Geotechnical Engineering

Environmental Engineering

Hydrogeology

Geological Engineering

Materials Testing

Building Science

Archaeological Services

patersongroup

Scoped Environmental Impact Statement

21 Withrow Avenue
Ottawa, Ontario

Prepared For

Theberge Developments

August 8, 2017

Report: PE4068-2

Paterson Group Inc.

Consulting Engineers
154 Colonnade Road South
Ottawa (Nepean), Ontario
Canada K2E 7J5

Tel: (613) 226-7381
Fax: (613) 226-6344
www.patersongroup.ca

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EXECUTIVE SUMMARY

Assessment

Paterson Group was retained by Theberge Developments to prepare a Scoped Environmental Impact Statement (EIS) of the property addressed as 21 Withrow Avenue, in the City of Ottawa, Ontario. The purpose of this EIS was to identify any sensitive species or habitats at the site that may be affected by the proposed development.

The subject site is currently occupied by a vacant residential dwelling on a large grassed and treed lot. Based on historical searches, the structure was built in the 1840s, and was occupied by the same owner from at least 1930 to 2011. The structure is currently vacant, and the land surrounding the structure consists of grassed lawns with trees and gardens along the periphery and in small clusters. A gravel driveway extends from Withrow Avenue to the front of the house.

Site visits were conducted to assess the subject site. The site visits did not identify any vegetation communities or species at risk as identified by the Ministry of Natural Resources and Forestry (MNRF), with the exception of at least one butternut tree. The site visits also identified potential habitat for chimney swifts, little brown bat, tri coloured bat, northern long-eared bat, and eastern small-footed bat which are listed as threatened or endangered by the MNRF. Suitable habitat for barn swallows was considered to be unlikely on the subject site due to lack of nest-building material. The habitats of threatened and endangered species at risk are automatically protected under Section 10 of the Endangered Species Act (2013).

Conclusion

Based on the results of this Scoped Environmental Impact Statement, **in our opinion, a Tree Conservation Report is required to confirm the presence of and assess the health of any butternut trees on the subject site. A chimney swift survey may be required in order to confirm the presence or absence of chimney swifts on the subject site, in order to avoid contravention of Section 10 of the Endangered Species Act during the proposed site development works.**

If the chimneys are determined to be sealed from the top and no bats are observed to use the structures, no further action is required. If chimneys are determined to be open, a swift/bat survey should be conducted. If it is determined that chimney swifts (or bat species at risk) use the site, construction activities should be registered with the MNRF, and conducted outside the breeding season (mid-May to mid-July) to avoid disturbing the animals.

1.0 INTRODUCTION

At the request of Theberge Developments, Paterson Group (Paterson) conducted a Scoped Environmental Impact Statement (EIS) of the property located at 21 Withrow Avenue, in the City of Ottawa, Ontario. The purpose of this EIS was to identify any protected habitat or species that may be affected by the proposed works.

Paterson was engaged to conduct this EIS by Mr. Joey Theberge of Theberge Developments. Theberge's offices are located at 904 Lady Ellen Place, Ottawa, Ontario. Mr. Theberge can be reached by telephone at (613) 421-1515.

This report has been prepared specifically and solely for the above noted project which is described herein. It contains all of our findings and results of the environmental conditions at this site.

This Scoped EIS has been prepared in accordance with the requirements of a Scoped Environmental Impact Statement made under the Environmental Assessment Act and Species at Risk Act. The conclusions presented herein are based on information gathered from a limited field inspection program. The findings of the Scoped EIS are based on a review of readily available historical and regulatory information and observations made at the time of the field assessment. The historical and incidental research relies on information supplied by others, such as local and provincial agencies, and local resident observations, and was limited within the scope-of-work, time and budget of the project herein.

2.0 PROPERTY INFORMATION

Address:	21 Withrow Avenue, Ottawa, Ontario.
Legal Description:	Lots 407, 408, 409, 410, 411, 412, 413, 608, 609, 610, 611, 612, 613, 614, 657, 658, 659, 660, 661, 662, 663 and Part of Lots 414, 607, 664 and Part of the Adjacent Lanes (Closed by Judge's Order Inst. CR294685) and Part of Rita Avenue (Closed by Judge's Order Inst. CR294685) Registered Plan 375, City of Ottawa.
Property Identification Number:	04689-0025.
Location:	The subject site is located on the north side of Withrow Avenue west of Merivale Road.
Latitude and Longitude:	45° 21' 18" N, 75° 44' 21" W;

Site Description:

Configuration:	Irregular.
Site Area:	0.82 ha.
Zoning:	R1FF, residential 1st density.
Official Plan:	General Urban Area.
Current Use:	The subject site is occupied by a vacant residential dwelling with detached three-car garage building.
Services:	The subject site is serviced by municipal water and sewer.

3.0 SCOPE OF INVESTIGATION

The scope of work for this Scoped EIS was as follows:

- Conduct research to determine the historic uses of the subject site;
- Investigate the existing conditions present at the subject site by conducting site reconnaissance;
- Conduct interviews with persons knowledgeable of current and historic operations on and observations of the subject property;
- Present the results of our findings in a comprehensive report in accordance with the requirements of a Scoped Environmental Impact Statement made under the Environmental Assessment Act and Species at Risk Act;
- Provide a preliminary environmental impact evaluation based on our findings;
- Provide preliminary mitigation and monitoring recommendations and further investigative work if required.

4.0 DESCRIPTION OF THE SITE AND NATURAL ENVIRONMENT

4.1 Historic Information

First Developed Use Determination

According to the city aerial photos, the first developed use of the subject site was prior to 1945. At this time, the existing residential dwelling appears to have occupied the property. Surrounding properties were agricultural at this time, and were developed with residential dwellings in the 1960s. Additional historical sources indicate that the residence was constructed in the 1840s.

Fire Insurance Plans

Fire Insurance Plans (FIPs) dated 1965 were reviewed for the area of the subject site. The FIPs do not provide coverage of the subject site or adjacent properties to the west, north or south. Properties to the east, along Merivale Road, were used for commercial purposes.

Current Plan of Survey

A plan of survey, prepared by Farley, Smith & Denis Surveying Ltd. and dated November 11, 2015, was reviewed as part of this assessment. The survey plan shows the subject site in its current configuration.

4.2 Environmental Source Information

Physiographic Maps

The Ontario Geological Survey publication 'The Physiography of Southern Ontario, Third Edition' was reviewed as a part of this assessment. According to the publication and attached mapping, the site is situated within the Ottawa Valley Clay Plains physiographic region, described as "clay plains interrupted by ridges of rock or sand". Mapping shows the subject site as situated on an area of clay plains.

Geological Maps

The Geological Survey of Canada website on the Urban Geology of the National Capital Area was consulted as part of this assessment. Based on this information, bedrock in the area of the site consists of interbedded limestone and

dolomite of the Gull River Formation, with shale of the Rockliffe Formation near the northeastern portion of the site. Surficial soils consist of plain till with a drift thickness reported to range from 1 to 3 m across the site.

Areas of Natural Significance

A search for areas of natural significance and features within the study area was conducted on the web site of the Ontario Ministry of Natural Resources (MNR) on July 20, 2017. The search did not reveal any natural features or areas of natural significance in the study area.

Natural Heritage Features

No Natural Heritage Features were identified on or adjacent to the subject site. The presence of three (3) chimneys (only one of which is visibly capped) is considered to perform natural heritage functions for their potential use as habitat by several bat and/or bird species.

Ministry of Natural Resources and Forestry and eBird Registry

A request for information was sent to the Ministry of Natural Resources and Forestry on observations of species at risk in the area of the subject site. The response from the MNRF indicated that there is unevaluated wetland in the area of the subject site. The response also identified butternut and Blanding's turtles as species at risk that may be present, or use the subject property.

The eBird website was consulted as a source of information on sightings of bird species in the area of the subject site. Bird survey data is uploaded to the site on a voluntary basis by recreational birders. The site did not identify records of bird observations in the area of the subject site.

4.3 Observations of the Natural Environment

General Requirements

A Scoped EIS requires at least one (1) visit to the subject site, to be completed during the growing season. The first site visit was conducted July 5, 2017, to assess the general conditions at the site. Weather conditions were sunny, with a temperature of approximately 23° C. Ms. Karyn Munch from the Environmental Department of Paterson Group conducted the site visit. A second site visit was conducted July 18, 2017 by Ms. Anna Graham to further assess the site and

surrounding properties. Weather conditions were sunny, with a temperature of approximately 28° C.

Buildings and Structures

The property at 21 Withrow Avenue is occupied by a residential dwelling and a stand-alone private garage. The dwelling is one and a half stories with a full basement and is constructed with a stone and mortar foundation. The dwelling is finished on the exterior with stone and mortar and has a peaked roof covered with asphaltic shingles. An addition along the south side of the dwelling is constructed with a concrete foundation and finished with vinyl siding and a metal roof. The porch, through which the basement is accessed along the south side of the dwelling, west of the aforementioned addition, appears to have been added or possibly refinished when the private garage was constructed. The private garage, a wood frame structure constructed with a concrete slab-on-grade foundation, and the porch are both are finished on the exterior with modern, decorative stone and mortar and a metal roof.

As noted previously, the dwelling was constructed at some time in the 1840s and is currently heated with an electric furnace. Based on aerial photographs, the private garage was likely constructed sometime in the 1980s and is not heated.

No other buildings or structures were present on the subject site at the time of the site visit.

Site Features

The subject structures are present on the northwestern portion of site. With the exception of a paved access lane, the remainder of the subject land is grass-covered or treed, with exceptionally thick foliage along the property boundaries.

Site drainage primarily consists of surficial infiltration; a ditch is present along Withrow Avenue. No standing water or evidence of surficial staining was observed on the exterior at the time of the site visit.

Various vegetation communities were observed on the subject site, which consisted of a combination of native wild species and planted decorative species. Grassed lawn is interspersed with groves of mixed vegetation that provide habitat to typical urban birds and mammals. The dominant trees were mature sugar maples, with numerous buckthorn, at least one mountain ash, and spruce trees around the property perimeter. At least one butternut (a species at risk, although it is possibly a hybrid) was identified on the site. Low-lying vegetation included

blackberry, peony, lilac, and staghorn sumac. Due to the presence of butternut on the site, a Tree Conservation Report should be completed prior to site development.

Bird species observed included crows and a robin, and mammal species observed included rabbits and squirrels.

No wetlands or Blanding's turtle habitat (per the MNRF response to the request for information) were observed on the subject site. No barn swallows or bat species were observed on the site; barn swallows are not anticipated to use the site. If small gaps are present in the roofs of the existing structures, they may be frequented by bat species at risk.

Three chimneys at the main residential dwelling were observed. One of the chimneys was screened on the exterior, preventing its use as habitat. The other two chimneys could not be adequately observed from the exterior, and may or may not be sealed.

Interior inspections of the chimneys were also inconclusive; no nests were observed in the chimney stacks, and it was unclear whether access from the top was blocked. The two uncapped chimneys are possible chimney swift habitat, and would require further inspection of the chimneys followed by a survey during the nesting season to confirm (if chimneys are unblocked). Adjacent property chimneys were also identified as potential chimney swift habitats, which may be affected by the proposed development activities (noise and dust).

5.0 PROPOSED DEVELOPMENT

The proposed work for the subject site is the construction of twelve (12) residential duplex structures. The residential units will occupy the majority of the subject site, leaving the area of the existing structures undisturbed. The existing residential dwelling is a designated heritage building, and will not be demolished. The proposed site plan (see Figure 2) includes several wooded areas corresponding to existing vegetated areas. Please refer to the Urbandiva Design Inc. Preliminary Concept Plan in Appendix 2 for additional details.

6.0 REVIEW AND EVALUATION OF INFORMATION

6.1 Land Use History

The following table indicates the current and past uses of the site dating back to the first developed use of the site.

Time Period	Land Use
Prior to 1840s	Vacant / Agricultural or Residential
1840s – present	Residential

6.2 Natural Heritage Features/Functions

At least one butternut tree was identified on the subject site. A Tree Conservation Report should be completed by a qualified arborist to assess the status of the tree. The two uncapped (to visual observation from the ground) chimneys present potential suitable potential habitat for chimney swift (a species at risk), and may be considered to fulfil natural heritage functions. Further chimney observations are required to confirm whether they are suitable chimney swift habitat.

Assessment of Uncertainty and/or Absence of Information

The information available for review as part of the preparation of this Scoped EIS is considered to be sufficient to conclude that further observations and potentially monitoring are required in order to confirm the presence or absence of habitats of species at risk that may be negatively affected by the proposed construction works.

7.0 CONCLUSIONS

Assessment

Paterson Group was retained by Theberge Developments to prepare a Scoped Environmental Impact Statement (EIS) of the property addressed as 21 Withrow Avenue, in the City of Ottawa, Ontario. The purpose of this EIS was to identify any sensitive species or habitats at the site that may be affected by the proposed development.

The subject site is currently occupied by a vacant residential dwelling on a large grassed and treed lot. Based on historical searches, the structure was built in the 1840s, and was occupied by the same owner from at least 1930 to 2011. The structure is currently vacant, and the land surrounding the structure consists of grassed lawns with trees and gardens along the periphery and in small clusters. A gravel driveway extends from Withrow Avenue to the front of the house.

Site visits were conducted to assess the subject site. The site visits did not identify any vegetation communities or species at risk as identified by the Ministry of Natural Resources and Forestry (MNRF), with the exception of at least one butternut tree. The site visits identified potential habitat for chimney swifts, which are listed as threatened by the MNRF. The habitats of threatened and endangered species at risk are automatically protected under Section 10 of the Endangered Species Act (2013).

Conclusion

Based on the results of this Scoped Environmental Impact Statement, **in our opinion, a Tree Conservation Report is required to confirm the presence of and assess the health of any butternut trees on the subject site. A chimney swift survey may be required in order to confirm the presence or absence of chimney swifts on the subject site, in order to avoid contravention of Section 10 of the Endangered Species Act during the proposed site development works.**

If the chimneys are determined to be sealed from the top and no bats are observed to use the structures, no further action is required. If chimneys are determined to be open, a swift/bat survey should be conducted. If it is determined that chimney swifts (or bat species at risk) use the site, construction activities should be registered with the MNRF, and conducted

outside the breeding season (mid-May to mid-July) to avoid disturbing the animals.

8.0 STATEMENT OF LIMITATIONS

This Scoped Environmental Impact Statement report has been prepared in general accordance with the Environmental Assessment Act. The conclusions presented herein are based on information gathered from a limited historical review and field inspection program. The findings of the Scoped EIS are based on a review of readily available geological, historical and regulatory information and a cursory review made at the time of the field assessments. The historical research relies on information supplied by others, such as, local, provincial and federal agencies and was limited within the scope-of-work, time and budget of the project herein.

This report was prepared for the sole use of Theberge Developments. Permission and notification from Theberge and Paterson will be required to release this report to any other party.

Paterson Group Inc.

Anna Graham, M.E.S.

Report Distribution:

- Theberge Developments
- Paterson Group

9.0 REFERENCES

Federal Records
National Archives.
Maps and photographs (Geological Survey of Canada surficial and subsurface mapping).
Natural Resources Canada – The Atlas of Canada.

Provincial Records
MNRF Areas of Natural Significance.
Chapman, L.J., and Putnam, D.F., 1984: 'The Physiography of Southern Ontario, Third Edition', Ontario Geological Survey Special Volume 2.

Municipal Records
The City of Ottawa geoOttawa website.

Local Information Sources
Ministry of Natural Resources and Forestry information request.
Personal Interviews.

Public Information Sources
Google Earth.
Google Maps/Street View.
eBird online birding registry.

FIGURES

FIGURE 1 – KEY PLAN

DRAWING PE4068-1E – EIS SITE PLAN

FIGURE 2 - PROPOSED SITE PLAN

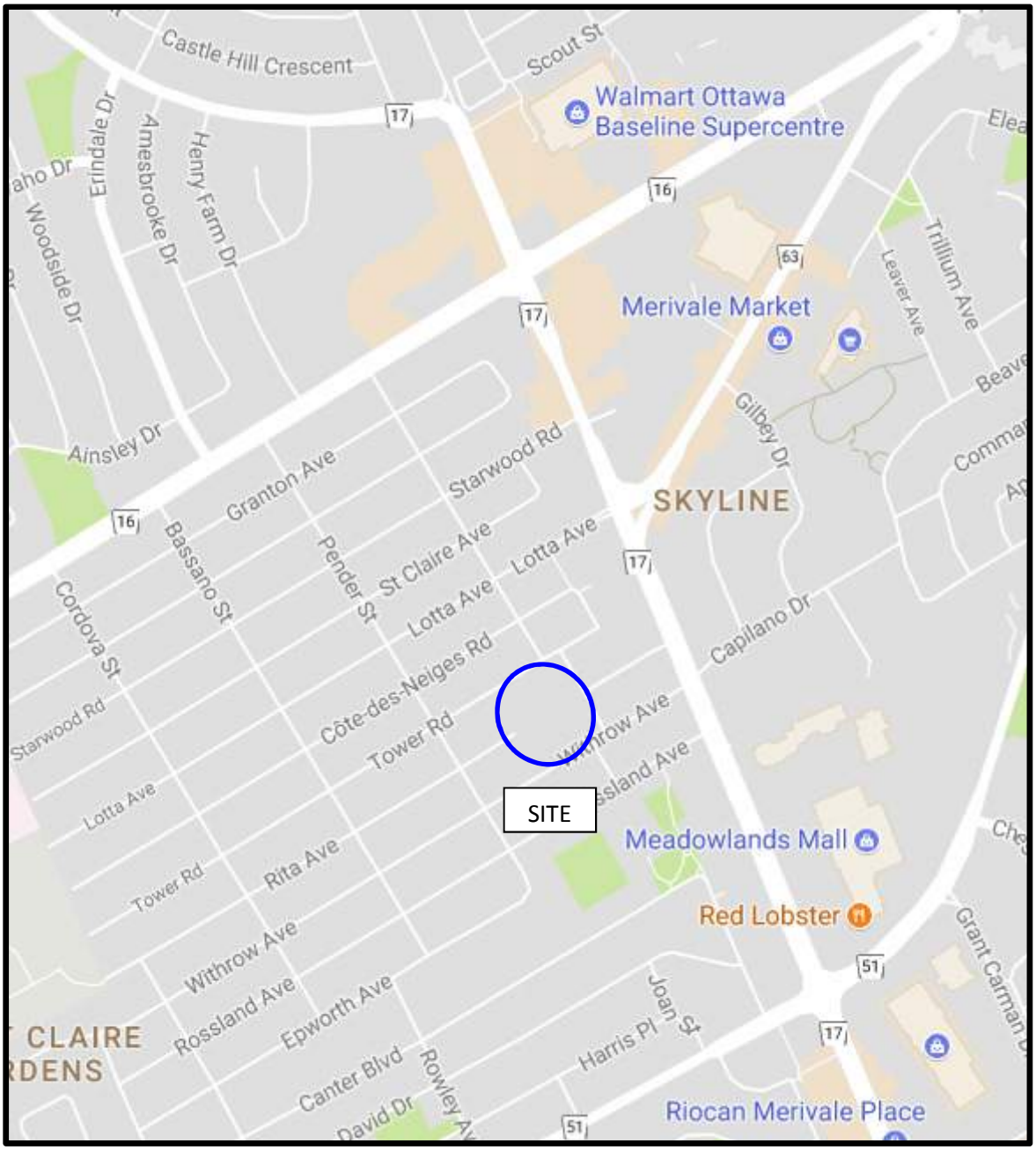

FIGURE 1

KEY PLAN

2014 City of Ottawa Aerial Photo

patersongroup
consulting engineers

154 Colonnade Road South
Ottawa, Ontario K2E 7J5
Tel: (613) 226-7381 Fax: (613) 226-6344

NO.	REVISIONS	DATE	INITIAL
0			

THEBERGE DEVELOPMENT

PHASE I - ENVIRONMENTAL SITE ASSESSMENT
21 WITHROW AVENUE

OTTAWA, ONTARIO

Title:

EIS SITE PLAN

Scale: 1:600	Date: 07/2017
Drawn by: RCG	Report No.: PE4068-2
Checked by: AG	Dwg. No.: PE4068-1E
Approved by: MSD	Revision No.: 0

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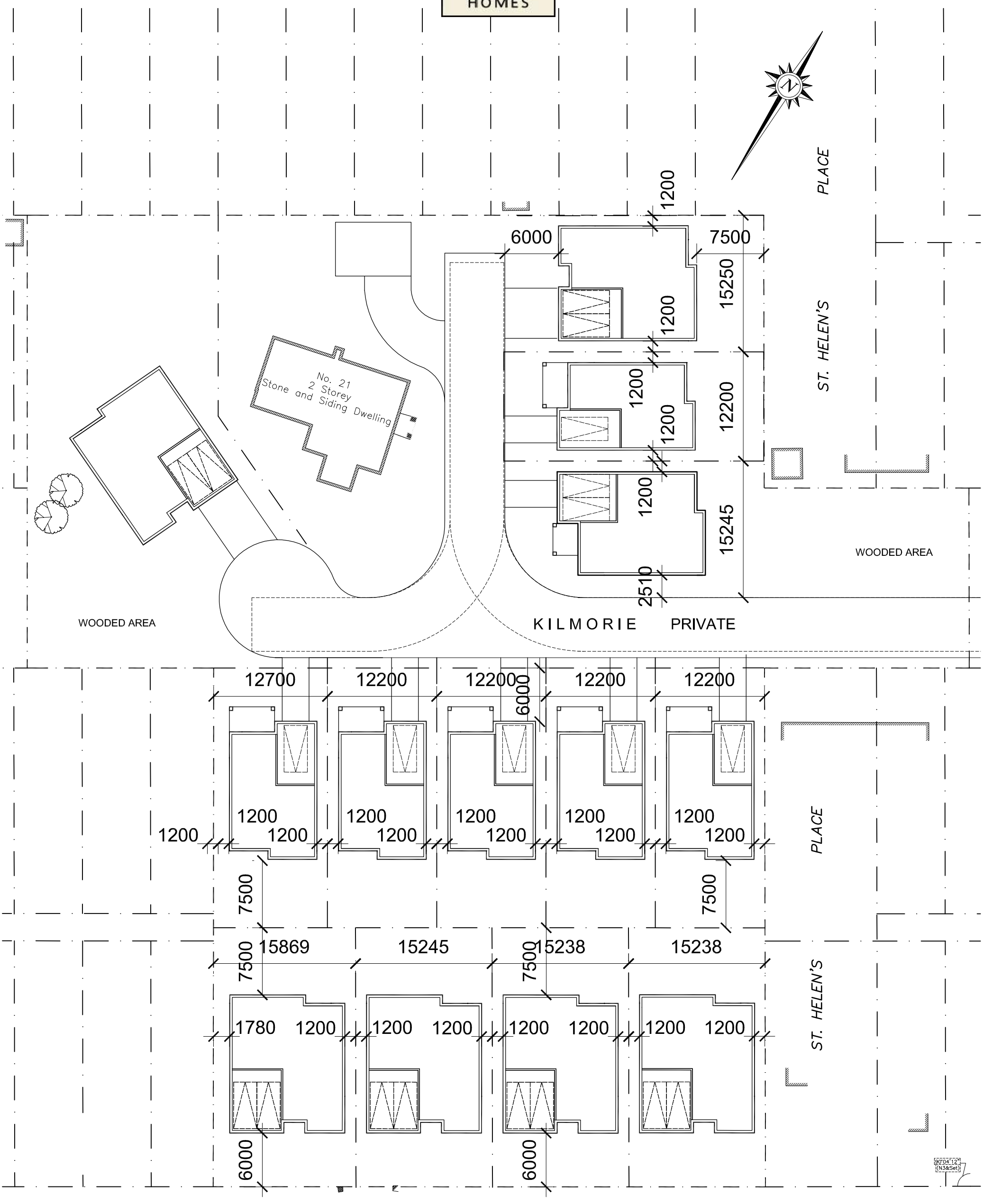
THEBERGE HOMES



PRELIMINARY CONCEPT PLAN

SCALE 1:400

PLOT DATE: Thursday, June 22, 2017

21 WITHROW AVENUE

OTTAWA ONTARIO

URBANDIVA Design Inc.

APPENDIX 1

SCOPED ENVIRONMENTAL IMPACT STATEMENT (EIS) FORM

APPENDIX 1: SCOPED ENVIRONMENTAL IMPACT STATEMENT (EIS) FORM

This form is intended for use by applicants (primarily private landowners) who need to conduct a Scoped EIS in support of minor development applications such as single lot severances or minor changes in land use. Instructions on the types of information needed are included in the form, with additional information provided following the form. The form also includes references to specific sections of the City of Ottawa's Environmental Impact Statement (EIS) Guidelines for more detailed information on EIS requirements.

You may not need to complete every section of this form. City of Ottawa staff (the Environmental Planner, Development Review) can advise you which sections need to be completed for your specific project.

If you do not know the answer to a question, please enter "unknown." City staff may be able to assist you in answering the question during their review of the development application and EIS.

Completion of this form does not constitute or guarantee any type of planning approval.

When is an EIS Required? **(EIS Guidelines, Section 1.2)**

You have been asked to provide an EIS because you are proposing a development or site alteration project in or adjacent to environmentally designated lands or other significant parts of the City's natural heritage system (NHS). The EIS Decision Tool (Appendix 2 of the EIS Guidelines) provides a checklist of these EIS `triggers.' Note that the distances that trigger an EIS may be different for urban and rural areas. These distances are normally measured from your property boundary to the edge of the designated lands or natural feature.

In accordance with the Provincial Policy Statement and the Official Plan, the basic principle of the EIS Guidelines is that:

> At minimum, the EIS must demonstrate that the proposed development or site alteration will have no negative impacts on the values or ecological functions for which the triggering environmentally significant lands or natural heritage features have been identified.

In many cases, you can avoid or greatly reduce the risk of negative impacts by locating your project (whether it is a new building or a new lot) away from the significant natural features identified. In other cases, you may need to schedule parts of the work to occur outside of sensitive times of the year for wildlife.

REQUIREMENT FOR PRE-CONSULTATION
(EIS Guidelines, Sections 1.3, 2.1 and 2.2)

Before completing this form, you must discuss your proposed project with the Development Review planners of the City of Ottawa. They will determine if an EIS is required, and if so, whether you need to submit this form or a Detailed EIS report.

Please provide the name(s) of the City staff you have discussed this EIS with, and the date(s) of the discussion:

Mary Dickinson, June 27, 2017

1. Property Identification
(EIS Guidelines, Section 3.1)

1.1 Property Owner's Name:
Theberge Developments

1.2 Municipal Address of Property:
21 Withrow Avenue

1.3 Lot, Concession and Township (rural properties only):

1.4 Property Information Number(s): (available at http://ottawa.ca/en/city_hall/emaps/index.html)
04689-0025

1.5 Mailing Address (if different from property address):
904 Lady Ellen Place, Ottawa, Ontario, K1Z 5L5

1.6 Land Use Designation[s] and Zoning from the Official Plan (http://www.ottawa.ca/en/city_hall/planningprojectsreports/ottawa2020/official_plan/index.html) and Zoning By-Law (http://www.ottawa.ca/en/licence_permit/bylaw/a_z/zoning/index.html):
Residential first density; General Urban Area

1.7 Existing and past land uses:
The property has always been used for residential purposes (since the 1840s). surrounding properties were historically agricultural, and have been developed with residential lots.

REQUIREMENT FOR SITE VISIT
(EIS Guidelines, Sections 2.2 and 3.2)

If you currently live on the property, please indicate how long you have lived there:

You must have visited the site at least once during the growing season for the purpose of evaluating the proposed project impact on the natural environment. Please fill in the following table with the required site visit information.

Date	Time	Personnel Involved	Weather Conditions	Purpose of Visit
July 5 and 18, 2017	4pm	Karyn Munch and Anna Graham	sunny, 25 degrees	Phase I ESA and plant and wildlife observations

2. Description of the Site and the Natural Environment
(EIS Guidelines, Sections 1.5, 2.1, 2.2 and 3.2)

2.1 General Map of the Natural Environment
(EIS Guidelines, Section 3.2.1)

Please attach a map showing your property in relation to the surrounding environment, including the natural features on and/or adjacent to the site (note: your property line must be clearly indicated). Recent aerial images can be obtained through the City's interactive mapping tool at http://ottawa.ca/en/city_hall/emaps/index.html

Photographs of the property also help to illustrate the existing conditions on the site.

Please describe the significant natural feature(s) on or adjacent to your property and indicate the feature's location(s) relative to your project.

The site is occupied by a residential building and detached garage, surrounded by grassed lawns and small wooded areas. The subject structures are present on the northwestern portion of the property. With the exception of a paved access lane, the remainder of the subject land is grass-covered or treed, with exceptionally thick foliage along the property boundaries.

2.2 Landforms, Soils and Geology
(EIS Guidelines, Section 3.2.2)

Please describe the physical environment: the landform (e.g., sloped, flat, valley, hill, etc.) soils (e.g., silty, sandy, clay, peat, etc.) and depth to bedrock and type (e.g., limestone, shale, granite, etc.). Identify the source(s) of information used (e.g., personal knowledge, well record, available mapping). Attach copies of mapping and other supporting documentation when available.

A geotechnical investigation was conducted by Paterson at the subject site, and seven (7) boreholes were placed. The site is mostly flat and at grade with neighbouring properties, with till overlaying shallow limestone bedrock. Bedrock was encountered at 0.6 to 1.6 m below the existing ground surface.

2.3 Surface Water, Groundwater and Fish Habitat
(EIS Guidelines, Section 3.2.3)

Please describe the surface water features (e.g., creeks, drains, ponds, etc.) including their approximate widths and depths, duration of flow (i.e., is water present all year round or not) and location relative to your project. Are there any places where ponds occur during springtime or after storms? Describe drainage and groundwater conditions, including depth to groundwater where known.

Site drainage primarily consists of surficial infiltration; a ditch is present along Withrow Avenue. No standing water or evidence of surficial staining was observed.

Do any of the surface water features contain minnows or other fish? Please list the kinds of fish present (if known).

2.4 Vegetation Cover
(EIS Guidelines, Section 3.2.4)

Describe each of the types of vegetation community shown on the natural environment map (e.g., lawn, cropped field, old field, marsh, thicket/scrub, swamp, woods, etc.). List the most common plants observed in each of these communities, if possible.

The vegetation communities on the site consist of lawn, thicket, and woods, in very small areas. Plants observed in thicket areas were dominated by blackberry (black raspberry), with stinging nettle, Virginia creeper, staghorn sumac, and goldenrod. The wooded areas have dominant mature sugar maple trees, and the south and west boundaries of the site are lined with Norway spruce, Other tree species observed include at least one butternut tree (possible hybrid), apple, locust, and mountain ash. Several areas of the site are occupied by planted decorative species such as peony, fig, and lilac.

2.5 Wildlife
(EIS Guidelines, Section 3.2.5)

List all wildlife species known or suspected to occur in the vicinity of the property. Where possible, specify whether the animal lives on the property or whether it is a visitor (e.g., looking for food or migrating through). Indicate why each species has been included on this list (e.g., seen, tracks found, call heard, reported previously).

Species Name	Resident/Visitor	Evidence
American robin	Visitor, possible resident	Visual observation of individual, no nests noted.
American crow	Visitor, possible resident	Visual observation of individual, no nests noted.
Eastern gray squirrel	Visitor, possible resident	Visual observation of individual, no nests noted.
Eastern cottontail rabbit	Visitor, possible resident	Visual observation of individual, no warren entrances noted.

2.6 Habitat for Species At Risk
(EIS Guidelines, Section 3.2.6)

List any species at risk known or suspected to occur in the vicinity of the property. Indicate why each species has been included on this list (e.g., seen, tracks found, call heard, reported previously). Provide photographs if available.

Based on the presence of potentially uncapped chimneys, chimney swifts may use the chimneys as nesting habitat. However, chimney swifts were not observed at the site at the time of the site visit. One chimney was visibly screened and not accessible to swifts, but it could not be determined whether the other two chimneys were sealed, and may provide usable swift habitat. Further observations of the chimneys should be done to confirm whether they are potential habitat. A chimney swift survey is recommended if the chimneys are unsealed.

The unoccupied structures on the site may also provide usable habitat for various bat species at risk and barn swallows. Due to the distance of the site from a water source, however, barn swallows are not expected to be present on the site (barn swallows construct their nests from mud). If the subject structures are to be disturbed, a bat survey should be conducted, and/or demolition activities should be conducted outside of the hibernation season.

Due to the absence of surface water, no wetlands, and no fish, reptile or amphibian species at risk are anticipated to use the site.

3. DESCRIPTION OF THE PROPOSED PROJECT
(EIS Guidelines, Section 3.3)

Please attach any available drawings or plans of your proposed project, to illustrate the information provided below.

3.1 What is the purpose of the development or site alteration? *(e.g., creation of a new lot for a single detached home, expansion of an existing home, etc.)*

The site will be developed with 12 residential duplex buildings on existing lots.

3.2 What site preparation, if any, will be required? *(e.g., brush-clearing, tree removal, blasting, grading, filling, etc.)*

Brush will be cleared, and trees will be removed (some may be relocated).

3.3 What construction or demolition activities, if any, will be required? *(e.g., excavation, preparation of foundation/pad, installation of public or private utilities, construction/demolition of a building, landscaping, etc.)*

Excavation for foundation construction and installation of utilities, and some landscaping will be completed as part of the site development.

3.4 What ongoing activities, if any, will occur at the site? *(e.g., private residence, operation of a small business, farming, etc.)*

Private residences

3.5 Have you consulted with other regulatory agencies (e.g., Conservation Authority, Ministry of Natural Resources, Ministry of Environment) to determine whether your project will require their authorisation?

No

4. IMPACTS AND MITIGATION
(EIS Guidelines, Sections 3.4 and 3.5)

4.1 Based on the information provided above, complete the attached summary table to identify the potential impacts of the various project activities on the natural environment on or adjacent to your property, and the mitigation measures that will be used to avoid or reduce these impacts.

4.2 Will the project result in any positive effects on the natural environment? Please include positive effects in the summary table, and provide a brief description below.

Positive effects will be determined by the extent of vegetation that is conserved (or introduced) during the development. Specific species may be introduced to encourage use by wildlife.

5. CONCLUSION
(EIS Guidelines, Section 3.7)

Will the proposed project result in any negative impacts to natural features or ecological functions, once the recommended mitigation measures have been implemented? *NOTE: residual negative impacts to significant natural features or ecological functions may mean that the project cannot be approved as proposed.*

Loss of vegetation will reduce the amount of habitat available to wildlife (not species at risk). A tree conservation report and consultation with an arborist is recommended to reduce the impact of vegetation loss on habitat availability. No negative impacts are anticipated to occur for species at risk, provided any confirmed chimney swift habitat is left undisturbed.

6. DECLARATION
(EIS Guidelines, Section 3.7)

Please provide the names and affiliations of all individuals who contributed to the preparation of this EIS, and indicate their role(s) in the process (e.g., EIS author, biologist, planning consultant, geotechnical engineer). Attach resumés where needed to demonstrate professional qualifications

Anna Graham - EIS author, biologist
Karyn Munch - environmental engineer
Erik Ardley - geotechnical engineer

I hereby certify that the information contained within this EIS is accurate and complete, to the best of my knowledge. I acknowledge that incomplete or incorrect information may delay the development review process.

Signature of Owner/Applicant — Date

Signature of EIS Author (if different from above)

August 1, 2017
Date

NOTE: Completion of this EIS form does not constitute or guarantee any type of planning approval

EIS Form, Section 4.1: Impacts and Mitigation Summary Table

Activity	Natural Heritage Feature/Function	Potential Effect (may be positive or negative)	Proposed Mitigation	Residual Effect (may be positive or negative)
Site Preparation				
Brush clearing and tree removal	Wildlife habitat	Loss of habitat	Conserve key specimens, replant	Loss of some vegetation
Construction				
Excavation and building	Wildlife disturbance (potentially to	Loss of species at risk habitat	Conduct activity outside of	None
construction	chimney swift) (noise and vibration)		breeding and nesting season when	
			possible (esp if chimney swift are	
			present - pending confirmation)	
Operation				
Residences	Natural vegetation	Loss of vegetation	Conserve important specimens	None
			Replace lost vegetation with	
			plants useful /attractive to wildlife	
Other				
Examples				
Site Preparation: Vegetation clearing to allow for house construction	*Natural vegetation (note: no significant species or significant woodlands known to occur on site)*	*Loss of natural vegetation from site*	*Only clear the area that is required to allow for development (house, well, septic, laneway)*	*Loss of X ha of natural vegetation within development footprint*
OR				
Other: Severance of 2 ha vacant lot for sale	*Significant woodland on property*	*If new lot developed in woods, could lose up to 2 ha of woodland*	*New lot will be located outside of woodland*	*None*

GENERAL INSTRUCTIONS FOR COMPLETING THE SCOPED EIS FORM

For more detailed instructions, please refer to the appropriate section of the EIS Guidelines. City of Ottawa staff can provide advice on what information is needed for your project.

- The Scoped EIS may include materials prepared for other purposes, including the associated development application form, which will provide much of the property information requested in Section 1 of the EIS Form.
- You may attach as much information to this form as needed. Maps, plans, drawings and photographs are all useful items to include.
- The preliminary scope and level of detail required in the description of the site and the natural environment will be established in discussion with City staff during the pre-consultation process.

2. DESCRIPTION OF THE SITE AND THE NATURAL ENVIRONMENT

(EIS Guidelines, Sections 1.5, 2.1, 2.2 and 3.2)

- In this section of the form, you will provide information about the existing condition of your property and the surrounding area, identifying any natural features and functions (e.g., significant wetlands, significant woodlands and any associated wetlands, significant valleylands, significant wildlife habitat or habitat for an endangered or threatened species, areas of natural and scientific interest, urban natural features, natural corridors) that might be affected by the proposed development or site alteration.
- Each natural feature that is present on, or adjacent to, the site must be identified and described in a brief summary. At a minimum, the description of the site and the surrounding area must identify, locate and describe the feature(s) that triggered the requirement for the EIS; however, any other features discovered during the EIS must also be included.
- If a Tree Conservation Report (TCR) is required under Section 4.7.2 of the Official Plan or the City of Ottawa's Urban Tree Conservation By-Law, it should be combined with the EIS. Refer to the TCR Guidelines for additional specifications regarding information and mapping requirements (http://ottawa.ca/en/env_water/tlg/trees/preservation/guidelines/index.html).
- The City of Ottawa can provide useful background information and digital mapping (EIS Guidelines, Appendix 4). In some cases, the City of Ottawa's public eMap service (http://ottawa.ca/en/city_hall/emaps/index.html) may suffice for the production of figures, aerial photographs and maps. Another useful resource for the production of figures and maps is Land Information Ontario (http://www.mnr.gov.on.ca/en/Business/LIO/).
- Always cite the sources of information used in preparing the maps, figures and written descriptions.

2.1 General Map of the Natural Environment

(EIS Guidelines, Section 3.2.1)

- A general map of the natural environment is always required. It should include a key map to show the subject site's location in relation to the surrounding major roads and other landmarks.
- The use of aerial photography as a base for the natural environment map is strongly encouraged (and is required under the TCR Guidelines).
- The map will include standard mapping elements such as a scale bar, north arrow, date and legend.
- The map will illustrate and identify all of the existing natural features and vegetation communities on the site and in the surrounding area, including the feature(s) that triggered the requirement for an EIS.
- The map will include topographic information such as general slope trends and specific features such as valleys or gullies, cliffs or escarpments, hills, drumlins, eskers, kettles, etc.

2.2 Landforms, Soils and Geology

(EIS Guidelines, Section 3.2.2)

- A description of the physical environment of the subject site and the affected surrounding area will be required for any EIS where the feature(s) or designation(s) that triggered the EIS are dependent upon or sensitive to the potential effects of the project on landform features, soils or geological conditions (e.g., significant wetlands, significant valleylands, Earth Science areas of natural and scientific interest, etc.).

2.3 Surface Water, Groundwater and Fish Habitat

(EIS Guidelines, Section 3.2.3)

- All surface water features (natural watercourses, drains, ponds, wetlands, etc.) must be included on the map of the natural environment (see Section 2.1 above). Direction of flow, including overland drainage, must also be indicated on the map.
- A description of the surface water features, drainage, and groundwater conditions on the subject site and in the affected surrounding area will be required for any EIS where the feature(s) or designation(s) that triggered the EIS are dependent upon or sensitive to the potential effects of the project on surface water or groundwater flows.
- Examples of cases where a description of surface water and groundwater conditions would be required include (but are not limited to) projects:
    - Adjacent to a significant wetland;
    - Within or adjacent to a wetland associated with a significant woodland;
    - Within or adjacent to a significant valleyland;
    - That might affect natural vegetation communities or plant and wildlife species dependent upon groundwater discharge; and,
    - That might affect natural vegetation communities or plant and wildlife species dependent upon permanent or seasonal surface water supply.
- Such a description will always be accompanied by a description of soils and geology (see Section 2.2 above).
- Information on fish and fish habitat may be available from City or Conservation Authority staff or documents.

2.4 Vegetation Cover
(EIS Guidelines, Section 3.2.4)

- All vegetation community types on the subject site and in the affected surrounding area must be included on the map of the natural environment (see Section 2.1 above). Mapped communities must be clearly labelled to make it easy to match the description provided with the appropriate community on the map.
- A description of the vegetation communities, including (where known) the most common species of trees, shrubs and/or groundcover for each community is required. For example: Woods - sugar maple, ash, white pine over poison ivy and wildflowers. Old field - long grass, Queen Anne's lace, clover and milkweed.
- The locations of any significant wetlands, significant woodlands and wetlands associated with significant woodlands should be shown on the map of the natural environment.
- See also Section 2.6 below regarding the potential occurrence of species at risk.
- If a Tree Conservation Report is required under Section 4.7.2 of the Official Plan or the City of Ottawa's Urban Tree Conservation By-Law, it should be included with this EIS. Refer to the Tree Conservation Report Guidelines for additional information (http://ottawa.ca/en/env_water/tlg/trees/reservation/guidelines/index.html).

2.5 Wildlife
(EIS Guidelines, Section 3.2.5)

- Incidental observations of wildlife in the vicinity of the property should be described. "Wildlife" may include birds, mammals, reptiles, amphibians or invertebrates such as insects and molluscs. Fish should be included under Section 2.3 above.
- See also Section 2.6 below regarding the potential occurrence of species at risk.

2.6 Habitat for Species At Risk
(EIS Guidelines, Section 3.2.6)

- The City of Ottawa maintains a list of species at risk known or expected to occur in the city. Staff will inform you if any of these species could potentially be present on or adjacent to your property. The presence of species at risk may mean that you need a professional biologist to assist you with the preparation of your EIS.
- A map of habitat for species at risk will be required if the development site or the affected surrounding area contains species at risk or habitat for species at risk, meaning any species listed under the federal Species at Risk Act or the Ontario Endangered Species Act, 2007 and its regulations.
- The general map of the natural environment may also serve as the map of habitat for species at risk, if the scale and resolution allow precise depiction of species' locations and habitats, and provided that the publication of this map is not restricted by the Ministry of Natural Resources for the protection of the species.

3. DESCRIPTION OF THE PROPOSED PROJECT

(EIS Guidelines, Section 3.3)

- In this section, you will provide information about your proposed project.
- You may attach as much information to this form as needed.
- The description must include a brief summary of any site preparation activities, construction activities, required servicing or utilities, landscaping plans, and activities associated with anticipated future uses of the site.
- The description may consist of materials prepared for other purposes, including the associated development application form.
- If you do not know the answer to a question, please enter "unknown." City staff may be able to assist you in answering the question during their review of the development application and EIS.
- The description must be accompanied by a plan showing the proposed development or site alteration overlaid on the map of the natural environment. The proposed plan must show all identified environmental constraints.
- Refer to the TCR Guidelines for additional specifications regarding information and mapping requirements (http://ottawa.ca/en/env_water/tlg/trees/preservation/guidelines/index.html).
- The use of actual concept plans, development plans, site plans or other figures is strongly encouraged.

4. IMPACTS AND MITIGATION

(EIS Guidelines, Sections 3.4 and 3.5)

- In this section, you will identify how your proposed project could impact the natural environment, and what mitigation measures will be used to avoid or reduce any negative impacts.
- The purpose of this EIS is to demonstrate how your project will be accomplished with no negative impact on any significant natural features or their ecological functions, as required by the Provincial Policy Statement. **Projects that cannot meet this requirement may not be approved**.
- Not all impacts are negative. In some cases, the use of mitigation measures such as restoration or enhancement of natural habitat areas, or removal of invasive non-native vegetation, may result in a net benefit to the natural environment.
- Negative impacts can often be avoided by locating your development away from any significant natural features, especially if you keep or create a buffer of natural vegetation between the feature and your project area.
- The City of Ottawa has established some standard mitigation measures for use in specific circumstances. These mitigation requirements are identified in Appendix 10 of the EIS Guidelines.
- More examples of potential impacts and mitigation measures are provided in the provincial Natural Heritage Reference Manual (MNR, 2010) which can be accessed online at http://www.mnr.gov.on.ca/en/Business/LUEPS/Publication/249081.html

APPENDIX 2

SITE PHOTOGRAPHS

MNRF REQUEST FOR INFORMATION RESPONSE

CHIMNEY SWIFT MONITORING PROTOCOL

Site Photographs

PE4068 | 21 Withrow Avenue, Ottawa, ON | July 5 and 18, 2017

Photograph 1: View of the subject structure, looking north

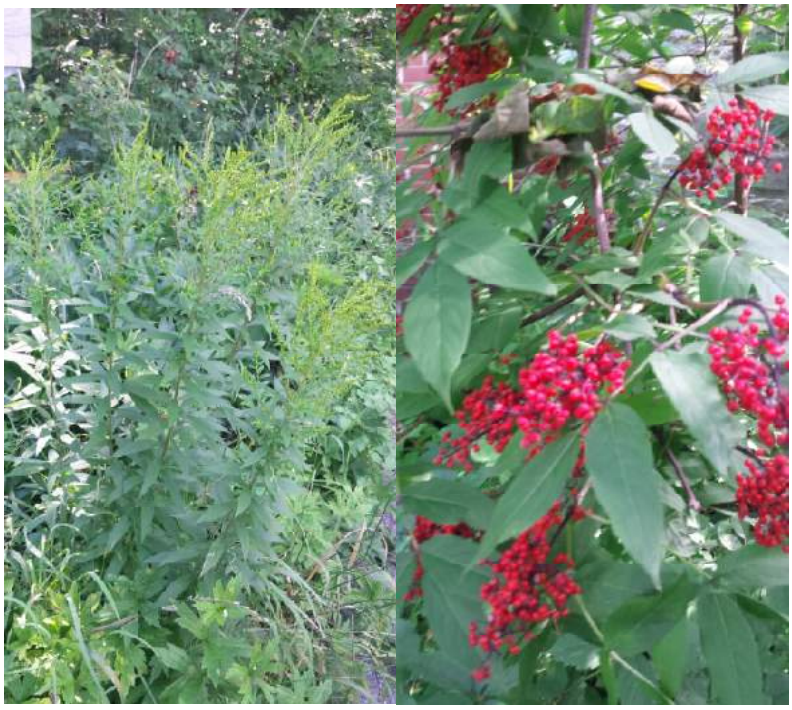
Photograph 2: View of the main building and detached garage, looking east

Photograph 3: Cedar at rear of residence structure

Photograph 4: Rear of main subject structure, looking east

Photograph 5: Staghorn sumac

Photograph 6: Extensive canopy (mostly maple)



Photograph 7: Common goldenrod (left) and decorative mountain ash (right)

Photograph 8: Fig plant at rear of house

Photograph 9: Three chimneys on main residence structure. Capped chimney at right.

Photograph 10: Capped chimney

Photograph 11: Eastern cottontail rabbit

Ministry of Natural Resources and Forestry

Kemptville District

10 Campus Drive
Postal Box 2002
Kemptville ON K0G 1J0
Tel.: 613 258-8204
Fax: 613 258-3920

Ministère des Richesses naturelles et des Forêts

District de Kemptville

10, promenade Campus
Case postale, 2002
Kemptville ON K0G 1J0
Tél.: 613 258-8204
Téléc.: 613 258-3920

Ontario

Tue. Aug 8, 2017

Anna Graham
Paterson Group
154 Colonnade Road South
Ottawa, Ontario
K2E 7J5
(613) 226-7381 ext 228
agraham@patersongroup.ca

Attention: Anna Graham

Subject: Information Request - Developments
Project Name: Scoped Environmental Impact Statement for 21 Withrow Avenue
Site Address: 21 Withrow Avenue
Our File No. 2017_NEP-4152

Natural Heritage Values
The Ministry of Natural Resources and Forestry (MNRF) Kemptville District has carried out a preliminary review of the above mentioned area in order to identify any potential natural resource and natural heritage values.

The following Natural Heritage values were identified for the general subject area:

- Unevaluated Wetland (Not evaluated per OWES)

Municipal Official Plans contain information related to natural heritage features. Please see the local municipal Official Plan for more information, such as specific policies and direction pertaining to activities which may impact natural heritage features. For planning advice or Official Plan interpretation, please contact the local municipality. Many municipalities require environmental impact studies and other supporting studies be carried out as part of the development application process to allow the municipality to make planning decisions which are consistent with the Provincial Policy Statement (PPS, 2014).

The MNRF strongly encourages all proponents to contact partner agencies and appropriate municipalities early on in the planning process. This provides the proponent with early knowledge regarding agency requirements, authorizations and approval timelines; Ministry of the Environment and Climate Change (MOECC) and the local Conservation Authority may require approvals and permitting where natural values and natural hazards (e.g., floodplains) exist.

As per the Natural Heritage Reference Manual (NHRM, 2010) the MNRF strongly recommends that an ecological site assessment be carried out to determine the presence of natural heritage

features and species at risk and their habitat on site. The MNRF can provide survey methodology for particular species at risk and their habitats.

The NHRM also recommends that cumulative effects of development projects on the integrity of natural heritage features and areas be given due consideration. This includes the evaluation of the past, present and possible future impacts of development in the surrounding area that may occur as a result of demand created by the presently proposed project.

Significant Woodlands

Section 2.1.5 b) of the PPS states: *Development and site alteration shall not be permitted in significant woodlands unless it has been demonstrated that there will be no negative impacts on the natural features or their ecological functions.* The 2014 PPS directs that significant woodlands must be identified following criteria established by the Ontario Ministry of Natural Resources and Forestry, i.e. the Natural Heritage Reference Manual (NHRM), 2010. Where the local or County Official Plan has not yet updated significant woodland mapping to reflect the 2014 PPS, all wooded areas should be reviewed on a site specific basis for significance. The MNRF Kemptville District modelled locations of significant woodlands in 2011 based on NHRM criteria. The presence of significant woodland on site or within 120 metres should trigger an assessment of the impacts to the feature and its function from the proposed development.

Significant Wildlife Habitat

Section 2.1.5 d) of the PPS states: *Development and site alteration shall not be permitted in significant wildlife habitat unless it has been demonstrated that there will be no negative impacts on the natural features or their ecological functions.* It is the responsibility of the approval authority to identify significant wildlife habitat or require its identification. The MNRF has several guiding documents which may be useful in identification of significant wildlife habitat and characterization of impacts and mitigation options:

- Significant Wildlife Habitat Technical Guide, 2000
- The Natural Heritage Reference Manual, 2010
- Significant Wildlife Habitat Mitigation Support Tool, 2014
- Significant Wildlife Habitat Criteria Schedule for Ecoregion 5E and 6E, 2015

The habitat of special concern species (as identified by the Species at Risk in Ontario list) and Natural Heritage Information Centre tracked species with a conservation status rank of S1, S2 and S3 may be significant wildlife habitat and should be assessed accordingly.

Species at Risk

A review of the Natural Heritage Information Centre (NHIC) and internal records indicate that there is a potential for the following threatened (THR) and/or endangered (END) species on the site or in proximity to it:

- Blanding's Turtle (THR)
- Butternut (END)

All endangered and threatened species receive individual protection under section 9 of the ESA and receive general habitat protection under Section 10 of the ESA, 2007. Thus any potential

works should consider disturbance to the individuals as well as their habitat (e.g. nesting sites). General habitat protection applies to all threatened and endangered species. Note some species in Kemptville District receive regulated habitat protection. The habitat of these listed species is protected from damage and destruction and certain activities may require authorization(s) under the ESA. For more on how species at risk and their habitat is protected, please see: https://www.ontario.ca/page/how-species-risk-are-protected.

If the proposed activity is known to have an impact on any endangered or threatened species at risk (SAR), or their habitat, an authorization under the ESA may be required. It is recommended that MNRF Kemptville be contacted prior to any activities being carried out to discuss potential survey protocols to follow during the early planning stages of a project, as well as mitigation measures to avoid contravention of the ESA. Where there is potential for species at risk or their habitat on the property, an Information Gathering Form should be submitted to Kemptville MNRF at sar.kemptville@ontario.ca.

The Information Gathering Form may be found here:
http://www.forms.ssb.gov.on.ca/mbs/ssb/forms/ssbforms.nsf/FormDetail?OpenForm&ACT=RDR&TAB=PROFILE&ENV=WWE&NO=018-0180E

For more information on the ESA authorization process, please see:
https://www.ontario.ca/page/how-get-endangered-species-act-permit-or-authorization

One or more special concern species has been documented to occur either on the site or nearby. Species listed as special concern are not protected under the ESA, 2007. However, please note that some of these species may be protected under the Fish and Wildlife Conservation Act and/or Migratory Birds Convention Act. Again, the habitat of special concern species may be significant wildlife habitat and should be assessed accordingly. Species of special concern for consideration:

- Snapping Turtle (SC)

If any of these or any other species at risk are discovered throughout the course of the work, and/or should any species at risk or their habitat be potentially impacted by on site activities, MNRF should be contacted and operations be modified to avoid any negative impacts to species at risk or their habitat until further direction is provided by MNRF.

Please note that information regarding species at risk is based largely on documented occurrences and does not necessarily include an interpretation of potential habitat within or in proximity to the site in question. Although this data represents the MNRF's best current available information, it is important to note that a lack of information for a site does not mean that additional features and values are not present. It is the responsibility of the proponent to ensure that species at risk are not killed, harmed, or harassed, and that their habitat is not damaged or destroyed through the activities carried out on the site.

The MNRF continues to strongly encourage ecological site assessments to determine the potential for SAR habitat and occurrences. When a SAR or potential habitat for a SAR does occur on a site, it is recommended that the proponent contact the MNRF for technical advice and to discuss what activities can occur without contravention of the Act. For specific questions regarding the

Endangered Species Act (2007) or SAR, please contact MNRF Kemptville District at sar.kemptville@ontario.ca.

The approvals processes for a number of activities that have the potential to impact SAR or their habitat have recently changed. For information regarding regulatory exemptions and associated online registration of certain activities, please refer to the following website: https://www.ontario.ca/page/how-get-endangered-species-act-permit-or-authorization.

Please note: The advice in this letter may become invalid if:

- The Committee on the Status of Species at Risk in Ontario (COSSARO) re-assesses the status of the above-named species OR adds a species to the SARO List such that the section 9 and/or 10 protection provisions apply to those species; or
- Additional occurrences of species are discovered on or in proximity to the site.

This letter is valid until: Wed. Aug 8, 2018

The MNRF would like to request that we continue to be circulated on information with regards to this project. If you have any questions or require clarification please do not hesitate to contact me.

Sincerely,

Carolyn Hann
Management Biologist
carolyn.hann@ontario.ca

Encl.\
-ESA Infosheet
-NHIC/LIO Infosheet

Ontario SwiftWatch Monitoring Protocol

The primary goal of Ontario SwiftWatch is to identify as many active Chimney Swift nest and roost sites Ontario. Knowing the locations and status of each of these sites will assist in the conservation and stewardship of Chimney Swifts and their habitat.

What are SwiftWatch Monitoring Activities?

- Presence/Absence Surveys are conducted to determine the presence of nesting or roosting Chimney Swifts, or chimney activity. The goal is to determine every active chimney within a given survey area.

- A National Population Monitoring Blitz is performed twice (over two, 3-day periods) to calculate population trends for Chimney Swifts in Canada

Why are the SwiftWatch Monitoring Activities important?

- Presence/Absence surveys help determine the number of occupied chimneys within the surveyed areas, and assist in the protection and stewardship of existing nest and roosting chimneys.

- The National Population Blitz helps identify provincial and national trends in Canada's breeding population of Chimney Swifts, and will help researchers determine if Chimney Swift populations continue to decline, are stable, are increasing, and if there are any specific geographic locations associated with these trends.

Where do I perform the SwiftWatch Monitoring Activities?

- With the assistance of your Regional Coordinator, every volunteer will choose a survey area within your community, and subsequently plan a survey route that traverses the entire area passing by all potential Chimney Swift nest and roost habitat within your survey area. The size of each survey route will depend on chimney density and volunteer preference, but you must be able to cover the entire route on foot in a 65 minute period.

- **Large City Adjustment:** Consult with your regional coordinator for a list of pre-determined "potential" chimneys in your area. Please ensure that your route passes by all likely habitat sites on this list. If incorporating all the sites on the list is not possible, a volunteer may start with the high priority sites only (i.e. schools, older industrial stacks, historic buildings, and downtown commercial buildings).

Ontario SwiftWatch provided in partnership with:

- To participate in the National Population Monitoring Blitz volunteers (or volunteer teams) choose a single roost to count, and report, the total number of Chimney Swifts seen entering the chimney on each night of the blitz.

How do I record information during the surveys?

- The **Presence/Absence Worksheet** (PA Worksheet) provides you with the means to track all chimneys where you observe swifts entering or exiting (**Example on pg. 6)**. There is no need to submit the worksheet to Ontario SwiftWatch. It is a tool for you, and your Regional Coordinator, to keep track of the active/observed sites within your survey area. You will use this worksheet throughout the season, filling in details of Chimney Swift activity as the season progresses.

- A **SwiftWatch Data Entry Form** is filled out, and submitted, for every active site identified **(Example on pg. 7).** They can also be used to report your count data recorded during the national blitz nights, and on any optional population monitoring your Swiftwatch Community chooses to conduct.

- Please submit hard copies of your observations at the end of the season, to your regional coordinator. Before doing so, we encourage all volunteers to first submit their results electronically using the following link:

https://www.surveymonkey.com/s/OntarioSwiftWatch

When do I do perform SwiftWatch Monitoring Activities?

- The amount of surveys conducted should be based on volunteer availability and schedules. However, , we ask that that Presence/Absence surveys are performed at least once a week during the following stages of the Chimney Swifts life cycle:

    - **Spring Migration** May 14th – May 26th;
    - **Nesting** June 9th- June 25th;
    - **Roosting** July 7th – July 23rd;
    - **Fall Migration** August 4th – August 18th;

- The National Population Monitoring Blitz occurs twice over a season; the spring migration blitz starts on the last Sunday of May each year, and continues twice more 4 and 8 days after your first night of observations. The fall blitz follows the same pattern, and starts on the last Sunday in July.

Ontario SwiftWatch Monitoring Protocol

- The 2012 Survey Dates are as follows:
    - **National Spring Migration Blitz:** May 27, May 31, and June 4;
    - **National Fall Migration Blitz:** July 29, August 2, and August 6;

Ontario SwifWatch Survey Instructions

Step 1: Planning your activities

- In consultation with your local Regional Coordinator each volunteer will be assigned an area of the city when you join the program. Your goal as a SwiftWatch volunteer is to plan a survey route through this area that will pass by all potential Chimney Swift nest and roosting sites (i.e. open chimneys).

- Volunteers work with their partner and determine the dates to conduct Presence/Absence Surveys (at least once a week during the previously mentioned survey periods, include a few "rain dates" as well).

- **Large City Adjustment:** When given their survey area, each volunteer will also be given a list of potentially active chimneys.

- **Large City Adjustment:** This site list is compiled based on known of Chimney Swift habitat preferences, but these chimneys have not been verified. You may find that some addresses do not actually have open chimneys while unlisted address may include appropriate locations. Note these on your PA Worksheet and report them to your regional coordinator.

Step 2: Day-time route check

- Walk your route at least once during daylight hours to identify suitable chimneys before your first official evening observations. Record the locations of potential chimneys on your PA Worksheet, You will use this worksheet during the entire season to keep track of what chimneys have been surveyed and/or confirmed active. Allow yourself extra time on this trip to ensure no potential chimneys are missed.

- Potential sites are open chimneys (no caps or animal guards) on buildings and/or in locations that look to be appropriate for chimney swifts to nest or roost in. All open chimneys can are considered suitable, but our current research shows that Chimney Swifts tend to select longer, larger chimneys situated on non-residential buildings (i.e. schools, older industrial sites, historic buildings, and downtown commercial buildings).

- **Large City Adjustment:** Make sure to include the addresses on your PA Worksheet of potential sites that may not have been included on listed on your original list of likely active chimneys

Step 3: Determining presence of Chimney Swifts

- At least twice during each of the four survey periods, start your survey, each night, 45 minutes before sunset moving along your route and noting any Chimney Swift activity you observe on the PA Worksheet (i.e. did you see swifts flying overhead? circling a chimney? or entering a chimney?).

- To determine your local sunset time use the following link;
    - http://www.theweathernetwork.com/weather/)

Step 4: Recording Chimney Use

- When you encounter an open chimney, or a chimney with a lot of swift activity around it (i.e. swifts can be heard or seen in the vicinity and they swoop low over an open chimney to look inside), mark the presence of birds flying over the chimney on your PA Worksheet.

- Watch the chimney until you see a swift enter/exit or until it is too dark to see swifts, whichever comes first. Mark the presence/number of birds you observe entering the chimney on your PA Worksheet.

- Use the SwiftWatch Data Entry Form to record the following information:

    - Site address and/or GPS coordinates
    - Date of visit
    - Time observations were made (i.e. time you saw swifts entering the chimney)
    - Number of birds seen entering the chimney

- Continue surveying the route until 20 minutes after sunset or until it is too dark to see swifts. Try to plan a route you can complete in a single evening. If this is not possible for some reason, try to finish the route you started within a few days of your first attempt.

Step 5: Complete the SwiftWatch Season

- Repeat your presence/absence survey route a minimum of twice for each of the four predetermined survey period. Don't spend a lot of time watching chimneys already identified as active but do keep an eye on them for changes in swift activity. By the end of the monitoring season, you should have a list of active habitat sites for your entire route, recorded on your PA Worksheet (s) and a completed Ontario SwiftWatch Data Form for each chimney identified as active.

Step 6: Returning Your Data to BSC

- At the end of the SwiftWatch season enter your active site information online using: https://www.surveymonkey.com/s/OntarioSwiftWatch, and submit hardcopies of both your SwiftWatch Data Forms and PA Worksheet (s) your regional coordinator.

Monitoring Safety

- Work in pairs, bring a cell phone with you, let a friend or family member know where you are and when you plan to return;
- Keep in mind that you will finish well after sunset, wear light colours or bright reflective clothing, have a flashlight with you and leave your vehicle in a well-lit parking lot and/or safely out of traffic;
- Do not survey during thunderstorms, the Chimney Swifts will not be out and neither should you;
- Monitor you route from the sidewalk or other public places.
- If in doubt – don't survey. If you feel you are in an unsafe situation, please leave immediately and use your cell phone to call for help. IF you feel the area should never be surveyed contact your regional coordinator and/or the Ontario Volunteer Coordinator and ensure the site is flagged as unsafe.

Final words from Bird Studies Canada

Thank you for participating in this important program. With over 63% of Canada's Chimney Swifts breeding in Ontario many people are needed to ensure that Chimney Swift nesting and roosting sites are known and that Chimney Swift population monitoring is accurate. You help with research and conservation of this unique urban species cannot be underestimated.

If you have any questions or concerns please don't hesitate to contact: Kathy Jones, Ontario Volunteer Coordinator at volunteer@birdscanada.org or 1-888-448-2473 ext. 124

Ontario SwiftWatch provided in partnership with:

Ontario SwiftWatch Monitoring Protocol

Example Chimney Inventory Worksheet

Observer Name: Elisabeth van Stam

Observer Contact: evanstam@bsc-eoc.org

City: Tillsonburg

Site Address	# Swifts Seen Flying Overhead	# Swifts Seen Entering Chimney	Date	Time	Comments
123 Main Street	10	0	05/14/2012	20:24	No entrances observed, but chimney looks promising. Should return to this chimney at later date
45 Alley Street	2	2	05/14/2012	20:28	Confirmed CHSW Presence
65 Dundas Street, East Chimney	2	0	05/14/2012	N/A	No entrances observed, but chimney looks promising. keep an eye on it for the next survey period
65 Dundas Street, West Chimney	2	2	05/14/2012	20:45	Confirmed CHSW presence, suspect nest site
173 Jackson Street	~ 75	68	05/14/2012	20:58	Confirmed CHSW presence, suspect roost site
20 Letson Avenue	0	0	05/14/2012	21:05	No activity noted, keep an eye on it for the next survey period
123 Main Street	3	3	06/11/2012	20:35	Confirmed CHSW presence, suspect nest site
65 Dundas Street, East Chimney	2	0	06/11/2012	N/A	No entrances observed, likely not used and swifts seen overhead are from west chimney. Keep an eye on it for the next survey period just to be sure
20 Letson Avenue	0	0	06/11/2012	N/A	No activity noted, keep an eye on it for the next survey period
86 Main Street	~34	29	06/11/2012	21:15	New chimney, confirmed CHSW presence, suspect roost site

Ontario SwiftWatch provided in partnership with:

Ontario SwiftWatch Monitoring Protocol

Example Ontario SwiftWatch Data Form

Please complete one form for each nest/roost site

Observer Name: Elisabeth van Stam
Observer Contact: evanstam@bsc-eoc.org
Province: Ontario
City: Tillsonburg
Site Address: 1023 Main Street
GPS Coordinates (Decimal Degrees): 42.859360 N, -80.731127 W

Visit Details:

Visit #	*Date (dd-mm-yy)*		*Time (24hr)*				*Total Individuals Overhead*	*Total Individuals Entering Chimney*	*Precip.*	*Wind*	*Cloud*	*Comments*
1	*29*	*05*	*2*	*0*	*1*	*2*	*89*	*75*	*None*	*0*	*2*	*Birds seen flying West just before entrance*
2	*2*	*06*	*2*	*0*	*1*	*2*	*100*	*93*	*None*	*1*	*1*	*Activity at site already happening 45 minutes before sunset*
3	*6*	*06*	*2*	*0*	*1*	*2*	*179*	*142*	*None*	*1*	*1*	*Birds turned up right at sunset, entrance fairly quick*
4	*24*	*07*	*2*	*0*	*1*	*2*	*45*	*41*	*None*	*2*	*3*	
5	*28*	*07*	*2*	*0*	*1*	*2*	*56*	*46*	*None*	*1*	*2*	
6	*1*	*08*	*2*	*0*	*1*	*2*	*52*	*51*	*None*	*3*	*0*	
7												
8												

Weather Details:

Precipitation

None
Trace
Rain

Wind (Beaufort Scale)

0 Calm, smoke rises vertically
1 Light air movement, smoke drifts
2 Slight breeze, wind felt on face
3 Gentle breeze, small twigs move
4 Moderate breeze, small branches move
5 Fresh breeze, small trees sway
6 Strong breeze, large branches in motion

Cloud Cover

1 0-25%
2 25-50%
3 50-75%
4 75 -100%
5 Fog

Ontario SwiftWatch provided in partnership with:

APPENDIX 3

QUALIFICATIONS OF ASSESSORS

Anna Graham, M.E.S.

Environmental Engineering

Geotechnical Engineering

Materials Testing Quality Control

Building Sciences

Hydrogeology

POSITION

Environmental Assessor

EDUCATION

McGill University, B.Sc. 2010
Biology and English Literature

Queen`s University, M.E.S. 2012
Environmental Studies

EXPERIENCE

2014 to Present
Paterson Group Inc.
Consulting Engineers
Environmental Assessor

2013 to 2014
Civica Infrastructure Inc.
Municipal Water Resources Engineering - Vaughan
Project Support Coordinator, Project Proposal Writer

PROJECTS

Environmental Impact Statements – various, Ottawa
Phase I Environmental Site Assessments – various, Ottawa
Flood Mapping Project Coordination – Credit Valley Conservation Authority
Manhole Survey Tool Design and Data Processing – City of Markham
Proposal Preparation – Utilities Kingston Inflow and Infiltration Study, City of Peterborough
Drainage Study

KARYN MUNCH, P.ENG.

patersongroup

POSITION

Intermediate Environmental Engineer

EDUCATION

Carleton University, B.Eng. 2002
Environmental Engineering

MEMBERSHIPS AND AWARDS

Professional Engineers of Ontario
Ottawa Geotechnical Society

EXPERIENCE

Environmental Engineering

Geotechnical Engineering

Materials Testing Quality Control

Building Sciences

Hydrogeology

Archeological Services

2011-present
Paterson Group Inc.
Consulting Engineers
Geotechnical and Environmental Division
Intermediate Engineer

2009-2010
Department of Indian and Northern Affairs
Contaminated Sites Division
Environment Officer (PC-02)

2003 to 2009
Paterson Group Inc.
Consulting Engineers
Geotechnical and Environmental Division
Intermediate Engineer

2002 to 2003
Dessau Soprin Inc.
Consulting Engineers
Environmental Division
Junior Engineer

SELECT LIST OF PROJECTS

Billings-Hurdman Interconnect Watermain - Ottawa
Telus Building Remediation - Ottawa
Block D Lands Remediation and Redevelopment – Kingston
Alcan Plant Redevelopment - Kingston
Gladstone Avenue Reconstruction - Ottawa
Lees Avenue Coal Tar Site - City of Ottawa
Nortel Networks Environmental Monitoring Program
3W Zone Feedermain – Ottawa
Bank Street Reconstruction – Ottawa
Lees Avenue Remediation Program – Ottawa
Colonnade Road North Development – Ottawa
Montreal Road Reconstruction – Ottawa
Designated Substance Surveys – Residential and Commercial Sites - Ottawa
Phase I & II Environmental Site Assessments – Residential, Commercial and Industrial Sites – Ottawa (CSA Z768-01 and O.Reg 269/11)
Brownfields Applications and Records of Site Condition – Residential and Commercial Redevelopment