

**THE CORPORATION OF THE
TOWNSHIP OF EDWARDSBURGH/CARDINAL
SITE PLAN CONTROL AGREEMENT**

THIS AGREEMENT made in triplicate this ____ day of _____, 2024

BETWEEN: TIMOTHY ROBERT MARKUS

Hereinafter called the "Owner" of the first part

AND: THE CORPORATION OF THE TOWNSHIP OF EDWARDSBURGH/CARDINAL

Hereinafter called the "Township" of the second part

WHEREAS the Owner has applied to the Township in accordance with the Site Plan Control provisions of Bylaw No. 2023-47, to permit the development of the lands described in Schedule "A" attached hereto;

AND WHEREAS the Owner has agreed with the Township to undertake, furnish and perform the works, material, matter and things required to be done, furnished and performed in the manner hereafter described in connection with the proposed use of the land and in conformity with the Zoning Bylaw;

NOW THEREFORE THIS AGREEMENT WITNESSETH THAT in consideration of other good and valuable consideration and the sum of two dollars (\$2.00) of lawful money of Canada now paid by the Owner to the Municipality, the receipt of which is hereby acknowledged, the Parties hereby agree as follows:

1. Land to Which this Agreement Applies

This is an agreement made pursuant to the provisions of Section 41 of the Planning Act, RSO 1990, as amended, and applies to the lands described in Schedule "A" to this agreement.

2. Statutes, Bylaws, Licenses, Permits and Regulations

The Owner undertakes and agrees that prior to the commencement of any development, redevelopment, site alteration, construction or other works, the Owner shall obtain all necessary permits and approvals required by the

**SITE PLAN CONTROL AGREEMENT
BETWEEN TIMOTHY MARKUS AND
THE TOWNSHIP OF EDWARDSBUGH CARDINAL**

Government of Canada, the Province of Ontario or any agency thereof, the Township and any other affected agency. The Owner undertakes and agrees to comply with the requirements of all relevant municipal bylaws, provincial and federal statutes and regulations, permits, approvals or licenses in addition to the terms of this agreement.

3. Schedules

The Owner hereby agrees that prior written approval by the Township and/or an amendment to a Schedule shall be required for any departure, change or modification from the Schedules.

The following list of schedules attached hereto are deemed to be and form part of this Agreement:

- 3.1 Schedule "A" -Legal Description of the Land to which this Agreement applies.
- 3.2 Schedule "B" -Site Plan, Grading and Drainage Plan by Eastern Engineering
- 3.3 Schedule "C" -Stormwater Management Report, by Eastern Engineering
- 3.4 Schedule "D" -Environmental Impact Study, by BCH Environmental Consulting
- 3.5 Schedule "F" -Special Conditions

4. Registration of Agreement and Commencement of Work

The Owner covenants that he/she/they shall not commence any development or site alteration whatsoever until this Agreement is registered on title against the land at the expense of the Owner.

5. Completion Date

The owner agrees to complete the work required under this Agreement within two (2) years of the date of the commencement of works. Notwithstanding, if exceptional circumstances prevent the owner from complying with the requirements, the Township may extend the completion date.

6. Default

**SITE PLAN CONTROL AGREEMENT
BETWEEN TIMOTHY MARKUS AND
THE TOWNSHIP OF EDWARDSBURGH CARDINAL**

In the event the Owner defaults in the performance of an obligation under this agreement or for reasons of public safety as determined by the Chief Building Official under the Building Code Act of Ontario or the Fire Marshall under the Fire Protection & Prevention Act of Ontario, the Township may, at the expense of the Owner, enter upon the lands and do all such matters and things as may be required to comply with any Order of the Chief Building Official or Assistant to the Fire Marshall (local Fire Chief). Such actual costs incurred by the Township plus an overhead charge of 15%, shall be deemed to be recoverable from the Owner by invoice and may be recovered in like manner as municipal taxes pursuant to the Municipal Act.

7. Facilities and Work to be Provided and Maintained

The Owner covenants and agrees to provide and maintain, at his/her/their sole expense each and every facility, work or other matter illustrated on the Schedules to the satisfaction of the Township, acting in a commercially reasonable manner, and to engage qualified professionals, where required, to design and carry forth any of the work undertaken under this Agreement. This shall include the restoration of any faulty workmanship or materials.

8. Certificate of Compliance

Upon the satisfactory completion of all matters and things to be provided and maintained by the Owner pursuant to this Agreement, the Owner shall be entitled to obtain a Certificate of Compliance from the Township confirming that all provisions of this Agreement have been complied with in full to the date of such Certificate.

9. Notice to Parties

Any Notice by any party to this agreement to another shall be given in writing and mailed or delivered to the Party:

9.1 In the case of the Municipality:

To the Clerk of the Township of Edwardsburgh/Cardinal
18 Centre Street
P.O. Box 129
Spencerville, ON KOE 1X0

9.2 In the case of the Owner(s):

**SITE PLAN CONTROL AGREEMENT
BETWEEN TIMOTHY MARKUS AND
THE TOWNSHIP OF EDWARDSBUGH CARDINAL**

Tim Markus
15 Riverview Crescent
Johnstown ON K0E 1T1

10. Severability

The terms of this agreement are severable, and the unenforceability of any part hereof shall not render the whole unenforceable. No forbearance or failure by the Township to strictly enforce any term or covenant herein shall prevent the Township from insisting upon strict compliance by the Owner subsequent to such forbearance or failure to strictly enforce its terms. The terms of this agreement may not be altered except by a subsequent agreement in writing between the parties.

11. Successors and Assigns

This Agreement shall ensure to the benefit of and be binding upon the respective heirs, personal representatives, successors and assigns of each of the parties hereto.

12. Force and Effect

This Agreement comes into force after it has been executed by all parties hereto and registered against the title to the lands described in Schedule "A".

IN WITNESS WHEREOF the Parties have hereunto set their hands and seals, corporate parties over the hand(s) of their duly authorized signing officers in that regard.

OWNER/AUTHORIZED AGENT

Owner
I have the authority to bind the corporation

**SITE PLAN CONTROL AGREEMENT
BETWEEN TIMOTHY MARKUS AND
THE TOWNSHIP OF EDWARDSBURGH CARDINAL**

CORPORATION OF THE TOWNSHIP OF
EDWARDSBURGH/CARDINAL

Mayor

Clerk

We have the authority to bind the corporation.

**SITE PLAN CONTROL AGREEMENT
BETWEEN TIMOTHY MARKUS AND
THE TOWNSHIP OF EDWARDSBURGH CARDINAL**

SCHEDULE "A"

Site Plan Control Agreement

DESCRIPTION OF THE PROPERTY

PT LT 7 CON 2 EDWARDSBURGH AS IN PR31919; EDWARDSBURGH/CARDINAL

PIN: 68149 0210

**SITE PLAN CONTROL AGREEMENT
BETWEEN TIMOTHY MARKUS AND
THE TOWNSHIP OF EDWARDSBUGH CARDINAL**

SCHEDULE "B"

Site Plan Control Agreement

SITE PLAN, GRADING AND DRAINAGE PLAN

Prepared by Eastern Engineering, dated March 8, 2024

DRAFT

GENERAL NOTES:

1. THE OWNER SHALL COORDINATE AND PAY FOR ALL CONSTRUCTION RELATED PERMITS, FEES, INSPECTIONS AND APPROVALS REQUIRED BY THE TOWNSHIP OF EDWARDSBURGH CARDINAL.
2. ALL ELEVATIONS ARE GEODETIC AND UTILIZE METRIC UNITS.
3. THE OWNER SHALL PROTECT ANY SUCH EXISTING SERVICES & FACILITIES. SUCH REQUIRED MEASURES INCLUDE, BUT ARE NOT LIMITED TO: ENSURE ALL CONCERNED UTILITIES HAVE LOCATED THEIR PLANT PRIOR TO ANY EXCAVATING, LOCATE AND FLAG/Paint THE LOCATIONS OF OTHER U/G PLANT WHICH MIGHT BE DAMAGED BY EXCAVATIONS AND CONSTRUCTION TRAFFIC, HAND DIG IN PROXIMITY TO EXISTING BURIED SERVICES TO LOCATE THEM WITHOUT ANY RESULTING DAMAGE, BRACE AND SUPPORT WHERE REQUIRED.
4. THE OWNER SHALL REFER TO AND COMPLY WITH THE ENGINEER'S SITE PLAN FOR BUILDING DIMENSIONS AND SITE LAYOUT. LATEST DESIGN DIMENSIONS AND LAYOUT INFORMATION SHALL BE CONFIRMED PRIOR TO COMMENCEMENT OF CONSTRUCTION LAYOUT.
5. THE CONTRACTOR SHALL APPRAISE HIS/HER SELF OF ALL SURFACE AND SUBSURFACE CONDITIONS TO BE ENCOUNTERED AND SHALL CARRY OUT THEIR OWN TEST PITS AS REQUIRED TO MAKE THEIR OWN INDEPENDENT ASSESSMENT OF GROUND CONDITIONS. THE CONTRACTOR SHALL NOT MAKE ANY CLAIM FOR ANY EXTRA COST DUE TO ANY SURFACE OR SUBSURFACE CONDITIONS VARYING FROM THOSE ANTICIPATED BY THE CONTRACTOR.
6. DESIGN ELEVATIONS GIVEN ON THIS PLAN ARE TO BE ADHERED TO WITH NO CHANGES WITHOUT PRIOR WRITTEN APPROVAL BY EASTERN ENGINEERING GROUP.
7. COORDINATE AND SCHEDULE ALL WORK WITH OTHER TRADES AND CONTRACTORS.
8. THE CONTRACTOR SHALL COMPLETE ALL RESTORATION WITHIN R.O.W.S TO THE CITY STANDARDS AND TO THE APPROVAL OF MUNICIPAL AUTHORITIES.
9. THE CONTRACTOR SHALL COMPLY WITH THE MUNICIPAL REQUIREMENTS FOR THE TRAFFIC CONTROL WHEN WORKING IN MUNICIPAL R.O.W.S AND PRIVATE STREETS.
10. ALL GROUND SURFACES SHALL BE EVENLY GRADED WITHOUT PONDING AREAS AND WITHOUT LOW POINTS EXCEPT WHERE APPROVED SWALE OR CATCHBASIN OUTLETS ARE PROVIDED.
11. ALL EDGES OF DISTURBED PAVEMENT SHALL BE SAW CUT TO FORM NEAT AND STRAIT LINES PRIOR TO PLACING NEW PAVEMENT.

NOTES: SEDIMENT, EROSION & TREE PROTECTION

12. IN ACCORDANCE WITH BEST MANAGEMENT PRACTICES FOR EROSION & SEDIMENT CONTROL:
 - LIGHT DUTY SILT FENCE AND STRAWABLE CHECKS SHALL BE INSTALLED AT LOCATIONS AS SHOWN ON THE DRAWING.
 - ALL SEDIMENT AND EROSION CONTROL MEASURE SHALL BE INSPECTED DAILY AND AFTER EVERY RAIN EVENT BY THE CONTRACTOR. ALL SEDIMENT AND EROSION MEASURES SHALL BE MAINTAINED, REPAIRED OR REPLACED AS REQUIRED UNTIL CONSTRUCTION IS COMPLETE AND GROUND COVER HAS STABILIZED. IMMEDIATELY CONTAIN AND REMOVE ANY SEDIMENTS THAT BREACH SILT BARRIERS.
13. THE CONTRACTOR SHALL PROTECT ALL TREES NOT DESIGNATED FOR REMOVAL. TREES SHALL BE PROTECTED FROM: CONSTRUCTION EQUIPMENT MOVEMENT, STOCKPILING OF ANY MATERIALS WITHIN DRIPLINES AND FROM UNNECESSARY ENCRoACHING WITHIN DRIP LINES. THE CONTRACTOR SHALL SUPPLY, INSTALL AND MAINTAIN TREE PROTECTION BARRIERS AS PER OPSD 220.01 INSPECT, MAINTAIN, REPAIR AND REPLACE AS NECESSARY UNTIL ALL CONSTRUCTION IS COMPLETE.
14. IN THE EVENT THAT THE EROSION AND SEDIMENT CONTROL ("ESC") MEASURE INDICATED ON THIS PLAN ARE NOT SUFFICIENT, THE CONTRACTOR SHALL PROVIDE ADDITIONAL "ESC" MEASURED TO MINIMIZE THE RELEASE OF SOILS AND SEDIMENT INTO BODIES OF WATER AND SEWERS.

EXISTING INFRASTRUCTURE NOTES:

1. ALL EXISTING PLANT OR UNDERGROUND INFRASTRUCTURE SHALL BE PROTECTED.
2. THE LOCATION OF EXISTING UNDERGROUND INFRASTRUCTURE WITHIN THE SITE IS UNKNOWN.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE LOCATION OF ALL UNDERGROUND INFRASTRUCTURE WITHIN THE LIMITS OF THIS CONTRACT.
4. WHEN UNDERGROUND INFRASTRUCTURE IS ENCOUNTERED THAT HAS NOT BEEN SHOWN ON THE CONTRACT DRAWINGS THE CONTRACTOR WILL RECORD IT'S LOCATION, NOTIFY THE CONTRACT ADMINISTRATOR AND FURNISH A COPY OF THE LOCATION OF SAID INFRASTRUCTURE.
5. IF ANY UNDERGROUND INFRASTRUCTURE IS FOUND TO BE IN CONFLICT WITH ANY OF THE WORK OF THIS CONTRACT THE CONTRACTOR WILL IMMEDIATELY NOTIFY THE CONTRACT ADMINISTRATOR IN WRITING AND WHERE PRACTICABLE PROCEED WITH OTHER WORK THAT IS NOT AFFECTED BY THE CONFLICT.
6. IT WILL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO PRESERVE AND PROTECT ALL EXISTING INFRASTRUCTURE WITHIN THE CONTRACT LIMITS. ALL DAMAGES TO THE INFRASTRUCTURE RESULTING FROM THE ACTIONS OF THE CONTRACTORS OPERATIONS SHALL BE REPAIRED TO A SAME OR BETTER CONDITION AT NO ADDITIONAL COST TO THE OWNER.

LEGEND

- × 92.30 EXISTING TOPO GRADE
× 92.90 PROPOSED GRADE
— — — — — EXISTING GRADE
— — — — — STORM SEWER
— — — — — SANITARY SEWER
— — — — — WATERMAIN
— — — — — BELL UNDERGROUND
— — — — — GAS UNDERGROUND
— — — — — CABLE UNDERGROUND
— — — — — ELECTRICAL UNDERGROUND
— — — — — OVERHEAD UTILITIES
○ 8H ○ LS ○ H UTILITY POLE
• AN UTILITY ANCOR
□ UTILITY PEDISTAL
■ PROPERTY BAR FOUND
▷ RS ROAD SIGN
— — — — — FENCE
— — — — — TREELINE
— — — — — TREE
- 11.58 PROPERTY BOUNDARY
N49°15'50"E EXISTING BUILDING

KEY SITE PLAN

N.T.S.

BENCHMARK

ELEVATIONS ARE DERIVED FROM GPS OBSERVATIONS.
(UTM NORTH-ZONE 18, NAD 83)

NOTE:

CONTRACTOR TO CONTACT UTILITY COMPANIES TO DETERMINE TYPE, LOCATION, AND CONFIGURATION OF EXISTING PLANT.

All drawings, specifications and related documents are the copyright property of the Engineer and must be returned upon request. Reproduction of drawings, specifications, and related documents in part or whole is forbidden without the Engineers' written permission.

The contractor must check and verify all dimensions on the job prior to start of construction.
Drawings are not to be scaled.



EASTERN ENGINEERING GROUP INC.
CONSULTING ENGINEERS
Apex Building Telephone: (613) 345-0400
207 - 100 Stronger Blvd. Facsimile: (613) 345-0008
Brockville, Ont. K6V 5J9 www.EastEng.com

THE BEDROCK DEPOT
2062B SHANLY RD
CARDINAL, ON

DRAINAGE & GRADING PLAN

Design: C.J.	Checked: C.J.	Approved: C.J.	Project No: 11046
Drawn: Q.T.	Checked:	Date: 3/8/2024	Contract No: 11046

Scale: 0 6 12
Horizontal: 300

C1

File No.: 11046 Site Proposal rev3 wden

GENERAL NOTES

- ALL WORK ON CITY PROPERTY TO BE PERFORMED BY A CONTRACTOR APPROVED BY THE CITY.
- CONTRACTOR TO VERIFY ALL DIMENSIONS AND ELEVATIONS PRIOR TO THE START OF CONSTRUCTION.
- CONTRACTOR TO OBTAIN ALL NECESSARY PERMITS PRIOR TO START OF CONSTRUCTION.

**SITE PLAN CONTROL AGREEMENT
BETWEEN TIMOTHY MARKUS AND
THE TOWNSHIP OF EDWARDSBUGH CARDINAL**

SCHEDULE "C"

Site Plan Control Agreement

STORMWATER MANAGEMENT

Prepared by Eastern Engineering, dated October 5, 2023

DRAFT

**THE BEDROCK DEPOT
2062 SHANLY ROAD
CARDINAL, ON
TOWNSHIP OF EDWARDSBURGH-CARDINAL**

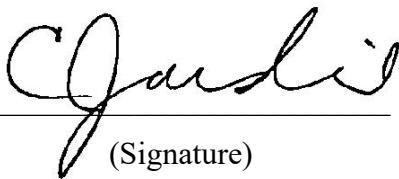
STORMWATER MANAGEMENT REPORT

PREPARED BY



April 11, 2024

This document entitled Stormwater Management Report was prepared by Eastern Engineering Group Inc. for the account of the Tim Markus (the “Client”). Any reliance on this document by any third party is strictly prohibited. The material in the report reflects Eastern Engineering Group’s professional judgement in light of the scope, schedule and other limitations stated in the document and in the contract between Eastern Engineering Group and the Client. The opinions in the document are based on conditions and information existing at the time the document was prepared and published and do not take into account any subsequent changes. In preparing the document, Eastern Engineering Group did not verify information supplied to it by others. Any use which a third party makes of this document is the responsibility of such third party. Such third party agrees that Eastern Engineering Group shall not be responsible for costs or damages of any kind, if any, suffered by it or any other third party as a result of decisions made or actions take based on this document.

Prepared by 
(Signature)

Colin A. Jardine, P. Eng

President, Eastern Engineering Group

Director of Civil Engineering

2062 SHANLY ROAD, CARDINAL, ON

STORMWATER MANAGEMENT REPORT

PROJECT

The Owner of the property at 2062 Shanly Road, Cardinal, Mr. Tim Markus, is proposing to re-develop the current residential property into a mixed commercial/residential development. The commercial portion is proposed to be a landscape depot business, selling materials for landscaping. The existing residence will remain on the site. A new small building will be constructed for the commercial portion near a new entrance of Shanly Road, just south of the existing driveway.

The area of the property being developed is approximately 0.9220 ha. A portion of the existing area is a driveway. The remaining is grass field and treed area. The treed area north of the new entrance will remain as a buffer between the residential and commercial. There are two existing wet ponds on site that will remain and be used to direct surface runoff towards. A new 8520 m² gravel area will be constructed for the landscaping depot. The remaining land will remain grass.

SUPPORTING INFORMATION

The Preliminary Servicing Report was developed using background information provided by the Owners and the City of Brockville.

Project Name:	Tim Markus Landscape Project
Owner:	Tim Markus
	2062 Shanly Road
	Cardinal
Site Address:	2062 Shanly Road, Cardinal
Phone Number:	613-803-8061
Email:	pads29@cogeco.ca

The following documents were referenced in preparing the stormwater management design for the 2062 Shanly Road, Cardinal lot re-development:

- Stormwater Management Planning and Design Manual, Ministry of the Environment, 2003
- MTO Drainage management manual
- SNCA Design Manual

PROPOSED DEVELOPMENT

The proposed development is shown on Drawing No. C1. It consists of the following:

- 22.6 sq. m building.
- 8520 sq. m of new gravel parking lot and driving area.
- 700 sq. m of grass area.
- New road entrance from Shanly Road.
- Erosion and sediment control measures installed for construction of the facility and parking area, maintained until the vegetation has taken.

PROPOSED CONDITIONS

The change in area is 9220 sq. m from grassed surface to gravel surface.

The Runoff Coefficient for pre conditions is 0.35 (grassed field). The Runoff Coefficient for post condition is 0.58 (gravel). The area changing is 9220 sq. m.

There will be an increase in runoff from the gravel surface but the permeability of the gravel will allow stormwater to infiltrate into the soils. The direction of drainage of surface flow is directed to the existing ponds on the site.

The image below shows the existing view facing north looking at the site from Shanley Road.



Photo 1 – Site Looking North

STORM WATER MANAGEMENT

The normal requirement for a site is to match pre-development to post-development conditions. The intention of the design in this report does not aim for pre to post as the increase we feel is negligible and presents a minimal risk to the surrounding properties. As determined by a topographic survey, the natural drainage of the entire site is generally to from north to south to the pond that is on property. This drainage pattern will not be modified.

There is natural wet area south of the cleared property as well which acts as a natural filter for sediment control.

QUALITY – BEST MANAGEMENT PRACTICES

The modified area of the site is 0.922 ha, as defined in the MOE stormwater design manual, section 4.1.1, the amount of land being developed, we treat this as a smaller developable site and recommend Lot Level and Conveyance Controls should be allowed for the site.

THE BEDROCK DEPOT

The flow from the site will follow natural drainage paths from the west in the rear and east in the front of the property to existing ditches. To help with water quality, Best Management Practices and Low Impact Development strategies are addressed by the nature of the development which includes the following factors:

Infiltration

Long flow paths will help with the removal of sediment and keeping temperature of the water lower.

Preserve areas of undisturbed soil and vegetation

Areas that can retain their natural soils and current conditions should be included in the planning.

Fit design to terrain

The parking lot will be constructed to match existing grades where possible. The undeveloped grass land area will be utilized to promote infiltration and sediment removal.

Lot level Controls

It is now standard practice to direct roof leaders onto grassed areas, as opposed to a hard surface. Discharge from any roof drains be implemented wherever possible, increasing the likelihood of particle filtration and runoff re-absorption.

At the lot level, the effects of runoff reduction measures are enhanced by minimizing lot grades to promote natural infiltration. Due to the natural topography or relief of the site, the existing grading of the entire site will be maintained and thus allowing natural filtration and absorption to continue while maintaining base flows and reducing TSS levels.

Conveyance Control

The use of low gradient grassed waterways having minimal side slopes is one of the best conveyance controls available. The flat grades help to reduce flow velocities, reducing erosion potential.

STORMWATER QUANTITY CONTROL**PRE-DEVELOPMENT FLOW**

The water quantity objective for the storage areas is to not exceed the existing stormwater flows from the area. The flow is limited to the pre-development runoff rates. Please note that it is widely recognized that the rationale method typically overestimates peak runoff flows and as a result is an extremely conservative prediction method. Any facilities that are sized using results from the rationale method are expected to function in “real world” conditions.

The total area of the proposed site is 0.9220 ha which will be converted from grass to the gravel storage yard. The surface runoff will drain to the existing ponds on the site which currently collect water runoff from the property. Swales and berms will be used to direct the water to the existing ponds. The developed site will support sheet flow from north to south.

The predevelopment runoff coefficient using MTO Design Manual is 0.35 for treed/grassed areas. The post-development runoff coefficient is calculated based on surfaces shown on engineering plans. See table below.

Runoff Coefficient Calculation

AREA 0.922 ha	IMPERVIOUS C Value	EXISTING PRE (ha)	C x Area PRE	POST CONST (ha)	C x Area POST
Grassed Area	0.35	0.922	0.323	0.070	.0245
Compacted Gravel	0.6	0	0	0.8520	.5112
			Cpre = 0.35		0.5357/0.922 Cpost = 0.58

THE BEDROCK DEPOT

The pre-development flow for the drainage area is calculated using the Rational Method.

$$Q = 2.78 C i A$$

where

Q = flow volume, L/s
 C = runoff coefficient
 i = rainfall intensity, mm/hr.
 A = drainage area, ha.

Total area of the site = 0.922 ha.

Using the Design Guidelines, the runoff coefficient for the existing condition runoff coefficient of 0.35 is assumed based on above table.

Time of Concentration (Airport Formula)

T_c assumed to be 15 mins

Rainfall intensity of the property is calculated from the IDF curves available at MTO IDF Curve Finder

Intensity Duration Frequency calculated using online MTO curve.

$i_5 = 70.9$ mm/hr.

$$Q_5 = 2.78 * .35 * 0.922 \text{ ha} * 70.9 = \underline{\underline{115.40 \text{ L/s}}}$$

POST-DEVELOPMENT FLOW- CONTROLLED FLOW

The post development flows are calculated using Modified Rationale method for various times and rainfall intensities, to determine how much storage is required for each drainage area.

The post development runoff coefficient is calculated to be 0.58.

The allowable release rate from the site is 115.40 L/s (5 year)

THE BEDROCK DEPOT

5 Year Storage – A=0.922 ha, c=0.58, Q allowable 115.40 L/s

Tc (min.)	I (mm/hr.)	Q (L/s)	Qallow (L/s)	Net Runoff (L/s)	Storage (m³)
5	152.8	227.1574918	115.40	111.76	33.53
10	94.1	139.8921465	115.40	24.49	14.70
15	70.9	105.4022655	115.40	0	0
30	43.7	64.97	115.40	0	0

100 Year Storage – A=0.922 ha, c=0.58, Q allowable 115.40 L/s

Tc (min.)	I (mm/hr.)	Q (L/s)	Qallow (L/s)	Net Runoff (L/s)	Storage (m³)
5	255.6	379.98	115.40	264.58	79.38
10	157.4	234.00	115.40	118.60	71.16
15	118.6	176.32	115.40	60.91	54.82
30	73.1	108.67	115.40	0	0

Therefore, based on Modified Rationale Method, the storage requirement for the site modifications are for 5 year – 33.53 m³ and for 100 year - 79.38 m³. The stormwater flows overland to the swale and into the existing ponds. Overflow is to the natural wetlands south of the property.

STORAGE PROVIDED

The existing ponds will store stormwater. In spring months, there is 0.3m of storage in the ponds, and during dry months it would be 1.0 m of storage. The areas of the ponds are 878 m² combined, for a spring storage of 263 m³ and summer storage of 878 m³.

This exceeds the requirements for 100 year storm storage.

SEDIMENT AND EROSION CONTROL

To control sediment and erosion during construction the Contractor shall install silt fences on the site as per OPSD 219.110 as needed around the construction site.

Sediment and erosion control barriers shall be monitored daily and maintained, as necessary. The Contractor shall remove the sediment and erosion control measures upon completion of construction and after re-vegetation has occurred. Care shall be taken at the removal stage to ensure that any silt that has accumulated is properly handled and disposed of.

The owner shall be responsible for monitoring and maintaining the stormwater facilities.

The Sediment and Erosion Control Plan shall be considered a ‘living document’ that may need to be changed or adjusted during the life of the project to be effective.

CONCLUSION – LOW RISK SITE

The area of the site being developed is a small portion of the larger 0.922 ha lot.

Stormwater runoff from the developed area of the site will flow overland to the existing pond, and overflow to the south of the property.

As the site being less than 2 ha, as defined in the MOE stormwater design manual, section 4.1.1, the amount of land being developed is much smaller and Lot Level and Conveyance Controls

THE BEDROCK DEPOT

should be allowed for this site. The site has controls for Lot Level controls naturally on the site with reduced grading, and large areas of grassed, vegetated land for infiltration.

The site as proposed, is a low risk with regards to stormwater runoff affecting neighboring properties due to the location of the site, the amount of area for dispersion and infiltration of runoff from the developed portion. The increase in runoff is negligible when considering the wide sheet flow and very low flow velocities of the stormwater.

Prepared by:

Eastern Engineering Group Inc.

100 Strowger Boulevard, Suite 207

Brockville, ON K6V 5J9

Colin A. Jardine, P. Eng

April 11, 2024



**SITE PLAN CONTROL AGREEMENT
BETWEEN TIMOTHY MARKUS AND
THE TOWNSHIP OF EDWARDSBUGH CARDINAL**

SCHEDULE “D”

**Site Plan Control Agreement
ENVIRONMENTAL IMPACT STUDY**

Prepared by BCH Environmental Consulting, dated November 10, 2023

DRAFT

Updated Environmental Impact Study (EIS)

2062 Shanly Road

Part Lots 7, Concession 2

**Township of Edwardsburgh/Cardinal
United Counties of Leeds and Grenville**

November 10, 2023

Prepared By:



**BCH Environmental Consulting Inc.
20373 Bethune Street,
South Lancaster, On
K0C 2C0**

Table of Contents

1.0.	Introduction.....	3
1.1.	Site Context.....	3
2.0.	Methodology	3
3.0.	Field Surveys.....	4
3.1.	Existing Conditions	4
3.1.1.	Mowed/Manicured Residential.....	6
3.1.2.	Fresh-Moist White Cedar Coniferous Forest (FOC4)	8
3.1.3.	Mosaic of Mixed Swamp (ch) and Fresh-Moist White Cedar Hardwood Mix Forest (FOM7)	9
3.1.4.	Black Ash Deciduous Swamp (h).....	10
3.1.5.	Tributary to McLaughlin Creek	10
4.0.	Potential Species at Risk	11
4.1.	Turtles and Reptiles.....	12
4.2.	Birds	12
4.3.	Mammals	13
4.4.	Vegetation.....	13
4.5.	Species at Risk Summary.....	13
5.0.	Natural Heritage System.....	14
5.1.	Significant Woodland.....	14
5.2.	Unevaluated Wetland / Tributary to McLaughlin Creek.....	18
5.3.	Significant Wildlife Habitat	19
6.0.	Development Constraints and Cumulative Impacts	19
7.0.	Tree Protection.....	19
8.0.	Recommendations and Conclusion	23
8.1.	Mitigation for the Species at Risk and Migratory Birds Convention Act.....	23
8.2.	Wetland Protection Recommendations and Mitigation Measures	23
8.3.	Mitigation for Tree Protection	24
8.4.	Additional Mitigation Measures	24
	REFERENCES.....	26
	APPENDIX A: OBSERVED SPECIES LIST	28
	APPENDIX B: QUALIFICATIONS	30
	APPENDIX C: PRELIMINARY PLANS	35

1.0. Introduction

As requested by Tim Markus an Environmental Impact Study (EIS) was completed to assess the environmental impacts of the creation of a landscaping business at 2062 Shanly Road, Cardinal, ON (Figure 1).

1.1. Site Context

The entire property parcel (Subject Lands) is approximately 3.8 ha in size and the legal land description is Part Lot 7, Concession 2, Township of Edwardsburgh/Cardinal, United Counties of Leeds and Grenville. The proponent wishes to utilise a portion of his property as a landscaping business (1.15 ha). The subject lands are bordered to the east by Shanly Road (Figure 1). The proponent wished to create access lanes for trucks, a truck turnaround/dumping area, and open storage area for landscaping supplies (soil, rock and mulch). Preliminary plans are available in Appendix C.

The subject lands were designated as Rural within the Township of Edwardsburgh/Cardinal zoning by-law No. 2012-35 and Rural Area with Significant Woodland in the Townships Official Plan. Additionally, within the United Counties of Leeds and Grenville Official Plan the subject lands are designated as Rural and Natural Heritage System.

Through a background review, potential environmental constraints have been identified as; Natural Heritage System, Significant Woodland, Potential Wetland and Potential Fish Habitat (Tributary to McLaughlin Creek). Additionally, the proposed development is located in Ecoregion 6E.

A watercourse draining to McLaughlin Creek has been identified within the northern edge of the subject lands. This creek can potentially support numerous types of aquatic habitat including fish and has been identified as being potential environmental constraints to future development.

The Provincial Policy Statement (PPS) states that natural heritage systems should be maintained, restored, or improved for the purpose of linkages between natural heritage features and areas. The PPS states that site development and alteration shall not be permitted in provincially significant wetlands in Ecoregion 6E and site development and alteration shall not be permitted in provincially significant woodlands in Ecoregion 6E unless it has been demonstrated that there will be no negative impacts on the natural features or their ecological functions. Additionally, development and site alteration shall not be permitted in fish habitat except in accordance with provincial and federal requirements.

No portion of the subject lands appear to be within a South Nation Conservation Authority regulated areas.

2.0. Methodology

This report is prepared in accordance with the Official Plan for the United Counties of Leeds and Grenville (2021) and the Official Plan of the Township of Edwardsburgh/Cardinal (2019) Section 6.10 with guidance from the Natural Heritage Reference Manual (OMNR, 2010). This EIS includes an assessment of the identified environmental constraints and the potential for Species at Risk.

This EIS will provide the methodology to mitigate, as required, negative impacts on significant features and functions. Potential Species at Risk in the general area were identified from the Ministry of Natural Resources and Forestry databases, the Department of Fisheries and Ocean databases, the Ontario Breeding Bird Atlas, Ontario Reptile and Amphibian Atlas, iNaturalist and the Global Biodiversity Information Facility.

Colour aerial photography was used to assess the natural environment features in the general vicinity of the proposed building.

A field survey of the subject and adjacent lands was completed by BCH Environmental (C.Fontaine/ S.St.Pierre) on May 17, 2022 from 0800h to 1100h (air temperature was 13°C, with a light breeze and overcast skies changing to light rain). Staff qualifications are available in Appendix B.

The area was extensively walked and surveyed for significant natural areas, potential species at risk and their associated habitat.

Upland vegetation communities were described utilising the Ecological Land Classification Southern Manual (Lee et al. 1998), while wetland communities if present were described utilising the Ontario Wetland Evaluation System Southern Manual (MNR 2022).

Significant Wildlife Habitat was determined from the Natural Heritage Reference Manual for Natural Heritage Policies of the Provincial Policy Statement (OMNRF 2010).

Observed plants were recorded for each individual community, the plants utilized in the descriptions are the most abundant specimens observed. A complete observed species list is provided in Appendix A. Plants that could not be identified in the field were collected for a more detailed examination. Nomenclature used in this report follows the Southern Ontario Vascular Plant List (Bradley, 2013) which aligns with the Integrated Taxonomic Information System (ITIS).

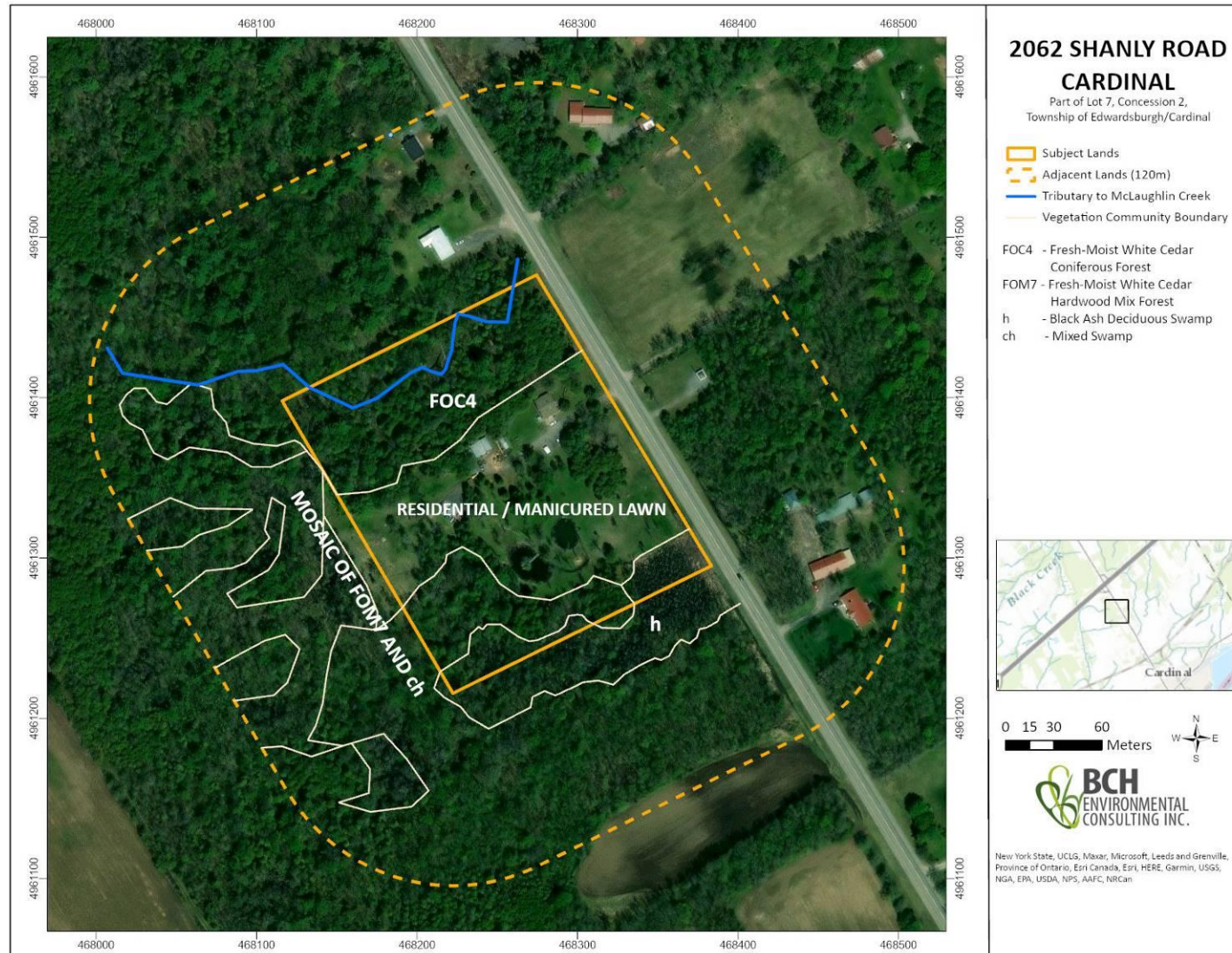
3.0. Field Surveys

A butternut survey was conducted along with a search for cavity trees by systematically moving through the subject lands and adjacent lands (discussed in section 4.3 and 4.4). Vegetation communities along with the pond and watercourse areas are described in section 3.1.

3.1. Existing Conditions

A large portion of the subject lands consisted of mowed/maintained area with a residential building and accessory buildings, two ponds were located within the mowed area. The remaining land within the subject lands consisted of a mosaic of deciduous/coniferous swamp and deciduous/coniferous forests. Within the northern portion there is a tributary to McLaughlin Creek.

FIGURE 1: SUBJECT LANDS



3.1.1. Mowed/Manicured Residential

Portions within the center of the subject lands consisted of residential and accessory buildings and manicured lawn. Some trees individually or in clumps were present; mostly green ash, white cedar, and white pine (average DBH: 25-35cm). The majority of the proposed development occurs within this community.

Located within the southeast portion of this area were two manmade ponds, they do not represent fish habitat. The ponds do not appear to be connected to each other; however, the east pond has an outlet which travels about 45m before draining into the black ash deciduous swamp. This swamp was thoroughly investigated and no channels or connections to other wetlands/watercourses were present.

The west pond is approximately 17m x 30m in size, and just 10m to the east, the east pond is approximately 15m x 20m in size. Both ponds and the watercourse were mowed around but contained a small natural shoreline buffer. The most dominant species were: willows, white cedar, narrowleaf cattail, and sensitive fern. The outlet contained an average wetted width and depth of 1m and 6cm, respectively. Much of the outlet was choked with cattail.

Both ponds are to remain.



Photo 1: Residential (May 15, 2022)



Photo 2: West Pond (May 15, 2022)



Photo 3: East Pond (May 15, 2022)



Photo 4: Pond Outlet (May 15, 2022)

3.1.2. Fresh-Moist White Cedar Coniferous Forest (FOC4)

This community was present within the northern portion of the subject lands. The average tree diameter was 20-30cm, maximum 90cm, and the majority provided 100% cover. This community consisted of coniferous trees with the occasional deciduous tree. The canopy was the dominant layer. The canopy (11-13m tall; 100% cover) was dominated by white cedar with the very occasional green ash and white birch present. The sub-canopy (8-9m tall; 30% cover) consisted of white cedar. The understory (1-2m tall; 5% cover) was dominated by alternate-leaved dogwood followed by tartarian honeysuckle, green ash, and common buckthorn. The ground layer varied in cover, along the north portion of this community there was very little cover. Moving towards the south there was some mowing/clearing activities and as such, the ground cover was greater (10%-100% cover). The ground layer included grasses, sensitive fern, ostrich fern, mosses, and red trillium.



Photo 5: Fresh-Moist White Cedar Coniferous Forest (May 15, 2022)

3.1.3. Mosaic of Mixed Swamp (ch) and Fresh-Moist White Cedar Hardwood Mix Forest (FOM7)

This community was present within western side of the subject and adjacent lands. The average tree diameter was 20-30cm and the majority provided 100% cover. This community was highly variable and consisted of a mixture of coniferous and deciduous trees. This area can only be described as a mosaic of wetland and upland habitat. Individual communities have been delineated for constraint purposes but this area should really be described as a whole. A small portion of the Fresh-Moist White Cedar Hardwood Mix Forest is designated for use for the landscaping business. This area drains into the creek.

Within the low lying areas (wetland areas) dominate vegetation consisted of black ash, green ash, white cedar, American elm, and sensitive fern. Vernal pools were noted but fish habitat was not present.

Upland areas consisted of a fresh-moist white cedar hardwood mix forest. The canopy was the dominant layer. The canopy (10-13m tall; 100% cover) consisted of sugar maple, white cedar, green ash, and white pine. The sub-canopy (7-8m tall; 40% cover) consisted of the same species present in the canopy layer. The understory (1-2m tall; 40% cover) consisted of green ash, white cedar, Tartarian honeysuckle, and alternate-leaved dogwood. The ground layer provided 80-100% coverage and consisted of sensitive fern, wild sarsaparilla, field horsetail, ostrich fern, reed canary grass, and mosses.



Photo 6: Fresh-Moist White Cedar Hardwood Mix Forest (May 15, 2022)



Photo 7: Mixed Swamp (May 15, 2022)

3.1.4. Black Ash Deciduous Swamp (h)

A small portion of the subject lands and adjacent lands have been identified as black ash deciduous swamp (figure 1). This swamp presented one form: deciduous tree (black ash). The canopy consisted entirely of black ash however, all trees were dead (7-8m tall; 0% cover). The sub-canopy (5-6m tall; 85% cover), and understory (2-3m tall; 50% cover) also consisted entirely of black ash. The ground layer provided 100% cover and consisted entirely of reed canary grass. A small cattail/reed canary grass marsh was located within the north western portions of this community. This area drains into the roadside ditch.



Photo 8: Deciduous Swamp (May 15, 2022)

3.1.5. Tributary to McLaughlin Creek

Running along the northern border of the subject lands and adjacent lands was a watercourse which originates onsite and continues offsite, flowing to McLaughlin Creek and represents fish habitat. The

watercourse flowed in a westerly direction and contained substantial flow during the May 15, 2022 visit. The average wetted width and water depths were 1.2m and 7cm, respectively. A ponded area (approximately 12m x 8m in size) with surrounding vernal pools draining into the watercourse was noted within the adjacent lands. Small woody debris and organics were the only in-water cover present. The substrate consisted of fines. Much of the watercourse contained full canopy cover and bank vegetation. The most common species were: sugar maple, white cedar, green ash, sensitive fern, and ostrich fern.



Photo 9: Tributary to McLaughlin Creek (May 15, 2022)

4.0. Potential Species at Risk

The Make a Map: Natural Heritage online database (OMNRF) was reviewed on April 28, 2022. This database provides sightings of provincially tracked species including Threatened and Endangered species covered by the 2008 Endangered Species Act in 1 km squares across most of Ontario. A search was conducted on the site and adjacent lands (18VQ6861, 18VQ6761, 18VQ6760, and 18VQ6860). The following species were identified for these squares:

- Eastern Meadowlark (Threatened)
- Bobolink (Threatened)
- Snapping Turtle (Special Concern)
- Henslow's Sparrow (Endangered)

The Ontario Breeding Bird Atlas provides a searchable database in the form of a 10km square grid. A query revealed the following Species at Risk and species of special concern identified within the 10km square that encompasses the site and adjacent lands (18VQ66):

- Chimney Swift (Threatened)
- Eastern Wood-Pewee (Special Concern)
- Barn Swallow (Special Concern)

- Wood Thrush (Special Concern)
- Bobolink (Threatened)
- Eastern Meadowlark (Threatened)

Similar to the Ontario Breeding Bird Atlas, the Ontario Reptile and Amphibian Atlas provides a searchable database in the form of a 10km square grid. A query revealed the following species of special concern was identified within the 10km square that encompasses the subject lands and adjacent lands (18VQ66):

- Snapping Turtle (Special Concern)

iNaturalist and the Global Biodiversity Information Facility provides a searchable database. A query revealed no Species at Risk in the vicinity of the Subject Lands.

The Department of Fisheries and Oceans provide species at risk sightings via their online map tool. A query found no results in the vicinity of the site.

In addition to the above potential Species at Risk, other endangered and threatened species may potentially occur in the general area:

- Little Brown Myotis (Endangered)
- Northern Myotis (Endangered)
- Tri-coloured Bat (Endangered)
- Eastern Small-footed Myotis (Endangered)
- Butternut (Endangered)
- Black Ash (Endangered)

4.1. Turtles and Reptiles

Snapping turtles are designated as special concern under the Ontario Endangered Species Act (ESA). The habitat of species of special concern is not regulated under the Ontario ESA. Although the ponds may be used by turtles, they lack size, depth and cover, and it is highly unlikely to be utilised by snapping turtles. Additionally the ponds will remain as is, and any indirect impacts on turtles as a result of the proposed development can be mitigated provided the mitigation measures in this report are properly implemented.

4.2. Birds

Eastern wood-pewee, barn swallow, and wood thrush are designated special concern under the Ontario Endangered Species Act (ESA). The habitat of species of special concern is not regulated under the Ontario ESA. The eastern wood-pewee is mostly associated with the mid-canopy layer of forest clearings and edges of deciduous and mixed forests (COSEWIC 2012a). The on-site forests did not contain this forest type. Barn swallow nest sites are commonly found along the interior or exterior of building structures, under bridges and wharves, and in road culverts (Heagy et al. 2014.). No barn swallow or barn swallow nests were observed. Nesting structures were present (accessory buildings), no nests were observed. The wood thrush nests mainly in second-growth and mature deciduous and mixed forests, with saplings and well-developed understory layers (COSEWIC 2012b). The on-site forests do not support this forest type.

Chimney swift, bobolink, and eastern meadowlark are designated as threatened under the Ontario Endangered Species Act (ESA). Henslow's sparrow is designated as endangered under the Ontario

Endangered Species Act (ESA). Chimney swift are aerial foragers, associated with water where insects are abundant and urban and rural areas where chimneys are available for nesting and roosting (COSEWIC 2007). No suitable chimneys were observed for this species use. Henslow's Sparrow, bobolink, and eastern meadowlark are associated with native and non-native larger grassland habitats such as hayfields (COSEWIC 2010, and COSEWIC 2011). No suitable habitat for either species were present.

4.3. Mammals

Little brown Myotis, northern Myotis, Eastern Small-footed Myotis, and tri-coloured bat are designated endangered under the Ontario Endangered Species Act (ESA). All four bats may forage in open areas on-site and may roost in trees or buildings on or adjacent to the Site. The Atlas of Mammals of Ontario (Dobbyn, 1994) suggests that the tri-colored bat is not present within this part of Ontario however, the NatureServe mapping in the COSSARO (2015) includes all of southeastern Ontario. Based on this information, this species is considered to have a very low potential of occurring. To prevent impacts to bats, no clearing of trees greater than 10cm on-site should take place between March 15 and November 30 (inclusive) without a qualified biologist first confirming the absence of bats (i.e., open work timing window from December 1 to March 14). If tree clearing is conducted between December and March 14, no interactions with bats are anticipated, and therefore, significant negative impacts to SAR bats would be avoided.

Maternity colonies are established by females in the summer, often in buildings, or large-diameter trees with suitable cavities (COSEWIC 2013b). No caves, bedrock fissures, mining shafts, abandoned buildings, or other features which may function as bat hibernacula habitat were noted within the subject lands. No suitable cavity trees that may be used by bats were observed within the subject lands.

4.4. Vegetation

Butternut (designated as endangered by the ESA) tends to reach greatest abundance in rich well-drained mesic loams in floodplains, streambanks, terraces and ravine slopes, but can occur in a wide range of other situations (COSEWIC 2017). No butternuts were observed within the subject lands or adjacent lands (50m).

Black ash (designated as endangered by the ESA) occurs most frequently in floodplain forests, basin, seepage and lacustrine swamp forests, shoreline forest margins, and fens (COSEWIC 2017). The ministry temporarily suspended protections for Black Ash for a period of two years from the time the species was added to the Species at Risk in Ontario List (Ontario Regulation 230/08). During this time, proponents will not need to seek authorizations for activities that impact Black Ash and its habitat. Black ash was present within the deciduous swamp.

4.5. Species at Risk Summary

In summary, based on the habitat present within the buildable area and the field visit, no Species at Risk are anticipated to be present within the development area. Indirect impacts on potential species as a result of the proposed development can be mitigated provided the mitigation measures in this report are properly implemented.

5.0. Natural Heritage System

A Natural Heritage System (NHS) has been identified in accordance with the direction of the Provincial Policy Statement. Its intent is to reinforce the conservation, restoration and enhancement of identified natural heritage features and areas and promote the overall diversity and interconnectivity of natural heritage features and areas.

United Counties of Leeds and Grenville Official Plan identified natural heritage system features (NHS) as covering the subject lands. A refined search identified the following NHS (discussion below): Significant Woodland, Unevaluated Wetlands and Tributary to McLaughlin Creek.

5.1. Significant Woodland

The woodland within the subject lands is part of a larger woodland that totals 24.39ha in size. Clearing within the potential development area would result in the removal of approximately 0.34ha. The significance of this woodland was evaluated using the criteria in the Natural Heritage Reference Manual (OMNR, 2010). The PPS does not permit development in significant woodlands south and east of the Canadian Shield unless it has been demonstrated that there will be no negative impacts on the natural features or the ecological functions. Woodlands are significant if they meet the criteria presented in the NHRM: size, ecological function, uncommon characteristics, and economical and social functional values. If the woodland meets any one of these criteria, then it could be deemed to be significant. Table 1 demonstrates the factors determining significance pre and post construction as per the NHRM.

Within the portion proposed to be removed there were no seasonal concentration areas of animals, rare vegetative communities, raptor overwintering sites, caves, or suitable tree cavities.

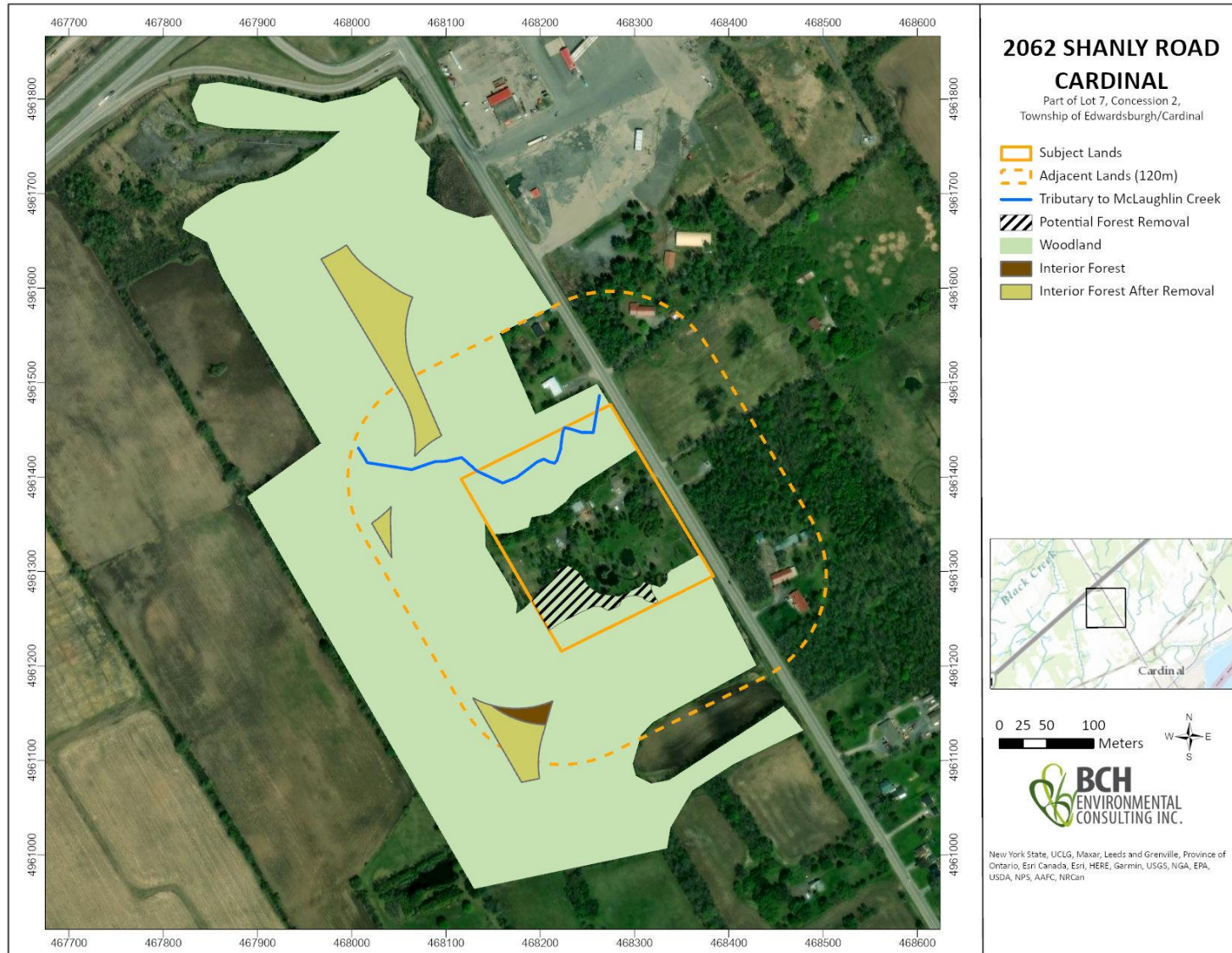
TABLE 1: WOODLAND ANALYSIS

CRITERIA	PRE CONSTRUCTION	POST CONSTRUCTION	DISCUSSION
WOODLAND SIZE	DOES NOT MEET THE CRITERIA		<p>The woodland is located within the Upper South Nation Subwatershed where the percent forest cover is 39%.</p> <p>The NHRM states that where woodland cover is about 30-60% of the land cover, woodlands 50 ha in size or larger should be considered significant.</p> <p>The woodland size is 24.39ha before removal and 24.05ha after removal therefore does not meet this criteria.</p>

CRITERIA		PRE CONSTRUCTION	POST CONSTRUCTION	DISCUSSION
ECOLOGICAL FUNCTION CRITERIA	Woodland Interior	DOES NOT MEET THE CRITERIA		Where woodlands cover about 30-60% of the lands; when 8 ha or more of interior habitat is present, they are considered significant. Therefore, this forest does not meet the criteria. Forest interior is 1.19ha before forest removal and 1.12ha after removal.
	Proximity to other woodlands or other habitats	MEETS THE CRITERIA		Outside of the subject lands this woodland connects with wetlands and watercourses (fish habitat) and they are likely receiving ecological benefit from the woodland.
	Linkages	MEETS THE CRITERIA		Woodland is located within a defined natural heritage system.
	Water protection	DOES NOT MEET THE CRITERIA		Watercourses are present (outside of the subject lands and the adjacent lands), but are not located within a sensitive or threatened watershed or a specified distance (e.g., 50 m or top of valley bank if greater) of a sensitive groundwater discharge, sensitive recharge, sensitive headwater area, sensitive watercourse or sensitive fish habitat.
	Woodland diversity	DOES NOT MEET THE CRITERIA		Within the subject lands this forest did not contain any declining natural communities or a high variety of native diversity through composition or terrain.
UNCOMMON CHARACTERISTICS CRITERIA		DOES NOT MEET THE CRITERIA		Within the subject lands there are no uncommon species composition,

CRITERIA	PRE CONSTRUCTION	POST CONSTRUCTION	DISCUSSION
			cover type, age or structure.
ECONOMIC AND SOCIAL FUNCTIONAL VALUES CRITERIA	DOES NOT MEET THE CRITERIA		Within the subject lands the woodlands did not have high economic or social values through particular site characteristics or deliberate management.

FIGURE 2: WOODLAND ANALYSIS



As per the criteria set out in the NHRM this woodland should be considered significant, furthermore the woodland retains this designation of significant even after construction is completed. This woodlands significance was established from the following criteria: proximity to other habitats, and linkages. After removal (0.34ha), the woodland (24.05ha after removal) still meets the criteria for significance (Table 1). Removal of 0.34ha of the forest at this location will not negatively impact this feature or its ecological functions. Woodland significance is retained.

5.2. Unevaluated Wetland / Tributary to McLaughlin Creek

The wetland/watercourse has been taken into account while establishing the developable area. A 30m setback has been established along the watercourse.

The west wetland drains into the creek and within the vicinity of the development area we are proposing a 10m setback from this wetland. A small 0.001394ha portion of the southern wetland is proposed to be removed. Except at the location of wetland removal there will be a 10m setback in place for the remaining of the southern wetland. The southern wetland drains towards the road ditch. These wetlands lack the size and diversity to ever be considered significant (no formal evaluation has been undertaken). As they are not to be considered PSW, they are not protected under the PPS or Official Plan.

Potential impacts to the wetland due to this type of development includes: changes in hydrology, sedimentation, and changes in the quality of water entering the system. None of these potential impacts are anticipated if mitigation measures provided below are properly followed.

Additionally, the stormwater management plan will provide/design a berm. Stormwater will collect and be stored in front of the berm. The berm will be designed in such a way as that stormwater can then infiltrate through the berm and then sheet drain into the the wetland.

To provide further protection to the wetland after completion of construction, native grasses, shrubs and trees will be planted within the setback area. As much of this area consists of manicured lawn these plantings should be viewed as an enhancement to the area. Planting densities should achieve full coverage with shrubs planted at 1 metre on centre. Examples of acceptable species include but are not limited to: red-osier dogwood (*Cornus stolonifera*), Willows (*Salix discolor* and *Salix bebbiana*), nannyberry (*Viburnum lentago*), common elder (*Sambucus canadensis*), staghorn sumac (*Rhus typhina*), red maple (*Acer rubrum*), green ash (*Fraxinus pennsylvanica*) and black ash (*Fraxinus nigra*). Contact the Conservation Authority to inquire about their seedling program.

During construction sediment erosion control measure prescribed in section 8, must be in place.

As these features represent surface water features, additional authorization from the conservation authority may be required.

No impact to the watercourse is anticipated. Removal of 0.001394ha portion of the southern wetland will not negatively affect the overall health and function of the wetland. Mitigation measures provided below will limit the potential for indirect impacts on the wetland. For a description of the wetland/watercourse present within the adjacent lands see section 3.1

5.3. Significant Wildlife Habitat

The potential for significant wildlife habitat was assessed using the guidance in OMNR (2010) and MNRF (2015). Potential components which may lead to a designation of significant wildlife habitat include seasonal concentration areas of animals, rare vegetation communities or specialized habitat for wildlife, habitat for species of conservation concern, and animal movement corridors. No rare vegetative communities, raptor overwintering sites, or caves were located within the subject or adjacent lands.

No significant wildlife habitat will be negatively impacted. Prescribed mitigation measures in section 8.0 will limit the potential for indirect impacts.

6.0. Development Constraints and Cumulative Impacts

Constraints that have been identified are discussed below:

Tributary to McLaughlin Creek/Wetlands: See section 5.2

The Canadian Environmental Assessment Agency (CEAA) defines cumulative effects as... "the effects on the environment caused by an action in combination with other past, present, and future human actions..." They occur when two or more project-related environmental effects, or two or more independent projects, combine to produce an augmented effect. These cumulative effects may be positive or negative.

There are no significant natural heritage features within the proposed developable area. Given that the proposed location consists of mowed/manicured lawn this project in no way contributes to any cumulative effect. This EIS directed development away from all natural heritage features (woodland, wetlands and watercourse) and through the mitigation measures protected these lands from future development.

With proper implementation of the mitigation measures described in this report it is anticipated that the construction of the proposed landscaping business will not increase the potential for cumulative effects in the general landscape.

7.0. Tree Protection

Tree removal will occur as needed within the developable area, a reasonable effort will be made to retain a majority of the trees. Potential impacts during construction of the proposed facility and associated removal of trees and other vegetation includes impacts on wildlife, increased erosion and release of sediments and other potential contaminants from truck traffic and construction activity, harm to wildlife remaining in the work area during construction, and impacts associated with an increase in noise, dust and light. The proposed works are within a manicured lawn and only the occasional tree will need to be removed.

Removal of tree cover within the developable area is not anticipated to result in significant negative impacts to the environmental features and functions of the general area. Any tree in the vicinity of works but not slated for removal will have its critical roots zone protected by temporary fencing (snow



20373 Bethune Street
South Lancaster, On
K0C 2C0
613.571.8883
shaun@bchenviro.ca

fencing) to ensure it is not affected. Prescribed mitigation measures in section 8.0 will limit the potential for indirect impacts.

FIGURE 3: ENVIRONMENTAL CONSTRAINTS

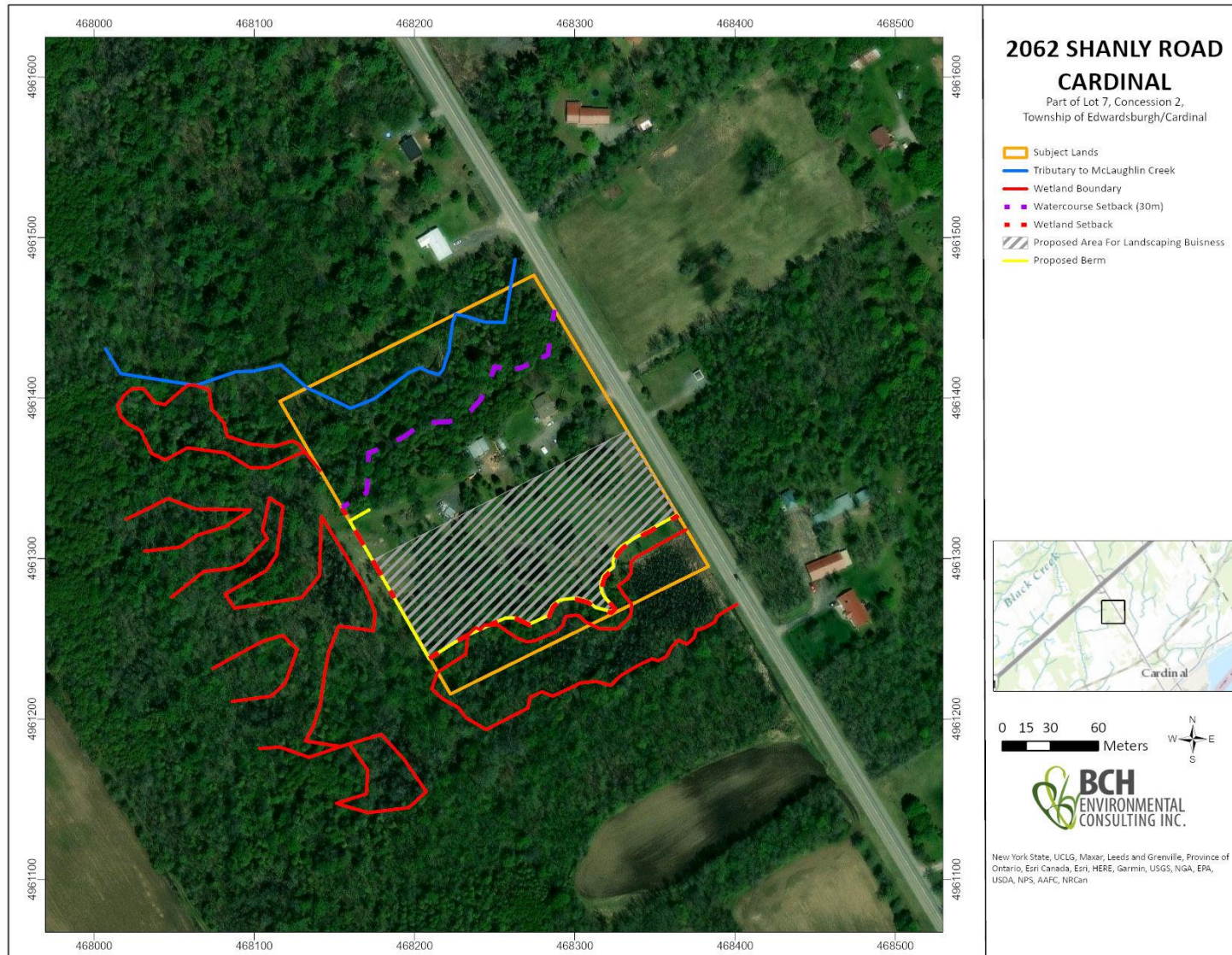
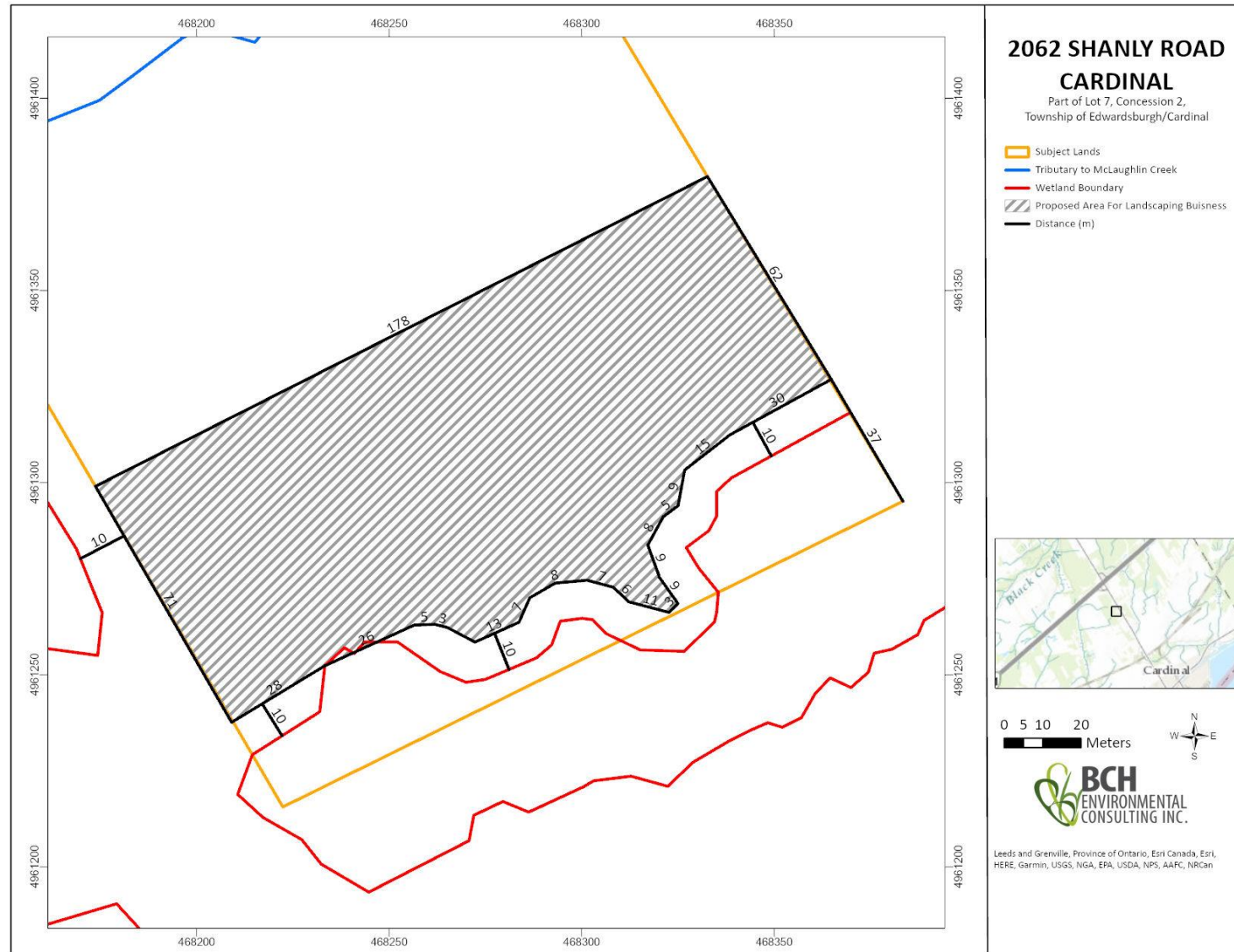


FIGURE 4: DISTANCES



8.0. Recommendations and Conclusion

This study's recommendations are intended to mitigate potential negative impacts due to the proposed creation of a landscaping facility and should be implemented through a development agreement between the owners and the municipality in order to control development of the site. Properly implemented controls within this agreement are deemed sufficient to mitigate the potential impacts of the proposed development on the natural heritage features present.

8.1. Mitigation for the Species at Risk and Migratory Birds Convention Act

- 1- To protect breeding birds, no tree or shrub removal should occur between April 1th and August 30th, unless a breeding bird survey is completed by a qualified biologist within two days of the woody vegetation removal and identifies no nesting activity.
- 2- With regard to turtles, clearing of vegetation should be undertaken between October 15th and April 15th, which is outside of the more active season for turtles.
- 3- To prevent impacts to bats, no clearing of trees greater than 10cm on-site should take place between April 1 and September 30 (inclusive) without a qualified biologist first confirming the absence of bats (i.e., open work timing window from October 1 to March 3). If tree clearing is conducted between October and April, no interactions with bats are anticipated, and therefore, significant negative impacts to SAR bats would be avoided.
- 4- Construction staff is to be made aware of the characteristics of species at risk and in the event that any Species at Risk (SAR) are encountered during site clearing, work in the area will be stopped immediately. Measures will be undertaken to ensure the animal is not harmed and the project biologist and the Ministry of the Environment, Conservation and Parks contacted to discuss how to proceed.

8.2. Wetland Protection Recommendations and Mitigation Measures

- 1- The hydrology and quality of the wetlands should not be impacted and should be maintained.
- 2- All lands within 30m of any watercourse are to be maintained in a natural vegetated state.
- 3- Except at the location of proposed wetland removal there will be a 10m setback in place for the remaining wetland.
- 4- It is the landowner's responsibility to make sure all material stocked onsite is kept contained and no material is permitted to enter the wetlands.
- 5- A stormwater management plan will provide/design a berm. Stormwater will collect and be stored in front of the berm. The berm will be designed in such a way as that stormwater can then infiltrate through the berm and then sheet drain across the setback area towards the wetland. Location of the berm is provided in Figure 3.
- 6- To provide further protection to the wetland after completion of construction, native grasses, shrubs and trees will be planted within the setback area. As much of this area consists of manicured lawn these plantings should be viewed as an enhancement to the area. Planting

densities should achieve full coverage with shrubs planted at 1 metre on centre. Examples of acceptable species include but are not limited to: red-osier dogwood (*Cornus stolonifera*), Willows (*Salix discolor* and *Salix bebbiana*), nannyberry (*Viburnum lentago*), common elder (*Sambucus canadensis*), staghorn sumac (*Rhus typhina*), red maple (*Acer rubrum*), green ash (*Fraxinus pennsylvanica*) and black ash (*Fraxinus nigra*). Contact the Conservation Authority to inquire about their seedling program.

- 7- Install and maintain the erosion control measures during construction. No work will occur until the appropriate sediment and erosion control measures have been designed and implemented prior to any work. At a minimum these will include:
 - a. Provide regular maintenance to the sediment and erosion control measures during construction. Contractor shall be responsible for ensuring that the sediment and erosion control measures are maintained. No turbid water is permitted to leave the work area.
 - b. Additional materials (i.e. rip rap, filter cloth and silt fencing) will be readily available in case they are needed promptly for erosion and/or sediment control.
 - c. Any stock piles of soil or fill material will be stored as far as possible from the wetland/creek and protected by silt fencing.
 - d. Sediment fencing will be installed at the edge of the work area, and kept in good working condition. The sediment fencing will not be removed until the area has stabilized.

8.3. Mitigation for Tree Protection

- 1- Any tree in the vicinity of works but not slated for removal will have its critical roots zone protected by sturdy temporary fencing at least 1.3 metres in height installed from the tree trunk to a distance of ten times the retained tree's diameter where possible.
- 2- No grading, heavy machinery traffic, stockpiling of material, machinery maintenance and refueling, or other activities that may cause soil compaction are to occur within three metres of the critical root zone of the trees to be protected.
- 3- The root system, trunk, and branches of the trees to be protected are to be protected and not damaged. If any roots of trees to be retained are exposed during site alterations, the roots shall be immediately reburied with soil or covered with filter cloth, burlap or woodchips and kept moist until the roots can be buried permanently. A covering of plastic should be used to retain moisture during an extended period when watering may not be possible. Any roots that must be cut are to be cut cleanly to facilitate healing and as far from the tree as possible. Overhanging branches from protected trees that may be damaged during construction are to be pruned by a qualified arborist prior to construction.
- 4- Exhaust fumes from all equipment during construction will not be directed towards the canopy of the adjacent protected trees.

8.4. Additional Mitigation Measures

- 1- The extent of any vegetation removal is to be minimized where possible and limited to the proposed development area.
- 2- All rules governing septic systems and wells must be followed and be kept in good operational order.
- 3- There will be no use of herbicides in clearing of vegetation.

- 4- Municipal by-laws and provincial regulations for noise will be followed.
- 5- To discourage wildlife from entering the work areas during construction, the site should be kept clear of food wastes and other garbage. Proper drainage should be provided to avoid accumulation of standing water, which could attract amphibians, birds, and other wildlife to the work areas.

To conclude this EIS, it is the professional opinion of the authors that with proper implementation and maintenance of the mitigation measures (see above), the proposed development will not negatively impact any natural heritage features, or any habitat of species at risk.

Thank you for the opportunity to work with you. If you have any questions or comments please do not hesitate to contact our office.



Shaun St.Pierre, B.Sc. Biology



Cody Fontaine, Wildlife Technologist

REFERENCES

- Bradley, David J. 2013. Southern Ontario Vascular Plant Species List. Ont. Min. Natur. Resour. Science and Information Branch, Southern Sci. and Info., SIB SR-03 78p.
- COSEWIC. 2007. COSEWIC assessment and status report on the Chimney Swift *Chaetura pelagica* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. vii + 49 pp. (www.sararegistry.gc.ca/status/status_e.cfm).
- COSEWIC. 2010. COSEWIC assessment and status report on the Bobolink *Dolichonyx oryzivorus* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. vi + 42 pp. (www.sararegistry.gc.ca/status/status_e.cfm).
- COSEWIC. 2011. COSEWIC assessment and status report on the Eastern Meadowlark *Sturnella magna* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. x + 40 pp. (www.sararegistry.gc.ca/status/status_e.cfm).
- COSEWIC. 2013b. COSEWIC assessment and status report on the Little Brown Myotis *Myotis lucifugus*, Northern Myotis *septentrionalis* and Tri-colored Bat *Perimyotis subflavus* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. xxiv + 93 pp. (www.registrelep-sararegistry.gc.ca/default_e.cfm).
- COSEWIC. 2017. COSEWIC assessment and status report on the Butternut *Juglans cinerea* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. xiii + 74 pp. (<http://www.registrelep-sararegistry.gc.ca/default.asp?lang=en&n=24F7211B-1>).
- Department of Fisheries and Oceans (DFO). 2019. Aquatic Species at Risk Map Available <https://www.dfo-mpo.gc.ca/species-especes/sara-lep/map-carte/index-eng.html> (Accessed April 28, 2022).
- Heagy, A., D. Badzinski, D. Bradley, M. Falconer, J. McCracken, R.A. Reid and K. Richardson. 2014. Recovery Strategy for the Barn Swallow (*Hirundo rustica*) in Ontario. Ontario Recovery Strategy Series. Prepared for the Ontario Ministry of Natural Resources and Forestry, Peterborough, Ontario. vii + 64 pp.
- Hoffman, D.W., M.H. Miller, & R.E. Wicklund. 1967. The Soils of Lanark County, Ontario. Report No. 40 of the Ontario Soil Survey.
- United Counties of Leeds and Grenville. 2021. Official Plan for United Counties of Leeds and Grenville.
- Lee, H.T., W.D. Bakowsky, J. Riley, J. Bowles, M. Puddister, P. Uhlig and S. McMurray. 1998. Ecological Land Classification for Southern Ontario: First Approximation and its Application. Ontario Ministry of Natural Resources, Southcentral Science Section, Science Development and Transfer Branch. SCSS Field Guide FG-02.
- Ministry of Municipal Affairs and Housing (MMAH). 2020. Ontario Provincial Policy Statement. Issued under section 3 of the Planning Act.
- Ontario Ministry of Natural Resources (OMNR). 2000. Significant wildlife habitat technical guide. 151p.



20373 Bethune Street
South Lancaster, On
K0C 2C0
613.571.8883
shaun@bchenviro.ca

Ontario Ministry of Natural Resources (OMNR). March 2010. Natural Heritage Reference Manual for Natural Heritage Policies of the Provincial Policy Statement, 2005. Second Edition. Toronto: Queen's Printer for Ontario. 248 pp

Ontario Ministry of Natural Resources (OMNR). 2021. Land Information Ontario. Available <https://www.ontario.ca/page/land-information-ontario> (Accessed April 28, 2022)

Ontario Ministry of Natural Resources and Forestry (MNRF). 2015. Significant Wildlife Habitat Criteria Schedules For Ecoregion 6E. 38p.

Ontario Nature. 2020. Ontario Breeding Bird Atlas. Available <http://www.birdsontario.org/atlas/index.jsp> (Accessed April 28, 2022)

Ontario Nature. 2020. Ontario Reptile and Amphibian Atlas. Available <https://ontarionature.org/oraa/maps/> (Accessed April 28, 2022)

Ontario Nature, 2020. Ontario Reptile and Amphibian Atlas: a citizen science project to map the distribution of Ontario's reptiles and amphibians. Ontario Nature, Ontario. Available: <https://www.ontarioinsects.org/herp;> (Accessed April 28, 2022)

Species at Risk Ontario (SARO). 2020. Species at Risk Ontario. Retrieved April 28, 2022at <http://www.ontario.ca/environment-and-energy/species-risk-ontario-list>

Township of Edwardsburgh/Cardinal. 2019. Official Plan for the Township of Edwardsburgh/Cardinal.

APPENDIX A: OBSERVED SPECIES LIST

COMMON NAME	SCIENTIFIC NAME	SRANK	SARA STATUS	SARO STATUS	COEFF. CONSERVATISM
Field Horsetail	<i>Equisetum arvense</i>	S5			0
Ostrich Fern	<i>Matteuccia struthiopteris</i> var. <i>pennsylvanica</i>	S5			5
Sensitive Fern	<i>Onoclea sensibilis</i>	S5			4
White Spruce	<i>Picea glauca</i>	S5			6
Eastern White Pine	<i>Pinus strobus</i>	S5			4
Eastern White Cedar	<i>Thuja occidentalis</i>	S5			4
Narrowleaf Cattail	<i>Typha angustifolia</i>	SNA			
Common Reed	<i>Phragmites australis</i>	S4?			0
Wild Lily-of-the-valley	<i>Maianthemum canadense</i>	S5			5
Large False Solomon's Seal	<i>Maianthemum racemosum</i>	S5			4
Red Trillium	<i>Trillium erectum</i>	S5			6
White Trillium	<i>Trillium grandiflorum</i>	S5			5
Trembling Aspen	<i>Populus tremuloides</i>	S5			2
Bebb's Willow	<i>Salix bebbiana</i>	S5			4
Bitternut Hickory	<i>Carya cordiformis</i>	S5			6
White Birch	<i>Betula papyrifera</i>	S5			2
Bur Oak	<i>Quercus macrocarpa</i>	S5			5
Northern Red Oak	<i>Quercus rubra</i>	S5			6
American Elm	<i>Ulmus americana</i>	S5			3
Canada Anemone	<i>Anemonastrum canadense</i>	S5			3
Field Mustard	<i>Brassica rapa</i>	SNA			
Wild Red Raspberry	<i>Rubus idaeus</i> ssp. <i>strigosus</i>	S5			2
Black Medic	<i>Medicago lupulina</i>	SNA			
Common Prickly-ash	<i>Zanthoxylum americanum</i>	S5			3
Staghorn Sumac	<i>Rhus hirta</i>	S5			1
Manitoba Maple	<i>Acer negundo</i>	S5			0
Red Maple	<i>Acer rubrum</i>	S5			4
Sugar Maple	<i>Acer saccharum</i>	S5			4
Common Buckthorn	<i>Rhamnus cathartica</i>	SNA			
Riverbank Grape	<i>Vitis riparia</i>	S5			0
Wild Carrot	<i>Daucus carota</i>	SNA			
Alternate-leaved Dogwood	<i>Cornus alternifolia</i>	S5			6
White Ash	<i>Fraxinus americana</i>	S4			4
Black Ash	<i>Fraxinus nigra</i>	S4			7
Green Ash	<i>Fraxinus pennsylvanica</i>	S4			3
Common Plantain	<i>Plantago major</i>	SNA			

COMMON NAME	SCIENTIFIC NAME	SRANK	SARA STATUS	SARO STATUS	COEFF. CONSERVATISM
Smooth Bedstraw	<i>Galium mollugo</i>	SNA			
Tartarian Honeysuckle	<i>Lonicera tatarica</i>	SNA			
Maple-leaved Viburnum	<i>Viburnum acerifolium</i>	S5			6
Common Yarrow	<i>Achillea millefolium</i>	SNA			
Common Ragweed	<i>Ambrosia artemisiifolia</i>	S5			0
Common Burdock	<i>Arctium minus</i>	SNA			
Common Sow-thistle	<i>Sonchus oleraceus</i>	SNA			
Common Dandelion	<i>Taraxacum officinale</i>	SNA			
Black Cherry	<i>Prunus serotina</i> var. <i>serotina</i>	S5			3
Common Mullein	<i>Verbascum thapsus</i> ssp. <i>thapsus</i>	SNA			
Reed Canary Grass	<i>Phalaris arundinacea</i> var. <i>arundinacea</i>	S5			0
Eastern Poison Ivy	<i>Toxicodendron radicans</i> var. <i>radicans</i>	S5			2
Currant sp.					
Goldenrod sp.					
Willow sp.					
Mosses					
Eastern Phoebe	<i>Sayornis phoebe</i>	S5B			
Blue Jay	<i>Cyanocitta cristata</i>	S5			
American Crow	<i>Corvus brachyrhynchos</i>	S5B			
Black-capped Chickadee	<i>Poecile atricapilla</i>	S5			
Ovenbird	<i>Seiurus aurocapillus</i>	S4B			
Common Grackle	<i>Quiscalus quiscula</i>	S5B			

APPENDIX B: QUALIFICATIONS

SHAUN M. ST.PIERRE, B.Sc. Biology

EDUCATION

B.Sc. Biology, Trent University 2007

Fisheries and Wildlife Technology, Frost Campus, Sir Sandford Fleming College, 2005

Fisheries and Wildlife Technician, Frost Campus, Sir Sandford Fleming College, 2004

LANGUAGES

Fluent in French and English

POSITIONS HELD

2018 - : BCH Environmental Consulting Inc., Biologist / Owner
 2006-2017: Bowfin Environmental Consulting Inc., Biologist / GIS Specialist / Environmental Site Inspector
 2005: St. Lawrence River Institute of Environmental Sciences, Field Research Assistant
 2004: MNR Kawartha Lakes, Field Research Assistant
 2003: DFO- Experimental Lake Area, Field Research Assistant
 2001: Resource Stewardship S, D & G, Stewardship Ranger

CERTIFICATIONS / PROFESSIONAL AFFILIATIONS

MTO/DFO/OMNR Fisheries Protocol, Ecological Land Classification, Certified in Inventory and Identification Methods for Ontario's Reptiles and Amphibians, North American Benthological Society (NABS) Certified Family Level Taxonomist, Ontario Benthos Biomonitoring Network (OBBN), Ontario Stream Assessment Protocol (OSAP), Certified Ontario Wetland Evaluator (OWES), Butternut Health Assessor (BHA), first aid, CPR, Pleasure Craft Operator Card, Marine Radio Operator, WHMIS, WHSA, Hazard Identification, Assessment and Control, All Terrain Vehicle Riders Course (issued by the Manitoba Safety Council), Water Safety Training (Bronze Cross), Possession / Acquisition Firearms Licence, Ontario Hunter Education Course Certificate, Ontario Trapper Education Course Certificate, Wildlife Chemical Immobilization, Vaccination, and Euthanasia- Certificate of Knowledge, South Lancaster Fish and Game Club (SLFGC; president 2012 and 2013; executive member 2014-2018), Ontario class G driver's license, and Snowmobile License.

EXPERIENCE

Experience in environmental impact assessments, environmental monitoring, environmental assessments, terrestrial habitat assessment, species at risk surveys, amphibian surveys, avian surveys, freshwater habitat assessment, collection and identification of plants, collection and identification of aquatic invertebrate, collection and identification of fish, fish salvage, fish behavioral studies, winter bat hibernaculum inventories and fisheries inventories including habitat mapping, electroshocking, FWIN and RIN. Other experience include GIS mapping.

Environmental and Fisheries Inspections

- Provided environmental and fisheries inspections for the construction of the Cataraqui Crossing HWY 401-MTO (Kingston, ON).
- Provided environmental and fisheries inspections for the construction of the Three Nations Bridge including surveys for nesting species at risk (Cornwall, ON).
- Provided environmental and fisheries inspections for construction (Ottawa, ON).
- Conducted nest surveys (Kemptonville, ON.; Stittsville, ON.; Cornwall, ON.)
- Conducted environmental inspections for the construction of the Clarkson WWTP outfall, Lake Ontario.
- Conducted environmental inspections for the construction of a new bridge crossing Bearbrook Creek along the 417.

- Provided environmental and fisheries inspections for the blasting and drilling operation for the Burloak Water Purification Tunnel project (Burlington, ON).
- Provided environmental and fisheries inspections for the construction of the Poole Creek Re-alignment/Huntmar Drive Crossing.

Species at Risk Inventories / Monitoring

- Butternut survey and assessment for proposed developments (Brockville, Carleton Place, Carp, Clarence-Rockland, Cornwall, Munster, Hawkesbury, Kemptville, Ottawa, South Lancaster, Smith Falls, Stittsville, Prospect, Vars, Moose Creek, Prescott, Westminister, Renfrew, Battersea, Jones Falls, and Millbrook).
- American Eel surveys using the boat electrofisher on the Mississippi River (Almonte, ON), South Nation River (Casselman, ON) and Ottawa River (Renfrew, ON; Ottawa, ON: Shawville, QC)
- American Eel collection on the St. Lawrence River for the St. Lawrence River Institute (Cornwall, ON)
- American Ginseng survey for proposed development (Kanata, South Lancaster and Renfrew).
- Whip-poor-will survey for proposed development (Navan, ON; Kemptville, ON; Stittsville, ON; Prescott, ON; Alexandria, ON) and quarries (Avonmore, Moosecreek, Prospect, Stittsville, Kanata, Ottawa)
- Assisted in a Least Bittern survey (Avonmore, ON)
- Conducted turtle surveys: Blanding's turtle, Eastern musk turtle (Carleton Place, ON; Ottawa, ON; Stittsville, ON; Kanata, ON, Prospect, ON)
- Conducted rapid clubtail surveys (Almonte, ON)
- Bat maternal nesting site surveys (Prescott, ON; Battersea, ON; Prescott, ON; Hawkesbury, ON; Russell, ON)

Aquatic Inventories

- Boat electrofishing along the shoreline of the Ottawa River (Chat Falls, ON) along the shoreline of the Cataraqui River (Kingston, ON), downstream of the Carillion Dam (Pointe-Fortune, QC), Lake St. Francis (South Lancaster, ON), South Nation River (Casselman, ON), Raisin River (Lancaster, ON), and the St. Lawrence River (Cornwall, ON)
- Collecting and data entry for benthic macroinvertebrate community surveys on several watercourses within Ontario including: Bonnechere River (Renfrew, ON), Montreal River (Latchford, ON), Jock River (Ottawa, ON), tributaries of the Bonnechere River (Renfrew, ON), tributaries to Feedmill Creek (Ottawa, ON), tributary to Chippewa Creek (North Bay, ON) and tributary to the Beaudette River (Alexandria, ON).
- Collecting and data entry for several fish community surveys including: Black Creek (Westminister, ON), Bonnechere River (Renfrew and Douglas, ON), Butler's Creek (Brockville, ON), East Branch of Little Cataraqui Creek (Kingston, ON), Kehoe Ditch (Greely, ON), Lac Opemisca (Ouje-Bougoumou, QC), Marshall Seguin Municipal Drain (Vars, ON), Montreal River (Latchford, ON), tributaries of Laval Creek (Carleton Place), tributaries to Feedmill Creek (Ottawa, ON), tributaries to Lafontaine Creek (Clarence-Rockland), tributaries to Shirley's Brook (Kanata, ON), tributaries to the Beaudette River (Alexandria, ON), tributaries to the Bonnechere River (Renfrew, ON), tributaries to the Ottawa River (Carp, ON; Ottawa, ON; Wendover, ON; Clarence-Rockland, ON), tributaries to the South Nation River (Casselman, ON), tributaries to the South Nation River (Jessup Falls, ON), tributary to Hawkesbury Creek (Hawkesbury, ON), Hawkesbury Creek (Hawkesbury, ON), tributary to the St. Lawrence River (Prescott, ON) and tributary to the North Castor River (Greely, ON).
- Mapped fish habitat in many watercourses including: Black Creek (Westminister, ON), Bonnechere River (Renfrew and Douglas, ON), Butler's Creek (Brockville, ON), Kehoe Ditch (Greely, ON), Lac Opemisca/Lac Barlow Bypass channel (Ouje-Bougoumou, QC), Marshall Seguin Municipal Drain (Vars, ON), McKinnons Creek (Navan, ON), Montreal River (Latchford, ON), tributaries of Laval Creek (Carleton Place), tributaries of the Bonnechere River (Renfrew, ON), tributaries to Lafontaine Creek (Clarence-Rockland), tributaries to McKinnons Creek (Navan, ON), tributaries to Shirley's Brook (Kanata, ON), tributaries to the North Castor River (Greely, ON), tributaries to the Ottawa River (Ottawa, ON; Wendover, ON), tributaries to the South Nation River (Casselman, ON), tributaries to the South Nation River (Jessup Falls, ON), tributary to the St. Lawrence River (Prescott, ON) and tributary to Hawkesbury Creek (Hawkesbury, ON).
- Assisted in YOY sampling on the Raisin River (Lancaster, ON).
- Conducted riverine index netting on the Bonnechere River (Renfrew, ON).

- Assisted in gill netting on Bonnechere River (Renfrew, ON), Lac Barlow (Ouje-Bougoumou, QC), Lac Opemisca (Ouje-Bougoumou, QC), Montreal River (Latchford, ON), and Raisin River (Lancaster, ON).
- Assisted in conducting larvae surveys on Bonnechere River, Hoople Creek, Montreal River and Raisin River,
- Collected walleye eggs from the spawning grounds on the Bonnechere River, Montreal River, Raisin River and Hoople Creek.
- Assisted in the monitoring of a new wetland channel created in the Little Cataraqui River.
- Marsh monitoring program breeding amphibian survey at Stittsville, ON; Cornwall, ON; Kanata, ON; Hoople Creek and the Bonnechere River.
- Assisted in conducting fall walleye index netting for the MNR in Kawartha Lakes
- Conducted turtle surveys (Carleton Place, ON; Ottawa, ON)
- Conducted headwater waters assessment (Kanata, ON; Navan, ON, Ottawa, ON)

Terrestrial Inventories

- Multiple Environmental Impact Assessments across Ontario
- Tree Inventory for construction of the light rail (LRT; Ottawa, ON)
- Winter white-tailed deer survey (Edwardsburgh, ON)
- Plant community inventories for proposed developments, quarries, sand pits and road extensions (Brockville, Carleton Place, Carp, Casselman, Elgin, Griffith, Hamilton, Jessup Falls, Navan, Ottawa, Stittsville, Rockland, Simcoe, Cornwall, Kemptville, Hawkesbury, Smith Falls, Wendover, Moosecreek, Westminster, Prescott, Renfrew, Jones Falls, Michipicoten Island and in Ouje-Bougoumou in QC)

Aquatic Habitat Mapping for Municipal, City Roads and Provincial Highways

- Conducted MTO habitat assessments at Galetta Side Road, Torbolton Road, Kinburn Side Road (Ottawa, ON)
- Conducted MTO habitat assessments at Prince of Wales, Fernbank Road, Fallowfield Road, HWY 115, Arbuckle drain, the Carp river, tributaries to the Carp river and tributaries to Mud creek (Ottawa, ON)
- Conducted MTO habitat assessments at Innes Road, Ottawa, ON.
- Conducted MTO habitat assessments at MacLaren Side Road, Ottawa, ON.

Other

- Fish salvage: Mississippi River (Almonte, ON), Monaghan Drain (Ottawa, ON), tributary to the Rideau Canal (Kemptville, ON), and tributary to Feedmill Creek (Ottawa ON), Bonnechere River (Renfrew, ON)
- Assisted in conducting a winter bat hibernaculum inventory (Plantagenet, ON)
- Field research assistant for the Metaliculus study and EDC study (Experimental Lakes Area, ON)
- Captured, pit tagged, telemetry tagged and tracked Northern Pike (Experimental Lakes Area, ON)
- Construction and maintenance of nature trail (the Cornwall Outdoor Recreational Area, ON)
- Conducted frog deformities surveys (Glengarry, ON)
- Organized youth fishing derbies through SLFGC (2011-2013; South Lancaster)
- Organized the St. Francis Walleye Tournament through SLFGC (2012-2013; South Lancaster)

CODY J.C FONTAINE, Fisheries and Wildlife Technologist**EDUCATION**

Fisheries and Wildlife Technology, Frost Campus, Sir Sandford Fleming College, 2012
Fisheries and Wildlife Technician, Frost Campus, Sir Sandford Fleming College, 2011

LANGUAGES

Fluent in English

POSITIONS HELD

2022: BCH Environmental Consulting Inc., Fisheries and Wildlife Technologist
2014: Bowfin Environmental Consulting Inc., Fisheries and Wildlife Technologist
2009: Raisin Region Conservation Authority, Field Research Assistant

CERTIFICATIONS / PROFESSIONAL AFFILIATIONS

MTO/DFO/OMNR Fisheries Protocol, Environmental Monitoring For Construction Projects Practitioner (EMCPP), Ontario Stream Assessment Protocol (OSAP), Class 2 Electroshocking, first aid, CPR, Pleasure Craft Operator Card, WHMIS, WHSA, Hazard Identification, Assessment and Control, Ice Safety Training, Possession / Acquisition Firearms License, Fish Identification Certificate, Radio Telemetry Certificate, Fish Hatchery Operations Certificate, Ontario Hunter Education Course Certificate, Ontario trapper Education Course Certificate, Ontario class G driver's license.

EXPERIENCE

Experience in environmental monitoring, environmental assessments, terrestrial habitat assessment, species at risk surveys, amphibian surveys, freshwater habitat assessment, collection and identification of plants, collection and identification of fish, fish salvage, bat hibernaculum inventories and fisheries inventories including netting and electroshocking. Other experiences include GIS mapping.

Aquatic Inventories

- Assisted with boat electrofishing along the shoreline of the Ottawa River (Chat Falls and Ottawa, ON), Lake St. Francis (South Lancaster, ON), Bonnechere (Renfrew, ON), Raisin River (Lancaster, ON), Buckhorn Lake (Peterborough, ON) and the St. Lawrence River (Cornwall, ON)
- Assisted in collecting and data entry for several fish community surveys including: Bonnechere River (Renfrew, ON), tributaries to Feedmill Creek (Ottawa, ON), tributaries to Shirley's Brook (Kanata, ON), tributaries to the Ottawa River (Ottawa, ON), tributaries to the Rideau River (Manotick, ON), tributaries to the Castor River (Vars, ON), tributaries to the Otonabee River (Lakefield, ON), tributary to the Madawaska River (Arnprior, ON), tributaries to Kemptville Creek (Kemptville, ON), tributary to Blairs Creek (Clarence Creek, ON), tributaries to South Indian Creek River (Russell, ON) tributaries to the South Nation River (Casselman, ON), tributaries to Fraser Clarke Drain (Nepean, ON), tributaries to the Raisin River (Long Sault, ON), Oliver-Magee drain (South Glengarry, ON) and tributary to Hawkesbury Creek (Hawkesbury, ON).
- Assisted in collecting walleye eggs from the spawning grounds on the Raisin River.
- Marsh monitoring program breeding amphibian surveys (Stittsville, Lakefield, Cornwall, Long Sault, South Glengarry, Bourget, Manotick and Kanata, ON).
- Conducted turtle surveys (Carleton Place, Ottawa, Cornwall and Lancaster, ON)
- Conducted Headwater Assessments (Ottawa, Stittsville and Manotick, ON)
- Invasive Species Survey (Ottawa, ON)

Species at Risk Inventories / Monitoring

- Assisted in butternut surveys, inventories and assessments for proposed developments (Carleton Place, Casselman, Cornwall, South Glengarry, Long Sault, Kemptville, Smiths Falls, Ottawa, Stittsville, Peterborough, Lakefield, Brockville, Alfred, Orleans, Kanata and Prescott, ON).
- American Eel surveys using the boat electrofisher on the Ottawa River (Ottawa, ON)
- American Eel collection on the St. Lawrence River for the St. Lawrence River Institute (Cornwall, ON)
- Conducted tailrace surveys for hydro facilities regarding American eel and lake sturgeon fatalities (Almonte, Renfrew, Ottawa and Fitzroy Harbour, ON)
- Whip-poor-will survey for proposed development (Ottawa, Kemptville, Bourget, Stittsville, Alfred, South Glengarry and Alexandria, ON) and quarries (Ottawa and Cornwall, ON)
- Surveyor for Little Brown bat, Eastern Small Footed Bat and Northern Long Eared Bat surveys at Ernestown Windpark (Ernestown, ON)
- Gray Ratsnake Survey (Smiths Falls and Lakefield, ON)
- Bat Cavity Survey (Lakefield, Smiths Falls, Bourget, Clarence Creek, Casselman, Orleans, Kanata, South Glengarry and Embrun, ON)
- Conducted Least Bittern surveys (Prospect, Alexandria, and Lancaster, ON)
- Conducted Black Tern nest surveys (Alexandria, and Cornwall, ON)
- Conducted turtle surveys: Blanding's turtle, Musk turtle and Northern Map turtle, Painted turtle and Snapping turtle (Carleton Place, Ottawa, Stittsville, Kanata, Rockland, Cornwall, Lakefield, Alfred, Clarence Creek and Lancaster, ON)
- Conducted American Ginseng Survey (Alfred, ON)
- Conducted rapid clubtail surveys (Almonte, ON)
- Conducted Osprey nest surveys (Cornwall, ON)

Terrestrial Inventories

- Assisted plant community inventories for proposed developments (Ottawa, Cornwall and Prescott, ON)
- Assisted in ELC inventories (Ottawa, Lakefield, Alfred, Kanata, Long Sault, South Glengarry and Peterborough ON)
- Nesting Bird Survey (Stittsville and Brockville ON)
- Large Tree Survey (Carp, Kanata and Orleans, ON)
- Deer and Moose Overwintering Survey (Alfred, ON)

Environmental and Fisheries Inspections

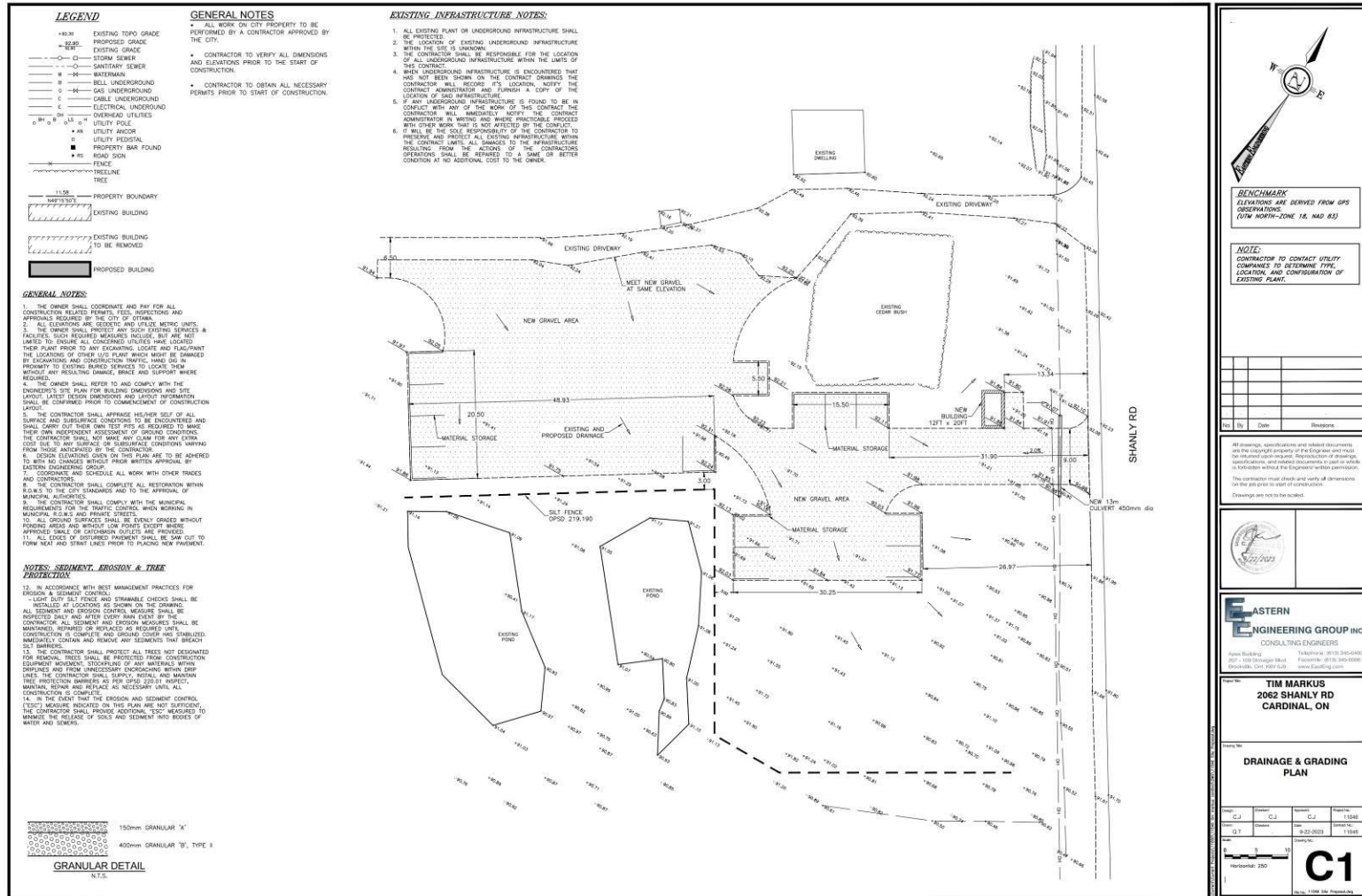
- Assisted in providing environmental and fisheries inspections for construction (Ottawa, ON)
- Assisted in turtle salvage during construction at the Cavanagh Snow Dump (Kanata, ON)

Fish Salvage

- Highway 401 Fish Salvage – Brockville, ON and Prescott, ON (Cruikshank, MTO Contract)
- Other fish salvages: Cardinal Creek (Ottawa, ON), Monaghan Drain (Ottawa, ON), tributary to the Rideau Canal (Kemptville, ON), tributary to Feedmill Creek (Ottawa ON), Bonnechere River (Renfrew, ON), Mississippi River (Almonte, ON), Ottawa River (Ottawa, ON), Tributary to Fraser Clarke Drain (Nepean, ON), tributary to St. Lawrence River (Newington, ON), Davidson Pond (Ottawa, ON), Hazeldean tributary (Ottawa, ON), tributary to Jock River (Richmond, ON), culvert on Thunder Road (Gloucester, ON), culvert on Dunning Road (Cumberland, ON)

Other

- Organized fishing derby through RRCA (2008-2012; Cornwall, ON)
- Conducted environmental education presentations to many school groups (Cornwall, and Lancaster, ON)
- Tree Planting (2008-2012; Cornwall, ON)



SCHEDULE “E”

Site Plan Control Agreement

SPECIAL CONDITIONS

1. Location of Building Structures and Facilities

Building structures and facilities shall be located as per the site plan forming Schedule “B” to this Agreement.

Notwithstanding the above requirement and the building location shown on the plan and drawing forming Schedule “B”, the new building at the entrance to the site must comply with the required front yard setback in the Township’s Zoning Bylaw 2022-37, as amended.

At the discretion of the Chief Building Official, a soil analysis and recommendation from a qualified professional for requirements to support the proposed structures may be required prior to any building permits being issued.

2. Stormwater Management

Stormwater shall be managed as per the Stormwater Management Plan by Kollaard Associates, forming Schedule “C” to this agreement.

Any changes to the existing proposal, including paving, may require an update to the Stormwater Management Plan.

3. Sediment and Erosion Control

Sediment and erosion control shall be managed as per the professional recommendations provided within the schedules of this agreement.

4. Sediment and Erosion Control

Potential impacts to the natural heritage features on the site shall be mitigated as per the professional recommendations within the Environmental Impact Assessment forming Schedule “D” to this agreement.

5. Entranceway

The site shall be accessed as per the site plan forming Schedule “B” and as per the entranceway permits issued by the United Counties of Leeds and Grenville. No

**SITE PLAN CONTROL AGREEMENT
BETWEEN TIMOTHY MARKUS AND
THE TOWNSHIP OF EDWARDSBUGH CARDINAL**

additional entranceways shall be established without the consent of the appropriate road authority.

6. Refuse Storage and Disposal

The property shall be maintained in a neat and tidy condition and all refuse shall be deposited in proper containers which are screened from view. The owner shall be responsible for the disposal of refuse from his/her/their property.

7. Snow Removal

Snow removal is the responsibility of the owner.

8. Signage

Prior to the installation of any signage visible from County Road 22, the applicant shall obtain the necessary approval from the United Counties of Leeds and Grenville. Digital/LED signage is not permitted.

9. Lighting

All outdoor lighting, including fixtures and signs, shall be designed, installed and maintained to prevent light spill over or glare onto the Township and County Road allowances and neighbouring residential properties as determined by the Director of Public Works of the United Counties of Leeds and Grenville or his/her designate.