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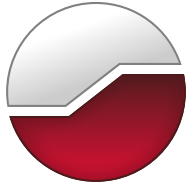
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**Tree Conservation Report
Proposed Commercial Development
5506 Manotick Main Street
Ottawa, Ontario**

experience • knowledge • integrity



expérience • connaissance • intégrité



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Submitted to:

2538702 Ontario Inc. o/a KGMS Construction

7116 Bank Street

Metcalfe, Ontario

K0A 2P0

c/o Cedar Sands Holdings Inc.

184 Redpath Drive

Ottawa, Ontario

K2G 6K5

**Tree Conservation Report
Proposed Commercial Development
5506 Manotick Main Street
Ottawa, Ontario**

December 17, 2019

Project: 65032.03

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1.0 INTRODUCTION

GEMTEC Consulting Engineers and Scientists Ltd. (GEMTEC) was retained by 2538702 Ontario Inc. o/a KGMS Construction c/o Cedar Sands Holdings Inc. to carry out a Tree Conservation Report (TCR) for the property located at 5506 Manotick Main Street, in the City of Ottawa, Ontario, hereafter referred to as the “subject property”.

1.1 Purpose

KGMS Construction c/o Cedar Sands Holdings Inc. is proposing a new commercial development, for the property located at 5506 Manotick Main Street in the City of Ottawa, Ontario. The project involves the demolition of the existing building and the construction of a new two-storey commercial building fronting to Manotick Main Street with at grade parking behind the building. 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 6, 2019 from 07:45 to 08:45. Site conditions during the investigation were as follows, -6°C, overcast, Beaufort wind 1, light snow. Approximately 10 cm of snow accumulation was 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 a single one-storey residential dwelling of approximately 99 m² (0.01 ha), occupying approximately 7% of the 0.13 ha property. Other existing features on the property include the driveways, providing access to Manotick Main Street and Highcroft Drive. Impermeable surfaces comprise approximately 46% of the 0.13 ha property. The remainder of the property consists of manicured lawn surrounding the existing infrastructure, and treed hedgerows. The existing site layout is illustrated on Figure A.2 in Appendix A.

The proposed development includes the demolition of the existing building and the construction of a new two-storey commercial building fronting to Manotick Main Street, with at grade parking behind the new building. The proposed development plan is illustrated on Figure A.3 in Appendix A. A few trees are present on the property, primarily along the property boundary hedgerow; a summary of all trees on-site is provided in Section 3.2 below.

The vicinity of the site is characterized by residential dwellings and commercial office properties. The nearest significant feature is the Rideau River located approximately 150 m north of the site. There are no other natural environmental features in the vicinity of the project, as summarized in Table 3.1 below.

Table 3.1 Summary of Natural Features Present On-site or Adjacent to Site

Natural Feature	Present On-site or Adjacent
Surface water or wetlands present	None
Steep slopes, valleys or escarpments	None
Urban Natural Features or Natural Environment Areas	None
Significant Woodlands	None
Greenspace Linkages	None
High Quality Specimen Trees	None
Rare plant communities or unique environmental features	None
Presence of Species at Risk	None

Based on a review of historical air photos the site, the site has undergone no significant alteration since 1976, when the lot had the same configuration as today.

3.2 Tree Inventory Summary

A tree inventory was conducted on December 6, 2019. Trees 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 on-site 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. All trees, and whether they are retainable or not under the current proposed development 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, one distinctive tree (DBH > 50 cm) were identified on-site, a sugar maple in the front of the property with a DBH of 65 cm. This tree was observed to be in overall poor health with dead and dying limbs on half of the tree (See Photograph 2 in Appendix B). Furthermore, imagery for the subject property from Google, both in the satellite imagery (dated 2019) and from street view (dated May 2018) show the tree with half of the canopy dead.

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:

- Four trees were identified as non-retainable under the proposed development concept with an additional three trees with critical root zone conflicts and 10 trees with a possible conflict;
- One distinctive tree, meeting the City of Ottawa By-Law Np. 2009-200 requirements, was identified on-site, the tree is identified as non-retainable under the proposed development; however, the tree was observed to be in poor condition;
- Trees on-site are of a typical urban and opportunistic or early successional species;
- Twenty-two trees are in good/healthy condition and seven trees are dead, dying or poor condition; and
- None of the 29 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 northeast, southwest and southeast property boundaries 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;
- 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 Ltd. (GEMTEC), and was prepared for 2538702 Ontario Inc. o/a KGMS Construction c/o Cedar Sands Holdings Inc. and is intended for the exclusive use of 2538702 Ontario Inc. o/a KGMS Construction c/o Cedar Sands Holdings Inc. This report may not be relied upon by any other person or entity without the express written consent of GEMTEC and 2538702 Ontario Inc. o/a KGMS Construction c/o Cedar Sands Holdings Inc. 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

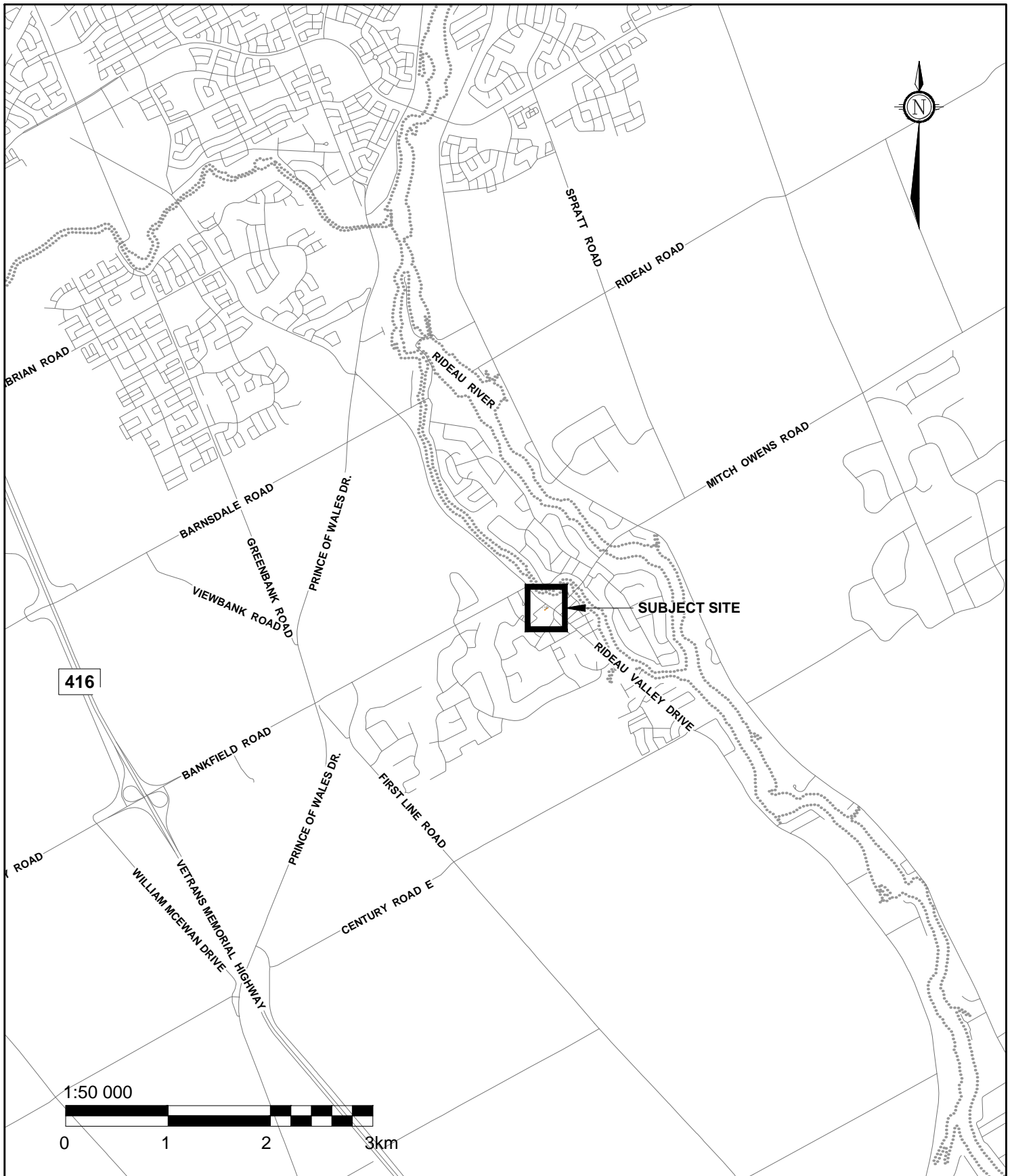
Figure A.1 – Site Location


Figure A.2 – Site Layout

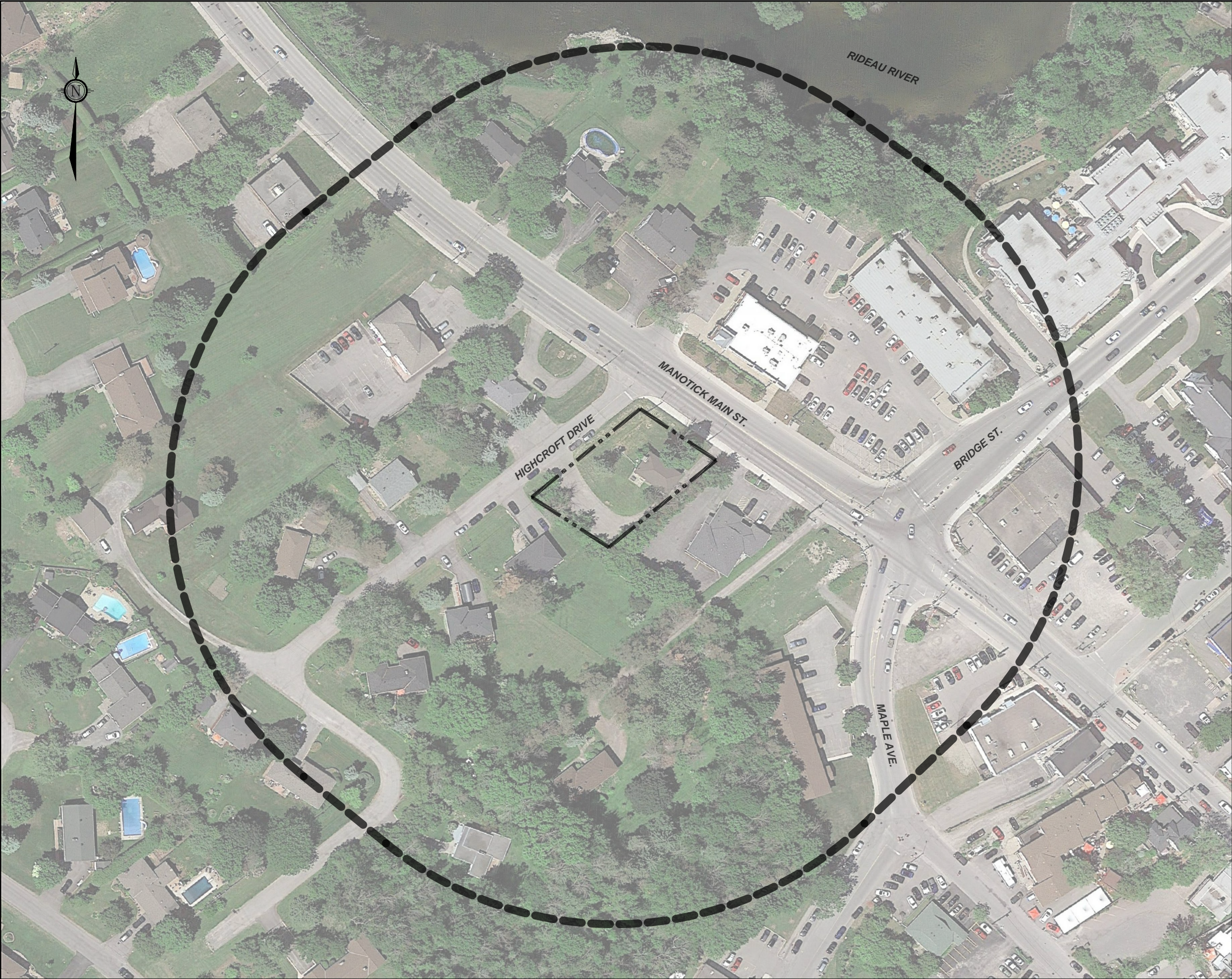
Figure A.3 – Proposed Development

Figure A.4 – Tree Inventory



Figure A.5 – Tree Inventory Summary



 GEMTEC CONSULTING ENGINEERS AND SCIENTISTS <small>32 Steacie Drive, Ottawa, ON K2K 2A9 T: (613) 836-1422 www.gemtec.ca ottawa@gemtec.ca</small>	Project TREE INVENTORY REPORT 5506 MANOTICK MAIN ST. OTTAWA, ONTARIO			Drawing SITE LOCATION		
	Drwn By P.C.	Chkd By T.W.	Date DECEMBER 2019	Project No. 65032.03	Revision No. 0	FIGURE A.1



LEGEND

-  SUBJECT SITE
-  STUDY AREA, 120m AROUND PROPERTY BOUNDARY





GEMTEC
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Drawing

SITE LAYOUT

Client

KGMS CONSTRUCTION

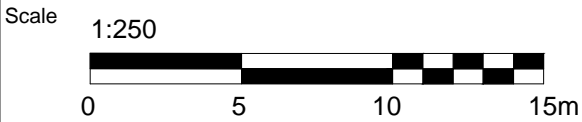
Project	65032.03	TREE INVENTORY REPORT 5506 MANOTICK MAIN ST. OTTAWA, ONTARIO
Drwn by	P.C.	
Chkd by	T.W.	

Date	DECEMBER 2019	Rev.	0	FIGURE A.2
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LEGEND

----- SUBJECT SITE





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AND SCIENTISTS

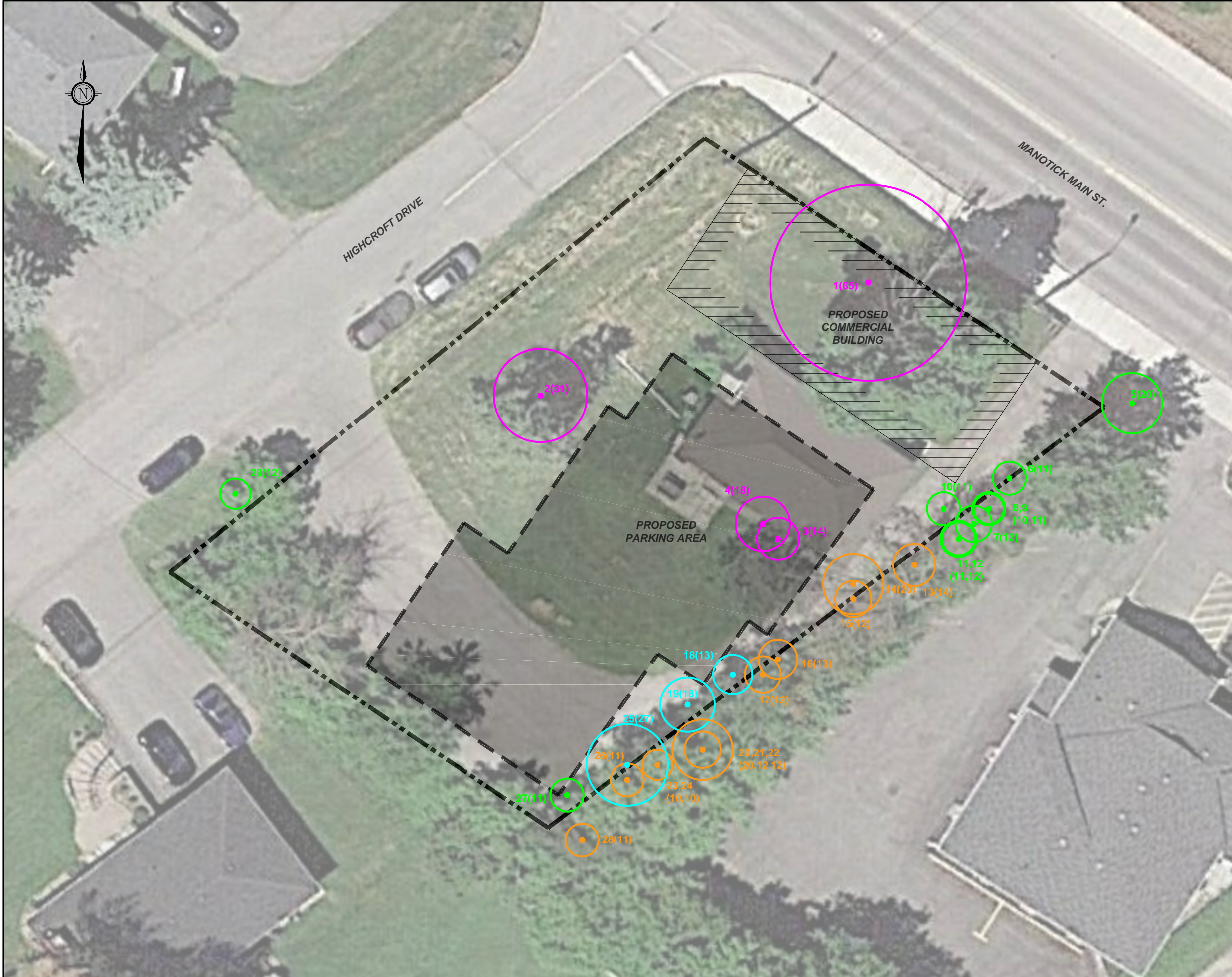
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Drawing
PROPOSED DEVELOPMENT

Client
KGMS CONSTRUCTION

Project 65032.03	TREE INVENTORY REPORT 5506 MANOTICK MAIN ST. OTTAWA, ONTARIO
Drwn by P.C.	
Chkd by T.W.	

Date DECEMBER 2019	Rev. 0	FIGURE A.3
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LEGEND

- SUBJECT SITE
- CRITICAL ROOT ZONE
- TREE ID DIAMETER AT BREAST HEIGHT (DBH) IN CENTIMETRES
- RETAINABLE
- NON-RETAINABLE
- POSSIBLE CONFLICT
- CRITICAL ROOT ZONE CONFLICT



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Drawing

TREE INVENTORY

Client

KGMS CONSTRUCTION

Project 65032.03

Drwn by P.C. Chkd by T.W.

TREE INVENTORY REPORT
5506 MANOTICK MAIN ST.
OTTAWA, ONTARIO

Date DECEMBER 2019

Rev. 0

FIGURE A.4



APPENDIX B

Site Photographs



Site Photograph 1 – Existing Vegetation, Tree Number 1



Site Photograph 2 – Existing Vegetation, Tree Number 1, Dead Limbs in Background



Site Photograph 3 – Existing Vegetation, Tree Number 2



Site Photograph 4 – Existing Vegetation, Tree Numbers 3 and 4



Site Photograph 5 – Existing Vegetation, Southeast Hedgerow



Site Photograph 6 – Existing Vegetation, Southwest Hedgerow



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	Sugar Maple	<i>Acer Saccharum</i>	65	650	Poor, dying and dead trunks	Non-retainable	Y	N
2	White Spruce	<i>Picea glauca</i>	31	310	Healthy	Non-retainable	N	N
3	White Ash	<i>Fraxinus americana</i>	14 & 10	140	Multi-stem (3), dead	Non-retainable	N	N
4	White Ash	<i>Fraxinus americana</i>	18	180	Dying, dead limbs	Non-retainable	N	N
5	American Elm	<i>Ulmus americana</i>	20, 18, 13, 13, 12 & 10	200	Multi-stem (11), healthy	Possible Conflict	N	N
6	Eastern White Cedar	<i>Thuja occidentalis</i>	11	110	Healthy	Possible Conflict	N	N
7	Eastern White Cedar	<i>Thuja occidentalis</i>	12	120	Multi-stem (2), healthy	Possible Conflict	N	N
8	Eastern White Cedar	<i>Thuja occidentalis</i>	10, 10 & 10	100	Multi-stem (4), healthy	Possible Conflict	N	N
9	Eastern White Cedar	<i>Thuja occidentalis</i>	11	110	Healthy	Possible Conflict	N	N
10	Eastern White Cedar	<i>Thuja occidentalis</i>	11	110	Multi-stem (5), healthy	Possible Conflict	N	N
11	Eastern White Cedar	<i>Thuja occidentalis</i>	11	110	Healthy	Possible Conflict	N	N
12	Eastern White Cedar	<i>Thuja occidentalis</i>	12	120	Multi-stem (4), healthy	Possible Conflict	N	N
13	Eastern White Cedar	<i>Thuja occidentalis</i>	14	140	Healthy	Retainable	N	N
14	White Ash	<i>Fraxinus americana</i>	20 & 20	200	Multi-stem (2), poor, dying limbs, peeling bark	Retainable	N	N
15	Eastern White Cedar	<i>Thuja occidentalis</i>	12	120	Healthy	Retainable	N	N
16	Eastern White Cedar	<i>Thuja occidentalis</i>	13	130	Healthy	Retainable	N	N
17	Eastern White Cedar	<i>Thuja occidentalis</i>	12	120	Healthy	Retainable	N	N
18	Eastern White Cedar	<i>Thuja occidentalis</i>	13 & 12	130	Multi-stem (2), healthy	Critical Root Zone Conflict	N	N
19	White Ash	<i>Fraxinus americana</i>	18	180	Healthy	Critical Root Zone Conflict	N	N
20	White Ash	<i>Fraxinus americana</i>	20 & 10	200	Poor, leaning, dead limbs	Retainable	N	N
21	Eastern White Cedar	<i>Thuja occidentalis</i>	12	120	Multi-stem (2), healthy	Retainable	N	N
22	Eastern White Cedar	<i>Thuja occidentalis</i>	12	120	Multi-stem (3), healthy	Retainable	N	N
23	Sugar Maple	<i>Acer Saccharum</i>	10	100	Multi-stem (2), healthy	Retainable	N	N
24	Eastern White Cedar	<i>Thuja occidentalis</i>	10 & 10	100	Multi-stem (3), healthy	Retainable	N	N
25	White Ash	<i>Fraxinus americana</i>	27, 20, 20 & 20	270	Multi-stem (5), poor, leaning, dying limbs	Critical Root Zone Conflict	N	N
26	Eastern White Cedar	<i>Thuja occidentalis</i>	11	110	Healthy	Retainable	N	N
27	Eastern White Cedar	<i>Thuja occidentalis</i>	11 & 10	110	Multi-stem (2), healthy	Possible Conflict	N	N
28	Eastern White Cedar	<i>Thuja occidentalis</i>	10	100	Healthy	Retainable	N	N
29	White Ash	<i>Fraxinus americana</i>	12, 11, 10 & 10	120	Multi-stem (5), poor, dying limbs, peeling bark	Possible Conflict	N	N



APPENDIX D

CVs for Key Personnel

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.





- ***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





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





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.



Taylor Warrington, B.Sc.

Junior Biologist

Ms. Warrington has 3 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

2019-date	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

- 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

- **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 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, 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 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.

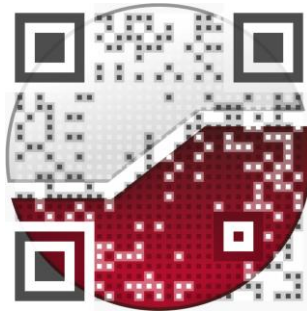




- ***Natural Heritage Inventory and Environmental Impact Assessment, Combermere Lodge Limited, Barry's Bay, Ontario (2017-2018):*** Field biologist responsible for the completion of a Natural Heritage Inventory and Environmental Impact Assessment completed in support of a 54-lot condominium development 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.
- ***Detailed Quantitative Ecological Risk Assessment, National Capital Commission, Gatineau, Quebec (2017 to 2018):*** Field biologist 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, species at risk surveys, and terrestrial wildlife surveys.
- ***Environmental Compliance Monitoring, Carp Snow Dump, Ottawa, Ontario (2017):*** Field biologist responsible for monitoring constructor compliance with a Ministry of Natural Resources overall benefit permit for blanding's turtle associated with the construction of the Carp Snow Dump. Work included weekly exclusion fence inspection and weekly reporting to the contract administrator.
- ***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.



experience • knowledge • integrity



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geotechnical	géotechnique
environmental	environnementale
field services	surveillance de chantier
materials testing	service de laboratoire des matériaux

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