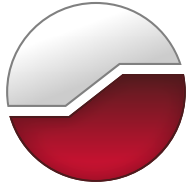




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**Tree Conservation Report
Proposed Kennel Expansion
3904 March Road
Ottawa, Ontario**



GEMTEC

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Submitted to:
Dog World
3904 March Road
Ottawa, Ontario
K0A 1L0

**Tree Conservation Report
Proposed Kennel Expansion
3904 March Road
Ottawa, Ontario**

May 29, 2020
Project: 60215.35

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1.0 INTRODUCTION

GEMTEC Consulting Engineers and Scientists Limited (GEMTEC) was retained by Dog World. to carry out a Tree Conservation Report (TCR) for the property located at 3904 March Road, in the City of Ottawa, Ontario, hereafter referred to as the “subject property”.

1.1 Purpose

Dog World is proposing an expansion of their current kennel operations for the property located at 3905 March Road, in the City of Ottawa, Ontario. The project involves the construction of two new buildings, as well as a new septic and laneway with parking.

In preparation for Site Plan Approval, and in accordance with the City of Ottawa’s Urban Tree Conservation By-Law (No. 2009-200), a Tree Conservation Report (TCR) is required to identify trees to be retained and protected under future development scenarios and, where feasible, identify opportunities to offset the loss of trees that cannot be retained or contribute to the City’s forest cover targets.

The general project area is illustrated on Figure A.1 in Appendix A, while a detailed site layout is provided on Figure A.2. The proposed development plan is illustrated on Figure A.3.

1.2 Definitions

Terms and abbreviations used throughout the remainder of this report are summarized below.

Diameter at Breast Height (DBH), is defined as the diameter of the tree trunk measured at a height of 1.2 metres above ground surface for trees of 10 centimeters in diameter and greater.

Critical Root Zone (CRZ), is defined as the ground area within a circumference around the tree trunk calculated as 10 centimetres from the trunk of the tree for every one centimetre of tree trunk diameter at breast height.

Distinctive Tree, a distinctive tree within the City of Ottawa is defined as any tree with a trunk calculated as 10 centimetres in diameter at breast height.

2.0 METHODOLOGY

2.1 Desktop Review

To complete the TCR, digital color air photos of the site available from GeoOttawa were reviewed from 1976 to 2017 to identify natural features, including historical trees, present on-site and in the vicinity of the site.

2.2 Field Investigations

In addition to the completion of a desktop review of historical air photos, a single site investigation was conducted on December 5, 2019 from approximately 09:50 to 12:20. Conditions during the site investigation were mostly cloudy, -3°C, Beaufort wind 4 and light snow. There was approximately 10 cm of snow cover on the ground at the time of the site investigation.

Site photographs taken during the field investigations are provided in Appendix B.

3.0 RESULTS

3.1 Existing Conditions

The site is currently occupied by multiple buildings, including a 320 m² Kennel, 136 m² shop, 209 m² barn and 175 m² house. Existing development and kennel operations occupy approximately 1.79 hectares (ha) of the 9.56 ha property. The remainder of the property consists of cultural meadows, thickets and deciduous forests. The existing site layout is illustrated on Figure A.2 in Appendix A. Existing vegetation communities are illustrated on Figure A.3 in Appendix A.

The proposed development includes the construction of two new buildings, one a proposed 110.9 m² kennel with runs and the second a proposed 443.5 m² indoor gym/playground. The proposed development plan is illustrated on Figure A.2 in Appendix A.

Numerous trees are present on the property, primarily along the boundary of the existing kennel and within the deciduous woodlands on-site. For the purpose of this report, only trees within the vicinity of the existing kennel and the proposed new development area were surveyed. A summary of all trees surveyed on-site is provided in Section 3.2 below.

The vicinity of the site is characterized by rural residential dwellings and agricultural fields. The nearest significant natural feature is the Burnt Lands Alvar Area of Natural and Scientific Interest (ANSI) located approximately 300 m west of the property. The Manion Corners Long Swamp Provincially Significant Wetland and Life Science ANSI is located approximately 140 m south of the property. Local wetlands are identified on the adjacent property to the east. No other natural features were identified on-site or adjacent to site.

Based on a review of historical air photos, the site and surrounding areas have undergone some alterations since 1976. The following alterations were noted during review:

- 1976: Barn and house were present on-site, entire property consisted of agricultural fields. No ponds were present on-site.
- 1991: No changes to buildings, sparse trees in the southern property area.
- 1999: Kennel building present, ponds present in current extent, southern vegetation more patchy tree thicket. Property on 1486 Upper Dwyer Hill Road constructed.
- 2002: All on-site buildings at present day extent.

- 2005: No major changes on-site from 2002. Building constructed on neighbouring property 3950 March Road.
- 2008: Woods in the southern portion of the property more populated.
- 2011: Woodlands becoming less patchy canopy.
- 2014: Woodlands becoming less patchy canopy.
- 2017: Property and woodlands at current extent.

3.2 Tree Inventory Summary

A tree inventory was conducted on December 5, 2019. Trees within the proposed development area on-site were identified, enumerated and assessed for visual signs of distress and disease. Table C.1 in Appendix C provides a summary of all tree specimens surveyed whose DBH was greater than 10 cm. CRZ values for trees with DBH greater than 10 cm are also present in Table C.1 in Appendix C. Critical Root Zones were not calculated for dead trees. For trees with multiple stems greater than 10 cm DBH, the largest DBH was used to calculate the CRZ. All trees with a DBH greater than 10 cm and their CRZ are illustrated on Figure A.4, in Appendix A. In general, the tree community assemblage can be described as containing a few semi-mature and immature opportunistic trees.

Per the City of Ottawa By-law No. 2009-200, no distinctive trees (DBH > 50 cm) were identified on-site.

None of the trees identified on-site are listed under the provincial Endangered Species Act.

4.0 CONCLUSIONS AND RECOMMENDATIONS

Based on a review of the information summarized in Section 3.2, Table C.1 in Appendix C and the proposed development concept illustrated on Figure A.3, the following conclusions are provided:

- Fourteen trees were identified as non-retainable under the proposed development concept with an additional 5 trees with a possible conflict;
- No distinctive trees, meeting the City of Ottawa By-Law No. 2009-200 requirements, were identified on-site;
- Trees on-site are of a typical urban and opportunistic or early successional species;
- Fifty-four trees are in good/healthy condition and four trees are dead, dying or poor condition; and
- None of the 58 trees present on-site represent exceptional native tree specimens, nor do they provide any conservation value.

4.1 Tree Conservation Recommendations

Opportunities exist along the perimeter of the proposed development along the southeast and southern extents of the current development, to offset the loss of trees that are not retainable under the proposed development concept. Trees identified as possible conflict that are removed during construction should also be accounted for in the landscape plan for offsetting. In effort to offset the effect of vegetation clearing, consideration should be given to landscape planting with native tree species indicative of the Great Lakes – St. Lawrence Forest Region, such as white cedar, white spruce, red maple and red oak.

4.2 Recommended Mitigation Measures

The following mitigation measures and best practice recommendations are provided by GEMTEC in order to minimize and eliminate negative impacts to trees identified in Appendix C as retainable. Construction contractors shall apply the following measures below to prevent damages to trees identified to be retained in the redevelopment plan for the site;

- All trees identified to be retained should be clearly marked and the CRZ delineated with fencing to prevent encroachment and damage during construction;
- Tree protection should follow the specifications established by the City of Ottawa and provided in Appendix D;
- If existing pavement surface around trees to be retained is going to be removed than temporary fencing should be installed to delineate the CRZ of each tree;
- If trees to be removed overlap with the CRZ of trees to be retained, cut roots at the edge of the retained CRZ and grind down stumps after tree removal, do not pull out stumps. If roots must be cut, roots 20 cm or larger should be cut at right angles with clean, sharp, horticultural tools, without tearing, crushing, or pulling;
- Do not place any material or equipment within the CRZ of any tree identified to be retained;
- Do not attach any signs, notices or posters to any tree identified to be retained;
- Do not damage the root system, trunk, or branches or any tree identified to be retained;
- Ensure that exhaust fumes from all equipment are directed away from tree canopy; and
- Tree removal shall occur outside of the key breeding bird period (typically April 15 to August 15) as identified by Environment Canada for the protection of migratory birds and to avoid contravention of the Migratory Bird Convention Act. If vegetation clearing activities must take place outside of the aforementioned timing window than a nest survey shall be conducted by a qualified professional.

5.0 CLOSURE

This letter and the work referred to within it have been undertaken by GEMTEC Consulting Engineers and Scientists Limited (GEMTEC), and was prepared for Dog World and is intended for the exclusive use of Dog World. This report may not be relied upon by any other person or entity without the express written consent of GEMTEC and Dog World. Nothing in this report is intended to provide a legal opinion.

The investigation undertaken by GEMTEC with respect to this report and any conclusions or recommendations made in this report reflect the best judgements of GEMTEC based on the site conditions observed during the investigations undertaken at the date(s) identified in the report and on the information available at the time the report was prepared.

This letter has been prepared for the application notes and it is based in part, on visual observations made at the site, all as described in the report. Unless otherwise states, the findings contained in this report cannot be extrapolates or extended to previous or future site conditions or for portions of the site that were unavailable for direct investigation.

Should new information become available during future work, or other studies, GEMTEC should be requested to review the information and, if necessary, re-assess the conclusions present herein.

We trust this report provides sufficient information for your present purposes. If you have any questions concerning this report, please do not hesitate to contact our office.

Sincerely,



Taylor Warrington, B.Sc.
Biologist



Drew Paulusse, B.Sc.
Senior Biologist

6.0 REFERENCES

Ottawa, City of (Ottawa). 2003. City of Ottawa Official Plan. May

Ottawa, City of (Ottawa), By-law No. 2009-200, *Tree Conservation – Urban* (Updated June 2018).



APPENDIX A

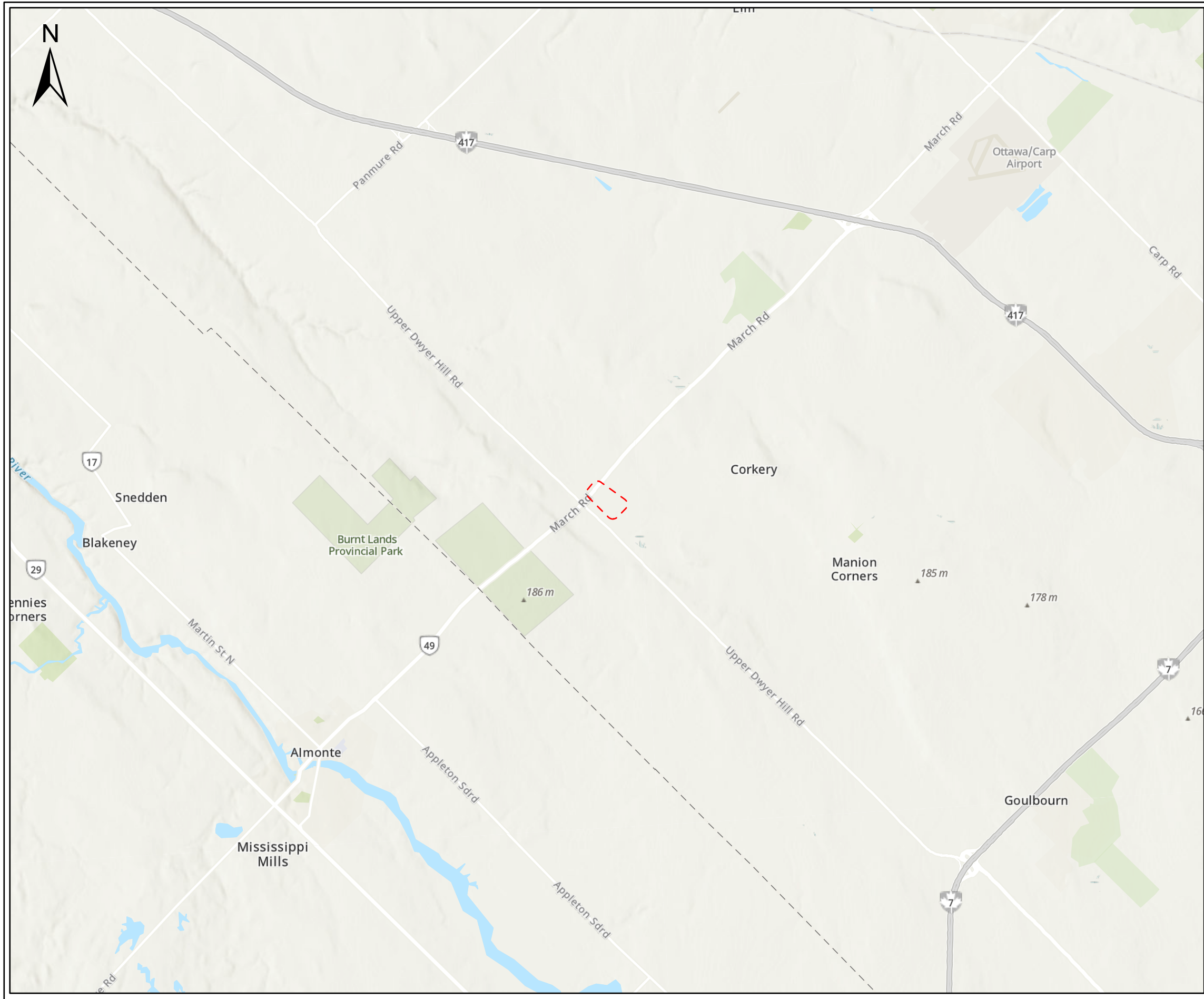
Report Figures

Figure A.1 – Site Location


Figure A.2 – Site Layout

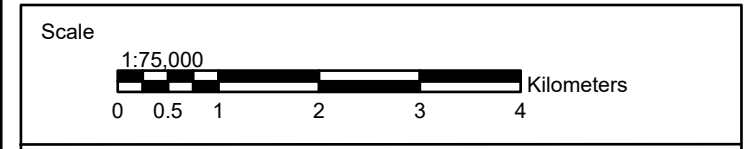
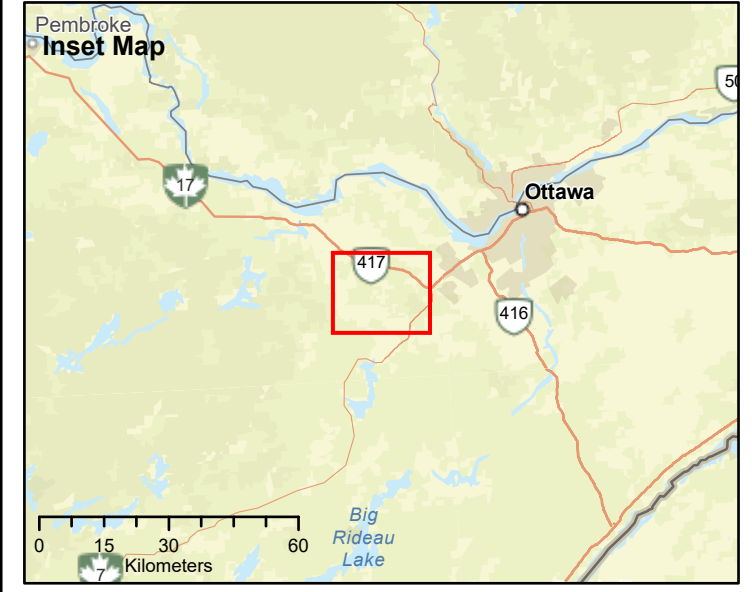
Figure A.3 – Proposed Development

Figure A.4 – Tree Inventory



Legend

 Study Area




GEMTEC
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Client: **Dogworld** Project: **60215.35**

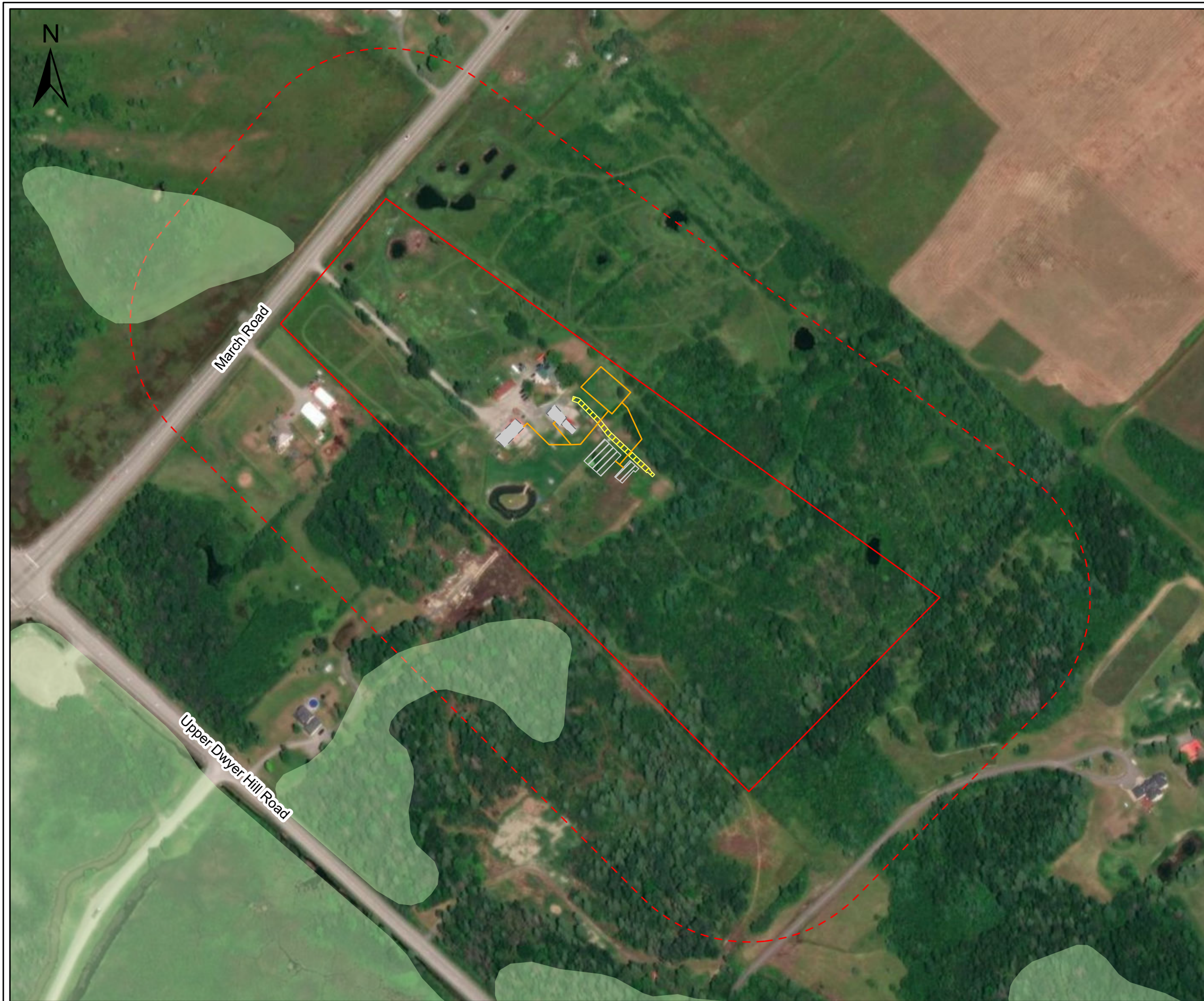
Location
**3904 March Road
Ottawa, Ontario**

Drwn By: TW	Chkd By: DP	Site Location
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Date: May 2020	Rev. 0	Figure: A.1
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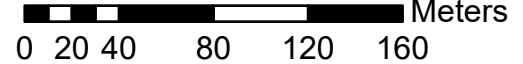

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Coordinate System: NAD 1983 UTM Zone 18N
Service Layer Credits: World Street Map: Sources: Esri, HERE, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community
World Topographic Map: Sources: Esri, HERE, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community



Legend

- Property Boundary
- Study Area
- Existing Building
- Proposed Development
- Proposed Driveway and Parking
- Proposed Septic
- Local Wetland

Scale		1:3,200	
		Meters	
		32 Steacie Drive, Ottawa, ON K2K 2A9 T: (613) 836-1422 www.gemtec.ca ottawa@gemtec.ca	
Client:		Dogworld	Project: 60215.35
Location 3904 March Road Ottawa, Ontario			
Drwn By: TW	Chkd By: DP	Site Layout	
Date: May 2020		Rev. 0	Figure: A.2
© Queen's Printer for Ontario			

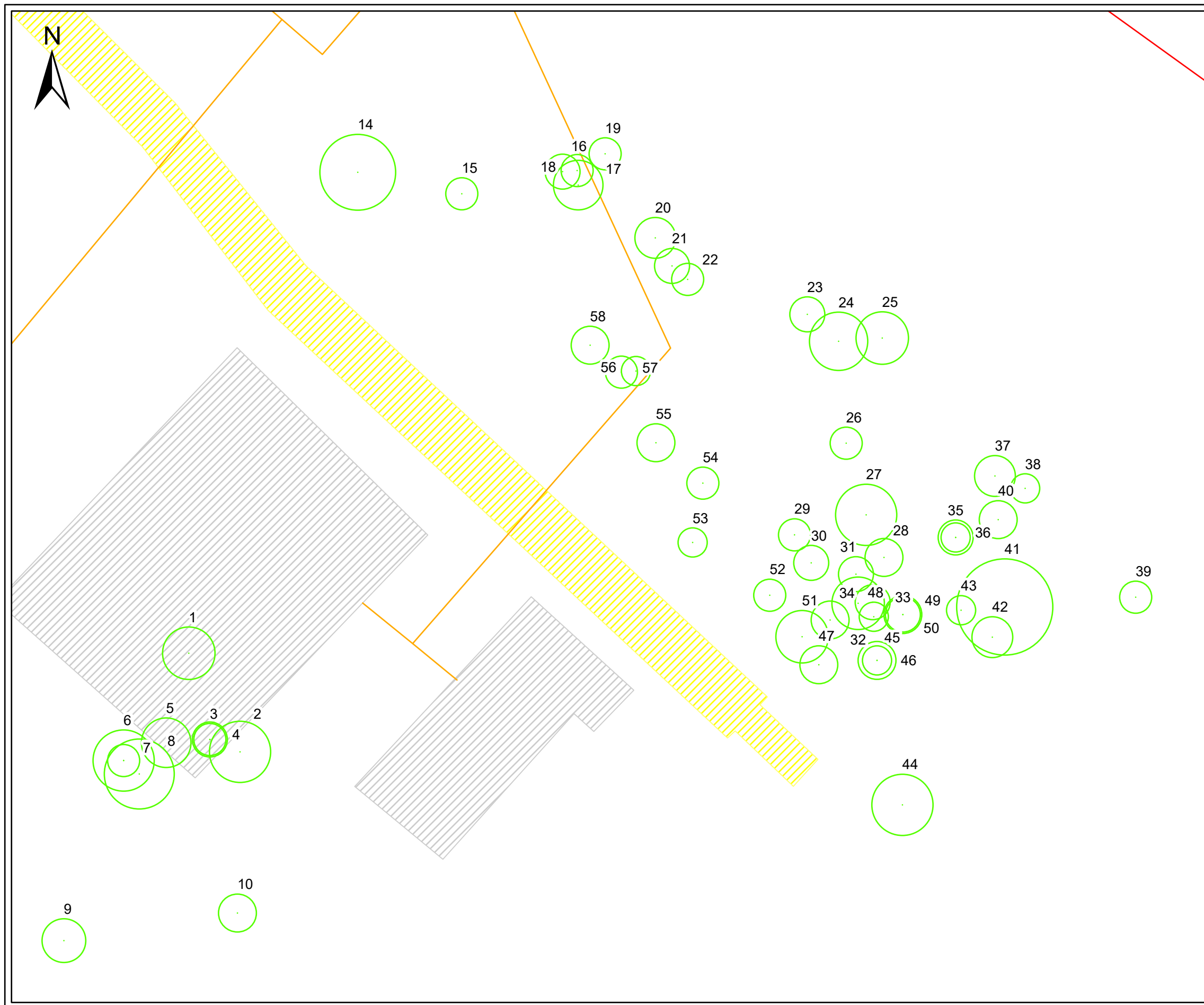


Legend

- Property Boundary
- Study Area
- Existing Building
- Proposed Development
- Proposed Driveway and Parking
- Proposed Septic
- Local Wetland
- Vegetation Communities

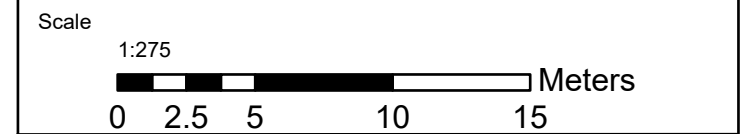
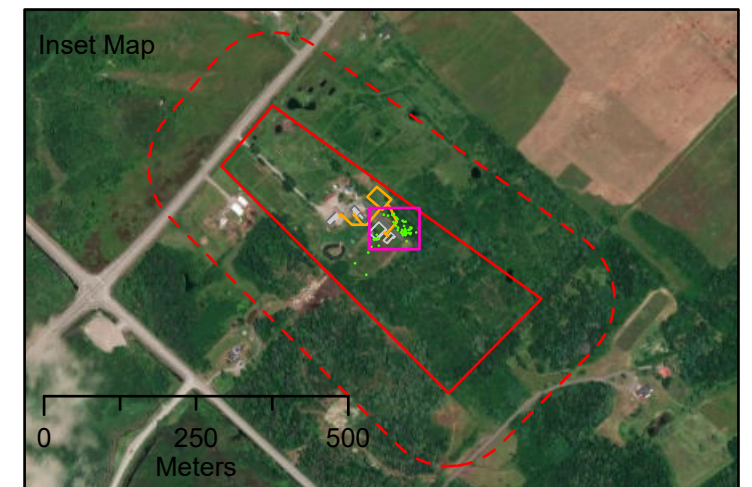
FOD = Deciduous Forest
 CUT = Cultural Thicket
 CUM = Cultural Meadow
 CVR_4 = Rural Property

Scale			
1:3,200			
32 Steacie Drive, Ottawa, ON K2K 2A9 T: (613) 836-1422 www.gemtec.ca ottawa@gemtec.ca			
Client:	Dogworld		
Project:	60215.35		
Location			
3904 March Road, Ottawa, Ontario			
Drwn By:	Chkd By:	Vegetation Communities	
TW	DP		
Date: May 2020		Rev.	Figure: A.3
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Legend

- Property Boundary
- Study Area
- Existing Building
- Proposed Development
- Proposed Driveway and Parking
- Proposed Septic
- Tree Inventory and Critical Root Zone



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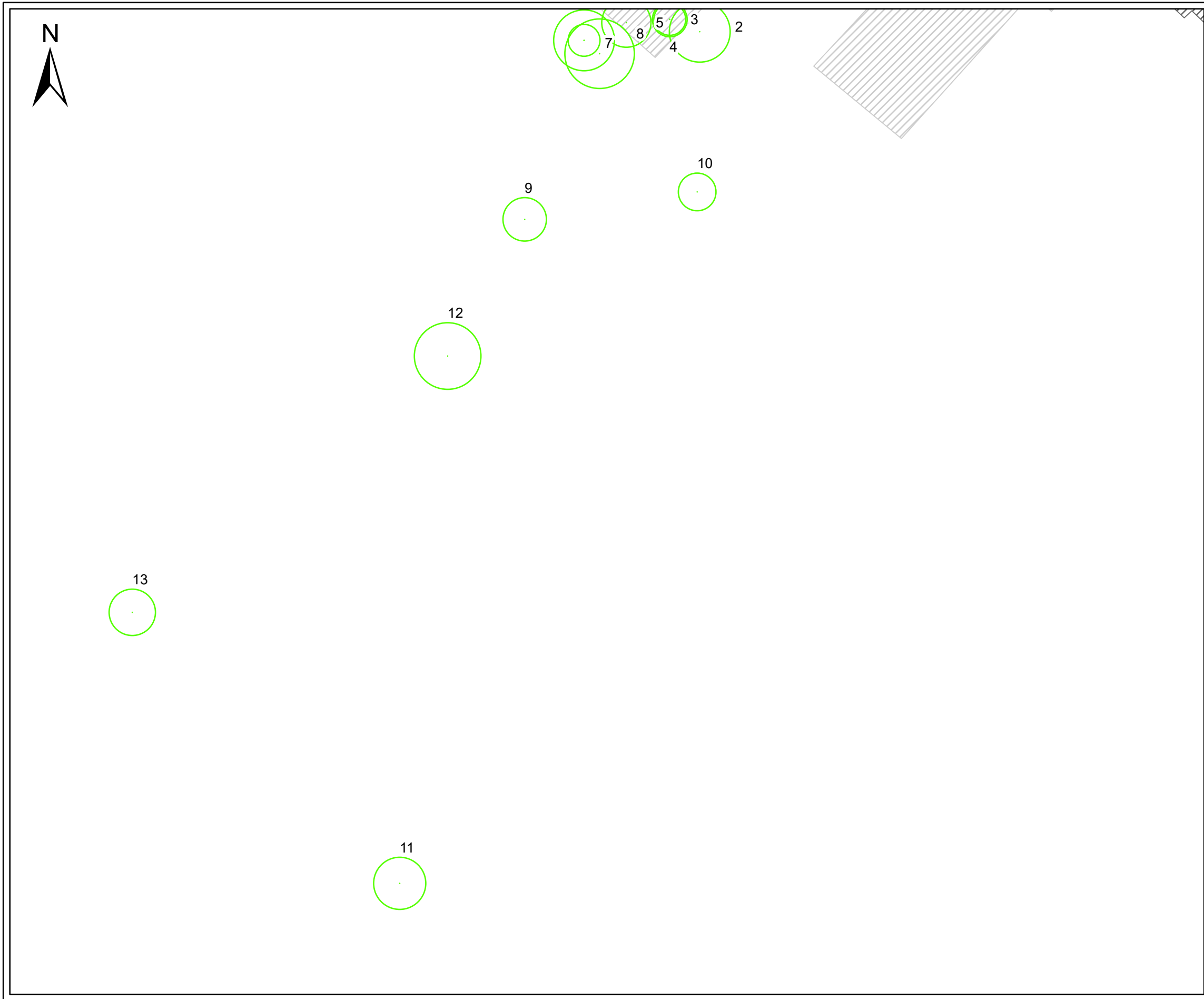
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Client: **Dogworld** Project: **60215.35**

Location
**3904 March Road.
Ottawa, Ontario**

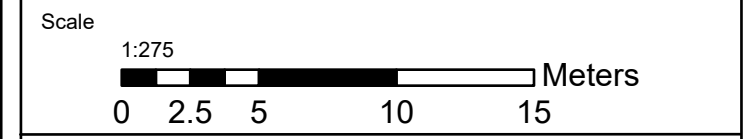
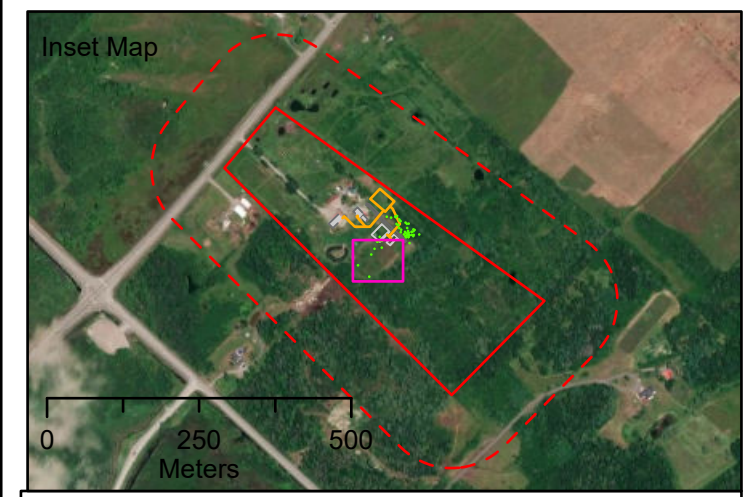
Drwn By: TW Chkd By: DP **Tree Inventory**


Date: May 2020 Rev. 0 **Figure: A.4a**
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Legend

-  Property Boundary
-  Study Area
-  Existing Building
-  Proposed Development
-  Proposed Driveway and Parking
-  Proposed Septic
-  Tree Inventory and Critical Root Zone



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Client: Dogworld	Project: 60215.35
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Location
**3904 March Road.
Ottawa, Ontario**

Drwn By: TW	Chkd By: DP	Tree Inventory
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Date: May 2020	Rev. 0	Figure: A.4b
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APPENDIX B

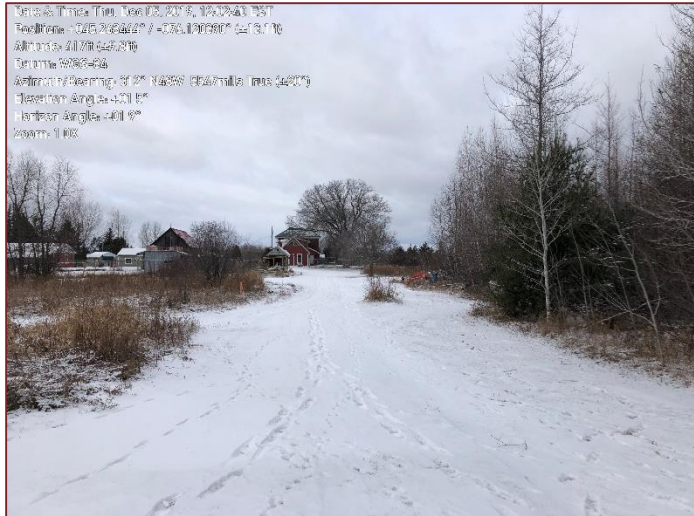
Site Photographs



Site Photograph 1 – Existing Development and Area of Proposed Development



Site Photograph 2 – Area of Proposed Development



Site Photograph 3 – Existing Development and Area of Proposed Development



Site Photograph 4 – Area of Proposed Development



Site Photograph 5 – Cultural Thickets and Meadows



Site Photograph 6 – Cultural Thickets and Meadows



Site Photograph 7 – Deciduous Woodlands



Site Photograph 8 – Deciduous Woodlands



APPENDIX C

Tree Inventory Summary Table

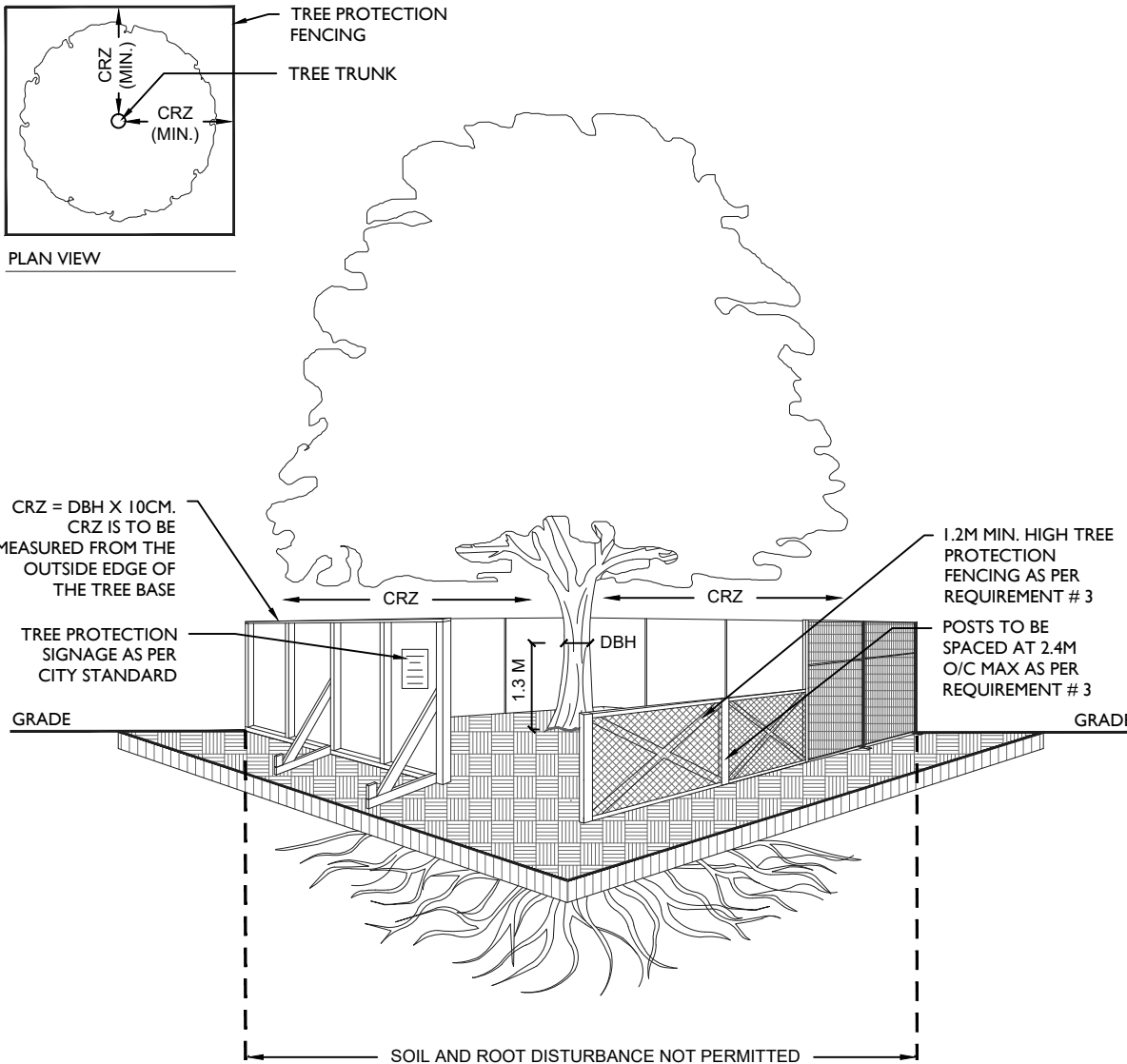
**Table C.1
Summary of Tree Inventory Results**

Tree Number	Common Name	Scientific Name	Diameter (cm DBH)	Critical Root Zone (cm)	Condition	Retainable or Conflict	Significant Tree (> 50 cm)	Wildlife Tree
1	Crack Willow	<i>Salix fragilis</i>	18, 17 & 11	180	Healthy	Non-retainable	No	No
2	Crack Willow	<i>Salix fragilis</i>	21	210	Healthy	Non-retainable	No	No
3	Crack Willow	<i>Salix fragilis</i>	11	110	Healthy	Non-retainable	No	No
4	Crack Willow	<i>Salix fragilis</i>	12	120	Healthy	Non-retainable	No	No
5	Crack Willow	<i>Salix fragilis</i>	17, 16 & 10	170	Healthy	Non-retainable	No	No
6	Crack Willow	<i>Salix fragilis</i>	21	210	Healthy	Non-retainable	No	No
7	Crack Willow	<i>Salix fragilis</i>	11	110	Multistem, moderately healthy, broken limbs	Non-retainable	No	No
8	Black Willow	<i>Salix nigra</i>	24, 20 & 13	240	Healthy	Non-retainable	No	No
9	White Spruce	<i>Picea glauca</i>	15 & 11	150	Multistem (2)	Retainable	No	No
10	Black Willow	<i>Salix nigra</i>	13	130	Healthy	Retainable	No	No
11	Red Pine	<i>Pinus resinosa</i>	18	180	Healthy	Retainable	No	No
12	White Spruce	<i>Picea glauca</i>	23	230	Healthy	Retainable	No	No
13	Red Pine	<i>Pinus resinosa</i>	16	160	Healthy	Retainable	No	No
14	White Ash	<i>Fraxinus americana</i>	26 & 23	260	Healthy	Retainable	No	No
15	Trembling Aspen	<i>Populus tremuloides</i>	11	110	Healthy	Retainable	No	No
16	Trembling Aspen	<i>Populus tremuloides</i>	12	120	Healthy	Non-retainable	No	No
17	Trembling Aspen	<i>Populus tremuloides</i>	17	170	Healthy	Non-retainable	No	No
18	Trembling Aspen	<i>Populus tremuloides</i>	11	110	Healthy	Non-retainable	No	No
19	Trembling Aspen	<i>Populus tremuloides</i>	11	110	Healthy	Non-retainable	No	No
20	White Birch	<i>Betula papyrifera</i>	14 & 11	140	Multistem (4)	Possible Conflict	No	No
21	White Birch	<i>Betula papyrifera</i>	12	120	Healthy	Possible Conflict	No	No
22	White Birch	<i>Betula papyrifera</i>	11	110	(Multistem (4))	Possible Conflict	No	No
23	Eastern Hemlock	<i>Tsuga canadensis</i>	12	120	Dying/Poor, needles dropped	Retainable	No	No
24	Trembling Aspen	<i>Populus tremuloides</i>	20	200	Healthy	Retainable	No	No
25	Trembling Aspen	<i>Populus tremuloides</i>	18	180	Healthy	Retainable	No	No
26	Eastern Hemlock	<i>Tsuga canadensis</i>	11	110	Healthy	Retainable	No	No
27	Eastern Hemlock	<i>Tsuga canadensis</i>	21	210	Healthy	Retainable	No	No
28	Eastern Hemlock	<i>Tsuga canadensis</i>	13	130	Healthy	Retainable	No	No
29	White Birch	<i>Betula papyrifera</i>	11	110	Healthy	Retainable	No	No
30	Eastern Hemlock	<i>Tsuga canadensis</i>	12	120	Healthy	Retainable	No	No
31	Eastern Hemlock	<i>Tsuga canadensis</i>	12, 11 & 11	120	Multistem (3), healthy	Retainable	No	No
32	Eastern Hemlock	<i>Tsuga canadensis</i>	18	180	Healthy	Retainable	No	No
33	Eastern Hemlock	<i>Tsuga canadensis</i>	12	120	Healthy	Retainable	No	No
34	Eastern Hemlock	<i>Tsuga canadensis</i>	13	130	Healthy	Retainable	No	No
35	Trembling Aspen	<i>Populus tremuloides</i>	12	120	Healthy	Retainable	No	No
36	Trembling Aspen	<i>Populus tremuloides</i>	10	100	Healthy	Retainable	No	No
37	Trembling Aspen	<i>Populus tremuloides</i>	14	140	Healthy	Retainable	No	No
38	Trembling Aspen	<i>Populus tremuloides</i>	10	100	Healthy	Retainable	No	No
39	White Birch	<i>Betula papyrifera</i>	11	110	Healthy	Retainable	No	No
40	Trembling Aspen	<i>Populus tremuloides</i>	13	130	Multistem (2), healthy	Retainable	No	No
41	Trembling Aspen	<i>Populus tremuloides</i>	33	330	Healthy	Retainable	No	No
42	Trembling Aspen	<i>Populus tremuloides</i>	14	140	Healthy	Retainable	No	No
43	White Birch	<i>Betula papyrifera</i>	10	100	Healthy	Retainable	No	No
44	Trembling Aspen	<i>Populus tremuloides</i>	21	210	Poor, trunk half split	Retainable	No	No
45	Eastern Hemlock	<i>Tsuga canadensis</i>	10	100	Healthy	Retainable	No	No
46	Eastern Hemlock	<i>Tsuga canadensis</i>	13	130	Healthy	Retainable	No	No
47	White Pine	<i>Pinus strobus</i>	13	130	Healthy	Retainable	No	No
48	Eastern Hemlock	<i>Tsuga canadensis</i>	10	100	Healthy	Retainable	No	No
49	Scotts Pine	<i>Pinus sylvestris</i>	13 & 12	130	Multistem (2), poor	Retainable	No	No
50	Eastern Hemlock	<i>Tsuga canadensis</i>	12	120	Healthy	Retainable	No	No
51	Eastern Hemlock	<i>Tsuga canadensis</i>	18	180	Healthy	Retainable	No	No
52	White Pine	<i>Pinus strobus</i>	11	110	Healthy	Retainable	No	No
53	Trembling Aspen	<i>Populus tremuloides</i>	10	100	Healthy	Retainable	No	No
54	White Birch	<i>Betula papyrifera</i>	11	110	Multistem (3), healthy	Retainable	No	No
55	Trembling Aspen	<i>Populus tremuloides</i>	13	130	Multistem (3), healthy	Possible Conflict	No	No
56	Trembling Aspen	<i>Populus tremuloides</i>	10	100	Healthy	Possible Conflict	No	No
57	Trembling Aspen	<i>Populus tremuloides</i>	11	110	Healthy	Non-retainable	No	No
58	Eastern Hemlock	<i>Tsuga canadensis</i>	13 & 12	130	Multistem (2), healthy	Non-retainable	No	No



APPENDIX D

City of Ottawa Tree Protection Specification



TREE PROTECTION REQUIREMENTS:

1. PRIOR TO ANY WORK ACTIVITY WITHIN THE CRITICAL ROOT ZONE (CRZ = 10 X DIAMETER) OF A TREE, TREE PROTECTION FENCING MUST BE INSTALLED SURROUNDING THE CRITICAL ROOT ZONE, AND REMAIN IN PLACE UNTIL THE WORK IS COMPLETE.
2. UNLESS PLANS ARE APPROVED BY CITY FORESTRY STAFF, FOR WORK WITHIN THE CRZ:
 - DO NOT PLACE ANY MATERIAL OR EQUIPMENT - INCLUDING OUTHOUSES;
 - DO NOT ATTACH ANY SIGNS, NOTICES OR POSTERS TO ANY TREE;
 - DO NOT RAISE OR LOWER THE EXISTING GRADE;
 - TUNNEL OR BORE WHEN DIGGING;
 - DO NOT DAMAGE THE ROOT SYSTEM, TRUNK, OR BRANCHES OR ANY TREE;
 - ENSURE THAT EXHAUST FUMES FROM ALL EQUIPMENT ARE NOT DIRECTED TOWARD ANY TREE CANOPY.
 - DO NOT EXTEND HARD SURFACE OR SIGNIFICANTLY CHANGE LANDSCAPING
3. TREE PROTECTION FENCING MUST BE AT LEAST 1.2M IN HEIGHT, AND CONSTRUCTED OF RIGID OR FRAMED MATERIALS (E.G. MODULOC - STEEL, PLYWOOD HOARDING, OR SNOW FENCE ON A 2"x4" WOOD FRAME) WITH POSTS 2.4M APART, SUCH THAT THE FENCE LOCATION CANNOT BE ALTERED. ALL SUPPORTS AND BRACING MUST BE PLACED OUTSIDE OF THE CRZ, AND INSTALLATION MUST MINIMISE DAMAGE TO EXISTING ROOTS. (SEE DETAIL)
4. THE LOCATION OF THE TREE PROTECTION FENCING MUST BE DETERMINED BY AN ARBORIST AND DETAILED ON ANY ASSOCIATED PLANS FOR THE SITE (E.G. TREE CONSERVATION REPORT, TREE DISCLOSURE REPORT, ETC). THE PLAN AND CONSTRUCTED FENCING MUST BE APPROVED BY CITY FORESTRY STAFF PRIOR TO THE COMMENCEMENT OF WORK.
5. IF THE FENCED TREE PROTECTION AREA MUST BE REDUCED TO FACILITATE CONSTRUCTION, MITIGATION MEASURES MUST BE PRESCRIBED BY AN ARBORIST AND APPROVED BY CITY FORESTRY STAFF. THESE MAY INCLUDE THE PLACEMENT OF PLYWOOD, WOOD CHIPS, OR STEEL PLATING OVER THE ROOTS FOR PROTECTION OR THE PROPER PRUNING AND CARE OF ROOTS WHERE ENCOUNTERED.

BY-LAWS

ALL CITY-OWNED TREES ARE PROTECTED UNDER THE MUNICIPAL TREES AND NATURAL AREAS PROTECTION BY-LAW (2006-279). WITHIN THE URBAN AREA, PRIVATELY-OWNED TREES GREATER THAN 50CM DIAMETER ON LOTS 1HA IN SIZE OR LESS, AND TREES GREATER THAN 10CM DIAMETER ON LOTS >1HA, ARE PROTECTED UNDER THE URBAN TREE CONSERVATION BY-LAW (2009-200).

ACCESSIBLE FORMATS AND COMMUNICATION SUPPORTS ARE AVAILABLE, UPON REQUEST



TREE PROTECTION SPECIFICATION

TO BE IMPLEMENTED FOR RETAINED TREES, BOTH ON SITE AND ON ADJACENT SITES, PRIOR TO ANY TREE REMOVAL OR SITE WORKS AND MAINTAINED FOR THE DURATION OF WORK ACTIVITIES ON SITE.

SCALE: NTS

DATE: MAY 2019

DRAWING NO.: 1 of 1



APPENDIX E

CVs for Key Personnel



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Drew Paulusse, B.Sc.

Senior Biologist / Manager of Environmental Services

Mr. Paulusse has over 12 years of experience in the environmental consulting industry, providing private industry and municipal and federal government clients with cost effective solutions to manage environmental constraints associated with land development proposals and infrastructure projects. Mr. Paulusse's expertise, as it relates to land development proposals and infrastructure projects is field assessment and regulatory permitting associated with species at risk, fish habitat and wetlands.

Education

- B.Sc., Biology, Trent University, 2007
- Environmental Technician, Fleming College, 2004

Professional Experience

2018-date	GEMTEC Consulting Engineers and Scientists Limited <i>Manager of Environmental Services</i>	Ottawa, Ontario
2011-2018	Geofirma Engineering Limited <i>Senior Biologist</i>	Ottawa, Ontario
2007-2011	INTERA Engineering Limited <i>Biologist</i>	Ottawa, Ontario
2007	Canadian Wildlife Service, Environment Canada <i>Wetland Conservation Officer</i>	Burlington, Ontario
2005	Centre for Inland Waters, Environment Canada <i>Junior Marine Technologist</i>	Burlington, Ontario

Professional Affiliations and Technical Training

- Canadian Society of Environmental Biologists
- Ontario Association for Impact Assessment
- MTO/DFO/MNRF Protocol for Protecting Fish and Fish Habitat on Provincial Transportation Undertakings. Ministry of Transportation. 2018
- Ontario Wetland Evaluation System Certification Course. Ministry of Natural Resources and Forestry. 2017
- Headwater Drainage Feature Assessment Training Course. Rideau Valley Conservation Authority. 2017





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- Ecological Land Classification System Certification Course. Ministry of Natural Resources and Forestry. 2015
- Ontario Benthic Biomonitoring Network Certification Course. Ministry of Environment, Conservation and Parks. 2011

Project Highlights

- ***DFO Self-Assessment and Preparation of Tender Special Provisions, Osceola Culvert Replacement, County of Renfrew, Ontario (2019):*** Project manager and technical lead responsible for the evaluation of the significance of fish habitat and species at risk, and completion of a DFO self-assessment. Work included aquatic habitat assessments, pathway of effects evaluation, culvert design recommendations and reporting.
- ***Biological Inventory, Ontario Power Generation Incorporated, Bath, Ontario (2018):*** Project manager and technical lead responsible for conducting a three-season inventory of avian and amphibian species at the Lennox Provincially Significant Wetland. Work included conducting presence and abundance surveys following the Canadian Wildlife Service marsh monitoring protocol and Bird Studies Canada breeding bird surveys, statistical analysis of species data trends and reporting.
- ***Wetland Management Plan, Ontario Power Generation Incorporated, Bath, Ontario (2018):*** Project manager and technical lead responsible for the development of an adaptive wetland management plan for the Lennox Provincially Significant Wetland. Work included a synthesis of historical data, statistical analysis of data trends, vegetation assessment, air photo interpretation, development of short-term and long-term management objectives and development of a standardized monitoring program.
- ***Environmental Compliance Monitoring, Petrie Island Causeway Rehabilitation Project, Ottawa, Ontario (2018):*** Project manager and technical lead responsible for monitoring constructor compliance with various Department of Fisheries and Oceans, Ministry of Natural Resources and Conservation Authority permit conditions during the Petrie Island Causeway Rehabilitation Project within the Ottawa River. Work included species at risk surveys, fish salvage, exclusion fence inspection, monitoring of sediment and erosion control measures, turbidity monitoring, regulatory agency consultation and weekly reporting.
- ***Wetland Delineation and Wetland Function Assessment, National Capital Commission, Ottawa, Ontario (2018):*** Project manager and technical lead responsible for the delineation of wetland pockets within the LeBreton Flats Redevelopment Area and the assessment of wetland function for the purpose of evaluating compensation requirements. Work was completed following both the federal and provincial wetland evaluation frameworks.





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- ***Environmental Impact Statement, Code Drive Development, Smiths Falls, Ontario (2018):*** Project manager and technical lead responsible for the completion of an Environmental Impact Statement in support of a severance application for the creation of eight residential lots within a significant woodland and adjacent to a large local wetland. Work included targeted surveys for species at risk, breeding amphibians and marsh birds, impact assessment, development of lot-specific mitigation measures and agency consultations.
- ***Tree Conservation Report, Royal LePage Team Realty, Ottawa, Ontario (2018):*** Mr. Paulusse completed an inventory of all trees located on an urban commercial lot for the purpose of identify significant retainable trees and trees in conflict with the proposed site redevelopment. Work included, site inventory, tree removal permit preparation and reporting.
- ***Environmental Compliance Monitoring, Airport Parkway Culvert Rehabilitation Project, Ottawa, Ontario (2018):*** Project manager and technical lead responsible for monitoring constructor compliance with Ministry of Natural Resources and Conservation Authority permit conditions. Work included species at risk surveys, exclusion fence inspection, monitoring of sediment and erosion control measures and weekly reporting.
- ***Tier I and II Natural Environment Report, Crain's Construction, Ottawa, Ontario (2018):*** Project manager and technical lead responsible for completing an inventory of site flora and fauna, completion of species at risk surveys, regulatory agency consultation, impact assessment and reporting.
- ***Species at Risk Assessment, National Capital Commission, Gatineau, Quebec (2018):*** Project manager responsible for the completion of avian species at risk surveys to determine the presence or absence of chimney swift and barn swallows at a contaminated site. Work was undertaken to support an Ecological Risk Assessment.
- ***Fish Habitat Assessment, Various Culvert Replacements, Ottawa, Ontario (2018):*** Project manager and technical lead responsible for the evaluation of the significance of fish habitat at three culvert crossings in rural Ottawa. Work included aquatic habitat assessments, pathway of effects evaluation, culvert design recommendations and reporting.
- ***Environment Effects Evaluation Assessment, Britannia Wall Rehabilitation Project, Ottawa, Ontario (2018):*** Project manager and technical lead responsible for completing a comprehensive tree inventory, wetland boundary delineation, significant wildlife habitat assessment and evaluation of effects associated with the rehabilitation of the Britannia Wall, a 600-metre-long community flood protection structure.
- ***Environmental Compliance Monitoring, Petrie Island Beach Head Rehabilitation Project, Ottawa, Ontario (2018):*** Project manager and technical lead responsible for monitoring constructor compliance with various Department of Fisheries and Oceans, Ministry of Natural Resources and Conservation Authority permit conditions during the Petrie Island





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Beach Head Rehabilitation Project within the Ottawa River. Work included species at risk surveys, exclusion fence inspection, monitoring of sediment and erosion control measures, and reporting.

- ***Provincially Significant Wetland Boundary Evaluation and Mitigation Plan, Town and County Chrysler, Smiths Falls, Ontario (2018):*** Project manager and technical lead responsible for revising the wetland boundary associated with a provincially significant wetland and development of a mitigation plan to enable the redevelopment of an adjacent commercial lot. Work included wetland vegetation delineation, regulatory technical document submissions, agency consultations, mitigation measure development and reporting.
- ***Environmental Impact Statement and Headwater Drainage Feature Assessment, Swank Construction Limited, Morrisburg, Ontario (2017-2018):*** Project manager and technical lead responsible for the completion of an Environmental Impact Statement with Headwater Drainage Feature Assessment for a 100-lot residential subdivision. Work included ecological land classification, breeding bird surveys, impact assessment and a three season assessment of hydrological conditions and their contributions to downstream fish habitat.
- ***Natural Heritage Inventory and Environmental Impact Assessment, Combermere Lodge Limited, Barry's Bay, Ontario (2017-2018):*** Project manager and technical lead responsible for the completion of a Natural Heritage Inventory and Environmental Impact Assessment completed in support of a 54-lot condominium development located in an environmentally sensitive area. Work included wetland boundary delineation, identification of significant wildlife habitat, application of the significant wildlife habitat mitigation support tool, completion of a two-year survey of site flora and fauna, impact assessment and town hall presentations.
- ***Lake Capacity Assessment, Combermere Lodge Limited, Barry's Bay, Ontario (2017-2018):*** Project manager and technical lead responsible for the predictive assessment of septic effluent impacts relating to the operation of a 54-lot condominium development on three adjacent waterbodies. Work included limnological investigations over two seasons, application of the provincial lakeshore capacity model, hydrogeological investigations, mass flux analysis, mitigation measure development and reporting.
- ***Detailed Quantitative Ecological Risk Assessment, National Capital Commission, Gatineau, Quebec (2016 to 2018):*** Project manager and technical lead for the completion of a Detailed Quantitative Ecological Risk Assessment completed for a former landfill property located adjacent to the Ottawa River. Work included aquatic habitat assessment, benthic community characterization, species at risk surveys, terrestrial wildlife surveys and analysis of site-specific aquatic toxicity data.
- ***Environmental Compliance Monitoring, Carp Snow Dump, Ottawa, Ontario (2017):*** Project manager and technical lead responsible for monitoring constructor compliance with a Ministry of Natural Resources overall benefit permit for blanding's turtle associated with the





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construction of the Carp Snow Dump. Work included weekly exclusion fence inspection and weekly reporting to the contract administrator.

- ***Fish Habitat Assessment, Little Bark Bay Properties, Barry's Bay, Ontario (2017):*** Project manager and technical lead responsible for the identification and evaluation of significance of fish habitat within and adjacent to a proposed plan of subdivision. Work included aquatic habitat assessments, pathway of effects evaluation, application of the Department of Fisheries and Oceans self-assessment process and reporting.
- ***Species at Risk and Migratory Bird Screening Assessment, City of Ottawa, New Edinburg Park Redevelopment Project, Ottawa, Ontario (2017):*** Project manager and technical lead responsible for the completion of a species at risk and migratory bird screening assessment to assist in bid tender package preparation for the re-development of New Edinburg Park. Work included a general habitat assessment, a probability of occurrence assessment, follow-up pre-construction surveys and reporting.
- ***Fish Habitat Assessment, Highway 417 Culvert Replacement Project, Ottawa, Ontario (2017):*** Project manager and technical lead responsible for the evaluation of the significance of fish habitat at two culvert crossings Ottawa. Work included aquatic habitat assessments, pathway of effects evaluation, application of the Department of Fisheries and Oceans self-assessment process and reporting.
- ***Fish Habitat and Headwater Drainage Feature Assessment, Private Landowner, Ottawa, Ontario (2017):*** Project manager and technical lead responsible for the completion of a two-season hydrological assessment of on-site water courses and assessment of fish habitat. Work completed in support of a permit required to develop an unopened road allowance.
- ***Environmental Impact Statement and Wetland Boundary Assessment, Town and Country RV, Perth, Ontario (2016-2017):*** Project manager and technical lead responsible for delineation of a provincially significant wetland and impact assessment associated with the expansion of an existing commercial enterprise. Work included ecological land classification, identification of significant wildlife habitat, species at risk surveys, wetland vegetation assessment, impact assessment and development of site-specific mitigation measures.
- ***Environmental Impact Statement, Blueberry Creek Veterinary Clinic, Perth, Ontario (2016):*** Project manager and technical lead responsible for delineation of a provincially significant wetland and impact assessment associated with the development of a commercial lot. Work included ecological land classification, identification of significant wildlife habitat, species at risk surveys, wetland vegetation assessment, impact assessment and development of site-specific mitigation measures.





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Taylor Warrington, B.Sc.

Biologist

Ms. Warrington has 4 years of experience in the environmental consulting industry, providing private industry and municipal and federal government clients with cost effective solutions to manage environmental constraints associated with land development proposals and infrastructure projects.

Education

- B.Sc., Life Sciences, McMaster University, 2015
- Graduate Certificate, Ecosystem Restoration, Niagara College, 2016

Professional Experience

2020-date	GEMTEC Consulting Engineers and Scientists Limited <i>Biologist</i>	Ottawa, Ontario
2019-2020	GEMTEC Consulting Engineers and Scientists Limited <i>Junior Biologist</i>	Ottawa, Ontario
2017-2019	Geofirma Engineering Limited <i>Junior Biologist/Scientist</i>	Ottawa, Ontario
2016	Dillon Consulting <i>Junior Field Biologist</i>	Little Current, Ontario
2014	McMaster University <i>Laboratory-Research Assistant; URBAN Project Coordinator</i>	Hamilton, Ontario

Professional Affiliations and Technical Training

- Ottawa Conservation Partners Workshop: How to Prepare and Environmental Impact Statement. 2020.
- Class 2 Backpack Electrofishing Crew Leader Certification Course. June, 2019.
- Ontario Reptile and Amphibian Survey Course. Blazing Star Environmental, Natural Resource Solutions Inc., and Ontario Nature. 2018
- Ontario Benthic Biomonitoring Network Certification Course. Ministry of Environment, Conservation and Parks. 2016

Project Highlights

- **Tier I and II Natural Environment Report, Crain's Construction, Lanark County, Ontario.** Biologist responsible for completing on-going surveys in support of a proposed





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quarry application. Surveys include winter mammal and ungulate use surveys, bat maternity roost surveys, ecological land classification, breeding bird surveys, turtle basking surveys, amphibian breeding surveys and targeted species at risk surveys for American ginseng and eastern whip-poor-will.

- ***Botanical Surveys, Ontario Power Generation Incorporated, Hydroelectric Generating Stations throughout Central and Eastern Ontario.*** Biologist responsible for completing on-going botanical surveys at 12 hydroelectric generating stations to update existing records. Botanical surveys will include a combination of field survey protocols including random meander, transects and quadrant sampling methods to identify vascular plant species present at each site.
- ***Foresters Falls Dam Removal, Renfrew County, Ontario.*** Biologist responsible for conducting a species at risk screening assessment to identify the presence of species at risk within the project area and evaluate the potential impacts on SAR and their habitat if the dam is removed. On-going surveys including targeted turtle basking surveys, and terrestrial wildlife and vegetation surveys.
- ***Environmental Impact Statement, Subdivision Development, Lanark County, Ontario.*** Biologist responsible for the completion of an Environmental Impact Statement for a proposed 25-lot subdivision application. Work included ecological land classification surveys, targeted surveys for species at risk, breeding amphibians and birds, basking turtle surveys, bat maternity roost surveys, headwater drainage feature assessment, butternut health assessment, impact assessment, development of lot-specific mitigation measures and agency consultation.
- ***Wetland Evaluation and Significant Wildlife Habitat Surveys, Ontario Power Generation Incorporated, Bath, Ontario (2019).*** Biologist responsible for conducting a wetland evaluation and significant wildlife habitat surveys at the Lennox Provincially Significant Wetland. Work included conducting turtle basking surveys, reptile hibernacula surveys, targeting species at risk surveys for Least Bittern and a wetland evaluation following the MNRF's Ontario Wetland Evaluation System.
- ***Environmental Impact Statement, Proposed Subdivision Development, Hawksbury, Ontario (2019).*** Biologist responsible for the completion of an Environmental Impact Statement in support of a proposed 272-lot subdivision application. Work included ecological land classification surveys, targeted surveys for breeding birds, bat maternity roost surveys, headwater drainage feature assessment, impact assessment and development of lot-specific mitigation measures.
- ***Surface Water Impact Assessment, Green Lake Development, Barry's Bay, Ontario (2019):*** Biologist responsible for the completion of a surface water impact assessment supporting two residential lot severances. Work included a review of existing data on Green





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Lake, application of the provincial lakeshore capacity model, mitigation measure development and reporting.

- ***Biological Inventory, Ontario Power Generation Incorporated, Bath, Ontario (2018):*** Field Biologist responsible for conducting a three-season inventory of avian and amphibian species at the Lennox Provincially Significant Wetland. Work included conducting presence and abundance surveys following the Canadian Wildlife Service marsh monitoring protocol and Bird Studies Canada breeding bird surveys, statistical analysis of species data trends and reporting.
- ***Environmental Compliance Monitoring, Petrie Island Causeway Rehabilitation Project, Ottawa, Ontario (2018):*** Field biologist responsible for monitoring constructor compliance with various Department of Fisheries and Oceans, Ministry of Natural Resources and Conservation Authority permit conditions during the Petrie Island Causeway Rehabilitation Project within the Ottawa River. Work included species at risk surveys, fish salvage, exclusion fence inspection, monitoring of sediment and erosion control measures, turbidity monitoring, regulatory agency consultation and weekly reporting.
- ***Environmental Impact Statement, Code Drive Development, Smiths Falls, Ontario (2018):*** Field Biologist responsible for the completion of an Environmental Impact Statement in support of a severance application for the creation of eight residential lots within a significant woodland and adjacent to a large local wetland. Work included targeted surveys for species at risk, breeding amphibians and marsh birds, impact assessment, development of lot-specific mitigation measures and agency consultations.
- ***Tier I and II Natural Environment Report, Crain's Construction, Ottawa, Ontario (2018):*** Field biologist responsible for completing an inventory of site flora and fauna, completion of species at risk surveys, bat exit surveys, regulatory agency consultation, impact assessment and reporting.
- ***Species at Risk Assessment, National Capital Commission, Gatineau, Quebec (2018):*** Field biologist responsible for the completion of avian species at risk surveys to determine the presence or absence of chimney swift and barn swallows at a contaminated site. Work was undertaken to support an Ecological Risk Assessment.
- ***Environment Effects Evaluation Assessment, Britannia Wall Rehabilitation Project, Ottawa, Ontario (2018):*** Field Biologist responsible for completing a comprehensive tree inventory, wetland boundary delineation, significant wildlife habitat assessment and evaluation of effects associated with the rehabilitation of the Britannia Wall, a 600-metre-long community flood protection structure.
- ***Environmental Compliance Monitoring, Petrie Island Beach Head Rehabilitation Project, Ottawa, Ontario (2018):*** Field biologist responsible for monitoring constructor





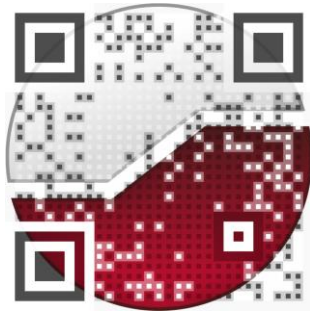
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compliance with various Department of Fisheries and Oceans, Ministry of Natural Resources and Conservation Authority permit conditions during the Petrie Island Beach Head Rehabilitation Project within the Ottawa River. Work included species at risk surveys, exclusion fence inspection, monitoring of sediment and erosion control measures, and reporting.

- ***Natural Heritage Inventory and Environmental Impact Assessment, Combermere Lodge Limited, Barry's Bay, Ontario (2017-2018):*** Field biologist responsible for the completion of a Natural Heritage Inventory and Environmental Impact Assessment completed in support of a 54-lot condominium development located in an environmentally sensitive area. Work included wetland boundary delineation, identification of significant wildlife habitat, application of the significant wildlife habitat mitigation support tool, completion of a two-year survey of site flora and fauna, and impact assessments.
- ***Species at Risk and Migratory Bird Screening Assessment, City of Ottawa, New Edinburg Park Redevelopment Project, Ottawa, Ontario (2017):*** Field biologist responsible for the completion of a species at risk and migratory bird screening assessment to assist in bid tender package preparation for the re-development of New Edinburg Park. Work included a general habitat assessment, a probability of occurrence assessment, follow-up pre-construction surveys and reporting.
- ***Post-Construction Windfarm Monitoring for Wildlife Impacts, Little Current, Ontario (2016):*** Field biologist responsible for the completion of post-construction monitoring of a windfarm for avian and mammalian fatalities. Work included fatality surveys, vegetation surveys, and wildlife scavenger surveys.
- ***Long-term Changes in Ecosystem Health, Frenchman's Bay, Pickering, Ontario (2015):*** Field biologist responsible for evaluating the long-term changes in ecosystem health of Frenchman's Bay. Work included: data review, analysis of data trends, watershed and land-use mapping, digitization of wetland vegetation cover and analysis of changes over time, reporting and symposium presentation.



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