Agenda Including Addeds
Environmental and Ecological Planning Advisory Committee

The 1st Meeting of the Environmental and Ecological Planning Advisory Committee
February 18, 2021, 5:00 PM
Advisory Committee Virtual Meeting - during the COVID-19 Emergency

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Pages

1. Call to Order

1.1. Disclosures of Pecuniary Interest

1.2. Election of Chair and Vice-Chair for the remainder of the current term

2. Scheduled Items

2.1. 5:05 PM Sean Spisani, Stantec - 905 Sarnia Road Wetland Compensation Monitoring

Information relating to this matter will be provided under separate cover.

3. Consent

3.1. 2nd Report of the Environmental and Ecological Planning Committee 3

4. Sub-Committees and Working Groups

4.1. 414 - 418 Old Wonderland Road - EEPAC Comments 5

5. Items for Discussion

5.1. Respectful Workplace Policy 6

5.2. EEPAC Terms of Reference 23

5.3. Advisory Committee Review

5.4. Service Area Work Plan for 2021

5.5. EEPAC 2020 Work Plan 26

5.6. Environmental Impact Study for Long Term Water Storage Environmental Assessment

Information relating to this matter will be provided under separate cover.

5.7. 3080 Bostwick Road

Information relating to this matter will be provided under separate cover.

5.8. 1938 and 1964 Commissioners Road East

Information relating to this matter will be provided under separate cover.

5.9. 6019 Hamlyn Street

Information relating to this matter will be provided under separate cover.

5.10. 101 Meadowlily Road South

Information relating to this matter will be provided under separate cover.

5.11. 1697 Highbury Avenue North

Information relating to this matter will be provided under separate cover.

5.12. 14 Gideon Drive and 2012 Oxford Street West

a. (ADDED) Environmental Impact Study *28*

5.13. (ADDED) 435-451 Ridout North *121*

6. Adjournment

Environmental and Ecological Planning Advisory Committee Report

The 2nd Meeting on the Environmental and Ecological Planning Advisory Committee
February 20, 2020
Committee Rooms #1 and #2

Attendance

PRESENT: S. Levin (Chair), E. Arellano, I. Arturo, A. Bilson-Darko, A. Cleaver, S. Esan, P. Ferguson, L. Grieves, S. Hall, S. Heuchan, B. Krichker, I. Mohamed, S. Sivakumar, R. Trudeau and M. Wallace and H. Lysynski (Clerk)

ALSO PRESENT: M. Fabro, S. Hudson, J. MacKay, L. McDougall and B. Verscheure

ABSENT: L. Banks, A. Boyer, R. Doyle, J. Khan, K. Moser, B. Samuels and I. Whiteside

The meeting was called to order at 5:01 PM

1. Call to Order

1.1 Disclosures of Pecuniary Interest

That it BE NOTED that M. Wallace disclosed a pecuniary interest in clause 4.1, having to do with the Working Group comments relating to the properties located at 7098 and 7118 Kilbourne Road, by indicating that the proponent of the application is a member of the London Development Institute, his employer.

2. Scheduled Items

None.

3. Consent

3.1 1st Report of the Environmental and Ecological Planning Advisory Committee

That it BE NOTED that the 1st Report of the Environmental and Ecological Planning Advisory Committee, from its meeting held on January 16, 2020, was received.

3.2 Municipal Council resolution adopted at its meeting held on January 28, 2020, with respect to the 1st and 2nd Reports of Animal Welfare Advisory Committee

That it BE NOTED that the Municipal Council resolution adopted at its meeting held on January 28, 2020, with respect to the 1st and 2nd Reports of the Animal Welfare Advisory Committee, were received.

3.3 Letter of Resignation - C. Dyck

That it BE NOTED that the resignation of C. Dyck was received with regret.

4. Sub-Committees and Working Groups

4.1 7098 and 7118 Kilbourne Road

That the attached Kilbourne Road Working Group comments BE FORWARDED to the Civic Administration for consideration.

5. Items for Discussion

5.1 Proposed Amendments to the Dog Brochure

That the attached, revised, "You, Your Dog and Nature" brochure BE APPROVED; it being noted that a previous version of the brochure was approved by the Municipal Council in 2019.

5.2 Attendance at Go Wild Grow Wild Event - April 18, 2020

That the Animal Welfare Advisory Committee BE ADVISED that A. Cleaver and S. Sivakumar will be in attendance for the 2020 Go Wild Grow Wild event.

5.3 (ADDED) 2019 Work Plan

That, the attached, revised, 2020 Environmental and Ecological Planning Advisory Committee Work Plan BE FORWARDED to the Municipal Council for consideration; it being noted that the proposed attached. "London's Bird Friendly Skies" brochure, related to a Work Plan item, was provided at the meeting.

6. Adjournment

The meeting adjourned at 5:52 PM.

414 and 418 Old Wonderland Road, London, Ontario
Environmental Impact Study - November 2020
Reviewed by EEPAC member Sandy Levin, January 2021

Given the limited work on surface flow changes and without groundwater movement information, there is an unknown impact on the adjacent open water feature which is a candidate Turtle Overwintering area (Candidate Significant Wildlife Habitat).

EEPAC did not receive servicing or grading plans and cannot comment. The City should review them and confirm there are no negative impacts on the adjacent woodland and open aquatic feature.

EEPAC supports the efforts to control construction impacts and run off (section 9-4, page 24-5). We would hope that the sediment and erosion control measures will be checked regularly (each day). However, this is a standard condition in most development agreements and EEPAC is unsure how this requirement is implemented and whether the City does any checking and if so, how often at each site? Although this is a site with minor impacts on the Natural Heritage System, this question applies to all sites with erosion and sediment control measures. It appears concerns are complaint generated from nearby residents. In greenfield development there are usually no nearby residents.

EEPAC supports the removal of invasive species particularly Japanese Knotweed. EEPAC points out this is a difficult plant to kill and multiple applications and checking for success are usually required.

EEPAC notes tree 45 east of the subject site is a Norway maple. It is recommended for retention. This species is not native and invasive. EEPAC recommends the abutting property owner (Sifton) be asked for permission to remove it along with the other trees slated for removal.

EEPAC commends the effort to retain the Black Walnut trees on the site.

EEPAC supports restoration with only native trees and shrubs or pollinator plants (p. 22-23). The development agreement must include the Landscaping and Planting Plan. Maintenance (regular watering and removal and replacement of dead material) of the plantings and monitoring should be for the standard three year period determined from time of completion of the project.

Respectful Workplace Policy (Anti-Harassment/Anti-Discrimination)

Policy Name: Respectful Workplace Policy (Anti-Harassment/Anti-Discrimination)
Legislative History: Replaces Workplace Harassment and Discrimination Prevention Policy Enacted September 19, 2017 (By-law No. CPOL.-155-407) and amended July 24, 2019 (By-law No. CPOL.-155(a)-384); Adopted December 10, 2019, in force and effect March 1, 2020 (CPOL.-396-7)
Last Review Date: December 3, 2019
Service Area Lead: Director of People Services

1. Policy Statement

The Corporation of the City of London ("Corporation") is committed to providing a safe and supportive workplace in which the diversity, dignity, and perspectives of all individuals are valued and respected.

Harassment and discrimination in the workplace are prohibited by law. Under Ontario's *Human Rights Code*, every person has a right to equal treatment in employment without discrimination and the right to be free from harassment in the workplace. Workplace measures to prevent and address workplace harassment are also required by the *Occupational Health and Safety Act*.

The Corporation will not tolerate, ignore, or condone harassment, discrimination, or reprisal of any of its employees in the workplace by anyone, including other employees, elected officials, members of the public, customers/clients, volunteers, contractors, and consultants. Workplace harassment, discrimination, and reprisal are serious forms of misconduct that may result in corrective and and/or disciplinary actions, up to and including termination of employment.

2. Definitions

The following definitions are intended to assist employees in understanding terms referenced in this policy. To the extent definitions may not be identical to legal definitions, they shall be interpreted and applied in accordance with applicable legislation, including the *Human Rights Code* and *Occupational Health and Safety Act*.

2.1 **Discrimination** – Actions or behaviours that result in unfavourable treatment or which have a negative impact on an individual or group because of one or more of the prohibited grounds listed in the *Human Rights Code*. Discrimination may be intentional or unintentional. It may involve direct actions that are outright discriminatory, or it may involve rules, practices or procedures that appear neutral, but disadvantage certain groups of people.

2.2 **Disrespectful Behaviour** – Failing or refusing, through words or actions, to treat others in a professional, courteous, civil, dignified, fair, and equitable manner.

2.3 **Harassment** – Engaging in offensive, hurtful, upsetting or embarrassing comment or conduct that a person knows or ought reasonably to know is unwelcome. The fact that a person does not explicitly object to harassing behaviour, or appears to be going along with it, does not mean the behaviour is welcomed, consented to, or is not harassing. Harassment usually involves more than one incident or a pattern of behaviour, but a single incident may be sufficiently serious, offensive, or harmful to constitute harassment.

Harassment may be:

a) **Personal** – directed at an individual(s) but not based on any prohibited ground listed in the *Human Rights Code*; or
b) **Code-based** – based on one or more of the prohibited grounds listed in the *Human Rights Code*. Code-based harassment is also a form of discrimination.

Harassment of a worker in the workplace, including sexual harassment of a worker in a workplace, is collectively referred to as "workplace harassment" for the purposes of the *Occupational Health and Safety Act*.

2.4 **Poisoned Work Environment** – A hostile, humiliating, or uncomfortable workplace that is created by comments or conduct (including comments or conduct that are condoned or allowed to continue when brought to the attention of management) that intimidate, demean or ridicule a person or group. The comments or conduct need not be directed at a specific person, and may be from any person, regardless of position or status. A single comment or action, if sufficiently serious, may create a poisoned work environment. Pornography, pin-ups, offensive cartoons, insulting slurs or jokes, and malicious gossip are examples of comments and conduct that can "poison the workplace" for employees.

2.5 **Prohibited Grounds** – The *Human Rights Code* prohibits harassment and discrimination in employment based on one or more of the following grounds:

- race
- colour
- creed (religion, including atheism)
- gender identity
- record of offences (criminal conviction for a provincial offence or for an offence for which a pardon has been received)
- disability (includes mental, physical, developmental or learning disabilities)
- ancestry
- ethnic origin
- sex (includes pregnancy and breast feeding)
- gender expression
- marital status (includes married, single, widowed, divorced, separated, living together in a conjugal relationship outside of marriage, whether in a same-sex or opposite sex relationship)
- association or relationship with a person identified by one of the listed grounds
- place of origin
- citizenship
- sexual orientation
- age
- family status (such as being in a parent-child relationship)
- perception that one of the listed grounds applies, whether or not it actually does

2.6 **Reprisal** – Any act of retaliation or revenge against a person for:

a) Raising a concern or making a complaint under this policy (whether on their own behalf or on behalf of another);
b) Participating or cooperating in an investigation or other complaint resolution process under this policy; or
c) Associating with or assisting a person identified in paragraphs a) and/or b) above.

2.7 **Sexual Harassment** – Harassment based on sex, sexual orientation, gender identity, or gender expression and includes:

a) Engaging in offensive, hurtful, upsetting or embarrassing comment or conduct because of sex, sexual orientation, gender identity or gender expression that a person knows or ought reasonably to know is unwelcome;
b) Making a sexual solicitation (i.e. request) or advance where the person making the solicitation or advance is in a position to confer, grant or deny

a benefit or advancement and the person knows or ought reasonably to know that the solicitation or advance is unwelcome; and

c) Retaliating against or threatening to retaliate against an individual for the rejection of a sexual solicitation or advance where the retaliation or threat of retaliation is by a person in a position to confer, grant or deny a benefit or advancement to the individual.

Sexual harassment of a worker in the workplace is referred to as "workplace sexual harassment" for the purposes of the *Occupational Health and Safety Act*.

2.8 **Supervisor** – When referenced in this policy means a management supervisor.

2.9 **Workplace** – Includes all sites, facilities, and other locations where the business, work, or social activities of the Corporation take place (see also the Applicability section below).

3. Applicability

3.1 This policy applies to:

- All Corporation employees, including full-time, part-time, temporary, probationary and casual employees;
- Elected officials;
- Volunteers (including members of Advisory Committees, Special Committees and Task Forces);
- Interns and students on placements; and
- Contractors and consultants acting on behalf of the Corporation.

Members of the public, including visitors to Corporation facilities and individuals accessing services or conducting business with the Corporation, are expected to adhere to the standards of conduct set out in this policy, including refraining from workplace harassment and discrimination of employees, elected officials, and persons acting on behalf of the Corporation.

3.2 This policy applies at all Corporation workplaces, whether during or outside of normal working hours and whether at or away from the worksite. This includes:

a) All Corporation facilities and worksites;
b) All Corporation vehicles;
c) Any other location where Corporation employees are performing work-related duties or carrying out responsibilities on behalf of the Corporation, including work-related travel and off-site meetings, conferences, seminars, and training;
d) Locations at which work-related social functions take place, including formal events officially sanctioned by the Corporation and informal after-work social gatherings where behaviours could have an impact on the workplace; and
e) Social media sites (e.g. Facebook, Twitter, Instagram etc.) and internet sites, where posts may be connected to the workplace or could have an impact on the workplace or working relationships.

3.3 This policy also applies to communications by telephone, cell phone, email, text message, or other electronic instant messaging platforms where the communication may be connected to the workplace or have an impact on the workplace or working relationships, whether the computer, phone, or other electronic device used to make the communication is a personal or Corporation-issued device.

4. The Policy

4.1 Purpose

The purpose of this policy is to:

a) Set expectations and standards of behaviour for a respectful, safe and supportive workplace;
b) Define behaviours that may be offensive and prohibited by law and/or this policy;
c) Clarify roles and responsibilities with respect to interpersonal behaviour in the workplace;
d) Outline measures to prevent and address prohibited behaviour, including harassment, discrimination, and reprisal; and
e) Address the Corporation's obligations under applicable employment laws, including the *Human Rights Code* and *Occupational Health and Safety Act*.

4.2 Expected Behaviour

Employees will interact with one another, members of the public, and all others in the workplace in a professional, courteous, civil, dignified, fair, and equitable manner.

4.3 Prohibited Behaviour

The following behaviours are prohibited in the workplace:

- Disrespectful Behaviour
- Discrimination
- Harassment (Personal and Code-based), including Sexual Harassment
- Reprisal

See Appendix A for examples of the prohibited behaviours listed above.

4.4 Roles and Responsibilities

Creating and maintaining a respectful workplace is a shared responsibility. Every individual to whom this policy applies, as well as individuals who attend at Corporation workplaces, or who access services or conduct business with the Corporation, are expected and required to abide by the standards of behaviour set out in this policy.

Employees who are subjected to or witness prohibited behaviour in the workplace should consult the Respectful Workplace Dispute Resolution and Complaint Procedures ("Resolution/Complaint Procedures" – Appendix B) which outline various options available to address and resolve such behaviour.

4.4.1 All Employees

Every employee has a responsibility to create and maintain a respectful workplace. This includes to:

a) Ensure words and actions are consistent with this policy;
b) Raise concerns as soon as possible of prohibited behaviour;
c) Accept responsibility for their workplace behaviours and their impact on others;
d) Cooperate in investigations and handling of alleged prohibited behaviour upon request;
e) Maintain confidentiality related to investigations of alleged prohibited behaviour; and
f) Participate in training associated with this policy.

4.4.2 Managers/Supervisors

Managers and supervisors have additional responsibilities to create and maintain respectful workplaces and must act immediately on observations or allegations of

prohibited behaviour.

A manager or supervisor may be held responsible if they are aware of an incident of prohibited behaviour but do not take steps to resolve or address it.

Managers and Supervisors must:

a) Ensure work-related practices/procedures in their areas are free from barriers and do not discriminate against groups or individuals;
b) Set a good example by ensuring their own words and conduct adhere to this policy;
c) Be aware of what constitutes prohibited behaviour and the procedures in place for addressing and resolving such behaviour;
d) Act promptly to address observations or allegations of prohibited behaviour;
e) Consult and work cooperatively with the Human Rights and Human Resources Divisions as needed;
f) Keep a detailed record of any violations of this policy and corrective actions taken and report this information to the Human Rights Division as required;
g) Support training and awareness activities related to this policy;
h) Ensure this policy is distributed and posted in a location that is easily accessible by all employees and any other individuals who enter the workplace and ensure contractors and consultants who enter the workplace are aware of this policy;
i) Implement disciplinary/corrective actions and workplace restoration measures as required;
j) Monitor the workplace where prohibited behaviour has occurred to ensure it has stopped; and
k) Provide appropriate support to all those in their work area affected by prohibited behaviour, including witnesses.

4.4.3 Non-management Supervisors

Non-management supervisors must likewise set a good example by ensuring their behaviour complies with this policy and must report all observations, concerns, and/or complaints of prohibited behaviour to their supervisor/manager or the Human Rights Division immediately to be addressed in accordance with the Resolution/Complaint Procedures (Appendix B).

4.4.4 Human Rights Division

The focus of the Human Rights Division is to assist in preventing, correcting, and remedying prohibited behaviours. The Human Rights Division does not advocate for, act on behalf of, or represent any party in a dispute (complainant, respondent, or management). All complaints to the Human Rights Division will be dealt with in an unbiased manner.

The Human Rights Division is responsible for:

a) Reviewing and recommending updates to this policy;
b) Providing information to employees, including to managers and supervisors, regarding this policy and the various options available for raising, addressing, and resolving concerns and complaints of prohibited behaviour;
c) Making referrals to agencies for counselling and assistance when required;
d) Receiving complaints, including conducting intakes;
e) Recommending appropriate interim measures, and complaint resolution and investigation options;
f) Conducting independent investigations;
g) Assisting in implementing resolutions of complaints; and
h) All tracking of concerns and complaints under this policy.

4.4.5 Human Resources Division

The Human Resources Division is responsible for:

a) Removing barriers in hiring and employment policies, practices, and procedures that may have the effect of discriminating against groups or individuals;
b) Providing training on this policy and related practices and procedures;
c) Providing support to managers and supervisors in responding to and addressing matters under this policy;
d) Making referrals to agencies for counselling and assistance where required;
e) Consulting with the Human Rights Division as required with respect to alleged prohibited behaviour; and
f) Reporting all complaints of prohibited behaviour to the Human Rights Division, including grievances alleging harassment, discrimination and/or reprisal filed under a collective agreement.

4.4.6 Corporate Security and Emergency Management Division

The focus of Corporate Security Services is to protect and promote the safety and security of Corporation workplaces, employees, and the public by assisting in preventing and addressing prohibited behaviours where safety may be at risk. Corporate Security Services is responsible for:

a) Providing advice and assistance to address concerns and complaints of prohibited behaviour against a member of the public or where the physical safety of employees or others may be at risk;
b) Making referrals to agencies for counselling and assistance when required;
c) Receiving complaints alleging a member of the public has engaged in prohibited behaviour, including conducting intakes and determining appropriate interim measures;
d) Determining informal actions, and conducting independent investigations of complaints of prohibited behaviour against a member of the public;
e) Consulting and working cooperatively with Human Rights and Human Resources Divisions as required;
f) Recommending and implementing appropriate corrective action involving members of the public when required; and
g) Reporting prohibited behaviour by members of the public and corrective actions taken to the Human Rights Division as required.

4.4.7 Respectful Workplace Ombudsperson (“RWO”)

The RWO is available as a neutral and confidential resource for employees to obtain information regarding their rights and obligations under this policy. The RWO advocates for fair and transparent processes under this policy and related practices and procedures, but does not act as an advocate for or provide legal advice to individuals.

The RWO will:

a) Receive and respond on a confidential basis to questions from employees regarding this policy*;*
b) Provide assistance to employees as they proceed through the Resolution/Complaint Procedures;
c) Review complaints from employees related to processes and procedures undertaken by the Corporation under this policy and make recommendations to the City Manager for improvements; and
d) Report annually to the City Manager about their interactions with employees related to this policy and identify themes and potential options for action and improvement.

4.4.8 Joint Health and Safety Committees

The Corporation's Joint Health and Safety Committees will be consulted and may provide input and feedback with respect to the implementation and maintenance of this policy and related processes and procedures in accordance with the *Occupational Health and Safety Act*.

4.4.9 Unions/Associations

Union/Association officials are available for confidential consultation and to provide representation to both complainants and respondents, if they are Union/Association members. Union/Association officials can also make a referral to agencies for counselling and assistance where required.

4.4.10 Community Agencies

Community agencies are available to provide confidential advice to individuals affected by complaints.

4.5 Communication

This policy shall be posted on the Corporation's intranet, on the Corporation's website, and in the Corporation's workplaces.

4.6 Respectful Workplace Training

Employees, elected officials, interns and students on placement, will receive mandatory training on this policy upon assuming their respective roles in the workplace. Thereafter, as appropriate, they will receive refresher or in-service training with respect to specific rights and/or obligations arising from the *Human Rights Code* and/or the *Occupational Health and Safety Act* and will be reminded of the complaint mechanisms to enforce those rights and any substantial changes.

4.7 Policy Review Process

The Corporation is committed to continuing to enhance its respectful workplace policies, practices, and procedures. This policy will be reviewed as often as necessary, but at least annually, to ensure it remains current and is appropriately implemented. Employees and their representatives are encouraged to provide input and feedback to the Human Rights Division, the Human Resources Division, or the RWO.

4.8 Policy Implementation

Implementation of this policy will be in accordance with applicable Council and/or Corporation by-laws, policies and procedures, legislation, and collective agreement provisions.

4.9 Related Policies and Procedures

- Accommodation of Employees with Disabilities Procedure
- Code of Conduct for Members of Council
- Formal Investigation Process
- General Policy for Advisory Committees
- Public Conduct Administrative Practice
- Rzone Policy
- Time Off for Religious Observances Guideline
- Use of Technology Administrative Procedure
- Workplace Violence Prevention Policy

Appendix A: Examples of Prohibited Behaviours

The following are some examples of the prohibited behaviours listed in Section 4.3 above.

Disrespectful Behaviour

Examples could include:

- Teasing or joking that intimidates, embarrasses, or humiliates;
- Belittling and use of profanity;
- Using sarcasm or a harsh tone;
- Deliberately expressing or exhibiting disinterest when an employee is speaking;
- Spreading gossip or rumours that damage one's reputation;
- Condescending or patronizing behaviour;
- Actions that invade privacy or one's personal work space; and
- Deliberately excluding an employee from basic civilities (e.g. saying "good morning"), relevant work activities, or decision making.

Any of the behaviours listed above could also constitute discrimination (if based on one or more of the prohibited grounds) or harassment (if the behaviour is repeated, occurs in combination with other prohibited behaviours, or is severe).

Discrimination

If based on one or more of the prohibited grounds, examples could include:

- Excluding an employee from workplace activities;
- Refusing to work with another employee;
- Denial of hiring, promotion, work assignment, career development or training;
- Failing or refusing to accommodate short of undue hardship; and
- Denial of services to any individual or group of individuals.

Harassment

Examples of **Personal Harassment** could include:

- Angry shouting/yelling;
- Abusive or violent language;
- Physical, verbal, or e-mail threats or intimidation;
- Aggressive behaviours (e.g. slamming doors, throwing objects);
- Targeting individual(s) in humiliating practical jokes;
- Excluding, shunning, or impeding work performance;
- Negative blogging or cyberbullying;
- Retaliation, bullying, or sabotaging;
- Unreasonable criticism or demands;
- Insults or name calling;
- Public humiliation; and
- Communication via any means (e.g. verbal, electronic mail, voice mail, print, social media posts, or radio) that is demeaning, insulting, humiliating, or mocking.

Examples of **Code-based Harassment** could include (if based on one or more of the prohibited grounds):

- Insulting, offensive, humiliating or mocking remarks, gestures, jokes, slurs, or innuendos;
- Name calling, including using derogatory or offensive terms or language;
- Refusing to work or interact with an employee;

- Attaining, viewing, retaining or distributing insulting, derogatory or offensive information from the internet or other sources;
- Vandalism of an individual's property;
- Interference with a person's ability to perform their work responsibilities;
- Offensive, derogatory, insulting or demeaning communication via any means (e.g. verbal, electronic mail, voice mail, print, social media posts, or radio); and
- Displaying pictures, graffiti or other materials that are derogatory or offensive.

Harassment Does <u>Not</u> Include:

- Reasonable performance of management or supervisory functions, including:

    - performance/probation reviews/appraisals,
    - performance management (including coaching, counselling, discipline),
    - organizational changes/restructuring,
    - shift/vacation scheduling,
    - work direction, and
    - work assignments/work location;

- Occasional disagreements or personality conflicts between co-workers;
- Stressful events encountered in the performance of legitimate duties; or
- A single comment or action unless it is serious and has a lasting harmful effect.

Sexual Harassment

Examples could include:

- Comments, jokes, slurs, innuendos or taunting about a person's body, attire, sex, sexual orientation, gender identity, or gender expression;
- Comments or conduct of a sexual nature (verbal, written, physical);
- Jokes of a sexual nature which cause awkwardness or embarrassment;
- Negative stereotypical comments based on gender, sex or sexual orientation;
- Gender related comments about an individual's physical characteristics or mannerisms;
- Displaying or distributing pornographic pictures or other offensive material;
- Inappropriate touching, gestures, leering, staring or sexual flirtations;
- Sexual assault (also an offence under the *Criminal Code*);
- Persistent unaccepted solicitations for dates (including unwelcome contact subsequent to the end of an intimate relationship);
- Unwelcome solicitation(s) made by a person in a position to confer or deny a workplace benefit or advancement on the recipient; and
- Unwelcome comments or questions about a person's sex life.

Reprisal

Examples could include:

- Issuing discipline, changing work location or hours, demoting, denying of advancement or promotional opportunities, or threatening to carry out such actions if done as an act of retaliation or revenge;
- Bullying, threats, or other intimidating behaviour;
- Making false allegations of workplace misconduct; and
- Pressuring an individual to withdraw or change a complaint or witness statement.

Appendix B: Respectful Workplace Dispute Resolution and Complaint Procedures

1. Purpose

These procedures are intended to:

a) Outline internal options available for employees to raise concerns of prohibited behaviour for resolution and/or investigation;
b) Inform managers and supervisors of actions required to address concerns and complaints of prohibited behaviour;
c) Inform employees of what they can expect to occur in the event they raise a concern of prohibited behaviour, or are a witness to, or accused of such behaviour;
d) Inform employees of available supports to assist them in raising concerns of prohibited behaviour or in the event they are accused of, or witness such behaviour; and
e) Outline actions that will be taken to prevent, correct, and remedy incidents of prohibited behaviour.

2. Definitions

For the purposes of these procedures,

2.1 **Complainant** – A person(s) alleging they have been subjected to prohibited behaviour under this policy.

Note: Complaints of prohibited behaviour will be accepted from any source that provides reasonable grounds for concern (e.g. witnesses, unions/associations, or other third parties). These individuals will not be considered “complainants” for the purpose of these Resolution/Complaint Procedures or the Corporation’s Formal Investigation Process.

2.2 **Prohibited Behaviour** – Behaviour in the workplace that is prohibited by this policy (see Policy, Section 4.3 above).

2.3 **Respondent** – The person(s) who is alleged to have engaged in prohibited behaviour.

2.4 **Respectful Workplace Response Team** – Shall be comprised of the City Manager, relevant Managing Director, Director of People Services, or their designate(s), and a member of the City Solicitor’s Office.

3. Complaints Involving the City Manager/Deputy City Manager/Managing Directors/Director of People Services/Human Rights Intake Administrator

a) Complaints received through these Resolution/Complaint Procedures alleging the City Manager has engaged in prohibited conduct (alone or in conjunction with another respondent(s)) shall be forwarded to the Director of People Services or the City Solicitor as soon as possible. Upon receipt of a complaint, the Director of People Services or the City Solicitor will immediately refer the complaint to an external third party.
b) Complaints received through these Resolution/Complaint Procedures alleging the Deputy City Manager, a Managing Director, the Director of People Services, or the Human Rights Intake Administrator (alone or in conjunction with another respondent(s) other than the City Manager) has engaged in prohibited behaviour shall be forwarded to the City Manager as soon as possible. Upon receipt of a complaint, the City Manager will immediately refer the complaint to an external third party.
c) The external third party will perform all the functions assigned to the Human Resources Division and/or the Human Rights Division as described in this procedure and the Formal Investigation Process.
d) In the case of the City Manager, if the external third party determines that a formal investigation is required, they will provide the investigation report

and their recommendations, if any, to the Committee designated by the Municipal Council to deal with such matters. The Committee, after consultation with the external third party and such other external and/or internal resources as appropriate and required (e.g. external legal counsel, member of the City Solicitor's Office, Director of People Services), shall make recommendations to the Municipal Council relating to corrective and/or disciplinary actions, and the Municipal Council shall consider, adopt or otherwise deal with the recommendations from the Committee.

e) In the case of the Deputy City Manager, Managing Directors, Director of People Services, and the Human Rights Intake Administrator, if the external third party determines that a formal investigation is required, they will provide the investigation report and their recommendations, if any, to the City Manager. The City Manager, after consultation with such other external and/or internal resources as appropriate and required (e.g. external legal counsel, member of the City Solicitor's Office, Director of People Services) will determine or, where required, will recommend to the Committee designated by the Municipal Council to deal with such matters, appropriate corrective and/or disciplinary action.

In all other respects, the Resolution/Complaint Procedures below will apply to the processing of the complaint.

4. Complaints Involving a Member of Council (Including the Mayor)

a) Complaints received through these Resolution/Complaint Procedures alleging a Member of Council has engaged in prohibited conduct shall be forwarded to the Director of People Services as soon as possible. In the event the Director of People Services, determines that a formal investigation of the complaint is required, they will immediately refer the complaint to the Integrity Commissioner to conduct an investigation in accordance with the Integrity Commissioner's procedures. Where such a request is made to the Integrity Commissioner, the Director of People Services shall be the complainant for the purposes of the Integrity Commissioner's procedures.

b) Where the Integrity Commissioner conducts an investigation, the Integrity Commissioner will provide results to the Director of People Services in accordance with the Integrity Commissioner's procedures. Based on the Integrity Commissioner's reporting, the Director of People Services will provide the complainant with a written summary of the findings.

c) Where there are findings of a violation of this policy, the Director of People Services will refer the findings to the Respectful Workplace Response Team to implement appropriate corrective action to ensure the behaviour stops in accordance with section 7.4 below.

d) As noted in Section 7.10 below, other complaint avenues for raising concerns of prohibited behaviour by a Member of Council may be available, including directly to the Integrity Commissioner as provided for in the Code of Conduct for Members of Council.

In all other respects, the Resolution/Complaint Procedures below will apply to the processing of the complaint.

5. Complaints Involving Members of the Public Attending at Corporation Workplaces and/or Accessing Corporation Services

a) The Division Manager of Corporate Security and Emergency Management, or designate, in addition to the individuals listed in sections 6.1 and 6.2 below, is available to provide advice, guidance and assistance to employees and supervisors/managers regarding available options to raise and resolve concerns of prohibited behaviour by a member of the public.

b) The Division Manager, Corporate Security and Emergency Management, or designate, in consultation with the Human Rights Division as needed,

may also determine an appropriate informal course of action that may effectively resolve a complaint against a member of the public in a timely and fair manner as outlined in section 6.3 below. All findings of harassment, discrimination, and/or reprisal determined through informal action, as well as any corrective actions taken, shall be reported to the Human Rights Division.

c) In addition to the Director of People Services and in accordance with section 6.5 below, the Division Manager, Corporate Security and Emergency Management or designate, in consultation with the Human Rights Division as needed, may determine that further inquiry into a complaint of prohibited conduct against a member of the public is necessary and, if so, a formal investigation of the matter will be conducted in accordance with the Corporation's Formal Investigation Process.

d) Where there are findings of a violation of this policy, corrective action shall be determined in accordance with section 7.4 below.

e) The Division Manager, Corporate Security and Emergency Management or designate, shall report all findings of harassment, discrimination, and/or reprisal determined through formal investigation, as well as any corrective actions taken, to the Human Rights Division.

In all other respects, the Resolution/Complaint Procedures set out below will apply to the processing of a complaint against a member of the public.

6. Resolution/Complaint Procedures

There are a number of internal options available to raise and resolve concerns of prohibited behaviour under this policy, including:

1) Consultation – Obtaining Advice and Assistance
2) Individual Action – Talking to the Respondent
3) Informal Action – Dispute Resolution without Formal Investigation
4) Mediation
5) Formal Investigation

Whether all options are available or appropriate in a particular case will depend on the nature of the concerning behaviour and/or the parties involved. In all cases, concerns should be raised and addressed as soon as possible. Where appropriate, and especially when raised right away, individual or informal actions can bring about a quick resolution and prevent escalation of workplace disputes.

6.1 Consultation – Obtaining Advice and Assistance

Employees who believe they have witnessed or been subjected to prohibited behaviour may benefit from having access to information and advice before deciding how to proceed with a concern. Employees may consult any member of management or Human Resources or Human Rights Division staff. These individuals have responsibility to take action to resolve and stop prohibited behaviour (see Roles and Responsibilities – Policy, Section 4.4). They can provide advice, assistance, coaching, and referrals to assist employees in addressing the dispute themselves where appropriate to do so. Depending on the nature and circumstances of the concern raised, these individuals may be obligated to initiate an investigation even if the complainant does not wish to pursue that option.

The RWO is also available to provide neutral, confidential advice and information regarding available resolution and complaint options (see Policy, Section 4.4.7).

Employees who are members of a bargaining unit may also consult their Union/Association representative.

6.2 Individual Action – Talking to the Respondent

If an employee believes they are being subjected to prohibited behaviour and

there are no immediate health or safety concerns, it is recommended the respondent be told as soon as possible that their behaviour is unwelcome and must stop.

It is not necessary for the employee to advise the respondent directly. The communication may be done verbally, via e-mail, transcribed, or other suitable means. It is recommended that if the communication is done verbally, what was said, as well as the date, time and place, be documented. Human Rights and Human Resources Division staff, a Union/Association representative, any member of management, or a trusted friend may assist.

It is recommended that the complainant maintain a detailed record of incidents of prohibited behaviour, including the number of occurrences, date(s), time(s), place(s), nature of the offensive behaviour(s), names of individuals who may have observed the incidents and all actions taken.

If addressing the respondent directly could raise health or safety risks, escalate the dispute, or is not appropriate, complainants may take other resolution options outlined in these procedures.

6.3 Informal Action – Dispute Resolution without Formal Investigation

If individual action is not appropriate or if the prohibited behaviour continues after asking the person to stop, the employee shall advise their supervisor/manager or the Human Rights Division of their complaint, preferably in writing. Where the employee's supervisor/manager is involved in the complaint, the employee may advise a more senior member of management. Supervisors and managers will report all complaints of behaviour that may constitute harassment, discrimination, or reprisal to the Human Rights Division as soon as possible. When uncertain, supervisors/managers should consult the Human Rights Division for guidance.

Where the prohibited behaviour alleged is not harassment, discrimination, or reprisal, the supervisor or manager in consultation with the Human Rights Division, as needed, and with the parties to the dispute, if appropriate, may determine an appropriate informal course of action that will effectively resolve the complaint in a timely and fair manner without the need for formal investigation. If the prohibited behaviour warrants disciplinary action, the supervisor or manager must consult with Human Resources or Human Rights Division staff before issuing discipline. The supervisor or manager shall document and report to the Human Rights Division any informal action taken, including any corrective/disciplinary action(s) implemented, to resolve the complaint.

Where the alleged prohibited behaviour may constitute harassment, discrimination, or reprisal, the Director of People Services, or designate, in consultation with the Human Rights Division, and with the complainant if appropriate, will determine whether an informal course of action may be appropriate.

Circumstances in which an informal course of action may be appropriate include the following:

i) Where the alleged misconduct is minor in nature;
ii) Where all the facts necessary for resolution are known without the need for further inquiry;
iii) Where no other resources or special expertise are required for an impartial and timely resolution;
iv) Where the alleged misconduct is acknowledged by the respondent, the parties to the complaint are in agreement as to how to effectively resolve the issues, and the agreed upon resolution is acceptable to the appropriate manager(s) and the Director of People Services or designate.

Informal action may include, among other actions:

i) Consulting, advising, meeting with and/or interviewing those involved in the complaint (i.e. an informal review/investigation);
ii) Reviewing documentary evidence (e.g. emails);
iii) Communication of findings to the parties to the complaint and making recommendations to remedy concerns; or
iv) A facilitated discussion to resolve the issues.

The *Occupational Health and Safety Act* requires employers to conduct an investigation that is appropriate in the circumstances of all incidents and complaints of workplace harassment. Therefore options for informal action that do not include investigation will not be available for complaints of workplace harassment until after an appropriate investigation has been completed.

Where there are findings of prohibited behaviour determined through informal action, communication of those findings will be in accordance with the Communication of Findings section of the Corporation's Formal Investigation Process.

6.4 Mediation

Mediation is a form of informal action. It is a voluntary process whereby the complainant and respondent meet with a trained mediator to determine whether the complaint can be resolved in a mutually satisfactory manner.

Mediation is not appropriate in all circumstances. For example, when there are allegations of severe discrimination or harassment which, if substantiated, would result in disciplinary action, or where there are potential health or safety concerns. If the Director of People Services or designate, in consultation with the Human Rights Division, deems mediation appropriate, it will be offered to the parties but will only be conducted with the consent of both the complainant and the respondent.

It is preferable that mediation be attempted prior to a formal investigation but will remain available to the parties throughout the investigation process. Where workplace harassment is alleged, mediation will only be available, if deemed appropriate, after an investigation is completed as required by the *Occupational Health and Safety Act*.

During the mediation process, the complainant and the respondent may, if desired, be accompanied by a Union/Association representative or a trusted friend.

If a mediated settlement is reached, the terms of the settlement shall be reduced to writing and signed by the complainant, respondent and the mediator. If the settlement requires any action on the part of the Corporation, the agreement of the Director of People Services or designate will be required.

Discussions at the mediation will be treated as carried out with a view to coming to a settlement. Discussions will be treated as privileged and confidential to the full extent permitted by law.

6.5 Formal Investigation

If mediation or other informal options to resolve the complaint are not appropriate or are unsuccessful or where the Director of People Services or designate, in consultation with the Human Rights Division, determines that further inquiry is necessary, a formal investigation into the matter will be conducted.

Corporate-initiated Investigations: In circumstances where a complaint is made by someone other than the alleged victim, the Corporation may conduct a formal investigation where the Director of People Services or designate, in

consultation with the Human Rights Division, deems it appropriate, including where allegations of harassment or discrimination warrant further action/investigation or where the alleged victim does not wish to submit a complaint. The Corporation may also conduct a formal investigation where there is information to suggest the existence of an outstanding specific or systemic problem in the workplace.

Formal investigations and communication of the findings from such investigations will be conducted in accordance with the Corporation's Formal Investigation Process.

7. General Provisions

7.1 Refusal to Act or Investigate

The Corporation may refuse to act or investigate or may discontinue an informal action or investigation where:

i) The behaviour alleged, if true, would not be a breach of this policy*;*
ii) The complaint is anonymous and there is insufficient information to warrant any or further steps;
iii) The complaint is vexatious or made in bad faith (see Section 7.5 below);
iv) Another complaint avenue has been pursued or engaged regarding the same or a related concern/complaint; or
v) Having regard to all of the circumstances, further investigation of the matter is unnecessary.

7.2 Interim Measures

In certain circumstances such as where health or safety is at issue, it may be necessary to take immediate measures. In such a case, interim measures shall be determined by the Director of People Services, or designate, in consultation, where appropriate, with the Human Rights Division, other members of the Respectful Workplace Response Team, Corporate Security, and/or the London Police Service. Interim measures may include relocating a party, or placing a party on a non-disciplinary suspension with pay pending the resolution of the complaint or outcome of the investigation. The Division Manager, Corporate Security and Emergency Management Division, or designate, in consultation, where appropriate, with the Human Rights Division, other members of the Respectful Workplace Response Team, and/or the London Police Service, shall determine interim measures with respect to members of the public. The implementation of interim measures does not mean that conclusions have been reached relating to the allegations.

7.3 Support for Parties

The Corporation recognizes that involvement in a workplace investigation may be stressful and emotionally upsetting. Complainants, respondents, witnesses, and other affected employees may access the counselling services and support provided by the Corporation's employee assistance provider. Additionally, complainants may wish to access counselling and support through outside agencies.

Parties to a complaint also have the right to be accompanied by a support person of their choice during meetings relating to a complaint made pursuant to these procedures, including their Union/Association representative, if applicable, or a trusted friend (e.g. another manager if they are a management employee). Where the Human Rights Intake Administrator/investigator is of the opinion that the presence of the support person is inappropriate (e.g. they have a conflict) or is hindering the process, the relevant party may select another support person provided that doing so does not hinder or unduly delay the meeting/process. As these procedures are intended as an internal means of addressing prohibited

behaviour outside of more formal legal proceedings, parties are not entitled to select legal counsel as their support person.

7.4 Corrective Action and/or Disciplinary Action

Where a finding of a violation of this policy that does not constitute harassment, discrimination, or reprisal has been made, the applicable division manager, in consultation with the Director of People Services, or delegate, will determine appropriate corrective and/or disciplinary actions.

Where a finding of harassment, discrimination, or reprisal in violation of this policy has been made, the Respectful Workplace Response Team will determine appropriate corrective and/or disciplinary actions.

Where it is determined that corrective or disciplinary action is to be taken against an employee of the Corporation, such action may include the following:

- An apology
- Coaching or counselling
- Education or training
- Warning
- Suspension or leave without pay
- Demotion
- Transfer
- Termination of employment

The appropriate supervisor or manager will implement corrective or disciplinary actions to be taken against an employee.

Where it is determined that corrective action is to be taken against members of Council, volunteers (including members of Advisory Committees, Special Committees, and Task Forces), students on placements, contractors, consultants, members of the public, including clients or customers, the Corporation will take such corrective action as is reasonable in the circumstances and permitted by law to ensure the prohibited behaviour stops. This may include barring the person from Corporation facilities or discontinuing business with contractors or consultants. The Division Manager, Corporate Security and Emergency Management Division or designate will be consulted with respect to determining any corrective action to be taken against members of the public.

The Corporation may also implement any systemic remedies it deems appropriate.

7.5 Vexatious/Bad Faith Complaints

Where it is determined that the complainant has made a vexatious or bad faith complaint or an individual makes allegations knowing them to be false, the Respectful Workplace Response Team will take appropriate corrective and/or disciplinary action which may include the same corrective and/or disciplinary actions noted above.

A complaint is vexatious or made in bad faith if it is made for the purpose of annoying, embarrassing or harassing the respondent, out of spite or vindictiveness, or the complainant is engaging in improper behaviour such as fraud, deception, or intentional misrepresentation.

A complaint that is made in good faith but is not substantiated does not constitute a vexatious or bad faith complaint.

7.6 Timing of Complaint

A complaint under these procedures should be made as soon as possible after the prohibited behaviour occurred and no later than one year after the last

incident occurred unless there are reasons why it was not possible to bring it forward sooner. Where failure to make a complaint in a timely fashion affects the ability of the Corporation to conduct a full and complete investigation, the Corporation may decline to deal with the complaint.

7.7 Timing of Completion of Actions/Investigation

The Corporation will complete any informal actions or formal investigations pursuant to these procedures in a timely manner and within three (3) months from the date of receiving a complaint/initiating an investigation, unless there are extenuating circumstances (e.g. illness, complex investigation) warranting a longer period. The Human Rights Intake Administrator/investigator, supervisor, or manager responsible for handling a complaint under these procedures will update the parties to the complaint on a regular basis (approximately every two to three weeks) as to the status of their complaint and anticipated next steps.

7.8 Confidentiality

The administration of these procedures will be in accordance with the *Municipal Freedom of Information and Protection of Privacy Act* ("MFIPPA"). All complaints received under these procedures will be considered strictly confidential subject to the Corporation's obligation to safeguard employees, to conduct a thorough investigation, take appropriate corrective and/or disciplinary action, or to otherwise disclose information as required by law. The parties to the complaint and any witnesses are also expected to maintain confidentiality. Unwarranted breaches of confidentiality will result in corrective and/or disciplinary action.

7.9 Complaint Records

Where an investigation results in corrective and/or disciplinary action against an employee, a record of such action will be placed in the employee's Human Resources file. Where there is insufficient evidence to prove that prohibited conduct occurred, no record of the complaint shall be placed in the respondent's Human Resources file.

All records pertaining to enquiries and complaints under this policy will be kept in confidential storage separate from employees' Human Resources files. All records will be subject to the provisions of *MFIPPA* as noted above.

7.10 Other Avenues of Complaint

In addition to these internal resolution and complaint procedures, there may be other avenues available to pursue complaints of prohibited behaviour. Depending on the nature of the behaviour at issue and the parties involved, other complaint avenues may include an Application to the Human Rights Tribunal of Ontario, a complaint to the Ministry of Labour, an application to the Ontario Labour Relations Board, a civil action, a criminal complaint, a complaint to the Integrity Commissioner, and a grievance pursuant to the terms of an applicable collective agreement.

These resolution/complaint procedures are not intended to interfere with or restrict employees' rights to pursue any other available avenue(s) of complaint, including pursuant to the Ontario *Human Rights Code* and the *Occupational Health and Safety Act*. Where appropriate and/or required by law, the Corporation will conduct its own independent investigation into the allegations and make its own determination in accordance with this policy even when another avenue of complaint is pursued. This includes circumstances where there may be a related criminal proceeding.

TERMS OF REFERENCE
THE ENVIRONMENTAL AND ECOLOGICAL PLANNING ADVISORY COMMITTEE

Role

While it is the legislative mandate of the Municipal Council to make the final decision on all matters that affect the Municipality, the role of an advisory committee is to provide recommendations, advice and information to the Municipal Council on those specialized matters which relate to the purpose of the advisory committee, to facilitate public input to City Council on programs and ideas and to assist in enhancing the quality of life of the community, in keeping with the Municipal Council's Strategic Plan principles. Advisory committees shall conduct themselves in keeping with the policies set by the Municipal Council pertaining to advisory committees, and also in keeping with the Council Procedure By-law.

Mandate

The Environmental and Ecological Planning Advisory Committee reports to the Municipal Council, through the Planning and Environment Committee. The Environmental and Ecological Planning Advisory Committee provides technical advice to the City of London on matters which are relevant to the City of Londn's Official Plan, including London's natural heritage systems it relates to Environmentally Significant Areas, woodlands, stream corridors, etc.

The Environmental and Ecological Advisory Committee is responsible for the following:

- to provide advice on natural areas, environmental features and applicable policies which may be suitable for identification and/or recognition in the Official Plan;
- to provide advice on the management and enhancement of the Natural Heritage System, including Official Plan Policy, Environmental Management Guidelines and other policies and practices;
- to provide advice as part of the development of Conservation Master Plans for London's Environmentally Significant Areas and in Subwatershed Studies;
- monitor and provide advice on reports, projects and processes that may impact the natural heritage system, including Areas Plans, Natural Heritage Studies, Environmental Impact Studies (EIS), Subject Land Status report, Environmental Assessments, etc.;
- monitor impacts and provide advice on all projects (including City lead) occurring within the Official Plan trigger distance for an EIS, regardless of whether or not the project includes a formalized EIS;
- to provide technical advice, at the request of the Municipal Council, its Committees or the City's Administration, on environmental matters which are relevant to the City's Official Plan or natural heritage system;
- to assist in maintaining an up-to-date information base on natural areas and environmental features which are identified in the Official Plan and to monitor the condition of these areas on an ongoing basis;
- to encourage public awareness and education on natural areas, environmental features and policies of the Official Plan which relate to environmental matters;
- to provide advice on any global, regional or local issue related to the long-term sustainability of the Natural Heritage System; and
- to provide comment on any matter which may be referred to the Committee by Municipal Council, its Committees, or the City's Administration.

Composition

Voting Members

Between seventeen and twenty-three Voting Members, including one member of the Advisory Committee on the Environment.

Non-Voting Resource Group

City's Ecologist
One representative of each of the following:

- City's Planning & Research Division
- City's Development Approval Business Unit
- City's Stormwater Management Division
- Upper Thames River Conservation Authority
- Lower Thames Valley Conservation Authority
- Kettle Creek Conservation Authority
- Ministry of Natural Resources

Sub-committees and Working Groups

The Advisory Committee may form sub-committees and working groups as may be necessary to address specific issues; it being noted that the City Clerk's office does not provide secretariat support to these sub-committees or groups. These sub-committees and working groups shall draw upon members from the Advisory Committee as well as outside resource members as deemed necessary. The Chair of a sub-committee and/or working group shall be a voting member of the Advisory Committee.

Term of Office

Appointments to advisory committees shall be for a four-year term, commencing March 1 of the first year of a Council term and ending on February 28 or, in the case of a leap year, February 29 of the first year of the following Council term.

Appointment Policies

Appointments shall be in keeping with Council Policy.

Qualifications

Members are appointed to serve as individuals and shall not represent a specific interest group or agency. Members shall be chosen based on their interest, experience, availability, academic qualifications and expertise they possess in disciplines that will assist in carrying of the mandate of the Committee. Areas of expertise may include, but is not limited to the following: Biology Ornithology, Geology, Botany, Zoology, Landscape Architecture, Forestry, Ecology, Resource Management, Hydrology, Geography, Environmental Planning, Limnology and Natural History. Applicants without the above-noted technical background may also be considered. Non-voting representatives from local resource groups shall be members or employees of the organization they represent.

Conduct

The conduct of Advisory Committee members shall be in keeping with Council Policy.

Meetings

Meetings shall be once monthly at a date and time set by the City Clerk in consultation with the advisory committee. Length of meetings shall vary depending on the agenda. Meetings of working groups that have been formed by the Advisory Committee may meet at any time and at any location and are in addition to the regular meetings of the Advisory Committee.

Remuneration

Advisory committee members shall serve without remuneration.

Advisory Committee Work Plan – 2020

March 2020

Activity	Background	Responsibility	Timeline	Strategic Plan Alignment
Environmental Management Guidelines	This document was created in 2007. Work has started on an updated version.	EEPAC will work with staff and the consultant and in cooperation with other stakeholders	staff have a goal to present the new version to PEC in 2020	Building a Sustainable City
Protecting Environmentally Significant Areas	Communicating why it is important that dogs are controlled in and around Environmentally Significant Areas (cats kept indoors, dogs on leash) with the assistance of Corporate Communications; EEPAC has worked with AWAC on an improved Dog Brochure	EEPAC	present updated brochure to PEC 2 and to distribute brochure	Building a Sustainable City
Collaboration with other Advisory Committees	Ongoing work with the Accessibility Advisory Committee to improve the process for accessible trails in ESAs	Chair and vice chair and Committee as a whole	As this involves staff, a timeline will be developed	Building a Sustainable City Strengthening our Community Leading in Public Service
Review of Environmental Impact Studies and Environmental Assessments submissions as part of Planning application and the *Environmental Assessment Act*	EEPAC is circulated and asked to review consultant submissions and provide input to City staff. In cases of significant disagreement, EEPAC advises PEC	Working Groups as required	As required, usually provide turnout in one meeting cycle	Building a Sustainable City

Conservation Master Plans for Environmentally Significant Areas	Review Phase 1 Natural Heritage Inventory, participate in Phase 2	Working Groups and Committee	Depends on timing of information from staff. Currently have reviewed the Phase 1 Inventory for Meadowlily Woods Environmentally Significant Areas	Building a Sustainable City
Trail Advisory Group	EEPAC has a representative on this staff directed group. It reviews trail locations and potential new trails for compatibility with the Significant Wildlife Habitat, if any, in the area. Recent examples including Westminster Ponds/Pond Mills ESA, Medway Valley Heritage Forest ESA, Lower Dingman ESA.	Representative or alternative	As determined by staff	Building a Sustainable City Strengthening our Community
Wetland Relocation, Monitoring and Creation and Relocation of Wildlife	A Working Group has been established to do research on matters pertaining to wetland relocation. This has occurred in one location in the NW and is likely to be considered for the SW. There are no existing guidelines for this and how it should be included in development agreements.	R. Trudeau, S. Sivakumar, P. Ferguson	Have asked for it to be included in the updated EMG	Building a Sustainable City
Continue working with Staff and other stakeholders to implement London's Bird Friendly Skies	The City of London's Advisory Committee on the Environment (ACE), Environment and Ecological Protection Advisory Committee (EEPAC), and Animal Welfare Advisory Committee (AWAC), encourage efforts to create bird friendly communities through reduced light pollution and increased dark skies.	EEPAC/Staff	Ongoing	Building a Sustainable City

14 Gideon Drive and 2012 Oxford Street West

Environmental Impact Study

Project Location:
14 Gideon Drive & 2012 Oxford Street West, London, ON

Prepared for:
1926767 Ontario Ltd.
3003 Page Street
London, ON N5V 4J1

Prepared by:
MTE Consultants
123 St. George Street
London, ON N6A 3A1

September 29, 2020

MTE File No.: 45615-100

Engineers, Scientists, Surveyors.

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1.0 Introduction

1926767 Ontario Ltd, c/o Jon Aarts (the proponent) has initiated the planning process for a proposed combination of 39 single detached homes and a multi-family residential block on two parcels of land. While, the Legal Parcels are located at 14 Gideon Drive and 2012 Oxford Street West, London, ON, the area proposed for development (Subject Lands) is smaller and is limited to the north end of the parcel [Figure 1]. Life science data collection has been completed on the Subject Lands in 2018. This report compiles the updated data collection to reflect the current state of the Subject Lands. Also in this report are Sections providing a description of the development and impacts and mitigation. A discussion on the triggers for this EIS follow in Section 3.

1.1 Report Objective

This EIS report assesses the natural heritage features and functions, based on the life science data collected for this application along with additional studies (hydrogeological and geotechnical), also conducted specifically for the development proposal. Any additional pertinent background information from prior studies including the Secondary Plan (River Bend Community Plan, City of London, 2001).

The process and reporting is also designed to provide a support document to subsequent site alteration permit applications which may be submitted to the Upper Thames River Conservation Authority (UTRCA) if required.

1.2 Format

Natural heritage features and functions identified in this EIS are evaluated through a review of the Natural Heritage Reference Manual (NHRM, 2010) for policy 2.1 of the Provincial Policy Statement (MAH, 2014); and Section 15 of the City of London Official Plan (Office Consolidation, January 2015). The EIS will also follow the City of London Environmental Management Guidelines (2007).

The EIS contains the following components, in accordance with the standards noted above:

Section 2.0	Land Use Setting
Section 3.0	Triggers for EIS
Section 4.0	Description of the Natural Environment
Section 5.0	Natural Heritage Policy Considerations
Section 6.0	Description of Development
Section 7.0	Impacts and Mitigation
Section 8.0	Summary and Conclusions

1.3 Background Documents

The following existing data and studies were used to review the current environment.

- River Bend Community Plan (City of London, 2001).

1.4 Pre-Consultation

To date, pre-consultation has consisted of preliminary informal discussions with the City of London [Appendix A] and email correspondence from the City of London [Appendix B]. As well, an EIS scoping meeting was held June 2 2020 [Appendix B1].

As part of the pre-consultation checklist, the City has requested the components of a Subject Lands Status Report (SLSR) be included in the EIS. The request is unnecessary as an Environmental Impact Study provides the same information and analysis. Furthermore, the

reference to Subject Lands Status Report at all, does not conform to the City of London Official Plan policy

> 1425_ Where a secondary plan has not been completed the City may require the preparation of a subject lands status report. The work plan for the subject lands status report will be determined in consultation with the City and relevant public agencies. (London Plan, in force)

The Subject Lands are within the City of London Urban Growth boundary and within the Council approved (2004) River Bend Community Planning Area (City of London, 2001). Natural Heritage studies were completed as part of the Area Plan to guide the development of the River Bend Land Use Plan (City of London, 2001). This Community Plan lea to Official Plan amendments for this area and as a result, meets the definition of a Secondary Plan under the Planning Act

> "A secondary plan is a land use plan for a particular area of a municipality that is prepared as an amendment to an official plan. Typically, a secondary plan will provide more detailed policies for the area it covers, such as public spaces, parks and urban design." https://www.ontario.ca/document/citizens-guide-land-use-planning/official-plans

Therefore, according to, and consistent with Official Plan policy (see quotes above), an SLSR is **not** required and an EIS provides a similar natural heritage review and assessment.

Notwithstanding some additional disagreement on the need to revisit some aspects of the scoping checklist requirements issued by the City (many issues already considered in the Secondary Plan studies and OPA at that time), the EIS has been prepared to address this checklist.

2.0 Land Use Settings

The Legal Parcel is 19.73ha in size. However, only a portion is within the City of London Growth Boundary. Therefore, the proposed development within this growth boundary (referred to here as the Subject Lands), is a 5.4ha portion of the Legal Parcel. The remainder of the Legal Parcel will be retained for agriculture. The Subject Lands are located on 14 Gideon Drive and 2012 Oxford Street West, west of Westdel Bourne and east of Tote Road in the City of London. The Subject Lands are surrounded by agricultural lands [Figure 1].

The descriptions in this section are based on a review of the records available. The descriptions of the site based on field investigations are found in Section 4.0 - Description of the Natural Environment.

2.1 Environmental Designations

Guided by natural heritage studies in support of the Riverbend Community Plan, there are no environmental features identified by the City of London Official Plan within the Subject Lands [Figure 2] (City of London OP, Schedule B1, 2015). There is an unevaluated vegetation patch within the Legal Parcel, however this feature is approximately 380m south of the Subject Lands. An area of Ground Water Recharge transects most of the Subject Lands, save and except for the southeast corner. The Provincially Significant Dingman Creek Fen Wetland Complex is within 450m west of the Subject Lands [Figure 2].

Map 5 is under appeal in the London Plan.

2.2 Land Use Designations

Guided by the River Bend Community Plan, the Subject Lands and the majority of the adjacent lands were designated as Low Density Residential [Figure 3] (City of London OP, Schedule A, 2015). Furthermore, the Subject Lands are also designated as Neighbourhood on Map 1 of the London Official Plan (2019).

2.3 River Bend Community Plan

A Natural Heritage Study was completed as part of the River Bend Community Planning process (Secondary Plan). The Natural Heritage Study provided the framework for environmentally sensitive planning for the future development of the River Bend Area (City of London, 2001), and the City of London Official Plan schedules as noted above. Three phases of natural heritage reporting, including an EIS, provided input to the development of the Ecological Management Plan (City of London, 2001). The plans did not any features on the Subject Lands. The Land Use designation of the Official Plan (London, 2015) and the London Plan (partially under appeal) is consistent with the River Bend Community Plan [Figure 4].

An Official Plan amendment is not needed.

2.4 Zoning Bylaws

The Subject Lands are zoned Urban Reserve [Figure 4]. The remainder of the Legal Parcel is zoned Agriculture and Environmental Review. The Urban Reserve zone extends to the east along Oxford St beyond the Subject Lands [Figure 5].

A zoning by-law amendment is proposed to bring the lands into conformity with the Official Plan.

2.5 Upper Thames River Conservation Authority (UTRCA) Regulation

There are no UTRCA regulated areas within the Subject Lands. There is a small wetland feature over 150m to the south of the Subject Lands within the Legal Parcel [Figure 5].

3.0 Triggers for EIS

When a development proposal requires a Planning Act application (i.e. Draft Plan submission, or amendments to the Official Plan and/or zoning by-law), the City of London requires an Environmental Impact Study (EIS).

With a requirement to bring the zoning of the lands into conformity with the City of London Official Plan land use schedules (Schedule A), triggers for the Environmental Impact Study are as follows:

- Subject Lands contain a vegetation patch greater than 0.5 ha (not on Schedule A or B).

An Environmental Impact Study (EIS) is the appropriate method, as guided by the Official Plan policies, to assess natural heritage features and functions within the Subject Lands to support the proposed development.

The beginning sections of this EIS report provide an overview of natural heritage features, study findings, and evaluation of function of patches not on Official Plan Schedules that are in force and effect. The latter sections provide an overview of impacts and mitigation to complete the EIS report.

In addition, the Endangered Species Act (2007) protects species and habitat that are not always identified on Official Plan Schedules. To be consistent with the Provincial Policy Statement (MMAH, 2014) the requirements for an additional study can be triggered without any adjacent features identified on the Official Plan.

The following section (Section 4) reviews the natural heritage setting of the legal property. Section 5 reviews the proposed land use change in conjunction with generic natural heritage issues which may require consideration in the application process.

4.0 Description of the Natural Environment

The following section reviews the abiotic and biotic features on and directly adjacent to the Subject Lands that contribute to the overall natural heritage features and functions. This review provides relevant background information for interpreting environmental features and functions on the Subject Lands for the evaluation in Section 5.

4.1 Physical Setting

4.1.1 Physiography

Bedrock in the area is Middle Devonian-aged limestone, dolostone, and shale of the Hamilton Group (Chapman and Putnam, 1984). The Subject Lands are underlain by glaciolacustrine and glaciofluvial deposits of gravel and gravelly sand (Dreimanis, 1970).

4.1.2 Soils

Soils in the area are predominantly glaciolacustrine and glaciofluvial deposits of gravel and gravelly sand associated with Lake Erie (Dreimanis, 1970). The soil series in this area is characteristic of the Muriel Association that is categorized as having moderately well to imperfectly drained soils (Hagerty and Kingston, 1992).
Within the Subject Lands, soils are sand overlain by clay (Water Well Records - ontario.ca).

4.1.3 Topography

Regionally the lands slope gently towards the Thames River located 1.5km north of the Subject Lands. Site specifically, the lands are gently undulating, with an overall slope to the southwest.

4.1.4 Hydrology

The Subject Lands are part of the River Bend Corridor watershed within the larger Upper Thames River watershed. Historic well records identified localized groundwater between 18m and 19m below ground surface (mbgs) in gravel substrate (Sydney Earl, 1959) [Appendix C]. The Thames-Sydenham and Region Source protection map suggest this area is not a concern for groundwater vulnerability (UTRCA online mapping).

There are no watercourses located within the Subject Lands. The closest watercourse is Parker Drain (Class F drain) located approximately 300m east of the Subject Lands.

4.2 Biological Setting

The Dingman Creek Fen PSW Complex is located over 380m from the western extent of the Subject Lands and is separated from the subject lands by residential development, Tote Road and approved aggregate extraction.

No woodlands were identified within the Subject Lands on Schedule B1 (City of London Official Plan, 2015) [Figure2]. There is an unidentified patch greater than 0.5 ha (mostly off site) that is the subject of this EIS.

4.2.1 Vegetation

The vegetation communities found on the Subject Lands are primarily upland communities [Figure 6] and are summarized in Table 1. Ecological Land Classifications (ELC) are based on Lee et al. (1998). Field work was conducted by Will Huys, MNR certified in ELC, in 2018. ELC information sheets are provided in Appendix D.

Table 1: Ecological Land Classifications for the Subject Lands

Community Type	Polygon	ELC Code	Area (ha)	Description	S-rank
				Terrestrial Communities	
Anthropogenic	R1	-		Maintained lawn and residential dwelling	n/a
	R2	-		Maintained lawn and garage	n/a
	A	-		Active agriculture	n/a
Natural Successional	1	CUW-1	1.5	Mineral Cultural Woodland (Black Walnut Dominant)	n/a
	2	CUM-1	1.9	Dry-Moist Old Field Meadow Type with Black Walnut Hedgerow Inclusion	n/a
	3	CUT-1	0.5	Mineral Cultural Thicket	n/a

The Subject Lands encompass all of the vegetation communities noted above including the active agriculture and residential areas. All of the communities listed in Table 1 are also common and secure in Ontario (NHIC, 2019).

Community 1a and 1b is collectively Community 1, a CUW-1 Mineral Cultural Woodland dominated by Black Walnut and Hackberry in the canopy layer. The community could easily be labelled Cultural Savannah to reflect the historic setting as landscape trees around the residences. In Community 1a (0.6 ha), on the subject land, the understorey is predominantly composed of Black Raspberry, Tartarian Honeysuckle, and Riverbank Grape. Based on the ground layer condition, it appears this area was mowed regularly within the last 3-5 years. To the east, on the adjacent property, Community 1b (0.9 ha) is also dominated by Black Walnut but the ground layer was maintained lawn during the study.

Community 2 is a CUS1 Mineral Cultural Savannah Ecosite with a Black Walnut inclusion. The canopy of the inclusion is exclusively Black Walnut. The sub-canopy is composed of Eastern Red Cedar, Staghorn Sumac, and Gray Dogwood. It appears the field may have been harvested for hay previously as evidenced by a pile of rotting hay bales in the south-east corner of the community. A portion of Community 2 was disked in mid-June of 2018. According to the landowner, the disking was part of a row crop rotational schedule in the land rental agreement that continues today [Appendix D1].

Community 3 is a CUT-1 Mineral Cultural Thicket. The canopy layer is dominated by Staghorn Sumac and Hackberry. The understorey layer is dominated equally by Black Raspberry and Gray Dogwood.

4.2.2 Wildlife Habitat

MNRF Significant Wildlife Habitat (SWH) Criteria Schedules for Ecoregion 7E (January 2015) uses ELC Ecosite codes and habitat criteria (eg. size of ELC polygon, location of ELC polygon) to identify candidate significant wildlife habitat. Candidate SWH must meet wildlife use thresholds to be considered confirmed significant habitat. Life science data was collected in 2018 and 2019 and

was used to determine if the identified candidate habitats from the SWH review are significant. The following candidate SWH was noted [Appendix E]:

Habitats of Species of Conservation Concern (not Endangered or Threatened Species)

- Special Concern and Rare Wildlife Species

No other components of SWH were met, including those checked off in the EIS Scoping meeting [Appendix E].

Using site specific life science information collected, the above candidate SWH is further evaluated in Section 4 based on the defining criteria (species presence, abundance, diversity) to make the final determination of the presence of SWH. This analysis is provided in Section 5 which follows the life science overview.

4.2.3 Aquatic

There are no aquatic species of significance or critical habitat for aquatic species at risk within 1 km of the Subject Lands (DFO, 2019; NHIC, 2019). The Subject Lands do not contain any aquatic habitat and the closest watercourse is Parker Drain which is a Class F drain located approximately 300m east of the Subject Lands.

Summary: There is no aquatic habitat present within the Subject Lands and therefore no habitat for threatened and endangered aquatic species is present. As there is no aquatic habitat present, no further consideration is required.

4.2.4 Flora

Background research using the NHIC database and correspondence with the MNRF identified 3 significant floral species that are found or are potentially found within 1 km of the Subject Lands [Table 2] (NHIC, 2019).

Table 2: Provincially Significant Floral Species within 1 km of the Subject Lands

Common Name	Scientific Name	S-Rank	ESA Listing	SARA Listing
American Chestnut	*Castanea dentata*	S1S2	END	END
Blue Ash	*Fraxinus quadrangulata*	S2	THR	THR
Hairy Fruited Sedge	*Carex trichocarpa*	S3	N/A	N/A

Prior correspondence with the MNRF from the Stage 1 Information Request response (2019) indicated that there are no known occurrences of floral Species at Risk (SAR) within the Subject Lands [Appendix F].

Considering the limited habitat variety within the Subject Lands (active agriculture, residential, and cultural pioneer communities) there is no suitable habitat for the floral species noted above.

A three season site specific floral inventory was conducted by Will Huys on April 17, May 9, June 5, June 20, August 21, and September 21, 2018 [Appendix G]. No species of conservation concern or rare floral species, nor the species identified in Table 2, were found on the Subject Lands during the site specific inventories. Floristic quality of the area is poor with the mean coefficient of conservatism less than 2.0 and a Floristic Quality Index of less than 13.

Summary: Site specific floral investigations did not observe any floral SAR, Special Concern, S1-S3 ranked, or regionally significant floral species within the Subject Lands.

4.2.5 Fauna

Background research using the NHIC database and correspondence with the MNRF identified one provincially significant faunal species that is found or is potentially found within 1 km of the legal parcel [Table 3] (NHIC, 2019).

Table 3: Provincially Significant Faunal Species within 1 km of the Subject Lands

Common Name	Scientific Name	S-Rank	SARO Listing	SARA Listing
Yellow-breasted Chat	*Icteria virens*	S1B	END	END

Prior correspondence with the MNRF from the Stage 1 Information Request response (2019) indicated that there are no known occurrences of faunal SAR within the Subject Lands [Appendix F].

Avifauna

A two visit breeding bird survey was completed by Will Huys in 2018 to assess the Subject Lands for the presence of SAR birds [Appendix H]. The field visits took place on:

- June 5th, 2018
- June 20th, 2018

Eastern wood-pewee (Special Concern) was observed within Community 1, Mineral Cultural Woodland that straddles the eastern property line. No avian species protected under the ESA were observed during the 2018 breeding bird study.

No other species of provincial interest, other than Eastern Wood-pewee [SC] was found.

Amphibians:

No permanent ponded water was observed during any site investigations in 2018 and 2019. There was an ephemeral pond observed on the Subject Lands during the early spring amphibian monitoring, however was dry in May and June. Amphibian monitoring was conducted by Will Huys on April 21, 2018 at the observed ephemeral pond on site and no amphibians were heard calling [Appendix I]. There was no habitat to support amphibian breeding beyond early spring (April), so additional amphibian monitoring was not completed.

Reptiles

No SAR reptiles were identified from the NHIC background review or through MNRF correspondence (NHIC, 2019). No species specific targeted surveys were required for reptiles and no further consideration is required.

Mammals

No potential bat maternity roosts were observed [Appendix I - general field sheets], nor any evidence of any SAR mammals or habitat.

Summary: Eastern Wood-pewee (Special Concern) was observed within Vegetation Community 1 (Mineral Cultural Woodland). There were no floral SAR, Special Concern or S1-S3 ranked species within or adjacent to the Subject Lands. There is no permanent amphibian habitat and no suitable SAR reptile habitat within the Subject Lands.

5.0 Natural Heritage Policy Considerations

This section reviews the provincial, municipal and Conservation Authority regulatory policies within the project location with respect to Natural Heritage considerations.

The provincial and municipal natural heritage policies provide guidelines that determine appropriate land uses on and adjacent to natural heritage features and functions. Policies that pertain to this site include:

- the 2014 Provincial Policy Statement from MAH, Section 2.1
- these have been reviewed with the Natural Heritage Reference Manual (NHRM) (MNR, 2010),
- the City of London Official Plan, Section 15.2 and 15.4,
- the City of London Environmental Management Guidelines (2007), and
- the UTRCA Regulations.

The natural features and functions identified in Section 4 of this report are applied to the above policies in order to determine which components of the natural heritage system will require additional consideration.

5.1 Provincial Policy

The Provincial Policy considerations are based on Provincial Policy Statement from MAH, 2014, section 2.1 and reviewed using the Natural Heritage Reference Manual (Sections 5-11) (MNR, 2010).

2.1.4

a), b) Significant Wetlands/Coastal Wetlands

Section 6 - Significant Wetlands and Significant Coastal Wetlands

There are no wetlands or Provincially Significant Wetlands (PSW) within the Subject Lands. The Dingman Creek Fen PSW is over 380m west of the Subject Land boundary.

2.1.5

b) Significant Woodlands

Section 7 - Significant Woodlands

The woodland patch was also not considered significant in the Riverbend Community Plan report and the London Official Plan.

c) Significant Valleylands

Section 8 - Significant Valleylands

There are no Significant Valleylands within or adjacent to the Subject Lands.

d) Significant Wildlife Habitat

Section 9 - Significant Wildlife Habitat (SWH)

Criteria to identify wildlife habitats that should be considered significant are taken from the Ecoregion Criteria Schedules (MNRF, 2015). Candidate significant wildlife habitat is based on ELC communities and was identified is Section 4.2.2. Confirmed significant wildlife

habitat is determined through appropriate field investigations and evaluation of species use.

Based on presence of ELC code and habitat criteria, the following candidate SWH are reviewed using the MNRF (2015) required wildlife use thresholds (i.e., target species, population numbers, etc.) to determine significance:

1) Habitats of Species of Conservation Concern (not Endangered or Threatened Species)

There is habitat for Eastern Wood-pewee (Special Concern) within Community 1 (Mineral Cultural Woodland). There are no Special Concern or S1-S3 ranked floral species within the Subject Lands.

Confirmed SWH

e) Areas of Natural and Scientific Interest

Section 10 - Significant Areas of Natural and Scientific Interest

No life science or earth science Areas of Natural and Scientific Interest were identified within or adjacent to the Subject Lands.

2.1.6

Fish Habitat

Section 11 - Fish Habitat - Broad Scale

Broad scale fish habitat, for the purposes of this review, considers downstream fisheries. There is no fish habitat within or adjacent to the Subject Lands thus there will be no impact to any fisheries downstream of the site.

Section 11 - Fish Habitat - Detailed Scale

Detailed scale fish habitat, for the purposes of this review, considers fisheries habitat within the legal parcel. There is no fish habitat within or adjacent to the Subject Lands.

2.1.7

Habitat of Endangered Species and Threatened Species

Section 5 - Significant Habitat of Endangered and Threatened Species

No habitat features for SAR nor any floral or faunal SAR were identified during the floral and faunal life science inventories on the Subject Lands.

Summary - Provincial Policy:

- There is confirmed SWH (Habitats of Species of Conservation Concern - Eastern Wood-pewee) within Community 1.

5.2 Municipal Policy

The Municipal Policy Natural Heritage considerations are based on the City of London Official Plan, 2006, section 15.4.

15.4.1 Environmentally Significant Areas

There are no Environmentally Significant Areas identified by the City of London Official Plan within the Subject Lands. The Dingman Creek Fen PSW Complex is located about

400m from the Subject Lands boundary and will not be impacted by development of the site.

15.4.2 Wetlands

No wetlands have been identified within or within 120m of the Subject Lands.

15.4.3 Areas of Natural and Scientific Interest

There are no Areas of Natural or Scientific Interest within or adjacent to the Subject Lands.

15.4.4 Habitat of Endangered, Threatened and Vulnerable Species

There is no habitat for Endangered, Threatened, or vulnerable species within the Subject Lands.

15.4.5 Woodlands

"Potentially significant woodlands and other vegetation forms that have not been evaluated are designated as Environmental Review on Schedule A and delineated as Unevaluated Vegetation Patches on Schedule B1." (Official Plan, OPA 438, July 2011).

The City of London Guideline Document for the Evaluation of Ecologically Significant Woodlands (March 2006) "apply to all vegetation patches outside ESA's and wetlands as identified on Schedule B and designated as Environmental Review on Schedule A."

Woodlands that are determined to be ecologically significant on the basis of the Official Plan criteria and the application of the Woodland Guidelines will be designated as Open Space on Schedule A and delineated as Significant Woodlands on Schedule B1 (Policy 15.4 OPA 438, July 2011).

The vegetation patch that straddles the east boundary is not mapped on either Schedule A or Schedule B1. The Official Plan criteria for significance and the Woodland Guidelines therefore do not apply. Section 15.4.15 Other Woodland Patches Larger than 0.5 ha is the applicable policy which is discussed below.

15.4.6 Corridors

There are no significant corridor areas within or adjacent to the Subject Lands.

15.4.7 Wildlife Habitat

i) The review of significance of wildlife habitat is based on the following considerations that have had regard for and having regard for the Significant Wildlife Habitat Technical Guide (MNRF, 2000)

a) *1) Habitats of seasonal concentrations of animals:*

No seasonal concentration areas for wildlife were identified within the Subject Lands.

2) Rare vegetation communities

No rare vegetation communities were identified within the Subject Lands.

3) Specialized habitat for wildlife

There are no areas that support wildlife species that have highly specific habitat requirements, or area of exceptionally high species diversity. The wildlife species that are found within the Subject Lands are not diverse and are common for the vegetation communities present.

4) *Habitat of species of conservation concern*

Eastern Wood-pewee (SC) was observed within Community 1 on the Subject Lands.

5) *Animal movement corridors*

There are no distinct passageways for wildlife movement between habitats that are required to complete wildlife species life cycles.

b) The subject lands does not have any habitat that is under represented in the City of London.

c) There are no areas of habitat having a high diversity of species composition that are of value for research, conservation, education and passive recreation opportunities.

ii) There are no area of Significant Wildlife Habitat identified on Schedule B1.

15.4.8 Fish Habitat

There is no fish habitat present within the Subject Lands as there are no watercourses present.

15.4.9 Groundwater Recharge Areas, Headwaters and Aquifers

There are groundwater recharge areas identified over most of the Subject Lands [Figure 2]. However, the Thames-Sydenham Source proctection maps suggest there is no groundwater vulnerability on these subject lands.

15.4.10 Water Quality and Quantity

There are no aquatic features within or adjacent to the Subject Lands. There is no channel connection between the Subject Lands and the mapped wetland over 250m south of the site. The natural heritage system policy 15.4.9 (above) protects the groundwater recharge feature mapped on site.

15.4.11 Potential Naturalization Areas

There are no listed Potential Naturalization Areas within or adjacent to the Subject Lands.

15.4.13 Unevaluated Vegetation Patches

Large Unevaluated Vegetation Patches delineated on Schedule B1 identified through environmental studies are designated Environmental Review on Schedule A. “Smaller patches may have previously been designated for development or agricultural activity.” (City of London OPA 438, Dec.17/09). There are no mapped Unevaluated Vegetation Patches on Schedule B1.

15.4.14 Other Woodland Patches larger than 0.5 Hectares

The vegetation patch that straddles the eastern property line is designated Low Density Residential.

To be consistent with the Official Plan policies, the unmapped vegetation is assessed through the scope of an EIS.

"In addition to areas that are designated Environmental Review or Open Space, woodland patches in other designation that are larger than 0.5 ha shall shall be evaluated...Where it is considered appropriate, the protection of trees or other vegetation will be required through measures such as, but not limited to, Tree Preservation plans...acquisition of land...conservation easements, landowner stewardship initiatives, and zoning provisions." added by OPA 438 Dec 17/09).

Eastern Wood-pewee habitat, in the woodland that straddles the property, will be considered through the above measures later in this EIS.

There are no SAR, Special Concern or S1-S3 ranked floral species within Community 1. There is no amphibian breeding habitat. The tree species is dominated by Black Walnut and Hackberry. Community 1 (Mineral Cultural Woodland) is considered further in this EIS.

15.4.15 Other Drainage Features

No other water features (i.e. municipal drains) are within the Subject Lands. Parker Drain, which is a Class F Drain, is located approximately 300m east of the Subject Lands but is not hydrologically connected to any feature within the Subject Lands.

Summary - Municipal Policy:

- Vegetation Community 1 has habitat for Eastern Wood-pewee (Special Concern) and is considered further in this report.

5.3 UTRCA Policy Considerations and Regulated Lands

The Subject Lands are not within the regulation limit for the Upper Thames Region Conservation Authority. A section of the Legal Parcel over 250m south of the Subject Lands is regulated by UTRCA.

Summary: The proposed development within the Subject Lands is not within a UTRCA regulation limit so no permit is required.

5.4 Summary of Identified Features and Functions

The features and functions in Table 4, have been identified through the policy review as requiring further consideration in an EIS.

Table 4: Environmental Considerations for the Subject Lands

Policy Category	Environmental Consideration	Natural Heritage Feature
Provincial Policy Statement	Significant Wildlife Habitat	Eastern Wood-pewee within Vegetation Community 1
City of London	Significant Wildlife Habitat	Eastern Wood-pewee within Vegetation Community 1
	Groundwater Recharge Areas, Headwaters and Aquifers	not applicable as Source Protection maps indicate no groundwater vulnerability in this location
	Other Woodland Patches Larger than 0.5 hectares	see SWH above

6.0 Description of the Development

The proposal is a residential development on a site of approximately 5.4ha located at 14 Gideon Dr and 2012 Oxford St W in the City of London. The Subject Lands are comprised of two contiguous sites that are considered for a single development with two internal roads. Access to the development will be from Gideon Drive at the west edge of the property. The proposed development is 39 single residential Lots, with a Multi-Family residential Block along the Oxford St/Gideon Dr arterial corridor [Figure 7]. While this development proposes a higher density than the current Official Plan, it is consistent with the Neighbourhoods place type of the London Plan that includes a diversity of housing choices. The development proposal will require a Zoning bylaw amendment for the combination of multi-family and single-family residential to bring zoning into conformity with the London Plan.

6.1 Servicing

The Subject Lands are located within the River Bend Community Planning Area. Sanitary servicing for the proposed development will be provided by Riverbend Pumping Station and the Oxford Street Pollution Control Plant (Stantec, 2018). The site will be serviced by local sanitary sewers located in the municipal rights-of-way proposed within the development and will outlet to the trunk sewer on Gideon Dr.

Minor storm flows will be collected by a municipal storm sewer system within the municipal rights-of-way. The sewer system will drain north towards Gideon Dr where it will be collected by a larger trunk sewer for conveyance to the Riverbend SWMF Trib. C ‘A”, located north of Oxford St. The major flows will be directed west down existing Oxford St W ditches for conveyance to the Thames River.

7.0 Impacts and Mitigation

This section identifies potential direct and indirect impacts to the significant natural heritage features within and adjacent to the development footprint [Figure 8]. Appropriate avoidance, protection and mitigation measures for the impacts are also presented.
Based on the analysis in Section 5.0, the **significant** feature identified is Eastern Wood-pewee habitat within Community 1.

7.1 Direct Impacts

The Draft Plan proposes the removal of a portion of Community 1 (0.6ha of a patch approximately 1.5ha in area). The majority of Community 1 is dominated by Black Walnut and Hackberry with non-native species composing a large portion of the understorey (Tartarian Honeysuckle). The patch does support confirmed breeding habitat for Eastern Wood-pewee [Figure 8; Figure 9].

Eastern Wood-pewee breed in deciduous and mixed woods, with a preference for open space at forest edges, clearings, roadways and water (Cadman *et al*, 2007). Despite a population shift in its northern range, Eastern Wood-pewee is very common in Southwestern Ontario and found in all atlas squares in Southern Ontario (Cadman *et al* 2007) [Appendix H]. In fact, some studies have found a non-significant increase over time (Cadman *et al*, 2007; COSEWIC, 2012). This species is found in most woodlots of any size in the London area and, as it is very territorial, there is typically only one nesting pair in woodlands of this size (territories range from 2-8 hectares - Cornell University www.allaboutbirds.org).

Habitat for the single Eastern Wood-pewee territory will persist within the remainder of the woodland on adjacent lands.

> **Recommendation:** A tree inventory was completed for Community 1 by Will Huys in 2018 wherein DBH measurements and the health status of trees within the community were noted. A Tree removal and edge tree Preservation Plan to mitigate for the impacts to Community 1 will accompany detailed site design.

While not necessary for this development application from a purely planning perspective, there are opportunities the landowner is willing to consider, to plant a similar size area to expand a woodland to the south, within the remaining legal parcel [Figure 9]. This proposed landscape area would use native species suitable to the area and the surrounding vegetation community. Based on the Riverbend Study, the plant list would likely consist of Sugar Maple, Oak, Basswood, Pagoda Dogwood and approved City of London groundlayer seeding. However, a final plan should be developed as part of the design studies once this concept is approved and the woodland to the south is reviewed for a final planting concept.

> **Recommendation:** An area designated as a woodland expansion is proposed south of the Subject Lands but within the legal parcel.

> **Recommendation:** A woodland area management plan should be created and implemented to ensure the continued good health of trees that will be retained in the woodland to the south. This plan would include guidance and recommendations for woody debris management and the management of invasive species to improve the health of the woodland feature in the long-term.

7.2 Indirect Impacts

The most critical times for the protection of natural heritage features and functions is during the construction phase and post-development.
Sediment controls needs to be used to ensure that sediment from the development project does not wash off the site into adjacent lands during rain events.

Recommendation: Soil stock piles should be located 30m from any natural drainage swales. If the stock piles must be within 30m of either feature, they must be protected with sediment fencing

Recommendation: All stock piles and excavations should maintain slopes of 70% or shallower during all phases of construction to prevent establishment of nest sites for Bank Swallow. Theses swallows will quickly take advantage of this type of habitat and impede construction schedules.

The majority of the proposed development is on areas that are outside of the boundary for the woodland. Provided the above recommendations are followed, the natural heritage features and habitat identified in the field investigations will be effectively protected and mitigated from construction related impacts.

7.3 Additional Considerations Requested By City

Following the EIS Scoping Meeting, the checklist was provided as a summary. Several items were added to this checklist which were not specifically discussed in the meeting. Many are related to broader planning considerations such as Linkage and Corridors, Landscape (size, corridors, proximity and fragmentation) and importance to humans (healthy landscapes, aesthetics) or targets set out by the sub-watershed studies. All of these items have been considered in the Area Planning and opportunities to change these decisions, even if pertinent for this site, are limited now that development surrounds the Subject Lands. Agriculture will continue to the south.

What is left of the checklist are some site specific functions which are not well defined in the context of evaluation, again, as a result of the prior decisions for the area. However, as noted in the report, the landscape is a remnant treed area near a residential house. As a result, the feature is impacted with introduced species and general disturbance reflected by poor quality floristics. Furthermore, the feature has limited habitat benefit, even if fully retained, since prior development approvals have cutoff any potential linkage to the Thames River corridor to the north. The only species that receives some provincial consideration is the Eastern Wood-pewee which has been discussed previously. The requirements of Wood-pewee, as well as the other common species found, are well served in the surrounding more robust natural heritage landscapes of the Thames River system, as well as the woodlands to the south. The landowner offers to provide additional tree planting in the south wooded location, which will expand the habitat and help to fill in bays and smooth out some edge effects.

8.0 Summary and Conclusion

The proponent is proposing a residential development on a site of approximately 5.4ha located at 14 Gideon Dr and 2012 Oxford St W in the City of London [Figure 1].

This EIS provides an inventory, evaluation, and assessment of significance of the features and functions on the Subject Lands. It has identified the significant natural heritage features and functions, and environmental management requirements (including further study) to adequately manage and protect the features and functions. The primary feature for consideration is Community 1 at the east edge.

A tree preservation report should be completed for Community 1 to provide an assessment of individual trees and to guide the grading plan for the development. The larger woodland to the south within the Legal Parcel will be planted with native trees to provide an expanded woodland habitat within the legal parcel.

MTE seeks comments from the City of London and the UTRCA with respect to the contents of this EIS. Formal comments can be submitted in writing to MTE on behalf of the client. Should you wish to clarify any questions or require additional information as part of the review of this EIS, do not hesitate to contact us.

All of which is respectfully submitted,

MTE Consultants Inc.

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DGH: sdm; ZA

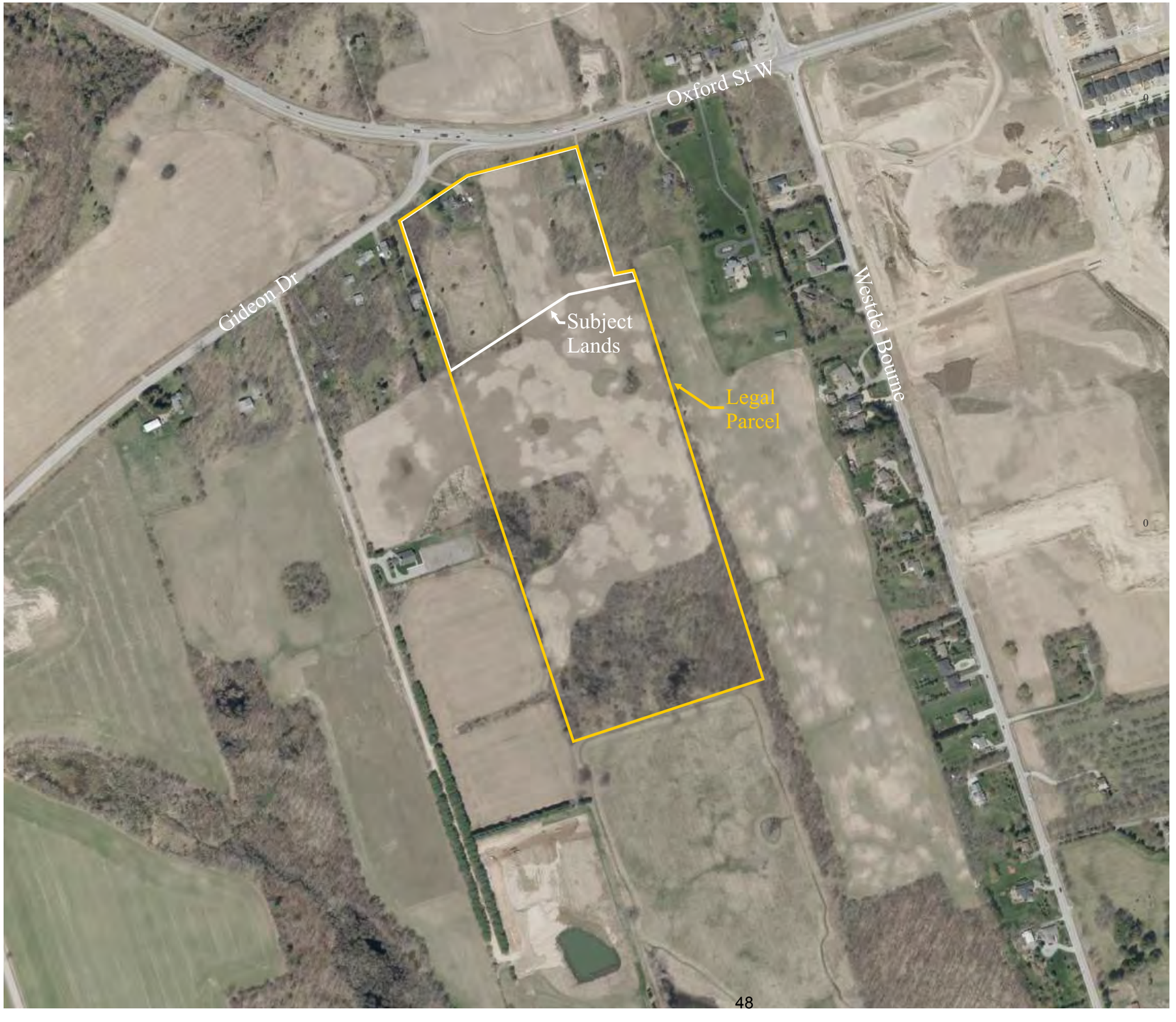
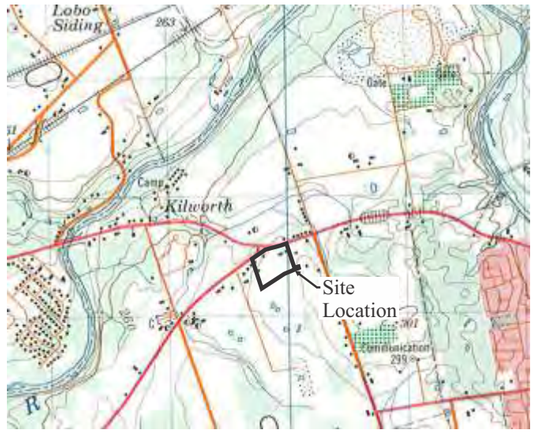


Figure 1: Site Location

(2017 City of London Air Photo)



Scale 1:50,000
Key Plan

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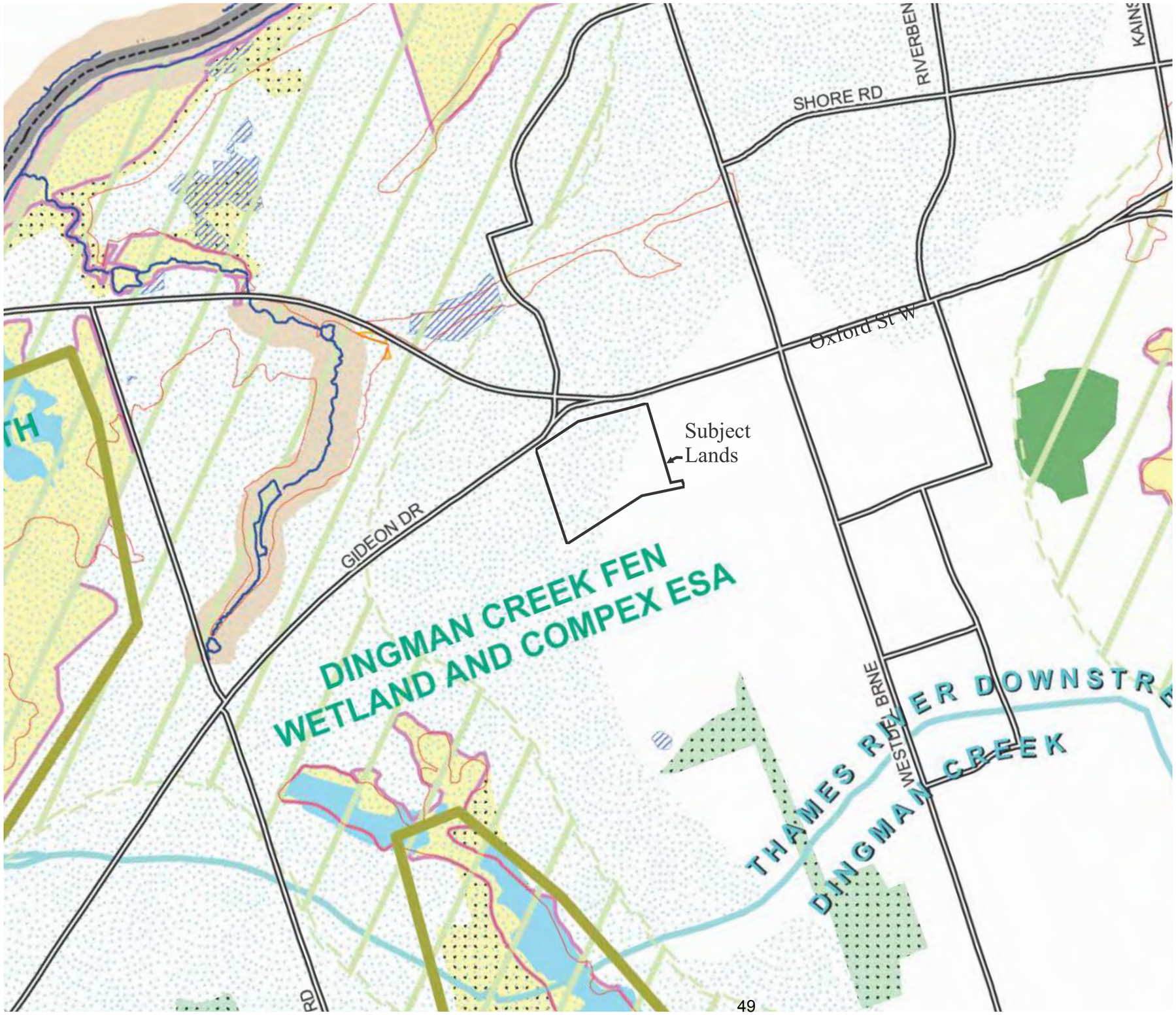
Scale 1:5000
August 2020

MTE

Figure 2a: Natural Features
(City of London Official Plan Schedule B1, 2019)



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Legend

- ESAs
- Potential ESAs
- Significant Woodlands
- Unevaluated Corridors
- Prov Significant Wetlands
- Locally Significant Wetlands
- Unevaluated Wetlands
- Pot Naturalization Area
- Pot Upland Corridor
- Woodlands
- Unevaluated Vegetation Patches
- Significant Corridors
- Ground Water Recharge
- Max Hazard Line
- Cons. Authority Bndry
- SWS Bndry
- Big Picture Meta-Cores and Meta-Corridors
- Provincial ANSI Boundary

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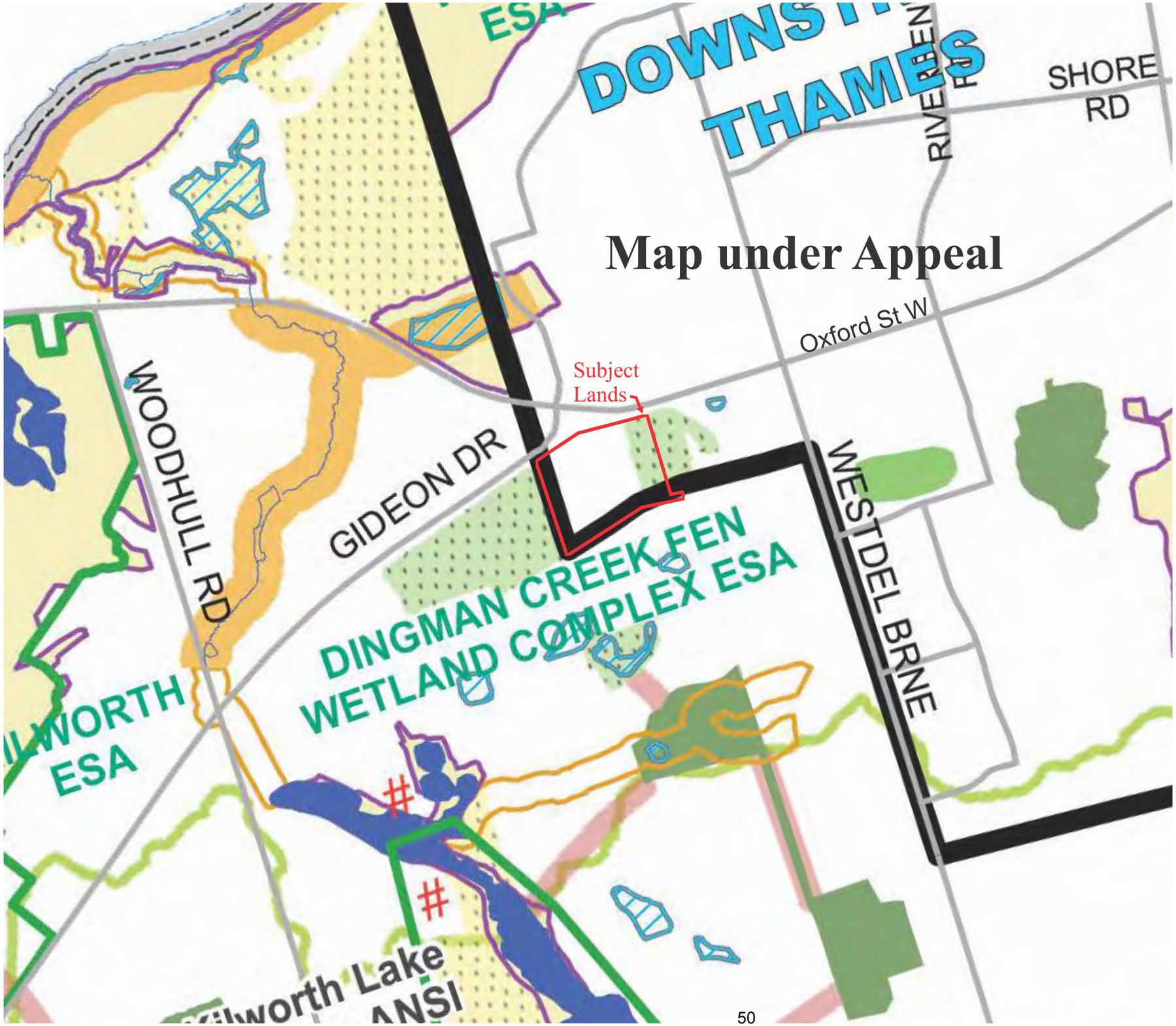
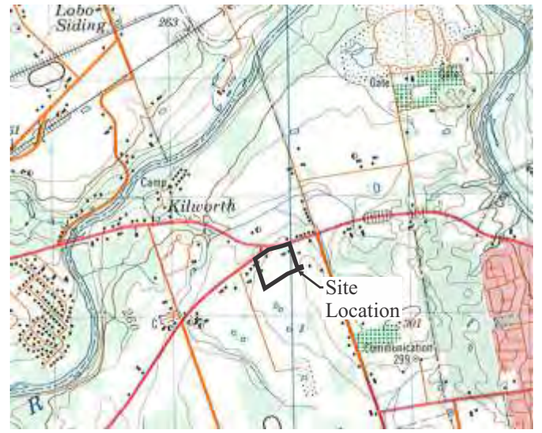


Figure 2b: Map 5 - Natural Heritage
(City of London - London Plan, May 2019)



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Key Plan

Legend

- Provincially Significant Wetlands
- Wetlands
- Unevaluated Wetlands
- Significant Woodlands
- Woodlands
- Significant Valleylands
- Valleylands
- Areas of Natural and Scientific Interest
- Environmentally Significant Areas (ESA)
- Potential ESAs
- Upland Corridors
- # Potential Naturalization Areas
- Unevaluated Vegetation Patches

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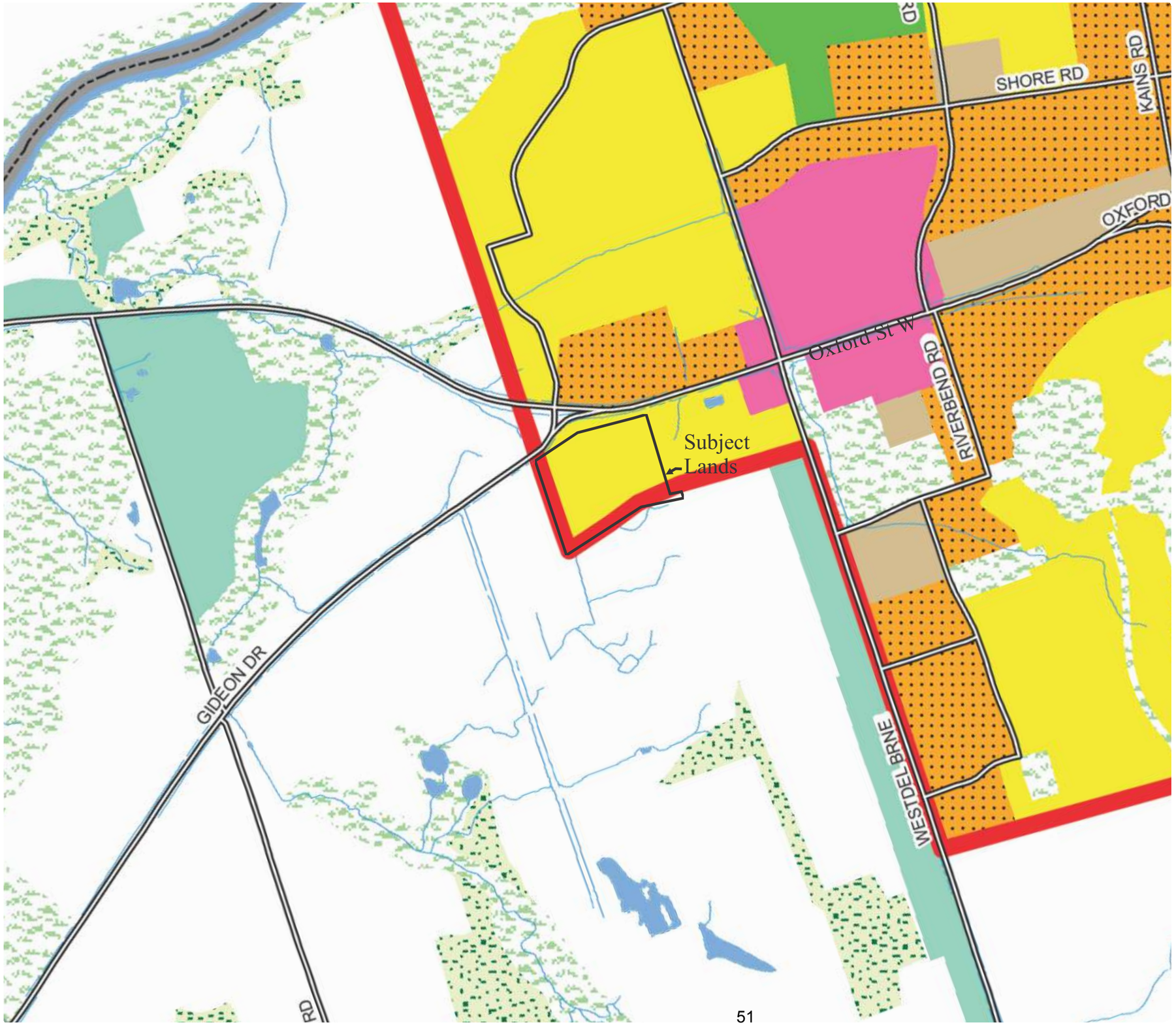
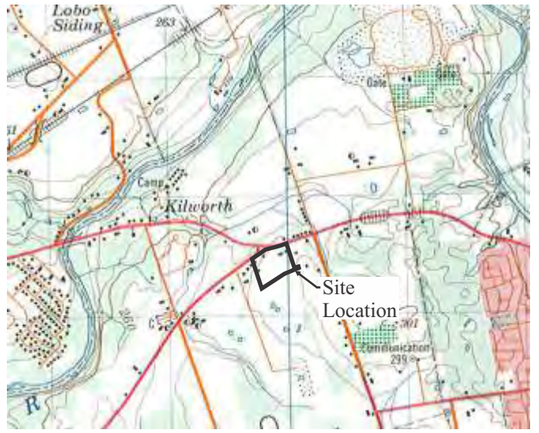
Scale 1:8000
August 2020

MTE

Figure 3a: Land Use

(City of London Official Plan Schedule A, 2019)





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Scale 1:50,000

Key Plan

Legend

- Community Commercial Node
- Neighbourhood Commercial Node
- Main Street Commercial Corridor
- Auto-Oriented Commercial Corridor
- Multi-Family, High Density Residential
- Multi-Family, Medium Density Residential
- Low Density Residential
- Office Area
- Office/Residential
- Office Business Park
- General Industrial
- Light Industrial
- Regional Facility
- Community Facility
- Open Space
- Urban Reserve Community Growth
- Urban Reserve Industrial Growth
- Rural Settlement
- Environmental Review
- Agricultural
- Urban Growth Boundary

Print on 11X17, Landscape Orientation

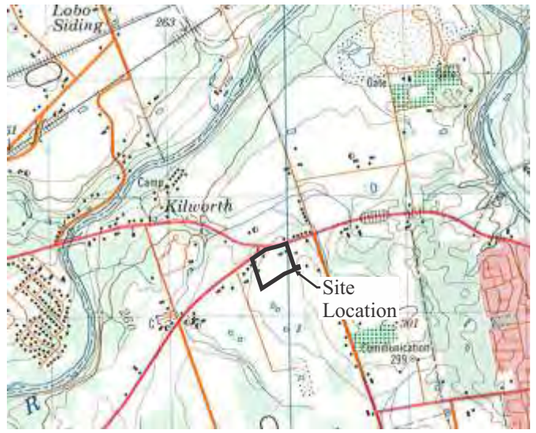
0 160

Scale 1:8000

August 2020

Figure 3b: Map 1 - Land Use

(City of London - London Plan, 2019)



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Scale 1:50,000

Key Plan

Legend

- Green Space
- Environmental Review
- Downtown
- Transit Village
- Rapid Transit Corridor
- Urban Corridor
- Shopping Area
- Main Street
- Neighbourhoods
- Institutional
- Heavy Industrial
- Light Industrial
- Commercial Industrial
- Future Community Growth
- Future Industrial Growth
- Farmland
- Rural Neighbourhoods
- Urban Growth Boundary

Print on 11X17, Landscape Orientation

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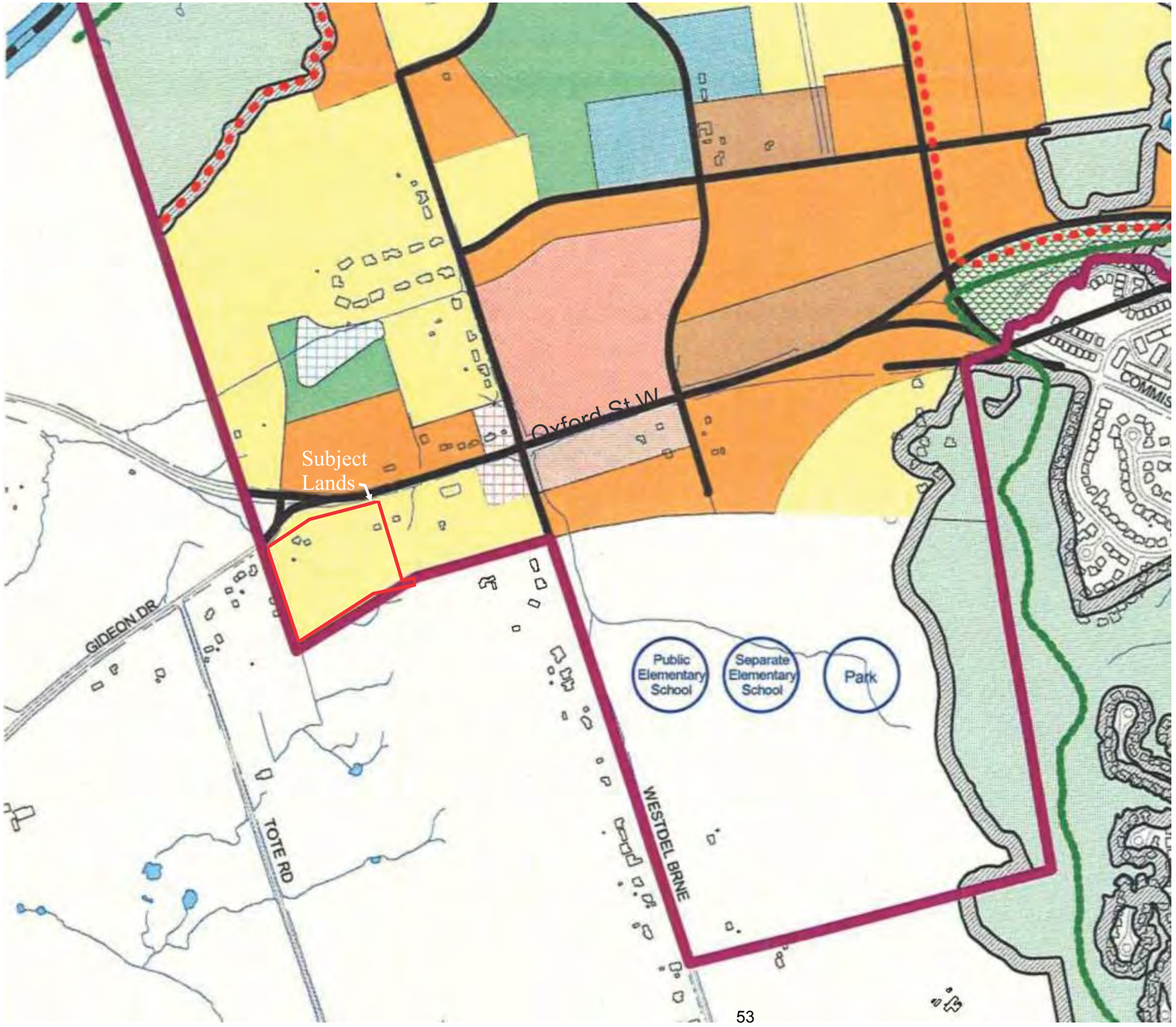
Scale 1:8000

August 2020

MTE

Figure 4: River Bend Community Plan

(City of London Council Approved April 2003)



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Scale 1:50,000

Key Plan

Legend

- Community Plan Boundary
- Trail Network
- Community Pedestrian Network
- Multi-use Pathway
- ESA Buffer (10 - 30 metres to be determined through the EIS process)
- ESA
- CSA
- Commercial
- Neighbourhood Shopping Area
- Associated Shopping Area
- High Density Residential
- Medium Density Residential
- Low Density Residential
- Elementary School
- Park
- Golf Course
- Open Space
- Storm Water Management
- Revegetation Opportunity

Print on 11X17, Landscape Orientation

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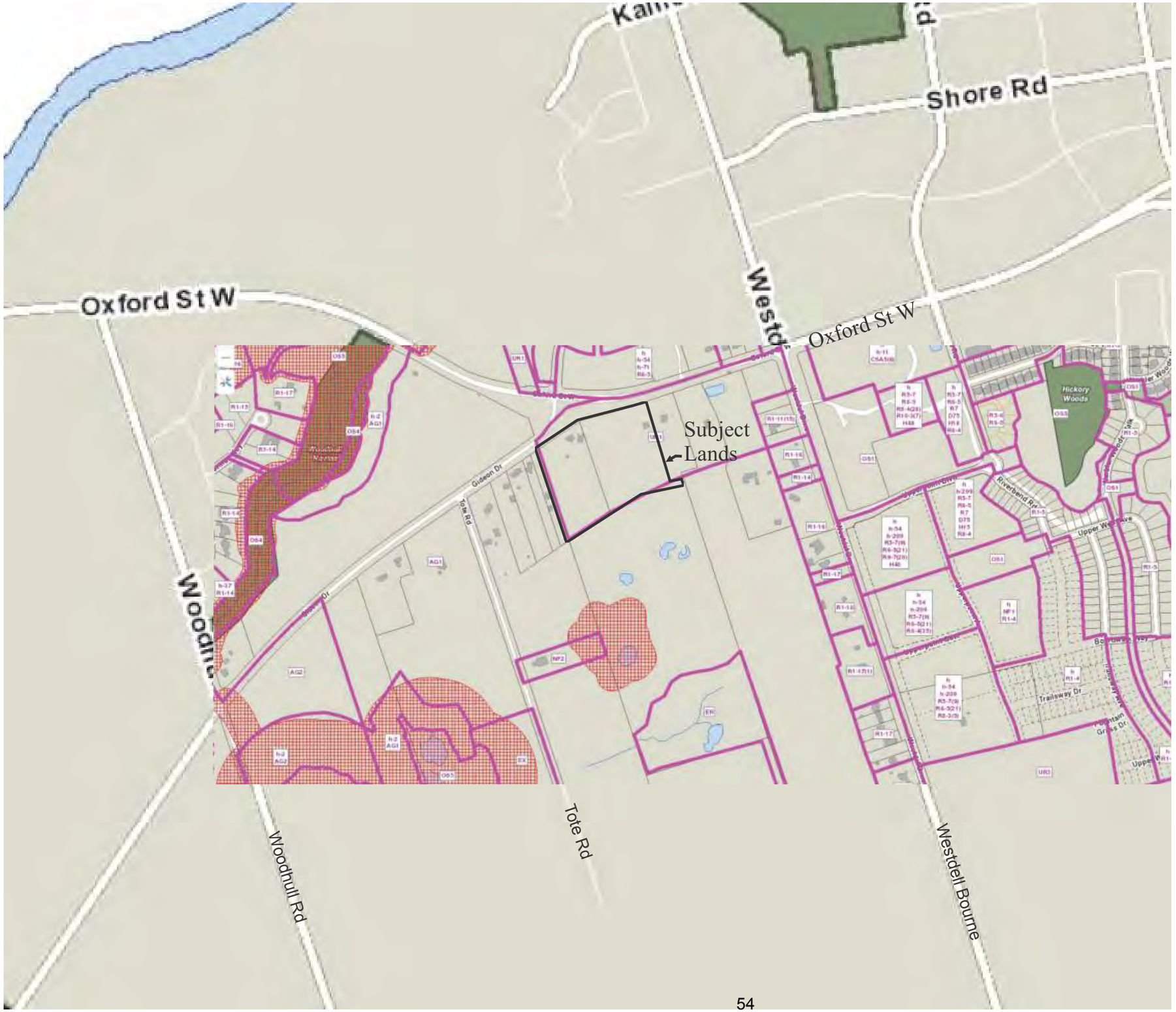
Scale 1:8000

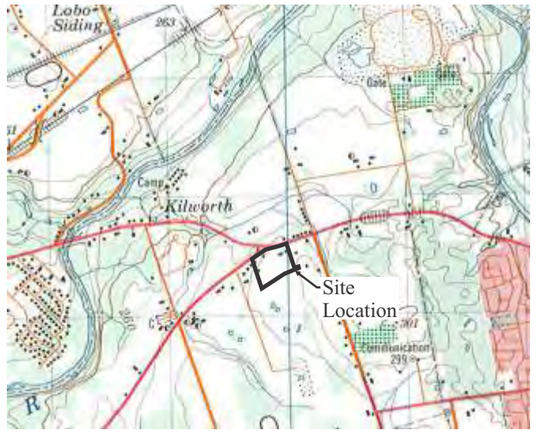
August 2020

MTE

Figure 5: Zoning

(City of London Zoning)





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Scale 1:50,000

Key Plan

Legend

R1 - Residential R1 Zone (single unit dwellings)

R5 - Residential R5 Zone (medium density)

R6 - Residential R6 Zone (medium density)

R8 - Residential R8 Zone (medium density)

R10 - Residential R10 Zone (apartments)

AG1 - Agricultural Zone (non-intensive)

AG2 - Agricultural Zone (intensive or non-intensive)

OS - Open Space

NF - Neighborhood Facility Zone

Print on 11X17, Landscape Orientation

0 160

Scale 1:8000

August 2020

MTE

Figure 6: Vegetation Communities
(2017 City of London Air Photo)

0 1,000
Scale 1:50,000
Key Plan

1 CUW1 Mineral Cultural Woodland Ecosite
(Black Walnut dominant)
2 CUS1 - Mineral Cultural Savannah Ecosite with Walnut Hedgerow inclusion
3 CUT1 Mineral Cultural Thicket Ecosite

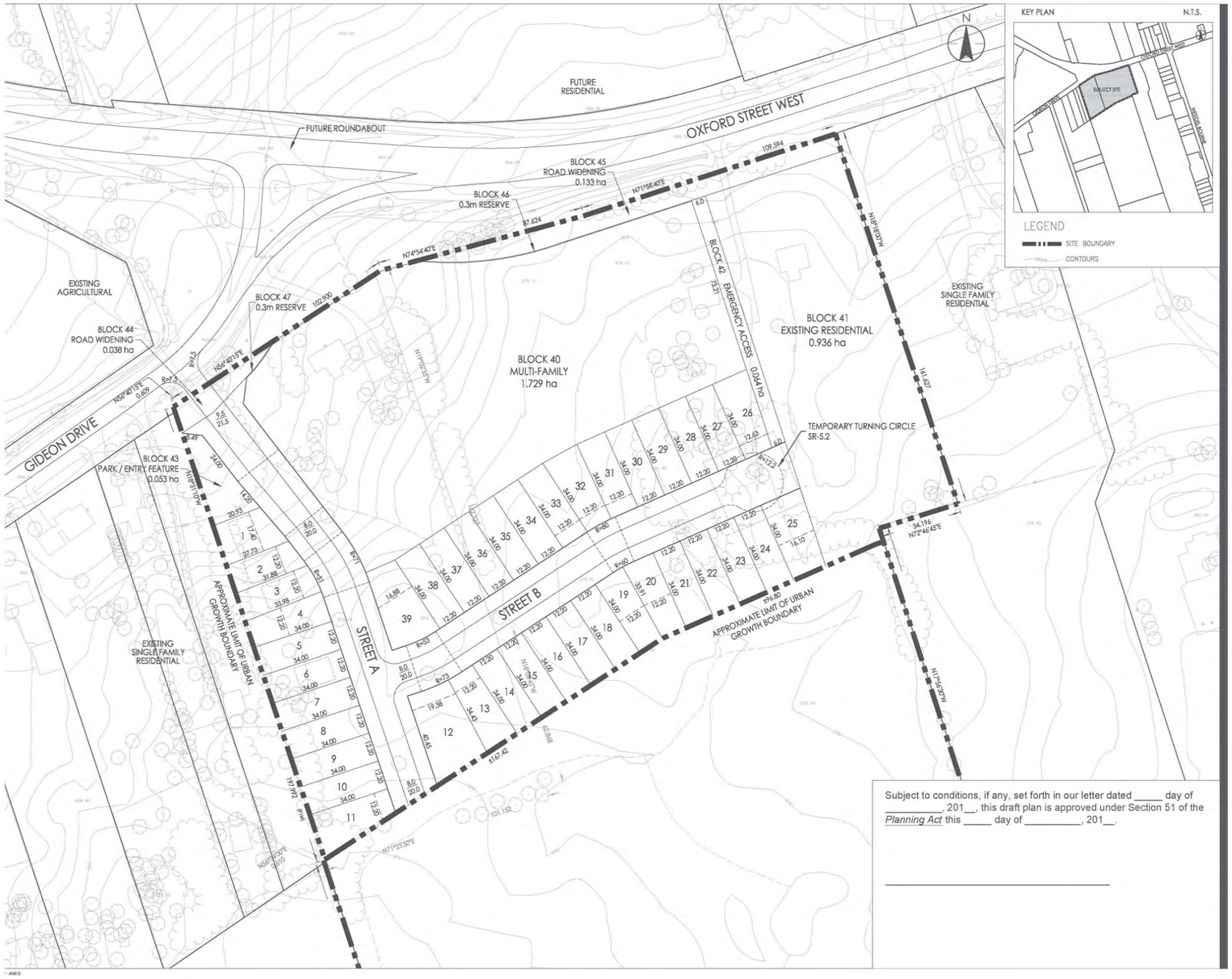
R1 Maintained lawn and residential dwelling
R2 Maintained lawn and garage

A Active Agriculture

Print on 11X17, Landscape Orientation
0 30
Scale 1:1500
August 2020

MTE

Figure 7: Development Proposal



Subject to conditions, if any, set forth in our letter dated _____ day of _____, 201__, this draft plan is approved under Section 51 of the *Planning Act* this _____ day of _____, 201__.

_____

Stantec

Stantec
600-171 Queens Avenue
London ON N6A 5J7
Tel. 519-645-2007
www.stantec.com

Liability Note
The Contractor shall verify and be responsible for all dimensions. DO NOT scale the drawing - any errors or omissions shall be reported to Stantec without delay.

Revision	By	Appd.	YY.MM.DD
Issued	By	Appd.	YY.MM.DD

File Name: 161413678_r-dp | RT Dwn. | CH Chkd. | RT Dsgn. | 18.10.23 YY.MM.DD

Permit-Seal

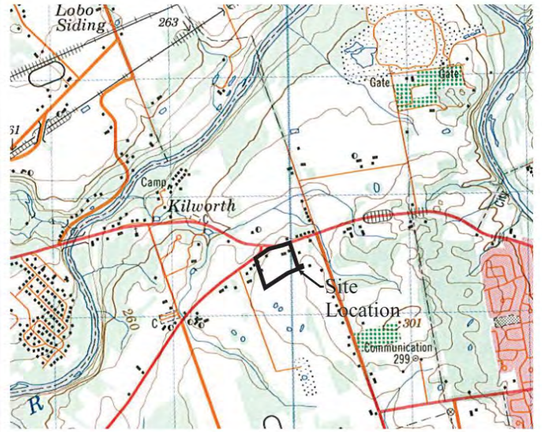
Client/Project
ORANGE ROCK DEVELOPMENTS

14 GIDEON DRIVE & 2012 OXFORD STREET WEST

London, ON Canada

Title
DRAFT PLAN OF SUBDIVISION

Project No. 161413678 | Scale HORZ - 1 : 750 (7.5 0 15m) | Drawing No. 1 | Sheet 1 of 1 | Revision 0



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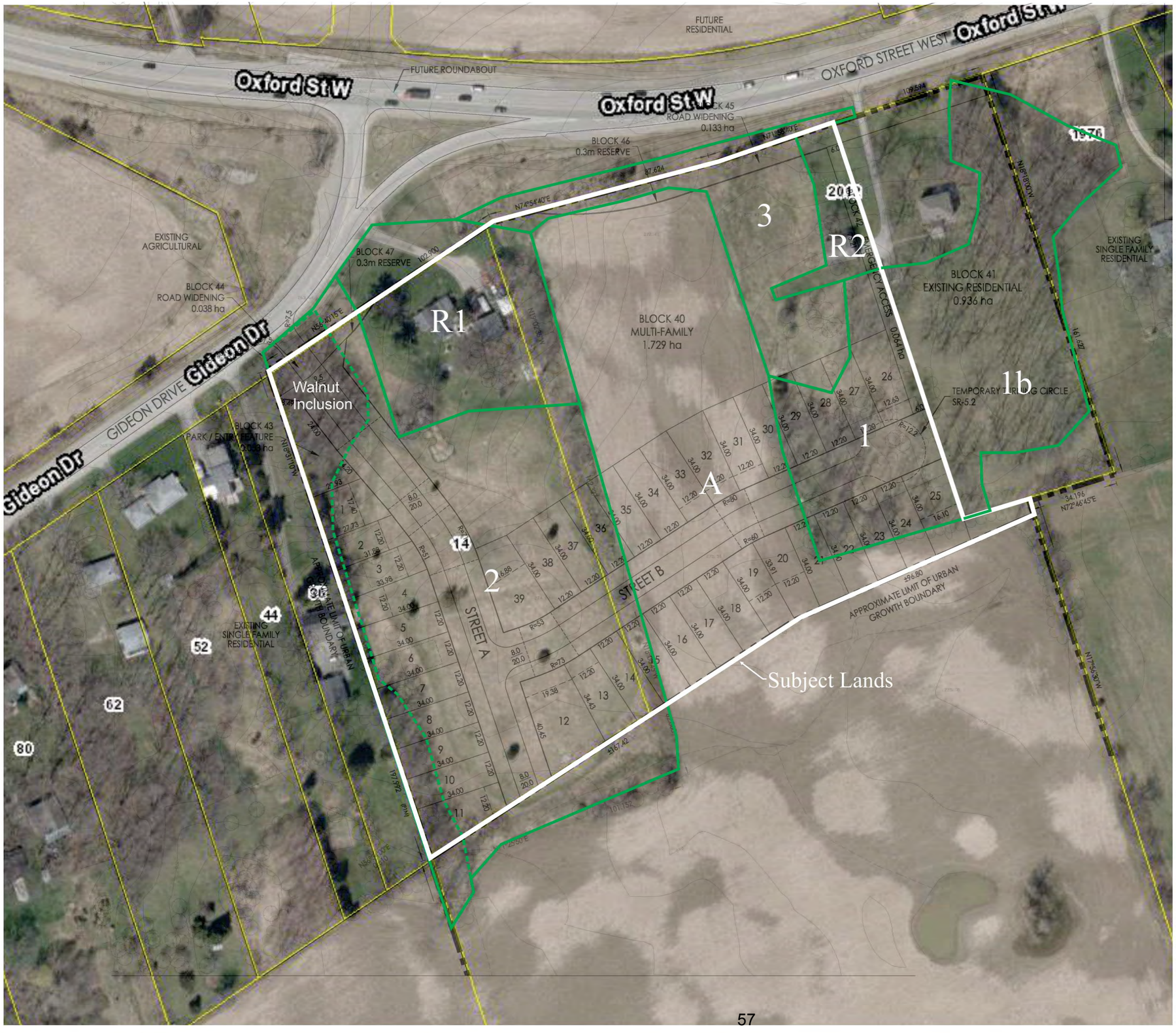
Scale 1:50,000
Key Plan

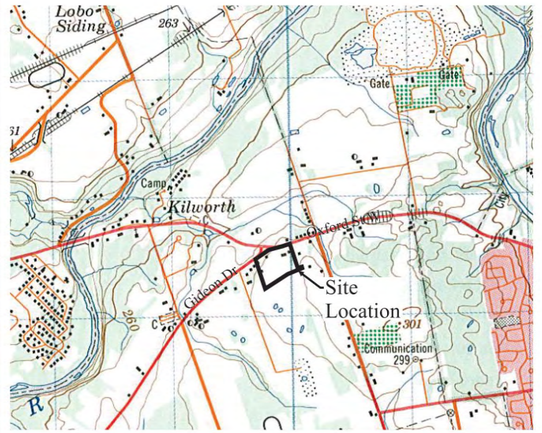
Print on 11X17, Landscape Orientation
0 40
Scale 1:2000
August 2020

MTE

Figure 8: Draft Plan Overlay

(2017 City of London Air Photo)





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Scale 1:50,000

Key Plan

1 CUW1 Mineral Cultural Woodland Ecosite
(Black Walnut dominant)
2 CUS1 Mineral Cultural Savannah Ecosite with Walnut Hedgerow inclusion
3 CUT1 Mineral Cultural Thicket Ecosite

R1 Maintained lawn and residential dwelling
R2 Maintained lawn and garage

A Active Agriculture

Print on 11X17, Landscape Orientation

0 30

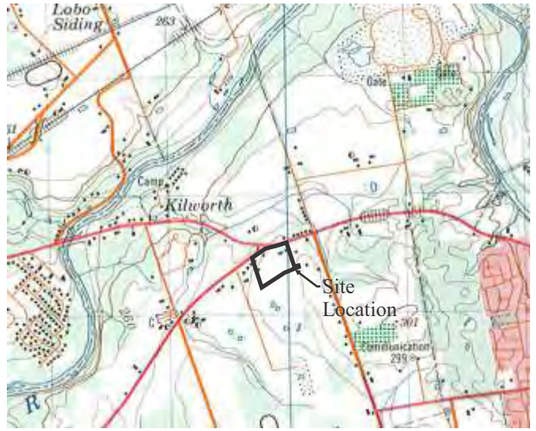
Scale 1:1500

August 2020

MTE

Figure 9: Tree Preservation and Compensation

(2017 City of London Air Photo)



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Scale 1:50,000

Key Plan

1 CUW1 Mineral Cultural Woodland Ecosite
(Black Walnut dominant)
2 CUS1 - Mineral Cultural Savannah Ecosite with Walnut Hedgerow inclusion
3 CUT1 Mineral Cultural Thicket Ecosite

R1 Maintained lawn and residential dwelling
R2 Maintained lawn and garage

A Active Agriculture

- Tree Removal and Preservation Area

- Proposed Tree Compensation Area (1:1)

Print on 11X17, Landscape Orientation

0 160

Scale 1:5000

August 2020

MTE

Appendix A

Proposal Review Meeting Summary

PROPOSAL REVIEW MEETING SUMMARY &
RECORD OF CONSULTATION

Date: October 11, 2018

Subject: Proposal Review Meeting
14 Gideon Drive & 2012 Oxford Street West

Meeting Date: September 12, 2018

Meeting Participants:

R. Carnegie (Coordinator)	Development Services – Planning
L. Pompilii (Chair)	Development Services – Planning
S. Wise	Development Services – Planning
I. Abushehada	Development Services – Engineering
B. Hammond	Development Services – Engineering
P. Di Losa	Development Services – Engineering
G. LaForge	Development Finance
A. Giesen	E.E.S. – Transportation
A. Sones	E.E.S. – Stormwater Management
M. Schaum	E.E.S. – Wastewater & Drainage Engineering
R. Armstrong	E.E.S. – Waterworks Engineering
B. Page	Planning – Parks Planning & Design

Owner/Applicant: Orange Rock Developments, c/o Jonathan Aarts
Authorized Agent: Stantec Consulting Ltd., c/o Nick Dyjach
Type of Application: Proposed Draft Plan of Subdivision
Location: 14 Gideon Drive & 2012 Oxford Street West
File Manager: Lou Pompilii
Planner: Sonia Wise

DEPARTMENT & AGENCY COMMENTS

The following is a summary of the comments as reported by the respective service areas/agencies in response to the proposal. It is noted that these comments do not necessarily reflect the final planning recommendation on the proposal.

DEVELOPMENT PLANNING:

Lou Pompilii *Manager, Development Services Planning*
Sonia Wise *Senior Planner*

- The use, intensity and forms of development proposed are generally in accordance with the permitted scale and uses contemplated by The London Plan
- The proposed density of 35 units per hectare and 'low-rise apartment' form exceed the range of uses and upper limit of intensity contemplated in the 1989 Low Density Residential Designation. An Official Plan Amendment may be required to the 1989 Official Plan depending on the final development details and the timing of the application submission and which plan policies prevail.
- The preservation of the existing heritage resource located at 2012 Oxford Street West is highly encouraged.
- Consider incorporating a north-south block located west of the heritage listed building(s) to serve as a pedestrian connection from Street B to Oxford Street West; which may also be used as a servicing connection for water or stormwater to the proposed subdivision (a dedicated municipal servicing corridor (not easement) would be required for use as servicing corridor).
- Consider variations in lot frontage and built form along Street B to provide a diversity of lot sizes and variety of dwelling types
- Sidewalks are to be provided on both sides of the proposed streets
- The site has been identified as being within a potential Aggregate Resource Area as per Map 6 of The London Plan. The relevant Aggregate Policies should be addressed through the Final Proposal Report.

URBAN DESIGN/PLANNING POLICY:
Britt O'Hagan *Urban Design*

- As part of the FPR, please submit a conceptual site plan for the multi-family block on the north portion of the site.
- Provide pedestrian connectivity from the cul-de-sac and the multifamily block to the north to Oxford Street W to provide safe and convenient access to the commercial node being developed at Westdel Borne and Oxford St W.
- Ensure development along Oxford St W is oriented to the arterial road with front doors and primary building facades.
    - A development form that includes rear or no garages along Oxford Street W is preferred.
    - A window street or side-lotted building form may also be considered.
    - The need for fencing and noise attenuation along Oxford Street W should be limited by providing a built form that mitigates noise impact on rear amenity spaces.
- Limit the width of garages to less than half of the unit/building width, and have them project no closer to the streets than the main building facades and/or porches.

HERITAGE PLANNING:
Kyle Gonyou *Planning - Heritage Planner*

Archaeology
- Please be advised that the subject properties at 14 Gideon Drive and 2012 Oxford Street West are located within an area identified by the Archaeological Management Plan (2017) as having archaeological potential.
- A Stage 1-2 archaeological assessment was completed by Lincoln Environmental Consulting (P344-0207-2018, dated June 2018). Further archaeological work (Stage 3) is required for two archaeological sites: LEC1 (AfHi-400) and LEC2 (AfHi-401). These sites are located outside of the area of the property subject to the proposed draft plan of subdivision. No further work is required for the area within the proposed draft plan of subdivision.
- The h-18 holding provision should be applied to the remainder of the property to ensure that archaeological issues are addressed prior to development or site alteration. Should development or construction plans change to include these areas (such as machine travel, material storage and stockpiling, site alteration), these two locations will require further archaeological work in advance of development or site alteration.

Built Heritage
- The subject property at 2012 Oxford Street West is listed on the City's Register (Inventory of Heritage Resources), adopted pursuant to Section 27 of the Ontario Heritage Act. A Heritage Impact Assessment is required as part of a complete application.
- The proposed draft plan of subdivision appears to include the built heritage resource at 2012 Oxford Street West in Block 44 (Multi-Family). This has the potential to isolate the built heritage resource. Further and careful evaluation and assessment is required to ensure that significant built heritage resources are conserved.
- Additionally, the subject site is adjacent to the heritage listed property at 1976 Oxford Street West. Compatibility with the adjacent heritage listed property must be assessed in the Heritage Impact Assessment.

2012 Oxford Street West
- The property at 2012 Oxford Street West (formerly Commissioners Road West) is often referred to as "Fairview Farm." The two storey buff brick Italianate style home was constructed in circa 1865. The property is believed to have historic associations with the Kilbourne family, who were very early settlers in the former Delaware Township.

1976 Oxford Street West
- The property at 1976 Oxford Street West (formerly Commissioners Road West) has a single storey cottage. Some sources note it as an example of a vernacular stone cottage that has since been painted. The property is believed to have built by R. Flint in about 1845. The property is also believed to have historic associations with the Timothy Kilbourne family.

PARKS PLANNING:
Bruce Page *Planning - Environmental and Parks Planning*

Natural Heritage
- The base mapping on the submitted plan does not accurately reflect the existing vegetation. The base mapping is to be updated for the FPR.
- A number of natural heritage features have been identified on the subject land including a woodlot and a potential wetland. A subject land status report and potential EIS will be

required as part of the FPR. The SLSR and EIS are to be scoped with the City prior to the applicant undertaking the studies.
- A tree preservation report and plan shall be completed for the application. The tree preservation report and plan shall be focused on the preservation of quality specimen trees within lots and blocks. The tree preservation report and plan shall be completed in accordance with current approved City of London guidelines for the preparation of tree preservation reports and tree preservation plans, to the satisfaction of the Manager of Environmental and Parks Planning as part of the design studies submission. Tree preservation shall be established first and grading/servicing design shall be developed to accommodate maximum tree preservation. The report will also identify the locations for tree preservation fencing to protect existing.

Parks Planning and Open Space
- Parkland dedication will be calculated at 5% of the total site area or 1ha per 300 residential units, whichever is greater. Based on ecological findings, staff may accept natural heritage lands at a compensated rated as defined in By-law CP-9. The balance of parkland dedication could be satisfied through cash-in-lieu of parkland
- The FPR should include a section on pedestrian connectivity within and external to the site. Specifically, this section should speak to connections to the residential lands to the east and Oxford Street to the North.

WASTEWATER & DRAINAGE ENGINEERING:
Kevin Graham *Senior Technologist*

- The site is tributary to the Riverbend Pumping Station and is located within the Oxford WTP sanitary sewershed.
- In accordance with GMIS the outlet will be the Trunk Sanitary sewer RBB1 which is currently being designed and constructed as part of the Eagle Ridge Phase 2 Subdivision to the limit of Kains Road.
- Any extension of an external sanitary on Gideon/Oxford to the trunk sanitary sewer RBB1 will need to be appropriately sized to accommodate external areas including lands outside the UGB. The Owner is to include adequate detail on an external sanitary area plan to reflect what is to be serviced to the oversized sanitary sewer.
- The Owner may wish to discuss and co-ordinate with Development Finance regarding any potential oversizing claimability for extension of external sanitary sewers

WATER ENGINEERING:
Ryan Armstrong *Technologist II*

- The City would not support a secondary watermain on Gideon Drive to service this Plan. If a subdivision water service connection is off Gideon Drive the existing 100mm watermain would be required to be replaced with a new adequately sized watermain. Sizing of this replacement watermain would need to avoid any potential adverse impacts on the Woodhull Subdivision, to which this 100mm watermain provides water servicing.
- Provision for temporary water servicing would be required in the event the existing Gideon Drive watermain is taken out of service for any extended period.

- While the Oxford Street West 300mm watermain will ultimately be looped with the development of Eagle Ridge Subdivision Phase 2, the Gideon Drive watermain remains a single feed watermain with no opportunity for looping.
- The proposed Plan of Subdivision with 43 SFR and 83 townhouse (126 total units) would require watermain looping. A looping strategy would need to be developed in order to satisfy this looping requirement, which may include a secondary connection to Oxford St, reconfiguring the road network such that the local road connection (Street 'A') connects directly to Oxford St West (essentially flipping the Plan), strategic valving, etc.
- If a secondary water service connection is proposed the watermain would be required to be in either a municipal road allowance or a dedicated municipal servicing corridor; extension of a watermain through a multi-purpose easement would not be supported.

- The servicing strategy for the multi-family Block is for this Block to be serviced with water internal to the subdivision. At 83 units the Block's internal water servicing would also require a looped connection.

- The subject lands are not well serviced off the low-level distribution system. Ultimately these lands are considered for inclusion in a future extension of the high-level distribution system as set-out in the Wickerson Area Watermain Distribution System study dated November 2010 prepared by Stantec Consulting.

- Consideration needs to be given to how this Plan would ultimately connect into the future high-level system contemplated in the aforementioned study. This might include multiple road connections to future development lands to the south, provision for road extensions at the east and west limits of the Plan, connection to Oxford Street made as close to the east limit of the Plan as possible, the permanent\temporary nature of low-level watermain connections to Gideon Drive and Oxford Street, etc.

- Given the existing topography constraints, the fact that the lands are located within the Urban Growth Boundary, and that there is an adequately sized watermain (300mm on Oxford St W) available for connection, the City could consider individual Block\Unit\Lot water service booster pumps to ensure adequacy of domestic water pressure.
- Hydraulic modeling would need to identify the Lots\Blocks which require individual water booster pumps, the details thereof, and any other applicable considerations. Notifications and warning clauses would be included in the Subdivision Agreement, be registered on title of the applicable Lots\Blocks, and be included in all Agreements of Purchase and Sale.

- Notwithstanding individual domestic booster pumps for the Blocks\Units\Lots, the fire protection for the Plan itself must be available and able to satisfy minimum design requirements without boosting.

- Oversizing watermains to reduce friction loss would not be supported, the watermains shall be sized based on typical design requirements. Preliminary hydraulic modeling and pipe sizing has been included in the aforementioned Wickerson Area Watermain Distribution System study; water quality needs to be maintained (interim & ultimate).

- As this Plan is presently at the limit of the Urban Growth Boundary no watermain stub would be permitted on Street 'A' past Street 'B' (or otherwise to service 'external lands'); watermains would be extended in conjunction with future development proposals.

Complete Application Requirements – Water Servicing

As part of a complete Draft Plan of Subdivision application Water Engineering would require the following:

- A focused design study establishing a watermain looping strategy for the Plan of Subdivision and addressing how the internal watermains would ultimately be able to be incorporated into the future expansion of the high-level distribution system considered in the Wickerson Area Watermain Distribution System study, all to the satisfaction of the City Engineer.

STORMWATER MANAGEMENT:

Paul Titus *Senior Engineering Technologist*
Adrienne Sones *Environmental Services Engineer*

General Comments – Stormwater Management (SWM)

- Section 8.0 – Please make reference in the IPR that the proposed SWM/Storm Drainage strategy for this development will be in compliance with the following documents:
    a. Final Report – Functional Design of the Tributary 'C' Storm Drainage and Stormwater Management Servicing Works Downstream Thames River Subwatershed – Dated August 2015 by Matrix Solutions Inc.; and
    b. Municipal Class Environmental Study Report – Schedule 'C' – Storm/Drainage & Stormwater Management, Transportation & Sanitary Trunk Servicing Works for Tributary 'C', Downstream Thames Subwatershed – Dated December 2013 by AECOM
- Section 8.1 - Please provide a statement in this section stating that the proposed SWM/Storm Drainage Report for this development will include the analysis/modeling of the existing southerly ditch on Oxford Street West to confirm the 100 and 250 year major overland flow conveyance to the Thames River. Any required ditch conveyance improvements will be identified in the report and reflected in the detailed subdivision servicing drawings.
- Section 8.2 – Just to confirm the minor storm outlet requirements in this section; the developer shall be required to connect the local storm sewer system from this development northerly across Oxford Street West and connect into the future storm maintenance hole ST1/future 750 mm diameter storm sewer located on Kains Road within the proposed Eagle Ridge Phase 2 subdivision.
- Low Impact Development solutions (LIDs) are expected to be required under the new MECP guidelines to be released in 2018. Please include a statement that addresses the implementation of LIDs for this development.
- The applicant shall also provide the following as part of the complete submission package in support of the proposed SWM/Storm Drainage design:
    a. Hydrogeological Report including water balance analysis;

b. Geotechnical Report including detailed soil characteristics and ground water levels to support any proposed Low Impact Development (LID) solutions.

TRANSPORTATION PLANNING & DESIGN:
Andrew Giesen *Senior Transportation Technologist*

Note: The IPR noted a TIA was completed for this development, however this was not provided in the report, as part of the complete application this report should be provided for staff to review

- Road widening dedication of 24.0m from centre line required on Oxford Street West and Gideon Drive
- Provide a road layout and concept plan showing all bends tapers and centre line radii comply with City standards, ensure all through streets align opposite each other if minimum City standards are not met changes to the draft plan will be required
- As part of a complete application demonstrate how street "A" will function with a future roundabout at Oxford Street West and Gideon Drive
- Gateway widening required on Street "A" 21.5m ROW width for 30m tapered back over 30m to standard ROW width of 20.0m
- Provide a 1ft reserve along Oxford Street West and Gideon Drive
- 6.0mx6.0m daylight triangles will be required on Street "A" at Gideon Drive
- Left and right turn lanes will be required on Gideon Drive at Street "A"
- Temporary street lighting will be required at the intersection of Gideon Drive and Street "A"
- Barrier curb will be required throughout the subdivision
- Council recently approved the Complete Streets Design Manual found at the below web link, the complete streets design manual contains information and design guidance for the construction of a complete street. https://www.london.ca/residents/Roads-Transportation/Transportation-Planning/Pages/Complete-Streets-.aspx

DEVELOPMENT FINANCE
Greg LaForge *Manager I, Development Finance*

General
- Servicing of this development is dependent on completion of infrastructure projects that are subject to the timing of an adjacent subdivision and the GMIS. As part of the complete application, the owner shall provide a strategy and schedule that identifies the timing of the subdivision servicing. The strategy should clearly identify the expected timing of projects required to service these lands. If temporary works are required, these would be an Owner cost as per the Development Charges By-law. Any connections to external infrastructure would be an Owner cost and only eligible for an oversizing subsidy as per the Development Charges By-law.
- It is noted that current DC policies are under review as part of the 2019 Development Charges Background Study and are subject to review and Council approval.

Water
- If required, external watermains 300mm diameter or greater would be eligible for oversizing subsidy from the CSRF. All local watermains (250mm & less) and connections will be installed at the Owner's cost.

SWM
- There are no anticipated claims from the CSRF for stormwater management related infrastructure. The Initial Proposal Report indicates the development will be serviced through the existing Riverbend SWMF Trib. C SWMF A.
- If LID's are required, these works are currently considered an Owner cost. As part of the 2019 Development Charges Study, the City is reviewing the eligibility of LID's as a DC recoverable item.

Storm
- There are no anticipated claims from the CSRF for subsidy on oversized storm sewers (sewers exceeding 1050mm). All local sewers and connections will be installed at the Owner's cost.

DEVELOPMENT ENGINEERING:

Ismail Abushehada *Manager, Development Engineering*
Blair Hammond *Senior Engineering Technologist*
Paul Di Losa *Technologist II*

STANDARD COMMENTS:

- All the usual standard conditions of draft plan will be imposed;
- Cost sharing for any eligible services or facilities will be based on the most financially economical solution for the claim, unless agreed to otherwise by the City; and
- External land needs are to be addressed as necessary (e.g. utility corridors, public roads, construction roads, emergency access etc.).

INITIAL PROPOSAL REPORT COMMENTS:

The following are comments on the Internal Proposal Report:

- Noting Block 3 is isolated from the rest of the draft plan due to the adjacent hydro corridor. In the event that Block 3 is not developed as a SWMF and approval is received to develop the block as a high density residential area, a concept is to be provided identifying how it will interact/tie-in with the adjacent road network, hydro corridor, pathway system and subdivision;
- The Hydro Corridor is owned by Hydro One Networks Inc., as such any work that is proposed within the corridor will require their permission. An easement is required over any proposed servicing that is to be constructed within the corridor. Lastly, the corridor appears to be included within the proposed subdivision's subject lands on the draft plan that was provided. Please revise the drawing to properly delineate the corridor as external to the draft plan;

9.0 Transportation

- Internal center medians are no longer permitted (i.e. gateway treatments) on municipal ROW's unless they are aligning with existing medians;
- FYI, minor external roadwork projects will be designed by the applicant but tendered by the City (only the associated engineering is claimable);

DRAFT PLAN OF SUBDIVISION DRAWING COMMENTS:

The draft plan of subdivision drawing is to comply with all City standards with regard to the above comments and the following:

Draft plan of subdivision is to include various existing features:

- Topographical information (e.g. contours, elevations, vegetation areas, water courses, wells, utility corridors, and flood plain limits)
- Legal info of this plan and adjoined lands (e.g. easements, lot and plan numbers, addresses, and adjacent streets)
- Proposed road curvature and radii to comply with City standards
- Tapers / transitions
- Road widening's
- Dimension all right of way's including window streets
- Daylighting triangles where applicable
- 0.3m reserves and road dedications as necessary
- Lot Frontages
- Block Areas
- Drawing to scale
- North arrow, etc.

Complete Application Requirements

- The Final Proposal Report addressing all Development Services comments with respect to the IPR
- Revised proposed Draft Plan of Subdivision drawing as per Development Services comments.
- Provide a Geotechnical

EXTERNAL COMMENTING AGENCIES

Ministry of Natural Resources and Forestry (MNRF)

Karina Černiavskaja *District Planner – Aylmer District*

(No comments Rec'd)

UNION GAS LTD.

Justin Cook *Senior Pipeline Engineer*

(No comments Rec'd)

LONDON TRANSIT COMMISSION (L.T.C.)

Daniel Hall *Transportation Planning Technician*

(No comments Rec'd)

THAMES VALLEY DISTRICT SCHOOL BOARD

Danielle Kettle *Planning Analyst*

(No comments Rec'd)

LONDON DISTRICT CATHOLIC SCHOOL BOARD

Rebecca McLean *Planning Specialist*

(No comments Rec'd)

LONDON-MIDDLESEX HEALTH UNIT

Bernadette McCall *Public Health Nurse*

(No comments Rec'd)

UPPER THAMES RIVER CONSERVATION AUTHORITY (U.T.R.C.A.)

Christine Creighton *Land Use Planner*

(Comments rec'd via email & attached)

The Upper Thames River Conservation Authority (UTRCA) has reviewed the initial proposal report (IPR) with regard for the policies in the *Environmental Planning Policy Manual for the Upper Thames River Conservation Authority (June 2006).* These policies include regulations made pursuant to Section 28 of the *Conservation Authorities Act,* and are consistent with the natural hazard and natural heritage policies contained in the *Provincial Policy Statement (2014).* The *Upper Thames River Source Protection Area Assessment Report* has also been reviewed in order to confirm whether the subject lands are located in a vulnerable area. The Drinking Water Source Protection information is being disclosed to the Municipality to assist them in fulfilling their decision making responsibilities under the Planning Act.

CONSERVATION AUTHORITIES ACT

While the subject lands are regulated by the UTRCA in accordance with Ontario Regulation 157/06, made pursuant to Section 28 of the *Conservation Authorities Act,* the proposed development lands are not regulated.

The regulation limit which impacts the balance of the lands is comprised of wetland features and the surrounding areas of interference. The UTRCA has jurisdiction over lands within the regulated area and requires that landowners obtain written approval from the Authority prior to undertaking any site alteration or development within this area including filling, grading, construction, alteration to a watercourse and/or interference with a wetland.

UTRCA ENVIRONMENTAL PLANNING POLICY MANUAL

The UTRCA's Environmental Planning Policy Manual is available online at:

http://thamesriver.on.ca/planning-permits-maps/utrca-environmental-policy-manual/

Policies which are applicable to the subject lands include:

3.2.2 General Natural Hazard Policies

These policies direct new development and site alteration away from hazard lands. No new hazards are to be created and existing hazards should not be aggravated. The Authority also does not support the fragmentation of hazard lands through lot creation which is consistent with the Provincial Policy (PPS).

3.2.6 & 3.3.2 Wetland Policies

New development and site alteration is not permitted in wetlands. Furthermore, new development and site alteration may only be permitted in the area of interference and /or adjacent lands of a wetland if it can be demonstrated through the preparation of an Environmental Impact Study that there will be no negative impact on the hydrological and ecological function of the feature.

DRINKING WATER SOURCE PROTECTION

Clean Water Act

The *Clean Water Act* (CWA), 2006 is intended to protect existing and future sources of drinking water. The Act is part of the Ontario government's commitment to implement the recommendations of the Walkerton Inquiry as well as protecting and enhancing human health and the environment. The CWA sets out a framework for source protection planning on a watershed basis with Source Protection Areas established based on the watershed boundaries of Ontario's 36 Conservation Authorities. The Upper Thames River, Lower Thames Valley and St. Clair Region Conservation Authorities have entered into a partnership for The Thames-Sydenham Source Protection Region.

The Assessment Report for the Upper Thames watershed delineates three types of vulnerable areas: Wellhead Protection Areas, Highly Vulnerable Aquifers and Significant Groundwater Recharge Areas. We wish to advise that the subject lands are identified as being within a vulnerable area. Mapping which shows these areas is available at:

http://maps.thamesriver.on.ca/GVH_252/?viewer=tsrassessmentreport

Provincial Policy Statement (PPS, 2014)

Section 2.2.1 requires that *"Planning authorities shall protect, improve or restore the quality and quantity of water by: e) implementing necessary restrictions on development and site alteration to:*

1. *protect all municipal drinking water supplies and designated vulnerable areas; and*
2. *protect, improve or restore vulnerable surface and ground water features, and their hydrological functions.*"

Section 2.2.2 requires that "*Development and site alteration shall be restricted in or near sensitive surface water features and sensitive ground water features such that these features and their related hydrologic functions will be protected, improved or restored*."

Municipalities must be consistent with the Provincial Policy Statement when making decisions on land use planning and development. Policies in the *Approved Source Protection Plan* may prohibit or restrict activities identified as posing a *significant threat* to drinking water. Municipalities may also have or be developing policies that apply to vulnerable areas when reviewing development applications. Proponents considering land use changes, site alteration or construction in these areas need to be aware of this possibility. The *Approved Source Protection Plan is available at:*

http://www.sourcewaterprotection.on.ca/source-protection-plan/approved-source-protection-plan/

Comments on the IPR

P.4 The London Plan and P. 11 Analysis of the London Plan Policies – consideration should also be given to Map 5 Natural Heritage and the related policies which identify an unevaluated vegetation patch on the development site. We understand that the City will be requesting an environmental study to evaluate this feature. The UTRCA requests an opportunity to review the study in order to confirm whether there are any wetland features located within the patch that could be subject to our regulation and Section 28 permit process.

RECOMMENDATION

As indicated, in accordance with Ontario Regulation 157/06, made pursuant to Section 28 of the *Conservation Authorities Act,* the proposed development lands are not regulated. However, the UTRCA requests an opportunity to review the environmental study/SLSR that we understand the City will be requesting as part of a complete application in order to confirm whether there are any wetland features located within the unevaluated vegetation patch which could be subject to our regulation.

REQUIREMENTS TO PROCEED WITH CURRENT APPLICATION

New City of London Complete Application Requirements for Planning Act Applications

All new applications submitted on or after January 22, 2018 will be required to meet the new requirements for the relevant application type. These applications must be submitted using the updated application forms dated January 2018 which will appear on the City's website in early January.

The new requirements are in addition to any technical submission requirements you are currently required to meet, and are as follows:

Draft Plan of Subdivision
A simplified draft plan of subdivision is required for the production of the on-site sign.
The graphic must be sized to the dimensions of 46”(W) x 46(H), provided in PDF and JPEG format at a DPI of 300.

The subdivision must be centred and scaled within the 46” bounding box to allow for maximum readability. The area outside of the draft plan of subdivision must be populated with Ontario Base Map data to provide context for the surrounding land. This additional contextual information should be displayed at a lighter transparency and contain information such as, but not limited to: streets, parcel fabric, building outlines, and watercourses. The images should be full bleed with no borders. The image must not be distorted or skewed in any way and is subject to cropping.

The simplified image of the proposed subdivision must include the following elements:
- Outline the extent of the subdivision boundary
- Road, lot, and block fabric and descriptions
- Proposed street name labels
- Proposed block numbers & area calculations
- Colour application to all lots and blocks per The London Plan colours (see Map I for relevant place types and colour standards)
- Light grey colour application to all street and walkway blocks
- Basic map elements: (north arrow, scale, etc.)

Official Plan and/or Zoning By-Law Amendment (applicable only where Renderings are required as part of a complete application)
Proposed Development best represented using a landscape image format Graphic renderings are required which represent the conceptual design of the proposal for the production of the on-site sign.

A minimum of 2 renderings must be provided, oriented in landscape format and sized to the dimensions of 48”(W) x 26”(H), provided in PDF and JPEG format at a DPI of 300.

These renderings should be an accurate visual representation of the proposal and highlight features of the conceptual design. The images should be full bleed with no borders. The image must not be distorted or skewed in any way and is subject to cropping.

OR

Proposed Development best represented using a portrait image format
Graphic renderings are required which represent the conceptual design of the proposal for the production of the on-site sign.

A minimum of 2 renderings must be provided, oriented in portrait format and sized to the dimensions of 14”(W) x 26”(H), provided in PDF and JPEG format at a DPI of 300.
AND

A minimum of 3 renderings must be provided, oriented in landscape format and sized to the dimensions of 34”(W) x I 3”(H), provided in PDF and JPEG format at a DPI of 300.
The landscape images are typically, but not always, of the pedestrian level of a tall building.

These renderings should be an accurate visual representation of the proposal and highlight features of the conceptual design. The images should be full bleed with no borders. The image must not be distorted or skewed in any way and is subject to cropping.

The following documentation is required for a complete application submission:
NOTE:

- **Draft Plan of Subdivision Application:**
  - 1 copy of the City of London Subdivision Application Form.
  - 24 rolled copies of the Draft Plan, completed as required under Section 51(17) of the Planning Act (the Draft Plan must include the Approval Authority signature block)
  - A digital file of the Draft Plan tied to the City’s geographic horizontal control network (NAD 1983 UTM Zone 17N) must be submitted as well (refer to the City’s Plans Submission Standards available on-line).
  - 1 legal sized copy of the Draft Plan.
  - Associated application fees

Draft plan of Subdivision is to include various features listed on the Draft Plan of Subdivision Application Form

- **Official Plan Amendment Application**
  - 2 copies of completed City of London Zoning By-law Amendment application form and supporting documentation
  - Hard copy and digital file of proposed zoning map
  - Associated application fees

- **Zoning By-law Amendment Application:**
  - 2 copies of completed City of London Zoning By-law Amendment application form and supporting documentation
  - Hard copy and digital file of proposed zoning map
  - Associated application fees

- **Final Proposal Report (FPR) & Reports/Studies Required:**
  - Update the Initial Proposal Report to reflect the comments that have been identified in this Record of Consultation, in accordance with the requirements prescribed in the File Manager Reference Manual.
  - FPR is to include updated water, sanitary, stormwater, transportation and development finance components, parks and open space, and addressing all comments identified in the Record of Consultation (*Note: applicant/consultant should undertake off-line discussions with contacts prior to completing the FPR, to ensure all servicing requirements are suitably addressed*)
  - Final Proposal Report which fully addresses the polices of the Official Plan, the Southwest Area Secondary Plan, and the London Plan (and specifically addresses the intensification policies mentioned above)
  - Provide a road layout and concept plan showing all bends tapers and centre line radii comply with City standards, ensure all through streets align opposite each other if minimum City standards are not met changes to the draft plan will be required.
  - A Heritage Impact Assessment
  - Scoped Subject Land Status Report and Environmental Impact Study
  - Tree Preservation Report
  - Water Servicing Strategy (Watermain looping and internal watermains)
  - Hydrogeological Report including water balance analysis
  - Geotechnical Report
  - Transportation Impact Assessment
  - Demonstrate how Street A will function with future round about (Oxford Street West and Gideon Drive)

Rob Carnegie

Prepared By:
Rob Carnegie *Proposal Review Meeting Coordinator, Development Planning*
(519) 661-CITY (2489) ext. 2787 RCarnegie@london.ca

Reviewed By:
Sonia Wise *Senior Planner, Development Planning*
(519) 661- CITY (2489) ext. 4579 SWise@london.ca

Approved By:
Lou Pompilii *Manager, Development Planning*
(519) 661- CITY (2489) ext. 5488 LPompilii@london.ca

UPPER THAMES RIVER
CONSERVATION AUTHORITY

"Inspiring a Healthy Environment"

The Thames
A Canadian
Heritage River

September 12, 2018

City of London - Development Services
P.O. Box 5035
London, Ontario N6A 4L9

Attention: Rob Carnegie (sent via e-mail)

Dear Mr. Carnegie:

Re: UTRCA Comments on IPR – September 12, 2018 Proposal Review Meeting
Owner/Applicant: Orange Rock Developments – Jonathon Aarts
Agent: Stantec Consulting Ltd.
14 Gideon Drive & 2012 Oxford Street West, London, Ontario

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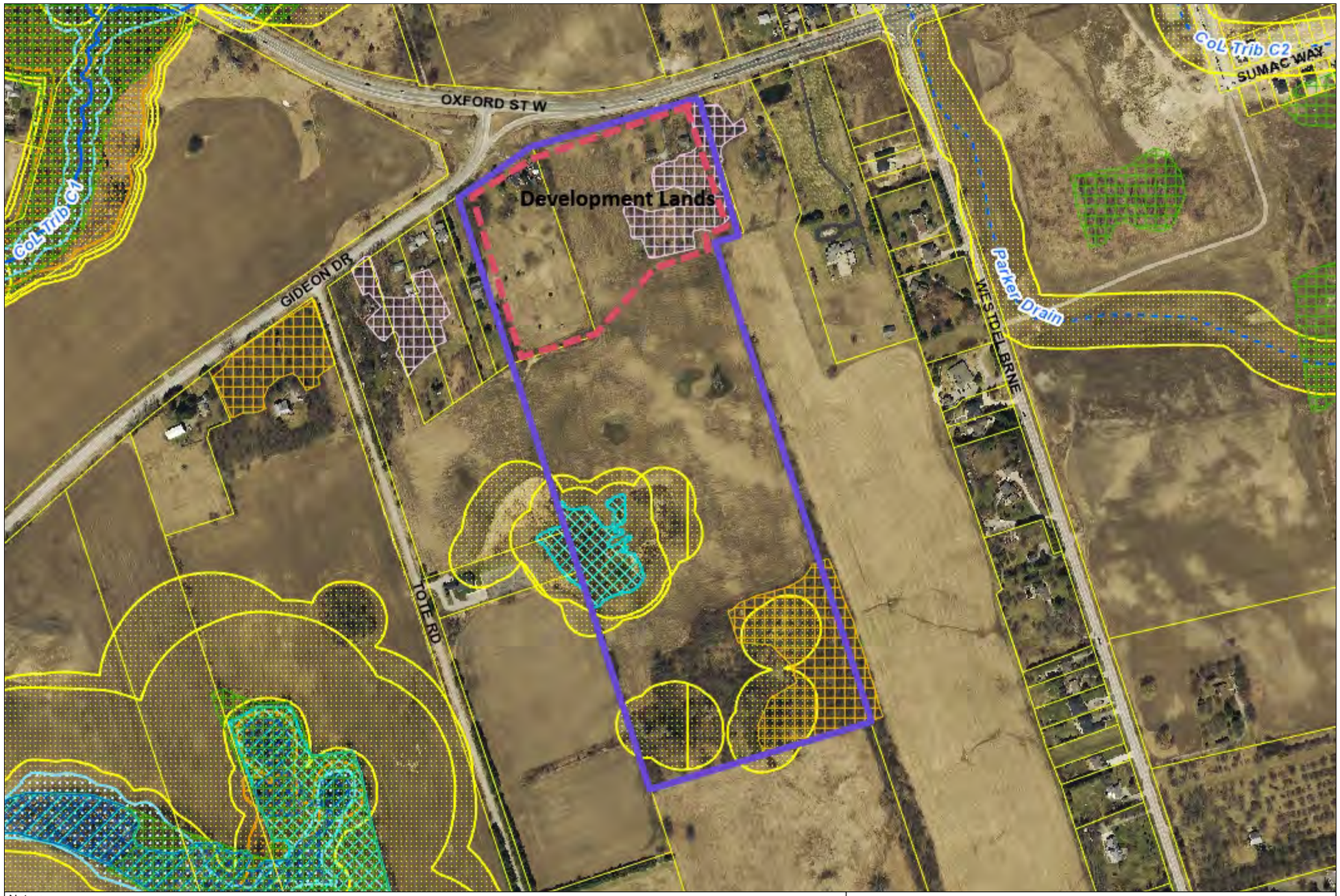
Thank you for the opportunity to comment. Please contact the undersigned at extension 293 if there are any questions.

Yours truly,
UPPER THAMES RIVER CONSERVATION AUTHORITY

Christine Creighton
Land Use Planner
CC/cc

Enclosure – Regulation Mapping (please print on legal size paper to ensure that the scales are accurate)

c.c. UTRCA - Mark Snowsell & Brent Verscheure, Land Use Regulations Officers



Regulation Limit

Regulation under s.28 of the *Conservation Authorities Act*

Development, interference with wetlands, and alterations to shorelines and watercourses. O.Reg 157/06, 97/04.

Legend

- Assessment Parcel (MPAC)
- Watercourse
  - Open
  - Tiled
- Middlesex NHSS Woodland (2014)
  - Candidate for Ecologicallly Important
  - Ecologicallly Important
  - Significant Ecologicallly Important
- Wetlands (MNR)
  - Evaluated-Provincial
  - Evaluated-Other
  - Not Evaluated
- Wetland Hazard
- Flooding Hazard
- Erosion Hazard
- Regulation Limit 2015
- Regulation Limit (2006, Historic)

The Regulation Limit depicted on this map schedule is a representation of O.Reg 157/06 under O.Reg 97/04.

The Regulation Limit is a conservative estimation of the hazard lands within the UTRCA watershed. In the case of discrepancies between the mapping and the actual features on a property, the text of Ontario Regulation 157/06 prevails and the jurisdiction of the UTRCA may extend beyond areas shown on the maps.

The UTRCA disclaims explicitly any warranty, representation or guarantee as to the content, sequence, accuracy, timeliness, fitness for a particular purpose, merchantability or completeness of any of the data depicted and provided herein.

The UTRCA assumes no liability for any errors, omissions or inaccuracies in the information provided herein and further assumes no liability for any decisions made or actions taken or not taken by any person in reliance upon the information and data furnished hereunder.

This map is not a substitute for professional advice. Please contact UTRCA staff for any changes, updates and amendments to the information provided.

This document is not a Plan of Survey.

UPPER THAMES RIVER CONSERVATION AUTHORITY

Notes:
14 Gideon Drive & 2012 Oxford Street West, London

Created By: CC September 11, 2018

* Please note: Any reference to scale on this map is only appropriate when it is printed landscape on legal-sized (8.5" x 14") paper.

0 107 215 430
metres
1:5,367

N

Appendix B

Email Correspondence

Laura McLennan

From: Dave Hayman
Sent: Tuesday, May 28, 2019 11:43 AM
To: Laura McLennan
Subject: FW: 14 Gideon & 2012 Oxford

Email chain below. Bruce said Scoped EIS, james wants SLSR.

Dave Hayman M. Sc.
BioLogic Incorporated
110 Riverside Drive, Suite 201
London ON N6H 4S5
Direct: 519 657 0299
Office: 519 434 1516 x 106
Fax: 519 434 0575

Windsor: 519 966 1645

From: MacKay, James [mailto:jmackay@london.ca]
Sent: Wednesday, December 05, 2018 10:26 AM
To: Dave Hayman <dhayman@biologic.ca>; Page, Bruce <BPAGE@London.ca>; 'Jonathan Aarts' <jonaarts@j-aar.com>; Hendriksen, Chris <Chris.Hendriksen@stantec.com>
Cc: Pompilii, Lou <LPompili@London.ca>
Subject: RE: 14 Gideon & 2012 Oxford

Hi Dave, based on your availability we will have to set up a scoping meeting in January after the holidays. Please note that the feature is shown as an unevaluated vegetation patch on Map 5 of the London Plan and no site specific appeal was made for this site as far as I am aware. In addition, while not on the current Schedule B1, the entire patch is greater than 0.5 ha and therefore an evaluation of significance is required as per OP policy 15.4.14/ 15.4.13 / 15.4.5 / 15.4.5.1 to determine if it is a Significant Woodland. There is also the possibility of Endangered Species on the sites in the (woodland and field habitat that I have noted on the air photos and will require further study. Also, I note on Schedule B1 that the site is within a Ground Water Recharge area and will need to include the UTRCA in the scoping meeting. Let's find a date in January that will work for all of us to scope out SLSR requirements to determine if any Significant Natural Heritage features are present that need to be delineated for an EIS.

At your earliest convenience let me know some dates that will work for you in January.

Regards,

James MacKay, M.Sc.
Ecologist
ISA Certified Arborist
City of London, Planning Services
Environmental and Parks Planning
T: (519) 661-CITY (2489) ext. 4865 | F: (519) 963-1483 | E: jmackay@london.ca

---

From: Dave Hayman [mailto:dhayman@biologic.ca]
Sent: Wednesday, December 5, 2018 9:25 AM
To: Page, Bruce <BPAGE@London.ca>; 'Jonathan Aarts' <jonaarts@j-aar.com>; Hendriksen, Chris <Chris.Hendriksen@stantec.com>
Cc: MacKay, James <jmackay@london.ca>; Pompilii, Lou <LPompili@London.ca>
Subject: RE: 14 Gideon & 2012 Oxford

Thanks for the clarification Bruce. I was confused when a woodland and wetland were mentioned as they are not on the subject lands. The woodland discussed is also not on the current OP schedules following the area plan studies for region. A residential designation was placed on the property and there are no Natural Heritage features shown on Map B1.

The woodland in question is actually residential trees with mowed lawn below.

We were anticipating the only issue for this site would be ESA clearance (a process we have started with MNRF) and tree preservation report (the east half of the woodland is not part of this application.

If you feel it is still necessary to meet, I am available on the 7th this week and the 11th am or anytime on the 12-14th.

Dave Hayman, MSc.
BioLogic Incorporated
110 Riverside Drive, Suite 201
London, ON N6H 4S5

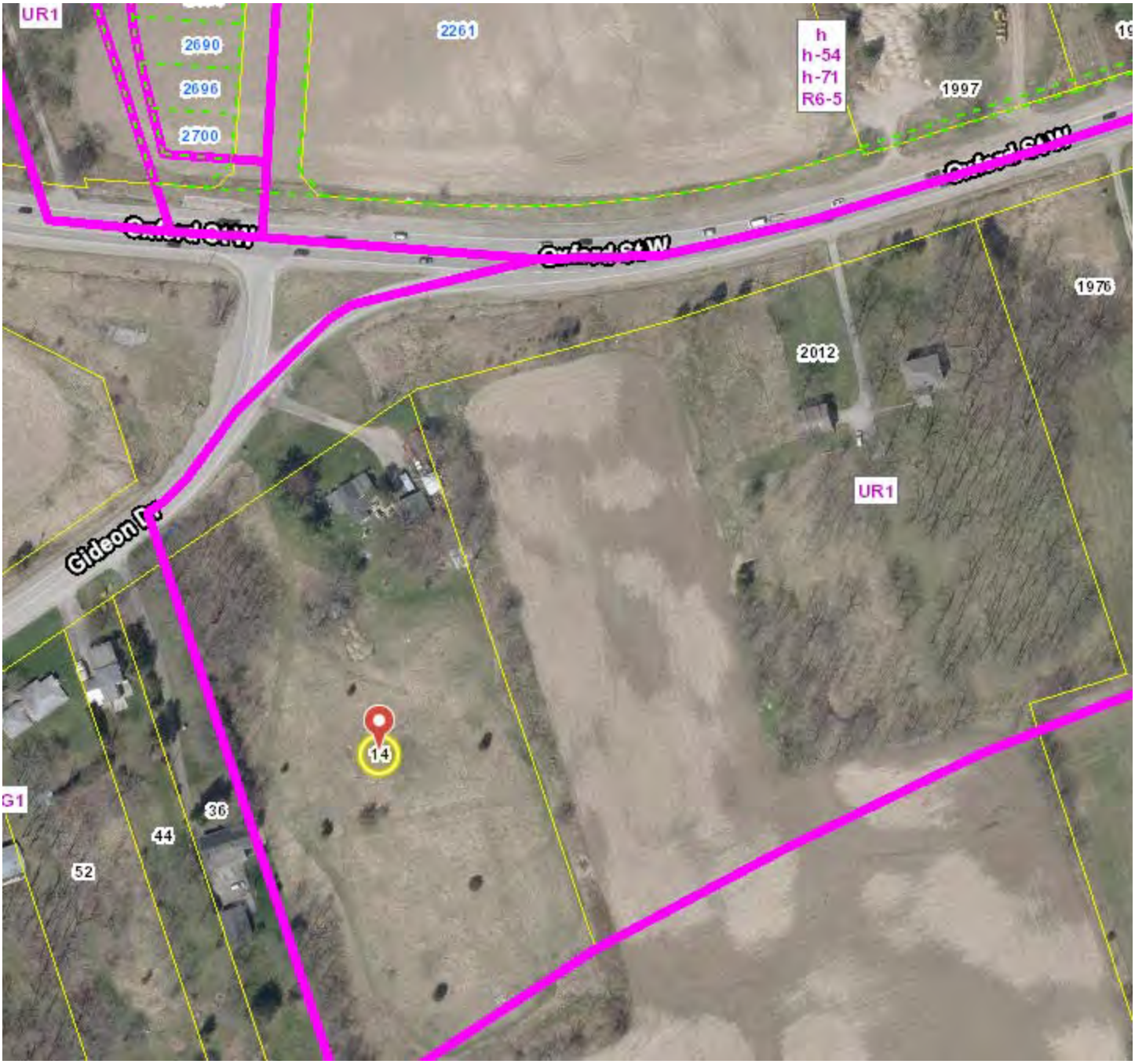
Direct: 519 657 0299
Office: 519 434 1516 x 106
Fax: 519 434 0575

Windsor: 519 966 1645

From: Page, Bruce [mailto:BPAGE@London.ca]
Sent: December-05-18 9:05 AM
To: 'Jonathan Aarts' <jonaarts@j-aar.com>; Hendriksen, Chris <Chris.Hendriksen@stantec.com>; Dave Hayman <dhayman@biologic.ca>
Cc: MacKay, James <jmackay@london.ca>; Pompilii, Lou <LPompili@London.ca>
Subject: RE: 14 Gideon & 2012 Oxford

Good morning,

The scoped EIS is not for lands outside of the development application but for lands within. As can be seen by the attached air photo there are a number of trees on the east side of the site and a small pocket on the west. Please advise when you would like to meet to scope out the required studies.



Thanks

Bruce Page
Senior Planner, Parks and Open Space Design
267 Dundas Street, 3rd Floor, London, ON, N6A 1H2
P: 519.661.2489 x 5355 | | Fax: 519. 963.1483
bpage@london.ca | www.london.ca

From: Jonathan Aarts [mailto:jonaarts@j-aar.com]
Sent: Tuesday, December 04, 2018 2:14 PM
To: Hendriksen, Chris <Chris.Hendriksen@stantec.com>; Page, Bruce <BPAGE@London.ca>; Dave Hayman <dhayman@biologic.ca>
Subject: 14 Gideon & 2012 Oxford

Bruce.

Please see attached. The area in red is the area for application. We recognize that there are some woods and low lying areas to the south of the proposed development. Why do we need a scoped EIS or SLSR for areas outside of the development area?

Jonathan Aarts
Partner & Director
J-AAR Excavating Ltd.
O:519.652.2104 x408

Appendix B1

EIS Issues Summary Checklist Report

APPENDIX A

Environmental Impact Study
ISSUES SUMMARY CHECKLIST REPORT

Application Title: 14 Gideon and 2012 Oxford Street

Date Submitted: June 2, 2020

Proponent: 1926767 Ontario Ltd

Qualifications

Primary Consultant: Stantec

Key Contact Person: Chris Hendriksen

Other Consultants/ field personnel:

Hydrogeology/ Hydrology:

Biological – Flora: MTE Consultants

Biological – Fauna: MTE Consultants

Other:

Context for Background Information

Subwatershed: Downstream Thames

Tributary Fact Sheet Number:

Planning / Policy Area: Riverbend

Technical Advisory Review Team

- ☑ Ecologist Planner — James MacKay
- ☑ Planner for File — New planner to be assigned
- ☑ EEPAC — Sandy Levin
- ☑ Conservation Authority — UTRCA
- ☑ Ministry of Natural Resources — & MECP - N/A
- ☐ Ministry of Municipal Affairs and
- ☐ Ministry of Agriculture and

☐ **Other Review Groups (e.g., Community Associations, Field**

1.0 DESCRIPTON OF THE ENVIRONMENT (Features)

Purpose: To have a clear understanding of the current status of the land, and the proposed "development" or land use change.

1.1 Mapping (Location and Context)

Current aerial photography

☑ Land Use – Excerpts of the Official Plan for the City of London Ontario Schedules A, B, showing a 5-10 km radius of subject site
☑ Terrain setting @ 1:10,000 – 1:15,000 scale showing landscape features, subwatershed divides
☑ Existing Environmental Resources showing @1:2,000 – 1:5,000 showing Vegetation, Hydrology, contours, linages.
☑ Environmental Plan or Strategy from Subwatershed reports (tributary fact sheet), Community (Area) Plans, or other

1.2 Description of Site, Adjacent lands, Linage with Natural Heritage System

List all supporting studies and reports available to provide background summary (e.g. subwatershed, hydrological, geo-technical, natural heritage etc.).

- Riverbend Community Plan (2001), EIS reference if available. + Tributary 'C' studies if apr

Check the first box if the information is relevant and required as part of this study. Check the second box if sufficient data is available.

1.2.1 Terrain Setting

☑	☑	Soils (surface and subsurface)
☑	☑	Glacial geomorphology – landform type
☑	☑	Subwatershed

☑	☑	Topographic features
☑	☑	Ground water discharge
☑	☑	Shallow ground water/baseflow
☑	☑	Ground water discharge/aquifer
☐	☐	Aggregate resources

1.2.2 **Hydrology**

☑	☑	Hydrological catchment boundary
☑	☑	Surface drainage pattern
☑	☑	Watercourses (Permanent, Intermittent)
☑	☑	Stream order (Headwater, 1st, 2nd, 3rd or higher)
☑	☑	Agricultural Drains
☑	☑	Downstream receiving watercourse
☑	☑	Hazard Line (Map 6)

1.2.3 **Natural Hazards**

☑	☑	100 year Erosion Line
☑	☑	Floodline mapping
☑	☑	Max line mapping CTRCA mapping + text based regulated areas

1.2.4 **Vegetation**

☑	☑	Vegetation Patch Number
☑	☑	System (Terrestrial, Wetland, Aquatic)
☑	☑	Cover (Open, Shrub, Treed)
☑	☑	Community Type(s)
☑	☑	ELC Community Class (Bluff, Forest, Swamp, Tallgrass Prairie, Savannah & Woodland, Fen, Bog, Marsh, Open Water, Shallow Water)
☑	☑	ELC Community Series
☑	☑	Rare Vegetation Communities

1.2.5 **Flora**

☑ ☑ Flora (inventory dates, source)

3 completed April 17, May 29, June 5, June 20, Aug 21, Sept 21 2018

☑ ☑ Rare flora (National, Provincial, Regional)

NHIC database. MNRF/MECP, Oldham 2017

1.2.6 **Fauna**

☑ ☑ Fauna (Inventory dates; sources)

Bat habitat assessment

☑ ☑ Breeding Birds

June 5 and June 20, 2018 & MNRF/MECP protocols if required.

☑ ☑ Migratory Birds | May 9, 2018

☑ ☑ Amphibians | April 21, 2018 no wake - Present at next site visit - vernal pool.

☑ ☑ Reptiles

Incidental

☑ ☑ Mammals | other incidental

☑ ☑ Butterflies | incidental

☑ ☑ Odonata | incidental

☐ ☐ Other

☑ ☑ ~~Bird Species of Conservation Priority~~ PIF birds

☑ ☑ Rare Fauna

as above

1.2.7 **Wildlife Habitat**

- [x] [ ] Species-At-Risk Regulated Habitat critical habitat mapping
- [ ] [ ] Winter habitat for deer, wild turkey
- [ ] [ ] Waterfowl Habitat (wetlands, poorly drained landscape – bottomlands, beaver ponds, seasonally flooded areas, staging areas, feeding areas)
- [ ] [ ] Colonial Birds Habitat
- [x] [ ] Hibernacula
- [x] [ ] Habitat for Raptors
- [x] [ ] Forests with springs or seeps
- [x] [ ] Ephemeral ponds
- [x] [ ] Wildlife trees (snags, cavities, x-large trees > 65 cm DBH)
- [ ] [ ] Forest Interior Birds
- [x] [ ] Area-sensitive birds

1.2.8 **Aquatic Habitat**
(SWS Aquatic Resources Management Reports)

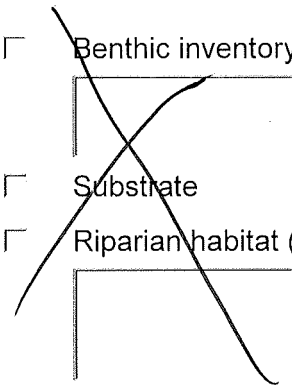
- [ ] [ ] Fish communities
- [ ] [ ] Fish spawning areas
- [ ] [ ] Fish migration routes
- [ ] [ ] Thermal refuge for fish

none required as indicated by UTRCA

☐ ☐ Benthic inventory

☐ ☐ Substrate

☐ ☐ Riparian habitat (extent and type)



1.2.9 **Linkages and Corridors**

(The diversity of natural features in an area, and the natural connections between them should be maintained, and improved where possible. PPS 2.3.3)

☐ ☐ Valleylands

☐ ☐ Significant Watercourses (Thames River, Stoney Creek, Medway Creek, Dingman Creek, Pottersburg Creek, Wabuno Creek, Mud Creek, Stanton Creek (Drain), Kelly Creek (Drain)

☑ ☐ Upland Corridors / species migration routes

☐ ☐ Big Picture Cores and Corridors

☐ ☐ Linkages between aquatic and terrestrial areas (riparian habitat, runoff)

☐ ☐ Groundwater connections

☑ ☐ Patch clusters (mosaic of patches in the landscape)

1.3 Social Values

1.3.1 **Human Use Values**

☐ ☐ Recreational linkages for hiking, walking

☑ ☐ Nature appreciation, aesthetics

☐ ☐ Education, research

☐ ☐ Cultural / traditional heritage

☐ ☐ Social (parks and open space)

☐ ☐ Resources Products (e.g. timber, fish, furbearers, peat)

☐ ☐ Aggregate Resources

1.3.2 **Land Use - Cultural**

- ☐ ☐ Archaeological (pre 1500)
- ☐ ☐ Historical (post 1500 – present)
- ☐ ☐ Adjacent historical and archeological
- ☐ ☐ Future

Std. Study as per requirements

1.3.3 **Land Use - Active**

- ☐ ☐ Archaeological (pre 1500)
- ☐ ☐ Historical (post 1500 – present)
- ☐ ☐ Adjacent historical and archeological
- ☐ ☐ Future

1.3.4 **Other**

2.0 EVALUATION OF SIGNIFICANCE

Components of the Natural Heritage System

The policies in Section 15.4 apply to recognized and potential components of the natural heritage system as delineated on Schedule 'B' or features that may be considered for inclusion on Schedule 'B'. They also address the protection of environmental quality and ecological function with respect to water quality, fish habitat, groundwater recharge, headwaters and aquifers.

☑ **A component of a Subject Lands Status Report that is required to be included in the EIS is the evaluation of significance of all potential natural heritage features and areas recognized by In-force London Plan policies and/ or Official Plan policies.**

☑ **A component of a Subject Lands Status Report that is required to be included in the EIS is the confirmation and mapping of boundaries of all natural heritage features and areas.**

2.1 Environmentally Significant Areas

☐ Identified Environmentally Significant Areas (ESA)

Name

☐ Potential ESAs – Expansion of an Existing ESA

Name

☐ Potential ESA – Area not associated with an existing ESA

Name

2.2 Wetlands

☐ Provincially Significant Wetlands

Name

☐ Wetlands

Name

☐ Unevaluated Wetlands

2.3 Areas of Natural and Scientific Interest

☐ Provincial Life Science ANSI

☐ Regional Life Science ANSI

☐ Earth Science ANSI

2.4 Habitat of Species-At-Risk (SAR)

☑ Endangered

☑ Threatened

☑ Vulnerable / Special Concern

2.5 Woodlands and Vegetation Patches

☐ Significant Woodlands

☑ Unevaluated Vegetation Patches and/ or patches > 0.5ha

2.6 Corridors and Linkages

☐ River, Stream and Ravine Corridors

☐ Upland Corridors

☐ Naturalization and Anti-fragmentation Areas

3.0 IDENTIFICAITON AND DESCRIPTION OF FUNCTIONS

Ecological Functions the natural processes, products or services that species and non-living environments provide or perform within or between ecosystems and landscapes. Check those functions that will be required to assess for the study (key and supporting functions).

3.1 **Biological Functions**

☑ Habitat (provision of food, shelter for species)

- [x] Limiting habitat
- [x] Species life histories (reproduction and dispersal)
- [ ] Habitat guilds
- [ ] Indicator species
- [ ] Keystone species
- [x] Introduced species
- [ ] Predation / parasitism
- [x] Population dynamics
- [ ] Vegetation structure, density and diversity
- [ ] Food chain support
- [ ] Productivity
- [x] Diversity
- [ ] Carbon cycle
- [ ] Energy cycling
- [x] Succession and disturbance processes
- [x] Relationships between species and communities

3.2 **Hydrological and Wetland Functions**

- [ ] Groundwater recharge and discharge (hydrogeology)
- [ ] Water storage and release (fluvial geomorphology)
- [x] Maintaining water cycles (water balance)
- [x] Water quality improvement
- [ ] Flood damage reduction
- [ ] Shoreline stabilization / erosion control
- [ ] Sediment trapping
- [ ] Nutrient retention and removal / biochemical cycling
- [ ] Aquatic habitat (fish, macroinvertebrates)

3.3 **Landscape Features and Functions**

- [x] Size
- [x] Connections, corridors and linkages
- [x] Proximity to other areas / natural heritage features (e.g. woodlands, wetlands, valleylands, water, etc.)
- [x] Fragmentation

3.4 **Functions, Benefits and Values of Importance to Humans**

- ☑ Contributing to healthy and productive landscapes
- ☐ Improving air quality by supplying oxygen and absorbing carbon dioxide
- ☐ Converting and storing atmospheric carbon
- ☐ Providing natural resources for economic benefit
- ☐ Providing green space for human activities
- ☑ Aesthetic and quality-of-life benefit
- ☑ Environmental targets and/or environmental management strategies

4.0 ADDITIONAL COMPONENTS AND NOTES

- EIS to show and demonstrate conformity with the Provincial Policy Statement (2020), in-force London Plan (as of Nov. 2019) policies, and current Official Plan policies (1989), Environmental Management Guidelines (2006).
- EIS to address buffers if required, additional mitigation and/or compensation based on the proposed development. Note that discussion at the meeting around compensation of identified existing woodland cover to features located on subject property (but outside the study area) is potentially a viable option in this case and to be addressed in the EIS.
- It was noted that the breeding bird study was unable to be fully completed due to site alteration (tilling of the land at address 14 Gideon Dr) in between breeding bird site visits. EIS to address this issue along with potential solutions.
- Any identified natural heritage features and areas boundaries to be staked and GPS located in the field with City of London staff.

Appendix C

Water Well Records

40 I/14 F

UTM 17 Z 4 6 9 8 1 0 E
5 R 4 7 5 6 4 7 0 N
Elev. 4 R 0 8 7 7
Basin 7 2 2 D

GROUND WATER BRANCH
JUL 10 1959
ONTARIO WATER RESOURCES COMMISSION

41 No. 474

The Ontario Water Resources Commission Act, 1957

WATER WELL RECORD

County or District Middlesex Township, Village, Town or City Delaware
Con. GORE Lot D
Date completed 15 (day) May (month) 59 (year)
Address KOMOKA

Casing and Screen Record

Inside diameter of casing 3 5/8
Total length of casing 67
Type of screen Slotted Casing
Length of screen 3 ft
Depth to top of screen 63
Diameter of finished hole 3 5/8

Pumping Test

Static level 52
Test-pumping rate 8 G.P.M.
Pumping level 52
Duration of test pumping 4 Hr
Water clear or cloudy at end of test Clear
Recommended pumping rate [redacted] 8 G.P.M.
with pumping level of 52

Well Log

Overburden and Bedrock Record	From ft.	To ft.	Depth(s) at which water(s) found	No. of feet water rises	Kind of water (fresh, salty, sulphur)
Clay	0	15	57 63	11	Fresh
Sand	15	30			
Clay	30	52			
Sand	52	57			
gravel	57	66			

For what purpose(s) is the water to be used?
House

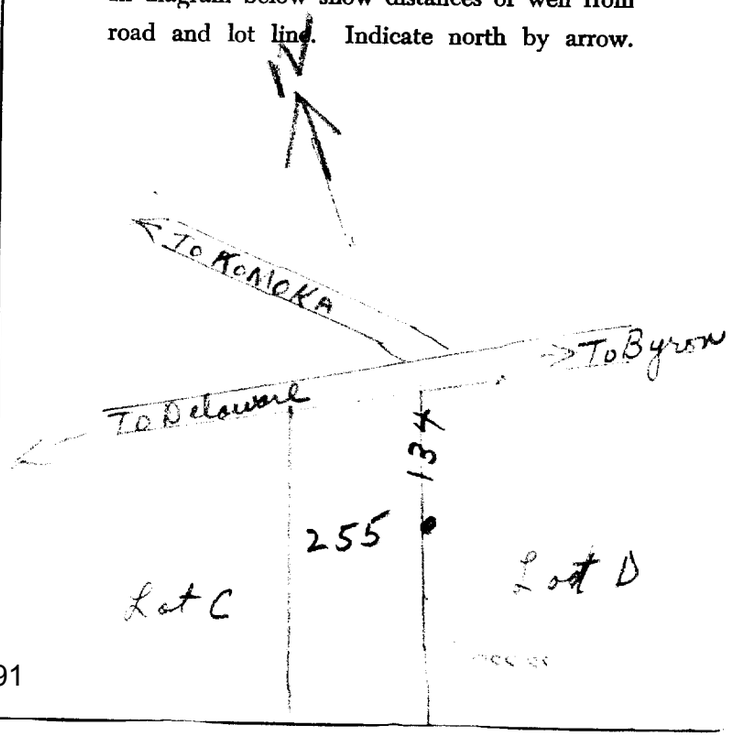
Is well on upland, in valley, or on hillside?
upland

Drilling Firm Sydney Earl
Address Kerwood

Licence Number 180
Name of Driller Arthur Lather
Address Bothwell, Ont
Date July 7.
Sydney Earl
(Signature of Licensed Drilling Contractor)

Location of Well

In diagram below show distances of well from road and lot line. Indicate north by arrow.



Form 5
15M-58-4149

40 I/14F

UTM 17 Z 4691730 E
5 R 4756420 N
Elev. 4 R 0870
Basin 22C

The Ontario Water Resources Commission Act, 1957

WATER WELL RECORD

County or District Middlesex Township, Village, Town or City Delaware

[redacted]e completed 28 Feb 1959 (day month year)

[redacted]ress Glencoe, Ont.

Casing and Screen Record

Inside diameter of casing 3 5/8
Total length of casing 67 feet
Type of screen Slotted casing
Length of screen 4 ft
Depth to top of screen 62 feet
Diameter of finished hole 3 5/8

Pumping Test

Static level 49
Test-pumping rate 12 G.P.M.
Pumping level 49
Duration of test pumping 8 hrs
Water clear or cloudy at end of test Clear
Recommended pumping rate 12 G.P.M.
with pumping level of 49

Well Log / Water Record

Overburden and Bedrock Record	From ft.	To ft.	Depth(s) at which water(s) found	No. of feet water rises	Kind of water (fresh, salty, sulphur)
Clay	0	36			
hardpan	36	50			
Sand (coarse)	50	55			
gravel (1/4 to 3/4 dia	55	66	55-66	17	fresh

For what purpose(s) is the water to be used?
House

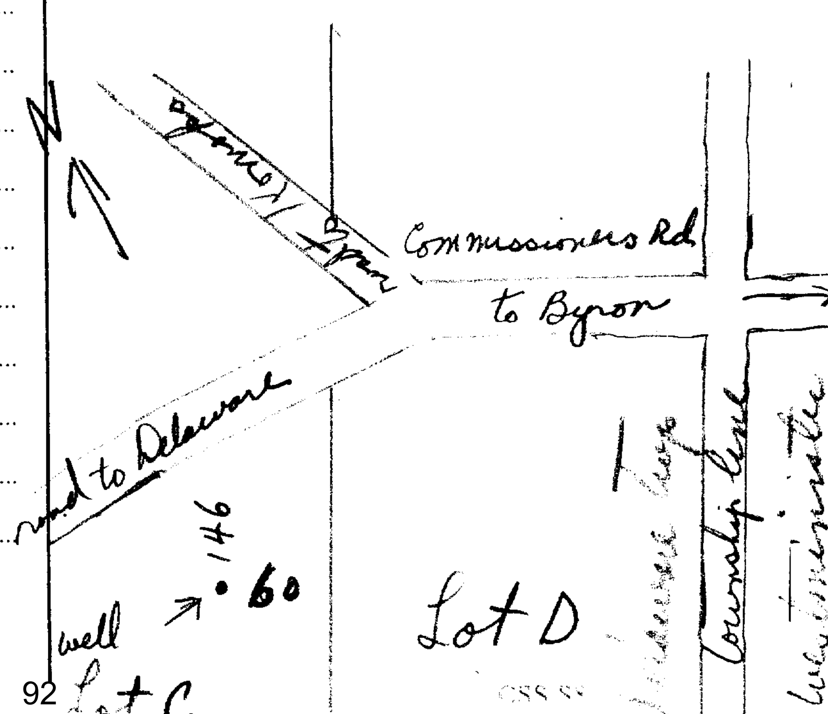
Is well on upland, in valley, or on hillside?
hillside

Drilling Firm Sydney Earl
Address Kerwood Ont

Licence Number 180
Name of Driller Arthur Lather
Address Bothwell Ont
Date Mar 28
Sydney Earl
(Signature of Licensed Drilling Contractor)

Location of Well

In diagram below show distances of well from road and lot line. Indicate north by arrow.



Form 5
15M-58-4149

MINISTRY OF THE ENVIRONMENT
The Ontario Water Resources Act

WATER WELL RECORD

ONTARIO

40 1/14 F

1. PRINT ONLY IN SPACES PROVIDED
2. CHECK ☒ CORRECT BOX WHERE APPLICABLE

11 | 4106115 | MUNICIP. 41004 | CON. GORE

COUNTY OR DISTRICT	TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE	CON., BLOCK, TRACT, SURVEY, ETC.	LOT
[redacted]	[redacted]	Gore Of ~~Delaware~~	C

[redacted] .#1 (3) London Ontario

DATE COMPLETED: DAY 21 MO. ~~Nov~~ YR. 72

[redacted] 564210 | RC. 4 | ELEVATION 0870 | RC. 6 | BASIN CODE 23

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH - FEET FROM	DEPTH - FEET TO
Black	Top Soil			0	1
Brown	Sandy Clay			1	19
Brown	Gravel			19	21
Grey	Sand			21	52
Grey	Gravel			52	56
				56	60

31 | 0001802 | 001960528 | 0021611 | 0052228 | 0056211

32

41 WATER RECORD

WATER FOUND AT - FEET	KIND OF WATER
0056	☒ FRESH
	☐ FRESH ☐ SALTY ☐ SULPHUR ☐ MINERAL
	☐ FRESH ☐ SALTY ☐ SULPHUR ☐ MINERAL
	☐ FRESH ☐ SALTY ☐ SULPHUR ☐ MINERAL
	☐ FRESH ☐ SALTY ☐ SULPHUR ☐ MINERAL

51 CASING & OPEN HOLE RECORD

INSIDE DIAM. INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH - FEET FROM	TO
05	☒ STEEL	1/4	0	0060
	☐ STEEL ☐ GALVANIZED ☐ CONCRETE ☐ OPEN HOLE			
	☐ STEEL ☐ GALVANIZED ☐ CONCRETE ☐ OPEN HOLE			

SCREEN

SIZE(S) OF OPENING (SLOT NO.) | DIAMETER INCHES | LENGTH FEET
MATERIAL AND TYPE | DEPTH TO TOP OF SCREEN FEET

61 PLUGGING & SEALING RECORD

DEPTH SET AT - FEET FROM	TO	MATERIAL AND TYPE (CEMENT GROUT LEAD PACKER, ETC.)

71 PUMPING TEST

PUMPING TEST METHOD: ☒ PUMP ☐ BAILER
PUMPING RATE: 0004 GPM.
DURATION OF PUMPING: 02 HOURS 00 MINS
☒ PUMPING ☐ RECOVERY

STATIC LEVEL	WATER LEVEL END OF PUMPING	15 MINUTES	30 MINUTES	45 MINUTES	60 MINUTES
045 FEET	052 FEET	052 FEET	052 FEET	052 FEET	052 FEET

IF FLOWING, GIVE RATE: GPM
PUMP INTAKE SET AT: 55 FEET
WATER AT END OF TEST: ☒ CLEAR ☐ CLOUDY
RECOMMENDED PUMP TYPE: ☐ SHALLOW ☒ DEEP
RECOMMENDED PUMP SETTING: 055 FEET
RECOMMENDED PUMPING RATE: 0004 GPM
0006 GPM./FT. SPECIFIC CAPACITY

FINAL STATUS OF WELL

☒ WATER SUPPLY ☐ OBSERVATION WELL ☐ TEST HOLE ☐ RECHARGE WELL ☐ ABANDONED, INSUFFICIENT SUPPLY ☐ ABANDONED, POOR QUALITY ☐ UNFINISHED

WATER USE

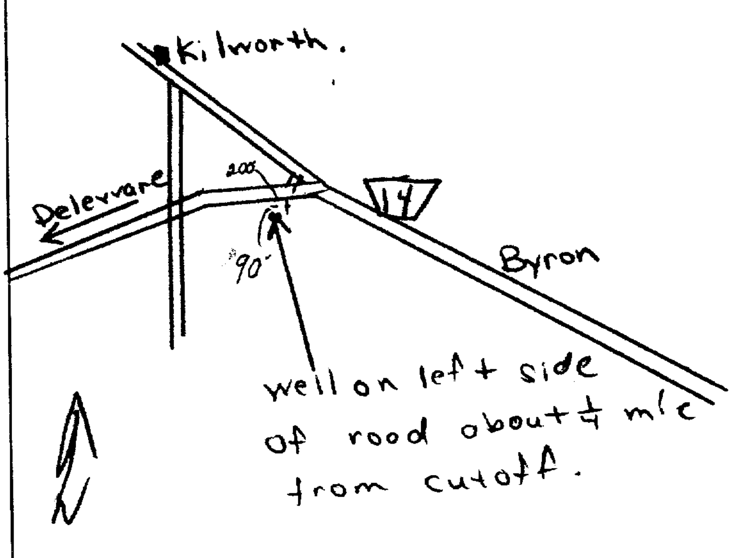
01 — ☒ DOMESTIC ☐ STOCK ☐ IRRIGATION ☐ INDUSTRIAL ☐ OTHER ☐ COMMERCIAL ☐ MUNICIPAL ☐ PUBLIC SUPPLY ☐ COOLING OR AIR CONDITIONING ☐ NOT USED

METHOD OF DRILLING

☐ CABLE TOOL ☒ ROTARY (CONVENTIONAL) ☐ ROTARY (REVERSE) ☐ ROTARY (AIR) ☐ AIR PERCUSSION ☐ BORING ☐ DIAMOND ☐ JETTING ☐ DRIVING

LOCATION OF WELL

IN DIAGRAM BELOW SHOW DISTANCES OF WELL FROM ROAD AND LOT LINE. INDICATE NORTH BY ARROW.



DRILLERS REMARKS:

CONTRACTOR

NAME OF WELL CONTRACTOR: Hadco Well Drilling And Diggign | LICENCE NUMBER: 2519
ADDRESS: P.O.Box 730 Elmira Ontario
NAME OF DRILLER OR BORER: R.L.Farnklin | LICENCE NUMBER:
SIGNATURE OF CONTRACTOR: [signature] | SUBMISSION DATE: DAY 27 MO. Nov YR. 72

OFFICE USE ONLY

DATA SOURCE: 1 | CONTRACTOR: 2519 | DATE RECEIVED: 301172
DATE OF INSPECTION: 28, 9, 73 | INSPECTOR:
REMARKS: CSS.SS | P | WI

MINISTRY OF THE ENVIRONMENT COPY

FORM 7 07-091

Appendix D

ELC Information Sheets

ELC
COMMUNITY DESCRIPTION & CLASSIFICATION

SITE: Harts Gideon Hts		POLYGON: 1	
SURVEYOR(S): WH	DATE:	TIME: start	
		finish	
UTMZ:	UTME:	UTMN:	

POLYGON DESCRIPTION

SYSTEM	SUBSTRATE	TOPOGRAPHIC FEATURE	HISTORY	PLANT FORM	COMMUNITY
☒ TERRESTRIAL	☐ ORGANIC	☐ LACUSTRINE	☐ NATURAL	☐ PLANKTON	☐ LAKE
☐ WETLAND	☒ MINERAL SOIL	☐ RIVERINE	☒ CULTURAL	☐ SUBMERGED	☐ POND
☐ AQUATIC	☐ PARENT MIN.	☐ BOTTOMLAND		☐ FLOATING-LVD.	☐ RIVER
	☐ ACIDIC BEDRK.	☐ TERRACE		☐ GRAMINOID	☐ STREAM
	☐ BASIC BEDRK.	☐ VALLEY SLOPE		☐ FORB	☐ MARSH
	☐ CARB. BEDRK.	☐ TABLELAND		☐ LICHEN	☐ SWAMP
		☒ ROLL. UPLAND		☐ BRYOPHYTE	☐ FEN
		☐ CLIFF		☒ DECIDUOUS	☐ BOG
		☐ TALUS		☐ CONIFEROUS	☐ BARREN
		☐ CREVICE / CAVE		☐ MIXED	☐ MEADOW
		☐ ALVAR			☐ PRAIRIE
		☐ ROCKLAND			☐ THICKET
		☐ BEACH / BAR			☐ SAVANNAH
		☐ SAND DUNE			☒ WOODLAND
		☐ BLUFF			☐ FOREST
					☐ PLANTATION

SITE	COVER
☐ OPEN WATER	☐ OPEN
☐ SHALLOW WATER	☐ SHRUB
☒ SURFICIAL DEP.	☒ TREED
☐ BEDROCK	

STAND DESCRIPTION:

	LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (up to 4 sp) (>> MUCH GREATER THAN; > GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY	2	3	JUGnigr >> CELocci
2	SUB-CANOPY			
3	UNDERSTOREY	4	3	RUBocci > LONtata = VITripa
4	GRD. LAYER			

HT CODES: 1 = >25 m 2 = 10<HT 25 m 3 = 2<HT 10 m 4 = 1<HT 2 m 5 = 0.5<HT 1 m 6 = 0.2<HT 0.5 m 7 = HT<0.2 m

CVR CODES 0= NONE 1= 0% < CVR 10% 2= 10 < CVR 25% 3= 25 < CVR 60% 4= CVR > 60%

STAND COMPOSITION:	BA:

SIZE CLASS ANALYSIS:		< 10		10 - 24		25 - 50		> 50
STANDING SNAGS:		< 10		10 - 24		25 - 50		> 50
DEADFALL / LOGS:		< 10		10 - 24		25 - 50		> 50

ABUNDANCE CODES: N = NONE R = RARE O = OCCASIONAL A = ABUNDANT

COMM. AGE :		PIONEER		YOUNG	X	MID-AGE		MATURE		OLD GROWTH

SOIL ANALYSIS:

TEXTURE:	DEPTH TO MOTTLES / GLEY	g =	G=
MOISTURE:	DEPTH OF ORGANICS:		(cm)
HOMOGENEOUS / VARIABLE	DEPTH TO BEDROCK:		(cm)

COMMUNITY CLASSIFICATION:

		ELC CODE
COMMUNITY CLASS:	CULTURAL	CU
COMMUNITY SERIES:	WOODLAND	CUW
ECOSITE:	MINERAL	CUW1
VEGETATION TYPE:		
INCLUSION		
COMPLEX		

Notes:

ELC
MANAGEMENT / DISTURBANCE

SITE: Gideon Hts.
POLYGON: 1
DATE: April 17
SURVEYOR(S): WH

DISTURBANCE EXTENT	0	1	2	3	SCORE †
TIME SINCE LOGGING	> 30 YRS	15 - 30 YRS	5 - 15 YRS	0 - 5 YEARS	3
INTENSITY OF LOGGING	NONE	FUEL WOOD	SELECTIVE	DIAMETER LIMIT	1
EXTENT OF LOGGING	NONE	LOCAL	WIDESPREAD	EXTENSIVE	
SUGAR BUSH OPERATIONS	NONE	LIGHT	MODERATE	HEAVY	0
EXTENT OF OPERATIONS	NONE	LOCAL	WIDESPREAD	EXTENSIVE	
GAPS IN FOREST CANOPY	NONE	SMALL	INTERMEDIATE	LARGE	4
EXTENT OF GAPS	NONE	LOCAL	WIDESPREAD	EXTENSIVE	
LIVESTOCK (GRAZING)	NONE	LIGHT	MODERATE	HEAVY	0
EXTENT OF LIVESTOCK	NONE	LOCAL	WIDESPREAD	EXTENSIVE	
ALIEN SPECIES	NONE	OCCASIONAL	ABUNDANT	DOMINANT	2
EXTENT OF ALIEN SPECIES	NONE	LOCAL	WIDESPREAD	EXTENSIVE	
PLANTING (PLANTATION)	NONE	OCCASIONAL	ABUNDANT	DOMINANT	9
EXTENT OF PLANTING	NONE	LOCAL	WIDESPREAD	EXTENSIVE	
TRACKS AND TRAILS	NONE	FAINT TRAILS	WELL MARKED	TRACKS OR	4
EXTENT OF TRACKS/TRAILS	NONE	LOCAL	WIDESPREAD	EXTENSIVE	
DUMPING (RUBBISH)	NONE	LIGHT	MODERATE	HEAVY	0
EXTENT OF DUMPING	NONE	LOCAL	WIDESPREAD	EXTENSIVE	
EARTH DISPLACEMENT	NONE	LIGHT	MODERATE	HEAVY	0
EXTENT OF DISPLACEMENT	NONE	LOCAL	WIDESPREAD	EXTENSIVE	
RECREATIONAL USE	NONE	LIGHT	MODERATE	HEAVY	0
EXTENT OF RECR. USE	NONE	LOCAL	WIDESPREAD	EXTENSIVE	
NOISE	NONE	SLIGHT	MODERATE	INTENSE	0
EXTENT OF NOISE	NONE	LOCAL	WIDESPREAD	EXTENSIVE	
DISEASE/DEATH OF TREES	NONE	LIGHT	MODERATE	HEAVY	0
EXTENT OF DISEASE / DEATH	NONE	LOCAL	WIDESPREAD	EXTENSIVE	
WIND THROW (BLOW DOWN)	NONE	LIGHT	MODERATE	HEAVY	0
EXTENT OF WIND THROW	NONE	LOCAL	WIDESPREAD	EXTENSIVE	
BROWSE (e.g. DEER)	NONE	LIGHT	MODERATE	HEAVY	0
EXTENT OF BROWSE	NONE	LOCAL	WIDESPREAD	EXTENSIVE	
BEAVER ACTIVITY	NONE	LIGHT	MODERATE	HEAVY	0
EXTENT OF BEAVER	NONE	LOCAL	WIDESPREAD	EXTENSIVE	
FLOODING (pools & puddling)	NONE	LIGHT	MODERATE	HEAVY	0
EXTENT OF FLOODING	NONE	LOCAL	WIDESPREAD	EXTENSIVE	
FIRE	NONE	LIGHT	MODERATE	HEAVY	0
EXTENT OF FIRE	NONE	LOCAL	WIDESPREAD	EXTENSIVE	
ICE DAMAGE	NONE	LIGHT	MODERATE	HEAVY	0
EXTENT OF ICE DAMAGE	NONE	LOCAL	WIDESPREAD	EXTENSIVE	
OTHER	NONE	LIGHT	MODERATE	HEAVY	0
EXTENT	NONE	LOCAL	WIDESPREAD	EXTENSIVE	

† INTENSITY x EXTENT = SCORE

ELC
PLANT SPECIES LIST

SITE: Gideon Rk
POLYGON: #
DATE: Apr. 17
SURVEYOR(S): WA

LAYERS: 1 = CANOPY 2 = SUB-CANOPY 3 = UNDERSTOREY 4 = GROUND (GRD.) LAYER

ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

SPECIES CODE	LAYER 1	2	3	4	COL.
JUGniga	D				
CELocci					
RUBocci					
VITrip					
RHUtyph					
LONtata					
THUocci					
CORalte					
DIPfull					
PYRcomm					
ALLpeti					
MONfist					
THUocci					
ACEnegu					

SPECIES CODE	LAYER 1	2	3	4	COL.

Page ..... of .....

ELC
PLANT SPECIES LIST

SITE: Bart
POLYGON: 1
DATE:
SURVEYOR(S):

LAYERS: 1 = CANOPY 2 = SUB-CANOPY 3 = UNDERSTOREY 4 = GROUND (GRD.) LAYER

ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

SPECIES CODE	LAYER 1	2	3	4	COL.

SPECIES CODE	LAYER 1	2	3	4	COL.

Page ..... of .....

ELC COMMUNITY DESCRIPTION & CLASSIFICATION

SITE: Aarts		POLYGON: 2
SURVEYOR(S): WH	DATE:	TIME: start / finish
UTMZ:	UTME:	UTMN:

POLYGON DESCRIPTION

SYSTEM	SUBSTRATE	TOPOGRAPHIC FEATURE	HISTORY	PLANT FORM	COMMUNITY
☒ TERRESTRIAL	☐ ORGANIC	☐ LACUSTRINE	☐ NATURAL	☐ PLANKTON	☐ LAKE
☐ WETLAND	☒ MINERAL SOIL	☐ RIVERINE	☒ CULTURAL	☐ SUBMERGED	☐ POND
☐ AQUATIC	☐ PARENT MIN.	☐ BOTTOMLAND		☐ FLOATING-LVD.	☐ RIVER
	☐ ACIDIC BEDRK.	☐ TERRACE		☒ GRAMINOID	☐ STREAM
	☐ BASIC BEDRK.	☐ VALLEY SLOPE		☐ FORB	☐ MARSH
	☐ CARB. BEDRK.	☐ TABLELAND		☐ LICHEN	☐ SWAMP
		☒ ROLL. UPLAND		☐ BRYOPHYTE	☐ FEN
		☐ CLIFF		☐ DECIDUOUS	☐ BOG
		☐ TALUS		☐ CONIFEROUS	☐ BARREN
		☐ CREVICE / CAVE		☐ MIXED	☒ MEADOW
		☐ ALVAR			☐ PRAIRIE
		☐ ROCKLAND			☐ THICKET
		☐ BEACH / BAR			☐ SAVANNAH
		☐ SAND DUNE			☐ WOODLAND
		☐ BLUFF			☐ FOREST
					☐ PLANTATION

SITE	COVER
☐ OPEN WATER	☒ OPEN
☐ SHALLOW WATER	☐ SHRUB
☒ SURFICIAL DEP.	☐ TREED
☐ BEDROCK	

STAND DESCRIPTION:

	LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (up to 4 sp) (>> MUCH GREATER THAN; > GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY	2	1	JUGnigr
2	SUB-CANOPY	3	1	JUNvirg ≥ RHUtyph = CORrace
3	UNDERSTOREY			
4	GRD. LAYER			

HT CODES: 1 = >25 m 2 = 10<HT 25 m 3 = 2<HT 10 m 4 = 1<HT 2 m 5 = 0.5<HT 1 m 6 = 0.2<HT 0.5 m 7 = HT<0.2 m

CVR CODES 0= NONE 1= 0% < CVR 10% 2= 10 < CVR 25% 3= 25 < CVR 60% 4= CVR > 60%

STAND COMPOSITION:	BA:

SIZE CLASS ANALYSIS:		< 10		10 - 24		25 - 50		> 50
STANDING SNAGS:		< 10		10 - 24		25 - 50		> 50
DEADFALL / LOGS:		< 10		10 - 24		25 - 50		> 50

ABUNDANCE CODES: N = NONE R = RARE O = OCCASIONAL A = ABUNDANT

COMM. AGE :		PIONEER		YOUNG		MID-AGE		MATURE		OLD GROWTH
	X									

SOIL ANALYSIS:

TEXTURE:	DEPTH TO MOTTLES / GLEY	g =	G=
MOISTURE:	DEPTH OF ORGANICS:		(cm)
HOMOGENEOUS / VARIABLE	DEPTH TO BEDROCK:		(cm)

COMMUNITY CLASSIFICATION:

		ELC CODE
COMMUNITY CLASS:	CULTURAL	CU
COMMUNITY SERIES:	MEADOW	CUM
ECOSITE:	MINERAL	CUM1
VEGETATION TYPE:	DRY-MOIST OLD FIELD MEADOW TYPE	CUM1-1
INCLUSION		
COMPLEX		

Notes:

ELC MANAGEMENT / DISTURBANCE

SITE: Aarts
POLYGON: 2
DATE: April 17, 2018
SURVEYOR(S): WH

DISTURBANCE EXTENT	0	1	2	3	SCORE †
TIME SINCE LOGGING	> 30 YRS	15 - 30 YRS	5 - 15 YRS	0 - 5 YEARS	0
INTENSITY OF LOGGING	NONE	FUEL WOOD	SELECTIVE	DIAMETER LIMIT	0
EXTENT OF LOGGING	NONE	LOCAL	WIDESPREAD	EXTENSIVE	
SUGAR BUSH OPERATIONS	NONE	LIGHT	MODERATE	HEAVY	0
EXTENT OF OPERATIONS	NONE	LOCAL	WIDESPREAD	EXTENSIVE	
GAPS IN FOREST CANOPY	NONE	SMALL	INTERMEDIATE	LARGE	0
EXTENT OF GAPS	NONE	LOCAL	WIDESPREAD	EXTENSIVE	
LIVESTOCK (GRAZING)	NONE	LIGHT	MODERATE	HEAVY	0
EXTENT OF LIVESTOCK	NONE	LOCAL	WIDESPREAD	EXTENSIVE	
ALIEN SPECIES	NONE	OCCASIONAL	ABUNDANT	DOMINANT	2
EXTENT OF ALIEN SPECIES	NONE	LOCAL	WIDESPREAD	EXTENSIVE	
PLANTING (PLANTATION)	NONE	OCCASIONAL	ABUNDANT	DOMINANT	0
EXTENT OF PLANTING	NONE	LOCAL	WIDESPREAD	EXTENSIVE	
TRACKS AND TRAILS	NONE	FAINT TRAILS	WELL MARKED	TRACKS OR	0
EXTENT OF TRACKS/TRAILS	NONE	LOCAL	WIDESPREAD	EXTENSIVE	
DUMPING (RUBBISH)	NONE	LIGHT	MODERATE	HEAVY	0
EXTENT OF DUMPING	NONE	LOCAL	WIDESPREAD	EXTENSIVE	
EARTH DISPLACEMENT	NONE	LIGHT	MODERATE	HEAVY	0
EXTENT OF DISPLACEMENT	NONE	LOCAL	WIDESPREAD	EXTENSIVE	
RECREATIONAL USE	NONE	LIGHT	MODERATE	HEAVY	0
EXTENT OF RECR. USE	NONE	LOCAL	WIDESPREAD	EXTENSIVE	
NOISE	NONE	SLIGHT	MODERATE	INTENSE	0
EXTENT OF NOISE	NONE	LOCAL	WIDESPREAD	EXTENSIVE	
DISEASE/DEATH OF TREES	NONE	LIGHT	MODERATE	HEAVY	0
EXTENT OF DISEASE / DEATH	NONE	LOCAL	WIDESPREAD	EXTENSIVE	
WIND THROW (BLOW DOWN)	NONE	LIGHT	MODERATE	HEAVY	0
EXTENT OF WIND THROW	NONE	LOCAL	WIDESPREAD	EXTENSIVE	
BROWSE (e.g. DEER)	NONE	LIGHT	MODERATE	HEAVY	0
EXTENT OF BROWSE	NONE	LOCAL	WIDESPREAD	EXTENSIVE	
BEAVER ACTIVITY	NONE	LIGHT	MODERATE	HEAVY	0
EXTENT OF BEAVER	NONE	LOCAL	WIDESPREAD	EXTENSIVE	
FLOODING (pools & puddling)	NONE	LIGHT	MODERATE	HEAVY	1
EXTENT OF FLOODING	NONE	LOCAL	WIDESPREAD	EXTENSIVE	
FIRE	NONE	LIGHT	MODERATE	HEAVY	0
EXTENT OF FIRE	NONE	LOCAL	WIDESPREAD	EXTENSIVE	
ICE DAMAGE	NONE	LIGHT	MODERATE	HEAVY	0
EXTENT OF ICE DAMAGE	NONE	LOCAL	WIDESPREAD	EXTENSIVE	
OTHER	NONE	LIGHT	MODERATE	HEAVY	0
EXTENT	NONE	LOCAL	WIDESPREAD	EXTENSIVE	

† INTENSITY x EXTENT = SCORE

ELC
PLANT SPECIES LIST

SITE: Arv ts
POLYGON: 2
DATE: Apr 17
SURVEYOR(S): WH

LAYERS: 1 = CANOPY 2 = SUB-CANOPY 3 = UNDERSTOREY 4 = GROUND (GRD.) LAYER

ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

SPECIES CODE	LAYER 1	2	3	4	COL.
JUGnigr					
ACEnegu					
RUBacc					
JUNvirg					
CORFace					
MONfist					
TARoffi					
LONtata					
ALLpeti					
PARinse					
CRA					
CRA					
TILamer					
CORalte					
IRI					
DAUCARO					
ELEumbe					
ACHmill					
MONfist					
RHUtyph					
ERYamer				R	
VITrip					
BARvulg					

SPECIES CODE	LAYER 1	2	3	4	COL.

Page ..... of .....

ELC
PLANT SPECIES LIST

SITE: Arv ts
POLYGON: 2
DATE:
SURVEYOR(S):

LAYERS: 1 = CANOPY 2 = SUB-CANOPY 3 = UNDERSTOREY 4 = GROUND (GRD.) LAYER

ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

SPECIES CODE	LAYER 1	2	3	4	COL.

SPECIES CODE	LAYER 1	2	3	4	COL.

Page ..... of .....

ELC
COMMUNITY DESCRIPTION & CLASSIFICATION

SITE: Aaurts		POLYGON: 3	
SURVEYOR(S): WH	DATE:	TIME: start	
		finish	
UTMZ:	UTME:	UTMN:	

POLYGON DESCRIPTION

SYSTEM	SUBSTRATE	TOPOGRAPHIC FEATURE	HISTORY	PLANT FORM	COMMUNITY
☑ TERRESTRIAL	☐ ORGANIC	☐ LACUSTRINE	☑ NATURAL	☐ PLANKTON	☐ LAKE
☐ WETLAND	☑ MINERAL SOIL	☐ RIVERINE	☐ CULTURAL	☐ SUBMERGED	☐ POND
☐ AQUATIC	☐ PARENT MIN.	☐ BOTTOMLAND		☐ FLOATING-LVD.	☐ RIVER
	☐ ACIDIC BEDRK.	☐ TERRACE		☐ GRAMINOID	☐ STREAM
	☐ BASIC BEDRK.	☐ VALLEY SLOPE		☐ FORB	☐ MARSH
	☐ CARB. BEDRK.	☐ TABLELAND		☐ LICHEN	☐ SWAMP
		☑ ROLL. UPLAND		☐ BRYOPHYTE	☐ FEN
		☐ CLIFF		☑ DECIDUOUS	☐ BOG
		☐ TALUS		☐ CONIFEROUS	☐ BARREN
		☐ CREVICE / CAVE		☐ MIXED	☐ MEADOW
		☐ ALVAR			☐ PRAIRIE
		☐ ROCKLAND			☑ THICKET
		☐ BEACH / BAR			☐ SAVANNAH
		☐ SAND DUNE			☐ WOODLAND
		☐ BLUFF			☐ FOREST
					☐ PLANTATION

SITE	COVER
☐ OPEN WATER	☐ OPEN
☐ SHALLOW WATER	☑ SHRUB
☑ SURFICIAL DEP.	☐ TREED
☐ BEDROCK	

STAND DESCRIPTION:

	LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (up to 4 sp) (>> MUCH GREATER THAN; > GREATER THAN; = ABOUT EQUAL TO)
1	CANOPY	3	3	RHU typh > JUN virg
2	SUB-CANOPY			
3	UNDERSTOREY	5	3	RUBorri = CORrace
4	GRD. LAYER			

HT CODES: 1 = >25 m 2 = 10<HT 25 m 3 = 2<HT 10 m 4 = 1<HT 2 m 5 = 0.5<HT 1 m 6 = 0.2<HT 0.5 m 7 = HT<0.2 m

CVR CODES 0= NONE 1= 0% < CVR 10% 2= 10 < CVR 25% 3= 25 < CVR 60% 4= CVR > 60%

STAND COMPOSITION:	BA:

		< 10		10 - 24		25 - 50		> 50
SIZE CLASS ANALYSIS:								
STANDING SNAGS:								
DEADFALL / LOGS:								

ABUNDANCE CODES: N = NONE R = RARE O = OCCASIONAL A = ABUNDANT

COMM. AGE :		PIONEER		YOUNG		MID-AGE		MATURE		OLD GROWTH
	X									

SOIL ANALYSIS:

TEXTURE:	DEPTH TO MOTTLES / GLEY	g =	G=
MOISTURE:	DEPTH OF ORGANICS:		(cm)
HOMOGENEOUS / VARIABLE	DEPTH TO BEDROCK:		(cm)

COMMUNITY CLASSIFICATION:

		ELC CODE
COMMUNITY CLASS:	CULTURAL	CU
COMMUNITY SERIES:	THICKET	CUT
ECOSITE:	MINERAL	CUT1
VEGETATION TYPE:	SUMAC CULTURAL THICKET TYPE	CUT1-1
INCLUSION		
COMPLEX		

Notes:

ELC
MANAGEMENT / DISTURBANCE

SITE: Aaurts
POLYGON: 3
DATE:
SURVEYOR(S):

DISTURBANCE EXTENT	0	1	2	3	SCORE †
TIME SINCE LOGGING	> 30 YRS	15 - 30 YRS	5 - 15 YRS	0 - 5 YEARS	
INTENSITY OF LOGGING	NONE	FUEL WOOD	SELECTIVE	DIAMETER LIMIT	
EXTENT OF LOGGING	NONE	LOCAL	WIDESPREAD	EXTENSIVE	
SUGAR BUSH OPERATIONS	NONE	LIGHT	MODERATE	HEAVY	
EXTENT OF OPERATIONS	NONE	LOCAL	WIDESPREAD	EXTENSIVE	
GAPS IN FOREST CANOPY	NONE	SMALL	INTERMEDIATE	LARGE	
EXTENT OF GAPS	NONE	LOCAL	WIDESPREAD	EXTENSIVE	
LIVESTOCK (GRAZING)	NONE	LIGHT	MODERATE	HEAVY	
EXTENT OF LIVESTOCK	NONE	LOCAL	WIDESPREAD	EXTENSIVE	
ALIEN SPECIES	NONE	OCCASIONAL	ABUNDANT	DOMINANT	
EXTENT OF ALIEN SPECIES	NONE	LOCAL	WIDESPREAD	EXTENSIVE	
PLANTING (PLANTATION)	NONE	OCCASIONAL	ABUNDANT	DOMINANT	
EXTENT OF PLANTING	NONE	LOCAL	WIDESPREAD	EXTENSIVE	
TRACKS AND TRAILS	NONE	FAINT TRAILS	WELL MARKED	TRACKS OR	
EXTENT OF TRACKS/TRAILS	NONE	LOCAL	WIDESPREAD	EXTENSIVE	
DUMPING (RUBBISH)	NONE	LIGHT	MODERATE	HEAVY	
EXTENT OF DUMPING	NONE	LOCAL	WIDESPREAD	EXTENSIVE	
EARTH DISPLACEMENT	NONE	LIGHT	MODERATE	HEAVY	
EXTENT OF DISPLACEMENT	NONE	LOCAL	WIDESPREAD	EXTENSIVE	
RECREATIONAL USE	NONE	LIGHT	MODERATE	HEAVY	
EXTENT OF RECR. USE	NONE	LOCAL	WIDESPREAD	EXTENSIVE	
NOISE	NONE	SLIGHT	MODERATE	INTENSE	
EXTENT OF NOISE	NONE	LOCAL	WIDESPREAD	EXTENSIVE	
DISEASE/DEATH OF TREES	NONE	LIGHT	MODERATE	HEAVY	
EXTENT OF DISEASE / DEATH	NONE	LOCAL	WIDESPREAD	EXTENSIVE	
WIND THROW (BLOW DOWN)	NONE	LIGHT	MODERATE	HEAVY	
EXTENT OF WIND THROW	NONE	LOCAL	WIDESPREAD	EXTENSIVE	
BROWSE (e.g. DEER)	NONE	LIGHT	MODERATE	HEAVY	
EXTENT OF BROWSE	NONE	LOCAL	WIDESPREAD	EXTENSIVE	
BEAVER ACTIVITY	NONE	LIGHT	MODERATE	HEAVY	
EXTENT OF BEAVER	NONE	LOCAL	WIDESPREAD	EXTENSIVE	
FLOODING (pools & puddling)	NONE	LIGHT	MODERATE	HEAVY	
EXTENT OF FLOODING	NONE	LOCAL	WIDESPREAD	EXTENSIVE	
FIRE	NONE	LIGHT	MODERATE	HEAVY	
EXTENT OF FIRE	NONE	LOCAL	WIDESPREAD	EXTENSIVE	
ICE DAMAGE	NONE	LIGHT	MODERATE	HEAVY	
EXTENT OF ICE DAMAGE	NONE	LOCAL	WIDESPREAD	EXTENSIVE	
OTHER	NONE	LIGHT	MODERATE	HEAVY	
EXTENT	NONE	LOCAL	WIDESPREAD	EXTENSIVE	

† INTENSITY x EXTENT = SCORE

ELC
PLANT SPECIES LIST

SITE: Parks
POLYGON: 3
DATE:
SURVEYOR(S):

LAYERS: 1 = CANOPY 2 = SUB-CANOPY 3 = UNDERSTOREY 4 = GROUND (GRD.) LAYER

ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

SPECIES CODE	LAYER				COL.
	1	2	3	4	
RHUtyph					
RUBocci					
CORrace					
DIPsylv					
RUBidae					
BROiner					
CORseri					
BARvulg					
VERthap					
LONtata					
CRA					
ALLpeti					
JUGnigr					
VITripa					
ACEsasa					dead
ACEplat					
DIPfull					
MALcoro					
SYRvulg					
SUMvir					
RHAcath					
THUocci					
POPtrem					
ACErubr					

SPECIES CODE	LAYER				COL.
	1	2	3	4	

Page ..... of .....

ELC
PLANT SPECIES LIST

SITE: Parks
POLYGON: 3
DATE:
SURVEYOR(S):

LAYERS: 1 = CANOPY 2 = SUB-CANOPY 3 = UNDERSTOREY 4 = GROUND (GRD.) LAYER

ABUNDANCE CODES: R = RARE O = OCCASIONAL A = ABUNDANT D = DOMINANT

SPECIES CODE	LAYER				COL.
	1	2	3	4	

SPECIES CODE	LAYER				COL.
	1	2	3	4	

Page ..... of .....

Appendix D1

Agricultural Agreement Letter – 14 Gideon Drive and 2012 Oxford Street West

ORANGE ROCK
DEVELOPMENTS

3003 Page Street
London, Ontario
N5V 4J1

September 28, 2020

Attn: Dave Hayman, M.Sc.

RE: 14 Gideon Drive and 2012 Oxford Street West

This letter has been written to advise MTE Consultants Inc. that 2515060 Ontario Inc. purchased the above referenced properties on April 29 2016 Previous agreements in place for renting the land for crops and livestock were honored until new agreements commenced in the spring/summer of 2018. At this time and consistent with permitted uses of UR1 zoned lands the small area of pasture for livestock was tilled and the workable area expanded for row crops on a rotational schedule that continues today.

We trust this adequately describes the use of land since our ownership.

Regards

Jonathan Aarts
Partner
2515060 Ontario Inc.

519.652.2104

Appendix E

Candidate Significant Wildlife Habitat Table

ELC's: CUW-1; CUM-1; CUT-1

Seasonal Concentration of Animals

Wildlife Habitat	ELC Codes Triggers	Additional Habitat Criteria	Candidate SWH
Waterfowl Stopover and Staging Areas (Terrestrial)	CUM1, CUT1	- no fields with sheet water during spring present	No
Waterfowl Stopover and Staging Areas (Aquatic)	none present	- none present	No
Shorebird Migratory Stopover Area	none present	- none present	No
Raptor Wintering Area	CUW1,CUT1	- combination of forest and meadow is not large enough (need to be >20ha); field is not idle/fallow, it is active agriculture	No
Bat Hibernacula	none present	- none present	No
Bat Maternity Colonies	none present	- none present	No
Turtle Wintering Areas	none present	- none present	No
Reptile Hibernaculum	all other than really wet	- no rock piles, stone fences, crumbling foundations, or rock crevices, no active animal burrows	No
Colonially-Nesting Bird Breeding Habitat (Bank / Cliff)	CUM1	- no steep slopes of exposed banks or cliff faces present	No
Colonially-Nesting Bird Breeding Habitat (Trees/Shrubs)	none present	- nests in live or dead standing trees	No
Colonially-Nesting Bird Breeding Habitat (Ground)	CUM1, CUT1	- no rocky islands or peninsulas present or watercourses in open fields with scatted trees present	No
Migratory Butterfly Stopover Areas	CUM1, CUT1	- combination of field and forest present, however less than the required 10ha in size; not located with 5km of Lake Erie	No
Land Bird Migratory Stopover Areas	none present	- none present	No
Deer Winter Congregation Areas	none present	- none present	No

Rare Vegetation Communities

Wildlife Habitat	ELC Codes Triggers	Additional Habitat Criteria	Candidate SWH
Cliffs and Talus Slopes	not present		No
Sand Barren	not present		No
Alvar	not present		No
Old Growth Forest	not present		No
Savannah	not present		No
Tallgrass Prairie	not present		No
Other Rare Vegetation	not present		No

Specialized Habitats of Wildlife considered SWH

Wildlife Habitat	ELC Codes Triggers	Additional Habitat Criteria	Candidate SWH
Waterfowl Nesting Area	none present	-none present	No
Bald Eagle and Osprey Nesting, Foraging, Perching	none present	- no stick nests observed	No
Woodland Raptor Nesting Habitat	none present	-none of the treed communities are >30ha, or with >4ha interior habitat	No
Turtle Nesting Areas	none present	- no exposed mineral soil adjacent to wetlands	No
Springs and Seeps	none present	- no headwater forested areas present	No
Amphibian Breeding Habitat (Woodland)	none present	- no wetlands adjacent to wooded areas	No
Amphibian Breeding Habitat (Wetlands)	none present	-no communities present	No
Woodland Area-Sensitive Bird Breeding Habitat	none present	-habitats where interior forest breeding birds are breeding; large mature (>60yrs old) forest stands or woodlots >30ha	No

Habitats of Species of Conservation Concern considered SWH

Wildlife Habitat	ELC Codes Triggers	Additional Habitat Criteria	Candidate SWH
Marsh Breeding Bird Habitat	none present	-no wetland habitat present within Subject Lands	No
Open Country Bird Breeding Habitat	none present	- natural and cultural fields >30ha are not present	No
Shrub/Early Successional Bird Breeding Habitat	CUW1, CUT1	- no large fields succeeding to shrub and thicket habitats > 10ha in size	No
Terrestrial Crayfish	none present	-none present	No
Special Concern and Rare Wildlife Species (NHIC and MNRF pre-consultation)		- Eastern Wood-pewee breeding habitat (Community 1)	**Confirmed**

Wildlife Habitat	ELC Codes Triggers*	Additional Habitat Criteria	Candidate SWH
Amphibian Movement Corridors	based on identifying SWH	-no amphibian breeding habitat present.	No

Wildlife Habitat	Ecosites	Habitat Criteria and Information	Candidate SWH
Bat Migratory Stopover Area	no triggers	- site is not near Long Point	No

Appendix F

MNRF Correspondence

Laura McLennan

From: ESA-Aylmer (MNRF) <ESA.Aylmer@ontario.ca>
Sent: Thursday, January 31, 2019 12:11 PM
To: Laura McLennan
Cc: Erin Boynton; Dave Hayman
Subject: RE: Stage 1 Information Request - Aarts Gideon

Hello,

Thank you for submitting the Stage 1 information request for the proposed residential development at 14 Gideon Drive and 2012 Oxford Street in London.

The *Endangered* Species Act, 2007 (ESA) provides both species protection (under section 9) and habitat protection (under section 10) to species listed as endangered or threatened on the Species at Risk in Ontario (SARO) List. There are **no known occurrences** of Species at Risk on the property.

There are no Provincially or Regionally Significant Earth or Life Science ANSI's (Areas of Natural and Scientific Interest) within or adjacent to the above noted property.

There are no known evaluated wetlands within or adjacent to the above-noted property.

Since there are no Species at Risk or Species at Risk being impacted by this project, no further authorization or technical advice is required from the Ministry of Natural Resources and Forestry. As a result this email serves as an official acknowledgement of that fact.

Please let me know if there are any other questions.

Thanks,

Jason Webb
Management Biologist
Ministry of Natural Resources and Forestry
Aylmer District
(519) 773-4744
Jason.webb@ontario.ca

From: Laura McLennan [mailto:lmclennan@biologic.ca]
Sent: October-30-18 3:43 PM
To: ESA-Aylmer (MNRF) <ESA.Aylmer@ontario.ca>
Cc: Erin Boynton <eboynton@biologic.ca>; Dave Hayman <dhayman@biologic.ca>
Subject: Stage 1 Information Request - Aarts Gideon

Hello ESA,

Please find attached a Stage 1 Information Request for a proposed residential development at 14 Gideon Drive and 2012 Oxford Street in London.

A confirmation of receipt would be appreciated to confirm that the document is in the queue for review.

The attached documents are submitted as part of our discussions with MNRF with respect to the Endangered Species Act. Until a final decision has been rendered with respect to this application, it is our expectation these documents will be treated as Personal and Confidential.

Thanks,

Laura McLennan
BioLogic Incorporated
110 Riverside Dr, Suite 201
London, ON N6H 4S5

Tel: 519-434-1516
Fax: 519-434-0575

Appendix G

Floral Inventory

			Floral Inventory								
1	2	3	**Scientific Name**	**Common Name**	**CW**	**GRank**	**COSEWIC**	**Nrank**	**SARO**	**SRank**	**MD**
X	X	X	*Acer negundo*	Manitoba Maple	0	G5		N5		S5	C
	X	X	*Achillea millefolium*	Common Yarrow	3	G5		N5		SE	
X			*Agrostemma githago var. githago*	Common Corncockle	3	GNRTNR		NNA		SE3	
X			*Ailanthus altissima*	Tree-of-heaven	5	GNR		NNA		SE5	IR
X	X	X	*Alliaria petiolata*	Garlic Mustard	0	GNR		NNA		SE5	IC
	X	X	*Apocynum cannabinum*	Hemp Dogbane	0	G5		N5		S5	
X	X	X	*Asclepias syriaca*	Common Milkweed	5	G5		N5		S5	C
	X	X	*Barbarea vulgaris*	Bitter Wintercress	0	GNR		NNA		SE5	IC
X			*Bromus inermis*	Smooth Brome	5	G5		NNA		SE5	IC
	X		*Carex gracillima*	Graceful Sedge	3	G5		N5		S5	C
	X		*Carex gynandra*	Nodding Sedge	-5	G5		N5		S5	
	X		*Carex normalis*	Larger Straw Sedge	-3	G5		NNR		S4	R
X			*Carex sparganioides*	Burreed Sedge	3	G5		N5		S4S5	U
	X		*Carex stipata*	Awl-fruited Sedge	-5	G5		N5		S5	C
	X		*Carex vulpinoidea*	Fox Sedge	-5	G5		N5		S5	C
X			*Celtis occidentalis*	Common Hackberry	0	G5		N4		S4	X
X			*Circaea canadensis*	Broad-leaved Enchanter's Nightshade	3	G5		N5		S5	X
	X	X	*Convolvulus arvensis*	Field Bindweed	5	GNR		NNA		SE5	IX
X	X		*Cornus alternifolia*	Alternate-leaved Dogwood	3	G5		N5		S5	X
	X	X	*Cornus racemosa*	Gray Dogwood	0	G5		N5		S5	X
	X		*Crataegus punctata*	Dotted Hawthorn	5	G5		N5		S5	C
X	X	X	*Dactylis glomerata*	Orchard Grass	3	GNR		NNA		SE5	IC
	X	X	*Daucus carota*	Wild Carrot	5	GNR		NNA		SE5	IC
X			*Dipsacus fullonum*	Common Teasel	3	GNR		NNA		SE5	IC
	X	X	*Elaeagnus umbellata*	Autumn Olive	3	GNR		NNA		SE3	IR
X			*Elymus repens*	Creeping Wildrye	3	GNR		NNA		SE5	IC
	X	X	*Erigeron annuus*	Annual Fleabane	3	G5		N5		S5	C
X			*Erigeron philadelphicus*	Philadelphia Fleabane	-3	G5		N5		S5	C
	X		*Erythronium americanum*	Yellow Trout-lily	5	G5		N5		S5	X
X			*Geum aleppicum*	Yellow Avens	0	G5		N5		S5	X
X			*Geum canadense*	White Avens	0	G5		N5		S5	X
	X		*Geum laciniatum*	Rough Avens	-3	G5		N5		S4	X
	X		*Hesperis matronalis*	Dame's Rocket	3	G4G5		NNA		SE5	IX
X	X	X	*Hypericum perforatum*	Common St. John's-wort	5	GNR		NNA		SE5	IC
	X		*Ipomoea purpurea*	Common Morning Glory	3	GNR		NNA		SE2	IR
	X		*Iris pseudacorus*	Yellow Iris	-5	GNR		NNA		SE4	IR
X	X	X	*Juglans nigra*	Black Walnut	3	G5		N4		S4?	X
	X	X	*Juncus tenuis*	Path Rush	0	G5		N5		S5	X
	X	X	*Juniperus virginiana*	Eastern Red Cedar	3	G5		N5		S5	X
X			*Linaria vulgaris*	Butter-and-eggs	5	GNR		NNA		SE5	IC

			Floral Inventory								
1	2	3	**Scientific Name**	**Common Name**	**CW**	**GRank**	**COSEWIC**	**Nrank**	**SARO**	**SRank**	**MD**
X	X	X	*Lonicera tatarica*	Tartarian Honeysuckle	3	GNR		NNA		SE5	IX
X	X	X	*Monarda fistulosa*	Wild Bergamot	3	G5		N5		S5	
X	X	X	*Parthenocissus vitacea*	Thicket Creeper	3	G5		N5		S5	X
	X		*Phalaris arundinacea*	Reed Canary Grass	-3	G5		N5		S5	X
X			*Pyrus communis*	Common Pear	5	G5		NNA		SE4	IX
X	X	X	*Rhus typhina*	Staghorn Sumac	3	G5		N5		S5	C
X	X	X	*Rubus occidentalis*	Black Raspberry	5	G5		N5		S5	C
X	X	X	*Solidago canadensis*	Canada Goldenrod	3	G5		N5		S5	
	X		*Solidago nemoralis*	Gray-stemmed Goldenrod	5	G5		N5		S5	
	X	X	*Sonchus arvensis*	Field Sow-thistle	3	GNR		NNA		SE5	IX
	X	X	*Stellaria graminea*	Grass-leaved Starwort	5	GNR		NNA		SE5	IX
X	X	X	*Symphyotrichum ericoides*	White Heath Aster	3	G5		N5		S5	
X			*Symphyotrichum lanceolatum var. interior*	Interior White Aster	-3	G5T5		NNR		S4S5	
X	X	X	*Symphyotrichum novae-angliae*	New England Aster	-3	G5		N5		S5	C
X	X	X	*Symphyotrichum pilosum*	White Heath Aster	3	G5		N5		S5	
	X	X	*Taraxacum officinale*	Common Dandelion	3	G5		N5		SE5	IC
X			*Thuja occidentalis*	Eastern White Cedar	-3	G5		N5		S5	X
	X		*Tilia americana*	American Basswood	3	G5		N5		S5	C
	X		*Viburnum opulus*	Cranberry Viburnum	-3	G5		N5		S5	
X	X	X	*Vitis riparia*	Riverbank Grape	0	G5		N5		S5	C

Community 1

Floristic Analysis	
Total Spp.	32
Native	21
% Native	65.63
Introd.	11
% Introd.	34.38
Coefficient of Conservatism	
SUM CC	59
Mean CC (Natives)	2.81
Mean CC (All Spp.)	1.84
FQI	
FQI (Natives)	12.87
FQI (All Spp.)	10.43
Mean Coefficient of Wetness	
Natives	1.33
All Species	2.13

Community 2

Floristic Analysis	
Total Spp.	45
Native	30
% Native	66.66667
Introd.	15
% Introd.	33.33333
Coefficient of Conservatism	
SUM CC	87
Mean CC (Natives)	2.9
Mean CC (All Spp.)	1.933333
FQI	
FQI (Natives)	15.88395
FQI (All Spp.)	12.96919
Mean Coefficient of Wetness	
Natives	1.033333
All Species	1.555556

Community 3

Floristic Analysis	
Total Spp.	29
Native	17
% Native	58.62069
Introd.	12
% Introd.	41.37931
Coefficient of Conservatism	
SUM CC	34
Mean CC (Natives)	2
Mean CC (All Spp.)	1.172414
FQI	
FQI (Natives)	8.246211
FQI (All Spp.)	6.313641
Mean Coefficient of Wetness	
Natives	2
All Species	2.482759

Mean Coefficient of Conservatism

10.00	
9.50	
9.00	
8.50	
8.00	
7.50	
7.00	
6.50	
6.00	
5.50	>4.5 remnant has natural area potential (relatively intact natural area with high floristic quality)
5.00	
4.50	
4.00	>3.5 Sufficient floristic quality to be of remnant natural quality
3.50	
3.00	
2.50	
2.00	
1.50	
1.00	
0.50	
0.00	

Floristic Quality Index (FQI)

100.00	
95.00	
90.00	
85.00	
80.00	
75.00	
70.00	
65.00	
60.00	>50 Extremely rare and represent a significant component of Ontario's native biodiversity and natural landscapes
55.00	
50.00	
45.00	>35 Possess sufficient conservatism and richness to be floristically important from a Provincial perspective
40.00	
35.00	
30.00	
25.00	
20.00	<20 Minimal significance from a natural quality perspective
15.00	
10.00	
5.00	
0.00	

Mean Coefficient of Wetness

5.0	***Strong***
4.5	
4.0	
3.5	
3.0	Pedominance of upland species
2.5	
2.0	
1.5	
1.0	
0.5	*Slight*
0.0	
-0.5	*Slight*
-1.0	
-1.5	
-2.0	
-2.5	Predominance of wetland species
-3.0	
-3.5	
-4.0	
-4.5	
-5.0	***Strong***

Appendix H

Breeding Bird Study

AVIFAUNAL SURVEY INFORMATION SUMMARY SHEET

Project: Aarts _ Gideon Heights
Collector(s): W. Huys, Erin Boynton

	Date	Start	Finish	Weather
Visit 1	5-Jun-18	5:15 a.m.	6:30 a.m.	11°C clear, still
Visit 2	20-Jun-18	9:00 a.m.	10:00 a.m.	18°C overcast, still, cool

Species Code	Species Name	Visit 1		Visit 2		S Rank	ESA Statu	PIF Status	Community	Notes	
		Evidence Code	No.	Evidence Code	No.						
MODO	Mourning Dove			OB	1	S5			2		92
DOWO	Downy Woodpecker			OB	1	S5			2		108
EAWP	Eastern Wood-Pewee	FY	1			S4	-	RC	1		112
EAPH	Eastern Phoebe	VO	1			S5			1		117
EAKI	Eastern Kingbird	OB	1			S4		RC	2		119
WAVI	Warbling Vireo	VO	1	SM	1	S5			1, 2		123
BCCH	Black-capped Chickadee	VO	1			S5	-		1		134
AMRO	American Robin	VO, FY	5	FY	7	S5			1, 2		152
YWAR	Yellow Warbler	OB	1	SM	1	S5			1		163
CHSP	Chipping Sparrow			P	2	S5			2		192
FISP	Field Sparrow	OB	1	SM	1	S4		RC	2		193
SOSP	Song Sparrow	P	3	SM, P	7	S5			1, 2		198
NOCA	Northern Cardinal			T	2	S5			1		203
INBU	Indigo Bunting	VO	1	T, P	3	S4			1, 2		205
RWBL	Red-winged Blackbird	OB, FY	6			S4			1, 2		207
COGR	Common Grackle	OB	2	VO	1	S5			2		210
BHCO	Brown-headed Cowbird	VO, P	3	P	3	S4			1, 2		211
BAOR	Baltimore Oriole			FY	3	S4		RC,RS	2		213
AMGO	American Goldfinch	OB	1	P, OB	5	S5			1, 2		215

Evidence Codes:

Breeding Bird - Possible

SH=Suitable Habitat SM=Singing Male

Breeding Bird - Probable

T=Territory A=Anxiety Behaviour D=Display N=Nest Building P=Pair V=Visiting Nest

Breeding Bird - Confirmed

DD=Distraction NE=Eggs AE=Nest Entry NU=Nest Used NY=Nest Young FY=Fledged Young FS=Food/Faecal Sack

Other Wildlife Evidence

OB=Observed DP=Distinctive Parts TK=Tracks VO=Vocalization HO=House/Den FE=Feeding Evidence CA=Carcass
Fy=Eggs or Young SC=Scat SI=Other Signs (specify)

Appendix I

Amphibian Monitoring

AMPHIBIAN BREEDING SURVEY INFORMATION FIELD SHEET

BioLogic

Project: Aarts - Gideon Heights Page 1 of 1
Station Name: J Watercourse Name:
Darinage Sys.: GPS Coordinates:

Visit 1 Date: April 21, 2018 Start: 10:43 End: 10:54
Weather: clear, still
Water °C: — Wind: 0 Noise: 1 Today- Rain: no Max °C: 12°
Air °C: 4° Cloud%: 0 Yesterday- Rain: no Max °C: 9°
Control Site: Y/N Were Frogs Calling: Y/N Where: TOPPING Collector(s): MH

Amphibian Data:

Field Note Community:		1		2													
ELC Community:																	
Species	Season	CC	#	CC	#	CC	#	CC	#	CC	#	CC	#	CC	#	CC	#
Wood Frog	e. spring	—	—	—	—												
Spring Peeper	e. spring	—	—	—	—												
Western Chorus Frog	e. spring	—	—	—	—												
Boreal Chorus Frog	e. spring	—	—	—	—												
American Toad	spring	—	—	—	—												
Northern Leopard Frog	spring	—	—	—	—												
Pickerel Frog	spring	—	—	—	—												
Gray Treefrog	spring	—	—	—	—												
Fowler's Toad	spring	—	—	—	—												
Mink Frog	summer	—	—	—	—												
Green Frog	summer	—	—	—	—												
Bullfrog	summer	—	—	—	—												

Visit 2 Date: Start: End:
Weather:
Water °C: Wind: Noise: Today- Rain: Max °C:
Air °C: Cloud%: Yesterday- Rain: Max °C:
Control Site: Y/N Were Frogs Calling: Y/N Where: Collector(s):

Amphibian Data:

Species	Season	CC	#	CC	#	CC	#	CC	#	CC	#	CC	#	CC	#	CC	#
Wood Frog	e. spring																
Spring Peeper	e. spring																
Western Chorus Frog	e. spring																
Boreal Chorus Frog	e. spring																
American Toad	spring																
Northern Leopard Frog	spring																
Pickerel Frog	spring																
Gray Treefrog	spring																
Fowler's Toad	spring																
Mink Frog	summer																
Green Frog	summer																
Bullfrog	summer																

Visit 3 Date: Start: End:
Weather:
Water °C: Wind: Noise: Today- Rain: Max °C:
Air °C: Cloud%: Yesterday- Rain: Max °C:
Control Site: Y/N Were Frogs Calling: Y/N Where: Collector(s):

Amphibian Data:

Species	Season	CC	#	CC	#	CC	#	CC	#	CC	#	CC	#	CC	#	CC	#
Wood Frog	e. spring																
Spring Peeper	e. spring																
Western Chorus Frog	e. spring																
Boreal Chorus Frog	e. spring																
American Toad	spring																
Northern Leopard Frog	spring																
Pickerel Frog	spring																
Gray Treefrog	spring																
Fowler's Toad	spring																
Mink Frog	summer																
Green Frog	summer																
Bullfrog	summer																

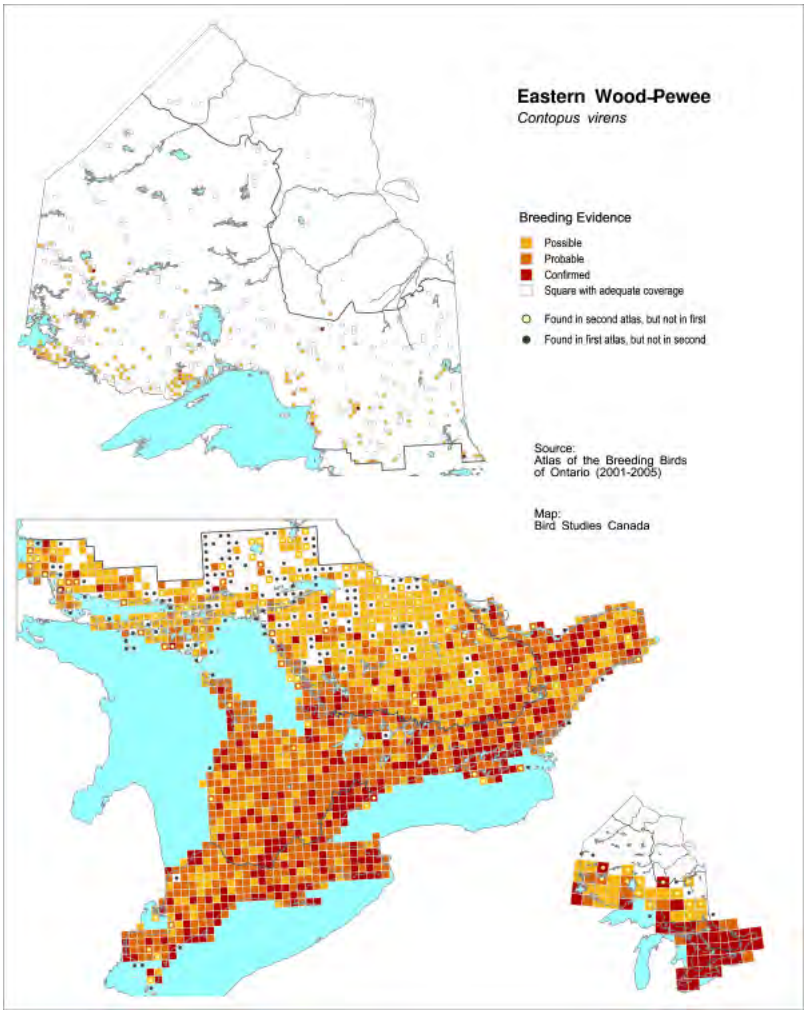
Appendix J

Breeding Bird Atlas Squares – Eastern Wood-pewee

Atlas of the
BREEDING BIRDS
OF ONTARIO

Select a species and the type of map to display. The maps may take a few moments to appear.

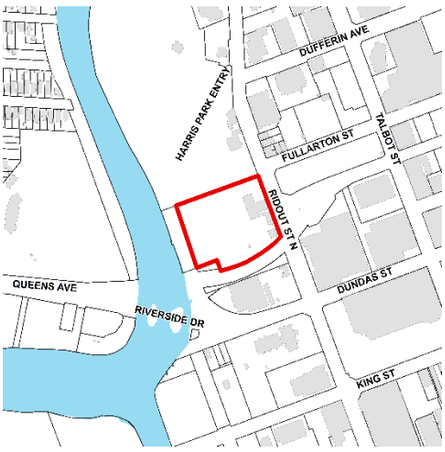
Eastern Wood-Pewee ▼ | 2nd atlas - br. evidence Atlas ▼ | Previous | Next | Switch



NOTICE OF PLANNING APPLICATION

Official Plan and Zoning By-law Amendments

435-451 Ridout Street North



File: OZ-9157
Applicant: Farhi Holdings Corporation

What is Proposed?

Official Plan and Zoning Amendments to allow:

- Adaptive reuse of the existing heritage buildings
- A 40-storey mixed-use building containing 280 residential units and 6,308 sq.m of office/commercial space, incorporated with the existing heritage building at 451 Ridout Street North
- A maximum density of 500 units per hectare
- A maximum building height of 125 metres
- A setback of 17.9 metres to the residential component of the building

LEARN MORE & PROVIDE INPUT

Please provide any comments by **January 22, 2020**
Catherine Lowery
clowery@london.ca
519-661-CITY (2489) ext. 5074
Development Services, City of London, 300 Dufferin Avenue, 6th Floor,
London ON PO BOX 5035 N6A 4L9
File: OZ-9157
london.ca/planapps

You may also discuss any concerns you have with your Ward Councillor:
Councillor Arielle Kayabaga
akayabaga@london.ca
519-661-CITY (2489) ext. 4013

If you are a landlord, please post a copy of this notice where your tenants can see it. We want to make sure they have a chance to take part.

Date of Notice: December 18, 2019

Application Details

Commonly Used Planning Terms are available at london.ca/planapps.

Requested Amendment to the Current Official Plan

To add a Chapter 10 specific policy to permit a 40-storey mixed-use building containing 280 residential units and 6,308 square metres of office/commercial space, in addition to 1,627 square metres of office/commercial space in the existing heritage buildings.

Requested Amendment to The London Plan (New Official Plan)

To add a specific policy to the Downtown Place Type to permit a maximum of building height of 40-storeys.

Requested Zoning By-law Amendment

To change the zoning from a Downtown Area Special Provision (DA2(3)*D350) Zone, a Heritage/Regional Facility (HER/RF) Zone, and an Open Space (OS4) Zone to a Downtown Area Special Provision (DA2(_)*D500*H125) Zone and an Open Space (OS4) Zone. Changes to the currently permitted land uses and development regulations are summarized below. The complete Zoning By-law is available at london.ca/planapps.

Current Zoning

Zone: Downtown Area Special Provision (DA2(3)*D350) Zone, a Heritage/Regional Facility (HER/RF) Zone, and an Open Space (OS4) Zone

Permitted Uses: Retail stores; supermarkets; amusement game establishments; apartment buildings; apartment hotel; art galleries; assembly halls; bake shops; clinics; commercial parking structures; commercial recreation establishments; convenience stores; day care centres; dry cleaning and laundry depots; duplicating shops; dwelling units; emergency care establishments; film processing depots; financial institutions; funeral homes; group home type 2; hotels; institutions; laboratories; laundromats; libraries; medical/dental offices; museums; offices; patent testing centre laboratories; personal service establishments; places of worship; printing establishments; private clubs; repair and rental establishments; restaurants; restaurants, outdoor patio; schools; senior citizen apartment buildings; service and repair establishments; service trades; studios; taverns; theatres and cinemas; video rental establishments; lodging house class 2; place of entertainment; artisan workshop; craft brewery; adult secondary schools; ancillary residential and/or hostels and accommodations, together with permitted uses in the RF Zone; commercial schools; community colleges; elementary schools; hospitals; private schools; recreational buildings; secondary schools; stadia; supervised residences; universities; conservation lands; conservation works; golf courses without structures; private parks without structures; public parks without structures; recreational golf courses without structures; cultivation or use of land for agricultural/horticultural purposes; sports fields without structures

Special Provisions: Permitted uses only in existing buildings and height as existing on the date of the passing of By-law No. Z.-1.

Density: 350 units per hectare.

Requested Zoning

Zone: Downtown Area Special Provision (DA2(_)*D500*H125) Zone and an Open Space (OS4) Zone

Permitted Uses: Retail stores; supermarkets; amusement game establishments; apartment buildings; apartment hotel; art galleries; assembly halls; bake shops; clinics; commercial parking structures; commercial recreation establishments; convenience stores; day care centres; dry cleaning and laundry depots; duplicating shops; dwelling units; emergency care establishments; film processing depots; financial institutions; funeral homes; group home type 2; hotels; institutions; laboratories; laundromats; libraries; medical/dental offices; museums; offices; patent testing centre laboratories; personal service establishments; places of worship; printing establishments; private clubs; repair and rental establishments; restaurants; restaurants, outdoor patio; schools; senior citizen apartment buildings; service and repair establishments; service trades; studios; taverns; theatres and cinemas; video rental establishments; lodging house class 2; place of entertainment; artisan workshop; craft brewery; conservation lands; conservation works; golf courses without structures; private parks without structures; public parks without structures; recreational golf courses without structures; cultivation or use of land for agricultural/horticultural purposes; sports fields without structures.

Special Provision: A reduced setback for the residential component of the building of 17.9 metres, whereas 44.4 metres is required.

Density: 500 units per hectare.

Height: 125 metres.

Bonus Zone: A bonus zone may be requested to permit the proposed density, height, and setback in return for eligible facilities, services, and matters outlined in Section 19.4.4 of the 1989 Official Plan and policies 1638_ to 1655_ of The London Plan.

The City may also consider the use of additional special provisions.

An Environmental Impact Study has been prepared to assist in the evaluation of this application.

Planning Policies

Any change to the Zoning By-law must conform to the policies of the Official Plan, London's long-range planning document. These lands are currently designated as Downtown and Open Space in the Official Plan, which permits a broad range of retail, service, office, institutional, entertainment, cultural, high density residential, transportation, recreational, and open space uses as the main uses.

The subject lands are in the Downtown Place Type and the Green Space Place Type in *The London Plan*, permitting a range of residential, retail, service, office, cultural, institutional, hospitality, entertainment, recreational, and other related uses. Permitted uses in the Green Space Place Type include agriculture, woodlot management, horticulture, conservation, and recreational uses.

How Can You Participate in the Planning Process?

You have received this Notice because someone has applied to change the Official Plan designation and the zoning of land located within 120 metres of a property you own, or your landlord has posted the notice of application in your building. The City reviews and makes decisions on such planning applications in accordance with the requirements of the *Planning Act*. The ways you can participate in the City's planning review and decision making process are summarized below. For more detailed information about the public process, go to the Participating in the Planning Process page at london.ca.

See More Information

You can review additional information and material about this application by:

- visiting Development Services at 300 Dufferin Ave, 6th floor, Monday to Friday between 8:30am and 4:30pm;
- contacting the City's Planner listed on the first page of this Notice; or
- viewing the application-specific page at london.ca/planapps.

Reply to this Notice of Application

We are inviting your comments on the requested changes at this time so that we can consider them as we review the application and prepare a report that will include Development Services staff's recommendation to the City's Planning and Environment Committee. Planning considerations usually include such matters as land use, development intensity, and form of development.

Attend a Community Information Meeting

A community information meeting will be held in your neighbourhood to present this proposal and obtain input from interested members of the public. The meeting has not yet been scheduled, but will be in advance of the Future Public Meeting described below. You will receive a separate notice inviting you to this meeting. The Community Information Meeting is not the public meeting required by the Planning Act and attendance at this meeting does not create a right to appeal the decision of Council to the Local Planning Appeal Tribunal.

Attend a Future Public Participation Meeting

The Planning and Environment Committee will consider the requested Official Plan and zoning changes on a date that has not yet been scheduled. The City will send you another notice inviting you to attend this meeting, which is required by the *Planning Act. Y*ou will also be invited to provide your comments at this public participation meeting. The Planning and Environment Committee will make a recommendation to Council, which will make its decision at a future Council meeting.

What Are Your Legal Rights?

Notification of Council Decision

If you wish to be notified of the decision of the City of London on the proposed official plan amendment and zoning by-law amendment, you must make a written request to the City Clerk, 300 Dufferin Ave., P.O. Box 5035, London, ON, N6A 4L9, or at docservices@london.ca. You

will also be notified if you speak to the Planning and Environment Committee at the public meeting about this application and leave your name and address with the Secretary of the Committee.

Right to Appeal to the Local Planning Appeal Tribunal

If a person or public body would otherwise have an ability to appeal the decision of the Council of the Corporation of the City of London to the Local Planning Appeal Tribunal but the person or public body does not make oral submissions at a public meeting or make written submissions to the City of London before the proposed official plan amendment is adopted, the person or public body is not entitled to appeal the decision.

If a person or public body does not make oral submissions at a public meeting or make written submissions to the City of London before the proposed official plan amendment is adopted, the person or public body may not be added as a party to the hearing of an appeal before the Local Planning Appeal Tribunal unless, in the opinion of the Tribunal, there are reasonable grounds to add the person or public body as a party.

If a person or public body would otherwise have an ability to appeal the decision of the Council of the Corporation of the City of London to the Local Planning Appeal Tribunal but the person or public body does not make oral submissions at a public meeting or make written submissions to the City of London before the by-law is passed, the person or public body is not entitled to appeal the decision.

If a person or public body does not make oral submissions at a public meeting or make written submissions to the City of London before the by-law is passed, the person or public body may not be added as a party to the hearing of an appeal before the Local Planning Appeal Tribunal unless, in the opinion of the Tribunal, there are reasonable grounds to do so.

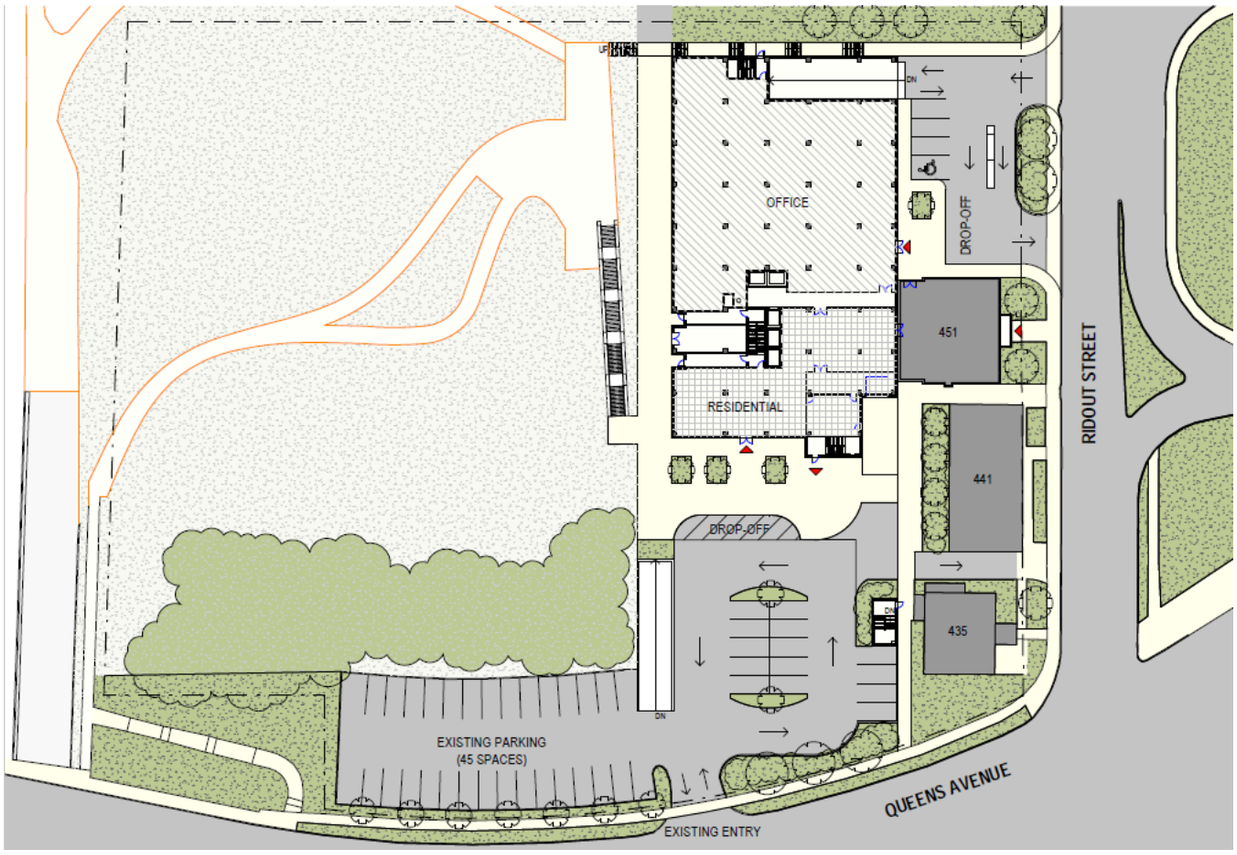
For more information go to http://elto.gov.on.ca/tribunals/lpat/about-lpat/.

Notice of Collection of Personal Information

Personal information collected and recorded at the Public Participation Meeting, or through written submissions on this subject, is collected under the authority of the *Municipal Act*, 2001, as amended, and the *Planning Act*, 1990 R.S.O. 1990, c.P.13 and will be used by Members of Council and City of London staff in their consideration of this matter. The written submissions, including names and contact information and the associated reports arising from the public participation process, will be made available to the public, including publishing on the City's website. Video recordings of the Public Participation Meeting may also be posted to the City of London's website. Questions about this collection should be referred to Cathy Saunders, City Clerk, 519-661-CITY(2489) ext. 4937.

Accessibility – Alternative accessible formats or communication supports are available upon request. Please contact accessibility@london.ca or 519-661-CITY(2489) extension 2425 for more information.

Site Concept



Site Concept Plan

Building Renderings

Conceptual Renderings

The above images represent the applicant's proposal as submitted and may change.

Final

435-451 Ridout Street, London Ontario

Preliminary Environmental Impact Study

Prepared for:

Farhi Holdings Corporation
484 Richmond Street, Suite 200
London, ON N6A 3E6

Project No. 2161 | July 2019

NATURAL RESOURCE SOLUTIONS INC.
Aquatic, Terrestrial and Wetland Biologists

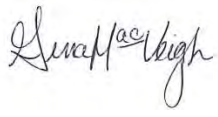
435-451 Ridout Street, London Ontario

Preliminary Environmental Impact Study

Project Team

Katharina Richter	Senior Biologist, Project Advisor
Gina MacVeigh	Aquatic Biologist, Project Manager
Jeremy Bannon	Terrestrial and Wetland Biologist/Certified Arborist
Laura Hockley	GIS Analyst

Report submitted on July 11, 2019



Gina MacVeigh
Project Manager
Aquatic Biologist

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1.0 Introduction

Natural Resource Solutions Inc. (NRSI) was retained in 2018 by Farhi Holdings Corporation to complete a scoped Environmental Impact Study (EIS) for a proposed multi-use development on the subject property, located at 435-451 Ridout Street in London, Ontario. This EIS has been developed in accordance with the City of London's Environmental Management Guidelines (2007) and in agreement with the scoping meeting held with agency staff on September 24, 2018 (MacKay, J. Pers. Comm. 2018).

For the purposes of this report, the term "subject property" refers to the property outlined on Map 1, as owned by Farhi Holdings Corporation that are the subject of the development application and upon which studies were completed to prepare this scoped EIS. The term "study area" refers to the subject property plus lands within approximately 1km. Detailed biological surveys were undertaken by NRSI on the subject property within the late fall of 2018. Legacy data collected from background sources and agency consultation encompassed the study area to ensure that all surrounding natural features were considered.

The subject property, roughly rectangular in shape, is approximately 1.4ha in area, bordered by Harris Park to the north, Ridout Street North to the east, Queens Avenue to the south, and a small access road to the west, which borders the North Thames River (Map 1). The subject property contains parking lots, existing heritage buildings with established businesses, manicured lawn, and small cultural natural areas (Map 2). A large portion of the subject property is identified as being within the floodplain and regulated area by the Upper Thames River Conservation Authority (UTRCA). The study area is located within Ecoregion 7E.

This report summarizes the work completed and includes background species information for the subject property and study area, the results of original field surveys including vegetation communities and vascular flora, tree inventory, incidental wildlife and significant wildlife habitat assessments. This report includes identification of any sensitive and significant natural features and species in the study area and any potential constraints to the proposed development. A preliminary analysis of impacts based on the proposed site plan was completed by comparing the natural features to the proposal and following local and provincial policies and guidance. It is expected that once detailed designs, grading plans, and servicing information is known, that an addendum will be required to this EIS in order to update the impact analysis and identify further mitigation measures.

This report includes information on the health and condition of the inventoried trees on site. As a formal grading plan has not yet been developed, a retention analysis, tree protection measures and recommended compensation are not included in this report. A Tree Protection Plan will be required once the extent of grading is known.

1.1 Proposed Undertaking

Farhi Holding Corporation is proposing to create a mixed-use development, consisting of a tower with residential, hotel, office and retail space, as well as underground parking. The development plan has been created to support the Downtown Plan, The London Plan, and the Back to the River initiative. It has also been designed to maintain the existing heritage buildings with an integrated use. A significant section of the subject property (approximately 40%) that is present within the floodplain is not intended for development at this time. The site plan has been designed to minimize the impact on the subject property, as well as minimize the extent of development within the floodplain. The development includes removing a portion of the natural features on the subject property, but will be mitigating these impacts through the landscape design. The development is also proposed to stabilize both the east and south banks of Harris Park, which are currently very steep and comprised of primarily non-native plant species. The parking garage is proposed to be below the tower, within the east bank, and will be designed to be watertight to the extent of the 250-year flood line.

1.2 Project Scoping

The scope of the EIS was discussed during the Site Suitability and Issues Summary Checklist meeting held on September 24, 2018 between the UTRCA, City of London, MHBC Planning, and NRSI. It was reduced in scope due to the limited expected impacts to natural areas, the existing background information for the study area, and due to the timing requirements of the development. As a large portion of the subject property is within the flood line limit and regulation limit, the Record of Pre-consultation had indicated that the EIS be scoped with the UTRCA. Farhi Holdings engaged the UTRCA very early in the process to ensure that the development layout is accepted in principle. The Summary Checklist can be found in Appendix I. In addition, a fulsome hydrogeological assessment, was deemed necessary for the lower parking area.

A conservative approach was accepted for species that may occupy the greater study area, and several areas will therefore be assumed significant, as discussed in Section 5. In determining a study approach for the scoped EIS, existing natural heritage information was first gathered and

reviewed to identify key natural heritage features and species that are reported from, or have potential to occur, within the study area. Requests for background information were sent to the Ontario Ministry of Natural Resources and Forestry (MNRF) Aylmer District, as well as to the UTRCA on November 27, 2018. Information from the MNRF (Aylmer District) was received on January 31, 2019 (Webb, J. pers. comm.), which is included in Appendix I. Background information on the natural environmental features within the study area was gathered from the following sources:

- The London Plan (City of London 2016)
- The City of London Official Plan (City of London 1989)
- Natural Heritage Information Centre (NHIC) database (MNRF 2018a)
- Harris Park Subject Land Status Report (NRSI 2013)
- West London Dykes Subject Land Status Report (UTRCA 2015)
- Land Information Ontario (LIO) data base mapping
- Middlesex Natural Heritage System Study (Middlesex County 2014)
- The Forks Watershed Report Card (UTRCA 2017)
- Fisheries and Oceans Canada's Aquatic Species at Risk Maps (DFO 2018)
- Ontario Breeding Bird Atlas (OBBA) (Bird Studies Canada et al. 2008)
- Ontario Reptile and Amphibian Atlas (Ontario Nature 2018)
- Atlas of the Mammals of Ontario (Dobbyn 1994)
- Ontario Butterfly Atlas (MacNaughton et al. 2018)
- Ontario Odonata Atlas (MNRF 2018b)

Initial wildlife species lists were compiled to provide information on species reported from the vicinity of the study area (10km radius) using the various atlases listed above. The atlases provide data based on 10x10km survey squares; information on species from the square that overlaps the study area was compiled (square 17MH75 from the OBBA).

Based on these initial species lists, a number of Species at Risk (SAR) and Species of Conservation Concern (SCC) were identified as having records from within the vicinity of study area. SAR are those listed on the Species at Risk in Ontario List (MNRF 2018c). These include species identified by the Committee on the Status of Species at Risk in Ontario (COSSARO) as provincially Endangered, Threatened, or Special Concern. Species listed by COSSARO as Endangered or Threatened are protected by the *Endangered Species Act* (ESA), 2007, which

includes protection to their habitat, and are referred to herein as “regulated SAR”. Species considered Special Concern are included in the definition of SCC, which includes the following:

- Species designated provincially as Special Concern,
- Species that have been assigned a conservation status (S-Rank) of S1 to S3 or SH by the NHIC, and
- Species that are designated federally as Threatened or Endangered by the Committee for the Status of Endangered Wildlife in Canada (COSEWIC), but not provincially by the COSSARO. If these species are listed under Schedule 1 of the *Species at Risk Act* (SARA), they are protected by the federal Act, but not provincially by the ESA.

Species at Risk and Species of Conservation Concern Habitat Screening

A preliminary screening exercise was conducted on these species to identify those having suitable habitat within the subject property and overall study area. This involved cross-referencing the preferred habitat for reported SAR and SCC (MNRF 2018c, OMNR 2000) against habitats known to occur within the subject property or adjacent lands. This was completed to ensure that the potential presence of all SAR and SCC within the subject property was adequately assessed in this EIS. The preliminary screening exercise was subsequently updated following completion of the site visits to provide a more fulsome assessment of significant species and their habitats within the subject property. The screening table is provided in Appendix II.

Significant Wildlife Habitat Screening

A preliminary screening for the presence of Significant Wildlife Habitat (SWH) was also completed for the study area. The Significant Wildlife Habitat Technical Guide (SWHTG) is a guideline document that outlines the types of habitats that the MNRF considers significant in Ontario, as well as criteria to identify these habitats (OMNR 2000, MNRF 2015). The SWHTG groups SWH into 5 broad categories: seasonal concentration areas, rare vegetation communities, specialized wildlife habitat, habitats of Species of Conservation Concern, and animal movement corridors. Following completion of the field studies, the screening document was updated to verify which SWH types had been confirmed as present or absent, or remain as candidate habitats. The SWH screening tables are provided in Appendix III.

2.0 Relevant Policies, Legislation and Planning Studies

Natural features and species in the study area were evaluated against the relevant local, provincial and federal policies, legislation, and planning studies, to help inform suitable land-use concepts, guide the layout of development, and identify areas to be protected. This analysis is shown in Table 1.

Table 1. Relevant Policies, Legislation, and Planning Studies

Policy/Legislation/ Plan	Description	Project Relevance

Provincial Policy Statement (OMMAH 2014).	• Issued under the authority of Section 3 of the Planning Act and came into effect on April 30, 2014, replacing the 2005 PPS (OMMAH 2005).
	• Section 2.1 of the PPS – Natural Heritage establishes clear direction on the adoption of an ecosystem approach and the protection of resources that have been identified as 'significant'.
	• The Natural Heritage Reference Manual (OMNR 2010) and the Significant Wildlife Habitat Technical Guide (OMNR 2000) and associated criteria schedules (OMNR 2015) were prepared by the MNRF to provide guidance on identifying natural features and in interpreting the Natural Heritage sections of the PPS.
		• Based on a preliminary analysis, natural features were identified within the study area which have implications under the PPS:
		  • Habitat for Endangered and Threatened species,
		  • Significant Wildlife Habitat
		  • Fish Habitat
		  • Woodlands

Endangered Species Act (2007) and Ontario Regulation 242/08	• The ESA came into force in 2007. • The ESA prohibits killing, harming, harassing or capturing Endangered and Threatened species and protects their habitats from damage and destruction. • O. Reg 242/08 allows exemptions to the ESA as long as notice is given on the registry. Mitigation plans must be prepared to ensure impacts are mitigated and must be monitored post-construction.	• Regulated SAR were identified as having potential to occur within the study area based on the habitat present. • Field surveys determined that two cavity trees are present within the cultural woodland which may constitute habitat for roosting SAR bats. • The removal of these trees would require following the tree removal guidelines and/or discussions with MNRF, Aylmer District. • Two SAR birds may utilize the bridge off property or heritage buildings on property. • A SAR mussel has been documented off-property and its habitat is protected within the subject property.

Policy/Legislation/ Plan	Description	Project Relevance
		• SAR turtles have been documented off-property and their habitat protection does not affect the subject property.
Canadian Fisheries Act (2007)	• Manages threats to the sustainability and productivity of Canada's commercial, recreational and Aboriginal fisheries. • The Act prohibits "serious harm to fish" including destruction of habitat. • DFO has developed an online, self-assessment tool, where proponents can determine whether their projects require DFO review based on the type of water body the work is occurring in and the nature of the proposed activity.	• Development within the floodplain limit, as well as the approach to stormwater management may have implications on fish habitat within the Thames River adjacent to the subject property. • Construction activities will need to follow mitigation and best practices as per DFO recommendations to avoid serious harm.
City of London Official Plan (1989) and The London Plan (2016)	• Schedule B1 on the City of London Official Plan identifies Natural Heritage Features and B2 identifies the Natural Resources and Natural Hazards. • The City of London's new Official Plan, 'The London Plan' (2016) outlines current policies for the protection of natural features within the City of London and which represent a constraint for development. • The London Plan was adopted by Council and the Province in 2016. • Map 1 identifies Place Types within the City (Green Space, Downtown) • Map 5 identifies Natural Heritage areas. • Map 6 identifies Hazards and Natural Resources • As sections of the London Plan have been appealed, if is not yet in force, but must be considered. The City of London Official Plan (1989) is still in force.	• An EIS that was to be scoped with the UTRCA was requested due to the potential for SWH or SCC/SAR within the subject property, as well as the proximity to the floodplain and associated features. • Green space is identified on Map 1 for portion of the subject property which includes natural heritage features are areas. • Map 5 (Natural Heritage) of the London Plan shows a woodland within 120m of the subject property. • Map 6 identifies the subject property and study area as having hazards including being within the Regulatory Flood Line, Riverine Erosion Hazard Limit for Unconfined Systems, the Maximum Hazard Line, and the Conservation Authority Regulation. • Schedule B1 on the OP (1989) identifies a portion of the subject property (Thames River Valley) as being a Big Picture Meta-Core and Meta Corridor, a significant corridor, and within the Max hazard Line.
City of London Environmental Management Guidelines (2007)	• Outline policy guidelines, standards, process and procedures for the preparation and review of Environmental Impact Statements (i.e. studies), determination of buffers and setbacks, and evaluation of significant woodlands	• Environmental Management Guidelines are to be followed through the project steps including data collection standards and

Policy/Legislation/ Plan	Description	Project Relevance
		guidelines for determining setbacks and ecological buffers. • The EIS guidelines were followed, as outlined in Section 1 of the Environmental Management Guidelines.
UTRCA Regulation 157/06	• Regulation issued under *Conservation Authorities Act,* R.S.O. 1990. • Through this regulation, the UTRCA has the responsibility to regulate activities in natural and hazardous areas (i.e. areas in and near rivers, streams, floodplains, wetlands, and slopes). • UTRCA regulates the development or alteration of habitats within a river valley. Where the stream has an apparent valley and stable slopes, the valley extends from the stable top of slope plus 15 m, to a similar point on the opposite side. • UTRCA requires that a Permit be required if work is to be undertaken within the Regulation Limit.	• UTRCA Regulated Areas fall within the subject property. • The Regulation identifies that "*no person shall undertake development or permit another person to undertake development in or on the areas within the jurisdiction of the Authority (UTRCA)*" such as river or stream valleys. • A permit is required from the UTRCA to undertake work within the Regulation Limit. • Farhi Holdings has worked with the UTRCA to design a development plan that is accepted in principle by the UTRCA.
Thames Valley Corridor Plan (2011)	• Recommends measures to protect and enhance the natural features within the Thames River valley in support of the City of London Official Plan. • Thames River is designated as a Canadian Heritage River. • It defines the functional limits of the Thames River, and provides visions and objectives for the corridor.	• Section 3.3 of the Plan describes various strategies for land use management and planning and states that a 100m edge zone (measured from the bank full high water mark) is to be allocated as open space for vegetated buffers, ecological enhancements and public use purposes. • Identifies the Harris Park area with potential improvements including restoration of the Thames River edge, introduction of a water's edge promenade or overlook, pathways and lighting upgrades and landscape plantings that may improve the aesthetic aspects of the Park.
City of London Tree Protection By-law (2017a)	• By-law that regulates the injuring and destruction of trees and to encourage preservation and planting on trees throughout the City of London. • Provides maps with designated Tree Protection Areas (TPA). Any tree within a TPA, regardless of species and size, is protected until such time as a permit is issued.	• The subject property is partially within a designated Tree Protection Area (Map D7) (area that is within the floodplain). • A permit is required for any clearing of trees within the subject property.

3.0 Field Methods

Field surveys were undertaken within the subject property to characterize the natural features and identify significant and sensitive features and species that have potential to be adversely affected by the proposed development.

Based on a dedicating a large portion of the floodplain and completing a landscape plan for the subject property as part of the proposed development, the field surveys were scoped to the following (Appendix I):

- Species at Risk (SAR) screening
- Significant Wildlife Habitat (SWH) screening and review in field
- Ecological Land Classification (ELC) and fall vegetation inventory
- Tree inventory of all trees greater than 10cm Diameter at Breast Height (DBH)
- Stick nest survey
- Incidental wildlife observations

A total of 3 site visits were completed between September and November 2018, which are summarized in Table 2. Surveys conducted were undertaken in accordance with provincial and local guidance documents.

All observations of wildlife were documented on the field visits. This included actual direct observations of individuals, as well as signs of wildlife presence (i.e. tracks, scats, dens, nests etc.).

Table 2. Field Investigations Completed Within the Subject Property

Date (2018)	Tasks Completed	Field Staff
September 24	A preliminary site visit to inform scope, photographs of site.	Gina MacVeigh, Katharina Richter
October 11	Bat cavity assessment; Significant Wildlife Habitat (SWH) screening; Ecological Land Classification (ELC) (Lee et al. 1998); vegetation inventory; tree inventory; incidental wildlife observations.	Gina MacVeigh, Jeremy Bannon
November 28	Significant Wildlife Habitat (SWH) screening; incidental wildlife observations.	Gina MacVeigh, Jeremy Bannon

3.1 Terrestrial Field Surveys

3.1.1 Vegetation Surveys

Vegetation community delineation was completed using aerial photography and through site investigations in the field on October 11. The standard Ecological Land Classification (ELC) System for southern Ontario was applied (Lee et al. 1998). Details of vegetation communities were recorded on standard data sheets including species composition, dominance, uncommon species or features, and evidence of human impact.

All observed species of vascular flora were recorded during field surveys on October 11. Additional detailed seasonal surveys were deemed unnecessary due to the simple nature of the natural features and the existing background information as identified in the Summary Checklist (Appendix I).

3.1.2 Tree Inventory

A comprehensive tree inventory was completed by an NRSI Certified Arborist and additional staff on October 11 within the subject property. Any trees with the potential to be impacted by the proposed development were identified and assessed as per the City of London's tree protection by-laws. Individual trees that were greater than or equal to 10cm in DBH were assessed by a Certified Arborist. The location of trees inventoried was surveyed using an SXBlue II GNSS GPS unit by the Certified Arborist. The following information was recorded for each tree:

- Species,
- DBH measurement (cm),
- Crown radius (metres),
- General health (excellent, good, fair, poor, very poor, dead),
- Potential for structural failure (improbable, possible, probable, imminent),
- Tree location (on-site/off-site), and,
- General comments (i.e. disease, aesthetic quality, development constraints, sensitivity to development).

The overall health of each tree and the potential for structural failure was assessed based on the criteria outlined in Appendix IV. In carrying out these assessments, NRSI has exercised a reasonable standard of care, skill and diligence as would be customarily

and normally provided in carrying out these assessments. The assessments have been made using accepted arboricultural techniques. These include a visual examination of each tree for structural defects, scars, external indications of decay such as fungal fruiting bodies, evidence of insect attack, the condition of any visible root structures, the degree and direction of lean (if any), the general condition of the tree(s) and the surrounding site, and the current or planned proximity of property and people. None of the trees examined on the property were dissected, cored, probed, or climbed and detailed root crown examinations involving excavation were not undertaken. The conditions for this assessment, including restrictions, professional responsibility, and third-party liability can be found in Appendix IV, along with all tree inventory data.

3.1.3 Bird Surveys

As larger bird species, such as Raptors, Osprey and Bald Eagles are known to use river corridors, a stick nest survey to document any potential nesting species undertaken. The survey to identify any stick nests occurred on November 28 when there were no leaves on the trees by 2 NRSI biologists. The survey consisted of the biologists walking throughout the subject property and visually searching for stick nests within any of the trees. The chimneys of the heritage buildings were also inspected from the ground to determine the likelihood of Chimney Swift (*Chaetura pelagica*) useage during the November 28 survey. Breeding bird surveys were deemed not necessary through the scoping meeting as there was existing information from the area. It is known that Barn Swallow (*Hirundo rustica*) nest under the Queens Avenue bridge.

3.1.4 Herpetofauna Surveys

A search of the subject property to determine if hibernacula may be present, or if there are areas where hibernacula may be restored/created as part of the project was completed on October 11 and November 28. Other surveys for herpetofauna were deemed not necessary as there is existing background information.

3.1.5 Mammal Surveys

During the 2 field visits, surveys for bat roosting habitat were conducted within the subject property. Little Brown Myotis (*Myotis lucifugus*), a SAR, is known from the vicinity and roosts in tree cavities, hollows, or under loose bark, as well as within buildings (OMNR 2000). To address potential bat habitat presence within treed areas of the subject property, NRSI staff undertook an assessment of suitable tree habitat

features, including snags, cavities, exfoliating bark, and leaf clusters, in accordance with MNRF standardized protocol (OMNR 2011, MNRF 2017). The bat habitat assessment was completed during leaf-off conditions.

Information considered for cavity trees included tree species, location, DBH, canopy cover, tree height, decay class according to Watt and Caceres (1999), and number of potentially suitable cavities. Other criteria were also considered, including the use of cavities by other wildlife, the potential for cavities to be used by predators, supporting/surrounding habitat, and other characteristics which may contribute to the habitat requirements of these species, such as temperature regulation.

4.0 Existing Conditions

The existing conditions, as outlined below, summarize the findings of the 2018 field surveys, in addition to observed species during the 2013 Harris Park SLSR (NRSI 2013). Additional sources outlined below include UTRCA watershed documents, and applicable wildlife atlas data, as referenced.

4.1 Soil, Terrain and Drainage

The subject area lies within the Upper Thames River watershed, which falls under the jurisdiction of the UTRCA. The Upper Thames watershed is 3,420km^2 (UTRCA 2017), and contains 28 subwatersheds. The subject area is present within the Forks subwatershed (UTRCA 2017). As the Thames River erodes the glaciofluvial deposits, it leaves extensive alluvial deposits of sands and gravels in the floodplain. Therefore, the primary material throughout the Thames River watershed is sand, with gravel along the east and southern boundaries. Rich alluvial soil is present as small pockets in the floodplain (UTRCA 2015).

Map 6 of the London Plan (City of London 2016) indicates that there are no identified Significant Groundwater Recharge Area (SGRA) or Highly Vulnerable Aquifer area (HVA) designations within the subject property.

The topography of the eastern portion of the subject property is considerably upslope from the lower western portion, which resides within the Thames River floodplain. Disturbed, cultural natural areas are present along the transition slopes (Map 2).

4.2 Designated Natural Areas

According to The London Plan (2016), there are no designated natural areas located within the subject property or adjacent lands. Harris Park is located immediately north of the subject property, although it also does not contain any identified designated natural areas. The Thames River, a significant watercourse and valleyland, is located west of the subject property.

4.3 Vegetation

4.3.1 Vegetation Communities

The subject property consists primarily of urban land use, including 3 heritage buildings for business and private school use, and two parking lots. Limited, culturally influenced

natural areas are present along the sloped areas of the subject property, and are described as Cultural Woodland. A summary of ELC vegetation communities identified within the subject property is provided in Table 3 and are shown on Map 2. ELC data sheets are provided in Appendix V. The subject property contains 2 separate Cultural Woodland communities, one of which is an inclusion within a larger Sugar Maple forest, as originally assessed in the Harris Park SLSR (NRSI 2013), and as refined and shown on Map 2 of this report.

Table 3. Vegetation Communities Identified within the Subject Property

ELC Type	ELC	Environmental Characteristics
Cultural		
CUW1	Cultural Woodland (Southern site)	The center of the subject property contains a 0.21 hectare culturally influenced wooded feature that is bound by parking lots to the north and south, Harris Park Gate to the west and the Blythe Academy to the east. The community is only present on the steep north-facing slope, and contains many planted and invasive species. The canopy contains no dominant species, with small areas of Hedge Maple (*Acer campestre*), Manitoba Maple (*Acer negundo*), Common Hackberry (*Celtis occidentalis*), Norway Spruce (*Picea abies*), Austrian Pine (*Pinus nigra*), and Norway Maple (*Acer platanoides*). Understorey species include European Buckthorn (*Rhamnus catthartica*), Virginia Creeper (*Parthenocissus inserta*), and Multiflora Rose (*Rosa multiflora*). Groundcover contains many invasive and non-native species, including Garlic Mustard (*Alliaria petiolata*), Awnless Brome (*Bromus inermis*), and several goldenrod (*Solidago*) species. Aside from larger DBH trees inventoried in the western extent of this polygon, the majority of species are considered planted, escaped, or invasive. The assemblage of trees does not match any described ELC community, which shows how disturbed this community is. Notable dumping and unauthorized public use were documented within the community.
CUW1	Cultural Woodland Inclusion (Northern site)	The northeast corner of the property contains the southern extent of a previously identified FOD5-1 Sugar Maple forest, as outlined in the Harris Park SLSR (NRSI 2013) and is located along the west-facing slope, ascending from the floodplain. This community contains a canopy consisting of some planted individuals along the southern and western extent, including Thornless Honey Locust (*Gleditsia triacanthos* var. *inermis*), as well as native Black Walnut (*Juglans nigra*), Manitoba Maple (*Acer negundo*), and Sugar Maple (*Acer saccharum* ssp. *saccharum*). The understorey contains these species, as well as an escaped community of Redbud (*Cercis canadensis*). The ground cover contains Garlic Mustard, Lily-of-the-Valley (*Convallaria majalis*), and Zig-zag Goldenrod (*Solidago flexicaulis*). This community contained fewer documented cultural influences and contained a more functioning natural community, however the southern portion of the property contained a higher portion of invasive and non-native species. Specific to the subject property, and just beyond, included Redbud and Canada Yew (*Taxus canadensis*), both species believed to be associated with landscaping of the subject property and the adjacent Eldon House.

4.3.2 Vascular Flora

During the described field visits, 63 species were recorded within the subject. A complete list of these species is appended to this report (Appendix VI). Approximately 54% of the vascular plant species observed are considered non-native species. No plant species are reported from NHIC atlas data, as well as no additional plant SAR or SCC were provided by the MNRF Aylmer District (Webb, J. pers. comm. 2019).

Canada Redbud, which is considered Extirpated from Ontario (SX), was noted growing within the Cultural Woodland Inclusion. This species has escaped from the gardens at Eldon House, so this observation is also not considered significant.

4.3.3 Tree Inventory

In total, 105 trees were inventoried, comprised of 23 species. Of the trees inventoried and assessed, 49 (46.6%) are native species and 56 (53.3%) are non-native. A complete list of trees inventoried is provided in Appendix V and tree locations within the subject property are shown on Map 3.

Table 4 provides a list of tree species inventoried within the subject property, whether they are native or non-native and their overall health.

Table 5 provides a summary of the overall health of trees inventoried within the subject property, along with their potential for structural failure. The majority of the trees inventoried are in fair health with an improbable potential for structural failure.

Table 4. Summary of Inventoried Trees

Common Name	Scientific Name	Excellent	Good	Fair	Poor	Very Poor	Dead	Total
Native Species								
Red Maple	*Acer rubrum*		1					1
Sugar Maple	*Acer saccharum* ssp. *saccharum*	1		1				2
American Basswood	*Tilia americana*			1				1
Freeman's Maple	*Acer* X *freemanii*			5				5
Manitoba Maple	*Acer negundo*			3	4	10		17
Sycamore	*Platanus occidentalis*			1				1
Common Hackberry	*Celtis occidentalis*	1	1	6	1			9
Eastern Cottonwood	*Populus deltoides*			2		1		3
Black Walnut	*Juglans nigra*		2	1				3
Redbud	*Cercis canadensis*		1	4				5
Canada Yew	*Taxus canadensis*		2					2
Total		**2**	**7**	**24**	**5**	**11**		**49**
Non-Native Species								
Norway Maple	*Acer platanoides*		4	14		2		20
Norway Spruce	*Picea abies*			3				3
Small Leaf Linden	*Tilia cordata*			1				1
English Oak	*Quercus robur*		2	3				5
Austrian Pine	*Pinus nigra*			3	2		3	8
Hedge Maple	*Acer campestre*		1	3	1			5
Colorado Spruce	*Picea pungens*		1	7				8
Sweet Cherry	*Prunus avium*			1				1
White Mulberry	*Morus alba*				2			2
Thornless Honey Locust	*Gleditsia triacanthos* var. *inermis*		1					1
London Plane-Tree	*Platanus* X *acerifolia*		1					1
Golden Weeping Willow	*Salix alba* var. *vitellina*				1			1
Total		**0**	**10**	**35**	**6**	**2**	**3**	**56**
Overall Total		**2**	**17**	**59**	**11**	**13**	**3**	**105**

Table 5. Overall Health of Trees Inventoried

Potential for Structural Failure Rating	Overall Condition						Total
	Excellent	Good	Fair	Poor	Very Poor	Dead	
Improbable	2	17	51	0	0	0	70
Possible	0	0	8	5	3	3	19
Probable	0	0	0	6	9	0	15
Imminent	0	0	0	0	1	0	1
Total	2	17	59	11	13	3	105

4.4 Birds

A total of 93 species are reported from the vicinity of the study area based on the OBBA (BSC 2009), MNRF background information (Webb, J. pers. comm. 2019), and the NHIC database (MNRF 2018a). The data found in the OBBA includes those species that have been observed in the area (10 x 10km range), are known to nest in the area, and/or have exhibited some evidence of breeding in the area. The NHIC results are based on 1km x 1km squares, and the MNRF (2018a) data are based on species reported within Middlesex County. Very low species diversity was observed during field visits, which is not uncommon given the timing, with a total of 4 species documented within the subject property. No stick nests were observed within the subject property throughout the field visits. An Osprey nest is present on a light post in the ball park to the northwest of the subject property. The chimneys of the heritage building within the subject property were determined to not provide suitable nesting habitat for Chimney Swift.

During surveys completed for the Harris Park SLSR (NRSI 2013), NRSI observed a total of 36 species. Of these 36 species, 2 species of threatened species were observed: Barn Swallow (*Hirundo rustica*) and Chimney Swift.

Background information (MNRF 2019, BSC 2009) and SAR and SCC screening indicated that 5 significant bird species are reported from within the study area that have potentially suitable habitat (Appendix VII). No birds were listed within the NHIC data atlas. Of these 5 species, 2 have potentially suitable habitat within the subject property.

4.5 Herpetofauna

A total of 27 species are reported from the vicinity of the study area based on the Ontario Reptile and Amphibian Atlas (Ontario Nature 2018) and NHIC (MNRF 2018a). No herpetofauna species were observed during the 2018 field season primarily due to the timing as well as limited habitat present within the subject property. A list of all species found within the study area, including those found during the Harris Park SLSR (NRSI 2013) is found in Appendix VIII.

Background information indicated that 7 of the species that are reported within the study area are SAR or SCC (Appendix II). Based on the SAR/SCC screening, no suitable habitat is present within the subject property for any of these species, although suitable

habitat has the potential to occur within the adjacent Thames River and opportunities for restoration should be considered.

No species were observed associated with any areas of land, and none were observed within the subject property. The search of the subject property found no suitable hibernacula areas. The adjacent Thames River may provide suitable hibernacula within the banks for some species, as well as potential suitable nesting habitat for turtles.

During surveys completed for the Harris Park SLSR (NRSI 2013), a Northern Map Turtle (*Graptemys geographica*) was observed within the Thames River. This species is considered special concern both provincially and federally, and as such is protected under the PPS through SWH as a SCC (OMMAH 2014).

4.6 Mammals

According to the Mammal Atlas of Ontario (Dobbyn 1994) and background information from MNRF, 24 mammal species are reported from within 10km of the subject property. During the field surveys, 5 mammal species were documented within the subject property: Northern Racoon (*Procyon lotor*), Eastern Chipmunk (*Tamias striatus*), Eastern Gray Squirrel (*Sciurus carolinensis*), Eastern Cottontail (*Sylvilagus floridanus*), and Woodchuck (*Marmota* monax). Appendix IX provides a complete list of mammal species reported from the study area.

An assessment of trees which could provide bat roosting habitat was conducted during the leaf-off stages (October and November 2018). It was determined that 2 trees which could provide suitable bat roosting habitat are present trees along the western edge of the southern community. The 2 identified trees are shown on Maps 3 and 4, and are large Common Hackberries with potentially suitable cavities and cracks. No suitable habitat was observed in the northern community, and none was observed in any inventoried isolated tree. Suitable roosting habitat may be present within trees in the woodlands off the property.

Appendix II (SAR screening) provides a summary of significant mammal species reported from the study area vicinity, their current status ranks, and preferred habitats.

4.7 Additional Wildlife

No Lepidoptera or Odonata species were observed during the field visits, which was expected due to the timing of the surveys. A list of Lepidoptera and Odonata species reported from the study area are attached to the report (Appendix X and XI, respectively). A total of 57 butterfly species are reported from the study area based on the Butterfly Atlas (TEA 2018). This includes several SCC, as listed in Appendix II. Based on the presence of Common Hackberry within the subject property, Hackberry Emperor (*Asterocampa celtis*) and Tawny Emperor (*Asterocampa clyton*) may be found within the subject property.

A total of 19 odonates are reported from the study area based on the Odonata Atlas (MNRF 2018b). None of the species are considered significant.

4.8 Aquatic Habitat and Species

As the Thames River was outside of the subject property, no specific surveys were completed as part of this EIS. The existing conditions data is taken from the Harris Park SLSR (NRSI 2013) and additional background information received from the MNRF Aylmer District (Webb, J., pers. comm. 2019).

The information collected from the DFO, UTRCA, and the MNRF has been included in Appendix XII, along with the complete list of fish, freshwater mussels, and benthic invertebrate sampling records from the study area, provided by UTRCA (Schwindt, J. pers. comm. 2013).

A total of 17 fish species are reported from UTRCA sampling records from Harris Park and Gibbons Park, which is found approximately 750m upstream of Harris Park. These fish species that have been observed are common to the Thames River and not at risk. The background information indicates that 2 SAR fish, Black Redhorse (*Moxostoma duquesnei*) and Silver Shiner (*Notropis photogenis*), are present within the Thames River study area. Black Redhorse and Silver Shiner are both listed as threatened provincially and are afforded protection through the ESA. Background information also indicated that Wavy-rayed Lampmussel (*Lampsilis fasciola*) may be present within the study area (north branch of the Thames River). Wavy-rayed Lampmussel is considered threatened provincially and is protected under the ESA. It also has specific habitat defined under O.Reg 242/08 section 23.9. It is considered special concern federally.

The substrates within the Thames River adjacent to the subject property, based on the visual habitat assessment within the Harris Park SLSR (NRSI 2013), would provide suitable habitat for the for Wavy-rayed Lampmussel.

The UTRCA has also conducted benthic invertebrate collections within the Thames River within the study area. The site downstream of Blackfriar's bridge has been sampled yearly from 2004 (current to 2013) and the number of families found ranged from 10 to 22, with stream health varying from poor to fair.

5.0 Significance and Sensitivity of Natural Features

Natural features that are sensitive to disturbance are identified based on the rarity or significance of the feature or its functions. These areas are identified as "constraints" and are discussed in the context of natural heritage policies governing their protection. Conversely, opportunities for development may occur outside of these natural environment constraints within the subject property. Results of this analysis have been provided as input to the proposed development plan in order to avoid or reduce impacts to natural features and functions. A summary of this analysis for the subject property is discussed below.

5.1 Significant Valleylands

The Thames River is considered significant. The majority of the study area falls within the significant valleyland corridor. Enhancement opportunities are expected through the remediation/restoration of the lower dedicated parkland area.

5.2 Fish and Fish Habitat

The Thames River, immediately adjacent to the subject property, provides fish habitat.

5.3 Significant Wildlife Habitat

Based on a detailed background information review, desktop analysis, and field studies, the subject property is not expected to contain any SWH. No SWH was confirmed during field surveys, however candidate SWH is discussed below. SWH may also be present on a broader scale within the Thames River and the overall study area. Full results of the SWH assessment are discussed below and provided in Appendix II.

5.3.1 Seasonal Concentration Areas

Wildlife seasonal concentration areas are defined as areas where animals occur in relatively high densities for all, or portions, or their life cycle (OMNR 2000). These areas are generally relatively small in size, particularly when compared to areas used by these species during other times of the year.

Turtle Wintering Area

Turtles hibernate over the winter in Ontario, often communally. For most turtles, wintering areas are in the same general area as their core habitat and the water must be deep enough to avoid freezing over completely, and have soft mud substrates to burrow

into (MNRF 2015). Identification of a turtle wintering area is determined by the presence and number of individuals observed in suitable habitats in early spring and/or late fall (MNRF 2015). No suitable habitat was found within the subject property but portions of the Thames River adjacent to the property may provide suitable habitat, and turtle species have been reported in background data (NHIC 2018a, Ontario Nature 2018, NRSI 2013).

5.3.2 Rare Vegetation

No rare vegetation communities are found within the subject property. The Redbud community discussed in Section 4.3.1 is an escaped population from landscaping stock and does not qualify.

5.3.3 Specialized Wildlife Habitat

Osprey nests are considered SWH, but nests located on man-made objects are not to be included as SWH (MNRF 2015), therefore this nest site is not significant.

Candidate SWH is also identified within the Harris Park SLSR (NRSI 2013) for an area of sand deposits immediately downstream of Blackfriar's Bridge on the west bank (north of the subject property). No turtle nests were observed, so the SWH could not be confirmed.

5.3.4 Habitat for Species of Conservation Concern

No SCC were observed within the subject property.

Although it was not observed during field work associated with the Harris Park SLSR (NRSI 2013), the UTRCA indicated that habitat for Eastern Wood-pewee should be protected regardless of whether the species was observed or not (Creighton pers. comm. 2013). Eastern Wood-pewee is found in forests and forest edges, as well as parks (OMNR 2000). Habitat for Eastern Wood-pewee was identified in Harris Park as candidate SWH (Eastern Wood-pewee), which extends onto the subject property as shown on Map 4. The southern cultural woodland community on the subject property does not provide suitable habitat for Eastern Wood-pewee as it is so highly disturbed.

Common Nighthawk, which is considered special concern provincially and therefore its habitat is considered SWH, prefers open ground, clearings in dense forests, open woodlands and flat gravel roofs for habitat (OMNR 2000). It may have marginal habitat

provided from the one heritage building with the flat roof top, and is shown as candidate SWH (Common Nighthawk) on Map 4.

Northern Map Turtle, which had been observed during the Harris Park inventory (NRSI 2013), is considered a SCC. Northern Map Turtle is a highly aquatic species, but females may move up to 700m away from the water to find suitable nest sites (Harding 1997). The SWH for this species is shown on Map 4 and was mapped as the Thames River and 15m on either side of the river to allow for basking and nesting sites in the Harris Park SLSR (NRSI 2013).

5.3.5 Animal Movement Corridors

Animal movement corridors are elongated, naturally vegetated parts of the landscape used by animals to move from one habitat to another (OMNR 2000). The potential for animal movement corridors to occur in the subject property is contingent on confirming Amphibian Breeding Habitat (Wetland) SWH or Deer Wintering Habitat SWH (MNRF 2015); neither of these confirmed habitats were identified within the subject property and as such the SWH type is not present.

5.4 Habitat of Endangered and Threatened Species

No Endangered or Threatened Species were observed within the subject property.

Confirmed habitat for Barn Swallow exists adjacent to the subject property on the Queen Street bridge over the Thames River and is shown on Map 4.

As noted in Section 4.6, 2 potentially suitable bat cavity trees were documented within the subject property (Map 4).

5.5 Linkages

Linkages are continuous, often linear bands of vegetation in the landscape which provide opportunities to connect natural features. They are important within the natural heritage system to provide cover for wildlife movements and dispersal of otherwise isolated populations.

The Thames River Corridor represents a significant linkage for both terrestrial and aquatic organisms between habitat patches. A key ecological goal of the Thames Valley Corridor Plan (City of London 2011) is to preserve, enhance and create ecological

corridors and linkages between natural features in order to establish a continuous corridor along the Thames River and enhance linkages to tributary watersheds.

6.0 Impact Analysis and Recommendations

The proposed undertaking is described in Section 1.1 of this report. This preliminary EIS has been prepared for the subject property with reference to the development site plan which is based largely on adhering to the floodplain limit to the extent possible and that aligned with the original layout that was accepted, in principle, by the UTRCA. A Preliminary Grading Plan, Stormwater Management Strategy, Hydrological Investigation and Geotechnical Investigation have yet to be finalized based on the most recent design. The development plan is indicated on Map 5.

The development footprint includes the removal of a large portion of the CUW1 inclusion and part of the CUW1 area.

The following recommendations are provided for the landscape plan.

- The inclusion of a diversity of native trees and shrubs in the landscape design will improve diversity within the adjacent natural features. All species should be native to Middlesex County, commercially available and suited to early succession conditions. A mixture of caliper, potted and plug stock is recommended, with native companion seed mix. Guidance for species selection is outlined in the *Guide to Plant Selection for Natural Heritage Areas and Buffers* (City of London 1994).
- Consider wetland creation.
- Consider the inclusion of wildlife habitat features such as bat boxes.
- Include educational signage to foster nature appreciation and respect.

A preliminary analysis has been conducted for the subject site based on the site development plan and basic understanding of the proposed works. Stormwater management will need to consider the Thames River and the floodplain, as well as the One River Environmental Assessment (if finalized at the time).

6.1 Approach to Impact Analysis

Potential impacts arising from the proposed development are determined by comparing the details of the proposed development with the characteristics of the existing natural features and their functions. Where the development proposal overlaps with the natural

features or their buffers, impacts may arise. The following is a description of the types of impacts which will be discussed.

- Direct impacts to the natural features within the study area associated with disruption or displacement caused by the actual proposed 'footprint' of the undertaking.
- Indirect impacts associated with changes in site conditions such as drainage and water quantity/quality.
- Induced and cumulative impacts associated with impacts after the development is constructed such as subsequent demand on the resources created by increased habitation/use of the area and vicinity over time.

6.2 Evaluations of the Potential Effects, Mitigation and Net Effects

Impacts, mitigation measures and net effects are detailed in Table 5. The table details the impact of all components of the proposed development.

Table 6. Impact Assessment and Net Effects

Source of Potential Impact	Direct or Indirect Impact	Ecological Feature or Function Effected	Potential Impact	Mitigation Measures	Net Impact
Land Use Impacts					
Land use designation	Direct & Indirect	Cultural Woodlands & Groundwater resources	-Change in land use will not significantly change the current use or impact on natural heritage features	-Completion of an EIS -Use of Environmental Management Guidelines -Use of Best Management Practices	With the completion of an EIS and the use of the Environmental Management Guidelines, changes in land use designation can be completed without net impact to natural heritage features. Only significant natural feature identified is the Thames River. **Low**
Development design and location	Direct	Cultural Woodlands	-Removal of CUW features -General impacts as a result of urbanization	-See above -Permit from UTRCA required for development in floodplain. -Landscape Design	See above. Features on site are cultural woodlands with an abundance of invasive species. **Low**
Increased Edge effects	Direct	Cultural Woodlands	-Adjacent FOD5-1 could be impacted by the removal of CUW1. The development plan includes removal of the CUW1 inclusion	-An Erosion and Sediment Control (ESC) plan is recommended to be prepared to help control and reduce the sediment load of runoff which may flow towards nearby regulated water features. -Regular monitoring of sediment fences and other ESC measures, particularly following large rain events.	With the landscape plan after construction, removal of invasive species, the remediation of this Brownfield site, and the limited habitat function provided by the CUW1 there is expected

Source of Potential Impact	Direct or Indirect Impact	Ecological Feature or Function Effected	Potential Impact	Mitigation Measures	Net Impact
			within the subject property and part of CUW1. These features are comprised of invasive species and provide limited opportunities.	-Landscape design should use native species -A certified arborist should be on site to determine the best approach to protecting the trees to be retained in the CUW inclusion along the northern subject property boundary. Tree protection fencing should be erected.	to be low to no net impacts. **Low**
Interruption or change of surface water and ground-water flows (water balance)	Direct and Indirect	Thames River floodplain and Thames River	-Changes to water balance, increased runoff	-Studies/discussions will be required in order to ensure the floodplain storage capacity is maintained. Flooding of the lower area may need to be part of final design. Expected that less than 2 feet of excavation in new park space (dedicated area) will result in "net 0" flood water displacement. -Opportunity to remove non-natural fill materials through excavation of the bank. - On-site drainage and SWM should be appropriately designed to maintain water balance to the degree possible. -Any changes in runoff or water storage should consider impacts to the nearby Thames River and overall floodplain, and be approved by the UTRCA.	This potential impact will be further discussed through the hydrogeology team members. Net impact is not expected to be significant if the drainage plan considers water balance and the floodplain capacity of the Thames River is maintained. **Low**
Increased hard surface/decreased in infiltration	Direct	Thames River floodplain	-Changes to surfaces to become impervious can result in changes in components of the water balance.	-Consideration of LID measures where feasible -Use of infiltration measures where feasible	This potential impact will be further discussed through the hydrogeology team members as part of the SWM/drainage plan. **Low**

Source of Potential Impact	Direct or Indirect Impact	Ecological Feature or Function Effected	Potential Impact	Mitigation Measures	Net Impact
Interruption of Corridors	Indirect	Thames River Corridor	-Development can create barriers to wildlife movement. -Removal of CUW1	-Removal of CUW1 will follow timing windows and best management practices. -Tree preservation plan will ensure that the adjacent woodland features are not degraded.	No wildlife corridor is present on site. **Low**
Flora	Direct	CUW1	-Removal of flora	-Landscape Design/Plan to use native species	There are no significant species and many non-native species, so impact is very low. **Low**
Specialized Wildlife Habitat	Direct	Thames River floodplain Bat habitat trees (candidate)	-Removal of candidate bat habitat trees	-Tree preservation plan will ensure that adjacent features are not degraded. -Opportunity to use bat boxes on site.	**Low**
Habitat for SCC	Direct and Indirect	Cultural Woodlands, flat roof top of heritage building	-Marginal suitable habitat may exist within the cultural woodland inclusion for Eastern Wood-pewee -Flat roof tops, as found on the heritage buildings on the subject property, can provide suitable nesting habitat for Common Nighthawk.	-Follow best management practices for removal of woodland features. Follow TPP. -Removal of trees should occur outside of the active breeding season approximately April 1 to August 31 for bird species in open habitats (CWS 2017a,b). -When necessary, nest surveys should be completed on roof structures by a qualified biologist within 48hrs of the initialization of construction	As these areas are highly disturbed, and a larger forested community is present to the north, and since no individuals were observed, impacts to these species are expected to be avoided if removal occurs outside of the active breeding bird season. **Low**

Source of Potential Impact	Direct or Indirect Impact	Ecological Feature or Function Effected	Potential Impact	Mitigation Measures	Net Impact
Habitat of Endangered or Threatened Species	Direct	Cultural Woodland	-Two potential bat cavity trees were identified within the CUW feature. These cavities could contain SAR bats during nesting season.	-Removal of trees if required as part of the development or restoration, should be completed outside of the bat timing windows (April 1 to September 30), as per the bat timing windows.	Impacts to these species are expected to be avoided if best management practices are followed. **Low**
Construction Impacts					
Site grading, during construction activities (erosion from runoff and sedimentation)	Indirect	Thames River	-Potential for soil erosion and sedimentation into the Thames River	-An Erosion and Sediment Control (ESC) plan is recommended to be prepared to help control and reduce the sediment load of runoff which may flow towards nearby regulated water features. -Regular monitoring of sediment fences and other ESC measures, particularly following large rain events. Prepare an emergency response plan. -Re-establishing vegetative cover in disturbed areas following the completion of the construction work is recommended. -Monitoring of construction activities to ensure no additional ESC concerns. -Implement sediment control measure at the discharge point of any dewatering systems for servicing trenches/excavations. -Runoff and erosion will particularly require monitoring through any work proposed for the currently vegetated slope.	With the preparation of an approved ESC plan, emergency response plan and with regular monitoring, the impacts from erosion and sediment can be eliminated. Net impact to the Thames River is expected to be low. **Low**

Source of Potential Impact	Direct or Indirect Impact	Ecological Feature or Function Effected	Potential Impact	Mitigation Measures	Net Impact
Compaction of soils within tree rooting zones	Direct and Indirect	Isolated trees, cultural woodlands, adjacent FOD feature.	-Soil instability -Reduced ability to absorb nutrients	-Prepare a tree management plan as the subject property is within the Tree Protection area. Trees recommended for retention will require protection. Further mitigation measures for tree protection fencing measures will be included with the Tree Preservation Plan.	Tree management plan will include details of where protection fencing should be included. This fencing will be effective in protecting against compaction to root zones of the trees that are reserved within the plan. Net impact expected to be **Low** but further mitigation measures will be provided in the TPP.
Site clearing and vegetation removal	Direct and Indirect	Isolated trees, cultural woodlands; soil stabilization; water management through uptake	-Disruption to migratory birds and their nests -Soil instability, resulting in erosion and sedimentation -Tree removal -Disruption to local wildlife -Potential impact to bats The development plan includes removal of the CUW1 inclusion within the subject property and part of CUW1.	-Vegetation removal is recommended to occur outside of the breeding and nesting season for migratory birds, approximately April 1 to August 31 for bird species in open habitats (CWS 2017a,b), as well as outside of the active bat season (April 1 to September 30). -Stabilize soils following vegetation removal and grading, by seeding the area with appropriate cover crop (i.e. Annual Rye, *Lolium multiflorum*) to reduce the potential for sedimentation and erosion. Maintain vegetation wherever possible. -Prepare a tree management plan as the subject property is within the Tree Protection area. Trees recommended for retention will require protection. Further mitigation measures for tree protection	With the timing windows followed, and best management practices applied, the tree/vegetation removal will not have negative impacts to nesting birds. The removal of the degraded and invasive species dominated CUW1 will be addressed as part of the landscape plan. **Low**

Source of Potential Impact	Direct or Indirect Impact	Ecological Feature or Function Effected	Potential Impact	Mitigation Measures	Net Impact
			These features are comprised of invasive species and provide limited habitat opportunities.	fencing measures will be included with the TPP.	
Scarring and damage to vegetation by machinery	Direct	Isolated trees, cultural woodlands	-Scarring and damage from construction vehicles is possible to natural features if not properly identified and secured.	-Install silt fencing at grading limits to demarcate construction zone and establish separation to adjacent natural features. -Develop and implement an ESC plan.	Silt fencing and protective fencing will protect the natural areas/ trees. Further mitigation measures to be provided within the TPP. **Low**
Decreased health of vegetation from dust and sedimentation	Indirect	Natural features to north, Thames River, isolated trees within subject property	-Dust on vegetation can lead to reduced photosynthesis and temperature regulation	-Ensure dry unvegetated conditions are "soaked" to reduce dust disturbance. If dust does accumulate on adjacent vegetation, hose washing is suitable outside of peak daylight hours. -Prepare an ESC plan and follow best management practices.	If ESC plan is prepared and followed, and includes regular monitoring, the impacts from dust and sedimentation can be mitigated. **Low**
Disturbance of wildlife from machinery equipment noise, traffic	Indirect	Adjacent Lands, Thames River, Harris Park	-Construction noise can displace wildlife. Impact to this is expected to be minimal given the highly disturbed areas (parkland)	-Follow noise by-laws for the City of London	As the area is primarily manicured lawn, the net impacts to wildlife is not expected. **Low**
Introduction of non-native species	Indirect	Adjacent lands	-Introduction of non-native species	-Follow the goals outlined within the London Invasive Plant Management Strategy (2017b)	The landscape plan will include native species. The CUW that are on

Source of Potential Impact	Direct or Indirect Impact	Ecological Feature or Function Effected	Potential Impact	Mitigation Measures	Net Impact
				-Follow City of London's Clean Equipment Protocol to minimize risk of spreading invasive species. -Avoid or minimize the introduction of fill to the site to prevent introduction of invasive species.	site are comprised primarily of invasive or introduced species. No net impact is expected and may be a net benefit as removing large amount of non-native species on site. **None**
Drainage of Wetlands	N/A	N/A	-N/A	-N/A	No wetland on site.
Fragmentation of habitat and linkages	Indirect	Cultural woodlands, Thames River	-Removal of cultural woodlands may cause fragmentation of habitat and linkages, although the woodlands are already very degraded and the Thames River itself acts as a linkage.	-Prepare a TYPP and use native species within the Landscape plan.	The area is already heavily used through the parking lot and Harris Park. **Low**
Fish Habitat	Indirect	Thames River	-Potential for Serious Harm to fish and fish habitat under Section 35 of the *Fisheries Act.*	-A proponent led self-assessment should be completed for the proposed works for areas within the high-water mark of the Thames River. If there is potential for the works to cause serious harm, the project will be submitted to DFO for a site-specific review. -Follow ESC plan.	If best management practices are followed, the net impact will be **Low**. Works occurring below the high-water mark of the Thames River, have a higher probability of requiring a DFO review

Source of Potential Impact	Direct or Indirect Impact	Ecological Feature or Function Effected	Potential Impact	Mitigation Measures	Net Impact
					and potential *Fisheries Act* Authorization.
Building Construction/ activity on building roof tops	Direct	Potential habitat for Common Nighthawk	- Birds may use roof structures for nesting, which can be disrupted	-When possible, construction should occur outside of the breeding and nesting season for migratory birds, approximately April 1 to August 31. -When necessary, nest sweeps should be completed on roof structures by a qualified biologist within 48hrs of the initialization of construction	Through mitigation measures and best management practices applied there is expected to be no net impact. **None**
Stormwater Management Development Impacts					
Location of facility	N/A	N/A	Details are unknown.	-To be determined, if applicable.	**TBD**
Change and/or Loss of Habitat	N/A	N/A	N/A	-To be determined, if applicable.	**TBD**
Erosion and sedimentation related to construction	Indirect	Thames River	-Potential for soil erosion and sedimentation on the Thames River.	-Develop and implement an ESC plan that includes multi-barrier approaches. -Regular monitoring of the construction activities and the ESC measures. -Work within the dry.	With an approved ESC plan, and regular monitoring, the impacts from erosion and sediment can be eliminated. **None**
Alterations to surface water flow patterns and groundwater properties	Direct and Indirect	Groundwater resources, Thames River	-Changes to water balance, increased runoff	-Standard mitigations measures relating to erosion and sediment control are recommended during and after construction.	**TBD**
Stream Morphology	N/A	N/A	N/A	-N/A	N/A
Discharge Outlet Configuration	N/A	N/A	Details are unknown	-To be determined, if applicable.	**TBD**

Source of Potential Impact	Direct or Indirect Impact	Ecological Feature or Function Effected	Potential Impact	Mitigation Measures	Net Impact
Impact on receiving watercourse	Indirect	Thames River	-Urban stormwater can have impacts on the quality and quantity of receiving watercourse	-Ministry of Environment, Conservation and Parks water quality guidelines are available and will be applied to any SWM design plans. -Water quality will also follow any recommendations within the One River Class EA, if available at the time.	**TBD**
Roads and Utility Corridor Impacts					
Width of Road (species movement)	N/A	N/A	-N/A	-N/A	Roads as part of the development plan are limited to areas where they already occur.
Mortality of Wildlife	N/A	N/A	-N/A	-N/A	Mortality of wildlife not expected as no new roads are planned
Drainage	Indirect	Groundwater resources	-Changes to water balance	-Appropriately designed SWM and drainage on-site to maintain the water balance to acceptable standards. -Use of LID measures proposed to capture and infiltrate runoff, thereby reducing the variation between pre-development and post-development conditions.	This potential impact will be further discussed through the SWM/drainage plan. Net impact is not expected to be significant if the Drainage plan considers water balance and the capacity of the Thames River is maintained.
Microclimate	N/A	N/A	-N/A	-N/A	N/A
Salt damage					
Noise					
Heavy Metals					
Road dust					
Wind effects					

Source of Potential Impact	Direct or Indirect Impact	Ecological Feature or Function Effected	Potential Impact	Mitigation Measures	Net Impact
Parks/Recreational/ Cultural Impacts					
Increased recreational use	Induced	Adjacent natural areas, dedicated Parkland	-Not expected to be any potential impacts as Harris Park is already a park feature	-Increased pathways and lighting if required. -Improve connection to Harris Park	Area is already frequented since it is Harris Park and trails already exist along the Thames River. Dedicated parkland will be a net improvement.
Compaction of soils/ trampling of vegetation	Induced	Adjacent natural areas	-Invasive species establishment -Reduced water uptake, reduced community vigor	-Trails -Fencing if required	Due to the highly utilized park and urban area, there is not expected to be a net impact. **Low**
Disturbance to wildlife	Induced	Natural area ecological function, urban wildlife	-Bird, bat, and urban mammal populations may be disturbed and leave the area	-Dedicated parkland may create wildlife habitat -Educational signage to inform park users of natural heritage features and functions and request respect	Due to the highly utilized park and urban area, there is not expected to be a net impact to wildlife.
Change in cultural values (aesthetics, education)	N/A	N/A	-N/A	-N/A	**N/A**
Archaeological resources	N/A	N/A	-N/A	-N/A	**N/A**
Land Use Management					
Property maintenance Yard waste disposal	Induced	Local environment	-Potential impact to parks, greenspaces, naturalized or restoration areas -No additional impact from domestic pets anticipated	-Implement Best Management Practices for lighting infrastructure to effectively direct light and minimize disruption to local wildlife. -Limit use of commercial fertilizers in landscaped areas.	With the use of best management practices following provincial laws as they relate to pesticides and using native species within the landscaping there will

Source of Potential Impact	Direct or Indirect Impact	Ecological Feature or Function Effected	Potential Impact	Mitigation Measures	Net Impact
Non-native species planting Domestic pets Lighting Property encroachments			-No impact from property encroachments anticipated	-Limit use of salts or other additives for ice and snow control on the roadways. -Native species on landscape plans. -No invasive non-native species to be used anywhere	not be significant impacts to any of the natural features. **Low**

7.0 Environmental Management and Monitoring Plan

The primary objective of the Environmental Management and Monitoring Plan is to restore the function and structure of features which are removed and to enhance any areas on-site. It is proposed that this brownfield site be remediated, as well as the non-natural fill materials be excavated from the bank. There is opportunity to stabilize the bank and re-naturalize it with native species through new landscaping.

A monitoring plan is intended to protect the natural heritage features during and post-construction by ensuring tree protection and sediment fencing are installed properly and maintained. Monitoring will also ensure that naturalization plantings achieved a target rate of survival.

7.1 Monitoring

The following are recommendations for monitoring to be conducted on site prior to, during and following construction:

- Inspection of all Tree Protection Zone and Construction Delineation Area fencing prior to commencement of grading to ensure that fence placement reflects the extent of the identified natural feature buffers.
- Regular monitoring of tree protection fences, sediment fences and other ESC measures, particularly following large rain events, to be completed during construction.
- Inspection of planted tree and shrub stock and herbaceous vegetation to evaluate survival and success of establishment and identify need for replacement plantings for any dead material, to be completed post-construction, 2 years following the date of installation.
- Monitoring of plants within the Landscape Plan.

8.0 Summary

NRSI was retained by Farhi Holdings to complete a scoped EIS for the proposed development located at 435-451 Ridout Street. This report provides a summary of the natural features within the subject property, an analysis of the significance and sensitivity of these natural features, a description of the proposed preliminary development plan, and a preliminary assessment of potential impacts. Information on tree removal, protection and retention will be provided within the TPP once detailed site and grading plans are available. Further impact analysis and mitigation measures may be warranted once detailed designs are known and other studies have been completed (i.e. servicing plan, grading plan, stormwater management plan).

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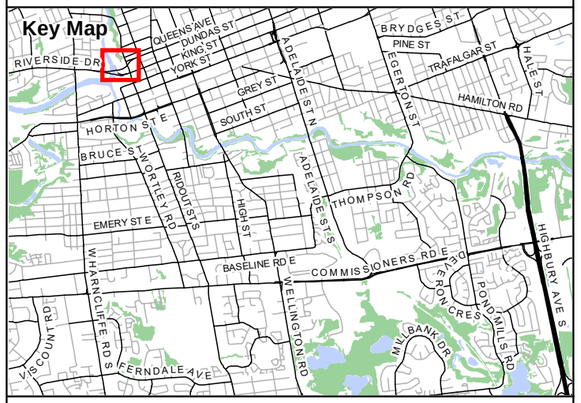
Maps

Map 1

435-451 Ridout Street

Subject Property



Legend

Subject Property

NATURAL RESOURCE SOLUTIONS INC.
Aquatic, Terrestrial and Wetland Biologists

Project: 2161 Date: July 11, 2019	NAD83 - UTM Zone 17 Size: 11x17" **1:1,500**

0 20 40 60 80 100 Metres

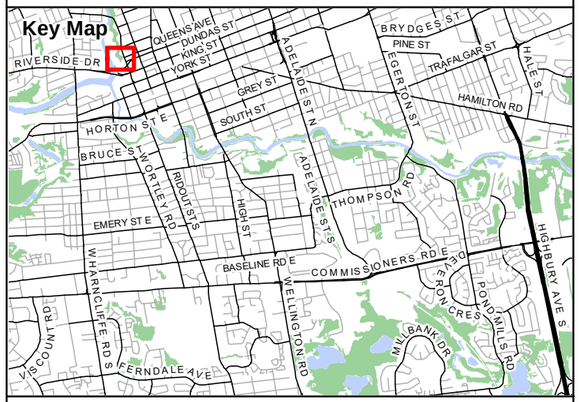
N

Path: X:\2161_RidoutSt_Development_EIS\NRSI_2161_Map1_SubjectProperty_2K_2019_07_11_LEH.mxd

Map 2

435-451 Ridout Street

Vegetation Communities



Legend

- Subject Property
- Regulatory Flood Line
- Ecological Land Classification (ELC)
- (CUW1) Mineral Cultural Woodland Ecosite
- (FOD5-1) Dry - Fresh Sugar Maple Deciduous Forest Type
- ELC Inclusion
- (CUW1) Mineral Cultural Woodland Ecosite

Natural Resource Solutions Inc.
Aquatic, Terrestrial and Wetland Biologists

Project: 2161
Date: July 11, 2019

NAD83 - UTM Zone 17
Size: 11x17"
1:1,100

0 20 40 60 Metres

N

Path: X:\2161_RidoutSt_Development_EIS\NRSI_2161_Map2_ELC_2K_2019_07_11_LEH.mxd

Ridout Scoped EIS

Tree Inventory Data

Tree Number	Common Name	Scientific Name	Native/ Non-native	DBH (cm)	Stem Count	Crown Radius (m)	Potential for Structural Failure Rating	Overall Condition	Comments
J	English Oak	*Quercus robur*	Non-Native	13.0	1	2.0	Improbable	Good	Columnar growth, healthy crown, behind fence.
K	Sycamore	*Platanus occidentalis*	Native	11.1	1	2.5	Improbable	Fair	Minor dieback, damage to roots.
L	English Oak	*Quercus robur*	Non-Native	14.0	1	2.0	Improbable	Good	Very minor dieback, columnar growth.
1482	English Oak	*Quercus robur*	Non-Native	16.2	1	2.5	Improbable	Fair	Codominant columnar growth, minor dieback.
1483	English Oak	*Quercus robur*	Non-Native	28.0	1	3.0	Improbable	Fair	Small dead branches, limited root zone.
1484	Small Leaf Linden	*Tilia cordata*	Non-Native	48.7	1	4.0	Improbable	Fair	Included bark, minor dieback.
1485	Austrian Pine	*Pinus nigra*	Non-Native	24.0	1	2.0	Possible	Poor	Small crown limited to above building height, potential diplodia, dieback.
1486	Austrian Pine	*Pinus nigra*	Non-Native	25.2	1	2.5	Possible	Fair	Small crown, minor dieback, minor mower damage.
1487	Austrian Pine	*Pinus nigra*	Non-Native	34.7	1	3.0	Possible	Fair	Small crown, minor dieback, minor mower damage.
1488	Common Hackberry	*Celtis occidentalis*	Native	23.0	1	4.0	Improbable	Fair	Growing on steep slope, minor dieback.
1489	Norway Spruce	*Picea abies*	Non-Native	39.6	1	4.0	Improbable	Fair	Minor dieback, top of slope.
1490	Norway Spruce	*Picea abies*	Non-Native	26.8	1	4.0	Improbable	Fair	Minor dieback, mid slope.
1491	Norway Spruce	*Picea abies*	Non-Native	37.8	1	4.0	Improbable	Fair	Minor dieback, mid slope.
1493	Hedge Maple	*Acer campestre*	Non-Native	26.9	1	5.5	Improbable	Fair	Codominant leaders, minor dieback, top of slope.
1492	Hedge Maple	*Acer campestre*	Non-Native	23.2	4	5.5	Improbable	Fair	Codominant leaders, asymmetrical crown to north.
1494	Hedge Maple	*Acer campestre*	Non-Native	21.2	4	5.0	Probable	Poor	Codominant leaders, dead stems, vertical crack, dieback.
1495	Hedge Maple	*Acer campestre*	Non-Native	16.4	1	4.5	Possible	Fair	Dead stem, remaining growth over parking lot, water sprouts at base.
1496	Norway Maple	*Acer platanoides*	Non-Native	39.0	1	4.0	Improbable	Good	Crown to edge of parking, healthy crown, minor erosion at base.
1497	Norway Maple	*Acer platanoides*	Non-Native	44.9	1	5.0	Improbable	Fair	Minor broken branches, healthy remaining crown.
1498	Norway Maple	*Acer platanoides*	Non-Native	41.5	1	7.0	Improbable	Fair	Crown outside of lots, erosion, minor dead branches.
1499	Austrian Pine	*Pinus nigra*	Non-Native	20.4	1	2.0	Possible	Poor	Minor pistol butt on upper side of retaining wall, potential diplodia, dieback.
1500	Hedge Maple	*Acer campestre*	Non-Native	23.3	1	2.5	Improbable	Good	Minor erosion, healthy crown.
1501	Norway Maple	*Acer platanoides*	Non-Native	24.2	1		Imminent	Very Poor	Broken hanging crown.
1502	Austrian Pine	*Pinus nigra*	Non-Native	26.0	1	5.0	Possible	Fair	Major dieback, leaning over parking lot, dead branches.
1503	Austrian Pine	*Pinus nigra*	Non-Native	20.8	1	3.0	Possible	Dead	Bore holes.
1504	Austrian Pine	*Pinus nigra*	Non-Native	24.3	1	3.0	Possible	Dead	Bore holes.
1505	Austrian Pine	*Pinus nigra*	Non-Native	16.9	1	2.0	Possible	Dead	Bore holes, losing bark.
1506	Norway Maple	*Acer platanoides*	Non-Native	38.7	2	5.0	Improbable	Fair	Codominant leaders, included bark, good reaction wood, erosion.
1507	Eastern Cottonwood	*Populus deltoides*	Native	54.8	1	6.0	Probable	Very Poor	Large dead branches, 75% dieback.
1508	Norway Maple	*Acer platanoides*	Non-Native	55.6	1	6.0	Improbable	Good	Crown stops at bottom lot, erosion.
1509	Eastern Cottonwood	*Populus deltoides*	Native	56.4	2	7.0	Possible	Fair	Codominant leaders, dieback, included bark, minor rot.
1510	Norway Maple	*Acer platanoides*	Non-Native	15.0	1	3.0	Improbable	Fair	Slightly suppressed, slightly unbalanced.
1511	Sugar Maple	*Acer saccharum ssp. saccharum*	Native	21.5	1	3.0	Improbable	Fair	Broken branch, minor dieback.
1512	Colorado Spruce	*Picea pungens*	Non-Native	20.2	1	2.5	Possible	Fair	Asymmetrical crown to south, minor dieback.
1513	Norway Maple	*Acer platanoides*	Non-Native	21.8	1	4.0	Improbable	Good	Minor erosion, healthy crown.
1514	Eastern Cottonwood	*Populus deltoides*	Native	26.8	1	3.0	Improbable	Fair	Very high crown, minor dieback.
1515	Freeman's Maple	*Acer X freemanii*	Native	31.1	2	4.5	Improbable	Fair	Dieback, codominant leaders, minor dead branches.
1516	Norway Maple	*Acer platanoides*	Non-Native	47.5	1	5.0	Improbable	Good	Erosion, minor dieback.
1517	Norway Maple	*Acer platanoides*	Non-Native	17.1	1	3.0	Improbable	Fair	Erosion, slightly suppressed.
1518	Norway Maple	*Acer platanoides*	Non-Native	17.4	1	3.0	Probable	Very Poor	Completely defoliated at time of assessment, dead branches.
1519	Norway Maple	*Acer platanoides*	Non-Native	14.8	1	3.0	Improbable	Fair	Slightly suppressed, slightly overextended.
1520	Norway Maple	*Acer platanoides*	Non-Native	10.7	1	2.0	Improbable	Fair	Slightly suppressed, healthy crown.
1521	Sweet Cherry	*Prunus avium*	Non-Native	36.2	1	4.0	Improbable	Fair	Minor dieback, good torsion reaction wood, tall crown.
1522	Norway Maple	*Acer platanoides*	Non-Native	26.4	1	5.0	Improbable	Fair	Slightly unbalanced, bottom of slope.
1522	Freeman's Maple	*Acer X freemanii*	Native	31.9	1	5.0	Improbable	Fair	Slightly unbalanced, bottom of slope.
1523	Freeman's Maple	*Acer X freemanii*	Native	39.9	1	6.5	Improbable	Fair	Slightly unbalanced, bottom of slope.
1525	Freeman's Maple	*Acer X freemanii*	Native	25.8	1	5.0	Improbable	Fair	Slightly unbalanced, bottom of slope, minor dieback.
1526	Norway Maple	*Acer platanoides*	Non-Native	25.7	1	5.0	Improbable	Fair	Slightly unbalanced, bottom of slope, minor dieback.
1525	Norway Maple	*Acer platanoides*	Non-Native	25.7	1	5.0	Improbable	Fair	Slightly unbalanced, bottom of slope, minor dieback.
1527	Manitoba Maple	*Acer negundo*	Native	29.6	1	7.0	Probable	Poor	Extreme lean northeast just over lot, water sprouts, dead branches.
1528	Norway Maple	*Acer platanoides*	Non-Native	27.3	1	4.5	Improbable	Fair	Minor dieback , erosion on lower side.
1529	Manitoba Maple	*Acer negundo*	Native	31.3	1	3.0	Probable	Very Poor	Broken top, large dead branches, leaning west. ,
1530	Manitoba Maple	*Acer negundo*	Native	38.5	1	3.0	Possible	Very Poor	Uprooted, growing horizontal.
1531	Manitoba Maple	*Acer negundo*	Native	30.6	1	4.0	Possible	Fair	Water sprouts, dieback, unbalanced .
1532	Norway Maple	*Acer platanoides*	Non-Native	13.7	1	3.0	Improbable	Fair	Slightly suppressed .
1533	Common Hackberry	*Celtis occidentalis*	Native	70.3	1	7.0	Improbable	Excellent	Healthy crown, stable form.
1534	Common Hackberry	*Celtis occidentalis*	Native	80.8	1	6.0	Probable	Poor	Large dead branches, cavities, good reaction wood.
1535	Manitoba Maple	*Acer negundo*	Native	22.3	2	5.0	Probable	Very Poor	Deasd tree on top, broken branches , dieback .
1536	Manitoba Maple	*Acer negundo*	Native	30.4	1	6.0	Probable	Very Poor	Learge dead leaning top north.
1537	Norway Maple	*Acer platanoides*	Non-Native	21.7	1	4.5	Improbable	Fair	Erosion , slightly suppressed .
1538	Freeman's Maple	*Acer X freemanii*	Native	73.9	1	6.0	Improbable	Fair	Crown to edge of lot, codominant leaders , included bark.
1539	Norway Maple	*Acer platanoides*	Non-Native	27.5	2	3.0	Improbable	Fair	Codominant leaders, dead secondary stem.
1540	White Mulberry	*Morus alba*	Non-Native	12.5	1	1.5	Probable	Poor	Dieback, dead tree in crown.
1541	Manitoba Maple	*Acer negundo*	Native	60.0	1	3.0	Possible	Very Poor	Topped, suckering branches, major rot.
1542	Manitoba Maple	*Acer negundo*	Native	29.7	1	3.0	Probable	Very Poor	Uprooted, leaning horizontal west, broken branches.
1543	Black Walnut	*Juglans nigra*	Native	47.0	1	5.5	Improbable	Good	Asymmetrical crown to west, debris at base.
1544	Manitoba Maple	*Acer negundo*	Native	16.1	1	3.0	Probable	Very Poor	Major rotted base, major dieback .
1545	Manitoba Maple	*Acer negundo*	Native	38.4	1	4.0	Probable	Very Poor	Rotted base, water sprouts, dead crowns.
1546	Manitoba Maple	*Acer negundo*	Native	65.0	1	8.0	Probable	Poor	Rot at base, codominant leaders, broken branches, dieback.
1547	Common Hackberry	*Celtis occidentalis*	Native	24.0	1	3.0	Improbable	Fair	Slightly unbalanced.
1548	Common Hackberry	*Celtis occidentalis*	Native	13.6	1	3.0	Improbable	Fair	Slightly suppressed, erosion.
1549	Colorado Spruce	*Picea pungens*	Non-Native	32.3	1	3.0	Improbable	Good	Minor light pruning.
1550	Colorado Spruce	*Picea pungens*	Non-Native	17.8	1	3.5	Improbable	Fair	Dieback , dead lower branches.
1551	Colorado Spruce	*Picea pungens*	Non-Native	23.4	3	3.5	Improbable	Fair	Dieback , light pruning , codominant leaders.
1552	Colorado Spruce	*Picea pungens*	Non-Native	46.8	1	5.0	Improbable	Fair	Dead lower branches.
1553	Colorado Spruce	*Picea pungens*	Non-Native	57.3	1	4.0	Improbable	Fair	Dead lower branches.
1554	Colorado Spruce	*Picea pungens*	Non-Native	43.5	1	4.0	Improbable	Fair	Light pruning, codominant leaders.
1555	Colorado Spruce	*Picea pungens*	Non-Native	52.3	1	5.0	Improbable	Fair	Dead lower branches.
1556	Redbud	*Cercis canadensis*	Native	14.3	1	4.0	Improbable	Good	Leaning slightly over road, slightly unbalanced, prolific seed production,slightly unbalanced.
1557	Redbud	*Cercis canadensis*	Native	11.2	1	4.0	Improbable	Fair	Leaning toward road, slightly suppressed , slightly unbalanced.
1558	Redbud	*Cercis canadensis*	Native	10.1	1	5.0	Improbable	Fair	Leaning toward road , prolific seed production.
C	Thornless Honey Locust	*Gleditsia triacanthos var. inermis*	Non-Native	54.0	1	7.0	Improbable	Good	Small dead branches , overhanging road, healthy structure.
D	Common Hackberry	*Celtis occidentalis*	Native	22.8	1	4.0	Improbable	Fair	Minor dieback.
1559	Redbud	*Cercis canadensis*	Native	16.7	1	5.0	Improbable	Fair	Prolific seed production, unbalanced, minor dieback.
1560	Redbud	*Cercis canadensis*	Native	10.9	1	4.0	Improbable	Fair	Minor dieback, seeds.
1561	Black Walnut	*Juglans nigra*	Native	69.8	1	7.0	Improbable	Good	Large healthy crown.
E	Manitoba Maple	*Acer negundo*	Native	28.6	1	4.5	Possible	Poor	Leaning west, water sprouts, dieback.
1562	Manitoba Maple	*Acer negundo*	Native	33.5	1	4.0	Probable	Very Poor	Rotten base, major dieback, dead top.
F	Common Hackberry	*Celtis occidentalis*	Native	18.2	1	3.5	Improbable	Fair	Asymmetrical crown, overextended branches.
G	Common Hackberry	*Celtis occidentalis*	Native	11.9	1	3.0	Improbable	Fair	Slightly suppressed.
H	White Mulberry	*Morus alba*	Non-Native	29.0	1	5.0	Probable	Poor	Major rot at base.
I	Sugar Maple	*Acer saccharum ssp. saccharum*	Native	70.5	1	6.5	Improbable	Excellent	Large healthy crown.
1563	Manitoba Maple	*Acer negundo*	Native	14.0	1	3.0	Possible	Fair	Dieback slightly suppressed slightly unbalanced.
1564	Black Walnut	*Juglans nigra*	Native	78.7	1	6.5	Improbable	Fair	Minor dieback minor dead branches.
1565	Manitoba Maple	*Acer negundo*	Native	26.4	1	3.0	Possible	Poor	Damage at base, water sprouts , leaning west.
1566	American Basswood	*Tilia americana*	Native	39.4	1	5.0	Improbable	Fair	Minor dieback.
1567	Common Hackberry	*Celtis occidentalis*	Native	37.8	1	5.0	Improbable	Good	Minor dieback.
1568	Manitoba Maple	*Acer negundo*	Native	22.2	1	3.5	Possible	Very Poor	Rot at base, dead top.
1569	Canada Yew	*Taxus canadensis*	Native	10.2	1	3.0	Improbable	Good	Next to building, next to retaining wall, healthy crown.
1570	Canada Yew	*Taxus canadensis*	Native	10.0	1	2.0	Improbable	Good	Next to fece, healthy crown, codominant leaders.
1571	Manitoba Maple	*Acer negundo*	Native	22.2	1	3.0	Improbable	Fair	Damage atbase, dieback, water sprouts.
B	Red Maple	*Acer rubrum*	Native	19.9	1	3.5	Improbable	Good	Minor damage at base.
A	London Plane-Tree	*Platanus X acerifolia*	Non-Native	42.7	1	5.5	Improbable	Good	Minor dieback, minor water sprouts
N	Golden Weeping Willow	*Salix alba var. vitellina*	Non-Native	97.3	1	6.0	Possible	Poor	Heavily pruned with only structurally safe branching remaining, galls, hollow base.
M	English Oak	*Quercus robur*	Non-Native	27.2	1	3.5	Improbable	Fair	Minor dieback of epicormic growth.

Map 3

435-451 Ridout Street

Tree Inventory

Legend

- ▢ Subject Property
- ⊙ Inventoried Tree (Crown to Scale)
- ⊘ Candidate Bat Habitat
- — Proposed Development
- — Existing Conditions
- - - Regulatory Flood Line

Natural Resource Solutions Inc.
Aquatic, Terrestrial and Wetland Biologists

Map Produced by Natural Resource Solutions Inc. This map is proprietary and confidential and must not be duplicated or distributed by any means without express written permission of NRSI. Data provided by MNRF© Copyright: Queen's Printer Ontario.

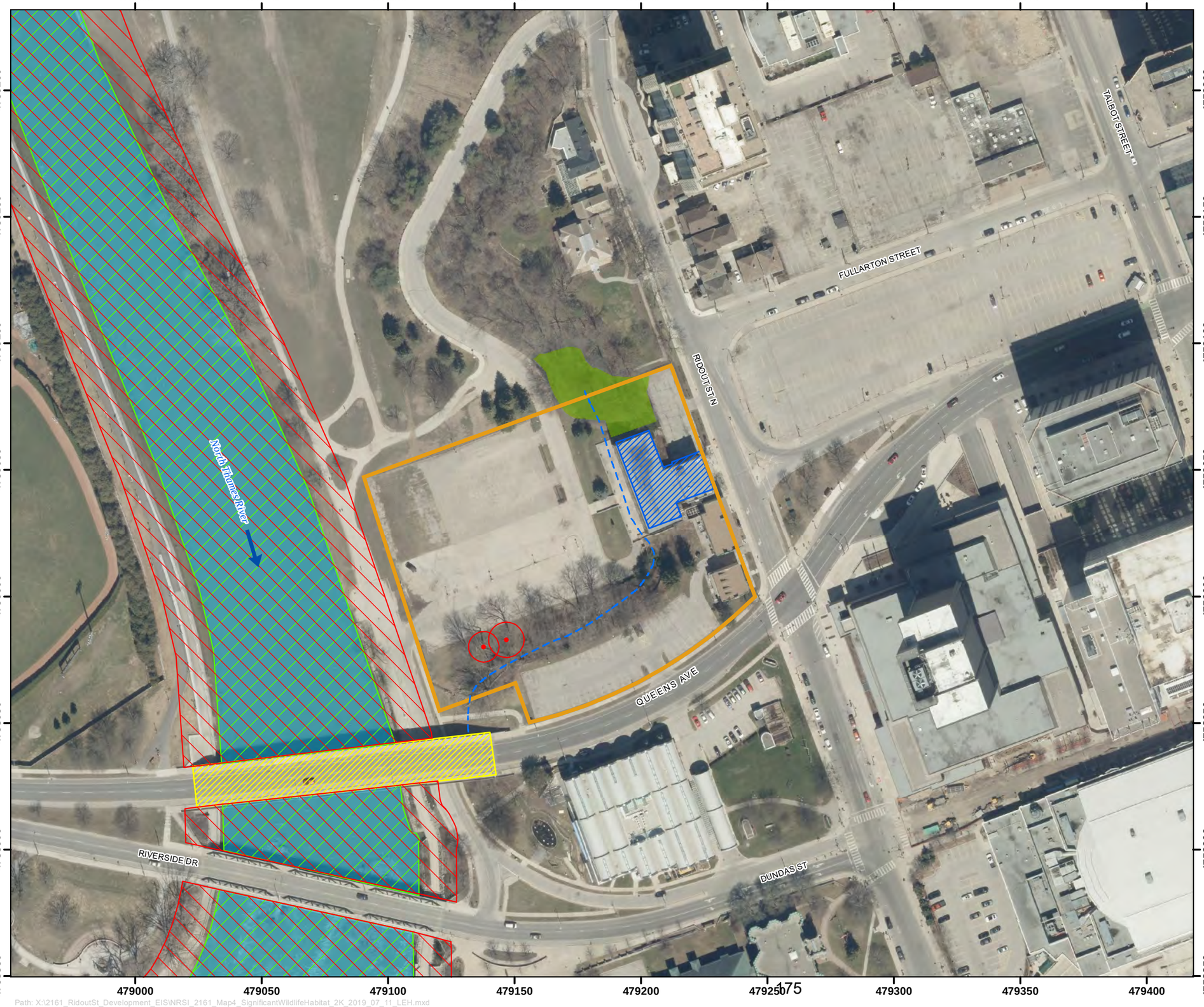
Project: 2151 Date: February 14, 2019	NAD83 - UTM Zone 17 Size: 24x36" 1:300

0 5 10 15 20
Meters

Map 4

435-451 Ridout Street

Significant Wildlife Habitat



Legend

- Subject Property
- Regulatory Flood Line
- Candidate Bat Habitat
- Fish Habitat
- Candidate Turtle Overwintering Habitat

Candidate Habitat of END or THR Species

- Barn Swallow

Candidate Special Concern and Rare Wildlife Species

- Eastern Wood-pewee
- Common Nighthawk

Confirmed Special Concern and Rare Wildlife Species

- Map Turtle

NATURAL RESOURCE SOLUTIONS INC.
Aquatic, Terrestrial and Wetland Biologists

Project: 2161
Date: July 11, 2019

NAD83 - UTM Zone 17
Size: 11x17"
1:1,500

0 20 40 60 80 100 Metres

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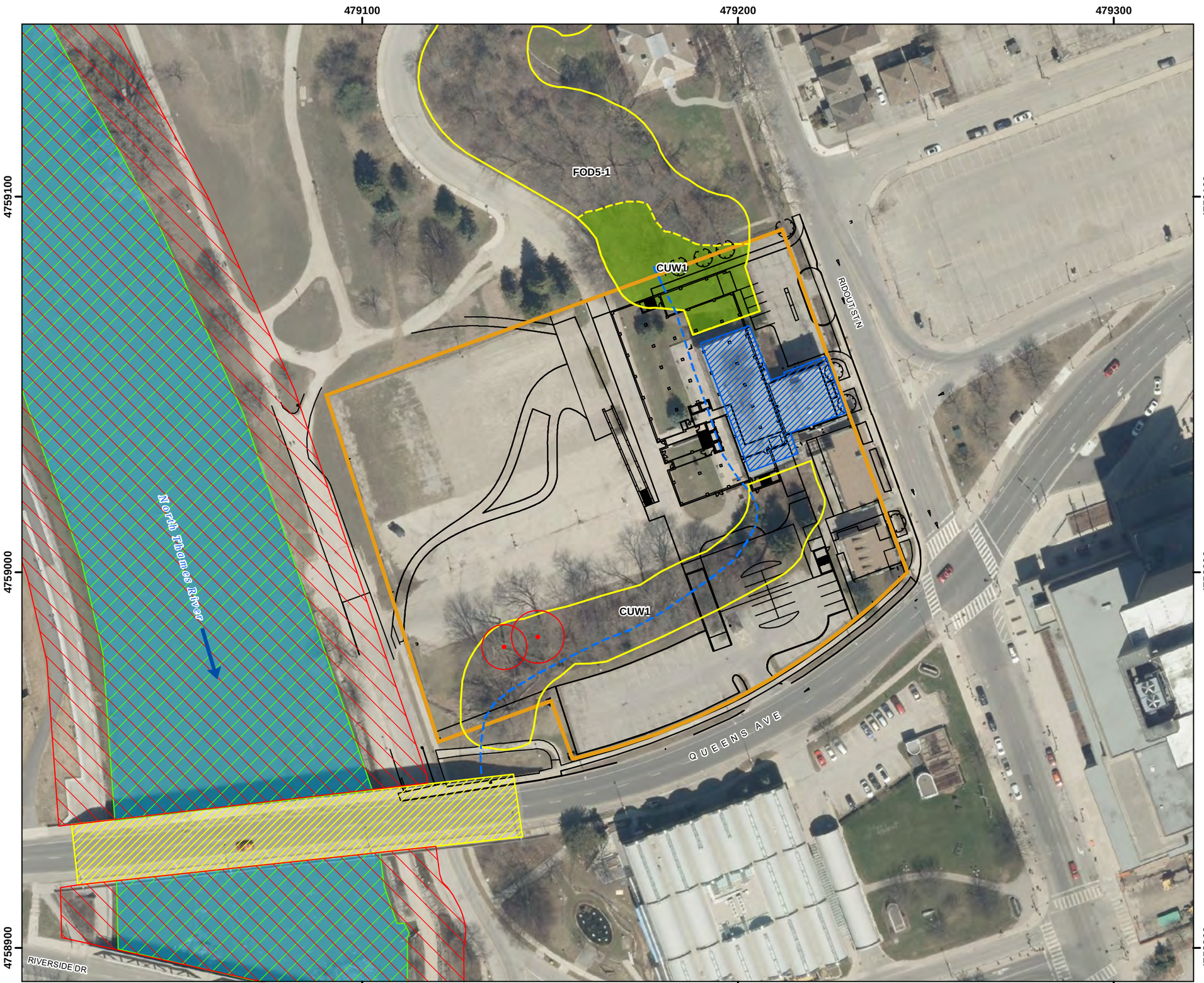
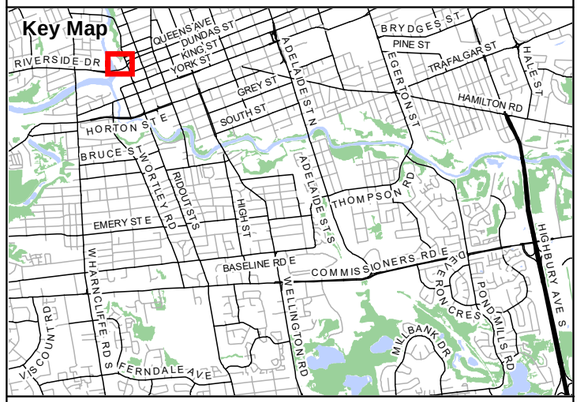
Map 5

435-451 Ridout Street

Development Plan





Legend

- Subject Property
- Proposed Development
- Regulatory Flood Line
- Ecological Land Classification (ELC)

(CUW1) Mineral Cultural Woodland Ecosite

(FOD5-1) Dry - Fresh Sugar Maple Deciduous Forest Type

- ELC Inclusion

(CUW1) Mineral Cultural Woodland Ecosite

Significant Widlife Habitat

- Candidate Bat Habitat
- Fish Habitat
- Candidate Turtle Overwintering Habitat

Candidate Habitat of END or THR Species

- Barn Swallow

Candidate Special Concern and Rare Wildlife Species

- Eastern Wood-pewee
- Common Nighthawk

Confirmed Special Concern and Rare Wildlife Species

- Map Turtle

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Project: 2161
Date: July 11, 2019

NAD83 - UTM Zone 17
Size: 11x17"
1:1,000

0 20 40 60 Metres

N

Path: X:\2161_RidoutSt_Development_EIS\NRSI_2161_Map5_DevelopmentPlan_1K_2019_07_11_LEH.mxd

APPENDIX I Scoping Checklist & Correspondence

APPENDIX A

Environmental Impact Study
ISSUES SUMMARY CHECKLIST REPORT

Application Title: 451-453 Rideau

Date Submitted: Sept 24, 2018

Proponent: Forh,

Qualifications

Primary Consultant: —

Key Contact Person: —

Other Consultants/field personnel:

Hydrogeology / Hydrology : Englobe

Geotechnical : _____

Biological - Flora NRSI

Biological – Fauna NRSI

Other: _____

Context for Background Information

Subwatershed : _____

Tributary Fact Sheet Number : _____

Planning/Policy Area: _____

Technical Advisory Review Team

- ☑ Ecologist Planner
- ☐ Planner for the File
- ☐ EEPAC
- ☑ Conservation Authority _____
- ☐ Ministry of Natural Resources
- ☐ Ministry of Energy and Environment
- ☐ Ministry of Municipal Affairs and Housing
- ☐ Ministry of Agriculture and Food

Other Review Groups (eg. Community Associations, Field Naturalists)

_____

1.0 DESCRIPTION OF THE ENVIRONMENT (Features)

Purpose: To have a clear understanding of the current status of the land, and the proposed "development" or land use change.

1.1 Mapping (Location and Context)

(current aerial photographs, preferably ortho-images, 1:2000 Ontario Base Map, NTS 1:50,000 maps)

- ☑ Land Use - Excerpts of the Official Plan for the City of London Ontario Schedules A, B, showing a 5-10km radius of subject site
- ☑ Terrain setting @ 1:10,000 – 1:15,000 scale showing landscape features, subwatershed divides
- ☑ Existing Environmental Resources @ 1:2,000 -1:5,000 showing Vegetation, Hydrology, contours, linkages
- ☑ Environmental Plan or Strategy from Subwatershed reports (tributary fact sheet), Community (Area) Plans, or other

1.2 Description of Site, Adjacent lands, Linkage with Natural Heritage System

List all supporting studies and reports available to provide background summary (e.g. *sub-watershed, hydrological, geo-technical, natural heritage etc.); check the first box if it is relevant to the subject area and surrounding landscape, and check the second box if it is determined that sufficient information is available.*

SWSR for Harris Park 2013
UTRCA London Dyke 2013

1.2.1 Terrain Setting

☑	☑	Soils (surface & subsurface)
☑	☑	Glacial geomorphology- landform type
☑	☑	Sub-watershed
☑	☑	Topographic features
☑	☑	Ground water discharge
☑	☑	Shallow ground water/baseflow
☑	☑	Ground water recharge/aquifer
☑	☑	Aggregate resources

1.2.2 Hydrology

☐	☐	Hydrological catchment boundary
☐	☐	Surface drainage pattern
☐	☐	Watercourses (Permanent, Intermittent)
☐	☐	Stream order (Headwater, 1st, 2nd, 3rd or higher)
☐	☐	Agricultural drains
☐	☐	Downstream receiving watercourse

Not for Nat Heritage

- Parking area flood
- Storage loss need compensation

1.2.3 Natural Hazards

- ☑ ☑ 100 year Erosion Line
- ☑ ☑ Floodline mapping
- ☑ ☑ ~~Fill line mapping~~ Max hazard line

1.2.4 Vegetation

- ☐ Vegetation Patch number
- ☑ ☑ System (Terrestrial , Wetland, Aquatic)
- ☐ ☐ Cover (Open, Shrub, Treed)
- ☑ ☑ Community Type(s)
- ☑ ☑ ELC Community Class (Bluff, Forest, Swamp, Tallgrass Prairie, Savannah & Woodland, Fen, Bog, Marsh, Open Water, Shallow Water)
- ☑ ☑ ELC Community Series
- ☐ ☐ Rare Vegetation Communities

1.2.5 Flora

- ☑ ☑ Flora (inventory dates, source)
  3 season - but see what's present other 2 - existing data
- ☑ ☑ Rare flora (National, Provincial, Regional)

1.2.6 Fauna

- ☑ ☐ Fauna (inventory dates; source)
- ☐ ☐ Breeding Birds existing data from area ~~+~~ assume pres. of barn swallow
- ☐ ☐ Migratory Birds
- ☐ ☐ Amphibians
- ☑ ☑ Reptiles hide mcuts
- ☑ ☑ Mammals incidental
- ☑ ☑ Butterflies incidental
- ☑ ☑ Odonata incidental
- ☑ ☑ Other ~~[illegible]~~ assume bats are present

  } ~~As~~ habitat restoration as part of project
- ☐ ☐ Bird Species of Conservation Priority
- ☑ ☑ Rare Fauna

1.2.7 **Wildlife habitat**

- [x] ☐ Species-At-Risk critical habitat mapping_____
- [ ] ☐ Winter habitat for deer, wild turkey
- [ ] ☐ Waterfowl Habitat (wetlands, poorly drained landscape – bottomlands, beaver ponds, seasonally flooded areas, staging areas, feeding areas)
- [ ] ☐ Colonial Birds Habitat
- [x] ☐ Hibernaculua
- [x] ☐ Habitat for Raptors _____
- [ ] ☐ Forests with springs or seeps
- [ ] ☐ Ephemeral ponds
- [x] ☐ Wildlife trees (snags, cavities, x-large trees > 65 cm dbh)
- [ ] ☐ Forest Interior Birds

_____
_____
_____

- [ ] ☐ Area-sensitive birds

_____
_____
_____

1.2.8 **Aquatic Habitat**

(*SWS Aquatic Resources Management Reports*)

existing info + check with CTRCA

- [ ] ☐ Fish communities

_____
_____

- [ ] ☐ Fish spawning areas
- [ ] ☐ Fish migration routes
- [ ] ☐ Thermal refuge for fish
- [ ] ☐ Thermal Regime (cold, cool, warm)
- [ ] ☐ Benthic inventory

_____
_____
_____

- [ ] ☐ Substrate _____
_____
- [ ] ☐ Riparian habitat (extent and type)

_____
_____
_____

1.2.9 **Linkages and Corridors**

(The diversity of natural features in an area, and the natural connections between them should be maintained, and improved where possible. Provincial Policy Statement 2.3.3).

- ☐ ☐ Valleylands
- ☑ ☑ Significant Watercourses (Thames River, Stoney Creek, Medway Creek, Dingman Creek, Pottersburg Creek, Wabuno Creek, Mud Creek, Stanton Creek (Drain), Kelly Creek (Drain)
- ☐ ☐ Upland Corridors / migration routes
- ☐ ☐ Big Picture Cores and Corridors
- ☑ ☑ Linkages between aquatic and terrestrial areas (riparian habitat, runoff)
- ☐ ☐ Groundwater connections
- ☐ ☐ Patch clusters (mosaic of patches in the landscape)

_____
_____
_____
_____

1.3 Social Values

1.3.1 **Human Use Values**

- ☑ ☐ Recreational linkages for hiking, walking
- ☑ ☐ Nature appreciation, aesthetics
- ☐ ☐ Education, ,research
- ☑ ☐ Cultural / traditional heritage
- ☐ ☐ Social (parks and open space)
- ☐ ☐ Resource Products (e.g. timber, fish, furbearers, peat)
- ☐ ☐ Aggregate Resources

1.3.2 **Land Use-Cultural**

- ☑ ☑ Archaeological (pre 1500)
- ☐ ☐ Historical (post 1500-present)
- ☐ ☐ Adjacent historical and archeological
- ☐ ☐ Future

1.3.3 **Land Use-Active**

- ☑ ☑ Current
- ☐ ☐ Historical (past 50-100 years)
- ☐ ☐ Adjacent lands
- ☑ ☑ Future

1.3.4 **Other** _____
_____

2.0 EVALUATION OF SIGNIFICANCE

Components of the Natural Heritage System
The policies in Section 15.4 apply to recognized and potential components Of the natural heritage system as delineated on Schedule "B", or features that may be considered for inclusion on Schedule "B". They also address the protection of environmental quality and ecological function with respect to water quality, fish habitat, groundwater recharge, headwaters and aquifers.

1.1 Environmentally Significant Areas

- ☐ Identified Environmentally Significant Areas (*Recognized in Official Plan (Schedule "B" and/or Section 15.4.1.1*
  Name _____
- ☐ Potential Environmentally Significant Areas – Expansion of (*Recognized in Section 15.4.1.2 and Schedule "B")*
  Name _____
- ☐ Potential Environmentally Significant Areas (*Recognized in Section 15.4.1.5 and Schedule "B")*
  Name _____

1.2 Wetlands

- ☐ Provincially Significant Wetlands
- ☐ Locally Significant Wetlands
- ☐ Unevaluated Wetlands

1.3 Areas of Natural and Scientific Interest

- ☐ Provincial Life Science ANSI
- ☐ Regional Life Science ANSI
- ☐ Earth Science ANSI

1.4 Habitat of Species-At-Risk (SAR)

- ☐ Endangered
- ☐ Threatened
- ☐ Vulnerable

1.5 Woodlands

- ☐ Significant Woodlands
- ☐ Unevaluated Vegetation Patches

2.6 Corridors and Linkages

- ☐ River, Stream and Ravine Corridors
- ☐ Upland Corridors
- ☐ Naturalization and Anti-fragmentation Areas

3.0 IDENTIFICATION AND DESCRIPTION OF FUNCTIONS

Ecological Functions The natural processes, products or services that species and non-living environments provide or perform within or between ecosystems and landscapes. Check those functions that will be required to assess for the study (key and supporting functions).

3.1 Biological Functions

- ☑ habitat (provision of food, shelter for species)
- ☐ limiting habitat
- ☐ species life histories (reproduction and dispersal)
- ☐ habitat guilds
- ☐ indicator species
- ☐ keystone species
- ☑ introduced species
- ☐ predation / parasitism
- ☐ population dynamics
- ☐ vegetation structure, density and diversity
- ☐ food chain support
- ☐ productivity
- ☐ diversity
- ☐ carbon cycle
- ☐ energy cycling
- ☐ succession and disturbance processes (natural and man-made)
- ☐ relationships between species and communities

3.2 Hydrological and Wetland Functions

- ☐ ground water recharge and discharge (hydrogeology)
- ☑ water storage and release (fluvial geomorphology)
- ☑ maintaining water cycles (~~water balance~~)
- ☐ water quality improvement
- ☐ flood damage reduction
- ☐ shoreline stabilization / erosion control
- ☐ sediment trapping
- ☐ nutrient retention and removal / biochemical cycling
- ☐ aquatic habitat (fish, macroinvertebrates)

Flood Plain Storage
Coordinate with other Projects in area

3.3 Landscape Features and Functions

- ☐ size
- ☐ connections, corridors and linkages
- ☑ proximity to other areas / natural heritage features (e.g. woodlands, wetlands, valleylands, water, etc.)
- ☐ fragmentation

3.4 Functions, Benefits and Values of Importance to Humans

- ☑ contributing to healthy and productive landscapes
- ☐ improving air quality by supplying oxygen and absorbing carbon dioxide
- ☐ converting and storing atmospheric carbon
- ☐ providing natural resources for economic benefit
- ☑ providing green space for human activities
- ☑ aesthetic and quality-of-life benefit
- ☑ environmental targets and/or environmental management strategies

Subject: RE: Background Information Request - 435-451 Ridout St, London
From: "ESA-Aylmer (MNRF)" <ESA.Aylmer@ontario.ca>
Date: 1/31/2019 1:41 PM
To: Gina MacVeigh <gmacveigh@nrsi.on.ca>

Hello,

The Ministry of Natural Resources and Forestry (MNRF) understands that NRSI is conducting an information request for the proposed Farhi Holdings Corporation project located at 435-451 Ridout Street in the City of London identified in the information provided.

MNRF provides the following natural heritage information in response to your request.

Species at Risk (SAR)

The Species at Risk in Ontario (SARO) List (https://www.ontario.ca/laws/regulation/080230) is Ontario Regulation 230/08 issued under the Endangered Species Act, 2007 (ESA). The ESA came into force on June 30, 2008, and provides both species protection (under section 9) and habitat protection (under section 10) to species listed as endangered or threatened on the SARO List.

An initial Species at Risk (SAR) (Endangered and Threatened species) screening has been completed for the above-noted property.

There are no known occurrences of SAR on the subject property; However there are known occurrences of SAR in the general project area, including:

- Barn Swallow
- Chimney Swift
- Spiny Softshell
- Black Redhorse
- Silver Shiner
- Wavy-rayed Lampmussel

Please note that this is an initial screening for SAR and the absence of an element occurrence does not indicate the absence of species. The province has not been surveyed comprehensively for the presence or absence of SAR and MNRF data relies on observers to report sightings of SAR. Field assessments by a qualified professional may be necessary if there is a high likelihood for SAR species and/or habitat to occur within the project footprint and potentially be impacted.

It is important to note the following:

- The Committee on the Status of Species at Risk in Ontario (COSSARO) meets regularly to evaluate new species for listing and/or re-evaluate species already on the SARO List.
- As a result, species designations may change and changes may occur in both species and habitat protection which could affect the level of protection they receive under the ESA 2007 and whether proposed projects may have adverse effects on SAR.
- Habitat protection provisions for a species may change if a species-specific habitat regulation comes into effect.

If an activity or project will result in adverse effects to endangered or threatened species and/or

their habitat, additional action would need to be taken in order to remain in compliance with the ESA. Additional action could be applying for an authorization under section 17(2)(c) of the ESA, or completing an online registry for an ESA regulation and following the rules in regulation if the project is eligible (http://www.ontario.ca/environment-and-energy/natural-resources-approvals).

Questions about the registry process should be directed to MNRF's Registry and Approval Services Centre at 1-855-613-4256 or at mnr.rasc@ontario.ca. Please be advised that applying for an authorization does not guarantee approval and the process can take several months.

Significant Wildlife Habitat (SWH)

Significant wildlife habitat (SWH) may be present on or adjacent to the above-noted subject lands (within 120 m). Please consult the Significant Wildlife Habitat Technical Guide (SWHTG, OMNR 2000), the Natural Heritage Reference Manual (NHRM) and the Ecoregion Criteria Schedules for criteria on identifying and determining significance of wildlife habitat. SWH is identified by planning authorities using the criteria and processes recommended in the SWHTG and Ecoregion Criteria Schedules.

Link to the SWHTG: https://www.ontario.ca/environment-and-energy/guide-significant-wildlife-habitat

Link to Ecoregion 7E criteria schedule: http://publicdocs.mnr.gov.on.ca/View.asp?Document_ID=21843&Attachment_ID=45645

MNRF completed a screening for S1-S3, SH and special concern species and the following have known occurrences in the general project area:

- Northern Map Turtle (SC, S3)
- Snapping Turtle (SC, S3)
- Peregrine falcon (SC, S3)
- Bald Eagle (SC, S3)

The habitat of provincially rare (S1-S3, SH) and Special Concern species is considered SWH under the category of 'Special Concern and Rare Wildlife Species' in the SWHTG Ecoregion Criteria Schedules. Therefore, consideration should be given to these species and whether their habitat occurs on or within 120 m of the subject lands.

Areas of Natural and Scientific Interest (ANSIs)

There are no Provincially or Regionally Significant Earth or Life Science ANSI's within or 120m adjacent to the proposed subject lands.

Significant Woodlands

We recommend you refer to applicable Official Plans for criteria to determine the significance of woodlands near the project locations. The NHRM also contains information and criteria for determining significant woodlands.

Significant Wetlands

There are no MNRF evaluated wetlands within the proposed project area. Site-specific

investigation within the study area may find existing wetlands within such ELC communities that have not yet been evaluated or designated. Consideration and delineation of wetland areas should be determined using criteria and methodology as outlined in the Ontario Wetland Evaluation System (OWES) and submitted to MNRF for review.

Significant Valleylands

MNRF does not possess significant valleylands mapping. The NHRM provides guidance and evaluation criteria for determining significant valleylands. Conservation authorities should be contacted to inquire about information pertaining to significant valleylands if they have not been identified in the applicable Official Plan.

Fish and Fish Habitat

There appear to be watercourses within and adjacent to the project area; however, no information on fish and fish habitat or mussel and mussel habitat is available.

There are occurrences of Black Redhorse and Silver Shiner within the Thames River.

MNRF recommends you contact the appropriate conservation authority and DFO for up-to-date fisheries, mussel, and drain information.

Natural Heritage Systems

Policy 2.1.2 of the PPS states that the diversity and connectivity of natural features in an area, and the long-term ecological function and biodiversity of natural heritage systems (NHS), should be maintained, restored or, where possible, improved, recognizing linkages between and among natural heritage features and areas, surface water features and ground water features.

Applicable natural heritage studies (e.g. in an EIS) should identify and recognize natural heritage systems and the linkages between and among natural heritage features and areas associated with the proposed development and site alteration. Based on the local NHS/linkages identified, or those specifically identified in an Official Plan, an EIS should outline potential impacts to the NHS and consider ways of maintaining, restoring, and/or improving linkages between and among natural heritage features and areas.

Conservation Authorities and Official Plans may provide additional natural heritage information for this study.

Please be advised that it is your responsibility to be aware of and comply with all relevant federal or provincial legislation, municipal by-laws or other agency approvals.

If you have any questions or require additional information, please feel free to contact me.

Thanks,

Jason Webb
Management Biologist
Ministry of Natural Resources and Forestry
Aylmer District
(519) 773-4744

Jason.webb@ontario.ca

From: Gina MacVeigh [mailto:gmacveigh@nrsi.on.ca]
Sent: November-27-18 11:20 AM
To: ESA-Aylmer (MNRF) <ESA.Aylmer@ontario.ca>
Subject: Background Information Request - 435-451 Ridout St, London

Hello,

I would like to request background information for a subject property located at435 - 451 Ridout Street , in London, ON. NRSI has been retained by Farhi Holdings Corporation to complete a Scoped EIS for the property to allow for development to occur. Please find a formal background information request letter, including a map of the study area, attached to this email.

If any additional information is required at this time, please let me know.

Thank you very much.

--

Our main office in Waterloo has moved! Please note change of address below.

Gina MacVeigh F.W.T.
Aquatic Biologist
Natural Resource Solutions Inc.
415 Phillip Street, Unit C
Waterloo, ON N2L 3X2
(p) 519-725-2227 (f) 519-725-2575
(w)www.nrsi.on.ca (e) gmacveigh@nrsi.on.ca

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Attachments:

NRSI_2161_Map2_DevelopmentPlan_1K_2018_09_27_KEF.PDF 591 KB

APPENDIX II Species at Risk Screening

Ridout Scoped EIS - SAR and SCC Screening

Scientific Name	Common Name	S-RANK[1]	ESA/ COSSARO[3]	COSEWIC[2]	SARA	Background Source	Observed by NRSI in 2018	Habitat Preference[4,5]	Suitable Habitats within Study Area	Suitable Habitats within Subject Property	Carried Forward to EIS?	Rationale
Birds												
Chaetura pelagica	Chimney Swift	S4B, S4N	THR	T	Schedule 1	BSC et al. 2009	No	Commonly found in urban areas near buildings; nests in hollow trees, crevices of rock cliffs, chimneys; highly gregarious; feeds over open water.	Yes	No	Yes	Breeding bird surveys, or detailed SAR bird surveys were specifically not required for this Scoped EIS due to the urban nature of the subject property. The chimneys of the buildings were looked at and deemed not suitable for Chimney Swift nesting.
Chordeiles minor	Common Nighthawk	S4B	SC	T	Schedule 1	BSC et al. 2009	No	Open ground; clearings in dense forests; ploughed fields; gravel beaches or barren areas with rocky soils; open woodlands; flat gravel roofs.	Yes	Yes	Yes	Breeding bird surveys, or detailed SAR bird surveys were specifically not required for this Scoped EIS due to the urban nature of the subject property. Habitat is limited to roof tops. Mitigation will be discussed in the EIS.
Contopus virens	Eastern Wood-Pewee	S4B	SC	SC		BSC et al. 2009	No	The eastern wood-pewee lives in the mid-canopy layer of forest clearings and edges of deciduous and mixed forests. It is most abundant in intermediate-age mature forest stands with little understory vegetation.	Yes	Yes	Yes	Breeding bird surveys, or detailed SAR bird surveys were specifically not required for this Scoped EIS due to the urban nature of the subject property. Forest habitat is considered very disturbed, and any present individuals are likely to use the larger, less disturbed northern forested area off-property. Mitigation will be discussed in the EIS.
Falco peregrinus anatum/tundrius	Peregrine Falcon	S3B	SC	SC	Schedule 1	MNRF 2019b	No	Rock cliffs, crags, especially situated near water; tall buildings in urban centres; threatened by chemical contamination; reintroduction efforts have been attempted in numerous locations throughout Ontario	Yes	No	No	The Thames River have been assumed significant for several species and is proposed to be protected during all construction activities.
Riparia riparia	Bank Swallow	S4B	THR	T		BSC et al. 2009	No	Sand, clay or gravel river banks or steep riverbank cliffs; lakeshore bluffs of easily crumbled sand or gravel; gravel pits, road-cuts, grassland or cultivated fields that are close to water; nesting sites are limiting factor for species presence.	Yes	No	Yes	The larger study area contains a bridge that could contain suitable habitat. For the purpose of this EIS, the bridge and river corridor have been assumed significant for several species.
Haliaeetus leucocephalus	Bald Eagle	S2N, S4B	SC	NAR		MNRF 2019b	No	Require large continuous area of deciduous or mixed woods around large lakes, rivers; require area of 255 ha for nesting, shelter, feeding, roosting; prefer open woods with 30 to 50% canopy cover; nest in tall trees 50 to 200 m from shore; require tall, dead, partially dead trees within 400 m of nest for perching; sensitive to toxic chemicals	Yes	No	No	The Thames River have been assumed significant for several species and is proposed to be protected during all construction activities.
Hirundo rustica	Barn Swallow	S4B	THR	T		BSC et al. 2009	No	Farmlands or rural areas; cliffs, caves, rock niches; buildings or other man-made structures for nesting; open country near body of water.	Yes	No	Yes	The larger study area contains a bridge that has confirmed nesting. For the purpose of this EIS, the bridge and river corridor have been assumed significant for several species.
Hylocichla mustelina	Wood Thrush	S4B	SC	T		BSC et al. 2009	No	Carolinian and Great Lakes-St. Lawrence forest zones; undisturbed moist mature deciduous or mixed forest with deciduous sapling growth; near pond or swamp; hardwood forest edges; must have some trees higher than 12 m.	No	No	No	Forest habitat is too marginal and the overall urbanized study area is not suitable for this species.
Dolichonyx oryzivorus	Bobolink	S4B	THR	T		BSC et al. 2009	No	Large, open expansive grasslands with dense ground cover; hayfields, meadows or fallow fields; marshes; requires tracts of grassland >50 ha.	No	No	No	No open grassland habitat is present witin the study area.

Ridout Scoped EIS - SAR and SCC Screening

Scientific Name	Common Name	S-RANK[1]	ESA/ COSSARO[3]	COSEWIC[2]	SARA	Background Source	Observed by NRSI in 2018	Habitat Preference[4,5]	Suitable Habitats within Study Area	Suitable Habitats within Subject Property	Carried Forward to EIS?	Rationale
Sturnella magna	Eastern Meadowlark	S4B	THR	T		BSC et al. 2009	No	Open, grassy meadows, farmland, pastures, hayfields or grasslands with elevated singing perches; cultivated land and weedy areas with trees; old orchards with adjacent, open grassy areas >10 ha in size.	No	No	No	No suitable open habitat is present within the study area.
Herpetofauna												
Graptemys geographica	Northern Map Turtle	S3	SC	SC	Schedule 1	Ontario Nature 2018	No	Large bodies of water with soft bottoms, and aquatic vegetation; basks on logs or rocks or on beaches and grassy edges, will bask in groups; uses soft soil or clean dry sand for nest sites; may nest at some distance from water.	Yes	No	Yes	The Thames river corridor have been assumed significant for several species and is proposed to be protected during all construction activities.
Chelydra serpentina serpentina	Common Snapping Turtle	S3	SC	SC	Schedule 1	Ontario Nature 2018	No	Permanent or semi-permanent fresh water; marshes, swamps or bogs; rivers and streams with soft muddybanks or bottoms. The species often uses soft soil or clean dry sand on south-facing slopes for nest sites and may nest at some distance from water.	Yes	No	Yes	The Thames river corridor have been assumed significant for several species and is proposed to be protected during all construction activities.
Emydoidea blandingii	Blanding's Turtle (Great Lakes/St Lawrence population)	S3	THR	T	Schedule 1	Ontario Nature 2018	No	Shallow water marshes, bogs, ponds or swamps, or coves in larger lakes with soft muddy bottoms and aquatic vegetation; basks on logs, stumps or banks; surrounding natural habitat is important in summer as they frequently move from aquatic habitat to terrestrial habitats; hibernates in bogs; not readily observed.	No	No	No	No suitable standing water is present within the study area.
Lampropeltis triangulum	Eastern Milksnake	S4	NAR	SC	Schedule 1	Ontario Nature 2018	No	Farmlands, meadows, hardwood or aspen stands; pine forest with brushy or woody cover; river bottoms or bog woods; hides under logs, stones, or boards or in outbuildings; often uses communal nest sites.	No	No	No	No suitable natural areas or farmland are present within the study area.
Heterodon platirhinos	Eastern Hog-nosed Snake	S3	THR	T	Schedule 1	SAR Ontario	No	The Eastern Hog-nosed Snake specializes in hunting and eating toads, and usually only occurs where toads can be found. Eastern Hog-nosed Snakes prefer sandy, well-drained habitats such as beaches and dry forests where they can lay their eggs and hibernate. They use their up-turned snout to dig burrows below the frost line in the sand where eggs are deposited.	No	No	No	Habitat for toads is very limited, and the disturbed nature of the study area is not suitable for this species.
Regina septemvittata	Queensnake	S2	END	E	Schedule 1	SAR Ontario	No	The Queensnake is an aquatic species that is seldom found more than a few metres from the water. It prefers rivers, streams and lakes with clear water, rocky or gravel bottoms, lots of places to hide, and an abundance of crayfish. Queensnakes will often hibernate in groups with other snakes, amphibians and even crayfish. Suitable hibernation sites (called hibernacula) include abutments of old bridges and crevices in bedrock.	Yes	No	No	The Thames river corridor have been assumed significant for several species and is proposed to be protected during all construction activities.
Mammals												
Myotis leibii	Eastern Small-footed Myotis	S2S3	END			NRSI addition	No	Roosts in caves, mine shafts, crevices or buildings that are in or near woodland; hibernates in cold dry caves or mines; maternity colonies in caves or buildings; hunts in forests.	No	No	No	No suitable caves, or mines, and no nearby woodland habitat that would provide suitable foraging habitat.
Myotis lucifungus	Little Brown Myotis	S5	END	E	Schedule 1	NRSI addition	No	Uses caves, quarries, tunnels, hollow trees or buildings for roosting; winters in humid caves; maternity sites in dark warm areas such as attics and barns; feeds primarily in wetlands, forest edges	Yes	Yes	Yes	Cavities in 2 trees were noted that may provide habitat for SAR bats. CUW feature not large enough to be considered SWH.
Myotis septentrionalis	Northern Myotis	S3?	END	E	Schedule 1	Dobbyn 1994	No	Hibernates during winter in mines or caves; during summer males roost alone and females form maternity colonies of up to 60 adults; roosts in houses, man-made structures but prefers hollow trees or under loose bark; hunts within forest, below canopy	Yes	Yes	Yes	Cavities in 2 trees were noted that may provide habitat for SAR bats. CUW feature not large enough to be considered SWH.

Ridout Scoped EIS - SAR and SCC Screening

Scientific Name	Common Name	S-RANK[1]	ESA/ COSSARO[3]	COSEWIC[2]	SARA	Background Source	Observed by NRSI in 2018	Habitat Preference[4,5]	Suitable Habitats within Study Area	Suitable Habitats within Subject Property	Carried Forward to EIS?	Rationale
Perimyotis subflavus	Tri-colored Bat	S3?	END	E	Schedule 1	NRSI addition	No	During the summer, the Tri-colored Bat is found in a variety of forested habitats. It forms day roosts and maternity colonies in older forest and occasionally in barns or other structures. They forage over water and along streams in the forest. Tri-colored Bats eat flying insects and spiders gleaned from webs. At the end of the summer they travel to a location where they swarm; it is generally near the cave or underground location where they will overwinter. They overwinter in caves where they typically roost by themselves rather than part of a group.	Yes	Yes	Yes	Cavities in 2 trees were noted that may provide habitat for SAR bats. CUW feature not large enough to be considered SWH.
Lepidoptera												
Asterocampa clyton	Tawny Emporer	S2S3				Macnaughton et al. 2018	Yes	Forests and hedgerows with abundant Common Hackberry (*Celtis occidentalis*).	Yes	Yes	Yes	Suitable habitat is not present within the subject property.
Asterocampa celtis	Hackberry Emporer	S2				Macnaughton et al. 2018	Yes	Forests and hedgerows with abundant Common Hackberry (*Celtis occidentalis*).	Yes	Yes	Yes	Suitable habitat is not present within the subject property.
Danaus plexippus	Monarch	S4	SC	SC		Macnaughton et al. 2018	No	Open areas with milkweed species (*Asclepias* spp.).	Yes	No	No	Monarch was observed within the subject property however suitable habitat is not present.
Erynnis brizo	Sleepy Duskywing	S1				Macnaughton et al. 2018	No	Forests and hedgerows with abundant Oak (*Quercus* spp.).	No	No	No	Suitable habitat is not present within the subject property.
Fish												
Notropis photogenis	Silver Shiner	S2S3	THR	T (May 2011)	Schedule 3	MNRF 2019b		Silver shiners prefer moderate to large size streams with swift currents that are free of weeds and have clean gravel or boulder bottoms. They live in schools and feed on crustaceans and adult flies that fall in the water or fly just above the surface. In June or July, they spawn by scattering their eggs over gravel riffles.	Yes	No	Yes	The Thames river corridor have been assumed significant for several species and is proposed to be protected during all construction activities.
Moxostoma duquesnei	Black Redhorse	S2	THR	T (May 2005)		MNRF 2019b		In Ontario, the Black Redhorse lives in pools and riffle areas of medium-sized rivers and streams that are usually less than two metres deep. These rivers usually have few aquatic plants, a moderate to fast current, and a sandy or gravel bottom. In the spring, it migrates to breeding habitat where eggs are laid on gravel in fast water. The winter is spent in deeper pools. Adults feed on crustaceans and aquatic insects, while the young fish feed on plankton.	Yes	No	Yes	The Thames river corridor have been assumed significant for several species and is proposed to be protected during all construction activities.
Freshwater Mussels												
Lampsilis fasciola	Wavy-rayed Lampmussel	S1	THR	SC	Schedule 1	MNRF 2019b		The Wavy-rayed lampmussel is usually found in small to medium rivers with clear water. It lives in shallow riffle areas with clean gravel or sand bottoms. The Wavy-rayed lampmussel's fish hosts are the Largemouth bass and Smallmouth bass. The presence of fish hosts is one of the key features for an area to support a healthy mussel population.	Yes	No	Yes	The Thames river corridor have been assumed significant for several species and is proposed to be protected during all construction activities.

APPENDIX III Significant Wildlife Habitat Screening

Significant Wildlife Habitat Assessment Tables

Table 1. Characteristics of Seasonal Concentration Areas for Ecoregion 7E.

	Wildlife Species[1]	Candidate SWH		Confirmed SWH	Study Area
		ELC Ecosite Codes[1]	Habitat Criteria and Information Sources[1]	Defining Criteria[1]	Assessment Details
Wildlife Habitat: Waterfowl Stopover and Staging Areas (Terrestrial)					
Rationale: Habitat important to migrating waterfowl	American Black Duck Northern Pintail Gadwall Blue-winged Teal Green-winged Teal American Wigeon Northern Shoveler Tundra Swan	CUM1 CUT1 - Plus evidence of annual spring flooding from melt water or run-off within these Ecosites. - Fields with seasonal flooding and waste grain in the Long Point, Rondeau, Lake. St. Clair, Grand Bend and Pt. Pelee areas may be important to Tundra Swans.	Fields with sheet water during Spring (mid March to May). • Fields flooding during spring melt and run-off provide important invertebrate foraging habitat for migrating waterfowl. • Agricultural fields with waste grains are commonly used by waterfowl, these are not considered SWH unless they have spring sheet water available[cxlviii] Information Sources • Anecdotal information from the landowner, adjacent landowners or local naturalist clubs may be good information in determining occurrence. • Reports and other information available from Conservation Authorities (CAs) • Sites documented through waterfowl planning processes (eg. EHJV implementation plan) • Field Naturalist Clubs • Ducks Unlimited Canada • Natural Heritage Information Centre (NHIC) Waterfowl Concentration Area	Studies carried out and verified presence of an annual concentration of any listed species, evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects"[cccxi] • Any mixed species aggregations of 100[i] or more individuals required. • The area of the flooded field ecosite habitat plus a 100-300m radius buffer dependant on local site conditions and adjacent land use is the significant wildlife habitat[cxlviii]. • Annual use of habitat is documented from information sources or field studies (annual use can be based on studies or determined by past surveys with species numbers and dates). • SWHMIST[cxlix] Index #7 provides development effects and mitigation measures.	The lower, western portion of the subject property may seasonally flood, however this area is an actively used parking lot and is not suitable. **Not Present**
Wildlife Habitat: Waterfowl Stopover and Staging Areas (Aquatic)					
Rationale: Important for local and migrant waterfowl populations during the spring or fall migration or both periods combined. Sites identified are usually only one of a few in the eco-district	Canada Goose Cackling Goose Snow Goose Green-winged Teal American Black Duck Northern Pintail Northern Shoveler American Wigeon Gadwall Blue-winged Teal Hooded Merganser Common Merganser Red-breasted Merganser Lesser Scaup Greater Scaup Common Goldeneye Bufflehead Long-tailed Duck Surf Scoter White-winged Scoter Black Scoter Canvasback Redhead Ruddy Duck Brant White-winged Scoter Black Scoter	MAS1 MAS2 MAS3 SAS1 SAM1 SAF1 SWD1 SWD2 SWD3 SWD4 SWD5 SWD6 SWD7	• Ponds, marshes, lakes, bays, coastal inlets, and watercourses used during migration. Sewage treatment ponds and storm water ponds do not qualify as a SWH, however a reservoir managed as a large wetland or pond/lake does qualify. • These habitats have an abundant food supply (mostly aquatic invertebrates and vegetation in shallow water). Information Sources • Environment Canada • Naturalist clubs often are aware of staging/stopover areas • OMNRF Wetland Evaluations indicate presence of locally and regionally significant waterfowl staging. • Sites documented through waterfowl planning processes (eg. EHJV implementation plan) • Ducks Unlimited projects • Element occurrence specification by Nature Serve: http://www.natureserve.org • Natural Heritage Information Centre (NHIC) Waterfowl Concentration Area	Studies carried out and verified presence of: • Aggregations of 100[i] or more of listed species for 7 days[i], results in >700 waterfowl use days. • Areas with annual staging of ruddy ducks, canvasbacks, and redheads are SWH[cxlix] • The combined area of the ELC ecosites and a 100m radius area is the SWH[cxlviii] • Wetland area and shorelines associated with sites identified within the SWHTG[cxlviii] Appendix K[cxlix] are significant wildlife habitat. • Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects"[cccxi] • Annual Use of Habitat is Documented from Information Sources or Field Studies (Annual can be based on completed studies or determined from past surveys with species numbers and dates recorded). • SWHMIST[cxlix] Index #7 provides development effects and mitigation measures.	No aquatic features are present within the subject property or neighboring lands. **Not Present**

Table 1. Characteristics of Seasonal Concentration Areas for Ecoregion 7E.

	Wildlife Species[1]	Candidate SWH		Confirmed SWH	Study Area
		ELC Ecosite Codes[1]	Habitat Criteria and Information Sources[1]	Defining Criteria[1]	Assessment Details
Wildlife Habitat: Shorebird Migratory Stopover Area					
Rationale: High quality shorebird stopover habitat is extremely rare and typically has a long history of use	Greater Yellowlegs Lesser Yellowlegs Marbled Godwit Hudsonian Godwit Black-bellied Plover American Golden-Plover Semipalmated Plover Solitary Sandpiper Spotted Sandpiper Semipalmated Sandpiper Pectoral Sandpiper White-rumped Sandpiper Baird's Sandpiper Least Sandpiper Purple Sandpiper Stilt Sandpiper Short-billed Dowitcher Red-necked Phalarope Whimbrel Ruddy Turnstone Sanderling Dunlin	BBO1 BBO2 BBS1 BBS2 BBT1 BBT2 SDO1 SDS2 SDT1 MAM1 MAM2 MAM3 MAM4 MAM5	Shorelines of lakes, rivers and wetlands, including beach areas, bars and seasonally flooded, muddy and un-vegetated shoreline habitats. Great Lakes coastal shorelines, including groynes and other forms of armour rock lakeshores, are extremely important for migratory shorebirds in May to mid-June and early July to October. Sewage treatment ponds and storm water ponds do not qualify as a SWH. Information Sources • Western hemisphere shorebird reserve network • Canadian Wildlife Service (CWS) Ontario Shorebird Survey • Bird Studies Canada • Ontario Nature • Local birders and naturalist clubs • Natural Heritage Information Center (NHIC) Shorebird Migratory Concentration Area	Studies confirming: • Presence of 3 or more of listed species and > 1000[i] shorebird use days during spring or fall migration period (shorebird use days are the accumulated number of shorebirds counted per day over the course of the fall or spring migration period). • Whimbrel stop briefly (<24hrs) during spring migration, any site with >100[i] Whimbrel used for 3 years or more is significant. • The area of significant shorebird habitat includes the mapped ELC shoreline ecosites plus a 100m radius area[cxlviii] • Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects"[ccxi] • SWHMIST[cxlix] Index #8 provides development effects and mitigation measures.	The Thames River is present to the west of the subject property, and off-property mowed lawn is present. Unvegetated shoreline is not present, and no candidate habitat is present within the subject property. **Not Present**
Wildlife Habitat: Raptor Wintering Area					
Rationale: Sites used by multiple species, a high number of individuals and used annually are most significant	Rough-legged Hawk Red-tailed Hawk Northern Harrier American Kestrel Snowy Owl Special Concern: Short-eared Owl Bald Eagle	Hawks/Owls: Combination of ELC Community Series; need to have present one Community Series from each land class. Forest: FOD, FOM, FOC Upland: CUM, CUT, CUS, CUW Bald Eagle: Forest Community Series: FOD, FOM, FOC, SWD, SWM, or SWC, on shoreline areas adjacent to large rivers or adjacent to lakes with open water (hunting area).	The habitat provides a combination of fields and woodlands that provide roosting, foraging and resting habitats for wintering raptors. Raptor wintering (hawk/owl) sites need to be > 20ha[cxlviii, cxlix] with a combination of forest and upland[xvi, xvii, xviii, xix, xx, xxi]. Least disturbed sites, idle/fallow or lightly grazed field/meadow (>15ha) with adjacent woodlands[cxlix] Field area of the habitat is to be wind swept with limited snow depth or accumulation. Eagle sites have open water and large trees and snags aviable for roosting[cxlix] Information Sources • OMNRF Districts • Natural clubs • Natural Heritage Information Centre (NHIC) Raptor Winter Concentration Area • Data from Bird Studies Canada • Reports and other information available from CAs • Results of Christmas Bird Counts	Studies confirm the use of these habitats by: • One or more Short-eared Owls, or, One of more Bald Eagles or; at least 10 individuals and two listed hawk/owl species • To be significant a site must be used regularly (3 in 5 years)[cxlix] for a minimum of 20 days by the above number of birds[i]. • The habitat area for an Eagle winter site is the shoreline forest ecosites directly adjacent to the prime hunting area. • Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects"[ccxi] • SWHMIST[cxlix] Index #10 and #11 provides development effects and mitigation measures.	No forest habitat >20ha is present within the subject property of neighboring lands. **Not present**

Table 1. Characteristics of Seasonal Concentration Areas for Ecoregion 7E.

	Wildlife Species[1]	Candidate SWH		Confirmed SWH	Study Area
		ELC Ecosite Codes[1]	Habitat Criteria and Information Sources[1]	Defining Criteria[1]	Assessment Details
Wildlife Habitat: Bat Hibernacula					
Rationale: Bat hibernacula, are rare habitats in all Ontario landscapes.	Big Brown Bat Eastern Pipistrelle/Tri-colored Bat	Bat Hibernacula may be found in these ecosites: CCR1 CCR2 CCA1 CCA2 (Note: buildings are not considered to be SWH)	Hibernacula may be found in caves, mine shafts, underground foundations and Karsts. Active mine sites should not be considered The locations of bat hibernacula are relatively poorly known. Information Sources • OMNRF for possible locations and contact for local experts • Natural Heritage Information Centre (NHIC) Bat Hibernaculum • Ministry of Northern Development and Mines for location of mine shafts • Clubs that explore caves (eg. Sierra Club) • University Biology Departments with bat experts	• All sites with confirmed hibernating bats are SWH[i]. • The area includes 200m radius around the entrance of the hibernaculum[cxlviii, ccvii, i]. for the development types and 1000m for wind farms [ccv]. • Studies are to be conducted during the peak swarming period (Aug. – Sept.). Surveys should be conducted following methods outlined in the[ccv]."Bats and Bat Habitats: Guidelines for Wind Power Projects" [ccv] • SWHMIST[cxlix] Index #1 provides development effects and mitigation measures.	No suitable underground features are present within the study area. **Not present**
Wildlife Habitat: Bat Maternity Colonies					
Rationale: Known locations of forested bat maternity colonies are extremely rare in all Ontario landscapes.	Big Brown Bat Silver-haired Bat	Maternity colonies considered SWH are found in forested Ecosites. All ELC Ecosites in ELC Community Series: FOD FOM SWD SWM	Maternity colonies can be found in tree cavities, vegetation and often in building [sxxii, xxv, xxvi, xxvii, xxxi] (buildings are not considered to be SWH). • Maternity roosts are not found in caves and mines in Ontario[xxii]. • Maternity colonies located in Mature deciduous or mixed forest stands[ccix, ccx] with >10/ha large diameter (>25cm dbh) wildlife trees[ccvii]. • Female Bats prefer wildlife tree (snags) in early stages of decay, class 1-3[ccxiv] or class 1 or 2[ccxii]. • Silver-haired Bats prefer older mixed or deciduous forest and form maternity colonies in tree cavities and small hollows. Older forest areas with at least 21 snags/ha are preferred[ccx]. Information Sources • OMNRF for possible locations and contact for local experts • University Biology Departments with bat experts	Maternity Colonies with confirmed use by: • >10 Big Brown Bats[i] • >5 Adult Female Silver-haired Bats[i] • The area of the habitat includes the entire woodland or the forest stand ELC Ecosite containing the maternity colonies[i]. • Evaluation methods for maternity colonies should be conducted following methods outlined in the "Bats and Bat Habitats: Guidelines for Wind Power Projects"[ccv]. • SWHMIST[cxlix] Index #12 provides development effects and mitigation measures.	A tree inventory was completed for the entire subject property, and any other trees that may be impacted. Trees were flagged as having potential bat habitat, and timing windows should follow. Area is not large enough to be considered SWH. **Not present**

Table 1. Characteristics of Seasonal Concentration Areas for Ecoregion 7E.

	Wildlife Species[1]	Candidate SWH		Confirmed SWH	Study Area
		ELC Ecosite Codes[1]	Habitat Criteria and Information Sources[1]	Defining Criteria[1]	Assessment Details
Wildlife Habitat: Turtle Wintering Area					
Rationale: Generally sites are the only known sites in the area. Sites with the highest number of individuals are most significant.	Midland Painted Turtle Special Concern: Northern Map Turtle Snapping Turtle	Snapping and Midland Painted Turtles: ELC Community Classes: SW, MA, OA and SA ELC Community Series: FEO and BOO Northern Map Turtle: Open Water areas such as deeper rivers or streams and lakes with current can also be used as over-wintering habitat.	• For most turtles, wintering areas are in the same general area as their core habitat. Water has to be deep enough not to freeze and have soft mud substrates. • Over-wintering sites are permanent water bodies, large wetlands, and bogs or fens with adequate Dissolved Oxygen[cix, cx, cxi, cxviii]. • Man-made ponds such as sewage lagoons or storm water ponds should not be considered SWH Information Sources • EIS studies carried out by Conservation Authorities • Field naturalists clubs • OMNRF Ecologist or Biologist • Natural Heritage Information Centre (NHIC)	• Presence of 5 over-wintering Midland Painted Turtles is significant[i]. • One or more Northern Map Turtle or Snapping Turtle over-wintering within a wetland is significant[i]. • The mapped ELC ecosite area with the over wintering turtles is the SWH. If the hibernation site is within a stream or river, the deep-water pool where the turtles are over wintering is the SWH. • Over wintering areas may be identified by searching for congregations (Basking Areas) of turtles on warm, sunny days during the fall (Sept. – Oct.) or spring (Mar. – Apr)[cvii]. Congregation of turtles is more common where wintering areas are limited and therefore significant[cix, cx, cxi, cxii]. • SWHMIST[cxiix] Index #28 provides development effects and mitigation measures for turtle wintering habitat.	Northern Map Turtle found in area. Thames River is a known turtle wintering area **Candidate SWH**
Wildlife Habitat: Reptile Hibernaculum					
Rationale: Generally sites are the only known sites in the area. Sites with the highest number of individuals are most significant	Snakes: Eastern Gartersnake Northern Watersnake Northern Red-bellied Snake Northern Brownsnake Smooth Green Snake Northern Ring-necked Snake Special Concern: Milksnake Eastern Ribbonsnake	For all snakes, habitat may be found in any ecosite in southern Ontario other than very wet ones. Talus, Rock Barren, Crevice and Cave, and Alvar sites may be directly related to these habitats. Observations of congregations of snakes on sunny warm days in the spring or fall is a good indicator. The existence of rock piles or slopes, stone fences, and crumbling foundations assist in identifying candidate SWH.	For snakes, hibernation takes place in sites located below frost lines in burrows, rock crevices and other natural locations. Areas of broken and fissured rock are particularly valuable since they provide access to subterranean sites below the frost line[xliv, l, li, lii, cxii]. Wetlands can also be important over-wintering habitat in conifer or shrub swamps and swales, poor fens, or depressions in bedrock terrain with sparse trees or shrubs with sphagnum moss or sedge hummock ground cover. Information Sources • In spring, local residents or landowners may have observed the emergence of snakes on their property (e.g. old dug wells). • Reports and other information available from CAs • Local naturalists and experts, as well as university herpetologists may also know where to find some of these sites. • Natural Heritage Information Centre (NHIC)	Studies confirming: • Presence of snake hibernacula used by a minimum of five individuals of a snake sp., or, individuals of two or more snake spp. • Congregations of a minimum of five individuals of a snake sp., or, individuals of two or more snake spp. near potential hibernacula (eg. foundation or rocky slope) on sunny warm days in Spring (Apr/May) and Fall (Sept/Oct)[i]. • Note: If there are Special Concern Species present, then site is SWH • Note: Sites for hibernation possess specific habitat parameters (e.g. temperature, humidity, etc.) and consequently are used annually, often by many of the same individuals of a local population (i.e. strong hibernation site fidelity). Other critical life processes (e.g. mating) often take place in close proximity to hibernacula. The feature in which the hibernacula is located plus a 30m buffer is the SWH[i]. • SWHMIST[cxiix] Index #13 provides development effects and mitigation measures for snake hibernacula.	No suitable underground features were observed within the study area. **Not present**

Table 1. Characteristics of Seasonal Concentration Areas for Ecoregion 7E.

	Wildlife Species[1]	Candidate SWH		Confirmed SWH	Study Area
		ELC Ecosite Codes[1]	Habitat Criteria and Information Sources[1]	Defining Criteria[1]	Assessment Details
Wildlife Habitat: Colonially - Nesting Bird Breeding Habitat (Bank and Cliff)					
Rationale: Historical use and number of nests in a colony make this habitat significant. An identified colony can be very important to local populations. All swallow population are declining in Ontario.	Cliff Swallow Northern Rough-winged Swallow (this species is not colonial but can be found in Cliff Swallow colonies)	Eroding banks, sandy hills, borrow pits, steep slopes, and sand piles Cliff faces, bridge abutments, silos, barns Habitat found in the following ecosites: CUM1 CUT1 CUS1 BLO1 BLS1 BLT1 CLO1 CLS1 CLT1	• Any site or areas with exposed soil banks, undisturbed or naturally eroding that is not a licensed/permitted aggregate area. • Does not include man-made structures (bridges or buildings) or recently (2 years) disturbed soil areas, such as berms, embankments, soil or aggregate stockpiles. • Does not include a licensed/permitted Mineral Aggregate Operation. Information Sources • Reports and other information available from CAs • Ontario Breeding Bird Atlas[ccv]. • Bird Studies Canada: Nature Counts http://www.birdscanada.org/birdmon/ • Field Naturalist clubs	Studies confirming: • Presence of 1 or more nesting sites with 8[cxlvix] or more cliff swallow pairs and/or rough-winged swallow pairs during the breeding season. • A colony identified as SWH will include a 50m radius habitat area from the peripheral nests[ccvii]. • Field surveys to observe and count swallow nests are to be completed during the breeding season. Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects"[ccxi]. • SWHMIST[cxlix] Index #4 provides development effects and mitigation measures.	Steep slopes are present within the natural areas, but no exposed or sandy slopes are present. The Queen Street bridge is considered candidate habitat for several swallow species and should be assumed significant. **Not present**
Wildlife Habitat: Colonially - Nesting Bird Breeding Habitat (Tree/Shrubs)					
Rationale: Large colonies are important to local bird population, typically sites are only known colony in area and are used annually.	Great Blue Heron Black-crowned Night-Heron Great Egret Green Heron	SWM2 SWM3 SWM5 SWM6 SWD1 SWD2 SWD3 SWD4 SWD5 SWD6 SWD7 FET1	• Nests in live or dead standing trees in wetlands, lakes, islands, and peninsulas. Shrubs and occasionally emergent vegetation may also be used. • Most nests in trees are 11 to 15 m from ground, near the top of the tree. Information Sources • Ontario Breeding Bird Atlas[ccv], colonial nest records. • Ontario Heronry Inventory 1991 available from Bird Studies Canada or NHIC (OMNRF). • Natural Heritage Information Centre (NHIC) Mixed Wader Nesting Colony • Aerial photographs can help identify large heronries. • Reports and other information available from CAs • MNRF District Offices • Field naturalist clubs	Studies confirming: • Presence of 2 or more active nests of Great Blue Heron or other list species. • The habitat extends from the the edge of the colony and a minimum 300m radius or extent of the Forest Ecosite containing the colony or any island <15.0ha with a colony is the SWH[cc, ccvii]. • Confirmation of active colonies must be achieved through site visits conducted during the nesting season (April to August) or by evidence such as the presence of fresh guano, dead young and/or eggshells • SWHMIST[cxlix] Index #5 provides development effects and mitigation measures.	No wetland features are present within the study area. A stick nest search was completed during each field visit, including during leaf-off conditions on November 28, 2018. No stick nests were observed. **Not present**

Table 1. Characteristics of Seasonal Concentration Areas for Ecoregion 7E.

	Wildlife Species[1]	Candidate SWH		Confirmed SWH	Study Area
		ELC Ecosite Codes[1]	Habitat Criteria and Information Sources[1]	Defining Criteria[1]	Assessment Details
Wildlife Habitat: Colonially - Nesting Bird Breeding Habitat (Ground)					
Rationale: Colonies are important to local bird population, typically sites are only known colony in area and are used annually.	Herring Gull Great Black-backed Gull Little Gull Ring-billed Gull Common Tern Caspian Tern Brewer's Blackbird	Any rocky island or peninsula (natural or artificial) within a lake or large river (two-lined on a 1:50,000 NTS map). Close proximity to watercourses in open fields or pastures with scattered trees or shrubs (Brewer's Blackbird) MAM1 – 6 MAS1 – 3 CUM CUT CUS	• Nesting colonies of gulls and terns are on islands or peninsulas associated with open water or in marshy areas. • Brewers Blackbird colonies are found loosely on the ground in or in low bushes in close proximity to streams and irrigation ditches within farmlands. Information Sources • Ontario Breeding Bird Atlas[ccv], rare/colonial species records. • Canadian Wildlife Service • Reports and other information available from CAs • Natural Heritage Information Centre (NHIC) Colonial Waterbird Nesting Area • MNRF District Offices • Field naturalist clubs	Studies confirming: • Presence of >25 active nests for Herring Gulls, >5 active nests for Common Tern or >2 active nests for Caspian Tern[i]. • Any active nesting colony of one or more Little Gull, and Great Black-backed Gull is significant[i]. • Presence of 5 or more pairs for Brewer's Blackbird[i]. • The edge of the colony and a minimum 150m radius area of the habitat, or the extent of the ELC ecosites containing the colony or any island <3.0ha with a colony is the SWH[cc, ccvii]. • Studies would be done during May/June when actively nesting. Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects"[ccxi]. • SWHMIST[cxlix] Index #6 provides development effects and mitigation measures.	No islands or peninsulas are present within the study area. **Not present**
Wildlife Habitat: Migratory Butterfly Stopover Areas					
Rationale: Butterfly stopover areas are extremely rare habitats and are biologically important for butterfly species that migrate south for the winter	Painted Lady Red Admiral Special Concern: Monarch	Combination of ELC Community Series; need to have present one Community Series from each landclass: Field: CUM CUT CUS Forest: FOC FOD FOM CUP Anecdotally, a candidate sight for butterfly stopover will have a history of butterflies being observed.	A butterfly stopover area will be a minimum of 10ha in size with a combination of field and forest habitat present, and will be located within 5km of Lake Ontario and Erie[cxlix]. • The habitat is typically a combination of field and forest, and provides the butterflies with a location to rest prior to their long migration south [xxxii, xxxiii, xxxiv, xxxv, xxxvi]. • The habitat should not be disturbed, fields/meadows with an abundance of preferred nectar plants and woodland edge providing shelter are requirements for this habitat [cxlviii, cxlix]. • Staging areas usually provide protection from the elements and are often spits of land or areas with the shortest distance to cross the Great Lakes [xxxvii, xxxviii, xxxix, xl, xli]. Information Sources • MNRF District Offices • Natural Heritage Information Centre (NHIC) • Agriculture Canada in Ottawa may have list of butterfly experts. • Field Naturalist Clubs • Toronto Entomologists Association • Conservation Authorities	Studies confirm: • The presence of Monarch Use Days (MUD) during fall migration (Aug/Oct)[xliii]. MUD is based on the number of days a site is used by Monarchs, multiplied by the number of individuals using the site. Numbers of butterflies can range from 100-500/day[xxxvii], significant variation can occur between years and multiple years of sampling should occur[xl, xlii]. • Observational studies are to be completed and need to be done frequently during the migration period to estimate MUD • MUD of >5000 or >3000 with the presence of Painted Ladies or White Admiral's is to be considered significant[i]. • SWHMIST[cxlix] Index #16 provides development effects and mitigation measures.	No suitable natural areas are present within the study area. **Not present**

Table 1. Characteristics of Seasonal Concentration Areas for Ecoregion 7E.

	Wildlife Species[1]	Candidate SWH		Confirmed SWH	Study Area
		ELC Ecosite Codes[1]	Habitat Criteria and Information Sources[1]	Defining Criteria[1]	Assessment Details
Wildlife Habitat: Landbird Migratory Stopover Areas					
Rationale: Sites with a high diversity of species as well as high numbers are most significant	All migratory songbirds Canadian Wildlife Service Ontario website: http://www.on.ec.gc.ca/wildlife_e.html All migrant raptors species Ontario Ministry of Natural Resources: Fish and Wildlife Conservation Act, 1997. Schedule 7: Specially Protected Birds (Raptors)	All Ecosites associated with these ELC Community Series: FOC FOM FOD SWC SWM SWD	Woodlots need to be >5 ha[i] in size and within 5km [iv, v, vi, vii, viii, ix, x, xi, xii, xiii, xiv, xv] of Lake Ontario and Erie. If woodlands are rare in an area of shoreline, woodland fragments 2-5ha can be considered for this habitat • If multiple woodlands are located along the shoreline those Woodlands <2km from Lake Erie or Ontario are more significant[cxlix]. • Sites have a variety of habitats: forest, grassland and wetland complexes[cxlix]. • The largest sites are more significant[cxlix] • Woodlots and forest fragments are important habitats to migrating birds[ccxviii], these features located along the shore and located within 5km of Lake Ontario and Lake Erie are Candidate SWH[cxlviii]. Information Sources • Bird Studies Canada • Ontario Nature • Local birders and naturalist clubs • Ontario Important Bird Areas (IBA) Program	Studies confirm: • Use of the habitat by >200 birds/day and with >35 spp. with at least 10 bird spp. recorded on at least 5 different survey dates[i]. This abundance and diversity of migrant bird species is considered above average and significant. • Studies should be completed during spring (March/May) and fall (Aug/Oct) migration using standardized assessment techniques. Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects"[ccxi]. • SWHMIST[cxlix] Index #9 provides development effects and mitigation measures.	No woodlots >5ha are present with the study area, and the subject property is not within 5km of a Great Lake. **Not present**
Wildlife Habitat: Deer Winter Congregation Areas					
Rationale: Deer movement during winter in the southern areas of Ecoregion 7E are not constrained by snow depth, however deer will annually congregate in large numbers in suitable woodlands to reduce or avoid the impacts of winter conditions [cxlviii]	White-tailed Deer	All Forested Ecosites with these ELC Community Series: FOC FOM FOD SWC SWM SWD Conifer plantations (CUP) smaller than 50 ha may also be used.	• Woodlots >100 ha in size or if large woodlots are rare in a planning area woodlots>50ha[i]. • Deer movement during winter in Ecoregion 7E are not constrained by snow depth, however deer will annually congregate in large numbers in suitable woodlands[cxlviii]. • Large woodlots > 100ha and up to 1500 ha are known to be used annually by densities of deer that range from 0.1-1.5 deer/ha[ccxxiv]. • Woodlots with high densities of deer due to artificial feeding are not significant[i]. Information Sources • MNRF District Offices • LIO/NRVIS	Studies confirm: • Deer management is an MNRF responsibility, deer winter congregation areas considered significant will be mapped by MNRF[cxlviii]. • Use of the woodlot by white-tailed deer will be determined by MNRF, all woodlots exceeding the area criteria are significant, unless determined not to be significant by MNRF[i]. • Studies should be completed during winter (Jan/Feb) when >20cm of snow is on the ground using aerial survey techniques[ccxxiv], ground or road surveys, or a pellet count deer density survey[ccxxv]. • SWHMIST[cxlix] Index #2 provides development effects and mitigation measures.	No woodlots are large enough to be suitable. **Not present**

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Table 2. Characteristics of Rare Vegetation Communities for Ecoregion 7E.

Rare Vegetation Community[1]	Candidate SWH			Confirmed SWH	Study Area
	ELC Ecosite Codes[1]	Habitat Description[1]	Detailed Information and Sources[1]	Defining Criteria[1]	Assessment Details
Cliff and Talus Slopes					
Rationale: Cliffs and Talus Slopes are extremely rare habitats in Ontario.	Any ELC Ecosite within Community Series: TAO CLO TAS CLS TAT CLT	A Cliff is vertical to near vertical bedrock >3m in height. A Talus Slope is rock rubble at the base of a cliff made up of coarse rocky debris.	Most cliff and talus slopes occur along the Niagara Escarpment. Information Sources • The Niagara Escarpment Commission has detailed information on location of these habitats. • OMNRF Districts • Natural Heritage Information Centre (NHIC) has location information available on their website • Field naturalist clubs • Conservation Authorities	• Confirm any ELC Vegetation Type for Cliffs or Talus Slopes[lxxviii] • SWHMIST[cxlix] Index #21 provides development effects and mitigation measures.	Suitable vegetation is not present within the study area. **Not present**
Sand Barrens					
Rationale: Sand barrens are rare in Ontario and support rare species. Most Sand Barrens have been lost due to cottage development and forestry.	ELC Ecosites: SBO1 SBS1 SBT1 Vegetation cover varies from patchy and barren to continuous meadow (SBO1), thicket-like (SBS1), or more closed and treed (SBT1). Tree cover always ≤ 60%.	Sand Barrens typically are exposed sand, generally sparsely vegetated and caused by lack of moisture, periodic fires and erosion. They have little or no soil and the underlying rock protrudes through the surface. Usually located within other types of natural habitat such as forest or savannah. Vegetation can vary from patchy and barren to tree covered but less than 60%.	A sand barren area >0.5ha in size Information Sources • OMNRF Districts • Natural Heritage Information Centre (NHIC) has location information available on their website • Field naturalist clubs • Conservation Authorities	• Confirm any ELC Vegetation Type for Sand Barrens[lxxviii] • Site must not be dominated by exotic or introduced species (<50% vegetative cover are exotics sp)[l]. • SWHMIST[cxlix] Index #20 provides development effects and mitigation measures.	Suitable vegetation is not present within the study area. **Not present**

Table 2. Characteristics of Rare Vegetation Communities for Ecoregion 7E.

Rare Vegetation Community[1]	Candidate SWH			Confirmed SWH	Study Area
	ELC Ecosite Codes[1]	Habitat Description[1]	Detailed Information and Sources[1]	Defining Criteria[1]	Assessment Details
Alvar					
Rationale: Alvars are extremely rare habitats in Ecoregion 7E	ALO1 ALS1 ALT1 FOC1 FOC2 CUM2 CUS2 CUT2-1 CUW2 **Five Alvar Indicator Species:** 1) Carex crawei 2) Panicum philadelphicum 3) Eleocharis compressa 4) Scutellaria parvula 5) Trichostema brachiatum These indicator species are very specific to Alvars within Ecoregion 7E[cxlix]	An alvar is typically a level, mostly unfractured calcareous bedrock feature with a mosaic of rock pavements and bedrock overlain by a thin veneer of soil. The hydrology of alvars is complex, with alternating periods of inundation and drought. Vegetation cover varies from sparse lichen-moss associations to grasslands and shrublands and comprising a number of characteristic or indicator plant. Undisturbed alvars can be phyto- and zoogeographically diverse, supporting many uncommon or are relict plant and animals species. Vegetation cover varies from patchy to barren with a less than 60% tree cover[lxxviii].	An Alvar site > 0.5ha in size[lxxv]. Alvar is particularly rare in Ecoregion 7E where the only known sites are found in the western islands of Lake Erie[cxcix]. Information Sources • Alvars of Ontario (2000), Federation of Ontario Naturalists[lxxvi]. • Ontario Nature – Conserving Great Lakes Alvars[ccviii]. • Natural Heritage Information Centre (NHIC) has location information available on their website • OMNRF Staff • Field Naturalist clubs • Conservation Authorities	Field studies identify four of the five **Alvar indicator species**[lxxv] at a candidate Alvar site is Significant • Site must not be dominated by exotic or introduced species (<50% vegetative cover exotics). • The alvar must be in excellent condition and fit in with surrounding landscape with few conflicting land uses[lxxv]. • SWHMIST[cxlix] Index #17 provides development effects and mitigation measures.	Suitable vegetation is not present within the study area. **Not present**
Old Growth Forest					
Rationale: Due to historic logging practices and land clearance for agriculture, old growth forest is rare in Ecoregion 7E.	Forest Community Series: FOD FOC FOM SWD SWC SWM	Old growth forests are characterized by heavy mortality or turnover of overstorey trees resulting in a mosaic of gaps that encourage development of a multi-layered canopy and an abundance of snags and downed woody debris.	Woodland area is >0.5ha Information Sources • OMNRF Forest Resource Inventory mapping • OMNRF Districts • Field naturalist clubs • Conservation Authorities • Sustainable Forestry Licence (SFL) companies will possibly know locations through field operations. • Municipal forestry departments	Field Studies will determine: • If dominant trees species of the ecosite are >140 years old, then stand is Significant Wildlife Habitat[cxlviii]. • The forested area containing the old growth characteristics will have experienced no recognizable forestry activities [cxlviii] (cut stumps will not be present) • Determine ELC Vegetation Type for forest area containing the old growth characteristics[lxxviii]. • SWHMIST[cxlix] Index #23 provides development effects and mitigation measures.	Suitable vegetation is not present within the study area. **Not present**

Table 2. Characteristics of Rare Vegetation Communities for Ecoregion 7E.

Rare Vegetation Community[1]	Candidate SWH			Confirmed SWH	Study Area
	ELC Ecosite Codes[1]	Habitat Description[1]	Detailed Information and Sources[1]	Defining Criteria[1]	Assessment Details
Savannah					
Rationale: Savannahs are extremely rare habitats in Ontario.	TPS1 TPS2 TPW1 TPW2 CUS2	A Savannah is a tallgrass prairie habitat that has tree cover between 25 – 60%. In Ecoregion 7E, known Tallgrass Prairie and savannah remnants are scattered between Lake Huron and Lake Erie, near Lake St. Clair, north of and along the Lake Erie shoreline, in Brantford and in the Toronto area (north of Lake Ontario)[cc].	No minimum size to site[j] Site must be restored or a natural site. Remnant sites such as railway right of ways are not considered to be SWH. Information Sources • OMNRF Districts • Natural Heritage Information Centre (NHIC) has location data available on their website • Field naturalists clubs • Conservation Authorities	Field studies confirm one or more of the Savannah indicator species listed in[lxxv] Appendix N should be present[j]. Note: Savannah plant spp. list from Ecoregion 7E should be used. • Area of the ELC Vegetation type is the SWH[lxxviii]. • Site must not be dominated by exotic or introduced species (<50% vegetative cover exotics). • SWHMIST[cxlix] Index #18 provides development effects and mitigation measures.	Suitable vegetation is not present within the study area. **Not present**
Tallgrass Prairie					
Rationale: Tallgrass Prairies are extremely rare habitats in Ontario.	TPO1 TPO2	A Tallgrass Prairie has ground cover dominated by prairie grasses. An open Tallgrass Prairie habitat has < 25% tree cover. In Ecoregion 7E, known Tallgrass Prairie and savannah remnants are scattered between Lake Huron and Lake Erie, near Lake St. Clair, north of and along the Lake Erie shoreline, in Brantford and in the Toronto area (north of Lake Ontario)[cc].	No minimum size to site[j]. Site must be restored or a natural site. Remnant sites such as railway right of ways are not considered to be SWH. Information Sources • Natural Heritage Information Centre (NHIC has location information available on their website • OMNRF Districts • Field naturalists clubs • Conservation Authorities	Field studies confirm one or more of the Prairie indicator species listed in[lxxv] Appendix N should be present[j]. Note: Prairie plant spp. list from Ecoregion 7E should be used. • Area of the ELC Vegetation Type is the SWH[lxxviii]. • Site must not be dominated by exotic or introduced species (<50% vegetative cover exotics). • SWHMIST[cxlix] Index #19 provides development effects and mitigation measures.	Suitable vegetation is not present within the study area. **Not present**
Other Rare Vegetation Communities					
Rationale: Plant communities that often contain rare species which depend on the habitat for survival.	Provincially Rare S1, S2 and S3 vegetation communities are listed in Appendix M of the SWHTG[cxlviii]. Any ELC Ecosite Code that has a possible ELC Vegetation Type that is Provincially Rare is Candidate SWH.	Rare Vegetation Communities may include beaches, fens, forest, marsh, barrens, dunes and swamps.	ELC Ecosite codes that have the potential to be a rare ELC Vegetation Type as outlined in appendix M[cxlviii]. The OMNRF/NHIC will have up to date listing for rare vegetation communities. Information Sources • Natural Heritage Information Centre (NHIC) has location information available on their website • OMNRF Districts • Field naturalists clubs • Conservation Authorities	Field studies should confirm if an ELC Vegetation Type is a rare vegetation community based on listing within Appendix M of SWHTG[cxlviii]. • Area of the ELC Vegetation Type polygon is the SWH. • SWHMIST[cxlix] Index #37 provides development effects and mitigation measures.	Suitable vegetation is not present within the study area. **Not present**

Significant Wildlife Habitat Assessment Tables

Table 3. Characteristics of Specialized Wildlife Habitat for Ecoregion 7E.

	Wildlife Species[1]	Candidate SWH		Confirmed SWH	Study Area
		ELC Ecosite Codes[1]	Habitat Criteria and Information Sources[1]	Defining Criteria[1]	Assessment Details
Wildlife Habitat: Waterfowl Nesting Area					
Rationale: Important to local waterfowl populations, sites with greatest number of species and highest number of individuals are significant	American Black Duck Northern Pintail Northern Shoveler Gadwall Blue-winged Teal Green-winged Teal Wood Duck Hooded Merganser Mallard	All upland habitats located adjacent to these wetland ELC Ecosites are Candidate SWH: MAS1 MAS2 MAS3 SAS1 SAM1 SAF1 MAM1 MAM2 MAM3 MAM4 MAM5 MAM6 SWT1 SWT2 SWD1 SWD2 SWD3 SWD4 **Note: includes adjacency to Provincially Significant Wetlands**	A waterfowl nesting area extends: 120m[cxlix] from a wetland (>0.5ha) or a wetland (>0.5ha) with small wetlands (0.5ha) within 120m or a cluster of 3 or more small (<0.5 ha) wetlands within 120m of each individual wetland where waterfowl nesting is known to occur[cxlix]. • Upland areas should be at least 120m wide so that predators such as racoons, skunks, and foxes have difficulty finding nests. • Wood Ducks and Hooded Mergansers utilize large diameter trees (>40cm dbh) in woodlands for cavity nest sites. Information Sources • Ducks Unlimited staff may know the locations of particularly productive nesting sites. • OMNRF Wetland Evaluations for indication of significant waterfowl nesting habitat. • Reports and other information available from CAs	Studies confirmed: • Presence of 3 or more nesting pairs for listed species excluding Mallards[l], or, • Presence of 10 or more nesting pairs for listed species including Mallards[l]. • Any active nesting site of an American Black Duck is considered significant. • Nesting studies should be completed during the spring breeding season (April - June). Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects"[ccxi] • A field study confirming waterfowl nesting habitat will determine the boundary of the waterfowl nesting habitat for the SWH, this may be greater or less than 120m[cxlviii] from the wetland and will provide enough habitat for waterfowl to successfully nest. • SWHMIST[cxlix] Index #25 provides development effects and mitigation measures.	No suitable ELC ecosites are present, and no wetland communities are present within the study area. **Not present**
Wildlife Habitat: Bald Eagle and Osprey Nesting, Foraging and Perching Habitat					
Rationale: Nest sites are fairly uncommon in Ecoregion 7E and are used annually by these species. Many suitable nesting locations may be lost due to increasing shoreline development pressures and scarcity of habitat.	Osprey Special Concern: Bald Eagle	ELC Forest Community Series: FOD, FOM, FOC, SWD, SWM and SWC directly adjacent to riparian areas – rivers, lakes, ponds and wetlands.	Nests are associated with lakes, ponds, rivers or wetlands along forested shorelines, islands, or on structures over water. Osprey nests are usually at the top a tree whereas Bald Eagle nests are typically in super canopy trees in a notch within the tree's canopy. Nests located on man-made objects are not to be included as SWH (e.g. telephone poles and constructed nesting platforms). Information Sources • Natural Heritage Information Center (NHIC) compiles all known nesting sites for Bald Eagles in Ontario • MNRF values information (LIO/NRVIS) will list known nesting locations, Note: data from NRVIS is provided as a point format and does not include all the habitat. • Nature Counts, Ontario Nest Records Scheme data • OMNRF Districts • Check the Ontario Breeding Bird Atlas[ccv] or Rare Breeding Birds in Ontario for species documented • Reports and other information available from CAs • Field naturalists clubs	Studies confirm the use of these nests by: • One or more active Osprey or Bald Eagle nests in an area[cxlviii]. • Some species have more than one nest in a given area and priority is given to the primary nest with alternate nests included within the area of the SWH. • For an Osprey, the active nest and a 300m radius around the nest or the contiguous woodland stand is the SWH[ccvii], maintaining undisturbed shorelines with large trees within this area is important[cxlviii]. • For a Bald Eagle the active nest and a 400-800m radius around the nest is the SWH[cvi, ccvii]. Area of the habitat from 400-800m is dependant on site lines from the nest to the development and inclusion of perching and foraging habitat[cvi]. • To be significant a site must be used annually. When found inactive, the site must be known to be inactive for ≥3 years or suspected of not being used for >5 years before being considered not significant[ccvii]. • Observational studies to determine nest site use, perching sites and foraging areas need to be done from mid March to mid August. • Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects"[ccxi] • SWHMIST[cxlix] Index #26 provides development effects and mitigation measures.	An active Osprey nest is known on the far west side of the subject property outside of any impacted lands. A stick nest search was completed during each field visit, including during leaf-off conditions on November 28, 2018. No stick nests were observed. **Not present**

Table 3. Characteristics of Specialized Wildlife Habitat for Ecoregion 7E.

	Wildlife Species[1]	Candidate SWH		Confirmed SWH	Study Area
		ELC Ecosite Codes[1]	Habitat Criteria and Information Sources[1]	Defining Criteria[1]	Assessment Details
Wildlife Habitat: Woodland Raptor Nesting Habitat					
Rationale: Nests sites for these species are rarely identified; these area sensitive habitats are often used annually by these species.	Northern Goshawk Cooper's Hawk Sharp-shinned Hawk Red-shouldered Hawk Barred Owl Broad-winged Hawk	May be found in all forested ELC Ecosites. May also be found in SWC, SWM, SWD and CUP3	All natural or conifer plantation woodland/forest stands combined >30ha or with >4ha of interior habitat[lxxxviii, lxxxix, xc, xci, xciii, xciv, xcv, xcvi, cxxxiii]. Interior habitat determined with a 200m buffer[cxlviii]. • Stick nests found in a variety of intermediate-aged to mature conifer, deciduous or mixed forests within tops or crotches of trees. Species such as Coopers hawk nest along forest edges sometimes on peninsulas or small off-shore islands. • In disturbed sites, nests may be used again, or a new nest will be in close proximity to old nest. Information Sources • OMNRF Districts • Check the Ontario Breeding Bird Atlas[ccv] or Rare Breeding Birds in Ontario for species documented. • Check data from Bird Studies Canada • Reports and other information available from CAs	Studies confirm: • Presence of 1 or more active nests from species list is considered significant[cxlviii]. • Red-shouldered Hawk and Northern Goshawk – A 400m radius around the nest or 28 ha of habitat is the SWH[ccvii].(the 28ha habitat area would be applied where optimal habitat is irregularly shaped around the nest) • Barred Owl – A 200m radius around the nest is the SWH[ccvii]. • Broad-winged Hawk and Coopers Hawk – A 100m radius around the nest is the SWH[ccvii]. • Sharp-Shinned Hawk – A 50m radius around the nest is the SWH[ccvii]. • Conduct field investigations from early March to end of May. The use of call broadcasts can help in locating territorial (courting/nesting) raptors and facilitate the discovery of nests by narrowing down the search area. • SWHMIST[cxlix] Index #27 provides development effects and mitigation measures.	No wooded communities are present that are combined >30ha. A stick nest search was completed during each field visit, including during leaf-off conditions on November 28, 2018. No stick nests were observed. **Not present**
Wildlife Habitat: Turtle Nesting Area					
Rationale: These habitats are rare and when identified will often be the only breeding site for local populations of turtles.	Midland Painted Turtle Special Concern: Northern Map Turtle Snapping Turtle	Exposed mineral soil (sand or gravel) areas adjacent (<100m)[cxlviii] or within the following ELC Ecosites: MAS1 MAS2 MAS3 SAS1 SAM1 SAF1 BOO1 FEO1	• Best nesting habitat for turtles are close to water and away from roads and sites less prone to loss of eggs by predation from skunks, raccoons or other animals. • For an area to function as a turtle-nesting area, it must provide sand and gravel that turtles are able to dig in and are located in open, sunny areas. Nesting areas on the sides of municipal or provincial road embankments and shoulders are not SWH. • Sand and gravel beaches adjacent to undisturbed shallow weedy areas of marshes, lakes, and rivers are most frequently used. Information Sources • Use Ontario Soil Survey reports and maps to help find suitable substrate for nesting turtles (well-drained sands and fine gravels). • Check the Ontario Herpetofaunal Summary Atlas records or other similar atlases for uncommon turtles; location information may help to find potential nesting habitat for them. • Natural Heritage Information Center (NHIC) Field naturalist clubs	Studies confirm: • Presence of 5 or more nesting Midland Painted Turtles[i] • One or more Northern Map Turtle or Snapping Turtle nesting is a SWH[i] • The area or collection of sites within an area of exposed mineral soils where the turtles nest, plus a radius of 30-100m around the nesting area dependant on slope, riparian vegetation and adjacent land use is the SWH[cxlviii]. • Travel routes from wetland to nesting area are to be considered within the SWH as part of the 30-100m area of habitat[cxlix]. • Field investigations should be conducted in prime nesting season typically late spring to early summer. Observation studies observing the turtles nesting is a recommended method. • SWHMIST[cxlix] Index #28 provides development effects and mitigation measures for turtle nesting habitat.	No exposed mineral soil is present within the study area. No turtles, or evidence of turtles, were observed within the study area. **Not present**

Table 3. Characteristics of Specialized Wildlife Habitat for Ecoregion 7E.

	Wildlife Species[1]	Candidate SWH		Confirmed SWH	Study Area
		ELC Ecosite Codes[1]	Habitat Criteria and Information Sources[1]	Defining Criteria[1]	Assessment Details
Wildlife Habitat: Seeps and Springs					
Rationale: Seeps/Springs are typical of headwater areas and are often at the source of coldwater streams	Wild Turkey Ruffed Grouse Spruce Grouse White-tailed Deer Salamander spp.	Seeps/Springs are areas where ground water comes to the surface. Often they are found within headwater areas within forested habitats. Any forested Ecosite within the headwater areas of a stream could have seeps/springs.	Any forested area (with <25% meadow/field/pasture) within the headwaters of a stream or river system[cxvii, cxlix]. • Seeps and springs are important feeding and drinking areas especially in the winter will typically support a variety of plant and animal species[cxix, cxx, cxxi, cxxii, cxiii, cxiv]. Information Sources • Topographical Map • Thermography • Hydrological surveys conducted by CAs and MOE • Field naturalists and landowners • Municipalities and Conservation Authorities may have drainage maps and headwater areas mapped	Field Studies confirm: • Presence of a site with 2 or more[i] seeps/springs should be considered SWH. • The area of a ELC forest ecosite containing the seeps/springs is the SWH. The protection of the recharge area considering the slope, vegetation, height of trees and groundwater condition need to be considered in delineation of the habitat[cxlviii]. • SWHMIST[cxlix] Index #30 provides development effects and mitigation measures.	No seeps or springs are present within the study area. **Not present**
Wildlife Habitat: Amphibian Breeding Habitat (Woodland)					
Rationale: These habitats are extremely important to amphibian biodiversity within a landscape and often represent the only breeding habitat for local amphibian populations	Eastern Newt Blue-spotted Salamander Spotted Salamander Gray Treefrog Spring Peeper Western Chorus Frog Wood Frog	All Ecosites associated with these ELC Community Series: FOC FOM FOD SWC SWM SWD Breeding pools within the woodland or the shortest distance from forest habitat are more significant because they are more likely to be used due to reduced risk to migrating amphibians.	• Presence of a wetland, pond or woodland pool (including vernal pools) >500m^2 (about 25m diameter) [ccvii] within or adjacent (within 120m) to a woodland (no minimum size)[clxxxii, lxiii, lxv, lxvi, lxvii, lxviii, lxix, lxx]. • Woodlands with permanent ponds or those containing water in most years until mid-July are more likely to be used as breeding habitat[cxlviii]. Information Sources • Ontario Herpetofaunal Summary Atlas (or other similar atlases) for records • Local landowners may also provide assistance as they may hear spring-time choruses of amphibians on their property. • OMNRF Districts and wetland evaluations • Field naturalist clubs • Canadian Wildlife Service Amphibian Road Call Survey • Ontario Vernal Pool Association: http://www.ontariovernalpools.org	Studies confirm: • Presence of breeding population of 1 or more of the listed newt/salamander species or 2 or more of the listed frog/toad species with at least 20 individuals (adults or eggs masses) or 2 or more of the listed frog/toad species with Call Level Codes of 3. • A combination of observational study and call count surveys [cviii] will be required during the spring (March-June) when amphibians are concentrated around suitable breeding habitat within or near the woodland/wetlands. • The habitat is the wetland area plus a 230m radius of woodland area[lxiii, lxv, lxvi, lxvii, lxviii, lxix, lxx, lxxi]. If a wetland area is adjacent to a woodland, a travel corridor connecting the wetland to the woodland is to be included in the habitat. • SWHMIST[cxlix] Index #14 provides development effects and mitigation measures.	Natural areas are present on slopes with developed lower slopes, so no woodland pooling can be present. **Not present**

Table 3. Characteristics of Specialized Wildlife Habitat for Ecoregion 7E.

	Wildlife Species[1]	Candidate SWH		Confirmed SWH	Study Area
		ELC Ecosite Codes[1]	Habitat Criteria and Information Sources[1]	Defining Criteria[1]	Assessment Details
Wildlife Habitat: Amphibian Breeding Habitat (Wetland)					
Rationale: Wetlands supporting breeding for these amphibian species are extremely important and fairly rare within Central Ontario Landscapes	Eastern Newt American Toad Spotted Salamander Four-toed Salamander Blue-spotted Salamander Gray Treefrog Western Chorus Frog Northern Leopard Frog Pickerel Frog Green Frog Mink Frog Bullfrog	ELC Community Classes SW, MA, FE, BO, OA and SA. Typically these wetland ecosites will be isolated (>120m) from woodland ecosites, however larger wetlands containing predominantly aquatic species (e.g. Bull Frog) may be adjacent to woodlands.	• Wetlands >500m^2 (about 25m diameter)[ccvii] supporting high species diversity are significant: some small or ephemeral habitats may not be identified on MNR mapping and could be important amphibian breeding habitats[clxxxiv]. • Presence of shrubs and logs increase significance of pond for some amphibian species because of available structure for calling, foraging, escape and concealment from predators. • Bullfrogs require permanent water bodies with abundant emergent vegetation. Information Sources • Ontario Herpetofaunal Summary Atlas (or other similar atlases) • Canadian Wildlife Service Amphibian Road Surveys and Backyard Amphibian Call Count. • OMNRF Districts and wetland evaluations • Reports and other information available from CAs	Studies confirm: • Presence of breeding population of 1or more of the listed newt/salamander species or 2 or more of the listed frog or toad species and with at least 20 breeding individuals (adults and eggs masses)[lxxi, lxxiii] or 2 or more of the listed frog/toad species with Call Level of 3. or; Wetland with confirmed breeding Bullfrogs are significant[j]. • The ELC ecosite wetland area and the shoreline are the SWH. • A combination of observational study and call count surveys cviii to determine breeding/larval stages will be required during the spring (May March-June) when amphibians are concentrated around suitable breeding habitat within or near the woodland/wetlands. • If a SWH is determined for Amphibian Breeding Habitat (Wetlands) then Movement Corridors are to be considered as outlined in Table 1.4.1 of this Schedule. • SWHMIST[cxlix] Index #15 provides development effects and mitigation measures.	No wetlands are present within the study area. **Not present**
Wildlife Habitat: Woodland Area-Sensitive Bird Breeding Habitat					
Rationale: Large, natural blocks of mature woodland habitat within the settled areas of Southern Ontario are important habitats for area sensitive interior forest song birds.	Yellow-bellied Sapsucker Red-breasted Nuthatch Veery Blue-headed Vireo Northern Parula Black-throated Green Warbler Blackburnian Warbler Black-throated Blue Warbler Ovenbird Scarlet Tanager Winter Wren Pileated Woodpecker Special Concern: Cerulean Warbler Canada Warbler	All Ecosites associated with these ELC Community Series: FOC FOM FOD SWC SWM SWD	• Habitats where interior forest breeding birds are breeding, typically large mature (>60 yrs. old) forest stands or woodlots >30ha[cv, cxxxi, cxxxii, cxxxiii, cxxxiv, cxxxv, cxxxvi, cxxxvii, cxxxviii, cxxxix, cxl, cxli, cxlii, cxliii, cxliv, cxlv, cxlvi, cl, cli, clii, cliii, cliv, clv, clvi, clvii, clviii, clix]. • Interior forest habitat is at least 200m from forest edge habitat[clxiv]. Information Sources • Local birder clubs • Canadian Wildlife Service (CWS) for the location of forest bird monitoring • Bird Studies Canada conducted a 3-year study of 287 woodlands to determine the effects of forest fragmentation on forest birds and to determine what forests were of greatest value to interior species. • Reports and other information available from CAs	Studies confirm: • Presence of nesting or breeding pairs of 3 or more of the listed wildlife species[i]. • Note: any site with breeding Cerulean Warblers or Canada Warbler is to be considered SWH[j]. • Conduct field investigations in early summer when birds are singing and defending their territories. • Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects"[ccxi] • SWHMIST[cxlix] Index #34 provides development effects and mitigation measures.	Wooded areas are not large enough and not mature enough to be suitable habitat. **Not present**

Significant Wildlife Habitat Assessment Tables

Table 4. Characteristics of Habitat for Species of Conservation Concern for Ecoregion 7E.

	Wildlife Species[1]	Candidate SWH		Confirmed SWH	Study Area
		ELC Ecosite Codes[1]	Habitat Criteria and Information Sources[1]	Defining Criteria[1]	Assessment Details
Wildlife Habitat: Marsh Bird Breeding Habitat					
Rationale: Wetlands for these bird species are typically productive and fairly rare in Southern Ontario landscapes.	American Bittern Virginia Rail Sora Common Gallinule American Coot Pied-billed Grebe Marsh Wren Sedge Wren Common Loon Green Heron Trumpeter Swan Special Concern: Black Tern Yellow Rail	MAM1 MAM2 MAM3 MAM4 MAM5 MAM6 SAS1 SAM1 SAF1 FEO1 BOO1 For Green Heron: All SW, MA and CUM1 sites	• Nesting occurs in wetlands • All wetland habitat is to be considered as long as there is shallow water with emergent aquatic vegetation present[cxxiv]. • For Green Heron, habitat is at the edge of water such as sluggish streams, ponds and marshes sheltered by shrubs and trees. Less frequently, it may be found in upland shrubs or forest a considerable distance from water. Information Sources • OMNRF Districts and wetland evaluations • Field naturalist clubs • Natural Heritage Information Centre (NHIC) • Reports and other information available from CAs • Ontario Breeding Bird Atlas[ccv]	Studies confirm: • Presence of 5 or more nesting pairs of Sedge Wren or Marsh Wren or breeding by any combination of 4 or more of the listed species[i]. • Note: any wetland with breeding of 1 or more Trumpeter Swans, Black Terns, Green Heron or Yellow Rail is SWH[i]. • Area of the ELC ecosite is the SWH • Breeding surveys should be done in May/June when these species are actively nesting in wetland habitats. • Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects"[ccxi] • SWHMIST[cxlix] Index #35 provides development effects and mitigation measures	No marsh habitat is present within the study area. **Not present**
Wildlife Habitat: Open Country Bird Breeding Habitat					
Rationale: This wildlife habitat is declining throughout Ontario and North America. Species such as the Upland Sandpiper have declined significantly the past 40 years based on CWS (2004) trend records.	Upland Sandpiper Grasshopper Sparrow Vesper Sparrow Northern Harrier Savannah Sparrow Special Concern: Short-eared Owl	CUM1 CUM2	Large grassland areas (includes natural and cultural fields and meadows) >30ha[clx, clxi, clxii, clxiii, clxiv, clxv, clxvi, clxvii, clxviii, clxix]. Grasslands not Class 1 or 2 agricultural lands, and not being actively used for farming (i.e. no row cropping or intensive hay or livestock pasturing in the last 5 years)[i]. Grassland sites considered significant should have a history of longevity, either abandoned fields, mature hayfields and pasturelands that are at least 5 years or older. The Indicator bird species are area sensitive requiring larger grassland areas than the common grassland species. Information Sources • Agricultural land classification maps Ministry of Agriculture • Local birder clubs • Ontario Breeding Bird Atlas[ccv] • EIS Reports and other information available from CAs	Field Studies confirm: • Presence of nesting or breeding of 2 or more of the listed species[i]. • A field with 1 or more breeding Short-eared Owls is to be considered SWH. • The area of SWH is the contiguous ELC ecosite field areas. • Conduct field investigations of the most likely areas in spring and early summer when birds are singing and defending their territories. • Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects"[ccxi] • SWHMIST[cxlix] Index #32 provides development effects and mitigation measures	No grassland habitat is present within the study area. **Not present**

Table 4. Characteristics of Habitat for Species of Conservation Concern for Ecoregion 7E.

	Wildlife Species[1]	Candidate SWH		Confirmed SWH	Study Area
		ELC Ecosite Codes[1]	Habitat Criteria and Information Sources[1]	Defining Criteria[1]	Assessment Details
Wildlife Habitat: Shrub/Early Successional Bird Breeding Habitat					
Rationale: This wildlife habitat is declining throughout Ontario and North America. The Brown Thrasher has declined significantly over the past 40 years based on CWS (2004) trend records.	Indicator Spp: Brown Thrasher Clay-coloured Sparrow Common Spp. Field Sparrow Black-billed Cuckoo Eastern Towhee Willow Flycatcher Special Concern: Yellow-breasted Chat Golden-winged Warbler	CUT1 CUT2 CUS1 CUS2 CUW1 CUW2 Patches of shrub ecosites can be complexed into a larger habitat such as woodland area for some bird species.	Large natural field areas succeeding to shrub and thicket habitats >10ha[cbiv] in size. Shrub land or early successional fields, not class 1 or 2 agricultural lands, not being actively used for farming (i.e. no row-cropping, haying or live-stock pasturing in the last 5 years)[i]. Shrub thicket habitats (>10 ha) are most likely to support and sustain a diversity of these species[cbxiii]. Shrub and thicket habitat sites considered significant should have a history of longevity, either abandoned fields or pasturelands. Information Sources • Agricultural land classification maps, Ministry of Agriculture. • Local bird clubs • Ontario Breeding Bird Atlas[ccv] • Reports and other information available from CAs	Field Studies confirm: • Presence of nesting or breeding of 1 of the indicator species and at least 2 of the common species[i]. • A field with breeding Yellow-breasted Chat or Golden-winged Warbler is to be considered as Significant Wildlife Habitat[j]. • The area of the SWH is the contiguous ELC ecosite field/thicket area. • Conduct field investigations of the most likely areas in spring and early summer when birds are singing and defending their territories • Evaluation methods to follow "Bird and Bird Habitats: Guidelines for Wind Power Projects"[ccxi] • SWHMIST[cxlix] Index #33 provides development effects and mitigation measures.	No large natural areas, and no fields are present within the study area. **Not present**
Wildlife Habitat: Terrestrial Crayfish					
Rationale: Terrestrial Crayfish are only found within SW Ontario in Canada and their habitats are very rare.[Ccii]	Chimney or Digger Crayfish (*Fallicambarus fodiens*) Devil Crawfish or Meadow Crayfish (*Cambarus Diogenes*)	MAM1 MAM2 MAM3 MAM4 MAM5 MAM6 MAS1 MAS2 MAS3 SWD SWT SWM CUM1 with inclusions of above meadow marsh ecosites can be used by terrestrial crayfish	Wet meadow and edges of shallow marshes (no minimum size) identified should be surveyed for terrestrial crayfish. • Constructs burrows in marshes, mudflats, meadows, the ground can't be too moist. Can often be found far from water. • Both species are a semi-terrestrial burrower which spends most of its life within burrows consisting of a network of tunnels. Usually the soil is not too moist so that the tunnel is well formed. Information Sources • Information sources from "Conservation Status of Freshwater Crayfishes" by Dr. Premek Hamr for the WWF and CNF March 1998.	Studies Confirm: • Presence of 1 or more individuals of species listed or their chimneys (burrows) in suitable marsh meadow or terrestrial sites[cci]. • Area of ELC Ecosite or an ecoelement area of meadow marsh or swamp within the large ecosite area is the SWH • Surveys should be done April to August in temporary or permanent water. Note the presence of burrows or chimneys are often the only indicator of presence, observance or collection of individuals is very difficult [cci] • SWHMIST[cxlix] Index #36 provides development effects and mitigation measures.	No wetland habitat is present within the study area. No chimneys were observed during field visits. **Not present**
Wildlife Habitat: Special Concern and Rare Wildlife Species					
Rationale: These species are quite rare or have experienced significant population declines in Ontario	All Special Concern and Provincially Rare (S1-S3, SH) plant and animal species. Lists of these species are tracked by the Natural Heritage Information Centre (NHIC).	All plant and animal element occurrences (EO) within a 1 or 10km grid. Older element occurrences were recorded prior to GPS being available, therefore location information may lack accuracy.	When an element occurrence is identified within a 1 or 10 km grid for a Special Concern or provincially Rare species; linking candidate habitat on the site needs to be completed to ELC Ecosites[bxviii]. Information Sources • Natural Heritage Information Centre (NHIC) will have the Special Concern and Provincially Rare (S1-S3, SH) species lists and element occurrences for these species. • NHIC Website: "Get Information" http://nhic.mnr.gov.on.ca • Ontario Breeding Bird Atlas[ccv] • Expert advice should be sought as many of the rare spp. have little information available about their requirements.	Studies Confirm: • Assessment/inventory of the site for the identified special concern or rare species needs to be completed during the time of year when the species is present or easily identifiable. • The area of the habitat to the finest ELC scale that protects the habitat form and function is the SWH, this must be delineated through detailed field studies. The habitat neess to be easily mapped and cover an important life stage component for a species e.g. specific nesting habitat for foraging habitat. • SWHMIST[cxlix] Index #37 provides development effects and mitigation measures.	Special Concern species have been identified through 1 and 10km grid atlas data, and candidate habitat is outlined in the SAR/SCC Screening in this report. **Candidate SWH**

Significant Wildlife Habitat Assessment Tables

Table 5. Characteristics of Animal Movement Corridors for Ecoregion 7E.

	Wildlife Species[1]	Candidate SWH		Confirmed SWH	Study Area
		ELC Ecosite Codes[1]	Habitat Criteria and Information Sources[1]	Defining Criteria[1]	Assessment Details
Wildlife Habitat: Amphibian Movement Corridors					
Rationale: Movement corridors for amphibians moving from their terrestrial habitat to breeding habitat can be extremely important for local populations.	Eastern Newt American Toad Blue-spotted Salamander Spotted Salamander Four-toed Salamander Gray Treefrog Northern Leopard Frog Pickerel Frog Western Chorus Frog	Corridors may be found in all ecosites associated with water. • Corridors will be determined based on identifying the significant breeding habitat for these species in Table 1.1.	Movement corridors between breeding habitat and summer habitat[clxxiv, clxxv, clxxvi, clxxvii, clxxviii, clxxix, clxxx, clxxxi] Movement corridors must be considered when Amphibian breeding habitat is confirmed as SWH from Table 1.2.2 (Amphibian Breeding Habitat – Wetland) of this Schedule[l]. Information Sources • MNRF District Office • Natural Heritage Information Centre NHIC • Reports and other information available from CAs • Field naturalist Clubs	• Field Studies must be conducted at the time of year when species are expected to be migrating or entering breeding sites. • Corridors should consist of native vegetation, with several layers of vegetation. Corridors unbroken by roads, waterways or bodies, and undeveloped areas are most significant[cxlix]. • Corridors should have at least 15m of vegetation on both sides of waterway[cxlix] or be up to 200m wide[cxlix] of woodland habitat and with gaps <20m[cxlix] • Shorter corridors are more significant than longer corridors, however amphibians must be able to get to and from their summer and breeding habitat[cxlix]. • SWHMIST[cxlix] Index #40 provides development effects and mitigation measures.	No suitable breeding habitat is known within the greater study area, and so no corridiors can be present. **Not Present**

Significant Wildlife Habitat Assessment Tables

Table 6. Exceptions for Ecodistricts within Ecoregion 6E.

	Wildlife Habitat and Species	Candidate SWH			Confirmed SWH	Study Area
		Ecosites	Habitat Description	Habitat Criteria and Information Sources[1]	Defining Criteria[1]	Assessment Details
EcoDistrict						
7E-2	Bat Migratory Stopover Area Rationale: Stopover areas for long distance migrant bats are important during fall migration. Hoary Bat Eastern Red Bat Silver-haired Bat	No specific ELC types		• Long distance migratory bats typically migrate during late summer and early fall migrating summer breeding habitats throughout Ontario to southern wintering areas. Their annual fall migration may concentrate these species of bats at stopover areas. • This is the only known bat migratory stopover habitats based on current information. Information Sources • OMNRF for possible locations and contact for local experts • University of Waterloo, Biology Department	• Long Point (42°35'N, 80°30'E, to 42°33'N, 80°03'E) has been identified as a significant stop-over habitat for fall migrating Silver-haired bats, due to significant increases in abundance, activity and feeding that was documented during fall migration[ccxv]. • The confirmation criteria and habitat areas for this SWH are still being determined. • SWHMIST[cxlix] Index #38 provides development effects and mitigation measures	**Not Present**

APPENDIX IV Tree Inventory Data & Conditions of Assessment

Tree Health Assessment Criteria

Assessment Criteria*	Definition[1]
Excellent	Represents a tree in near perfect form, health, and vigor. This tree would exhibit no deadwood, no decline, and no visible defects.
Good	Represents a tree ranging from a generally healthy tree to a near perfect tree in terms of health, vigor and structure. This tree exhibits a complete, balanced crown structure with little to no deadwood and minimal defects as well as a properly formed root flare.
Fair	Represents a tree with minor health, balance or structural issues with minimal to moderate deadwood. Branching structure shows signs of included bark or minor rot within the branch connections or trunk wood. The root flare shows minimal signs of mechanical injury, decay, poor callusing, or girdling roots. Trees in the category require minor remedial actions to improve the vigor and structure of the tree.
Poor	Represents a tree that exhibits a poor vigor, reduced crown size (<30% of crown typical of species caused by overcrowding or decline), extreme crown unbalance, or extensive rot in the branching and trunk wood. Fungus could be seen from these rotting areas, suggesting further decay. These trees have extensive crown die back with a large amount of deadwood, and possibly dead sections. These weakened areas can lead to a potential failure of tree sections. Rooting zones show signs of extensive root decay or damage (fruiting bodies or mechanical damage) or girdling roots. Trees in this category require more extensive actions to prevent failure. A tree identified as poor would be a candidate for removal in the near future.
Very Poor	Represents a tree that exhibits major health and structural defects. Quite often the defects or diseases affecting this tree will be fatal. Large quantities of fungus, large dead sections with possible cavities and bark falling off all are signs that a tree is in a major state of decline and would be identified as very poor. These trees have a probable or imminent potential for structural failure. These trees should be identified for removal.
Dead	Represents a tree that exhibits no sign of new growth, including buds, foliage, or shoot growth. These trees have a probable or imminent potential for structural failure. These trees should be identified for removal.

[1]Dunster 2009

Tree Risk Assessment Criteria

Assessment Criteria*	Definition[1]
Improbable	The tree or branch is not likely to fail during normal weather conditions and may not fail in many severe weather conditions within the specified time frame.
Possible	Failure could occur, but it is unlikely during normal weather conditions within the specified time frame.
Probable	Failure may be expected under normal weather conditions within the specified time frame.
Imminent	Failure has started or is most likely to occur in the near future, even if there is no significant wind or increased load. This is a rare occurrence for a risk assessor to encounter, and it may require immediate action to protect people from harm.
*A specified time frame of 1 year will be used when assessing potential for structural failure.	

[1]Dunster et al. 2013

Conditions of Tree Assessment

Limitations

This tree inventory and assessment is based on the circumstances and observations as they existed at the time of the site inspection of the proposed development on 435-451 Ridout Street, City of London, Ontario (the “Property”) and the trees situated thereon by NRSI and upon information provided by the Client to NRSI. The opinions in this assessment are given based on observations made and using generally accepted professional judgment, however, because trees are living organisms and subject to change, damage and disease, the results, observations, recommendations, and analysis as set out in this assessment are valid only at the date any such observations and analysis took place. No guarantee, warranty, representation or opinion is offered or made by NRSI as to the length of the validity of the results, observations, recommendations and analysis contained within this assessment. As a result, the Client shall not rely upon this assessment, save and except for representing the circumstances and observations, analysis and recommendations that were made as at the date of such inspections. It is recommended that the trees discussed in this assessment should be re-assessed periodically, where required (i.e. within 1 year).

Further Services

Neither NRSI, nor any assessor employed or retained by NRSI (the "Assessor") for the purpose of preparing or assisting in the preparation of this assessment shall be required to provide any further consultation or services to the Client, save and except as already carried out in the preparation of this assessment and including, without limitation, to act as an expert witness or witness in any court in any jurisdiction unless the Client has first made specific arrangements with respect to such further services, including, without limitation, providing the payment of the Assessor’s regular hourly billing fees.

NRSI accepts no responsibility for the implementation of all or any part of the assessment, unless specifically requested to examine the implementation of such activities recommended herein. In the event that inspection or supervision of all or part of the implementation is requested, that request shall be in writing and the details agreed to in writing by both parties.

Assumptions

The Client is hereby notified and does hereby acknowledge and agree that where any of the facts and information set out and referenced in this assessment are based on assumptions, facts or information provided to NRSI, the Client and/or third parties and unless otherwise set out within this assessment, NRSI will in no way be responsible for the veracity or accuracy of any such information and further, the Client acknowledges and agrees that NRSI has, for the purposes of preparing their assessment, assumed that the Property, which is the subject of this assessment is in full compliance with all applicable federal, provincial, municipal and local statutes, regulations, by-laws, guidelines and other related laws. NRSI explicitly denies any legal liability for any and all issues with respect to non-compliance with any of the above-referenced statutes, regulations, by-laws, guidelines and laws as it may pertain to or affect the Property to which this assessment applies.

Restriction of Assessment

The assessment carried out was restricted to the Property as identified within this report. No assessment of any other trees has been undertaken by NRSI. NRSI is not legally liable for any other trees on the Property except those expressly discussed herein. The conclusions of this assessment do not apply to any areas, trees, or any other property not covered or referenced in this assessment.

Professional Responsibility

In carrying out this assessment, NRSI and any Assessor appointed for and on behalf of NRSI to perform and carry out the assessment has exercised a reasonable standard of care, skill and diligence as would be customarily and normally provided in carrying out this assessment. The assessment has been made using accepted arboricultural techniques. These include a visual examination of each tree for structural defects, scars, external indications of decay such as fungal fruiting bodies, evidence of insect attack, discolored foliage (during the leaf-on period), the condition of any visible root structures, the degree and direction of lean (if any), the general condition of the tree(s) and the surrounding site, and the current or planned proximity of property and people. Except where specifically noted in the assessment, none of the trees examined on the property were dissected, cored, probed, or climbed and detailed root crown examinations involving excavation were not undertaken.

While reasonable efforts have been made to ensure that the trees recommended for retention are healthy, no guarantees are offered, or implied, that these trees, or all parts of them will remain standing. It is professionally impossible to predict with absolute certainty the behaviour of any single tree or group of trees, or all their component parts, in all given circumstances. Inevitably, a standing tree will always pose some risk. Most trees have the potential to fall, lean, or otherwise pose a danger to property and persons in the event of adverse weather conditions, and this risk can only be eliminated if the tree is removed.

Without limiting the foregoing, no liability is assumed by NRSI or its directors, officers, employers, contractors, agents or Assessors for:

a) any legal description provided with respect to the Property;
b) issues of title and or ownership respect to the Property;
c) the accuracy of the Property line locations or boundaries with respect to the Property; and
d) the accuracy of any other information provided to NRSI by the Client or third parties;
e) any consequential loss, injury or damages suffered by the Client or any third parties, including but not limited to replacement costs, loss of use, earnings and business interruption; and
f) the unauthorized distribution of the assessment.

Third Party Liability

This assessment was prepared by NRSI exclusively for the Client. The contents reflect NRSI's best assessment of the trees situated on the Property in light of the information available to it at the time of preparation of this assessment. Any use which a third party makes of this assessment, or any reliance on or decisions made based upon this assessment, are made at the sole risk of any such third parties. NRSI accepts no responsibility for any damages or loss suffered by any third party or by the Client as a result of decisions made or actions based upon the use or reliance of this assessment by any such party.

General

Any plans and/or illustrations in this assessment are included only to help the Client visualize the issues in this assessment and shall not be relied upon for any other purpose.

This report shall be considered as a whole, no sections are severable, and the assessment shall be considered incomplete if any pages are missing.

Ridout Scoped EIS
Tree Inventory Data

Tree Number	Common Name	Scientific Name	Native/ Non-native	Stem Count	DBH (cm)	Crown Radius (m)	Potential for Structural Failure Rating	Overall Condition	Comments
J	English Oak	*Quercus robur*	Non-Native	1	13	2.0	Improbable	Good	Columnar growth, healthy crown, behind fence.
K	Sycamore	*Platanus occidentalis*	Native	1	11	2.5	Improbable	Fair	Minor dieback, damage to roots.
L	English Oak	*Quercus robur*	Non-Native	1	14	2.0	Improbable	Good	Very minor dieback, columnar growth.
1482	English Oak	*Quercus robur*	Non-Native	1	16	2.5	Improbable	Fair	Codominant columnar growth, minor dieback.
1483	English Oak	*Quercus robur*	Non-Native	1	28	3.0	Improbable	Fair	Small dead branches, limited root zone.
1484	Small Leaf Linden	*Tilia cordata*	Non-Native	1	49	4.0	Improbable	Fair	Included bark, minor dieback.
1485	Austrian Pine	*Pinus nigra*	Non-Native	1	24	2.0	Possible	Poor	Small crown limited to above building height, potential diplodia, dieback.
1486	Austrian Pine	*Pinus nigra*	Non-Native	1	25	2.5	Possible	Fair	Small crown, minor dieback, minor mower damage.
1487	Austrian Pine	*Pinus nigra*	Non-Native	1	35	3.0	Possible	Fair	Small crown, minor dieback, minor mower damage.
1488	Common Hackberry	*Celtis occidentalis*	Native	1	23	4.0	Improbable	Fair	Growing on steep slope, minor dieback.
1489	Norway Spruce	*Picea abies*	Non-Native	1	40	4.0	Improbable	Fair	Minor dieback, top of slope.
1490	Norway Spruce	*Picea abies*	Non-Native	1	27	4.0	Improbable	Fair	Minor dieback, mid slope.
1491	Norway Spruce	*Picea abies*	Non-Native	1	38	4.0	Improbable	Fair	Minor dieback, mid slope.
1493	Hedge Maple	*Acer campestre*	Non-Native	1	27	5.5	Improbable	Fair	Codominant leaders, minor dieback, top of slope.
1492	Hedge Maple	*Acer campestre*	Non-Native	4	23	5.5	Improbable	Fair	Codominant leaders, asymmetrical crown to north.
1494	Hedge Maple	*Acer campestre*	Non-Native	4	21	5.0	Probable	Poor	Codominant leaders, dead stems, vertical crack, dieback.
1495	Hedge Maple	*Acer campestre*	Non-Native	1	16	4.5	Possible	Fair	Dead stem, remaining growth over parking lot, water sprouts at base.
1496	Norway Maple	*Acer platanoides*	Non-Native	1	39	4.0	Improbable	Good	Crown to edge of parking, healthy crown, minor erosion at base.
1497	Norway Maple	*Acer platanoides*	Non-Native	1	45	5.0	Improbable	Fair	Minor broken branches, healthy remaining crown.
1498	Norway Maple	*Acer platanoides*	Non-Native	1	42	7.0	Improbable	Fair	Crown outside of lots, erosion, minor dead branches.
1499	Austrian Pine	*Pinus nigra*	Non-Native	1	20	2.0	Possible	Poor	Minor pistol butt on upper side of retaining wall, potential diplodia, dieback.
1500	Hedge Maple	*Acer campestre*	Non-Native	1	23	2.5	Improbable	Good	Minor erosion, healthy crown.
1501	Norway Maple	*Acer platanoides*	Non-Native	1	24		Imminent	Very Poor	Broken hanging crown.
1502	Austrian Pine	*Pinus nigra*	Non-Native	1	26	5.0	Possible	Fair	Major dieback, leaning over parking lot, dead branches.
1503	Austrian Pine	*Pinus nigra*	Non-Native	1	21	3.0	Possible	Dead	Bore holes.
1504	Austrian Pine	*Pinus nigra*	Non-Native	1	24	3.0	Possible	Dead	Bore holes.
1505	Austrian Pine	*Pinus nigra*	Non-Native	1	17	2.0	Possible	Dead	Bore holes, losing bark.
1506	Norway Maple	*Acer platanoides*	Non-Native	2	39	5.0	Improbable	Fair	Codominant leaders, included bark, good reaction wood, erosion.
1507	Eastern Cottonwood	*Populus deltoides*	Native	1	55	6.0	Probable	Very Poor	Large dead branches, 75% dieback.
1508	Norway Maple	*Acer platanoides*	Non-Native	1	56	6.0	Improbable	Good	Crown stops at bottom lot, erosion.
1509	Eastern Cottonwood	*Populus deltoides*	Native	2	56	7.0	Possible	Fair	Codominant leaders, dieback, included bark, minor rot.
1510	Norway Maple	*Acer platanoides*	Non-Native	1	15	3.0	Improbable	Fair	Slightly suppressed, slightly unbalanced.
1511	Sugar Maple	*Acer saccharum ssp. saccharum*	Native	1	22	3.0	Improbable	Fair	Broken branch, minor dieback.
1512	Colorado Spruce	*Picea pungens*	Non-Native	1	20	2.5	Possible	Fair	Asymmetrical crown to south, minor dieback.
1513	Norway Maple	*Acer platanoides*	Non-Native	1	22	4.0	Improbable	Good	Minor erosion, healthy crown.
1514	Eastern Cottonwood	*Populus deltoides*	Native	1	27	3.0	Improbable	Fair	Very high crown, minor dieback.
1515	Freeman's Maple	*Acer X freemanii*	Native	2	31	4.5	Improbable	Fair	Dieback, codominant leaders, minor dead branches.
1516	Norway Maple	*Acer platanoides*	Non-Native	1	48	5.0	Improbable	Good	Erosion, minor dieback.
1517	Norway Maple	*Acer platanoides*	Non-Native	1	17	3.0	Improbable	Fair	Erosion, slightly suppressed.

Tree Number	Common Name	Scientific Name	Native/ Non-native	Stem Count	DBH (cm)	Crown Radius (m)	Potential for Structural Failure Rating	Overall Condition	Comments
1518	Norway Maple	*Acer platanoides*	Non-Native	1	17	3.0	Probable	Very Poor	Completely defoliated at time of assessment, dead branches.
1519	Norway Maple	*Acer platanoides*	Non-Native	1	15	3.0	Improbable	Fair	Slightly suppressed, slightly overextended.
1520	Norway Maple	*Acer platanoides*	Non-Native	1	11	2.0	Improbable	Fair	Slightly suppressed, healthy crown.
1521	Sweet Cherry	*Prunus avium*	Non-Native	1	36	4.0	Improbable	Fair	Minor dieback, good torsion reaction wood, tall crown.
1522	Norway Maple	*Acer platanoides*	Non-Native	1	26	5.0	Improbable	Fair	Slightly unbalanced, bottom of slope.
1522	Freeman's Maple	*Acer X freemanii*	Native	1	32	5.0	Improbable	Fair	Slightly unbalanced, bottom of slope.
1523	Freeman's Maple	*Acer X freemanii*	Native	1	40	6.5	Improbable	Fair	Slightly unbalanced, bottom of slope.
1525	Freeman's Maple	*Acer X freemanii*	Native	1	26	5.0	Improbable	Fair	Slightly unbalanced, bottom of slope, minor dieback.
1526	Norway Maple	*Acer platanoides*	Non-Native	1	26	5.0	Improbable	Fair	Slightly unbalanced, bottom of slope, minor dieback.
1525	Norway Maple	*Acer platanoides*	Non-Native	1	26	5.0	Improbable	Fair	Slightly unbalanced, bottom of slope, minor dieback.
1527	Manitoba Maple	*Acer negundo*	Native	1	30	7.0	Probable	Poor	Extreme lean northeast just over lot, water sprouts, dead branches.
1528	Norway Maple	*Acer platanoides*	Non-Native	1	27	4.5	Improbable	Fair	Minor dieback , erosion on lower side.
1529	Manitoba Maple	*Acer negundo*	Native	1	31	3.0	Probable	Very Poor	Broken top, large dead branches, leaning west. ,
1530	Manitoba Maple	*Acer negundo*	Native	1	39	3.0	Possible	Very Poor	Uprooted, growing horizontal.
1531	Manitoba Maple	*Acer negundo*	Native	1	31	4.0	Possible	Fair	Water sprouts, dieback, unbalanced .
1532	Norway Maple	*Acer platanoides*	Non-Native	1	14	3.0	Improbable	Fair	Slightly suppressed .
1533	Common Hackberry	*Celtis occidentalis*	Native	1	70	7.0	Improbable	Excellent	Healthy crown, stable form.
1534	Common Hackberry	*Celtis occidentalis*	Native	1	81	6.0	Probable	Poor	Large dead branches, cavities, good reaction wood.
1535	Manitoba Maple	*Acer negundo*	Native	2	22	5.0	Probable	Very Poor	Deasd tree on top, broken branches , dieback .
1536	Manitoba Maple	*Acer negundo*	Native	1	30	6.0	Probable	Very Poor	Learge dead leaning top north.
1537	Norway Maple	*Acer platanoides*	Non-Native	1	22	4.5	Improbable	Fair	Erosion , slightly suppressed .
1538	Freeman's Maple	*Acer X freemanii*	Native	1	74	6.0	Improbable	Fair	Crown to edge of lot, codominant leaders , included bark.
1539	Norway Maple	*Acer platanoides*	Non-Native	2	28	3.0	Improbable	Fair	Codominant leaders, dead secondary stem.
1540	White Mulberry	*Morus alba*	Non-Native	1	13	1.5	Probable	Poor	Dieback, dead tree in crown.
1541	Manitoba Maple	*Acer negundo*	Native	1	60	3.0	Possible	Very Poor	Topped, suckering branches, major rot.
1542	Manitoba Maple	*Acer negundo*	Native	1	30	3.0	Probable	Very Poor	Uprooted, leaning horizontal west, broken branches.
1542	Manitoba Maple	*Acer negundo*	Native	1	30	3.0	Probable	Very Poor	Uprooted, leaning horizontal west, broken branches.
1543	Black Walnut	*Juglans nigra*	Native	1	47	5.5	Improbable	Good	Asymmetrical crown to west, debris at base.
1544	Manitoba Maple	*Acer negundo*	Native	1	16	3.0	Probable	Very Poor	Major rotted base, major dieback .
1545	Manitoba Maple	*Acer negundo*	Native	1	38	4.0	Probable	Very Poor	Rotted base, water sprouts, dead crowns.
1546	Manitoba Maple	*Acer negundo*	Native	1	65	8.0	Probable	Poor	Rot at base, codominant leaders, broken branches, dieback.
1547	Common Hackberry	*Celtis occidentalis*	Native	1	24	3.0	Improbable	Fair	Slightly unbalanced.
1548	Common Hackberry	*Celtis occidentalis*	Native	1	14	3.0	Improbable	Fair	Slightly suppressed, erosion.
1549	Colorado Spruce	*Picea pungens*	Non-Native	1	32	3.0	Improbable	Good	Minor light pruning.
1550	Colorado Spruce	*Picea pungens*	Non-Native	1	18	3.5	Improbable	Fair	Dieback , dead lower branches.
1551	Colorado Spruce	*Picea pungens*	Non-Native	3	23	3.5	Improbable	Fair	Dieback , light pruning , codominant leaders.
1552	Colorado Spruce	*Picea pungens*	Non-Native	1	47	5.0	Improbable	Fair	Dead lower branches.
1553	Colorado Spruce	*Picea pungens*	Non-Native	1	57	4.0	Improbable	Fair	Dead lower branches.
1554	Colorado Spruce	*Picea pungens*	Non-Native	1	44	4.0	Improbable	Fair	Light pruning, codominant leaders.
1555	Colorado Spruce	*Picea pungens*	Non-Native	1	52	5.0	Improbable	Fair	Dead lower branches.
1556	Redbud	*Cercis canadensis*	Native	1	14	4.0	Improbable	Good	Leaning slightly over road, slightly unbalanced, prolific seed production,slightly unbalanced.
1557	Redbud	*Cercis canadensis*	Native	1	11	4.0	Improbable	Fair	Leaning toward road, slightly suppressed , slightly unbalanced.
1558	Redbud	*Cercis canadensis*	Native	1	10	5.0	Improbable	Fair	Leaning toward road , prolific seed production.

Tree Number	Common Name	Scientific Name	Native/ Non-native	Stem Count	DBH (cm)	Crown Radius (m)	Potential for Structural Failure Rating	Overall Condition	Comments
C	Thornless Honey Locust	*editsia triacanthos var. inerr*	Non-Native	1	54	7.0	Improbable	Good	Small dead branches , overhanging road, healthy structure.
D	Common Hackberry	*Celtis occidentalis*	Native	1	23	4.0	Improbable	Fair	Minor dieback.
1559	Redbud	*Cercis canadensis*	Native	1	17	5.0	Improbable	Fair	Prolific seed production, unbalanced, minor dieback.
1560	Redbud	*Cercis canadensis*	Native	1	11	4.0	Improbable	Fair	Minor dieback, seeds.
1561	Black Walnut	*Juglans nigra*	Native	1	70	7.0	Improbable	Good	Large healthy crown.
E	Manitoba Maple	*Acer negundo*	Native	1	29	4.5	Possible	Poor	Leaning west, water sprouts, dieback.
1562	Manitoba Maple	*Acer negundo*	Native	1	34	4.0	Probable	Very Poor	Rotten base, major dieback, dead top.
F	Common Hackberry	*Celtis occidentalis*	Native	1	18	3.5	Improbable	Fair	Asymmetrical crown, overextended branches.
G	Common Hackberry	*Celtis occidentalis*	Native	1	12	3.0	Improbable	Fair	Slightly suppressed.
H	White Mulberry	*Morus alba*	Non-Native	1	29	5.0	Probable	Poor	Major rot at base.
I	Sugar Maple	*er saccharum ssp. sacchar*	Native	1	71	6.5	Improbable	Excellent	Large healthy crown.
1563	Manitoba Maple	*Acer negundo*	Native	1	14	3.0	Possible	Fair	Dieback slightly suppressed slightly unbalanced.
1564	Black Walnut	*Juglans nigra*	Native	1	79	6.5	Improbable	Fair	Minor dieback minor dead branches.
1565	Manitoba Maple	*Acer negundo*	Native	1	26	3.0	Possible	Poor	Damage at base, water sprouts , leaning west.
1566	American Basswood	*Tilia americana*	Native	1	39	5.0	Improbable	Fair	Minor dieback.
1567	Common Hackberry	*Celtis occidentalis*	Native	1	38	5.0	Improbable	Good	Minor dieback.
1568	Manitoba Maple	*Acer negundo*	Native	1	22	3.5	Possible	Very Poor	Rot at base, dead top.
1569	Canada Yew	*Taxus canadensis*	Native	1	10	3.0	Improbable	Good	Next to building, next to retaining wall, healthy crown.
1570	Canada Yew	*Taxus canadensis*	Native	1	10	2.0	Improbable	Good	Next to fece, healthy crown, codominant leaders.
1571	Manitoba Maple	*Acer negundo*	Native	1	22	3.0	Improbable	Fair	Damage atbase, dieback, water sprouts.
B	Red Maple	*Acer rubrum*	Native	1	20	3.5	Improbable	Good	Minor damage at base.
A	London Plane-Tree	*Platanus X acerifolia*	Non-Native	1	43	5.5	Improbable	Good	Minor dieback, minor water sprouts
N	Golden Weeping Willow	*Salix alba var. vitellina*	Non-Native	1	97	6.0	Possible	Poor	Heavily pruned with only structurally safe branching remaining, galls, hollow base.
M	English Oak	*Quercus robur*	Non-Native	1	27	3.5	Improbable	Fair	Minor dieback of epicormic growth.

APPENDIX V ELC Data Sheets

NATURAL RESOURCE SOLUTIONS INC

Modified ELC Community Description

Page __ of __

Site:	2161 Rideau Scoped EIS
Polygon:	1
UTM:	
Date:	Oct 11, 2018 — Time: 09:55-12:00
Surveyor(s):	JBB, GKM
Weather:	17°C, <<70%, w3E, no precip

Community Classification

Vegetation Type:	
Inclusion:	
Complex:	

Polygon Description

System	Substrate	Topo Feature		Community	
/ Terrestrial	Organic	Lacustrine	Talus	Lake	Barren
Wetland	/ Mineral Soil	Riverine	Crevice/Cave	Pond	Meadow
Aquatic	Parent Min.	Bottomland	Alvar	River	Prairie
	Acidic Bedrock	Terrace	Rockland	Stream	Thicket
History	Basic Bedrock	Valley Slope	Beach/Bar	Marsh	Savannah
/ Natural	Carb. Bedrock	Tableland	Sand Dune	Swamp	Woodland
Cultural		/ Roll. Upland	Bluff	Fen	/ Forest
	Site	Cliff		Bog	Plantation

Cover	Site	Plant Form		
Open	Open Water	Plankton	Forb	Coniferous
Shrub	Shallow Water	Submerged	Lichen	Mixed
/ Treed	/ Surficial Dep.	Floating-Lvd.	Bryophyte	
	Bedrock	Graminoid	/ Deciduous	

Stand Description

	Layer	HT	Cover	Species
*	Super-canopy			
1	Canopy			ACENEGU > CELTOCC1 > PICEABIE
2	Sub-canopy			ACENEGU > MORU ALB > CELOCCI
3	Understorey			RHACATH > VITRIPA > PARQUIN
4	Groundcover			POAPRAT > ALLIPETE > SOLALTI

HT Codes: 1: >25m 2: 25 - 10m 3: 10 - 2m 4: 2 - 1m 5: 1 - 0.5m 6: 0.5 - 0.2m 7: <0.2m

Cover Codes: 0:none 1: 0 - 10% 2: 10 - 25 3: 25 - 60% 4: >60%

Size Class Analysis	O < 10	O 10 - 24	O 25 - 50	O > 50
Snags	O < 10	O 10 - 24	O 25 - 50	R > 50
Deadfall/Logs	O < 10	O 10 - 24	R 25 - 50	N > 50

Abundance Codes: N: None R: Rare O: Occasional A: Abundant

Community Age		Pioneer		Young	X	Mid-age		Mature		Old Growth

Modified ELC Community Description

Page __ of __

Soils	1	2	3
Position:			
Aspect:			
%			
Type:			
Class:			

Strata:	Texture			
	Depth			
Strata:	Texture			
	Depth			
Strata:	Texture			
	Depth			
Strata:	Texture			
	Depth			
Effective Texture				
Surface Stoniness				
Surface Rockiness				
Depth to:				
	Mottles			
	Gley			
	Bedrock			
	Water table			
	Carbonates			
Depth of Organics				
Pore Size Disc #1				
Pore Size Disc #2				
Pore Size Disc #3				
Moisture Regime				

Polygon:

Tree Tally

Species	Tally 1	Tally 2	Tally 3
Total:			
Basal Area			
Snags			

Notes: grey squirrel, mallard, B-C chickadee, Am. crow, house sparrow,

Polygon Photo Number(s):

NATURAL RESOURCE SOLUTIONS INC

Modified ELC Community Description

PLANT SPECIES LIST

Page ____of____

Site: 2161 Ridout	
Polygon: 1	
UTM:	
Date: Oct 11, 2018	Time: 09:55-12:00
Surveyor(s): JBB, GKM	
Weather: 17°C, cc70%, w3E, no precip	

Layers: 1=canopy 2=sub-canopy 3=understorey 4=ground layer
Abundance Codes: R=rare O=occasional A=abundant D=dominant

Species	Layer 1	2	3	4	Sample	Species	Layer 1	2	3	4	Sample
Acer negundo						Poa pratensis					
Picea pungens						heath aster					
Acer x freemanii						ribgrass					
Acer platanoides						garlic mustard					
Pinus nigra						Solidago altiss.					
Populus delt.						bitter nightshade					
Celtis occid.						common burdock					
Morus alba						Daucus carota					
Prunus avium						lamb's quarters					
~~Am~~ Field maple						Field sow thistle					
Picea abies						Canada thistle					
						Yellow rocket					
						Cichorium intybus					
						Solidago canad.					
						Symph. ericoides					
						Bromus inermis					
						Avens sp.					
						~~[illegible]~~					
Japanese barberry						Orchard grass					
Juniperus communis						Phleum pratense					
Rhus hirta						Motherwort					
Thimbleberry						Impatiens cape.					
Rosa multiflora						Phytolacca americana					
Euonymus alata						pale touch-me-not					
Glossy buckthorn						Taraxacum officin					
Fragrant sumac						Wild geranium					
Virginia creeper						Japanese knotweed					
Rhamnus cath						hoary vervain					
Lonicera tart.						Bidens sp.					
Vitis riparia						groundivy					

NATURAL RESOURCE SOLUTIONS INC

Modified ELC Community Description

PLANT SPECIES LIST

Page ____of____

Site:	
Polygon:	
UTM:	
Date:	Time:
Surveyor(s):	
Weather:	

Layers: 1=canopy 2=sub-canopy 3=understorey 4=ground layer
Abundance Codes: R=rare O=occasional A=abundant D=dominant

Species	Layer 1	2	3	4	Sample	Species	Layer 1	2	3	4	Sample

NATURAL RESOURCE SOLUTIONS INC

Modified ELC Community Description

Page __ of __

Site: 2161 Rideout Scoped EIS	
Polygon: 2	
UTM:	
Date:	Time:
Surveyor(s):	
Weather:	

Community Classification

Vegetation Type:	
Inclusion:	
Complex:	

Polygon Description

System	Substrate	Topo Feature		Community	
/ Terrestrial	Organic	Lacustrine	Talus	Lake	Barren
Wetland	/ Mineral Soil	Riverine	Crevice/Cave	Pond	Meadow
Aquatic	Parent Min.	Bottomland	Alvar	River	Prairie
	Acidic Bedrock	Terrace	Rockland	Stream	Thicket
History	Basic Bedrock	Valley Slope	Beach/Bar	Marsh	Savannah
/ Natural	Carb. Bedrock	Tableland	Sand Dune	Swamp	Woodland
Cultural		/ Roll. Upland	Bluff	Fen	/ Forest
	Site	Cliff		Bog	Plantation

Cover	Site	Plant Form		
Open	Open Water	Plankton	Forb	Coniferous
Shrub	Shallow Water	Submerged	Lichen	Mixed
/ Treed	/ Surficial Dep.	Floating-Lvd.	Bryophyte	
	Bedrock	Graminoid	/ Deciduous	

Stand Description

	Layer	HT	Cover	Species
*	Super-canopy			
1	Canopy			blackwalnut > hackberry > sugarmaple
2	Sub-canopy			Redbud > hackberry > blackwalnut
3	Understorey			Redbud > LONITAR > RHAMCAT
4	Groundcover			kent. bluegrass, tall goldenrod, lily-of-the-valley

HT Codes: 1: >25m 2: 25 - 10m 3: 10 - 2m 4: 2 - 1m 5: 1 - 0.5m 6: 0.5 - 0.2m 7: <0.2m

Cover Codes: 0: none 1: 0 - 10% 2: 10 - 25 3: 25 - 60% 4: >60%

Size Class Analysis	O	< 10	O	10 - 24	O	25 - 50	R	> 50
Snags	O	< 10	O	10 - 24	O	25 - 50	N	> 50
Deadfall/Logs	O	< 10	O	10 - 24	O	25 - 50	N	> 50

Abundance Codes: N: None R: Rare O: Occasional A: Abundant

Community Age		Pioneer		Young	X	Mid-age		Mature		Old Growth

Modified ELC Community Description

Page __ of __

Soils	1	2	3
Position:			
Aspect:			
%			
Type:			
Class:			

Strata:	Texture			
	Depth			
Strata:	Texture			
	Depth			
Strata:	Texture			
	Depth			
Strata:	Texture			
	Depth			
Effective Texture				
Surface Stoniness				
Surface Rockiness				
Depth to:				
	Mottles			
	Gley			
	Bedrock			
	Water table			
	Carbonates			
Depth of Organics				
Pore Size Disc #1				
Pore Size Disc #2				
Pore Size Disc #3				
Moisture Regime				

Polygon:

Tree Tally

Species	Tally 1	Tally 2	Tally 3
Total:			
Basal Area			
Snags			

Notes:

Polygon Photo Number(s):

NATURAL RESOURCE SOLUTIONS INC

Modified ELC Community Description

PLANT SPECIES LIST

Page ____of____

Site: 2161 Ridout * see previous sheets*

Polygon: 2

UTM:

Date: **Time:**

Surveyor(s):

Weather:

Layers: 1=canopy 2=sub-canopy 3=understorey 4=ground layer

Abundance Codes: R=rare O=occasional A=abundant D=dominant

Species	Layer 1	Layer 2	Layer 3	Layer 4	Sample	Species	Layer 1	Layer 2	Layer 3	Layer 4	Sample
Redbud						Calico aster					
Thornless Honey Locust						heart-leaved aster					
Black walnut						yellow wood sorrel					
Fraxinus americana						tall goldenrod					
Celtis occidentalis						Kentucky bluegrass					
Acer negundo						garlic mustard					
Tilia americana						lily of the valley					
Canada Yew						zigzag goldenrod					
Sugar Maple						Avens sp.					
						Celendine					
						Jacobaea vulgaris					
Lonicera tartarica											
Common lilac											
Rhamnus cathartica											
Virginia creeper											

NATURAL RESOURCE SOLUTIONS INC

Modified ELC Community Description

PLANT SPECIES LIST

Page ____of____

Site:

Polygon:

UTM:

Date: **Time:**

Surveyor(s):

Weather:

Layers: 1=canopy 2=sub-canopy 3=understorey 4=ground layer

Abundance Codes: R=rare O=occasional A=abundant D=dominant

Species	Layer 1	Layer 2	Layer 3	Layer 4	Sample	Species	Layer 1	Layer 2	Layer 3	Layer 4	Sample

Wildlife Habitat Field Data Collection

NATURAL RESOURCE SOLUTIONS INC.
Aquatic, Terrestrial and Wetland Biologists

Project Name: Ridout Scoped EIS **Project #:** 2161 **Area and/or Polygon ID:**

Date: Oct 11, 2018 / Nov 28, 2018 **Start Time:** 9:55 / 10:55 **End Time:** 12:00 / 11:30 **Observers:** GKM, JBB

Weather Conditions: 17°C, cc 70%, w3E no precip / -1°C, cc 80%, w3E, no precip

Indicate whether or not the following habitat features are present within the polygon. If Yes to any, fill in Page 2. Incidental Wildlife Observations on Page 2.

Habitat Features	Present Yes	Present No	Information to Record on Page 2
Water			**Applicable to All:** Draw extent of all water if not indicated through ELC. Dimensions (length, width, and depth). Vegetation species, woody debris/basking logs within water. Presence of fish. Longevity of site (if known, or estimate). Sources of disturbance, current use, origin (natural or anthropogenic). Evidence of wildlife use including waterfowl, turtles, amphibians
Spring Flooded Field		✓	
Vernal Pool		✓	
Pond		✓	
Shallow Marsh (MAS) or Open Water		✓	
Swamp		✓	**All Swamps:** Always search for Heron Nest Bowls. Record if active (April-June only) - Evidence includes egg shells, guano, dead young. Map colony/nests if found.
Fields	**Yes**	**No**	**Applicable to All:** Height of vegetation. Evidence of small mammals. Size of site. Frequency and source of disturbance. Location and abundance of raptor perches (scattered trees, snags, fenceposts). Abundance of nectar-producing plants (e.g. goldenrods and asters). Adjacency to forest and forest size
Non-rotational Hay or Weakly Grazed Pasture		✓	
Meadow		✓	
Thicket, Woodland, Hydro Corridor		✓	
Substrate and Topography	**Yes**	**No**	
Sand or Fine/Loose Gravel		✓	Evidence of use (turtles in or near the area, turtle tracks, raided nests). Proximity to Shallow Marsh (MAS) or Open Water
Banks, Steep Slopes, Sand Piles		✓	Count swallow nest holes and indicate location. Estimate number of breeding pairs. Sources of disturbance. Draw extent if not indicated through ELC.
Cliffs		✓	Height of cliff. Rock type. Presence of ledges or crevices and their size. Draw extent of cliffs if not indicated through ELC.
Karst		✓	Depth of crevices
Cave		✓	Depth of cave, bedrock type
Natural Rock Piles / Talus Slopes		✓	Age. Rock/soil type. Draw extent of talus slopes if not indicated by ELC. Adjacency to large water body with productive fish population (otters).
Exposed Unvegetated Lake/River/Wetland Edge		✓	Source of disturbances. Presence of shorebird food sources (snails, worms, clams, insects). Percent vegetation cover. Distance to a Great Lake.
Seeps or Springs		✓	Ecosite. Number or area of extent. Presence of indicator plants. Iron staining. Water temperature. Degree and length of slope. Soil types.
Islands or Peninsulas in Open Water		✓	Natural or artificial. Record any gulls or terns observed. Draw extent of island or peninsula if not indicated through ELC.
Anthropogenic Features	**Yes**	**No**	**Applicable to All:** Age. Rock size. Evidence of Use. Depth into the ground. Vegetation present. Amount of sun exposure (or direction the slope faces). Substrate composition (or bedrock type). Proximity to water and estimated subterranean influence or potential for winter water fluctuation.
Abandoned Mine Shaft		✓	
Old Rock or Debris Pile, Old Stone Fence		✓	
Abandoned Road or Rail Bed		✓	
Abandoned Well		✓	**Abandoned Wells Only:** Presence and type of capping
Old Foundation		✓	**Abandoned Road or Rail Bed Only:** Extent in the landscape. Connectivity to other natural features. Overhead vegetation cover.
Burrows or Dens	**Yes**	**No**	**Applicable to Mammal Burrows or Dens:** Diameter of entrance. Ecosite of location. Soil Type. Proximity to water and type of water. Availability of aquatic vegetation or fish. Evidence of use, or tracks or digging marks
Small - Rodent or Snake		✓	
Medium	✓		
Large		✓	
Log Jams, Old Beaver Lodges		✓	Adjacency to large water body with productive fish population. Evidence of otter (observed, tracks, scat, predated fish, turtles, eggs, frogs).
Crayfish Chimney (7E only)		✓	Ecosite of location. Soil type. Source of site moisture (meadow marsh, creek/river edge, swamp etc).
Evidence	**Yes**	**No**	
Extensive Browse and/or Ungulate Scat		✓	Vegetation species browsed. Ecosite. Other evidence of ungulate use. Presence of seeps/springs. Barriers to movement to and from the area.
Nest Bowl or Stick Nest (herons or raptors)		✓	Quantity. Ecosite of location. Evidence of use. Species if known or bird group. Size. Height in tree. Tree species.
Outstanding Trees	**Yes**	**No**	
Large DBH, Outstanding Tall Snag		✓	Tree species. Evidence of perch usage or nesting. DBH, height. Exposure above canopy. Distance from surrounding forest (m) or within.
Large DBH Cavity Tree (Live or Dead)	✓		Tree species. DBH. Number of cavities. Size and type of cavities. Evidence of use by bats (abundant guano) or other mammals or wood ducks.
Rare Communities or Species	**Yes**	**No**	
Old-Growth Forest (Mature Forest)		✓	Average age of trees. Range of DBH or prism sweep. Sources of disturbance (includes presence of exotics). Any cut stumps in the mature/old growth component.
Tallgrass Prairie or Savannah		✓	Soil type. Percent cover of trees, shrubs, forbs, and grasses. Sources of disturbance (includes presence of exotics).
Bog		✓	Soil type and depths.
Red Spruce or White Oak Forest		✓	Soil type and drainage regime. DBH range or prism sweep. Approximate Canopy Cover. Source of disturbance or evidence of forestry.
Coastal Marshes (Great Lakes/Shallow Atlantic)		✓	Substrate type (bedrock or soil type). Water level. Evidence of water fluctuation. Presence of Beaver Pond. Amount of exposed shoreline.
Dunes / Beaches / Bars / Ridges		✓	Soil or substrate type. Sand class. Sources of disturbance (includes presence of exotics). Percent cover of trees, shrubs, forbs, and grasses.
Sand Barren		✓	Sand class. Sources of disturbance (includes presence of exotics). Percent area of exposed rock, vegetation, and sand. Sources of erosion or fire.
Alvar		✓	Bedrock type. Soil type and depth. Percent area of exposed rock and vegetation. Sources of disturbance (includes presence of exotics).
Rare Species (**NOT** Species At Risk)		✓	Number of individuals and locations. Ecosite or Vegetation Type.
Rare Vegetation Community		✓	Sources of disturbance (includes presence of exotics).

Characteristics of Identified Wildlife Habitat

Date: Nov 28/Oct 11, 2018

Project Name: Ridout Scoped EIS | Project #: 2161 | Area and/or Polygon ID: Entire Site

NATURAL RESOURCE SOLUTIONS INC.
Aquatic, Terrestrial and Wetland Biologists

Indicate the location of the habitat feature on the Field Map.

Identified Habitat Feature	# Observed:	UTM(s)	Photo Numbers	Habitat Details (refer to Page 1)	Associated Wildlife Observed and Evidence
Burrows/Dens - Medium	1	Sloped, community south		inappropriate habitat for Am. Badger. No activity or signs of activity Present snow on November visit revealed no signs of activity.	None
Large DBH cavity tree	2	inventoried		potential bat habitat observed on 2 common Hackberries, #1533, 1534.	

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TY	Species	EV	#	Notes	TY	Species	EV	#	Notes

Faunal Type Codes (TY)
B=Bird
M=Mammal
H=Herpetofauna
L=Lepidoptera
F=Fish
D=Dragonfly or Damselfly

Evidence Codes (EV)

Breeding Birds
H- Suitable Habitat
S- Singing Male
P- Pair
T- Territory
D- Courtship Display
V- Visiting Nest
A- Anxienty Behavior
N- Nest Building (not wren or woodpecker)
NB- Nest Building (not wren or woodpecker)
DD- Distraction Display
NU- Used nest
FY- Fledged Young
FS- Food/Fecal Sac
CF- Adult carrying food
NE- Nest with eggs
NY- Nest with young
AE-Adult entering/leaving nest

Other Wildlife
OB- Observed
DP- Distinctive Parts
TK- Tracks
VO- Vocalization
HO- House/Den
FE- Feeding Evidence
CA- Carcass/Bones
FY- Eggs or young
SC- Scat
SI- Other Signs (Specify)

APPENDIX VI Vascular Flora Species Observed within the Subject Property

Vascular Plant Species Reported From the Study Area

Scientific Name	Common Name	SRANK[1]	SARO[2]	COSEWIC[3]	SARA Schedule[4]	NHIC Data[5]	NRSI Observed
Gymnosperms	**Conifers**						
Cupressaceae	**Cypress Family**						
Juniperus communis	Common Juniper	S5					X
Pinaceae	**Pine Family**						
Picea abies	Norway Spruce	SE3					X
Picea pungens	Colorado Spruce	SE1					X
Pinus nigra	Austrian Pine	SE2					X
Taxaceae	**Yew Family**						
Taxus canadensis	American Yew	S5					X
Dicotyledons	**Dicots**						
Aceraceae	**Maple Family**						
Acer campestre	Hedge Maple	SE1					X
Acer negundo	Manitoba Maple	S5					X
Acer platanoides	Norway Maple	SE5					X
Acer saccharum ssp. saccharum	Sugar Maple	S5					X
Acer X freemanii	Freeman's Maple						X
Anacardiaceae	**Sumac or Cashew Family**						
Rhus aromatica	Fragrant Sumac	S5					X
Rhus hirta	Staghorn Sumac	S5					X
Apiaceae	**Carrot or Parsley Family**						
Daucus carota	Wild Carrot	SE5					X
Araliaceae	**Ginseng Family**						
Hedera helix	English Ivy	SNA					X
Asteraceae	**Composite or Aster Family**						
Arctium minus ssp. minus	Common Burdock	SE5					X
Cichorium intybus	Chicory	SE5					X

Scientific Name	Common Name	SRANK[1]	SARO[2]	COSEWIC[3]	SARA Schedule[4]	NHIC Data[5]	NRSI Observed
Cirsium arvense	Canada Thistle	SE5					X
Senecio jacobaea	Tansy Grounsel	SE1					X
Solidago altissima var. altissima	Tall Goldenrod	S5					X
Solidago canadensis	Canada Goldenrod	S5					X
Solidago flexicaulis	Zig-zag Goldenrod	S5					X
Sonchus arvensis ssp. arvensis	Field Sow-thistle	SE5					X
Symphyotrichum ericoides var. ericoides	White Heath Aster	S5					X
Symphyotrichum lateriflorum var. lateriflorum	Calico Aster	S5					X
Taraxacum officinale	Common Dandelion	SE5					X
Balsaminaceae	**Touch-me-not Family**						
Impatiens capensis	Spotted Touch-me-not	S5					X
Impatiens pallida	Pale Touch-me-not	S5					X
Berberidaceae	**Barberry Family**						
Berberis thunbergii	Japanese Barberry	SE5					X
Brassicaceae	**Mustard Family**						
Alliaria petiolata	Garlic Mustard	SE5					X
Barbarea vulgaris	Yellow Rocket	SE5					X
Caprifoliaceae	**Honeysuckle Family**						
Lonicera tatarica	Tartarian Honeysuckle	SE5					X
Celastraceae	**Staff-tree Family**						
Euonymus alata	Winged Spindle Tree	SE2					X
Chenopodiaceae	**Goosefoot Family**						
Chenopodium album var. album	Lamb's-quarters	SE5					X
Fabaceae	**Pea Family**						
Cercis canadensis	Canadian Redbud	SX					X
Gleditsia triacanthos var. inermis	Honey Locust						X
Geraniaceae	**Geranium Family**						

Scientific Name	Common Name	SRANK[1]	SARO[2]	COSEWIC[3]	SARA Schedule[4]	NHIC Data[5]	NRSI Observed
Geranium maculatum	Spotted Crane's-bill	S5					X
Juglandaceae	**Walnut Family**						
Juglans nigra	Black Walnut	S4					X
Lamiaceae	**Mint Family**						
Leonurus cardiaca ssp. cardiaca	Common Motherwort	SE5					X
Moraceae	**Mulberry Family**						
Morus alba	White Mulberry	SE5					X
Oleaceae	**Olive Family**						
Fraxinus americana	White Ash	S5					X
Syringa vulgaris	Common Lilac	SE5					X
Oxalidaceae	**Wood Sorrel Family**						
Oxalis stricta	Upright Yellow Wood-sorrel	S5					X
Papaveraceae	**Poppy Family**						
Chelidonium majus	Celandine	SE5					X
Phytolaccaceae	**Pokeweed Family**						
Phytolacca americana	Pokeweed	S4					X
Plantaginaceae	**Plantain Family**						
Plantago lanceolata	Ribgrass	SE5					X
Polygonaceae	**Smartweed Family**						
Polygonum cuspidatum	Japanese Knotweed	SE4					X
Rhamnaceae	**Buckthorn Family**						
Rhamnus cathartica	European Buckthorn	SE5					X
Frangula alnus	Glossy Buckthorn	SE5					X
Rosaceae	**Rose Family**						

Scientific Name	Common Name	SRANK[1]	SARO[2]	COSEWIC[3]	SARA Schedule[4]	NHIC Data[5]	NRSI Observed
Prunus avium	Cherry Plum	SE4					X
Rosa multiflora	Multiflora Rose	SE4					X
Rubus occidentalis	Black Raspberry	S5					X
Salicaceae	**Willow Family**						
Populus deltoides ssp. deltoides	Eastern Cottonwood	S5					X
Solanaceae	**Nightshade Family**						
Solanum dulcamara	Bitter Nightshade	SE5					X
Tiliaceae	**Linden Family**						
Tilia americana	American Basswood	S5					X
Ulmaceae	**Elm Family**						
Celtis occidentalis	Common Hackberry	S4					X
Verbenaceae	**Vervain Family**						
Verbena stricta	Hoary Vervain	S4					X
Vitaceae	**Grape Family**						
Parthenocissus vitacea	Woodbine	S5					X
Vitis riparia	Riverbank Grape	S5					X
Monocotyledons	**Monocots**						
Liliaceae	**Lily Family**						
Convallaria majalis	Lily-of-the-valley	SE5					X

Scientific Name	Common Name	SRANK[1]	SARO[2]	COSEWIC[3]	SARA Schedule[4]	NHIC Data[5]	NRSI Observed
Poaceae	**Grass Family**						
Bromus inermis ssp. inermis	Awnless Brome	SE5					X
Dactylis glomerata	Orchard Grass	SE5					X
Phleum pratense	Timothy	SE5					X
Poa pratensis ssp. pratensis	Kentucky Bluegrass	S5					X
					Total	**0**	**63**

[1]MNRF 2019; [2]MNRF 2018c; [3,4]Government of Canada 2018; [5]MNRF 2018a

Legend	
SRANK	**SARA Schedule**
S1 Critically Imperiled	Schedule 1 Officially Protected under SARA
S2 Imperiled	Schedule 2 Threatened/endangered; may be reassessed for consideration for inclusion to Schedule 1
S3 Vulnerable	
S4 Apparently Secure	
S5 Secure	Schedule 3 Special concern; may be reassessed for consideration for inclusion to Schedule 1
SNA Unranked	
S#? Rank Uncertain	
COSSARO	**COSEWIC**
NAR Not at Risk	NAR Not at Risk
SC Special Concern	SC Special Concern
THR Threatened	T Threatened
END Endangered	E Endangered

APPENDIX VII Bird Species Reported from the Study Area

Bird Species Reported From the Study Area

Scientific Name	Common Name	SRANK[1]	SARO[2]	COSEWIC[3]	SARA Schedule[4]	OBBA (17MH75)[5]	MNRF Background [6]	Harris Park SLSR[7]	NRSI Observed
Anatidae	**Ducks, Geese & Swans**								
Branta canadensis	Canada Goose	S5				CO		X	
Aix sponsa	Wood Duck	S5				CO			
Anas platyrhynchos	Mallard	S5				CO		X	X
Lophodytes cucullatus	Hooded Merganser	S5B, S5N				CO			
Phasianidae	**Partridges, Grouse & Turkeys**								
Bonasa umbellus	Ruffed Grouse	S4				PO			
Meleagris gallopavo	Wild Turkey	S5				CO			
Columbidae	**Pigeons & Doves**								
Columba livia	Rock Pigeon	SNA				CO		X	
Zenaida macroura	Mourning Dove	S5				CO		X	
Cuculiformes	**Cuckoos & Anis**								
Coccyzus americanus	Yellow-billed Cuckoo	S4B				PO			
Coccyzus erythropthalmus	Black-billed Cuckoo	S5B				PO			
Caprimulgidae	**Goatsuckers**								
Chordeiles minor	Common Nighthawk	S4B	SC	SC	Schedule 1	PR			
Apodidae	**Swifts**								
Chaetura pelagica	Chimney Swift	S4B, S4N	THR	T	Schedule 1	CO		X	
Trochilidae	**Hummingbirds**								
Archilochus colubris	Ruby-throated Hummingbird	S5B				PR			
Rallidae	**Rails, Gallinules & Coots**								
Rallus limicola	Virginia Rail	S5B				PR			
Porzana carolina	Sora	S4B				PR			
Charadriidae	**Plovers**								
Charadrius vociferus	Killdeer	S5B, S5N				CO		X	
Scolopacidae	**Waders**								
Scolopax minor	American Woodcock	S4B				PO			
Actitis macularia	Spotted Sandpiper	S5				PR			
Ardeidae	**Herons & Bitterns**								
Ardea herodias	Great Blue Heron	S4B				PO		X	
Butorides virescens	Green Heron	S4B				CO			
Cathartidae	**Vultures**								
Cathartes aura	Turkey Vulture	S5B				CO			
Accipitridae	**Hawks, Kites, Eagles & Allies**								
Haliaeetus leucocephalus	Bald Eagle	S2N, S4B	SC	NAR			X	X	

Scientific Name	Common Name	SRANK[1]	SARO[2]	COSEWIC[3]	SARA Schedule[4]	OBBA (17MH75)[5]	MNRF Background [6]	Harris Park SLSR[7]	NRSI Observed
Accipiter striatus	Sharp-shinned Hawk	S5	NAR			CO			
Accipiter cooperii	Cooper's Hawk	S4	NAR	NAR		CO			
Buteo jamaicensis	Red-tailed Hawk	S5	NAR	NAR		CO			
Strigidae	**Typical Owls**								
Megascops asio	Eastern Screech-Owl	S4	NAR	NAR		CO			
Bubo virgianus	Great Horned Owl	S4				CO			
Alcedinidae	**Kingfishers**								
Megaceryle alcyon	Belted Kingfisher	S4B				PR			
Picidae	**Woodpeckers**								
Melanerpes carolinus	Red-bellied Woodpecker	S4				CO		X	
Sphyrapicus varius	Yellow-bellied Sapsucker	S5B				PR			
Picoides pubescens	Downy Woodpecker	S5				CO		X	
Picoides villosus	Hairy Woodpecker	S5				CO			
Colaptes auratus	Northern Flicker	S4B				CO		X	
Falconidae	**Caracaras & Falcons**								
Falco sparverius	American Kestrel	S4				PR			
Falco peregrinus anatum/tundrius	Peregrine Falcon	S3B	SC	SC	Schedule 1		X		
Tyrannidae	**Tyrant Flycatchers**								
Contopus virens	Eastern Wood-Pewee	S4B	SC	SC		PO			
Empidonax traillii	Willow Flycatcher	S5B				PO			
Empidonax minimus	Least Flycatcher	S4B				PO			
Sayornis phoebe	Eastern Phoebe	S5B				CO			
Myiarchus crinitus	Great Crested Flycatcher	S4B				CO		X	
Tyrannus tyrannus	Eastern Kingbird	S4B				CO			
Vireonidae	**Vireos**								
Vireo gilvis	Warbling Vireo	S5B				CO		X	
Vireo olivaceus	Red-eyed Vireo	S5B				CO		X	
Corvidae	**Crows & Jays**								
Cyanocitta cristata	Blue Jay	S5				CO		X	
Corvus brachyrhynchos	American Crow	S5B				CO			X
Alaudidae	**Larks**								
Eremophila alpestris	Horned Lark	S5B				PR			
Hirundinidae	**Swallows**								
Progne subis	Purple Martin	S4B				PO			
Tachycineta bicolor	Tree Swallow	S4B				CO			
Stelgidopteryx serripennis	Northern Rough-winged Swallow	S4B				CO			
Riparia riparia	Bank Swallow	S4B	THR	T		CO			
Petrochelidon pyrrhonota	Cliff Swallow	S4B				CO			
Hirundo rustica	Barn Swallow	S4B	THR	T		CO		X	

Scientific Name	Common Name	SRANK[1]	SARO[2]	COSEWIC[3]	SARA Schedule[4]	OBBA (17MH75)[5]	MNRF Background [6]	Harris Park SLSR[7]	NRSI Observed
Paridae	**Chickadees & Titmice**								
Poecile atricapillus	Black-capped Chickadee	S5				CO		X	X
Sittidae	**Nuthatches**								
Sitta canadensis	Red-breasted Nuthatch	S5				CO			
Sitta carolinensis	White-breasted Nuthatch	S5				CO			
Troglodytidae	**Wrens**								
Troglodytes aedon	House Wren	S5B				CO		X	
Thryothorus ludovicianus	Carolina Wren	S4				CO		X	
Polioptilidae	**Gnatcatchers**								
Polioptila caerulea	Blue-gray Gnatcatcher	S4B				CO			
Mussciciapidae	**Old world Flycatchers**								
Turdidae	**Thrushes**								
Sialia sialis	Eastern Bluebird	S5B	NAR	NAR		CO			
Catharus fuscescens	Veery	S4B				PO			
Hylocichla mustelina	Wood Thrush	S4B	SC	T		PR			
Turdus migratorius	American Robin	S5B				CO		X	
Mimidae	**Mockingbirds, Thrashers & Allies**								
Dumetella carolinensis	Gray Catbird	S4B				CO		X	
Toxostoma rufum	Brown Thrasher	S4B				CO		X	
Sturnidae	**Starlings**								
Sturnus vulgaris	European Starling	SNA				CO		X	
Bombycillidae	**Waxwings**								
Bombycilla cedrorum	Cedar Waxwing	S5B				CO		X	
Passeridae	**Old World Sparrows**								
Passer domesticus	House Sparrow	SNA				CO		X	X
Fringillidae	**Finches & Allies**								
Carpodacus mexicanus	House Finch	SNA				CO		X	
Spinus tristis	American Goldfinch	S5B				CO		X	
Parulidae	**Wood Warblers**								
Vermivora cyanoptera	Blue-winged Warbler	S4B				PR			
Oreothlypis ruficapilla	Nashville Warbler	S5B						X	
Geothylpis trichas	Common Yellowthroat	S5B				CO			
Setophaga ruticilla	American Redstart	S5B				PO			
Setophaga petechia	Yellow Warbler	S5B				CO		X	
Setophaga pensylvanica	Chestnut-sided Warbler	S5B				PO			
Setophaga pinus	Pine Warbler	S5B				PR			
Emberizidae	**New World Sparrows & Allies**								
Pipilo erythrophthalmus	Eastern Towhee	S4B				PR			

Scientific Name	Common Name	SRANK[1]	SARO[2]	COSEWIC[3]	SARA Schedule[4]	OBBA (17MH75)[5]	MNRF Background [6]	Harris Park SLSR[7]	NRSI Observed
Spizella passerina	Chipping Sparrow	S5B				CO		X	
Spizella pusilla	Field Sparrow	S4B				PR			
Pooecetes gramineus	Vesper Sparrow	S4B				PR			
Passerculus sandwichensis	Savannah Sparrow	S4B				CO			
Melospiza melodia	Song Sparrow	S5B				CO		X	
Melospiza georgiana	Swamp Sparrow	S5B				PO			
Cardinalidae	**Cardinals, Grosbeaks & Allies**								
Piranga olivacea	Scarlet Tanager	S4B				PO			
Cardinalis cardinalis	Northern Cardinal	S5				CO		X	
Pheucticus ludovicianus	Rose-breasted Grosbeak	S4B				CO		X	
Passerina cyanea	Indigo Bunting	S4B				CO			
Icteridae	**Blackbirds**								
Dolichonyx oryzivorus	Bobolink	S4B	THR	T	No Schedule	PR			
Agelaius phoeniceus	Red-winged Blackbird	S4				CO		X	
Sturnella magna	Eastern Meadowlark	S4B	THR	T	No Schedule	CO			
Quiscalus quiscula	Common Grackle	S5B				CO		X	
Molothrus ater	Brown-headed Cowbird	S4B				CO		X	
Icterus spurius	Orchard Oriole	S4B				CO			
Icterus galbula	Baltimore Oriole	S4B				CO		X	
					Total	**91**	**2**	**37**	**4**

[1]MNRF 2019; [2]MNRF 2018c; [3,4]Government of Canada 2018; [5]BSC et al. 2009; [6]MNRF 2019b; [7]NRSI 2013

Legend	
SRANK	**SARA Schedule**
S1 Critically Imperiled	Schedule 1 Officially Protected under SARA
S2 Imperiled	Schedule 2 Threatened/endangered; may be reassessed for consideration for inclusion to Schedule 1
S3 Vulnerable	
S4 Apparently Secure	
S5 Secure	Schedule 3 Special concern; may be reassessed for consideration for inclusion to Schedule 1
SNA Unranked	
S#? Rank Uncertain	
COSSARO	**COSEWIC**
NAR Not at Risk	NAR Not at Risk
SC Special Concern	SC Special Concern
THR Threatened	T Threatened
END Endangered	E Endangered

APPENDIX VIII Herpetofauna Species Reported from the Study Area

Reptile and Amphibian Species Reported From the Study Area

Scientific Name	Common Name	SRANK[1]	SARO[2]	COSEWIC[3]	SARA Schedule[4]	Ontario Reptile and Amphibian Atlas[5] 17MH75	NHIC Data[6]	Harris Park SLSR[7]
Turtles								
Apalone spinifera spinifera	Spiny Softshell	S3	THR	E	Schedule 1		X	
Chelydra serpentina serpentina	Snapping Turtle	S3	SC	SC	Schedule 1	X		
Chrysemys picta marginata	Midland Painted Turtle	S5		SC		X		
Graptemys geographica	Northern Map Turtle	S3	SC	SC	Schedule 1	X	X	X
Trachemys scripta elegans	Red-eared Slider	SNA				X		
Snakes								
Heterodon platirhinos	Eastern Hog-nosed Snake	S3	THR	T	Schedule 1	X		
Lampropeltis triangulum	Eastern Milksnake	S4	NAR	SC	Schedule 1	X		
Opheodrys vernalis	Smooth Greensnake	S4				X		
Nerodia sipedon sipedon	Northern Watersnake	S5	NAR	NAR		X		
Regina septemvittata	Queensnake	S2	END	E	Schedule 1	X		
Storeria dekayi dekayi	Northern Brownsnake	S5	NAR	NAR		X		
Thamnophis sirtalis sirtalis	Eastern Gartersnake	S5				X		
Salamanders								
Ambystoma sp.	Jefferson/Blue-spotted Salamander Cor	S2				X		
Ambystoma maculatum	Spotted Salamander	S4				X		
Hemidactylium scutatum	Four-toed Salamander	S4	NAR	NAR		X		
Notophthalmus viridescens viridesc	Red-spotted Newt	S5				X		
Plethodon cinereus	Eastern Red-backed Salamander	S5				X		
Toads and Frogs								
Anaxyrus americanus	American Toad	S5				X		
Hyla versicolor	Tetraploid Gray Treefrog	S5				X		
Pseudacris triseriata pop. 2	Western Chorus Frog *(Great Lakes/St. Lawrence - Canadian Shield Population)*	S3	NAR	T	Schedule 1	X		
Pseudacris crucifer	Spring Peeper	S5				X		
Lithobates catesbeiana	American Bullfrog	S4				X		
Lithobates clamitans melanota	Northern Green Frog	S5				X		
Lithobates palustris	Pickerel Frog	S4	NAR	NAR		X		
Lithobates pipiens	Northern Leopard Frog	S5	NAR	NAR		X		
Lithobates sylvaticus	Wood Frog	S5				X		
					Total	**25**	**2**	**1**

[1]MNRF 2019; [2]MNRF 2018c; [3,4]Government of Canada 2018; [5]Ontario Nature 2018; [6]MNRF 2018a; [7]NRSI 2013

Legend	
SRANK	**SARA Schedule**
S1 Critically Imperiled	Schedule 1 Officially Protected under SARA
S2 Imperiled	Schedule 2 Threatened/endangered; may be reassessed for consideration for inclusion to Schedule 1
S3 Vulnerable	
S4 Apparently Secure	
S5 Secure	Schedule 3 Special concern; may be reassessed for consideration for inclusion to Schedule 1
SNA Unranked	
S#? Rank Uncertain	
COSSARO	**COSEWIC**
NAR Not at Risk	NAR Not at Risk
SC Special Concern	SC Special Concern
THR Threatened	T Threatened
END Endangered	E Endangered

APPENDIX IX Mammal Species Reported from the Study Area

Mammal Species Reported From the Study Area

Scientific Name	Common Name	SRANK[1]	SARO[2]	COSEWIC[3]	SARA Schedule[4]	Ontario Mammal Atlas[5]	NHIC Data[6]	Harris Park SLSR[7]	NRSI Observed
Didelphimorphia	**Opossums**								
Didelphis virginiana	Virginia Opossum	S4				X			
Insectivora	**Shrews and Moles**								
Blarina brevicauda	Northern Short-tailed Shrew	S5				X			
Condylura cristata	Star-nosed Mole	S5				X			
Parascalops breweri	Hairy-tailed Mole	S4				X			
Lagomorpha	**Rabbits and Hares**								
Lepus europaeus	European Hare	SNA				X			
Sylvilagus floridanus	Eastern Cottontail	S5				X			
Rodentia	**Rodents**								
Castor canadensis	Beaver	S5				X			
Marmota monax	Woodchuck	S5				X			X
Microtus pennsylvanicus	Meadow Vole	S5				X			
Mus musculus	House Mouse	SNA				X			
Ondatra zibethicus	Muskrat	S5				X			
Peromyscus leucopus	White-footed Mouse	S5				X			
Peromyscus maniculatus	Deer Mouse	S5				X			
Rattus norvegicus	Norway Rat	SNA				X			
Sciurus carolinensis	Eastern Gray Squirrel	S5				X			X
Tamiasciurus hudsonicus	Red Squirrel	S5				X			
Tamias striatus	Eastern Chipmunk	S5				X		X	X
Carnivora	**Carnivores**								
Canis latrans	Coyote	S5				X			
Mephitis mephitis	Striped Skunk	S5				X			
Mustela erminea	Ermine	S5				X			
Mustela vison	American Mink	S4				X			
Procyon lotor	Northern Raccoon	S5				X		X	X
Vulpes vulpes	Red Fox	S5				X			
Artiodactyla	**Deer and Bison**								
Odocoileus virginianus	White-tailed Deer	S5				X			
					Total	**24**	**0**	**2**	**4**

[1]MNRF 2019; [2]MNRF 2018c; [3,4]Government of Canada 2018; [5]Dobbyn 1994; [6]MNRF 2018a; [7]NRSI 2013

Legend	
SRANK	**SARA Schedule**
S1 Critically Imperiled	Schedule 1 Officially Protected under SARA
S2 Imperiled	Schedule 2 Threatened/endangered; may be
S3 Vulnerable	reassessed for consideration for inclusion to
S4 Apparently Secure	Schedule 1
S5 Secure	Schedule 3 Special concern; may be
SNA Unranked	reassessed for consideration for inclusion to
S#? Rank Uncertain	Schedule 1
COSSARO	**COSEWIC**
NAR Not at Risk	NAR Not at Risk
SC Special Concern	SC Special Concern
THR Threatened	T Threatened
END Endangered	E Endangered

APPENDIX X Lepidoptera Species Reported from the Study Area

Butterfly Species Reported From the Study Area

Scientific Name	Common Name	SRANK[1]	SARO[2]	COSEWIC[3]	SARA Schedule[4]	TEA Atlas[5] (17MH75)	NHIC Data[6]	NRSI Observed
Anatrytone logan	Delaware Skipper	S4				X		
Ancyloxypha numitor	Least Skipper	S5				X		
Epargyreus clarus	Silver-spotted Skipper	S4				X		
Erynnis baptisiae	Wild Indigo Duskywing	S4				X		
Erynnis brizo	Sleepy Duskywing	S1				X		
Erynnis icelus	Dreamy Duskywing	S5				X		
Erynnis juvenalis	Juvenal's Duskywing	S5				X		
Euphyes vestris	Dun Skipper	S5				X		
Poanes hobomok	Hobomok Skipper	S5				X		
Polites mystic	Long Dash Skipper	S5				X		
Polites peckius	Peck's Skipper	S5				X		
Polites themistocles	Tawny-edged Skipper	S5				X		
Thymelicus lineola	European Skipper	SNA				X		
Wallengrenia egeremet	Northern Broken Dash	S5				X		
Papilio cresphontes	Giant Swallowtail	S4				X		
Papilio glaucus	Eastern Tiger Swallowtail	S5				X		
Papilio polyxenes	Black Swallowtail	S5				X		
Papilio troilus	Spicebush Swallowtail	S4				X		
Colias eurytheme	Orange Sulphur	S5				X		
Colias philodice	Clouded Sulphur	S5				X		
Pieris oleracea	Mustard White	S4				X		
Pieris rapae	Cabbage White	SNA				X		
Callophrys augustinus	Brown Elfin	S5				X		
Cupido comyntas	Eastern Tailed Blue	S5				X		
Lycaena epixanthe	Bog Copper	S4S5				X		
Lycaena phlaeas	American Copper	S5				X		
Satyrium acadica	Acadian Hairstreak	S4				X		
Satyrium calanus	Banded Hairstreak	S4				X		
Aglais milberti	Milbert's Tortoiseshell	S5				X		
Asterocampa celtis	Hackberry Emperor	S2				X		
Asterocampa clyton	Tawny Emperor	S2S3				X		
Boloria bellona	Meadow Fritillary	S5				X		
Boloria selene	Silver-bordered Fritillary	S5				X		
Cercyonis pegala	Common Wood-Nymph	S5				X		
Chlosyne nycteis	Silvery Checkerspot	S5				X		
Coenonympha tullia	Common Ringlet	S5				X		

Scientific Name	Common Name	SRANK[1]	SARO[2]	COSEWIC[3]	SARA Schedule[4]	TEA Atlas[5] (17MH75)	NHIC Data[6]	NRSI Observed
Danaus plexippus	Monarch	S2N, S4B	SC	END	Schedule 1	X		
Euphydryas phaeton	Baltimore Checkerspot	S4				X		
Junonia coenia	Common Buckeye	SNA				X		
Lethe anthedon	Northern Pearly-Eye	S5				X		
Lethe appalachia	Appalachian Brown	S4				X		
Lethe eurydice	Eyed Brown / Northern Eyed Brown	S5				X		
Libytheana carinenta	American Snout	SNA				X		
Limenitis archippus	Viceroy	S5				X		
Limenitis arthemis astyanax	Red-spotted Purple	S5				X		
Megisto cymela	Little Wood-Satyr	S5				X		
Nymphalis antiopa	Mourning Cloak	S5				X		
Phyciodes cocyta	Northern Crescent	S5				X		
Phyciodes tharos	Pearl Crescent	S4				X		
Polygonia comma	Eastern Comma	S5				X		
Polygonia comma	Eastern Comma/Hop Merchant	S5				X		
Polygonia interrogationis	Question Mark	S5				X		
Polygonia progne	Grey Comma	S5				X		
Speyeria cybele	Great Spangled Fritillary	S5				X		
Vanessa atalanta	Red Admiral	S5				X		
Vanessa cardui	Painted Lady	S5				X		
Vanessa virginiensis	American Lady	S5				X		
					Total	**57**	**0**	**0**

[1]MNRF 2019; [2]MNRF 2018c; [3,4]Government of Canada 2018; [5]MacNaughton et al. 2018; [6]MNRF 2018a

Legend	
SRANK	**SARA Schedule**
S1 Critically Imperiled	Schedule 1 Officially Protected under SARA
S2 Imperiled	Schedule 2 Threatened/endangered; may be reassessed for consideration for inclusion to Schedule 1
S3 Vulnerable	
S4 Apparently Secure	
S5 Secure	Schedule 3 Special concern; may be reassessed for consideration for inclusion to Schedule 1
SNA Unranked	
S#? Rank Uncertain	
COSSARO	**COSEWIC**
NAR Not at Risk	NAR Not at Risk
SC Special Concern	SC Special Concern
THR Threatened	T Threatened
END Endangered	E Endangered

APPENDIX XI Odonata Species Reported from the Study Area

Dragonfly and Damselfly Species Reported From the Study Area

Scientific Name	Common Name	SRANK[1]	SARO[2]	COSEWIC[3]	SARA Schedule[4]	Odonate Atlas[5]	NHIC Data[6]	NRSI Observed
Calopterygidae	**Broadwinged Damselflies**							
Calopteryx maculata	Ebony Jewelwing	S5				X		
Hetaerina americana	American Rubyspot	S4				X		
Lestidae	**Spreadwings**							
Lestes dryas	Emerald Spreadwing	S5				X		
Coenagrionidae	**Narrow-winged Damselflies**							
Argia apicalis	Blue-fronted Dancer	S4				X		
Argia moesta	Powdered Dancer	S5				X		
Argia tibialis	Blue-tipped Dancer	S3				X		
Enallagma antennatum	Rainbow Bluet	S4				X		
Enallagma civile	Familiar Bluet	S5				X		
Enallagma exsulans	Stream Bluet	S5				X		
Ischnura posita	Fragile Forktail	S4				X		
Ischnura verticalis	Eastern Forktail	S5				X		
Aeshnidae	**Darners**							
Aeshna umbrosa	Shadow Darner	S5				X		
Anax junius	Common Green Darner	S5				X		
Boyeria vinosa	Fawn Darner	S5				X		
Macromia illinoiensis	Illinois (Swift) River Cruiser	S4				X		
Libellulidae	**Skimmers**							
Erythemis simplicicollis	Eastern Pondhawk	S5				X		
Libellula luctuosa	Widow Skimmer	S5				X		
Libellula pulchella	Twelve-spotted Skimmer	S5				X		
Plathemis lydia	Common Whitetail	S5				X		
					Total	**19**	**0**	**0**

[1]MNRF 2019; [2]MNRF 2018c; [3,4]Government of Canada 2018; [5]MNRF 2018b; [6]MNRF 2018a

Legend	
SRANK	**SARA Schedule**
S1 Critically Imperiled	Schedule 1 Officially Protected under SARA
S2 Imperiled	Schedule 2 Threatened/endangered; may be reassessed for consideration for inclusion to Schedule 1
S3 Vulnerable	
S4 Apparently Secure	
S5 Secure	Schedule 3 Special concern; may be reassessed for consideration for inclusion to Schedule 1
SNA Unranked	
S#? Rank Uncertain	
COSSARO	**COSEWIC**
NAR Not at Risk	NAR Not at Risk
SC Special Concern	SC Special Concern
THR Threatened	T Threatened
END Endangered	E Endangered

APPENDIX XII Aquatic Species from the Study Area

Fish Species Reported from the Study Area

Scientific Name	Common Name	SRANK[1]	SARO[2]	COSEWIC[3]	SARA Schedule[4]	NHIC Data[5]	UTRCA[6]
Petromyzontidae	**Lampreys**						
Ichthyomyzon fossor	Northern Brook Lamprey (GL-USL Pop.)	S3	SC	SC (April 2007)	Schedule 1		X
Cyprinidae	**Carps and Minnows**						
Campostoma anomalum	Central Stoneroller	S4		NAR (April 1998)			X
Clinostomus elongatus	Redside Dace	S2	END	E (April 2007)	Schedule 1		X
Cyprinella spiloptera	Spotfin Shiner	S4					X
Cyprinus carpio	Common Carp	SNA					X
Luxilus chrysocephalus	Striped Shiner	S4	NAR	NAR (April 1993)			X
Luxilus cornutus	Common Shiner	S5					X
Nocomis micropogon	River Chub	S4	NAR	NAR (April 1988)			X
Notropis photogenis	Silver Shiner	S2S3	THR	T (May 2011)	Schedule 3	X	
Notropis rubellus	Rosyface Shiner	S4	NAR	NAR (April 1994)			X
Notropis volucellus	Mimic Shiner	S5					X
Pimephales notatus	Bluntnose Minnow	S5	NAR	NAR (April 1998)			X
Rhinichthys cataractae	Longnose Dace	S5					X
Catostomidae	**Suckers**						
Catostomus commersonii	White Sucker	S5					X
Hypentelium nigricans	Northern Hog Sucker	S4					X
Moxostoma duquesnei	Black Redhorse	S2	THR	T (May 2005)		X	
Moxostoma erythrurum	Golden Redhorse	S4	NAR	NAR (April 1989)			X
Ictaluridae	**North American Catfishes**						
Noturus flavus	Stonecat	S4					X
Centrarchidae	**Sunfishes and Basses**						
Ambloplites rupestris	Rock Bass	S5					X
Lepomis gibbosus	Pumpkinseed	S5					X
Micropterus dolomieu	Smallmouth Bass	S5					X
Percidae	**Perches and Darters**						
Etheostoma blennioides	Greenside Darter	S4	NAR	NAR (Nov 2006)	Schedule 3		X
Etheostoma caeruleum	Rainbow Darter	S4					X
Etheostoma flabellare	Fantail Darter	S4					X
Etheostoma nigrum	Johnny Darter	S5					X
Percina caprodes	Logperch	S5					X
Percina maculata	Blackside Darter	S4					X
[1]MNRF 2019; [2]MNRF 2018c; [3,4]Government of Canada 2018; [5]MNRF 2018a; [6]UTRCA 2013					**Total**	**2**	**25**

Legend	
SRANK	**SARA Schedule**
S1 Critically Imperiled	Schedule 1 Officially Protected under SARA
S2 Imperiled	Schedule 2 Threatened/endangered; may be reassessed for consideration for inclusion to Schedule 1
S3 Vulnerable	
S4 Apparently Secure	
S5 Secure	Schedule 3 Special concern; may be reassessed for consideration for inclusion to Schedule 1
SNA Unranked	
S#? Rank Uncertain	
COSSARO	**COSEWIC**
NAR Not at Risk	NAR Not at Risk
SC Special Concern	SC Special Concern
THR Threatened	T Threatened
END Endangered	E Endangered

UTRCA Fish Sampling Records

Location		Species at Risk (SAR) Status			Provincial Status	Site Number	Sample Date
Species (Common Name)	**Scientific Name**	**COSEWIC**	**SARA**	**ESA 2007**	**SRank**	**Abundance**	**Distribution**
North Thames River							
Gibbons Park, Near Footbridge			UTM x: 478414	UTM y: 4760639		TF15	10/14/2005
Blackside Darter	*Percina maculata*				S4	Abundant	widespread
Central Stoneroller	*Campostoma anomalum*				S4	Abundant	widespread
Common Carp	*Cyprinus carpio*				SNA	Abundant	widespread
Fantail Darter	*Etheostoma flabellare*				S4	Abundant	widespread
Greenside Darter	*Etheostoma blennioides*				S4	Abundant	widespread
Johnny Darter	*Etheostoma nigrum*				S5	Abundant	widespread
Northern Hog Sucker	*Hypentelium nigricans*				S4	Abundant	widespread
Pumpkinseed	*Lepomis gibbosus*				S5	Abundant	widespread
Redhorse sp.							
Rock Bass	*Ambloplites rupestris*				S5	Abundant	widespread
Smallmouth Bass	*Micropterus dolomieu*				S5	Abundant	widespread
Spotfin Shiner	*Cyprinella spiloptera*				S4	Abundant	widespread
Stonecat	*Noturus flavus*				S4	Abundant	widespread
Striped Shiner	*Luxilus chrysocephalus*				S4	Abundant	widespread
White Sucker	*Catostomus commersoni*				S5	Abundant	widespread
Gibbons Park, Near Footbridge			UTM x: 478414	UTM y: 4760639		TF15	10/20/2007
Blackside Darter	*Percina maculata*				S4	Abundant	widespread
Bluntnose Minnow	*Pimephales notatus*				S5	Abundant	widespread
Central Stoneroller	*Campostoma anomalum*				S4	Abundant	widespread
Common Carp	*Cyprinus carpio*				SNA	Abundant	widespread
Fantail Darter	*Etheostoma flabellare*				S4	Abundant	widespread
Golden Redhorse	*Moxostoma erythrurum*				S4	Abundant	widespread
Greenside Darter	*Etheostoma blennioides*				S4	Abundant	widespread
Johnny Darter	*Etheostoma nigrum*				S5	Abundant	widespread
Logperch	*Percina caprodes*				S5	Common	widespread
Mimic Shiner	*Notropis volucellus*				S5	Abundant	widespread
Northern Hog Sucker	*Hypentelium nigricans*				S4	Abundant	widespread
Rock Bass	*Ambloplites rupestris*				S5	Abundant	widespread
Rosyface Shiner	*Notropis rubellus*				S4	Abundant	widespread
Smallmouth Bass	*Micropterus dolomieu*				S5	Abundant	widespread
Spotfin Shiner	*Cyprinella spiloptera*				S4	Abundant	widespread
Striped Shiner	*Luxilus chrysocephalus*				S4	Abundant	widespread
White Sucker	*Catostomus commersoni*				S5	Abundant	widespread
North Thames River							
d/s Blackfriars Bridge			UTM x: 478970	UTM y: 4759434		TF12	10/15/2007
Central Stoneroller	*Campostoma anomalum*				S4	Abundant	widespread
Greenside Darter	*Etheostoma blennioides*				S4	Abundant	widespread
Logperch	*Percina caprodes*				S5	Common	widespread
Longnose Dace	*Rhinichthys cataractae*				S5	Common	widespread

Location		Species at Risk (SAR) Status			Provincial Status	Site Number	Sample Date
Species (Common Name)	**Scientific Name**	**COSEWIC**	**SARA**	**ESA 2007**	**SRank**	**Abundance**	**Distribution**
Mimic Shiner	*Notropis volucellus*				S5	Abundant	widespread
Northern Hog Sucker	*Hypentelium nigricans*				S4	Abundant	widespread
Rainbow Darter	*Etheostoma caeruleum*				S4	Uncommon	localized
River Chub	*Nocomis micropogon*				S4	Common	widespread
Rock Bass	*Ambloplites rupestris*				S5	Abundant	widespread
Smallmouth Bass	*Micropterus dolomieu*				S5	Abundant	widespread
Spotfin Shiner	*Cyprinella spiloptera*				S4	Abundant	widespread
Striped Shiner	*Luxilus chrysocephalus*				S4	Abundant	widespread
White Sucker	*Catostomus commersoni*				S5	Abundant	widespread
d/s Blackfriars Bridge			UTM x: 478970	UTM y: 4759434		TF12	5/15/2012
Greenside Darter	*Etheostoma blennioides*				S4	Abundant	widespread
Mimic Shiner	*Notropis volucellus*				S5	Abundant	widespread

Location		Species at Risk (SAR) Status			Provincial Status		Site Number	Sample Date
Species (Common Name)	**Scientific Name**	**COSEWIC**	**SARA**	**ESA 2007**	**SRank**	**Abundance**	**Distribution**	

COSEWIC Status: The Committee on the Status of Endangered Wildlife in Canada (COSEWIC) assesses species for their consideration for legal protection and recovery (or management) under the Species at Risk Act (SARA).

Extinct: A wildlife species that no longer exists.
Extirpated: A wildlife species no longer existing in the wild in Canada, but exists elsewhere.
Endangered: A wildlife species facing imminent extirpation or extinction.
Threatened: A wildlife species likely to become endangered if limiting factors are not reversed.
Special Concern: A wildlife species that may become a threatened or an endangered species because of a combination of biological characteristics and identified threats.
Not at Risk: A wildlife species that has been evaluated and found to be not at risk of extinction given the current circumstances.
Data Deficient: A category that applies when the available information is insufficient (a) to resolve a wildlife species' eligibility for assessment or (b) to permit an assessment of the wildlife species' risk of extinction.

Reference: www.cosewic.gc.ca (current to November 2011)

SARA Status: The federal at risk designation for species under the Species at Risk Act (SARA)
Reference: www.sararegistry.gc.ca (current to December 2011)

ESA 2007 / SARO Status: Species at Risk in Ontario (SARO) are designated by the Ontario Ministry of Natural Resources (OMNR) in accordance with the provincial Endangered Species Act (ESA) through the Committee on the Status of Species at Risk in Ontario (COSSARO).

Extirpated: A native species that no longer exists in the wild in Ontario but still occurs elsewhere.
Endangered: A native species facing imminent extinction or extirpation in Ontario.
Threatened: A native species that is at risk of becoming endangered in Ontario.
Special Concern: A native species that is sensitive to human activities or natural events which may cause it to become endangered or threatened.

Reference: www.ontario.ca/speciesatrisk (current to January 2012)

Provincial Rank (SRANK): Provincial (or Subnational) ranks are used by the Natural Heritage Information Centre (NHIC) to set protection priorities for rare species and natural communities. These ranks are assigned to consider only those factors within the political boundaries of Ontario.

SX Presumed Extirpated: Species or community is believed to be extirpated from the nation or state/province. Not located despite intensive searches of historical sites and other appropriate habitat, and virtually no likelihood that it will be rediscovered.
SH Possibly Extirpated (Historical): Species or community occurred historically in the nation or state/province, and there is some possibility that it may be rediscovered. Its presence may not have been verified in the past 20-40 years. A species or community could become NH or SH without such a 20-40 year delay if the only known occurrences in a nation or state/province were destroyed or if it had been extensively and unsuccessfully looked for. The NH or SH rank is reserved for species or communities for which some effort has been made to relocate occurrences, rather than simply using this status for all elements not known from verified extant occurrences.
S1 Critically Imperiled: Critically imperiled in the nation or state/province because of extreme rarity (often 5 or fewer occurrences) or because of some factor(s) such as very steep declines making it especially vulnerable to extirpation from the state/province.
S2 Imperiled: Imperiled in the nation or state/province because of rarity due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors making it very vulnerable to extirpation from the nation or state/province.
S3 Vulnerable: Vulnerable in the nation or state/province due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors making it vulnerable to extirpation.

S4 Apparently Secure: Uncommon but not rare; some cause for long-term concern due to declines or other factors.
S5 Secure: Common, widespread, and abundant in the nation or state/province.
SNR Unranked: Nation or state/province conservation status not yet assessed.
SU Unrankable: Currently unrankable due to lack of information or due to substantially conflicting information about status or trends.
SNA Not Applicable: A conservation status rank is not applicable because the species is not a suitable target for conservation activities.
S#S# Range Rank: A numeric range rank (e.g., S2S3) is used to indicate any range of uncertainty about the status of the species or community. Ranges cannot skip more than one rank (e.g., SU is used rather than S1S4).

Reference: http://nhic.mnr.gov.on.ca/MNR/nhic/nhic.cfm (current to March 2012)

Abundance: Refers to the relative abundance or common occurrence of the species found within the waters of the Thames River watershed based on sampling results. Consideration was given to accurately reflect the species presence within the watershed due to the sampling capture method, effort, and biases, difficulty in capturing certain species and anecdotal reporting.
Abundant: Greater than 50 sample records in the database
Common: Between 15 and 50 sample records in the database
Historical: . species that have been previously recorded in the Thames
Rare: Less than 5 sample records in database
Uncommon: Between 5 and 15 sample records in database

Distribution: Indicates whether species are sampled throughout the watershed or restricted to specific locales.

Prepared - Monday, July 08, 2013

UTRCA / DFO / EC Mussel Sampling Records

North Thames River

SiteCode - TF000 **LOCATION: Gibbons Park, Grosvenor St parking lot**

UTM X 478699 UTM Y: 4760521

DATE 9/10/2004

Common Name	Latin Name	Condition	Number	COSEWIC Status	SARO Status
Elktoe	*Alasmidonta marginata*	Relict Shell	2		
Fluted Shell	*Lasmigona costata*	Live	2		
Giant Floater	*Pyganodon grandis*	Relict Shell	0		
Mucket	*Actinonaias ligamentina*	Live	1		
Wavy-rayed Lampmussel	*Lampsilis fasciola*	Relict Shell	1	Special Concern	Threatened
Zebra Mussel	*Dreissena polymorpha*	Live			

COSEWIC Status: The Committee on the Status of Endangered Wildlife in Canada (COSEWIC) assesses species for their consideration for legal protection and recovery (or management) under the Species at Risk Act (SARA).

Extinct: A wildlife species that no longer exists.
Extirpated: A wildlife species no longer existing in the wild in Canada, but exists elsewhere.
Endangered: A wildlife species facing imminent extirpation or extinction.
Threatened: A wildlife species likely to become endangered if limiting factors are not reversed.
Special Concern: A wildlife species that may become a threatened or an endangered species because of a combination of biological characteristics and identified threats.

References: http://www.sararegistry.gc.ca/species/schedules_e.cfm?id=1
https://www.registrelep-sararegistry.gc.ca/sar/index/default_e.cfm?stype=speciesindex=1cosid=common=scientific=population=taxid=3locid=0desid=0schid=0desid2=0
http://www.cosewic.gc.ca/eng/sct0/rpt/rpt_csar_e.pdf
http://www.cosewic.gc.ca/eng/sct5/index_e.cfm
(current to September 2009)

SARO Status: Species at Risk in Ontario (SARO) are designated by the Ontario Ministry of Natural Resources (OMNR) in accordance with the provincial Endangered Species Act (ESA) through the Committee on the Status of Species at Risk in Ontario (COSSARO).

Extirpated: A species that no longer exists in the wild in Ontario but still occurs elsewhere.
Endangered: A species facing imminent extinction or extirpation in Ontario which is a candidate for regulation under Ontario's ESA.
Threatened: A species that is at risk of becoming endangered in Ontario if limiting factors are not reversed.
Special Concern: A species with characteristics that make it sensitive to human activities or natural events.

Reference: http://www.mnr.gov.on.ca/en/Business/Species/2ColumnSubPage/STEL01_131230.html
http://www.mnr.gov.on.ca/en/Business/Species/2ColumnSubPage/276722.html and
http://www.e-laws.gov.on.ca/html/regs/english/elaws_regs_080230_e.htm
http://www.mnr.gov.on.ca/276841.pdf (current to September 2009)

UTRCA Benthic Sampling Data

Taxonomic Name	Common Name	Life Stage	# in Subsample	Biotic Index

North Thames River

Downstream of Black Friars Bridge, accessed from Cummings Ave.

Site code: TF14 UTM X: 478959 UTM Y: 4759451

Sampled - 10/20/2004

REP: 1

Acariformes	Water Mite	A	10	4
Caenidae	Crawling Mayfly	N	8	7
Ceratopogonidae	Biting Midge	L	1	6
Chironomidae	Midge	P	9	6
Chironomidae	Midge	L	84	6
Elmidae	Riffle Beetle	A	2	4
Elmidae	Riffle Beetle	L	4	4
Empididae	Dance Fly	L	3	6
Ephemerellidae	Mayfly	N	6	1
Erpobdellidae	Leech	A	3	10
Heptageniidae	Stream Mayfly	N	41	4
Hydropsychidae	Net-spinning Caddisfly	L	35	4
Nematoda	Thread Worm	A	1	-1
Oligochaeta	Aquatic Worm	A	27	8
Philopotamidae	Finger-net Caddisfly	L	4	3
Polycentropodidae	Caddisfly	L	1	6
Psephenidae	Water Penny Beetle	L	1	4
Psychomyiidae	Tube-making Caddisfly	L	2	2
Sialidae	Alderfly	N	1	4
Sphaeriidae	Fingernail Clam	A	4	8
Taeniopterygidae	Stonefly	N	1	2
Tipulidae	Crane Fly	L	4	3
Tricorythidae	Crawling Mayfly	N	23	4
Turbellaria	Flatworm	A	5	4

Stream Health **Fair** **Family Biotic Index** **5.26**

Sampled - 10/25/2004

REP: 1

Acariformes	Water Mite	A	4	4
Asellidae	Sow Bug	A	1	8
Baetidae	Small Mayfly	N	1	4
Caenidae	Crawling Mayfly	N	19	7
Calopterygidae	Broad-winged Damselfly	N	1	5
Ceratopogonidae	Biting Midge	L	1	6
Chironomidae	Midge	P	2	6
Chironomidae	Midge	L	110	6
Elmidae	Riffle Beetle	L	6	4
Elmidae	Riffle Beetle	A	1	4
Empididae	Dance Fly	L	7	6
Ephemerellidae	Mayfly	N	5	1
Heptageniidae	Stream Mayfly	N	23	4
Hydropsychidae	Net-spinning Caddisfly	L	24	4
Nematoda	Thread Worm	A	1	-1
Oligochaeta	Aquatic Worm	A	21	8
Philopotamidae	Finger-net Caddisfly	L	1	3
Psephenidae	Water Penny Beetle	L	2	4
Psychomyiidae	Tube-making Caddisfly	L	2	2
Sphaeriidae	Fingernail Clam	A	6	8
Taeniopterygidae	Stonefly	N	1	2
Tipulidae	Crane Fly	L	1	3
Tricorythidae	Crawling Mayfly	N	19	4

Taxonomic Name	Common Name	Life Stage	# in Subsample	Biotic Index
Turbellaria	Flatworm	A	5	4
	Stream Health **Fair**		**Family Biotic Index**	**5.49**
Sampled - 6/2/2005				
	REP: 1			
Acariformes	Water Mite	A	1	4
Baetidae	Small Mayfly	L	12	4
Caenidae	Crawling Mayfly	N	1	7
Ceratopogonidae	Biting Midge	L	1	6
Chironomidae	Midge	P	20	6
Chironomidae	Midge	L	122	6
Cyclopoida	Fish Lice	A	3	8
Empididae	Dance Fly	L	1	6
Ephemerellidae	Mayfly	N	2	1
Heptageniidae	Stream Mayfly	N	1	4
Hydropsychidae	Net-spinning Caddisfly	L	4	4
Nematoda	Thread Worm	A	1	-1
Oligochaeta	Aquatic Worm	A	83	8
Philopotamidae	Finger-net Caddisfly	L	1	3
Simuliidae	Black Fly	L	1	6
	Stream Health **Poor**		**Family Biotic Index**	**6.59**
Sampled - 6/12/2006				
	REP: 1			
Acariformes	Water Mite	A	1	4
Baetidae	Small Mayfly	N	2	4
Chironomidae	Midge	P	5	6
Chironomidae	Midge	L	177	6
Cyclopoida	Fish Lice	A	1	8
Elmidae	Riffle Beetle	L	1	4
Erpobdellidae	Leech	A	1	10
Hydropsychidae	Net-spinning Caddisfly	L	4	4
Oligochaeta	Aquatic Worm	A	7	8
Simuliidae	Black Fly	L	3	6
Sphaeriidae	Fingernail Clam	A	1	8
	Stream Health **Fairly Poor**		**Family Biotic Index**	**6.04**
Sampled - 6/7/2007				
	REP: 1			
Acariformes	Water Mite	A	3	4
Baetidae	Small Mayfly	N	8	4
Chironomidae	Midge	P	8	6
Chironomidae	Midge	L	112	6
Corixidae	Water Boatmen	A	1	5
Cyclopoida	Fish Lice	A	67	8
Daphniidae	Water Flea	A	3	8
Elmidae	Riffle Beetle	A	3	4
Elmidae	Riffle Beetle	L	1	4
Empididae	Dance Fly	L	2	6
Empididae	Dance Fly	P	1	6
Ephemerellidae	Mayfly	N	1	1
Heptageniidae	Stream Mayfly	N	3	4
Hydropsychidae	Net-spinning Caddisfly	L	15	4
Leptoceridae	Long-horned Caddisfly	L	1	4
Oligochaeta	Aquatic Worm	A	33	8
Ostracoda	Seed Shrimp	A	1	8
Simuliidae	Black Fly	L	1	6

Taxonomic Name	Common Name	Life Stage	# in Subsample	Biotic Index
	Stream Health	**Fairly Poor**	**Family Biotic Index**	**6.16**
Sampled - 5/13/2008				
	REP: 1			
Acariformes	Water Mite	A	5	4
Baetidae	Small Mayfly	N	40	4
Caenidae	Crawling Mayfly	N	1	7
Chironomidae	Midge	P	20	6
Chironomidae	Midge	L	112	6
Cyclopoida	Fish Lice	A	21	8
Daphniidae	Water Flea	A	56	8
Elmidae	Riffle Beetle	A	1	4
Elmidae	Riffle Beetle	L	3	4
Ephemerellidae	Mayfly	N	3	1
Erpobdellidae	Leech	A	1	10
Heptageniidae	Stream Mayfly	N	3	4
Hydropsychidae	Net-spinning Caddisfly	L	3	4
Oligochaeta	Aquatic Worm	A	32	8
Perlidae	Stonefly	N	3	1
Philopotamidae	Finger-net Caddisfly	L	1	3
Psephenidae	Water Penny Beetle	L	1	4
Simuliidae	Black Fly	L	13	6
	Stream Health	**Fairly Poor**	**Family Biotic Index**	**6.05**
Sampled - 6/3/2009				
	REP: 1			
Asellidae	Sow Bug	A	2	8
Baetidae	Small Mayfly	N	20	4
Chironomidae	Midge	P	1	6
Chironomidae	Midge	L	141	6
Collembola	Springtail	A	1	5
Corixidae	Water Boatmen	A	2	5
Cyclopoida	Fish Lice	A	6	8
Daphniidae	Water Flea	A	30	8
Elmidae	Riffle Beetle	L	22	4
Elmidae	Riffle Beetle	A	6	4
Ephemerellidae	Mayfly	N	1	1
Erpobdellidae	Leech	A	2	10
Heptageniidae	Stream Mayfly	N	4	4
Hydropsychidae	Net-spinning Caddisfly	L	24	4
Nematoda	Thread Worm	A	5	-1
Oligochaeta	Aquatic Worm	A	70	8
Ostracoda	Seed Shrimp	A	1	8
Simuliidae	Black Fly	L	3	6
Talitridae	Sideswimmer	A	1	8
Tricorythidae	Crawling Mayfly	N	2	4
Turbellaria	Flatworm	A	1	4
	Stream Health	**Fairly Poor**	**Family Biotic Index**	**6.24**
Sampled - 5/27/2010				
	REP: 1			
Acariformes	Water Mite	A	8	4
Baetidae	Small Mayfly	N	12	4
Caenidae	Crawling Mayfly	N	1	7
Ceratopogonidae	Biting Midge	L	1	6
Chironomidae	Midge	P	43	6
Chironomidae	Midge	L	199	6
Cyclopoida	Fish Lice	A	2	8

Taxonomic Name	Common Name	Life Stage	# in Subsample	Biotic Index
Elmidae	Riffle Beetle	A	1	4
Elmidae	Riffle Beetle	L	1	4
Ephemerellidae	Mayfly	N	1	1
Heptageniidae	Stream Mayfly	N	1	4
Hydropsychidae	Net-spinning Caddisfly	L	7	4
Nematoda	Thread Worm	A	1	-1
Oligochaeta	Aquatic Worm	A	76	8
Ostracoda	Seed Shrimp	A	1	8
Simuliidae	Black Fly	L	1	6
Sphaeriidae	Fingernail Clam	A	1	8
	Stream Health	**Fairly Poor**	**Family Biotic Index**	**6.38**

Sampled - 6/6/2011

REP: 1

Acariformes	Water Mite	A	1	4
Baetidae	Small Mayfly	N	4	4
Chironomidae	Midge	P	31	6
Chironomidae	Midge	L	245	6
Elmidae	Riffle Beetle	A	1	4
Elmidae	Riffle Beetle	L	4	4
Ephemerellidae	Mayfly	N	1	1
Erpobdellidae	Leech	A	2	10
Heptageniidae	Stream Mayfly	N	3	4
Hydropsychidae	Net-spinning Caddisfly	L	19	4
Hydrozoa	Hydra	A	1	5
Nematoda	Thread Worm	A	1	-1
Oligochaeta	Aquatic Worm	A	20	8
Simuliidae	Black Fly	L	1	6
Sphaeriidae	Fingernail Clam	A	2	8
	Stream Health	**Fairly Poor**	**Family Biotic Index**	**6.02**

Sampled - 5/15/2012

REP: 1

Acariformes	Water Mite	A	9	4
Baetidae	Small Mayfly	N	6	4
Caenidae	Crawling Mayfly	N	1	7
Capniidae	Stonefly	N	1	1
Chironomidae	Midge	L	177	6
Chironomidae	Midge	P	30	6
Elmidae	Riffle Beetle	A	2	4
Elmidae	Riffle Beetle	L	7	4
Ephemerellidae	Mayfly	N	5	1
Glossiphoniidae	Leech	A	1	8
Glossosomatidae	Caddisfly	L	3	0
Helicopsychidae	Snail-case Caddisfly	L	1	3
Heptageniidae	Stream Mayfly	N	8	4
Hydropsychidae	Net-spinning Caddisfly	L	5	4
Hydroptilidae	Micro-caddisfly	L	1	4
Nematoda	Thread Worm	A	8	-1
Oligochaeta	Aquatic Worm	A	41	8
Philopotamidae	Finger-net Caddisfly	L	3	3
Psephenidae	Water Penny Beetle	L	1	4
Psychomyiidae	Tube-making Caddisfly	L	1	2
Sphaeriidae	Fingernail Clam	A	1	8
Tipulidae	Crane Fly	L	1	3
Trichoptera	Caddisfly	P	3	-1
	Stream Health	**Fairly Poor**	**Family Biotic Index**	**5.97**

Taxonomic Name	Common Name	Life Stage	# in Subsample	Biotic Index
North Thames River	**Gibbons Park, Upstream of Footbridge**			
	Site code: TF15	UTM X: 478414	UTM Y: 4760639	
Sampled - 10/14/2005				
	REP: 1			
Acariformes	Water Mite	A	6	4
Ancylidae	Limpet	A	3	6
Chironomidae	Midge	P	6	6
Chironomidae	Midge	L	77	6
Elmidae	Riffle Beetle	A	1	4
Elmidae	Riffle Beetle	L	6	4
Helicopsychidae	Snail-case Caddisfly	L	1	3
Heptageniidae	Stream Mayfly	N	29	4
Hydropsychidae	Net-spinning Caddisfly	L	44	4
Limnephilidae	Northern Caddisfly	L	1	4
Nematoda	Thread Worm	A	2	-1
Oligochaeta	Aquatic Worm	A	4	8
Philopotamidae	Finger-net Caddisfly	L	2	3
Psephenidae	Water Penny Beetle	L	1	4
Psychomyiidae	Tube-making Caddisfly	L	4	2
Rhyacophilidae	Primative Caddisfly	L	1	0
Sphaeriidae	Fingernail Clam	A	16	8
Taeniopterygidae	Stonefly	N	3	2
Tipulidae	Crane Fly	L	2	3
Tricorythidae	Crawling Mayfly	N	12	4
Turbellaria	Flatworm	A	3	4
	Stream Health	**Fair**	**Family Biotic Index**	**5.09**

Benthic Samples were obtained using a Rapid Bioassessment Protocol developed by the United States Environmental Protection Agency and modified by Dr. Robert Bailey of the University of Western Ontario Zoology Department. A representative section of stream is selected, incorporating a riffle if present, and sampled by moving upstream along a diagonal transect, dislodging and capturing invertebrates with a .5 mm mesh "D"- frame net. Samples are preserved in the field and analyzed in the lab to randomly select a 100 bug subsample which is identified to the Family taxonomic level.

The biotic index is a value assigned to benthic invertebrate taxa indicating their pollution sensitivity and tolerance on a scale from 0 to 10. Lower numbers indicate pollution sensitivity and high numbers tolerance. A value of -1 indicates that no biotic index value has been assigned to these taxa.

The Family Biotic Index is the weighted average of the biotic index and number of bugs in each taxa in the sample. The water quality ranges for the FBI values are as follows: < 4.25 = Excellent; 4.25 - 5.00 = Good; 5.00 - 5.75 = Fair; 5.75 - 6.50 = Fairly Poor; 6.50 - 7.25 = Poor; and > 7.25 = Very Poor.

Report prepared - Monday, July 08, 2013

UTRCA Benthic Water Quality Sampling Summary

STREAM NAME	LOCATION	DATE	FBI	QUALITY
North Thames River	Downstream of Black Friars Bridge, accessed from Cummings Ave.			
Site code TF14	UTM X Coordinate: 478959 UTM Y Coordinate: 4759451			
		10/20/2004	5.26	Fair
		10/25/2004	5.49	Fair
		6/2/2005	6.59	Poor
		6/12/2006	6.04	Fairly Poor
		6/7/2007	6.16	Fairly Poor
		5/13/2008	6.05	Fairly Poor
		6/3/2009	6.24	Fairly Poor
		5/27/2010	6.38	Fairly Poor
		6/6/2011	6.02	Fairly Poor
		5/15/2012	5.97	Fairly Poor
North Thames River	Gibbons Park, Upstream of Footbridge			
Site code TF15	UTM X Coordinate: 478414 UTM Y Coordinate: 4760639			
		10/14/2005	5.09	Fair

Biotic indices are values assigned to benthic invertebrate taxa indicating their pollution sensitivity and tolerance on a scale from 0 t
Lower numbers indicate pollution sensitivity and high numbers tolerance. The Family Biotic Index (FBI) is the weighted average of
biotic index and number of bugs in each taxa in the sample. The water quality ranges for the FBI values are as follows: < 4.25 =
Excellent; 4.25 - 5.00 = Good; 5.00 - 5.75 = Fair; 5.75 - 6.50 = Fairly Poor; 6.50 - 7.25 = Poor; and > 7.25 = Very Poor.

Monday, July 08, 2013