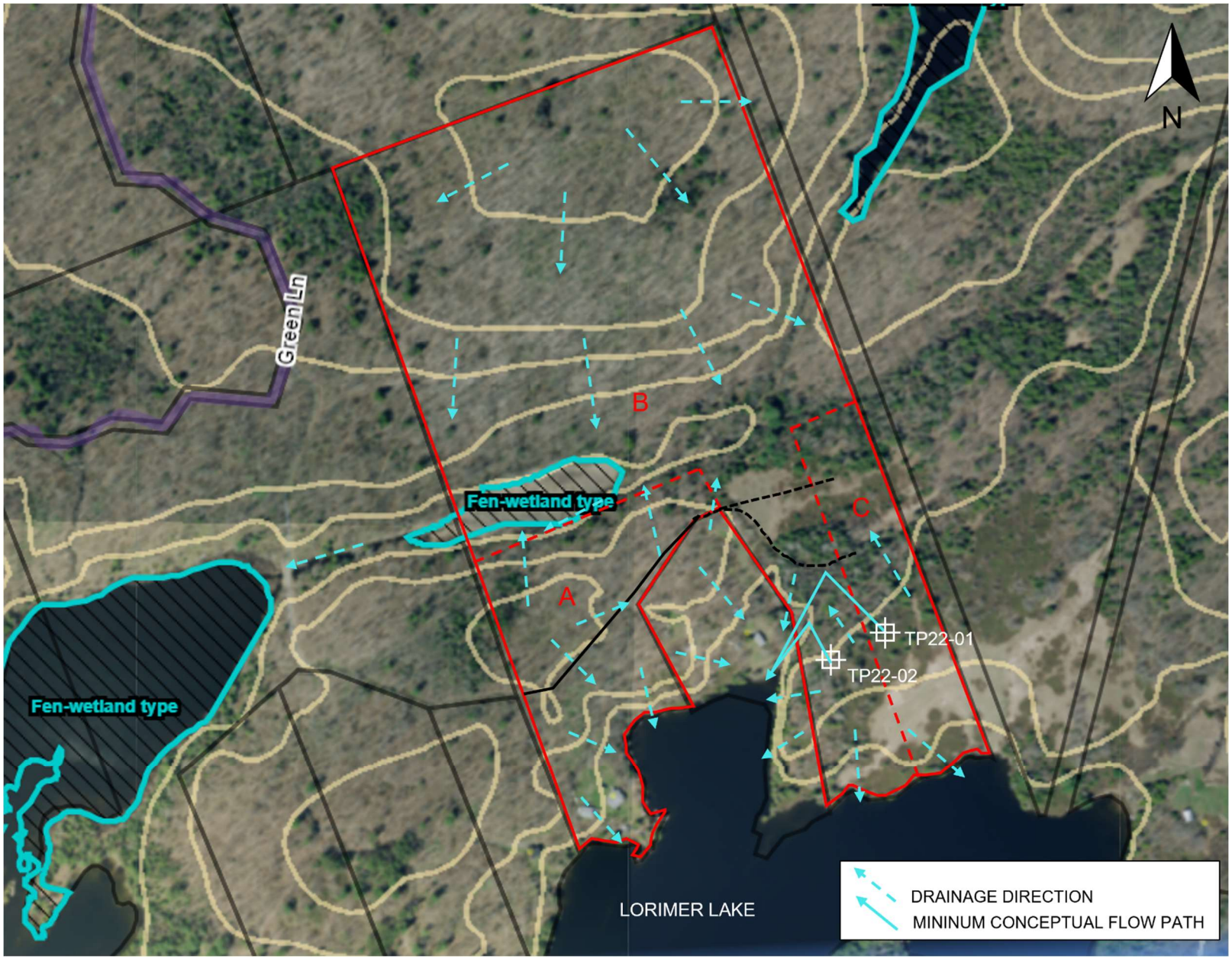


Figure 5. Test pit locations and minimum conceptual indirect flow paths towards Lorimer Lake..

- A small test hole 0.3 x 0.3 m wide and 0.3 m deep was excavated into undisturbed soil in the bottom of the pit with the shovel;
- The soil on the floor and walls of the test pit was saturated with water so that the floor and entire height of the walls were wet;
- Once the hole drained to empty after the saturation fill, it was filled with water to 0.25 m deep, and the time for the water to completely drain from the hole was timed (i.e., the percolation time); and,
- The test pit was backfilled with the excavated native soil and landscaped to match the existing grade around the test site.

Acceptable percolation rates to 0.25 m deep are greater than 1 minute and less than 15 minutes, as specified by Ontario Regulation 244/09 for appropriate use of Class 4 Septic Systems (in-ground), which is the minimum required septic system for the property.

RESULTS

Candidate Septic Site Descriptions and Drainage Paths

Candidate septic sites were located north of a natural bedrock ridge drainage divide on each lot, such that all surface water runoff and shallow groundwater migration that could potentially be influenced by septic effluent would drain north away from Lorimer Lake towards the treed swamp (ELC SWM6-2, Figure 4) before possible draining towards the lake, resulting in the following minimum indirect conceptual flow paths to Lorimer Lake:

- Proposed lot B: 100 m to Lorimer Lake (30 m to treed swamp, 70 m to Lorimer Lake);
- Proposed lot C: 148 m to Lorimer Lake (40 m to treed swamp, 108 m to Lorimer Lake).

Septic sites further north on either lot would drain south towards the treed swamp and then to Lorimer Lake, or north towards the wetland-drainage course system and the large wetland to the west, which would provide equal or longer flow paths towards Lorimer Lake than those from the candidate septic sites assessed. Septic sites further south would occur in an area where direct drainage towards Lorimer Lake could occur (vs., the indirect drainage paths, above), and would require further assessment under Assessment D-5-4 protocols should development occur in these areas. For the purposes of the severance application, this assessment focussed on whether conditions suitable for septic effluent attenuation existed on proposed lots B and C in areas where cottages could be desirable, and a comprehensive assessment of all potential building sites (undetermined) was not conducted.

The drainage paths from proposed lots B and C were less than the minimum recommended by the Lakeshore Capacity Handbook (i.e., 300 m). Therefore, site-specific conditions for septic effluent attenuation were assessed further for proposed lots B and C.

Soil Physical Conditions

The soil on the candidate septic sites of lots B and C consisted of loose topsoil with higher organic content near the surface, and increased silt and sand with depth. The test pits were terminated at approximately 0.72 metres below ground's surface (mbgs), at the surface of weathered bedrock. Angular cobbles were observed in both test pits at 0.7 mbgs, indicating a transition/weathering zone between soil and bedrock that is likely to be rich in iron and aluminum suitable for septic effluent treatment. Groundwater or saturated soil were not encountered on either candidate septic site. The soil conditions observed in each test pit are described in Table 1.

Table 1. 300 Green Lane soil descriptions by test pit.

Test pit	Depth (mbgs)	Description
TP22-01	0 to 0.1	- Loose, brown organic-y silt, some sand, trace tree roots and organic debris (TOPSOIL) - Moist
	0.1 to 0.3	- Loose to compact light brown silt, some organics and sand, trace tree roots (TOPSOIL) - Moist
	0.3 to 0.52	- Loose to compact light brown silt, some organics and sand (B HORIZON) - Moist - Sampled for laboratory analysis
	0.52 to 0.68	- Compact light brown silt, trace organics and silt (SILT) - Moist
	0.68 to 0.72	- Compact to hard grey-brown silt, trace sand (TILL) - Moist - Angular cobbles at 0.70 m
	0.72	- END of test pit on weathered bedrock
TP22-02	0 to 0.1	- Loose brown silty organics, trace sand (TOPSOIL) - Moist
	0.1 to 0.41	- Loose light brown silt, some organics, trace sand (B HORIZON) - Moist - Sampled for laboratory analysis
	0.41 to 0.62	- Compact light brown silt, trace sand (TILL) - Moist
	0.62 to 0.74	- Compact to hard grey-brown silt, trace sand (TILL) - Moist - Angular cobbles at 0.70 m
	0.74	- END of test pit on weathered bedrock

Soil Chemistry

The iron + aluminum concentrations in the soil (4.5 to 6.2%) from the two test pits exceeded the minimum concentrations recommended by the Lakeshore Capacity Handbook (1%) and calcium (~0.26%) did not exceed the upper limit (<1%) recommended by the Lakeshore Capacity Handbook at either test pit. pH in the soil from both test pits was acidic (4.23 to 4.40).

The results indicate that the soil chemistry at the candidate septic site is suitable for the attenuation of septic-related phosphorus. Soil chemistry is summarized in Table 2. Laboratory analytical Certificates of Analysis are attached.

Table 2. 300 Green Lane soil chemistry by test pit.

Parameter	Unit	Lakeshore Capacity Guideline	Test pit	
			TP-2201	TP-2202
			0.3 to 0.52 m	0.1 to 0.41 m
			28-Jun-22	28-Jun-22
pH	pH	n/v	4.40	4.23
Acid Extractable Calcium (Ca)	µg/g	< 10000	2620	2530
Acid Extractable Aluminum (Al)	µg/g	n/v	32900	24600
Acid Extractable Iron (Fe)	µg/g	n/v	28600	25000
Acid Extractable Al + Fe (calculated)	µg/g	> 10000	61500	49600

Notes:

Lakeshore Capacity Guideline — Ontario Ministry of the Environment, Ministry of Natural Resources and Ministry of Municipal Affairs and Housing (2010). Lakeshore Capacity Assessment Handbook. May 2010. The Guideline values are for at-capacity lakes.

n/v — Guideline value not developed.

Percolation Rates

At TP22-02 and TP22-01 on proposed lots B and C, the water level in the test pit dropped 6 cm and 7.9 cm after 15 minutes, respectively. Percolation rates were lower than the recommended 25 cm drop in water level in <15 mins, indicating soil saturation by septic effluent could occur under a full effluent load, which would reduce the native soil's septic effluent treatment capacity at the point of saturation. The lower infiltration rates were consistent with the texture of the soil observed in the test pits.

Table 3. 300 Green Lane soil percolation rates by test pit.

Location	Water level decrease in 15 minutes	
	Required	Observed
TP22-01	25 cm	7.9 cm
TP22-02		6 cm

DISCUSSION

To protect Lorimer Lake, an at-capacity lake, from septic-related phosphorus in in-ground leaching beds on the proposed severed lots, the candidate septic sites were assessed for the following conditions:

1) *If possible, all new tile fields should be set back at least 300 m from the shoreline of lakes, or such that drainage from the tile fields would flow at least 300 m to the lake, as recommended by the Ontario Ministry of the Environment (2010).*

- The minimum indirect flow path from candidate septic sites on proposed lots B and C to Lorimer Lake was approximately 100 m and 148 m (via shallow groundwater/surface water) from candidate septic sites on proposed lots B and C, respectively. Further site-specific soil assessment (per Ontario Ministry of the Environment, 2010) was conducted for both sites to assess whether soil conditions were sufficient to achieve septic-related phosphorus attenuation over the shortest distances found by Robertson et al. (1998) and Robertson (2003, 2012, and 2019).

2) Per Ontario Ministry of the Environment (2010):

a) The site where the septic leaching field is to be located, and the region 15 m downgradient towards the lake, across the full width of the field, should consist of deep (>3 m), native and undisturbed, non-calcareous (<1% calcium) soil with >1% acid-extractable concentrations of iron + aluminum. Soil depth as assessed with test boreholes at one site per candidate septic site; and

b) An unsaturated zone of at least 1.5 m should exist between the tile bed and the shallowest depth of the water table. The position of the water table was assessed with the test boreholes during a period of maximum soil saturation (i.e., late spring after freshet when the water table was elevated).

- The soil quality on the candidate septic sites was well-suited for treating septic effluent (acidic, <1% calcium, and >1% iron + aluminum on all sites);
- The depth of soil was shallow (~0.7 m) over the inferred bedrock surface at the candidate septic sites, which was less than recommended by the Ministry of the Environment (2010); and,
- Soils on both proposed lots had lower than specified infiltration rates for septic-related phosphorus treatment. The infiltration rate in the test pits indicated that soil saturation by septic effluent could occur under a full conceptual effluent load, which would reduce septic effluent treatment capacity by native soil in these locations.

The results indicate that soil depth and infiltration capacity may limit septic effluent treatment by native soils alone, and that enhanced septic effluent treatment is required to protect Lorimer Lake from septic effluent, should cottages be built on the proposed severed lots.

Septic effluent should be effectively treated by Class 4 Septic Systems constructed per the Ontario Building Code with man-made raised leaching fields and the following properties, on proposed lots B and C, should the lots be developed, as follows:

- The toe of the field >1.5 m above the bedrock;
- Constructed using imported acidic soils with <1% calcium and >1% iron + aluminum; and
- Have in-field percolation rates per Ontario Regulation 244/09.

Raised leaching fields built to the above specifications would meet or exceed the Ministry of the Environment (2010) minimum soil conditions for septic-related phosphorus treatment, and attenuate septic-related phosphorus in the short distances (0.5 to 10 m) identified by Robertson et al. (1998) and Robertson (2003, 2008, 2012, and 2019). Raised leaching fields would remedy concerns with the shallow soils and soils with lower-than-recommended infiltration capacities, and allow the natural soils on the property to provide an extra measure of attenuation of septic-related phosphorus to further protect Lorimer Lake from potential septic-related phosphorus.

CONCLUSIONS AND RECOMMENDATIONS

Candidate septic sites of proposed lots B and C had indirect flow paths to Lorimer Lake less than the minimum 300 m recommended by the Lakeshore Capacity Handbook. Site-specific soil conditions were therefore assessed on candidate septic sites of the proposed lots to assess the attenuation (treatment) capacity of septic-related phosphorus by native soil.

Soil chemistry was well-suited to treat septic effluent at both candidate septic sites (acidic, <1% calcium, >1% iron + aluminum). Soil depth (~0.7 m over bedrock) was less than recommended by the Ontario Ministry of the Environment (2010) and soil infiltration capacities on both proposed lots were lower than recommended by Ontario Regulation 244/09, indicating possible soil saturation under full septic effluent loads and potentially reduced effluent treatment capacity by native soils alone.

Should development occur on proposed lots B and C, Class 4 Septic Systems with raised leaching beds should be constructed per the Ontario Building Code in the assessed candidate septic site locations, to effectively treat septic effluent and protect Lorimer Lake. The raised leaching beds should meet the requirements for soil by the Ministry of the Environment (2010), allowing native soils to provide an extra measure of septic effluent treatment. The raised leaching fields should have the following construction:

- The toe of the field >1.5 m above the bedrock;
- Constructed using imported acidic soils with <1% calcium and >1% iron + aluminum; and
- Have in-field percolation rates per Ontario Regulation 244/09.

The conditions observed by Robertson et al. (1998) and Robertson (2003, 2008, 2012) as well as the long-term (30-year) attenuation of septic effluent measured by Robertson (2019) in soils similar to the property in combination with the recommended raised leaching beds, strongly indicates that septic-related phosphorus would be reduced by over 97% within 10 m of the beds. Further removal of residual phosphorus (if any) from septic effluent would be achieved with native soil, adding an additional level of safety and preventing adverse effects to Lorimer Lake from septic-related phosphorus.

Should development occur in the area south of the test pits on proposed lots B and C, additional assessment should be conducted to assess soils, drainage and potential septic effluent loading to Lorimer Lake per Ontario Protocol D-5-4. The additional site-specific characterization was not completed as part of this work which informs a severance application, since suitable septic sites are present on the proposed lots (described above) as required for severance consideration, and development on the lots is not defined.

CLOSING

Thank you kindly for the opportunity to conduct this assessment. If you have any questions or concerns, please contact me at your earliest convenience.

Sincerely,
Per. Hutchinson Environmental Sciences Ltd.

David Leeder, P.Geo. Limited
Senior Environmental Scientist

Emily Ham, M.Sc., G.I.T.
Junior Environmental Scientist

ATTACHMENTS

ALS Environmental. Certificate of Analysis L2719359. 06 July 2022.

REFERENCES

Isenbeck-Schroter, M., U. Doring, A. Moller, J. Schroter and G. Matthe. 1993. Experimental approach and simulation of the retention processes limiting orthophosphate transport in groundwater. J. Contam. Hydrol. 14: 143-161.

Jenkins, D., J.F. Ferguson and A.B. Menar. 1971. Chemical processes for phosphate removal. Water Research 5: 369 - 389.

Ontario Geological Survey (2008). Ontario Geological Maps Summary, Quaternary Geology and Geology and Select Mineral Deposits of Ontario. Queens Printer for Ontario. 2008.

Ontario Ministry of Environment (2010). Lakeshore Capacity Assessment Handbook – Protecting Water Quality in Inland Lakes on Ontario's Precambrian Shield. PIBS 7642e, Queen's Printer for Ontario. 2010.

Ontario Ministry of Natural Resources (1998). Ecological Land Classification for Southern Ontario: First Approximation and Its Applications. Lee, H., Bakowsky, W., Riley, J.L., Bowles, J., Puddister, M., Uhlig, P., McMurray, S. SCSS Field Guide FG-02, September 1998.

Robertson, W.D., S.L. Schiff and C.J. Ptacek (1998). Review of phosphate mobility and persistence in 10 septic system plumes. Ground Water 36:1000-1010.

Robertson, W.D. (2003). Enhanced attenuation of septic system phosphate in noncalcareous sediments. Ground Water, 41:48-56.

Robertson, W.D. (2008). Irreversible phosphorus sorption in septic system plumes? Groundwater 46: 51 – 60.

Robertson, W.D. (2012). Phosphorus Retention in a 20-Year-Old Septic System Filter Bed. Journal of Environmental Quality.

Robertson, W.D., Van Stempvoort, D.R., and Schiff, S.L. (2019). Review of phosphorus attenuation in groundwater plumes from 24 septic systems. Science of the Total Environment. 692: 640-652.

Stumm and Morgan (1970). Aquatic Chemistry – AN Introduction Emphasizing Chemical Equilibria in Natural Waters. Wiley Interscience, New York, xv + 583 pp.

Willman, B.P., G.W. Petersen and D.D. Fritton.. 1981. Renovation of septic tank effluent in sand-clay mixtures. J. Environ. Qual. 10 : 439- 444.

Zanini, K., Robertson, W.D., Ptacek, C.J., Schiff, S.L. and T. Mayer. 1998. Phosphorus Characterization in Sediments Impacted by Septic Effluent at Four Sites in Central Canada. Journal of Contaminant Hydrology. 33:405-429.

HUTCHINSON ENVIRONMENTAL SCIENCES LTD
ATTN: David Leeder
1-5 Chancery Lane
Bracebridge ON P1L 1S6

Date Received: 30-JUN-22
Report Date: 06-JUL-22 12:29 (MT)
Version: FINAL

Client Phone: 705-645-0021

Certificate of Analysis

Lab Work Order #: L2719359

Project P.O. #: NOT SUBMITTED
Job Reference: 220085
C of C Numbers:
Legal Site Desc:

Gayle Braun
Senior Account Manager

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2719359-1 TP22-01 Sampled By: CLIENT on 28-JUN-22 Matrix: SOIL							
Physical Tests							
pH	4.40		0.10	pH units		01-JUL-22	R5812105
Metals							
Aluminum (Al)	32900		50	ug/g	05-JUL-22	05-JUL-22	R5814976
Calcium (Ca)	2620		50	ug/g	05-JUL-22	05-JUL-22	R5814976
Iron (Fe)	28600		50	ug/g	05-JUL-22	05-JUL-22	R5814976
Magnesium (Mg)	6150		20	ug/g	05-JUL-22	05-JUL-22	R5814976
L2719359-2 TP22-02 Sampled By: CLIENT on 28-JUN-22 Matrix: SOIL							
Physical Tests							
pH	4.23		0.10	pH units		01-JUL-22	R5812105
Metals							
Aluminum (Al)	24600		50	ug/g	05-JUL-22	05-JUL-22	R5814976
Calcium (Ca)	2530		50	ug/g	05-JUL-22	05-JUL-22	R5814976
Iron (Fe)	25000		50	ug/g	05-JUL-22	05-JUL-22	R5814976
Magnesium (Mg)	5630		20	ug/g	05-JUL-22	05-JUL-22	R5814976

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

Reference Information

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
MET-200.2-CCMS-WT	Soil	Metals in Soil by CRC ICPMS	EPA 200.2/6020B (mod)

Soil/sediment is dried, disaggregated, and sieved (2 mm). For tests intended to support Ontario regulations, the <2mm fraction is ground to pass through a 0.355 mm sieve. Strong Acid Leachable Metals in the <2mm fraction are solubilized by heated digestion with nitric and hydrochloric acids. Instrumental analysis is by Collision / Reaction Cell ICPMS.

Limitations: This method is intended to liberate environmentally available metals. Silicate minerals are not solubilized. Some metals may be only partially recovered (matrix dependent), including Al, Ba, Be, Cr, S, Sr, Ti, Tl, V, W, and Zr. Elemental Sulfur may be poorly recovered by this method. Volatile forms of sulfur (e.g. sulfide, H2S) may be excluded if lost during sampling, storage, or digestion.

Analysis conducted in accordance with the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act (July 1, 2011), unless a subset of the Analytical Test Group (ATG) has been requested (the Protocol states that all analytes in an ATG must be reported).

PH-WT	Soil	pH	MOEE E3137A

A minimum 10g portion of the sample is extracted with 20mL of 0.01M calcium chloride solution by shaking for at least 30 minutes. The aqueous layer is separated from the soil and then analyzed using a pH meter and electrode.

Analysis conducted in accordance with the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act (July 1, 2011).

** ALS test methods may incorporate modifications from specified reference methods to improve performance.

The last two letters of the above test code(s) indicate the laboratory that performed analytical analysis for that test. Refer to the list below:

Laboratory Definition Code	Laboratory Location
WT	ALS ENVIRONMENTAL - WATERLOO, ONTARIO, CANADA

Chain of Custody Numbers:

GLOSSARY OF REPORT TERMS

Surrogates are compounds that are similar in behaviour to target analyte(s), but that do not normally occur in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery. In reports that display the D.L. column, laboratory objectives for surrogates are listed there.
mg/kg - milligrams per kilogram based on dry weight of sample
mg/kg wwt - milligrams per kilogram based on wet weight of sample
mg/kg lwt - milligrams per kilogram based on lipid weight of sample
mg/L - unit of concentration based on volume, parts per million.
< - Less than.
D.L. - The reporting limit.
N/A - Result not available. Refer to qualifier code and definition for explanation.

Test results reported relate only to the samples as received by the laboratory.
UNLESS OTHERWISE STATED, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.
Analytical results in unsigned test reports with the DRAFT watermark are subject to change, pending final QC review.

Quality Control Report

Workorder: L2719359 Report Date: 06-JUL-22

Client: HUTCHINSON ENVIRONMENTAL SCIENCES LTD
1-5 Chancery Lane
Bracebridge ON P1L 1S6
Contact: David Leeder

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-WT	**Soil**							
Batch R5814976								
WG3746358-2 CRM		**WT-SS-2**						
Aluminum (Al)			110.0		%		70-130	05-JUL-22
Calcium (Ca)			103.9		%		70-130	05-JUL-22
Iron (Fe)			102.5		%		70-130	05-JUL-22
Magnesium (Mg)			107.1		%		70-130	05-JUL-22
WG3746358-6 DUP		**WG3746358-5**						
Aluminum (Al)		14400	13800		ug/g	4.3	40	05-JUL-22
Calcium (Ca)		48200	49800		ug/g	3.1	30	05-JUL-22
Iron (Fe)		18100	18100		ug/g	0.1	30	05-JUL-22
Magnesium (Mg)		20500	20400		ug/g	0.3	30	05-JUL-22
WG3746358-4 LCS								
Aluminum (Al)			100.0		%		80-120	05-JUL-22
Calcium (Ca)			104.0		%		80-120	05-JUL-22
Iron (Fe)			95.2		%		80-120	05-JUL-22
Magnesium (Mg)			110.7		%		80-120	05-JUL-22
WG3746358-1 MB								
Aluminum (Al)			<50		mg/kg		50	05-JUL-22
Calcium (Ca)			<50		mg/kg		50	05-JUL-22
Iron (Fe)			<50		mg/kg		50	05-JUL-22
Magnesium (Mg)			<20		mg/kg		20	05-JUL-22
PH-WT	**Soil**							
Batch R5812105								
WG3745656-1 DUP		**L2719351-2**						
pH		3.98	4.06	J	pH units	0.08	0.3	01-JUL-22
WG3745775-1 LCS								
pH			7.02		pH units		6.9-7.1	01-JUL-22

Quality Control Report

Workorder: L2719359 Report Date: 06-JUL-22

Client: HUTCHINSON ENVIRONMENTAL SCIENCES LTD
1-5 Chancery Lane
Bracebridge ON P1L 1S6
Contact: David Leeder

Legend:

Limit	ALS Control Limit (Data Quality Objectives)
DUP	Duplicate
RPD	Relative Percent Difference
N/A	Not Available
LCS	Laboratory Control Sample
SRM	Standard Reference Material
MS	Matrix Spike
MSD	Matrix Spike Duplicate
ADE	Average Desorption Efficiency
MB	Method Blank
IRM	Internal Reference Material
CRM	Certified Reference Material
CCV	Continuing Calibration Verification
CVS	Calibration Verification Standard
LCSD	Laboratory Control Sample Duplicate

Sample Parameter Qualifier Definitions:

Qualifier	Description
J	Duplicate results and limits are expressed in terms of absolute difference.

Hold Time Exceedances:

All test results reported with this submission were conducted within ALS recommended hold times.

ALS recommended hold times may vary by province. They are assigned to meet known provincial and/or federal government requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by the US EPA, APHA Standard Methods, or Environment Canada (where available). For more information, please contact ALS.

The ALS Quality Control Report is provided to ALS clients upon request. ALS includes comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against pre-determined data quality objectives to provide confidence in the accuracy of associated test results.

Please note that this report may contain QC results from anonymous Sample Duplicates and Matrix Spikes that do not originate from this Work Order.

C of C # XXXXX
PAGE __1__ OF __1_

ALS Environmental

60 NORTHLAND ROAD, UNIT 1
WATERLOO, ON N2V 2B8
Phone: (519) 886-6910
Fax: (519) 886-9047
CANADA TOLL FREE: 1-800-668-9878

CHAIN OF CUSTODY / ANALYTICAL SERVICES REQUEST FORM

Service Requested:		Regular (default)	X
Date Required:		Priority (50% surcharge)	
		Emergency (100% surcharge)	

COMPANY NAME: Hutchinson Env.
Account # 20126
PROJECT MANAGER: David Leeder
ADDRESS: 1 - 5 Chancery Lane, Bracebridge, Ontario, P1L 2E3
705-706-5589
JOB# ~~220062~~ ~~[illegible]~~ 220085
QUOTATION #
PO#

CRITERIA: Criteria on report (y/n) Y
CCME Environmental Quality Guidelines
Table__1___
TCLP ______ MISA ______
OTHER ______
REPORT DISTRIBUTION: ALL FINAL RESULTS WILL BE MAILED
EMAIL_X___ FAX_______
EMAIL1 david.leeder@environmentalsciences.ca
EMAIL2
SELECT: pdf____ digital______ both__Y____

INDICATE BOTTLES FIELD FILTERED/ PRESERVED (F/P) JD
SUBMISSION # L2719359
ENTERED BY:
DATE/TIME ENTERED:
BIN #:

SAMPLING INFORMATION / ANALYSIS REQUEST

Date (yy/mm/dd)	Time (24 hr)	COMP	GRAB	WATER	SOIL	OTHER	SAMPLE DESCRIPTION TO APPEAR ON REPORT	NUMBER OF CONTAINERS	Acid extractable Fe and Al	Acid extractable Ca and Mg	pH	COMMENTS	LAB ID
28-Jun-22					X		TP22-01		x	x	x		
28-Jun-22					X		TP22-02		x	x	x		

L2719359-COFC

SPECIAL INSTRUCTIONS/COMMENTS

SAMPLE CONDITION: FROZEN / COLD / AMBIENT — MEAN TEMP 19.6

SAMPLED BY: David Leeder	DATE & TIME 29 Jun. '22	RECEIVED BY:	DATE & TIME 06 30 22	CONDITION ACCEPTABLE UPON RECEIPT (Y/N) ___	INIT BB
RELINQUISHED BY: David Leeder	DATE & TIME 16:00	RECEIVED AT LAB BY:	DATE & TIME 930		

NOTES AND CONDITIONS:
1. Quote number must be provided to ensure proper pricing.
2. TAT may vary dependent on complexity of analysis and lab workload at time of submission. Please contact the lab to confirm TATs.
3. Any known or suspected hazards relating to a sample must be noted on the chain of custody in comments section.

White - report copy   YELLOW - File copy   PINK - Customer Copy

John Jackson Planner, Inc.
1 Mall Drive Unit #2, Parry Sound, Ontario P2A 3A9
Tel: (705) 746-5667 E-Mail: JJPlan@Vianet.ca

CONSENT APPLICATION NO. B50/2022(W)

Part of Lot 23, Concession 3

Geographic Township of McKenzie

Roll # 4939 0500 040 4200

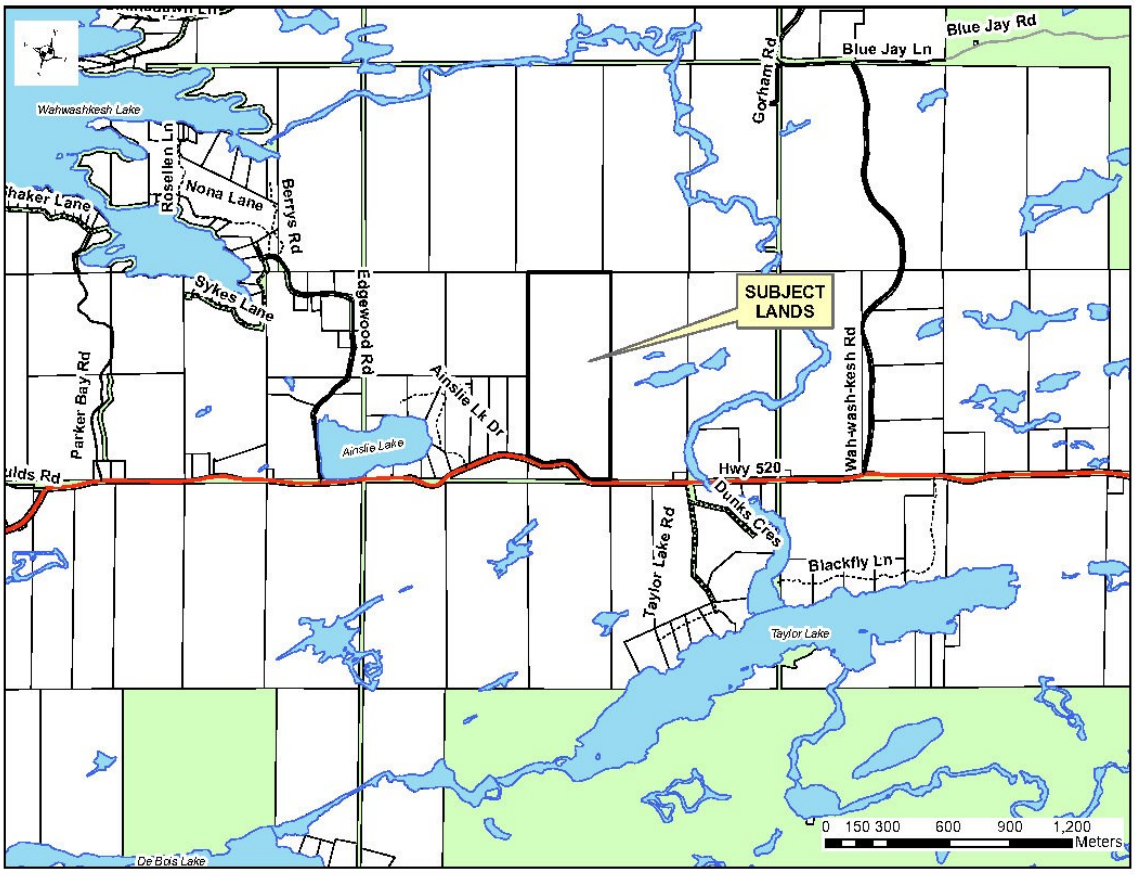
Highway No. 520

Applicant: Sheila Stiles

September 14, 2022

APPLICATION PURPOSE/BACKGROUND

Mrs. Stiles owns a large rural lot on the north side of Highway No. 520.

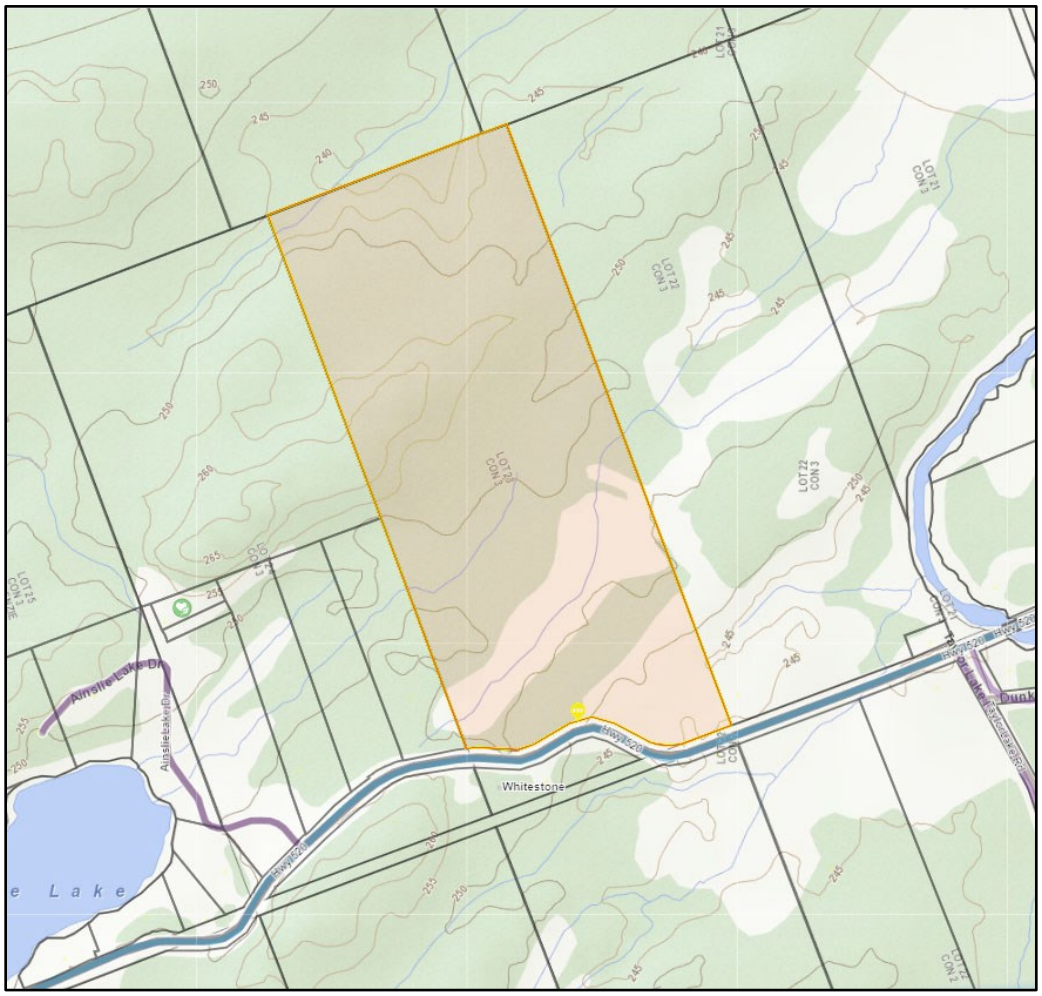


Mrs. Stiles is proposing to create a new rural lot from her holdings on this parcel.

DESCRIPTION OF LANDS

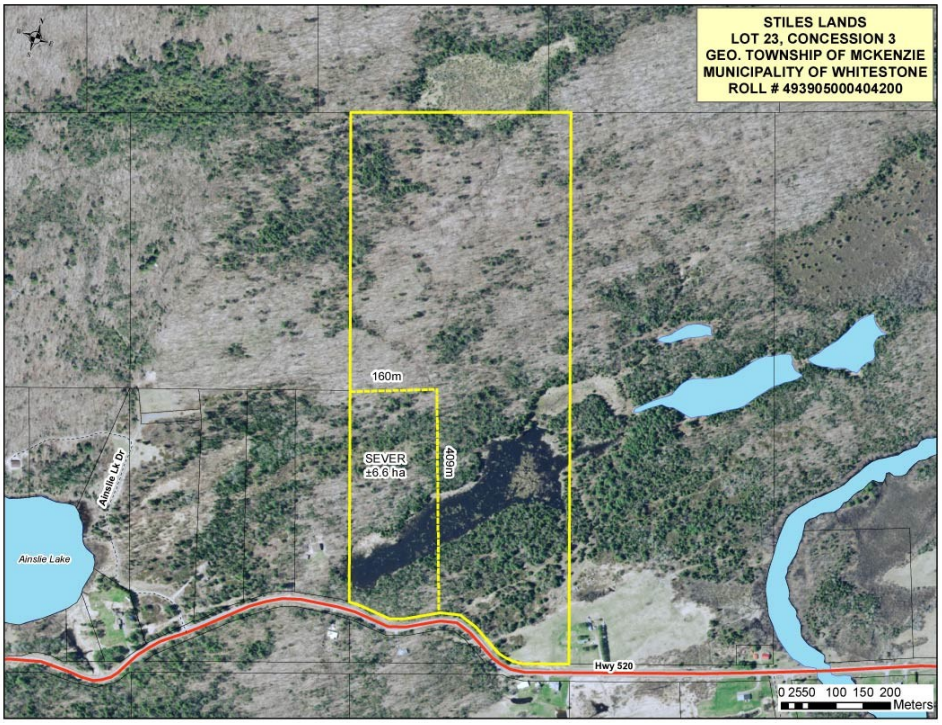
The lands are located west of Whitestone community on Highway No. 520.

The lands are 95 acres with almost 500 metres of highway frontage.



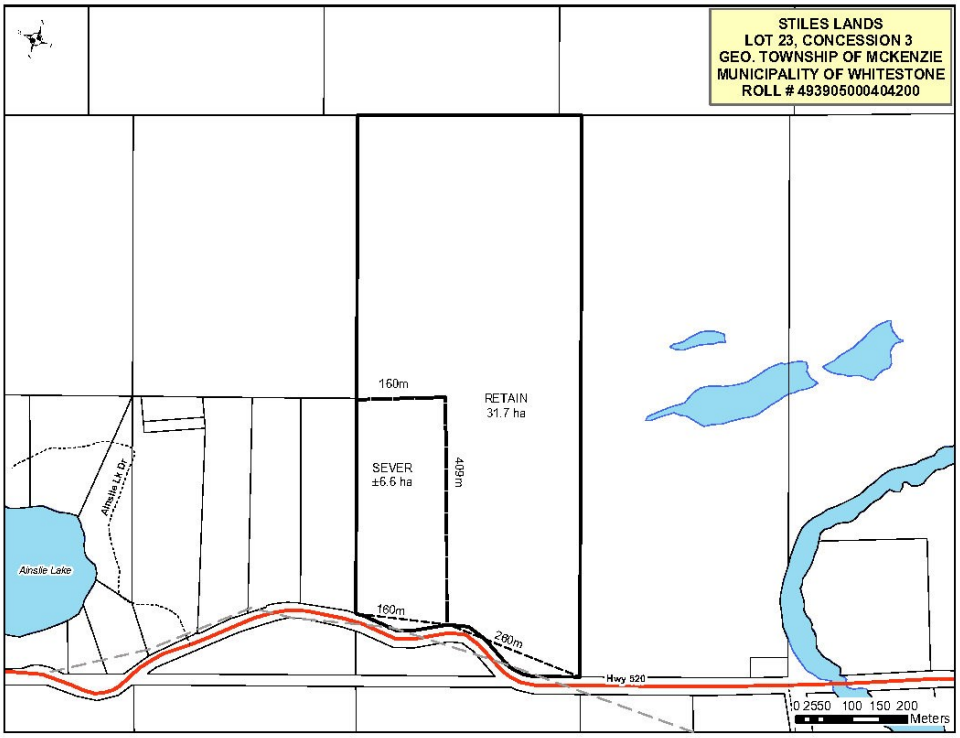
The lands are presently vacant with a mixed geography. There is a beaver pond along the interior of the property but limited constraints to development.

The lands have heavy conifer forests along the highway with a hardwood forest along the rear.



PROPOSED CONSENT

The owner is proposing to create one new rural lot having 6.6 hectares and 160 metres of frontage on Highway No. 520.

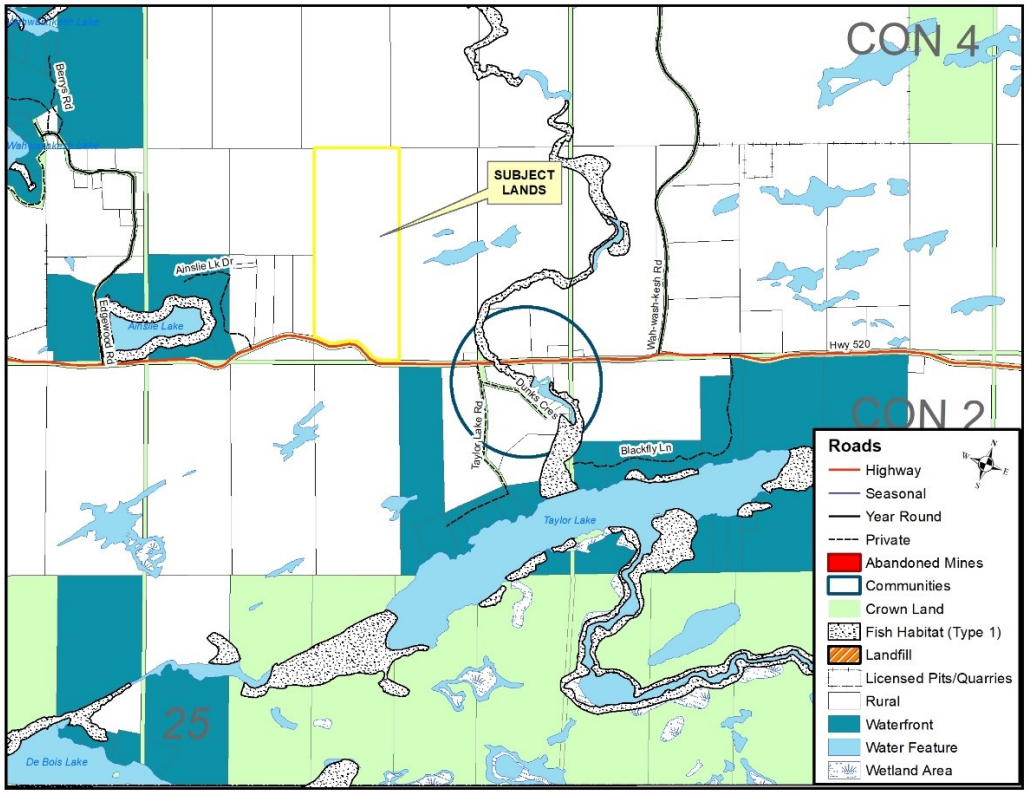


OFFICIAL PLAN

The Stiles lands are designated Rural in the Official Plan.

Similarly, the lands are considered Rural Lands in the Provincial Policy Statements.

> ***1.1.5 Rural Lands in Municipalities***
>
> ***1.1.5.1 When directing development on rural lands, a planning authority shall apply the relevant policies of Section 1: Building Strong Healthy Communities, as well as the policies of Section 2: Wise Use and Management of Resources and Section 3: Protecting Public Health and Safety.***
>
> ***1.1.5.2 On rural lands located in municipalities, permitted uses are:***
> ***a) the management or use of resources;***
> ***b) resource-based recreational uses (including recreational dwellings);***
> ***c) residential development, including lot creation, that is locally appropriate;***
> ***d) agricultural uses, agriculture-related uses, on-farm diversified uses and normal farm practices, in accordance with provincial standards;***
> ***e) home occupations and home industries;***
> ***f) cemeteries; and***
> ***g) other rural land uses.***
>
> ***1.1.5.3 Recreational, tourism and other economic opportunities should be promoted.***
>
> ***1.1.5.4 Development that is compatible with the rural landscape and can be sustained by rural service levels should be promoted.***



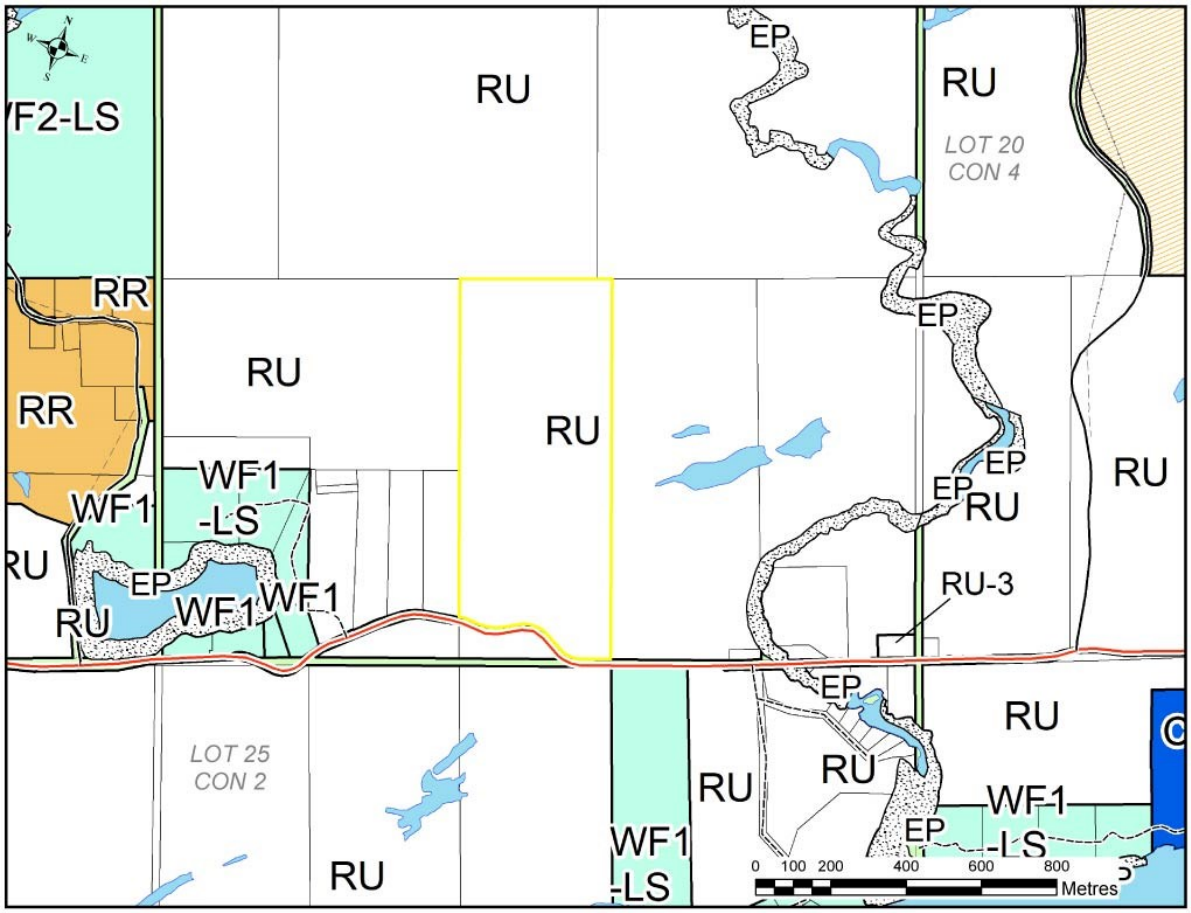
It is common that the apparent wetlands on the land do not show up as policy given typical beaver activity. There would appear to be no environmental issue.

The policy requires any new lot proposed to be accessed by the highway be cleared through M.T.O.

The Planning Board has been advised that M.T.O. has no concern with the consent.

ZONING

The lands are zoned Rural.



The lands have sufficient area and frontage to meet the Rural (RU) Zoning standards for area and frontage.

The lands will need permits from the Ministry of Transportation prior to building. M.T.O. has indicated they will issue permits for both the severed and retained lands.

CONCLUSION/RECOMMENDATION

That consent application No. B50/2022(W) for a new Rural lot on Highway No. 520 as applied for by Sheila Stiles be approved subject to the following conditions.

1. That payment of a parkland dedication fee be made in accordance with the current Municipal fees and charges By-law;

2. That the new lot(s) receive 911 addressing from the Municipality;

3. That a clearance letter be obtained from the Ministry of Transportation; and

4. Payment of applicable planning fees.

Respectfully Submitted

John Jackson M.C.I.P., R.P.P.
JJ;jc

John Jackson Planner, Inc.
1 Mall Drive Unit #2, Parry Sound, Ontario P2A 3A9
Tel: (705) 746-5667 E-Mail: JJPlan@Vianet.ca

CONSENT APPLICATION B48/2022(W)

PART OF LOT 60 CONCESSION B

GEOGRAPHIC Township OF HAGERMAN

6 HORN LANE

ROLL #4939 0100 080 3115 0000

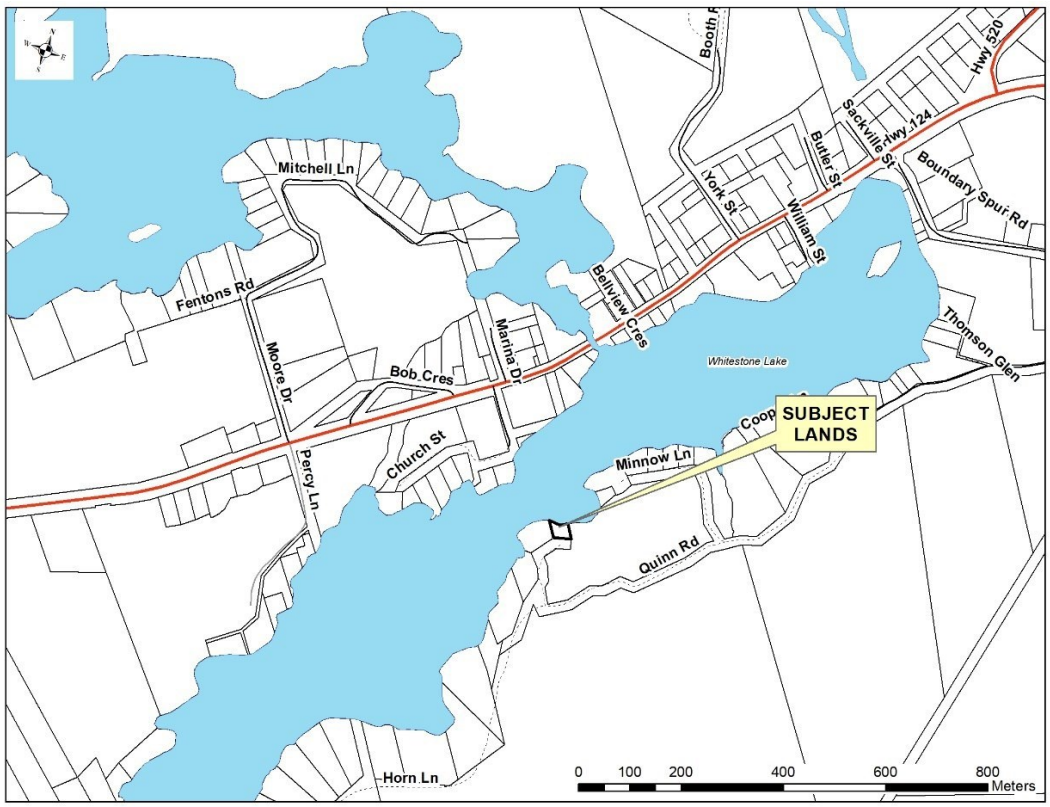
Applicant: Jack Black

Owner: Carol Gorrie

September 7, 2022

BACKGROUND/PURPOSE

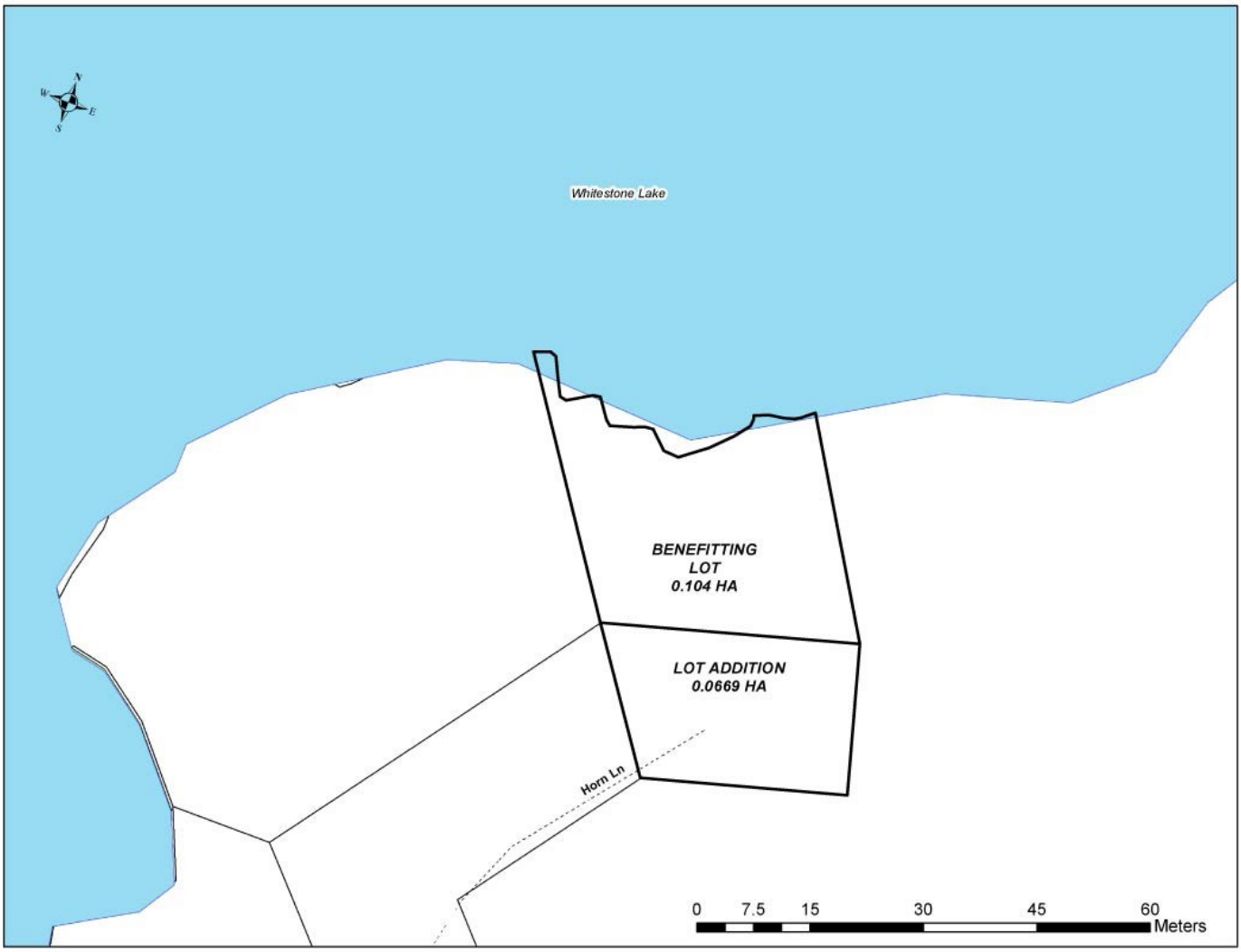
Jack Black is applying to acquire a small lot addition from his neighbour on Horn Lane.



Jack Black owns a small, waterfront lot on the south basin of Whitestone Lake accessed off Quinn Road to Horn Lane.

PROPOSED CONSENT

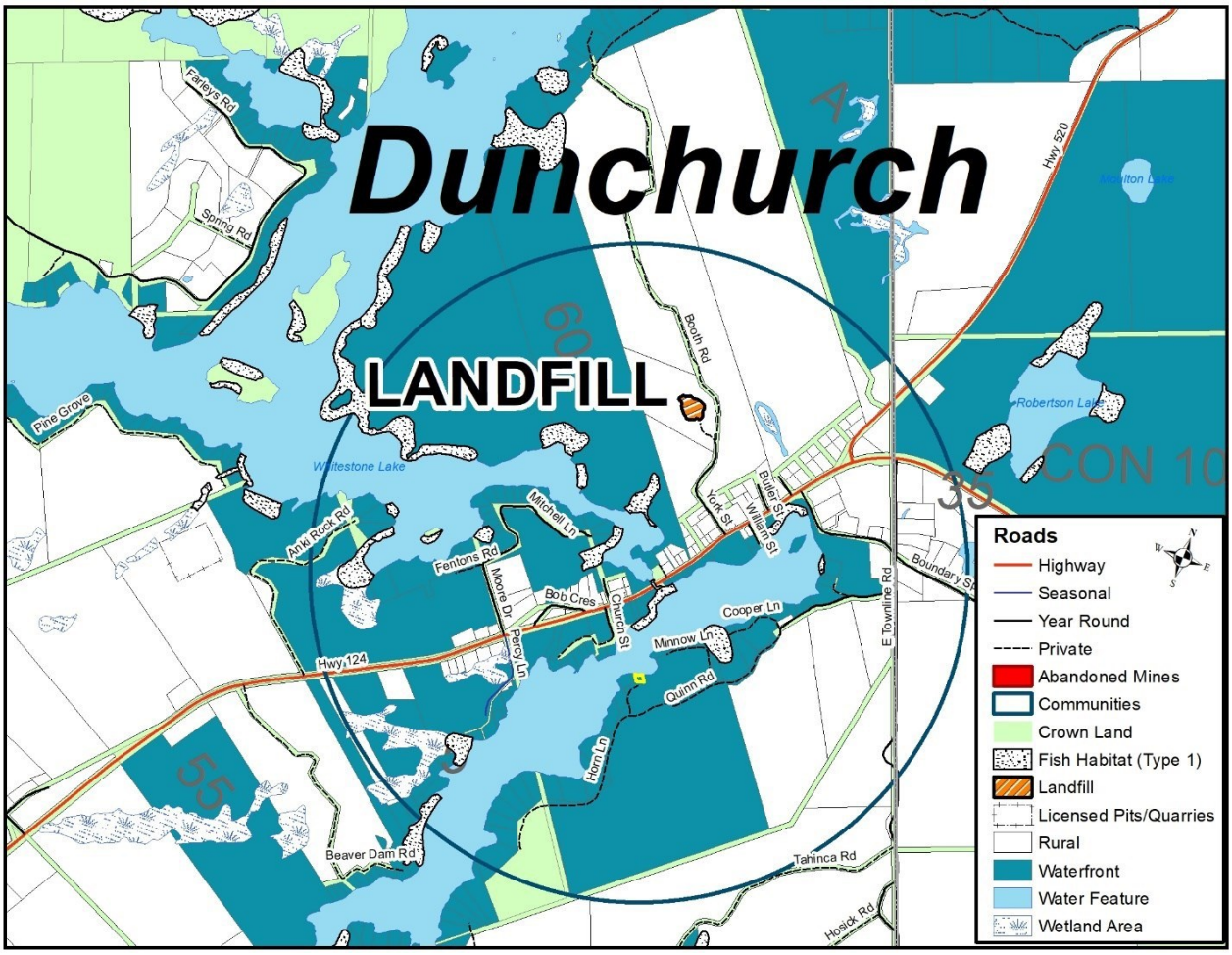
Carol Gorrie is proposing to add approximately 0.0669 ha from their lot to Jack Blacks' lot.



As illustrated of the air photo, the subject lot addition is functionally a part of the benefitting lot.

OFFICIAL PLAN

The subject lands are designated Waterfront in the official plan.



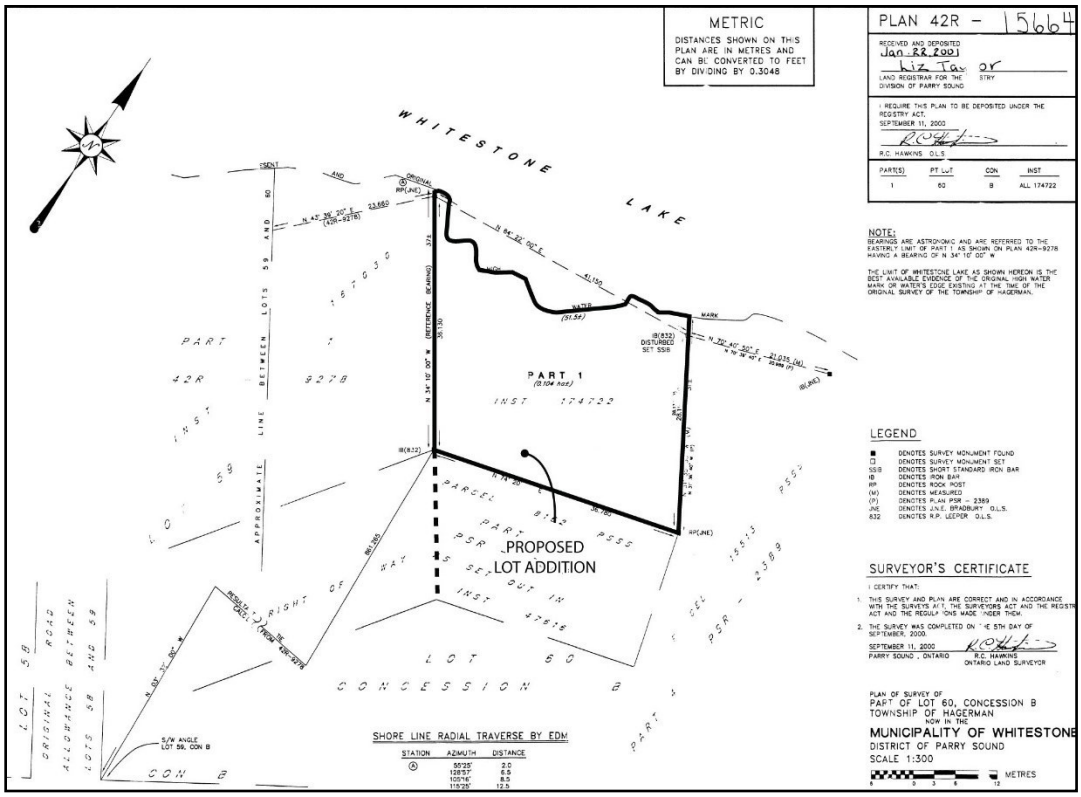
The lot addition will not conflict with any official plan policies.

PROPERTY DESCRIPTION

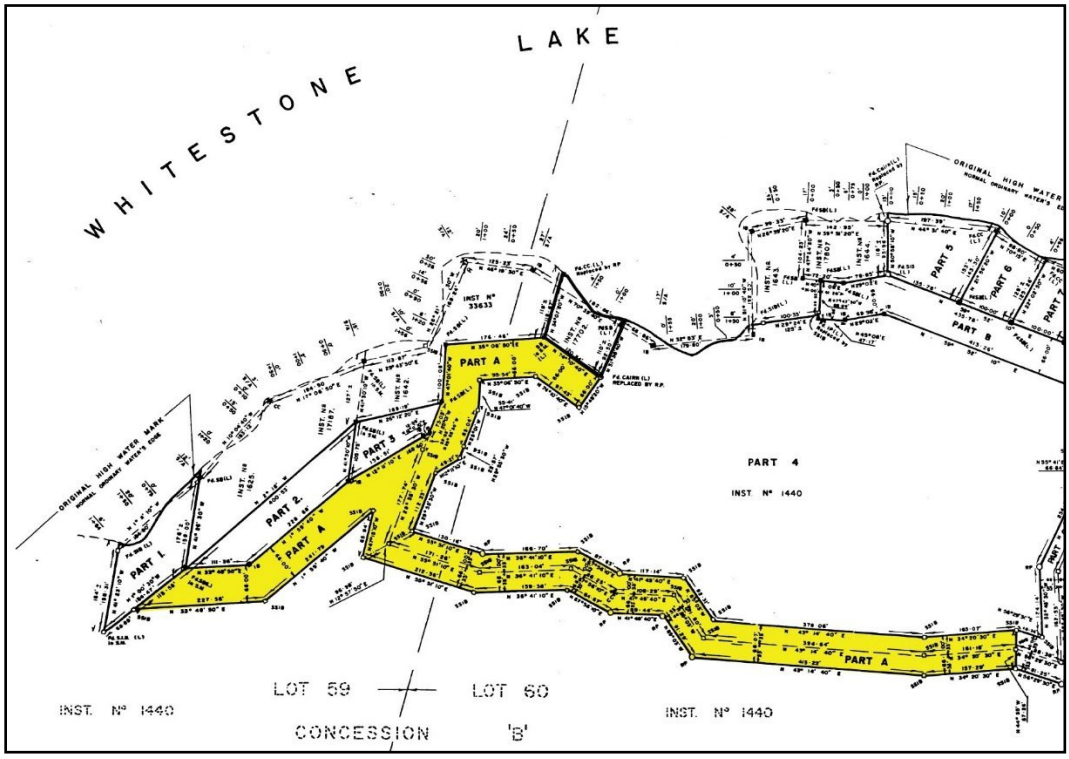
Mr. Black owns 6 Horn Lane.

It has 140 feet of frontage and 0.29 acres.

The existing lot is Part 1 of Survey Plan No. 42R-15664.



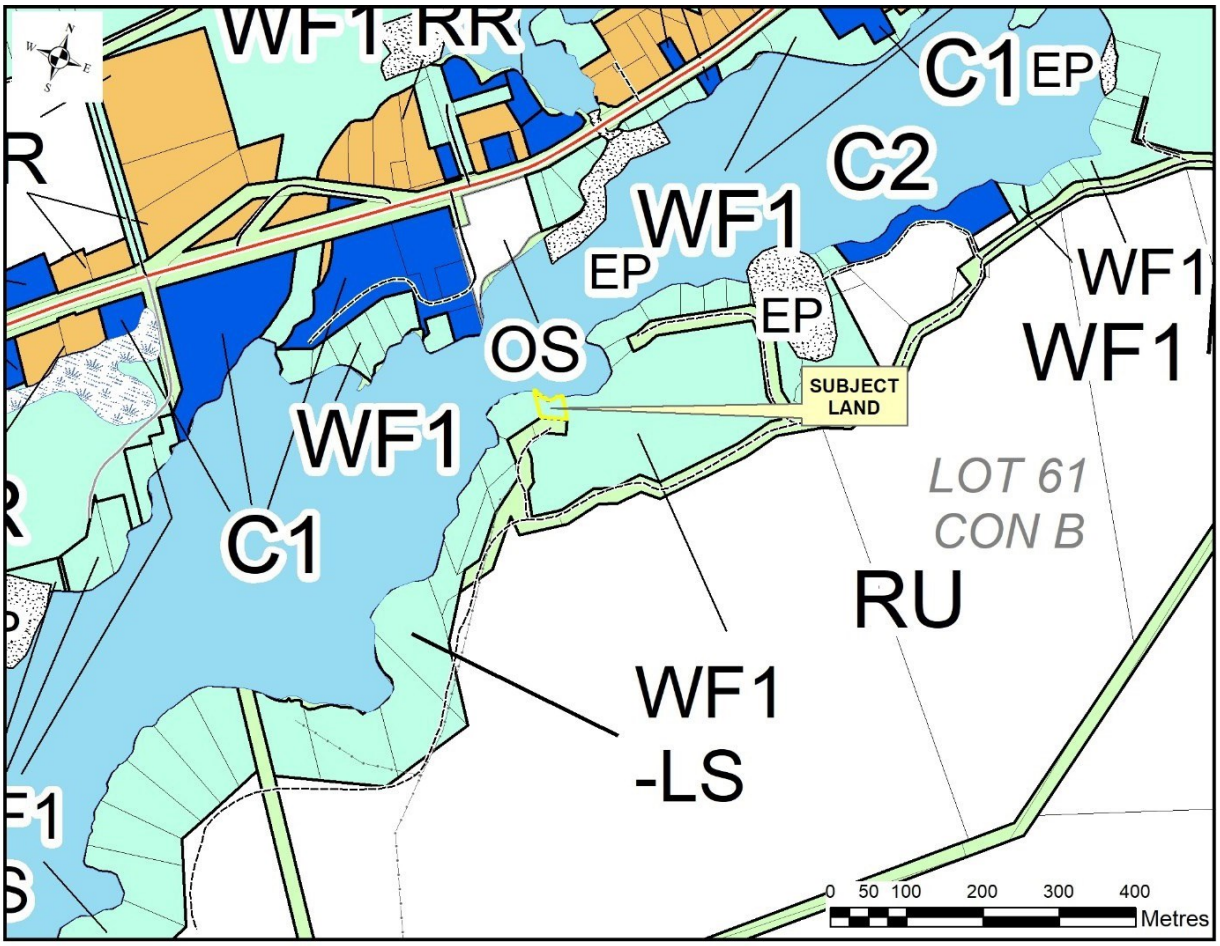
The property is hoping to acquire a small parcel from his neighbour that is the terminus of Horn Lane consisting of Part of Part A of PSR-2389. This area is an existing parking area that Jack Black uses for cottage parking.



The lot addition from Carol Gorrie will not affect her property in any material way.

ZONING BY-LAW

The subject lands are zoned as Waterfront – Limited Services.



There are no zoning issues.

CONCLUSIONS

It is recommended that the proposed consent application for a lot addition from Carol Gorrie to Jack Black as applied for in Application No. B48/2022(W) be approved by the Municipality subject to the following conditions.

1. Confirmation from the applicant's lawyer that the lot addition will merge with the benefitting lot;

2. Payment of any applicable planning fees.

Respectfully,

John Jackson M.C.I.P., R.P.P.
JJ;jc

Municipality of Whitestone

Report to Council

Prepared for: Council **By:** Mayor George Comrie

Agenda Date: September 20, 2022

Subject: Proposed Official Plan Amendment #3

Proposed Amendment to Section 17.06.1 of Whitestone's Official Plan in respect of Lorimer Lake.

Recommendation:

THAT the Council of the Municipality of Whitestone does hereby authorize staff to prepare the following amendment to the Municipality's Official Plan and give notice of a Public Meeting on the proposed amendment to take place at the earliest practical date.

Proposed Amendment

That Section 17.06.1 of the Official Plan in respect of Lorimer Lake which currently reads as follows:

> ***Lorimer Lake is managed as a lake trout lake and the lake has been identified as being at capacity. New lot creation may only be considered in accordance with the LCAH.***

be revised to read:

> ***Lorimer Lake is managed as a lake trout lake and the lake has been identified as being at capacity. New lot creation will not be permitted.***

Background:

At its August 2nd, 2022 regular meeting, Council received a delegation from the Lorimer Lake Association (LLA) requesting an interim amendment to Whitestone's Official Plan to close the lake to further new lot creation. This request from LLA had been received previously by correspondence dated June 24th, 2022 (see below), and discussed by Council. A similar request had been received a year earlier in August of 2021.

At the same meeting, Council agreed to support a consent application (B36/2022(W) – Duprey) on Lorimer Lake forwarded by the Parry Sound Area Planning Board (PSAPB). During discussion of this application, the Mayor and several Councillors expressed

surprise that this application was before them given their previous assumption that Lorimer Lake was at capacity and therefore closed to new lot creation.

During discussion, Council noted that a major review of the Municipality's Official Plan, including updated lake plans, would likely take place during the new Council term starting in 2023. A concern was expressed that, during the interim period between now and implementation of the revised official plan (typically a minimum of two years), there could be a number of consent applications received for Lorimer Lake based on their supposed compliance with the Lake Capacity Assessment Handbook (LCAH) guidelines.

It was also noted that the Secretary of the PSAPB and environmental consultants retained by applicants have lately been critical of the LCAH as a planning tool.

Other than comments made during Council meetings when the LLA request for an Official Plan amendment was discussed, Council has not responded to it by resolution.

Another consent application for Lorimer Lake claiming compliance with the LCAH guidelines will be before Council for recommendation at its October 4th, 2022 meeting.

Rationale:
In order to protect Lorimer Lake from a rash of new lot creation before an updated lake plan can be developed and incorporated in the Official Plan and Zoning By-Law, it seems prudent to formally close Lorimer Lake to new lot creation by means of an interim Official Plan amendment that would be consistent with Council's original intent for Section 17.06.1. The Municipality has the authority to make such an amendment without recourse to the Ontario Ministry of Municipal Affairs and Housing.

Prepared by:

Mayor George Comrie

ATTACHMENT A:

Correspondence from Lorimer Lake Association dated June 24th, 2022 included on Page 21 of 186 in the August 2, 2022 Regular Council Agenda package.

ATTACHMENT A

To: Michelle Hendry, Mayor George Comrie, Council members and the Whitestone Planning Team, Municipality of Whitestone
From: The Lorimer
Lake Association (LLA)
Date: June 24, 2022
Re: Official Plan amendment

Thank you for taking the time to speak to the Lorimer Lake Association representatives during the May 3, 2022, council meeting.

As confirmed previously, we understand that the Municipality of Whitestone is not in favor of any further severances on the Whitestone side of Lorimer Lake, due to its characteristics of being a lake at capacity and a trout lake.

During the May 3rd meeting it was discussed by council that the official plan was not up for renewal at present. Subsequently Michelle Hendry confirmed by email that "the Municipality will need to plan for an OP review and update in 2023".

Knowing that the OP review and update will take a number of months to complete, after the initial review and update has begun in 2023, the Lorimer Lake Association would like to request that this statement is added as soon as possible to the official plan for Whitestone as an amendment to the official plan:

Lorimer Lake is managed as a Lake Trout Lake and the lake has been identified as being at capacity. The LCAH (Lakeshore Capacity Handbook) guidelines should be followed for Lorimer Lake and new lot creation will not be permitted.

Therefore, the final changes that the Lorimer Lake Association requests be made to the current official plan for Whitestone are as follows:

1- Section 17.06.1 of the Consolidated, June 2, 2016, official plan should please be changed as follows:

Original:

Lorimer Lake is managed as a Lake Trout Lake and the lake has been identified as being at capacity. New lot creation may only be considered in accordance with the LCAH (Lakeshore Capacity Handbook)

Revised

Lorimer Lake is managed as a Lake Trout Lake and the lake has been identified as being at capacity. ~~New lot creation may only be considered in accordance with~~ The LCAH (Lakeshore Capacity Handbook) guidelines should be followed for Lorimer Lake and new lot creation will not be permitted.

The Lorimer Lake Association would like to thank you in advance for

your help and time. Best regards,

The Lorimer Lake Association

CONSENT AGENDA

MUNICIPALITY OF Whitestone

21 Church Street
Dunchurch, Ontario P0A 1G0
Phone: 705-389-2466 ~ Fax: 705-389-1855

www.whitestone.ca
E-mail: info@whitestone.ca

Special Council *DRAFT* Meeting Minutes
Monday, September 19, 2022, 5:00 p.m.
Zoom Video Conferencing

Present: George Comrie, Mayor
Beth Gorham-Matthews, Councillor
Joe Lamb, Councillor
Joe McEwen, Councillor

Regrets Brian Woods, Councillor

Staff: Michelle Hendry, CAO/Clerk

1. Roll Call and Call to Order
Mayor Comrie commenced roll call and called the meeting to order at 5:05 p.m.

2. Disclosure of Pecuniary Interest
Mayor Comrie requested that any pecuniary interest be declared for the record.
No pecuniary interest was declared.

3. Approval of the Agenda

Resolution No. 2022-314
Moved by: Councillor Joe Lamb
Seconded by: Councillor Beth Gorham-Matthews

WHEREAS the Members of Council have been presented with an Agenda for this meeting;

BE IT RESOLVED THAT the Agenda for this meeting be adopted as presented with the addition of two HR Matters in closed session.

Carried

Resolution No. 2022-315
Moved by: Councillor Joe McEwen
Seconded by: Councillor Beth Gorham-Matthews

4. Closed Session

Adjourn to Closed Session

WHEREAS the *Municipal Act* Section 239 (2) states that a meeting or part of a meeting may be closed to the public if the subject matter being considered meets certain exceptions;

NOW THEREFORE BE IT RESOLVED THAT this Meeting be adjourned at 5:07 p.m. and that a Closed Meeting be convened subject to Section 239 (2) for the following matters:

4.1 Closed Session Meeting Minutes for Special Council meeting of August 31, 2022.

4.2 Personal matters about an identifiable individual, including municipal or local board employees, pursuant to Ontario Municipal Act, Section 239. (2) (b)

- HR Matters

4.3 Litigation or potential litigation, including matters before administrative tribunals, affecting the municipality or local board pursuant to Ontario Municipal Act, Section 239 (2) (e)

- Legal matters

Carried

Resolution No. 2022-316
Moved by: Councillor Joe Lamb
Seconded by: Councillor Joe McEwen

Reconvene to Open Session

THAT this meeting be reconvened to an open session at 6:42 p.m.

Carried

Matters Arising from Closed Session

Resolution No. 2022-317
Moved by: Councillor Joe McEwen
Seconded by: Councillor Joe Lamb

4.1 Closed Session Meeting Minutes for Special Council meeting of August 31, 2022.

THAT the Council of the Municipality of Whitestone approve the Closed Session Meeting Minutes from the Special Council meeting of August 31, 2022.

Carried

5. Confirming By-law

Resolution No. 2022-318
Moved by: Councillor Joe Lamb
Seconded by: Councillor Beth Gorham-Matthews

THAT By-law 49-2022 Being the Confirmatory By-law for the Special Council meeting of Monday, September 19, 2022, be given a First, Second, Third and final reading and is passed as of this date.

Carried

6. Adjournment

Resolution No. 2022-319
Moved by: Councillor Beth Gorham-Matthews
Seconded by: Councillor Joe Lamb

WHEREAS the business of this Meeting has concluded;

NOW THEREFORE BE IT RESOLVED THAT this meeting be adjourned at 6:44 p.m. until the Regular Council meeting of September 20, 2022 at 6:30 p.m.

Carried

_____

George Comrie **Mayor**

_____

Michelle Hendry **CAO/ Clerk**

MUNICIPALITY OF Whitestone
21 Church Street
Dunchurch, Ontario P0A 1G0
Phone: 705-389-2466 ~ Fax: 705-389-1855
www.whitestone.ca
E-mail: info@whitestone.ca

Regular Council *DRAFT* Meeting Minutes
Tuesday, September 20, 2022, 6:30 p.m.
Dunchurch Community Centre and Zoom Video Conferencing

Present:	George Comrie, Mayor Beth Gorham-Matthews, Councillor Joe Lamb, Councillor Joe McEwen, Councillor Brian Woods, Councillor (via phone; left meeting at 8:28 pm)
Staff:	Michelle Hendry, CAO/Clerk Maneesh Kulal, Treasurer (via Zoom video) Dave Creasor, Manager of Public Works (via Zoom video) Bob Whitman, Fire Chief (via Phone)
Consultant:	John Jackson, Planner (via Zoom video)
Guests:	13 - In person 22 – via Zoom video or telephone

1. Roll Call and Call to Order
The Chair commenced roll call and called the meeting to order at 6:31 p.m.

National Anthem

Indigenous Land Acknowledgement Statement

The Municipality of Whitestone recognizes all of Canada resides on traditional, unceded and/or treaty lands of the Indigenous People of Turtle Island.

We recognize our Municipality on The Robinson Huron Treaty territory is home to many past, present and future Indigenous families.

This acknowledgment of the land is a declaration of our commitment and collective responsibility to reconcile the past, and to honour and value the culture, history and relationships we have with one another.

2. Disclosure of Pecuniary Interest
Mayor Comrie requested that any pecuniary interest be declared for the record.
No pecuniary interest was declared.

3. Approval of the Agenda

Resolution No. 2022-320
Moved by: Councillor Joe McEwen
Seconded by: Councillor Joe Lamb

WHEREAS the Members of Council have been presented with an Agenda for this meeting;

BE IT RESOLVED THAT the Agenda for this meeting be adopted as presented.

Carried

4. Presentations and Delegations - None

5. Planning Items -

Clerks Note: Planning Matters and Committee of the Whole were deferred to later in the meeting due to the availability of the Municipal Planner.

6. Public Meeting - None

7. Consent Agenda

Resolution No. 2022-321
Moved by: Councillor Joe Lamb
Seconded by: Councillor Joe McEwen

WHEREAS the Council the Municipality of Whitestone has reviewed the Consent Agenda consisting of:

7.1 Council and Committee Meeting Minutes
- 7.1.1 Special Council Meeting Minutes for Wednesday, August 31, 2022
- 7.1.2 Regular Council Meeting Minutes for Tuesday, September 6, 2022.

7.2 Unfinished Business (pages 5-10 of the Agenda)

NOW THEREFORE BE IT RESOLVED THAT the Council of the Municipality of Whitestone does hereby approve the Special Council Meeting Minutes of August 31, 2022 and the Regular Council Meeting Minutes of September 6, 2022 and receives for information all other items contained in the Consent Agenda dated September 20, 2022.

Carried

8. Accounts Payable

Resolution No. 2022-322
Moved by: Councillor Beth Gorham-Matthews
Seconded by: Councillor Joe Lamb

8.1 Accounts Payable

THAT the Council of the Municipality of Whitestone receive for information the Accounts Payable listing in the amount of $99,959.00 for the period ending September 15, 2022.

Carried

9. Staff Reports

Resolution No. 2022-323
Moved by: Councillor Joe McEwen
Seconded by: Councillor Beth Gorham-Matthews

9.1 ADMIN-2022-13
Joint Compliance Audit Committee – Appointment of Members

THAT the Council of the Municipality of Whitestone does hereby appoint the following to the West Parry Sound Joint Election Compliance Audit Committee for the term of Council, from November 15, 2022 to November 14, 2026

- Judy Keown
- Larry Simons and,
- Peter Spadzinski

Carried

10. By-laws

Resolution No. 2022-324
Moved by: Councillor Joe Lamb
Seconded by: Councillor Beth Gorham-Matthews

10.1 By-law 50-2022, being a By-law to amend By-law No. 40-2012 as amended, in respect of the inaugural meeting of a new Council

THAT By-law 50-2022, being a By-law to amend By-law No. 40-2012 as amended, in respect of the inaugural meeting of a new Council, be Read a First and Second time this 20th day of September, 2022

AND FURTHER Read a Third time, Passed and properly Signed and Sealed this 20th day of September, 2022 and numbered By-law 50-2022.

Recorded Vote:	YEAS	NAYS	ABSTAIN
Councillor, Beth Gorham-Matthews	X		
Councillor, Joe Lamb	X		
Councillor, Joe McEwen	X		
Councillor, Brian Woods	X		
Mayor, George Comrie	X		

Carried

11. Business Matters

Resolution No. 2022-325
Moved by: Councillor Beth Gorham-Matthews
Seconded by: Councillor Joe Lamb

11.1 Revised 2022 Schedule of Regular Council Meetings

THAT the Council of the Municipality of Whitestone does hereby receive the Revised 2022 Schedule of Regular Council Meetings for information.

Carried

Resolution No. 2022-326
Moved by: Councillor Joe Lamb
Seconded by: Councillor Joe McEwen

11.2 Memo - Cogeco Broadband Update

THAT the Council of the Municipality of Whitestone does hereby receive the Memo – Cogeco Broadband Update for information.

Carried

Resolution No. 2022-327
Moved by: Councillor Joe McEwen
Seconded by: Councillor Beth Gorham-Matthews

11.3 Nursing Station Financial update

THAT the Council of the Municipality of Whitestone does hereby receive the Nursing Station Financial update for information.

Carried

Resolution No. 2022-328
Moved by: Councillor Beth Gorham-Matthews
Seconded by: Councillor Brian Woods

11.4 Memo - Discussions regarding Excavator rental vs purchase

THAT the Council of the Municipality of Whitestone does hereby receive the Memo – Discussions regarding Excavator rental vs purchase for information;

AND THAT the Council of the Municipality of Whitestone does hereby request that staff proceed with a RFP for the purchase of an excavator.

Recorded Vote:	YEAS	NAYS	ABSTAIN
Councillor, Beth Gorham-Matthews	X		
Councillor, Joe Lamb	X		
Councillor, Joe McEwen	X		
Councillor, Brian Woods	X		
Mayor, George Comrie	X		

Carried

Resolution No. 2022-329
Moved by: Councillor Joe Lamb
Seconded by: Councillor Beth Gorham-Matthews

11.5 Memo - Draft Funding Agreement between WPS Recreation and Cultural Centre Joint Municipal Services Board and Municipality of Whitestone (item deferred from September 6, 2022 Council meeting)

THAT the Council of the Municipality of Whitestone does hereby receive Memo and Draft Funding Agreement between WPS Recreation and Cultural Centre Joint Municipal Services Board and Municipality of Whitestone for information.

AND THAT the following amendments be made to the DRAFT agreement; subject to the CAO/Clerk obtaining legal advice as to the validity of the motion in respect of “Lame Duck”.

FIRST AMENDMENTS:

Moved by: Councillor Joe Lamb
Seconded by: Councillor Brian Woods

Section 1. be revised to read:
Whitestone shall make a one-time financial contribution of $250,000 towards the building of the Facility within 30 days of the ***commencement of construction of the physical building, subject to*** the completion of the review requirement outlined in Section 4, to the satisfaction of Whitestone.

The last sentence of the last paragraph of Section 2. be revised to read:
Whitestone shall have the ability to review all operating costs, ***revenues***, and expenses to satisfy itself with the said deficit.

Section 4. be revised to read:
The commitments outlined above are conditional on a review of the operating model, projected operating ***revenues and*** costs, and reserve requirements for the Facility by ***independent*** management consultants

with expertise in such reviews, to be completed prior to final design of the Facility, at the Board's cost.

Recorded Vote First Amendments:	YEAS	NAYS	ABSTAIN
Councillor, Beth Gorham-Matthews	X		
Councillor, Joe Lamb	X		
Councillor, Joe McEwen	X		
Councillor, Brian Woods			X
Mayor, George Comrie	X		

Carried

SECOND AMENDMENTS:

Moved by: Mayor Comrie
Seconded by: Councillor Joe McEwen

The last recital re revised to read:
AND WHEREAS the Board **has relied and will continue to rely on** the financial support of Whitestone when making decisions about the facility;

Section 1. be revised such that;
And that the words ***"to the satisfaction of Whitestone***" be removed

Section 2., last paragraph be revised to read:
Operating deficit means where the operating costs and expenses incurred by the Facility, as determined under Generally Accepted Accounting Principles (GAAP), that are related to the operation of the Facility and that do not include depreciation or reserve funds, exceed the membership revenue and any other ***operating*** revenue received by the Board. Whitestone shall have the ability to review all operating costs, revenues, and expenses to satisfy itself with the said deficit.

Section 3. last sentence be revised to read:
Whitestone shall pay the invoice within ***90*** days of receipt subject to review noted above and concurrence of the operating deficit.

Recorded Vote Second Amendments:	YEAS	NAYS	ABSTAIN
Councillor, Beth Gorham-Matthews	X		
Councillor, Joe Lamb	X		
Councillor, Joe McEwen	X		
Councillor, Brian Woods			X
Mayor, George Comrie	X		

Carried

Recorded Vote on motion with First and Second Amendments

	YEAS	NAYS	ABSTAIN
Councillor, Beth Gorham-Matthews	X		
Councillor, Joe Lamb	X		
Councillor, Joe McEwen	X		
Councillor, Brian Woods			X
Mayor, George Comrie	X		

Carried

12. Correspondence (listed on page 4 of the Agenda)

Resolution No. 2022-330
Moved by: Councillor Joe Lamb
Seconded by: Councillor Beth Gorham-Matthews

WHEREAS the Council of the Municipality of Whitestone has reviewed the Correspondence Items as listed on page 4 of the September 20, 2022 Council agenda;

NOW THEREFORE BE IT RESOLVED THAT Council receive the correspondence items for information, with the following extracted for further discussion/action:

A. Town of Kingsville resolution regarding Bill 3, Strong Mayors, Building Homes Act, 2022 dated September 1, 2022
C. Cathy Lamb email sent on September 11, 2022 in regards to the Dunchurch Community Centre – Accessibility
D. Magnetawan Pioneer Association request for additional funding for roads leading to Bolger Landing through Road Grant program.

Carried

Resolution No. 2022-331
Moved by: Councillor Joe McEwen
Seconded by: Councillor Beth Gorham-Matthews

Matters Arising from Correspondence

Item A – General discussion

Item C – Staff will consider accessibility needs at the Dundome, the Community Centre and Municipal Office for discussion during the 2023 budget

Item D -
THAT the Council of the Municipality of Whitestone does hereby receive for information correspondence item D., Magnetawan Pioneer Association request for additional funding for roads leading to Bolger Landing through the Road Grant program, dated September 13, 2022;

AND THAT the Council of the Municipality of Whitestone does hereby direct staff to count residences/households that use the roads to Bolger Landing in their application of the Road Grant Protocol.

Carried

RECESS 8:15 pm

Councillor Brian Woods left the meeting at 8:28pm

Clerks Note: Planning Matters and Committee of the Whole commenced

Resolution No. 2022-332
Moved by: Councillor Beth Gorham-Matthews
Seconded by: Councillor Joe Lamb

Move into Committee of the Whole

THAT this meeting move into Committee of the Whole at 9:15 p.m.

Carried

5. Planning Items

5.1 Consent Application B41/2022(W) – TUSTIN ®
- Memorandum from John Jackson, Planner dated August 3, 2022

5.2 Consent Application B45/2022(W) – MERRITT ®
- Memorandum from John Jackson, Planner dated August xx, 2022

5.3 Official Plan Amendment No. 2 – Update on Approval process
- Memo prepared by Michelle Hendry, CAO-Clerk and John Jackson, Planner dated September 6, 2022

Resolution No. 2022-333
Moved by: Councillor Joe Lamb
Seconded by: Councillor Beth Gorham-Matthews

THAT Council hereby continues its Council Meeting past the allotted time of three and a half (3½) hours and continue for an additional one-half (1/2) hour

Carried

5.4 Proposed Official Plan Amendment #3 – Lorimer Lake

Resolution No. 2022-334
Moved by: Councillor Beth Gorham-Matthews
Seconded by: Councillor Joe McEwen

Reconvene into Regular Meeting

THAT this meeting reconvenes into Regular Meeting at 10:30 p.m.

Carried

Resolution No. 2022-335
Moved by: Councillor Beth Gorham-Matthews
Seconded by: Councillor Joe McEwen

Matters Arising from Committee of the Whole

5.1 Report from John Jackson, Planner dated September 9, 2022

- Ted Greenwood zoning matter, 1686 Highway No. 124, Dunchurch

THAT the Council of the Municipality of Whitestone does hereby receive for information the report from John Jackson, Planner dated September 9, 2022 regarding the Ted Greenwood zoning matter, for a property known as 1686 Highway No. 124, Dunchurch;

AND THAT the Council of the Municipality of Whitestone does hereby support the recommendation of John Jackson that should an M1 zone be requested by Mr. Greenwood for the above referenced property, a rezoning application would be required, with the necessary procedures followed, i.e. notices, public meeting, appeal potential etc.

Recorded Vote:	YEAS	NAYS	ABSTAIN
Councillor, Beth Gorham-Matthews	X		
Councillor, Joe Lamb	X		
Councillor, Joe McEwen		X	
Mayor, George Comrie	X		

Carried

Resolution No. 2022-336
Moved by: Councillor Joe Lamb
Seconded by: Councillor Beth Gorham-Matthews

5.2 Application to Purchase and Close Municipal Road Allowance – SALVATORI et al

WHEREAS an application has been submitted by Daniel Salvatori, James Enslen, Brent Kaufman and Ryan O'Hare for the closing and acquisition of part of the Municipal Road Allowance between Concession 2 and 3 geographic Township of McKenzie Whitestone (PIN 52250-0535);

NOW THEREFORE BE IT RESOLVED THAT the Council of the Municipality of Whitestone approves in principle, the closure and acquisition of part of the Municipal Road Allowance between Concession 2 and 3 geographic Township of McKenzie Whitestone (PIN 52250-0535) as applied for by Daniel Salvatori, James Enslen, Brent Kaufman and Ryan O'Hare, and subject to the following:

1. That closure of the part of the municipal road allowance requested does not remove access from any adjoining lands;
2. Placement of an appropriately sized culvert and drainage activities to eliminate any drainage issues (to be approved by the Municipality of Whitestone Manager of Public Works);
3. That the applicant pays all associated costs and fees; and
4. That all practices, policies and procedures of the Municipality be followed for closing of Municipal Road Allowances, including notification of adjoining property owners.

Recorded Vote:	YEAS	NAYS	ABSTAIN
Councillor, Beth Gorham-Matthews	X		
Councillor, Joe Lamb	X		
Councillor, Joe McEwen	X		
Mayor, George Comrie	X		

Carried

Resolution No. 2022-337
Moved by: Councillor Beth Gorham-Matthews
Seconded by: Councillor Joe Lamb

5.3 Proposed Zoning By-law amendment to rezone Part Lot 24, Concession 6, in the geographic Township of Burton, from Waterfront Residential 1-Limited Service (WF1-LS) to Tourist Commercial (C2) Zone – ROBERTS

WHEREAS an application has been submitted by Will Rootham Roberts for a proposed Zoning By-law amendment of Part Lot 24, Concession 6, in the geographic Township of Burton, from Waterfront Residential 1-Limited Service (WF1-LS) to Tourist Commercial (C2) Zone;

NOW THEREFORE BE IT RESOLVED THAT the Council of the Municipality of Whitestone does hereby support the recommendation of John Jackson, Planner that staff be requested to proceed with the advertisement and circulation of the Notice of Public meeting for the above referenced zoning By-law amendment.

Recorded Vote:	YEAS	NAYS	ABSTAIN
Councillor, Beth Gorham-Matthews	X		
Councillor, Joe Lamb	X		
Councillor, Joe McEwen	X		
Mayor, George Comrie	X		

Carried

5.4 Proposed Official Plan Amendment #3 – Lorimer Lake

Clerks Note – no motion put forward on this matter.

13. Councillor Items - None

14. Questions from the Public

15. Confirming By-law

Resolution No. 2022-338
Moved by: Councillor Joe Lamb
Seconded by: Councillor Joe McEwen

THAT By-law 51-2022 Being the Confirmatory By-law for the Council meeting of Tuesday, September 20, 2022, be given a First, Second, Third and final reading and is passed as of this date.

Carried

16. Adjournment

Resolution No. 2022-339
Moved by: Councillor Joe McEwen
Seconded by: Councillor Beth Gorham-Matthews

WHEREAS the business of this Meeting has concluded;

NOW THEREFORE BE IT RESOLVED THAT this meeting be adjourned at 10:42 p.m. until the Regular Council meeting of October 4, 2022 at 6:30 p.m. or at the call of the chair.

Carried

George Comrie **Mayor**

Michelle Hendry **CAO/ Clerk**

ACCOUNTS PAYABLE

Report Date
2022-09-28 4:17 PM

Municipality of Whitestone
List of Accounts for Ratification
As of 2022-09-28
Batch: 2022-00085

Payment # / Invoice #	Date	Vendor Name / GL Account	Reference / GL Transaction Description	Detail Amount	Payment Amount
Bank Code: AP - AP-GENERAL OPER					
Computer Cheques:					
36700	**2022-09-16**	**Bell Canada - Public Access**	**Pay Telephone**		
169506		16-787 - Recreation - Public Pay T	Pay Telephone	50.88	
		11-210-2 - A/R HST Receivable	HST Tax Code	5.62	
		99-999-1 - HST (Statistical) Non-L	HST Tax Code	6.50	56.50
36701	**2022-09-16**	**Bell Mobility**	**Fire Tower**		
2022 09 01		16-212 - Fire - Radio Tower & Air	Fire Tower	119.77	
		11-210-2 - A/R HST Receivable	HST Tax Code	13.23	
		99-999-1 - HST (Statistical) Non-L	HST Tax Code	15.30	133.00
36702	**2022-09-16**	**Canadian National Non Freight**	**Bunny Trail**		
91648498		16-414 - Bunny Trail RR Crossing	Bunny Trail	326.50	326.50
36703	**2022-09-16**	**Grant Craig**	**Craig Lane Assoc**		
Road Grant 22		16-440-4 - Roads Grant Program	Craig Lane Assoc	523.36	523.36
36704	**2022-09-16**	**Devry Smith Frank LLP**	**OPA2 Legal**		
276567		16-120 - Admin - Legal Expenses	OPA2 Legal	1,462.80	
		11-210-2 - A/R HST Receivable	HST Tax Code	161.58	
		99-999-1 - HST (Statistical) Non-L	HST Tax Code	186.88	1,624.38
36705	**2022-09-16**	**Ian Dunbar**	**Sykes Road Assoc**		
Road Grant 2022		16-440-4 - Roads Grant Program	Sykes Road Assoc	1,101.35	1,101.35
36706	**2022-09-16**	**Andrea Fernandez**	**Road Damage Deposit**		
Che Rec Sep 13		12-380 - Road Damage Deposit	Road Damage Deposit	1,000.00	1,000.00
36707	**2022-09-16**	**Gilroy's Tires**	**Supplies**		
143730		16-426 - Backhoe - Maintenance	Supplies	587.16	
		11-210-2 - A/R HST Receivable	HST Tax Code	64.85	
		99-999-1 - HST (Statistical) Non-L	HST Tax Code	75.01	652.01
36708	**2022-09-16**	**Grant McDougall**	**Road Damage Deposit Return**		
Che Rec Sep 1		12-380 - Road Damage Deposit	Road Damage Deposit Retur	1,000.00	1,000.00
36709	**2022-09-16**	**Jeff Flanagan**	**Boot Allowance**		
Exp 15-Sep-22		16-316 - Garage - Miscellaneous	Boot Allowance	135.08	
		11-210-2 - A/R HST Receivable	HST Tax Code	14.92	
		99-999-1 - HST (Statistical) Non-L	HST Tax Code	17.26	150.00
36710	**2022-09-16**	**LnK Maintenance**	**Grass Cutting**		
816505		16-515 - Maple Is. Cemetery - Gra	Grass Cutting	1,500.00	
		16-524 - Whitestone Cemetery Gr	Grass Cutting	750.00	
		16-505 - Fairholme - Grasscutting	Grass Cutting	2,500.00	4,750.00

Payment # / Invoice #	Date	Vendor Name / GL Account	Reference / GL Transaction Description	Detail Amount	Payment Amount
36711	**2022-09-16**	**MAP Sundridge**	**Supplies**		
H86184/3		16-404 - Freightliner Single Axle -	Supplies	10.04	
		11-210-2 - A/R HST Receivable	HST Tax Code	1.11	
		99-999-1 - HST (Statistical) Non-L	HST Tax Code	1.28	11.15
36712	**2022-09-16**	**Peter Mantler**	**Return Entrance Permit**		
Che Rec Sept 9		15-720 - Licences/Permits	Return Entrance Permit	750.00	750.00
36713	**2022-09-16**	**Metro Compactor Service Inc.**	**Service**		
269192		16-452-2 - York Landfill-Compactc	Service	786.10	
		11-210-2 - A/R HST Receivable	HST Tax Code	86.83	
		99-999-1 - HST (Statistical) Non-L	HST Tax Code	100.43	872.93
36714	**2022-09-16**	**1865717 Ontario Limited**	**Return Entrance Permit + Fee**		
Che Rec Sep 8		15-720 - Licences/Permits	Return Entrance Permit +	850.00	850.00
36715	**2022-09-16**	**Quadbridge Inc.**	**Comm Centre Communications**		
INQ4396		19-110 - Community Centre Comn	Comm Centre Communication	2,743.78	
		11-210-2 - A/R HST Receivable	HST Tax Code	303.06	
		99-999-1 - HST (Statistical) Non-L	HST Tax Code	350.52	3,046.84
36716	**2022-09-16**	**Rona Parry Sound**	**Supplies**		
8/31/2022		16-320 - Garage - Mtc/Supplies/Tc	Supplies	2.83	
		11-210-2 - A/R HST Receivable	HST Tax Code	0.31	
		99-999-1 - HST (Statistical) Non-L	HST Tax Code	0.36	3.14
36717	**2022-09-16**	**Ryman Titles Inc.**	**Title Search**		
26585		16-843 - Planning & Development	Title Search	48.84	
		11-210-2 - A/R HST Receivable	HST Tax Code	5.40	
		99-999-1 - HST (Statistical) Non-L	HST Tax Code	6.24	54.24
36718	**2022-09-16**	**Sam's Lane**	**Sam's Lane/Deer River North**		
Road Grant 22		16-440-4 - Roads Grant Program	Sam's Lane/Deer River Nor	632.62	632.62
EFT:					
780	**2022-09-21**	**Adams Bros Construction Ltd**	**Waste Disposal**		
155241		16-703 - Dunchurch Hall - Bld Mtc	Waste Disposal	669.27	
		16-742 - Pavilion - Building Mtce	Waste Disposal	669.26	
		11-210-2 - A/R HST Receivable	HST Tax Code	147.85	
		99-999-1 - HST (Statistical) Non-L	HST Tax Code	171.00	1,486.38
155918		16-769 - Facilities / Parks Mainten	Service	486.41	
		11-210-2 - A/R HST Receivable	HST Tax Code	53.73	
		99-999-1 - HST (Statistical) Non-L	HST Tax Code	62.14	540.14
156076		16-473 - Auld Landfill - Maintenan	Service	366.34	
		11-210-2 - A/R HST Receivable	HST Tax Code	40.46	
		99-999-1 - HST (Statistical) Non-L	HST Tax Code	46.80	406.80

Payment # / Invoice #	Date	Vendor Name / GL Account	Reference / GL Transaction Description	Detail Amount	Payment Amount
				Payment Total:	2,433.32
781	**2022-09-21**	**Assoc Of Munipalities Of Ont.**	**AMO Conference**		
ACO13393		16-092 - Council - Miscellaneous	AMO Conference	849.70	
		11-210-2 - A/R HST Receivable	HST Tax Code	93.85	
		99-999-1 - HST (Statistical) Non-L	HST Tax Code	108.55	943.55
782	**2022-09-21**	**Belvedere Heights**	**Sept 1 2022 Remittance**		
Sep 1 2022		16-628 - Belvedere Home - Opera	Sept 1 2022 Remittance	36,053.00	36,053.00
783	**2022-09-21**	**Cedar Signs**	**Supplies**		
INV/2022/2855		19-344 - Digital Radar Sign	Supplies	3,846.79	
		11-210-2 - A/R HST Receivable	HST Tax Code	424.89	
		99-999-1 - HST (Statistical) Non-L	HST Tax Code	491.43	4,271.68
INV/2022/2603		16-391 - Signs/Safety- Goods & S	Supplies	5,561.16	
		11-210-2 - A/R HST Receivable	HST Tax Code	614.26	
		99-999-1 - HST (Statistical) Non-L	HST Tax Code	710.45	6,175.42
				Payment Total:	10,447.10
784	**2022-09-21**	**George Comrie**	**AMO Conference**		
Exp 11-Sep-22		16-091 - Council - Travel	AMO Conference	510.93	
		16-092 - Council - Miscellaneous	AMO Conference	410.20	
		11-210-2 - A/R HST Receivable	HST Tax Code	101.75	
		99-999-1 - HST (Statistical) Non-L	HST Tax Code	117.68	1,022.88
785	**2022-09-21**	**Conseil scolaire public du**	**Q3 2022 Payment**		
Q3 2022		18-974 - French Public School Bo	Q3 2022 Payment	534.15	534.15
786	**2022-09-21**	**Fractal Saas Inc.**	**Fire Permit Licence**		
110625		16-216 - Fire - Permits	Fire Permit Licence	2,544.00	
		11-210-2 - A/R HST Receivable	HST Tax Code	281.00	
		99-999-1 - HST (Statistical) Non-L	HST Tax Code	325.00	2,825.00
787	**2022-09-21**	**Freightliner North Bay**	**Supplies**		
IN05846		16-404 - Freightliner Single Axle -	Supplies	26.62	
		11-210-2 - A/R HST Receivable	HST Tax Code	2.94	
		99-999-1 - HST (Statistical) Non-L	HST Tax Code	3.40	29.56
788	**2022-09-21**	**G.F. Preston Sales & Service**	**Supplies**		
WO17103		16-426 - Backhoe - Maintenance	Supplies	585.12	
		11-210-2 - A/R HST Receivable	HST Tax Code	64.63	
		99-999-1 - HST (Statistical) Non-L	HST Tax Code	74.75	649.75
IN98722		16-350 - Ditching - Goods & Servi	Excavator Rental	4,711.50	
		16-260-1 - Helipad Maintenance	Excavator Rental	2,035.20	
		11-210-2 - A/R HST Receivable	HST Tax Code	745.20	

Payment # / Invoice #	Date	Vendor Name / GL Account	Reference / GL Transaction Description	Detail Amount	Payment Amount
		99-999-1 - HST (Statistical) Non-L	HST Tax Code	861.90	7,491.90
IN98905		16-350 - Ditching - Goods & Servi	Excavator Rental	2,340.48	
		16-447 - York Landfill-Compaction	Excavator Rental	3,459.85	
		16-467 - Auld Landfill-Compaction	Excavator Rental	946.37	
		11-210-2 - A/R HST Receivable	HST Tax Code	745.20	
		99-999-1 - HST (Statistical) Non-L	HST Tax Code	861.90	7,491.90
				Payment Total:	15,633.55
789	**2022-09-21**	**Glen Martin Limited**	**Supplies**		
374088		16-702 - Dunchurch Hall - Supplie	Supplies	87.38	
		11-210-2 - A/R HST Receivable	HST Tax Code	9.65	
		99-999-1 - HST (Statistical) Non-L	HST Tax Code	11.16	97.03
374439		16-258 - Station 2 - Supplies	Supplies	62.00	
		11-210-2 - A/R HST Receivable	HST Tax Code	6.85	
		99-999-1 - HST (Statistical) Non-L	HST Tax Code	7.92	68.85
374427		16-702 - Dunchurch Hall - Supplie	Supplies	73.39	
		11-210-2 - A/R HST Receivable	HST Tax Code	8.11	
		99-999-1 - HST (Statistical) Non-L	HST Tax Code	9.38	81.50
				Payment Total:	247.38
790	**2022-09-21**	**Hydro One Networks Inc.-All**	**Hydro**		
Sep 6 2022		16-743 - Pavilion - Hydro	Hydro	79.80	
		16-705 - Dunchurch Hall - Hydro	Hydro	471.76	
		16-439 - Roads - Street Lights	Hydro	14.05	
		16-439 - Roads - Street Lights	Hydro	251.36	
		16-323 - Garage - Hydro	Hydro	187.36	
		16-150 - Office - Heating/Hydro	Hydro	158.73	
		16-232 - Station 1 - Hydro	Hydro	476.17	
		16-251 - Station 2 - Hydro	Hydro	67.70	
		16-719 - Maple Is. Hall - Heat/Hyd	Hydro	31.14	
		16-798 - After School Program	Hydro	47.94	
		11-210-2 - A/R HST Receivable	HST Tax Code	191.98	
		99-999-1 - HST (Statistical) Non-L	HST Tax Code	222.04	1,977.99
791	**2022-09-21**	**Ideal Supply Company Ltd.**	**Supplies**		
3641153		16-320 - Garage - Mtc/Supplies/Tc	Supplies	43.74	
		11-210-2 - A/R HST Receivable	HST Tax Code	4.83	
		99-999-1 - HST (Statistical) Non-L	HST Tax Code	5.59	48.57
3741626		16-404 - Freightliner Single Axle -	Supplies	19.82	
		11-210-2 - A/R HST Receivable	HST Tax Code	2.19	
		99-999-1 - HST (Statistical) Non-L	HST Tax Code	2.53	22.01
4282528		16-404-2 - Freightliner - Snow Plo	Supplies	172.89	
		11-210-2 - A/R HST Receivable	HST Tax Code	19.10	
		99-999-1 - HST (Statistical) Non-L	HST Tax Code	22.09	191.99

Payment # / Invoice #	Date	Vendor Name / GL Account	Reference / GL Transaction Description	Detail Amount	Payment Amount
				Payment Total:	262.57
792	**2022-09-21**	**Iron Mountain Canada**	**Shredding**		
GWLG673		16-113 - Admin - Office Equipmen	Shredding	33.29	
		11-210-2 - A/R HST Receivable	HST Tax Code	3.67	
		99-999-1 - HST (Statistical) Non-L	HST Tax Code	4.25	36.96
793	**2022-09-21**	**Jenn Gerlach**	**Communications**		
1525 July 15		16-126 - Admin - Communications	Communications	800.00	800.00
794	**2022-09-21**	**Local Authority Services Ltd.**	**Grader Tires**		
MGBP000002897		16-421 - Grader - Maintenance	Grader Tires	12,101.51	
		11-210-2 - A/R HST Receivable	HST Tax Code	1,336.65	
		99-999-1 - HST (Statistical) Non-L	HST Tax Code	1,545.98	13,438.16
MGBP000002926		16-310 - Roads-Supplies	Supplies	126.21	
		11-210-2 - A/R HST Receivable	HST Tax Code	13.94	
		99-999-1 - HST (Statistical) Non-L	HST Tax Code	16.12	140.15
MGBP000002931		16-310 - Roads-Supplies	Supplies	101.75	
		11-210-2 - A/R HST Receivable	HST Tax Code	11.24	
		99-999-1 - HST (Statistical) Non-L	HST Tax Code	13.00	112.99
MGBP000002932		16-310 - Roads-Supplies	Supplies	50.87	
		11-210-2 - A/R HST Receivable	HST Tax Code	5.62	
		99-999-1 - HST (Statistical) Non-L	HST Tax Code	6.50	56.49
MGBP000002950		16-110 - Admin - Office Supplies	Supplies	31.76	
		11-210-2 - A/R HST Receivable	HST Tax Code	3.51	
		99-999-1 - HST (Statistical) Non-L	HST Tax Code	4.06	35.27
MGBP000002989		16-092 - Council - Miscellaneous	Supplies	201.60	
		11-210-2 - A/R HST Receivable	HST Tax Code	22.26	
		99-999-1 - HST (Statistical) Non-L	HST Tax Code	25.75	223.86
				Payment Total:	14,006.92
795	**2022-09-21**	**Law N Mowers**	**By-law Enforcement**		
Sep 1 2022		16-275 - By-Law Enforcement	By-law Enforcement	2,667.99	2,667.99
796	**2022-09-21**	**Magnetawan Building Centre Lt**	**Supplies**		
103-100586		16-320 - Garage - Mtc/Supplies/Tc	Supplies	71.65	
		11-210-2 - A/R HST Receivable	HST Tax Code	7.91	
		99-999-1 - HST (Statistical) Non-L	HST Tax Code	9.15	79.56
103-100035		16-845-1 - Walking Trails-Mainten	Supplies	244.16	
		11-210-2 - A/R HST Receivable	HST Tax Code	26.97	
		99-999-1 - HST (Statistical) Non-L	HST Tax Code	31.19	271.13

Payment # / Invoice #	Date	Vendor Name / GL Account	Reference / GL Transaction Description	Detail Amount	Payment Amount
103-100174		16-151 - Office - Building Maintena	Supplies	58.24	
		11-210-2 - A/R HST Receivable	HST Tax Code	6.43	
		99-999-1 - HST (Statistical) Non-L	HST Tax Code	7.44	64.67
				Payment Total:	415.36
797	**2022-09-21**	**McDougall Energy**	**Diesel**		
6000544		16-403 - Freightliner Tandem- Fue	Diesel	1,763.87	
		11-210-2 - A/R HST Receivable	HST Tax Code	194.83	
		99-999-1 - HST (Statistical) Non-L	HST Tax Code	225.34	1,958.70
6000539		16-427 - Backhoe - Fuel	Diesel	464.12	
		16-423 - Grader - Fuel	Diesel	1,750.28	
		11-210-2 - A/R HST Receivable	HST Tax Code	244.59	
		99-999-1 - HST (Statistical) Non-L	HST Tax Code	282.89	2,458.99
				Payment Total:	4,417.69
798	**2022-09-21**	**Moore Propane Limited**	**Propane**		
23018671		16-150 - Office - Heating/Hydro	Propane	151.39	
		16-236 - Station 1 - Heating	Propane	454.15	
		11-210-2 - A/R HST Receivable	HST Tax Code	66.89	
		99-999-1 - HST (Statistical) Non-L	HST Tax Code	77.36	672.43
799	**2022-09-21**	**My-Tech Information Technolog**	**IT Support**		
Aug 31/22		16-115 - Admin - Computer Suppli	IT Support	1,169.43	
		11-210-2 - A/R HST Receivable	HST Tax Code	129.17	
		99-999-1 - HST (Statistical) Non-L	HST Tax Code	149.40	1,298.60
800	**2022-09-21**	**Near North District School Brd**	**Q3 2022 Payment**		
Q3 2022		18-911 - English Public School Bo	Q3 2022 Payment	234,187.43	234,187.43
801	**2022-09-21**	**Near North Industrial Solution**	**Supplies**		
72970		16-404 - Freightliner Single Axle -	Supplies	12.76	
		11-210-2 - A/R HST Receivable	HST Tax Code	1.41	
		99-999-1 - HST (Statistical) Non-L	HST Tax Code	1.63	14.17
74758		16-404 - Freightliner Single Axle -	Supplies	200.22	
		11-210-2 - A/R HST Receivable	HST Tax Code	22.12	
		99-999-1 - HST (Statistical) Non-L	HST Tax Code	25.58	222.34
				Payment Total:	236.51
802	**2022-09-21**	**Near North Laboratories Inc.**	**Water Testing**		
91477		16-779 - Water Testing	Water Testing	57.64	
		11-210-2 - A/R HST Receivable	HST Tax Code	6.36	
		99-999-1 - HST (Statistical) Non-L	HST Tax Code	7.36	64.00
803	**2022-09-21**	**Pahapill and Associates**	**Services**		
MUN671		19-809 - Land Purchase	Services	540.60	

Payment # / Invoice #	Date	Vendor Name / GL Account	Reference / GL Transaction Description	Detail Amount	Payment Amount
		11-210-2 - A/R HST Receivable	HST Tax Code	59.71	
		99-999-1 - HST (Statistical) Non-L	HST Tax Code	69.06	600.31
804	**2022-09-21**	**Parry Sound Home Hardware**	**Supplies**		
174559		16-446 - York Landfill - Supplies	Supplies	52.87	
		11-210-2 - A/R HST Receivable	HST Tax Code	5.84	
		99-999-1 - HST (Statistical) Non-L	HST Tax Code	6.75	58.71
805	**2022-09-21**	**Purolator Courier Ltd**	**Courier**		
451309805		16-222-1 - Fire-Turnout/Repair/Cle	Courier	4.58	
		11-210-2 - A/R HST Receivable	HST Tax Code	0.51	
		99-999-1 - HST (Statistical) Non-L	HST Tax Code	0.59	5.09
451370887		16-222-1 - Fire-Turnout/Repair/Cle	Courier	8.98	
		11-210-2 - A/R HST Receivable	HST Tax Code	0.99	
		99-999-1 - HST (Statistical) Non-L	HST Tax Code	1.15	9.97
				Payment Total:	15.06
806	**2022-09-21**	**Parry Sound Auto Parts Co Ltd**	**Demurrage**		
1-2901271		16-320 - Garage - Mtc/Supplies/Tc	Demurrage	88.53	
		11-210-2 - A/R HST Receivable	HST Tax Code	9.78	
		99-999-1 - HST (Statistical) Non-L	HST Tax Code	11.31	98.31
1-2901190		16-320 - Garage - Mtc/Supplies/Tc	Supplies	73.27	
		11-210-2 - A/R HST Receivable	HST Tax Code	8.09	
		99-999-1 - HST (Statistical) Non-L	HST Tax Code	9.36	81.36
				Payment Total:	179.67
807	**2022-09-21**	**Waste Connections of Canada**	**Recycling**		
7113-0000323162		16-468 - Auld Landfill - Recycling	Recycling	4,845.34	
		16-448 - York Landfill - Recycling	Recycling	4,908.82	
		11-210-2 - A/R HST Receivable	HST Tax Code	1,077.39	
		99-999-1 - HST (Statistical) Non-L	HST Tax Code	1,246.11	10,831.55
808	**2022-09-21**	**Rebecca Green**	**ASP**		
Sep 12 2022		16-798 - After School Program	ASP	409.92	409.92
809	**2022-09-21**	**Ricoh Canada Inc.**	**Copier**		
SCO93790537		16-113 - Admin - Office Equipmen	Copier	634.16	
		11-210-2 - A/R HST Receivable	HST Tax Code	70.04	
		99-999-1 - HST (Statistical) Non-L	HST Tax Code	81.01	704.20
810	**2022-09-21**	**Sands Canada Inc.**	**Supplies**		
00713658		16-252 - Station 2 - Minor Purchas	Supplies	104.79	
		11-210-2 - A/R HST Receivable	HST Tax Code	11.58	
		99-999-1 - HST (Statistical) Non-L	HST Tax Code	13.39	116.37
00713754		16-252 - Station 2 - Minor Purchas	Supplies	286.38	

Payment # / Invoice #	Date	Vendor Name / GL Account	Reference / GL Transaction Description	Detail Amount	Payment Amount
		11-210-2 - A/R HST Receivable	HST Tax Code	31.64	
		99-999-1 - HST (Statistical) Non-L	HST Tax Code	36.59	318.02
				Payment Total:	434.39
811	**2022-09-21**	**Sling-Choker Safety &**	**Supplies**		
95117		16-320 - Garage - Mtc/Supplies/Tc	Supplies	357.85	
		11-210-2 - A/R HST Receivable	HST Tax Code	39.53	
		99-999-1 - HST (Statistical) Non-L	HST Tax Code	45.72	397.38
95201		19-714 - Facilities - Capital - Electi	Supplies	315.82	
		11-210-2 - A/R HST Receivable	HST Tax Code	34.89	
		99-999-1 - HST (Statistical) Non-L	HST Tax Code	40.35	350.71
				Payment Total:	748.09
812	**2022-09-21**	**Vianet**	**Internet**		
Sep 6 2022		16-162 - High Speed Internet	Internet	166.58-	
		16-240 - Station 1 - Internet	Internet	247.22	
		16-710 - Dunchurch Hall -High Spi	Internet	106.80	
		16-321 - Garage - High Speed Inte	Internet	106.80	
		16-720 - Maple Is. Hall - Telephon	Internet	106.80	
		16-457-1 - York Landfill - Internet	Internet	160.73	
		11-210-2 - A/R HST Receivable	HST Tax Code	62.05	
		99-999-1 - HST (Statistical) Non-L	HST Tax Code	71.77	623.82
813	**2022-09-21**	**The Water Healer Corp.**	**Service**		
993		16-778 - Water Maintenance	Service	325.63	
		11-210-2 - A/R HST Receivable	HST Tax Code	35.97	
		99-999-1 - HST (Statistical) Non-L	HST Tax Code	41.60	361.60
814	**2022-09-21**	**Wurth Canada Limited**	**Supplies**		
24986473		16-320 - Garage - Mtc/Supplies/Tc	Supplies	81.37	
		11-210-2 - A/R HST Receivable	HST Tax Code	8.98	
		99-999-1 - HST (Statistical) Non-L	HST Tax Code	10.39	90.35
24997408		16-320 - Garage - Mtc/Supplies/Tc	Supplies	174.66	
		11-210-2 - A/R HST Receivable	HST Tax Code	19.29	
		99-999-1 - HST (Statistical) Non-L	HST Tax Code	22.31	193.95
25001841		16-320 - Garage - Mtc/Supplies/Tc	Supplies	851.68	
		11-210-2 - A/R HST Receivable	HST Tax Code	94.07	
		99-999-1 - HST (Statistical) Non-L	HST Tax Code	108.80	945.75
25003465		16-320 - Garage - Mtc/Supplies/Tc	Supplies	50.87	
		11-210-2 - A/R HST Receivable	HST Tax Code	5.62	
		99-999-1 - HST (Statistical) Non-L	HST Tax Code	6.50	56.49
				Payment Total:	1,286.54

Payment # / Invoice #	Date	Vendor Name / GL Account	Reference / GL Transaction Description	Detail Amount	Payment Amount
815	**2022-09-21**	**Xplornet (Aulds)**	**Internet - Aulds LF**		
INV44394269		16-479-1 - Aulds Landfill - Internet	Internet - Aulds LF	76.31	
		11-210-2 - A/R HST Receivable	HST Tax Code	8.43	
		99-999-1 - HST (Statistical) Non-L	HST Tax Code	9.75	84.74
			Total for AP:		365,090.56

Report prepared for Council September 28, 2022

BY-LAWS

THE CORPORATION OF THE MUNICIPALITY OF WHITESTONE

By-Law No. 52-2022

Being a By-law for the
Appointment of Integrity Commissioner Services for the Municipality of Whitestone

---

WHEREAS Section 223.3 (1) of the Municipal Act, 2001, R.S.O. as amended, authorizes the municipality to appoint an Integrity Commissioner who reports to council and who is responsible for performing in an independent manner the functions assigned by the municipality;

AND WHEREAS pursuant to Section 9 of the Municipal Act, 2001, R.S.O. as amended, the Council of the Municipality of Whitestone has the capacity, rights, powers and privileges of a natural person for the purpose of exercising its authority under the Municipal Act, or any other Act;

AND WHEREAS the Council of the Corporation of the Municipality of Whitestone deems it appropriate to enter into an Agreement for Services with Aird & Berlis LLP for the provision of interim Integrity Commissioner Services for the Municipality of Whitestone;

NOW THEREFORE, the Council of the Corporation of the Municipality of Whitestone does hereby enact as follows:

1. **THAT** Aird & Berlis LLP is hereby appointed to provide interim Integrity Commissioner Services for the Municipality of Whitestone;

2. **THAT** the Mayor and CAO/Clerk are hereby authorized to execute all documents necessary to give effect to this By-law;

3. **WHERE** any By-Law governing the appointment of an Integrity Commissioner passed prior to this By-Law, conflicts with this By-Law, the terms of this By-Law shall prevail;

4. **THAT** This By-Law shall become effective upon the date, and at the time, of its enactment.

READ a **FIRST** and **SECOND** time this 4th day of October, 2022.

_____

Mayor George Comrie

_____

CAO/Clerk Michelle Hendry

READ a **THIRD** and **FINAL** time and **PASSED,** this 4th day of October 2022.

_____

Mayor George Comrie

_____

CAO/Clerk Michelle Hendry

SCHEDULE "A"

To By-Law No. 52-2022

Being a By-Law to authorize the execution of an Agreement for the Provision of Services as an Integrity Commissioner for the Municipality of Whitestone

CORRESPONDENCE

52 Seguin Street, Parry Sound, Ontario P2A 1B4
Tel: (705) 746-2101 • Fax: (705) 746-7461 • www.parrysound.ca

September 16, 2022

Hon. Graydon Smith,
MPP Parry Sound-Muskoka
26 James St.
Parry Sound ON P2A 1T5

Dear Minister Smith,

Via e-mail Graydon.Smith@pc.ola.org

RE: Completion of Four-Laning of Highway 69/400

Attached, please find a copy of Town of Parry Sound Resolution 2022-117 which supports Sudbury MPP Jamie West's call that the province expedite completion of four-laning of Hwy 69/400 between Sudbury and Parry Sound.

A recent number of collisions in the span of a mere two weeks resulting in multiple injuries and one death prompts Council's call for this work to be prioritized.

Council looks forward to your response.

Sincerely,

Rebecca Johnson
Clerk

/rj
Encl.

c.c. Minister of Transportation Honourable Caroline Mulroney,
Clerks of the municipalities of The Archipelago, Carling, McDougall, McKellar, Seguin, Whitestone

THE CORPORATION OF THE TOWN OF PARRY SOUND
RESOLUTION IN COUNCIL

NO. 2022 – 117.

DIVISION LIST	**YES**	**NO**
Councillor **V. BACKMAN**	____	____
Councillor **P. BORNEMAN**	____	____
Councillor **R. BURDEN**	____	____
Councillor **B. HORNE**	____	____
Councillor **B. KEITH**	____	____
Councillor **D. McCANN**	____	____
Mayor **J. McGARVEY**	____	____

DATE: September 6, 2022

MOVED BY: P. Borneman

SECONDED BY: B. Keith

CARRIED: ✓ **DEFEATED:** _____ **Postponed to:** _____

That Council supports Sudbury MPP Jamie West's call that the province expedite completion of four-laning of Hwy 400 between Sudbury & Parry Sound, and

That this Resolution be forwarded to MPP Graydon Smith, Minister of Transportation Caroline Mulroney, and surrounding municipalities in West Parry Sound.

Mayor Jamie McGarvey

52 Seguin Street, Parry Sound, Ontario P2A 1B4
Tel: (705) 746-2101 • Fax: (705) 746-7461 • www.parrysound.ca

Office of the Mayor

September 16, 2022

Honourable Stephen Lecce
Minister of Education
5th Floor - 438 University Ave.
Toronto ON M5G 2K8

Via e-mail: minister.edu@ontario.ca

Dear Minister Lecce,

RE: Reconsideration Request of Building Plans & Budget for Parry Sound Mega School

I wanted to update you further to our phone conversation at the end of July wherein we spoke about the Town and area concerns that the planned junior kindergarten to grade 12 school, also known as the “mega school” will be inadequate for our growing population as it based on 2013 data.

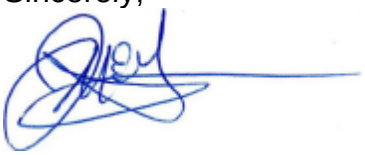
Following your advice, I spoke to Parry Sound-Muskoka MPP Graydon Smith about our concerns. MPP Smith in turn had a meeting with Near North District School Board representatives. It does not appear from the outcome of that meeting, that the Board is willing to reconsider its plans, in spite of the statistical evidence of the area’s growing population.

At our Council’s September 6th meeting the attached Resolution 2022 – 114 was passed, calling for a reconsideration of the building plans and budget for the proposed school to ensure that it will appropriately accommodate the area’s current and projected population growth. In addition to the information provided within the resolution, I would point out the commitment of Parry Sound and area to support the province’s goal of increasing housing stock. Schools are integral to a healthy community infrastructure and should be planned accordingly. The current approach suggests we will have an undersized school, lacking in standard amenities. This will not only be a disservice to our children and youth, but it is also counterproductive to our collective goal of supporting an increase in the supply of housing.

…2

We look forward to your response with respect to how we can jointly address this concern.

Sincerely,



Mayor Jamie McGarvey
Town of Parry Sound

/rj
Encl

Cc Premier Doug Ford
Minister of Municipal Affairs & Housing Steve Clark
MPP Graydon Smith
Reeve Bert Liverance, Township of the Archipelago
Mayor Mike Konoval, Township of Carling
Mayor Dale Robinson, Municipality of McDougall
Mayor Peter Hopkins, Township of McKellar
Mayor Ann MacDiarmid, Township of Seguin
Mayor George Comrie, Municipality of Whitestone
Chief M. Wayne McQuabbie, Henvey Inlet First Nation
Chief Lloyd Myke, Magnetawan First Nation
Chief Rhonda Williams-Lovett, Moose Deer Point First Nation
Chief Adam Pawis, Shawanaga First Nation
Chief Warren Tabobondung, Wasauksing First Nation
Near North District School Board Chair Jay Aspin

THE CORPORATION OF THE TOWN OF PARRY SOUND
RESOLUTION IN COUNCIL

NO. 2022 – 114

DIVISION LIST	**YES**	**NO**
Councillor **V. BACKMAN**	____	____
Councillor **P. BORNEMAN**	____	____
Councillor **R. BURDEN**	____	____
Councillor **B. HORNE**	____	____
Councillor **B. KEITH**	____	____
Councillor **D. McCANN**	____	____
Mayor **J. McGARVEY**	____	____

DATE: September 6, 2022

MOVED BY: _____

SECONDED BY: _____

CARRIED: ✓ **DEFEATED:** _____ **Postponed to:** _____

Whereas the Town of Parry Sound and West Parry Sound area municipalities have expressed concern over the last three years regarding outdated data from a 2013 Accommodation Review Committee (ARC) upon which building plans and budget for the junior kindergarten to grade 12 mega school are based, and

Whereas the Near North District School Board through its January 21, 2022 letter to West Parry Sound area municipalities confirms that it is not willing to expedite a new Accommodation Review Committee to review the impact of updated data on building plans and budget, and

Whereas per the attached Schedule, the 2021 Statistics Canada census data released on February 9, 2022 confirms a growth rate of 13.9% over 5 years within the permanent resident population of the West Parry Sound area, and

Whereas Parry Sound's draft development charge study projects continued growth in the Town; and

Whereas immigration projections, including Ukrainian immigration to West Parry Sound indicates an increase in population due to immigration, including immigration of families with school age children; and

Whereas schools are an integral part of supporting continued growth and Provincial prioritization plans to build more homes to accommodate current and projected population growth, and

Whereas the August 2022 Smart Prosperity Institute's report projects a need for 1.5m homes across the province over the next 10 years, 3,200 of which will be required in the Parry Sound District;

Now Therefore the Town of Parry Sound calls for reconsideration of the building plans and budget for the proposed junior kindergarten to grade 12 mega school, to ensure that the school will adequately accommodate current and projected population growth; and

THAT a meeting be requested with our Near North District School Board trustee on this matter; and

That copies of this resolution be sent to Minister of Education Stephen Lecce, Minister of Municipal Affairs & Housing Steve Clark, Premier Doug Ford, MPP Graydon Smith, Heads of Council of the municipalities of The Archipelago, Carling, McDougall, McKellar, Seguin and Whitestone and the Near North District School Board Chair.

Mayor Jamie McGarvey

BRIEFING NOTE

2021 Census – Population and Dwelling Counts

Issue

Statistics Canada released the population and dwelling counts from the 2021 Census on February 9, 2022. This note provides an overview of the data from the West Parry Sound region.

Highlights

- The permanent population of the West Parry Sound region increased by 13.9%, or 2770 residents, between 2016 and 2021.
- All municipalities in West Parry Sound experienced growth in their permanent populations.
- Municipalities with higher percentages of seasonal residents experienced greater growth in their permanent populations, reflecting the pandemic-driven trend of residents permanently relocating to seasonal homes.
- West Parry Sound experienced a net growth of 293 private dwellings between 2016 and 2021. This statistic will be verified with local data sources, as it does not appear to match the new construction reported by municipalities over this time.
- 50.7% of private dwellings in West Parry Sound are occupied by permanent residents, a 7.0% increase from 2016.
- The ratio of permanent residents to seasonal residents increased in all municipalities except for Parry Sound and McDougall. Both these municipalities already had a comparatively high ratio of permanent to seasonal residents.

Future Releases

The next release of 2021 Census data is scheduled for April 27, 2022. It will cover the changing demographic profile of Canada.

Prepared by: James Cox, Regional Economic Development Officer
Date: February 9, 2022

Statistics Canada, 2021 Census of Population

	Carling	McDougall	McKellar	Parry Sound	Seguin	The Archipelago	Whitestone	WPS Total
Population, 2021	1491	2744	1419	6879	5280	979	1075	**19867**
Population, 2016	1125	2702	1111	6408	4304	531	916	**17097**
Population % Change, 2016-2021	32.5	1.6	27.7	7.4	22.7	84.4	17.4	**13.9%**
Total Private Dwellings, 2021	1761	1673	1515	3518	4827	2893	1427	**17614**
Total Private Dwellings, 2016	2283	1521	1520	3150	4744	2693	1410	**17321**
Private Dwellings Occupied by Usual Residents, 2021	697	1154	695	3197	2136	497	549	**8925**
Private Dwellings Occupied by Usual Residents %, 2021	39.6%	69.0%	45.9%	90.9%	44.3%	17.2%	38.5%	**50.7%**
Private Dwellings Occupied by Usual Residents, 2016	499	1100	525	2926	1821	251	444	**7566**
Private Dwellings Occupied by Usual Residents %, 2016	21.9%	72.3%	34.5%	92.9%	38.4%	9.3%	31.5%	**43.7%**
Private Dwellings Occupied by Usual Residents % Change, 2016-2021	17.7%	-3.3%	11.3%	-2.0%	5.9%	7.9%	7.0%	**7.0%**

Tay Valley Township

August 31, 2022

Association of Municipalities of Ontario (AMO)
200 University Ave., Suite 801
Toronto, ON M5H 3C6
Sent via email: resolutions@amo.on.ca

RE: RESOLUTION – OMAFRA Ontario Wildlife Damage Compensation Program Administrative Fee

The Council of the Corporation of Tay Valley Township at it's Council meeting on August 23rd, 2022 adopted the following resolution:

RESOLUTION #C-2022-08-42

"WHEREAS, the Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA) administers the Ontario Wildlife Damage Compensation Program to provide compensation to farm producers for livestock killed by wildlife;

AND WHEREAS, Ontario Municipalities administer the Program on behalf of OMAFRA by appointing a Livestock Investigator and staff to work on wildlife damage claims;

AND WHEREAS, the costs associated with wildlife damage claims typically exceed the administration fee of $50.00 per claim as provided to the Municipality from OMAFRA;

NOW THEREFORE BE IT RESOLVED THAT, the Council of Tay Valley Township request the Ministry of Agriculture, Food and Rural Affairs to review the administrative fee provided to Municipalities for the administration of the Ontario Wildlife Damage Compensation Program;

AND FURTHER THAT, this resolution be circulated to the Association of Municipalities of Ontario (AMO) and all Ontario Municipalities for their consideration and support."

ADOPTED

Tay Valley Township

If you require any further information, please do not hesitate to contact the undersigned at (613) 267-5353 ext. 130 or deputyclerk@tayvalleytwp.ca.

Sincerely,

Janie Laidlaw

Janie Laidlaw, Deputy Clerk

cc: All Municipalities of Ontario

September 23, 2022

Association of Municipalities of Ontario (AMO)
200 University Avenue, Suite 801
Toronto, ON M5H 3C6
resolutions@amo.on.ca

Re: Support of Resolution – OMAFRA Ontario Wildlife Damage Compensation Program Administrative Fee

At the Township of Alnwick/Haldimand's Regular Council Meeting held on September 15, 2022, Council received the resolution sent by Tay Valley Township regarding a request to the Ministry of Agriculture, Food and Rural Affairs to review the administrative fee provided to municipalities for the administration of the Ontario Wildlife Damage Compensation Program. Council of the Township of Alnwick/ Haldimand supported and passed the following resolution:

R-336-2022

Moved by Deputy Mayor Sherry Gibson, seconded by Councillor Jim Hogg;

"Be it resolved that the correspondence from Tay Valley Township dated August 31, 2022, RE: Support of Resolution - OMAFRA Ontario Wildlife Damage Compensation Program Administrative Fee, be received; and

Further that Council of the Township of Alnwick/Haldimand supports the resolution from Tay Valley Township to request the Ministry of Agriculture, Food and Rural Affairs to review the administrative fee provided to the Municipalities for the administration of the Ontario Wildlife Damage Compensation Program; and

Further that this resolution be circulated to the Association of Municipalities of Ontario (AMO) and all Ontario Municipalities for their consideration and support.

CARRIED

A copy of the above noted resolution from Tay Valley Township is attached for your reference.

Sincerely yours,

Yolanda Melburn, Deputy Clerk
Township of Alnwick/Haldimand
905-349-2822 ext. 32
ymelburn@ahtwp.ca

cc: Ontario Ministry of Agriculture, Food and Rural Affairs (minister.omafra@ontario.ca)
All Ontario Municipalities, MPP David Piccini (david.piccinico@pc.ola.org)

**Ministry of
Municipal Affairs
and Housing**

Office of the Minister

777 Bay Street, 17th Floor
Toronto ON M7A 2J3
Tel.: 416 585-7000

**Ministère des
Affaires municipales
et du Logement**

Bureau du ministre

777, rue Bay, 17e étage
Toronto ON M7A 2J3
Tél. : 416 585-7000

Ontario

234-2022-4150

September 26, 2022

Dear Head of Council:

Our government recognizes the importance of streamlining development approvals in land use planning in supporting the development of 1.5 million new homes by 2031. Our government will continue working with you to identify opportunities and innovative solutions that would help us effectively address the housing crisis.

I am writing you today about public consultation in the land use planning process. The *Planning Act* requires public meetings to be held prior to making certain planning decisions for the purpose of giving the public an opportunity to make representations in respect of the matter under consideration.

For example, your municipal council can consider how to meet the *Planning Act*'s requirements using a variety of methods such as physical meetings, electronic or virtual channels – separately or in combination - to engage and solicit feedback from the public on land use planning matters. This may include a mixture of technologies and approaches to meet local public needs (for example, physical meetings, webinars, video conferencing, moderated teleconference). There is no requirement in the *Planning Act* to have multiple types of meetings (e.g., both a physical meeting and a virtual meeting).

Thank you for the work that you do to engage and provide the public with an opportunity to make representations on planning matters in a manner that works best in your local community.

Sincerely,

Steve Clark
Minister

Municipality of Grey Highlands — The place for all seasons

September 26, 2022

Ministry of the Solicitor General
Hon. Michael Kerzner
25 Grosvenor Street
Toronto, ON M7A 1Y6

Sent via email: Michael.kerzner@ontario.ca

Hon. Minister Kerzner:

Re: Grey Highlands Municipal Resolution 2022-571 re: Increased Speeding Fines

Please be advised that the following resolution was passed at the September 7, 2022 meeting of the Council of the Municipality of Grey Highlands.

2022-571
Dane Nielsen, Danielle Valiquette
Whereas speeding has become a growing concern on our residential streets; and
Whereas the culture of driver's is that 20 km/h over the speed limit is considered normal; and
Whereas the fines for street racing have increased significantly and we have seen a reduction in number of charges laid; and
Whereas the fines for other speed infractions have remained unchanged; now Therefore be it resolved that the municipality of Grey Highlands lobby the Ministry of the Solicitor General to increase the fines for all levels of speeding; and
That this motion be sent to AMO, ROMA, and all municipalities of Ontario to garner support.
CARRIED.

If you require anything further, please contact this office.

Sincerely,

Raylene Martell
Director of Legislative Services/Municipal Clerk
Municipality of Grey Highlands

Cc: Association of Municipalities of Ontario
Rural Ontario Municipalities
All Ontario Municipalities

From: Yannick Bigourdan **Sent:** September 26, 2022 7:53 AM
To: councillor.woods@whitestone.ca; councillor.lamb@whitestone.ca
Cc: [redacted]
Michelle.Hendry@whitestone.ca
Subject: Parking at the end of Farley's Road for Water access property owners

To Councillors Joe Lamb and Brian Wood,

Please, allow me to introduce ourselves, Kris and Yannick Bigourdan, from 790 Whitestone Lake, also known as Doc's Island.

We are very happy to be back on beautiful Whitestone Lake. We previously owned a cottage on Farley's Road but had to let our cottage "go" in order to support our 2 boys' sports activities. No need to mention how excited we are to be back on the lake.

On behalf of everyone listed at the end of this email, we would like to bring something to your attention that has become a great concern of ours.

As you very well know, some of us have expressed the need to have access to the parking area located at the end of Farley's Road. We feel that, now that the property belongs to the township and that there seems to be plenty of room to accommodate more parking passes, there are no reasons whatsoever to hold to prevent water access cottage owners from having the option to purchase parking passes. Sale of these passes is also a revenue generator that will support the maintenance of this area.

We feel very strongly that as taxpayers, we have a very strong case to get the support from our councilors and the municipality to bring this motion forward to the next meeting.

Some of us, as you very well know, are using the Marina to park our cars and boats all summer long never needing this parking and are very happy to continue this arrangement but feel that we are unfairly treated by not having access to the parking.

We would like to point out that this access is essential to some of us that are using our cottages during winter as the access from the marina is neither safe nor available to us and we have no other parking option available to us at this point.

Also, we are aware that there are some discrepancies as far as what the municipality has allowed as some cottage owners in our situation were given a parking permit while some were told that they could not have access to the landing.

Finally, we sincerely hope that you will take our request very seriously and as taxpayers, we feel extremely strongly about having the option to access this municipality owned and managed property.

We are looking forward to hearing from you.

Warmest Regards,

Chris and Tom Vernon – [redacted]

Charna Kozole – [redacted]

Brian and Shannon Knight – [redacted]

Boris Zugic and Belma Abdicevic - [redacted]

Lilian and James Thompson - [redacted]

Kris and Yannick Bigourdan - [redacted]

Yannick Bigourdan

From: Michelle Hendry [mailto:michelle.hendry@whitestone.ca]
Sent: September 1, 2022 3:57 PM
To: 'Kris Bigourdan' [redacted]
Cc: 'Yannick Bigourdan' [redacted] 'Paula Macri' <paula.macri@whitestone.ca>
Subject: RE: 790 Whitestone lake island

Good afternoon Kris and Yannick

Thank you for your email. I do understand your concerns

Firstly, I will provide you with some history on the property and then share with you our current protocols.

The history of the Farley's Road property is that at one time it was private property, owned by Park Towers Investments Ltd. There are 13 water access properties that were given deeded access to this property when these 13 properties were created in approx. 1967

In 2005, our records show that the Lands were vested in the interest of the Public Guardian and Trustee who in turn transferred the interest of the Crown to the Corporation of the Municipality of Whitestone.

Since that time, Council has maintained the original intent of the property being deeded access (or as referred to in the transfer/deed of land 'person having a right of common user') for the 13 specific lots. Parking passes are issued each year to only the property owners with deeded access and their guests.

I don't believe Council has considered opening up this property for other users or for the Public however, I suggest you could to write a letter (or email) to Council and make that request. I will make sure it appears on a Council agenda should you wish to do so.

Staff would likely be asked to write a report to Council on the matter and ultimately the decision would be a decision of the majorly of Council.

At this time, we are unable to make changes to the current protocols and therefore we cannot support your request for a parking pass for the Farley's Road boat launch as you do not have deeded access to this property. I realize this is not what you want to hear or, is a solution to your parking issue.

We do know anecdotally that some of the water access properties have made arrangements with private property owners for parking / launching however we are not party to these private arrangements.

Regards,

Michelle Hendry
Chief Administrative Officer / Clerk

21 Church Street - Dunchurch, Ontario - P0A 1G0
705-389-2466 - Ext. 123

Ministry of Agriculture,
Food and Rural Affairs

1 Stone Road West, 5th Floor
Guelph, Ontario N1G 4Y2
Tel: 519-826-3577
Fax: 519-826-4375

Ministère de l'Agriculture, de
l'Alimentation et des Affaires rurales

1, rue Stone ouest, 5e étage
Guelph (Ontario) N1G 4Y2
Tél. : 519 826-3577
Téléc. : 519-826-4375

Ontario

Office of the Chief Veterinarian for Ontario (OCVO)

September 23, 2022

Michelle Hendry
Municipality of Whitestone
CAO
michelle.hendry@whitestone.ca

Dear Michelle Hendry:

The Canadian Food Inspection Agency (CFIA) has confirmed cases of highly pathogenic avian influenza (H5N1) in Ontario domestic poultry.

While the CFIA leads the disease response for highly pathogenic avian influenza and may impose permitting requirements in defined areas of the province, I am writing to inform you and your members of the action that the province is taking to help limit the spread of the virus.

On my advice and recommendation as Chief Veterinarian for Ontario, the Minister of Agriculture, Food and Rural Affairs has issued a Minister's Order under the *Animal Health Act, 2009*, for the purpose of limiting the commingling of birds from different locations in Ontario to reduce the likelihood of disease transmission in domestic birds by limiting direct contact.

Effective September 23, 2022, this Order temporarily prohibits events where birds commingle, such as bird shows, bird sales and swaps, portions of fairs where birds are exhibited, sport and educational displays where birds are brought from multiple locations, vaccination gatherings for birds from multiple locations, and prohibits the movement of birds to those events. Temporarily reducing direct contact between birds from different locations will limit the spread of avian influenza and protect flock health.

This Order will expire on October 22, 2022 but may be extended if required. This Order is similar to the one issued during the Spring 2022 wave of the avian influenza outbreak, with which you may already be familiar.

I also encourage your members to maintain strict biosecurity measures to help reduce the risk of introducing avian influenza to their birds.

Avian influenza is not a threat to food safety but impacts domesticated and wild birds. Ontario poultry and eggs are safe to eat when, as always, proper handling and cooking takes place. People working with poultry should take additional precautions and are strongly encouraged to follow all public health guidelines and maintain strict biosecurity.

For more information on the Minister's Order, please visit OMAFRA's Avian Influenza webpage.

I continue to monitor this quickly developing situation and may implement further measures as part of the response to this disease.

I appreciate your cooperation in working together to enhance biosecurity and reduce the spread of avian influenza.

Sincerely,

Original signed by

Cathy Furness, DVM
Chief Veterinarian for Ontario

I.

Dunchurch Agricultural Society
155 Maple Island Road
Dunchurch Ontario P0A 1G0

Municipality of Whitestone
Council
21 Church St.
Dunchurch, ON
P0A 1G0

September 21, 2022

Dear Council:

The Dunchurch Agricultural Society would like to thank you and the Municipal employees for all the support we received during our Fall Fair.

The employees did an excellent job of preparing the grounds and keeping things running during the fair. The office even provided emergency stapler support at our most critical hour! Such wonderful staff, I am grateful.

The Fair was a success following covid and I know everyone enjoyed the familiarity of the fall fair celebrations. We are currently making plans for next year.

Thank you again for your support.

Sincerely,

Juliette Terry, Secretary/Treasurer