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115 Watson Pkwy N Scoped Environmental Impact Study

Prepared for

Guelph Watson Holdings Inc.



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1. Introduction

North-South Environmental Inc. (NSE) has been retained by Guelph Watson Holdings Inc. to complete a Scoped Environmental Impact Study (EIS) to assess the impact of a proposed mixed-use residential development at 115 Watson Parkway North (the Subject Property, **Appendix 1, Figure 1**).

The requirement for an EIS at this location is triggered by the presence of the following environmental features adjacent (within 120 m) to the Subject Property (based on the City of Guelph Official Plan Schedules):

- Clythe Creek (Surface water and [cold water] fish habitat);
- Clythe Creek floodplain (hazard lands regulated by Grand River Conservation Authority; GRCA);
- Provincially Significant Wetland (PSW) - Clythe Creek Wetland Complex;
- Significant Woodland;
- Significant Valleyland (Undeveloped Portions of the Regulatory Floodplain);
- Cultural Woodland; and
- Ecological Linkage.

The Subject Property also occurs with Grand River Conservation Authority's (GRCA's) Regulated Area such that proposed development will also require a permit from GRCA under O. Reg. 150/06.

In accordance with the City of Guelph Official Plan (OP), development is not permitted on lands adjacent to natural heritage features and areas, unless the ecological function of the adjacent lands has been evaluated and it has been demonstrated through an Environmental Impact Study (EIS) that there will be no negative impacts on the natural features or on their ecological functions.

The purpose of the EIS is to characterize the existing conditions and assess potential impacts to the natural areas within and immediately adjacent to the area of proposed development. The EIS will assess the significance of features identified as part of the City's Natural Heritage System, determine the potential for occurrences of Species at Risk (SAR) and/or the habitat of SAR, and assess the presence of any Significant Wildlife Habitat (SWH).

The Terms of Reference (TOR) for this EIS have been developed in consultation with the City and GRCA. The approved TOR is included as **Appendix 2**.

Note that a separate Tree Inventory and Preservation Report has been prepared by NSE and submitted concurrently with this EIS.

1.1. Subject Property and Study Area

The Subject Property is located at the northeastern edge of the City of Guelph ('the City'), along Watson Parkway North at Starwood Drive (part of Lot 5, Concession 3) (**Appendix 1, Figure 1**). The Subject Property, which is approximately 6.44 ha in size, is currently composed of a vacant, disturbed lot. The property is located adjacent to Clythe Creek and associated floodplain, Provincially Significant Wetland (PSW) and riparian woodlands. Natural heritage features on the Subject Property itself are limited due to recent grading of the site outside the floodplain.

The Study Area encompasses the area of proposed development and includes adjacent lands within 120 m that might reasonably be directly or indirectly affected by the proposed development (**Appendix 1, Figure 1**).

1.2. Project History

An EIS was first submitted for this site (then known as 72 Watson Road North) as part of a previous, entirely commercial, development proposal in 2000, and revised in 2001 (D&A 2001). This EIS primarily used information from the Clythe Creek Subwatershed Study (Ecologistics 1998a) and Grange Hill Developments EIS (Ecologistics 1998b) to inform the biological inventories. An EIS Addendum was submitted in 2006 (D&A 2006) as part of a subsequent revised commercial development proposal. Additional study information included a vegetation inventory (2004), and amphibian calling surveys (2005). This EIS was updated in 2009 (D&A 2009), based on a revised site plan and to address City comments regarding water balance and restoration plantings.

In 2013, NSE prepared a subsequent EIS Addendum (NSE 2013), which updated information in Dougan's 2006 report, and addressed an appeal of Official Plan Amendment (OPA) 42 respecting the former Loblaws property at 115 Watson Parkway, Guelph. The surveys for the 2013 addendum included updates of natural heritage surveys, including vegetation and flora surveys, breeding bird surveys and amphibian surveys, conducted throughout the spring and summer of 2013. Studies of amphibian movement were also included in this study. During the Ontario Municipal Board (OMB) settlement process, studies of the property determined the appropriate boundaries for the PSW on the property and its buffers. Though the development concept was not known at that time, the proposed buffers were established based on the assumption that the property's land use would change from a vacant lot to a highly urban land use.

In 2015, NSE prepared an EIS Update for 115 Watson Parkway for a previous site plan drawn up by a different owner based on the City's new EIS guidelines (NSE 2015). The EIS Update was based on the 2013 field surveys in addition to inventories conducted as part of the previous 2006 EIS. That site plan and supporting EIS were never submitted, but the field surveys completed at that time are included here as they are also relevant to the current development as they related to the OBM settlement and are relevant to the current site footprint. However, the surveys have been updated where appropriate.

1.2.1. Previously Identified Constraints

The constraints related to development on the Subject Property were previously established as part of an OMB settlement in June 2014, which was concerned with establishing constraints and buffers in the context of the City's then-proposed Natural Heritage System (NHS; proposed through OPA 24).

During the settlement process, studies of the property determined the appropriate boundaries for the Provincially Significant Wetland (PSW) on the property and its buffers. An appropriate linkage between the portions of the Clythe Creek corridor west and east of Watson Road was also delineated. The northernmost limit of the Ecological Linkage remaining on the lands is the same as the northern limit of the PSW buffer.

Constraints are discussed further in **Section 5**.

1.2.2. Previous Commitments

Through the OMB settlement process, the following commitments were made regarding amphibian breeding habitat and movement corridors.

In conjunction with the revised Ecological Linkage mapping, the appellant agreed to provide certain improvements to facilitate passage of wildlife along Clythe Creek under Watson Road, at its own cost, especially to improve amphibian movement as part of a future site plan or other development application for the lands. These improvements are to be based on best management practices, current science and design as it related to amphibian movement structures and incorporate the following, and shall be to the satisfaction of the City (per OMB settlement Clause 4):

- a) Changes to the Clythe Creek culvert under Watson Road North to promote amphibian passage and/or installation of amphibian passage structure(s) to the north of Clythe Creek between the easy side (floodplain) and the west side (wetland)
- b) Barriers along the east and west sides of Watson Road North to discourage amphibian movement over the road and funnel movement to encourage use of the culvert(s)/structure(s)

During pre-consultation undertaken with the City on May 25, 2022, it was identified that the limit of the Ecological Linkage may be refined through a floodplain study.

There is a temporary sedimentation basin on the lands which was noted in the 2013 EIS as providing amphibian breeding habitat (see MAS2-1 on **Appendix 1, Figure 2**). It is not part of the NHS. As per an agreement reached between the City and the proponents, and documented in the minutes of the OMB settlement in June 2014, the pond could be relocated to maintain its function. It was agreed that at the time of development that the appellant will provide an alternate amphibian habitat on adjacent City lands, at its own expense, within the area identified as minimum PSW buffer. The detailed

location and design of the amphibian breeding pond is to be established as part of a future site plan to the satisfaction of the City.

2. Planning Context

2.1. Land Use Designations and Zoning

Per Guelph’s Official Plan, the Subject Property is predominantly designated Commercial Mixed-use Centre (CMUC) with areas adjacent to Clythe Creek designated Significant Natural Areas & Natural Areas on Schedule 2: Land Use Plan. The Subject Property is within the York/Watson Parkway/Starwood CMUC.

Per Guelph’s Zoning By-law (1995)-14864 (in effect,) most of the property is zoned CC-15(H), with a portion of the property along Watson Road North zoned FL. The CC Zones are Specialized Commercial Zones. The FL Zones represent Floodplain Lands. As per Zoning By-law (2023)-20790 (under appeal), the lands are predominantly zoned Commercial Mixed-Use Centre [CMUC-9(PA)(H10)(H12)], with the floodplain area zoned Natural Heritage System (NHS).

2.2. Required Applications under the *Planning Act*

A Zoning By-law Amendment to By-laws (1995)-14864 and (2023)-20790 have been submitted to facilitate the proposed development. At a high-level, the amendments are required to:

- Expand the range of residential built form permissions;
- Determine appropriate regulations;
- Implement the boundary of the Natural Heritage System;
- Reflect the proposed park; and
- Address refinements to the floodplain lands, as may be appropriate.

2.3. Relevant Environmental Legislation, Policy and Regulations

2.3.1. Fisheries Act (1985)

The federal *Fisheries Act* regulates the harm and destruction of fish and fish habitat in Canadian waterways. Under the *Fisheries Act*, certain work, undertakings or activities taking place in or near water that occurs within or near water may require review or authorization from the Department of Fisheries and Oceans (DFO). The DFO encourages proponents to implement measures to avoid impacts to fish and fish habitat. If avoidance is not possible, the DFO recommends mitigating impacts to fish and fish habitat and has prepared codes of practice for common works, undertakings, and activities.

2.3.2. Migratory Birds Convention Act (1994)

The *Migratory Birds Convention Act* (MBCA) and its *Regulations* protect listed migratory birds in Canada through the conservation of populations, individuals, and their nests. Article I of the MBCA identifies migratory species that are protected under this act. It is a contravention of this act to harass, harm, or kill protected migratory birds, remove, or disrupt their nests, and/or eggs.

2.3.3. Species at Risk Act (2002)

The federal *Species at Risk Act* (SARA) provides legal protection for federally listed SAR on federally owned lands; for aquatic species; and for any federally listed SAR anywhere they occur (including private lands, provincial and territorial lands) when the species is also protected by the MBCA. Species and habitat of species listed on Schedule 1 of SARA are protected from harm or destruction. The Committee on the Status of Endangered Wildlife in Canada (COSEWIC) recommends species to be listed on Schedule 1 of SARA.

2.3.4. Endangered Species Act (2007)

The provincial *Endangered Species Act* (ESA) provides science-based assessment, automatic species protection, and habitat protection, in order to protect species at risk of disappearing from Ontario. Under Section 9 of the ESA, species are afforded individual protection providing they are listed as Threatened, Endangered, or Extirpated on the Species at Risk in Ontario list. Section 10 of the ESA is in place to protect the habitat of Threatened or Endangered species only; where no damage is permitted to the habitat of those species unless under the authorization of the MNRF by way of registration or permit. Destruction of Species at Risk and their habitats constitutes a contravention of the ESA.

2.3.5. Clean Water Act (2006)

Ontario's *Clean Water Act* affords protection to source drinking water in Ontario by granting regulatory authority to Source Protection Committees through the creation of Source Protection Plans (SPPs). Source water in the Grand River watershed is protected by the policies in the Grand River SPP prepared by the Lake Erie Source Protection Region (2021). The Subject Property is located within a Wellhead Protection Area (WHPA) and development on site must therefore adhere to the relevant policies within the Grand River SPP. The proposed development is residential and does not fall under restricted land uses within the Grand River SPP.

2.3.6. Provincial Policy Statement (2020)

Section 2 of the Provincial Policy Statement (PPS; 2020) provides direction for the wise use and management of resources, including the protection of natural areas and features. Natural heritage policies are described in Section 2.1.

Section 2.1.1 of the PPS outlines protection needs related to biodiversity and connectivity, including protection of both ecological features and function required to maintain biodiversity and functional ecological connectivity.

Section 2.1.4 lists significant natural heritage features where development and site alteration are not permitted, including:

- Significant wetlands in Ecoregions 5E, 6E, and 7E, and
- Significant coastal wetlands.

Section 2.1.5 lists significant natural heritage features where development and site alteration are not permitted, unless it has been demonstrated that there will be no negative impact on the natural features or their ecological functions, including:

- Significant woodlands in Ecoregions 6E and 7E,
- Significant valleylands in Ecoregions 6E and 7E,
- Significant wildlife habitat,
- Significant areas of natural and scientific interest, and
- Coastal wetlands in Ecoregions 5E, 6E, and 7E (that are not subject to Policy 2.1.4).

Section 2.1.7 states that development and site alteration shall not be permitted in habitat of endangered and threatened species, except in accordance with provincial and federal requirements.

Section 2.1.8 states that development and site alteration are not permitted on adjacent lands to the natural heritage features and areas identified in policies 2.1.4, 2.1.5, and 2.1.6 (fish habitat) unless the ecological function of the adjacent lands has been evaluated and it has been demonstrated that there will be no negative impacts on the natural features or on their ecological functions.

2.3.7. City of Guelph Official Plan (February 2022 Consolidation)

Under the Guelph Official Plan, Subject Property is predominantly designated Commercial Mixed-use Centre (CMUC) with lands near Clythe Creek designated Significant Natural Areas & Natural Areas on Schedule 2: Land Use Plan. The Subject Property is within the York/Watson Parkway/Starwood CMUC.

The City's Official Plan (OP) provides direction on matters of municipal interest, such as Natural Heritage policies for protection of natural features under Section 4.1. The policies under Section 4.1 "aim to strike a balance between protection of the Natural Heritage System and limited compatible development".

The NHS consists of Significant Natural Areas (including Ecological Linkages), Natural Areas, and Wildlife Crossings (Section 4.1.1.4).

Natural heritage features present within or adjacent to the Subject Property include (as identified on the City's OP Schedules):

- Significant Natural Areas:
 - Provincially Significant Wetland (PSW) - Clyde Creek Wetland Complex
 - Surface Water Features and Fish Habitat: Clyde Creek (Surface water and [cold water] fish habitat)
 - Significant Woodland
 - Significant Valleyland (Undeveloped Portions of the Regulatory Floodplain)
 - Significant Wildlife Habitat, including Ecological Linkage
- Natural Areas:
 - Cultural Woodland
 - Established buffers

Adjacent lands “are those lands contiguous to a specific natural heritage feature or area where it is likely that development or site alteration would have a negative impact on the natural heritage feature or area”. Development in Adjacent lands triggers needs for an EIS or other environmental assessment. Requirements related to buffers and adjacent lands, where applicable, are identified in Table 4.1 (under Section 4.1.1.11).

Section 4.1.2 describes the general permitted uses within the NHS and buffers. Generally, development and site alteration are not permitted within the NHS and buffers with some exceptions. Moreover, this section reiterates that permitted development adjacent to the NHS is required to demonstrate in an EIS (or other report) in consultation with applicable authorities that there will be no negative impact on the NHS and ecological and hydrological functions.

Section 4.1.3 describes objectives, criteria for designation and policies for Significant Natural Areas and their buffers, including Significant Wetlands (Section 4.1.3.4), Surface Water Features and Fish Habitat (Section 4.1.3.5), Significant Woodlands (Section 4.1.3.6), Significant Valleylands (Section 4.1.3.7), and Significant Wildlife Habitat (including Ecological Linkages) (Section 4.1.3.9).

Section 4.1.4 describes objectives, criteria for designation and policies for Natural Areas, including Other Wetlands (Section 4.1.4.2) and Cultural Woodlands (Section 4.1.4.3).

2.3.8. Grand River Conservation Authority Regulations (O.Reg. 150/06)

Ontario Regulation (O.Reg.) 150/06 under the *Conservation Authorities Act* (1990) gives regulatory authority to the Grand River Conservation Authority (GRCA) to regulate development, interference with wetlands and alterations to shorelines and watercourses in the Grand River watershed. Portions of the Subject Property are regulated by GRCA as a Provincially Significant Wetland, the Clyde Creek Wetland Complex is present. Development within GRCA regulated areas is expected to require a

permit under O.Reg. 150/06. GRCA may grant permission within regulated area for development if, in its opinion, the control of flooding, erosion, dynamic beaches, pollution or the conservation of land will not be affected by the development. The permission of the GRCA shall be given in writing, with or without conditions.

Clythe Creek watercourse, associated floodplain, the Clythe Creek Wetland Complex (PSW) and associated buffers are regulated by GRCA.

Development within naturally occurring wetlands is generally not permitted, unless they are less than 0.5 ha, and only under certain conditions (e.g., the wetland is not part of a Provincially Significant Wetland) (Policy 8.4.4).

In accordance with the GRCA Policy 8.4.9, "development within an area of interference less than or equal to 30 m (100 ft) from a wetland may be permitted in accordance with the policies in Sections 7.1.2-7.1.3 - General Policies, and where an EIS demonstrates that:

- a) *There are no negative or adverse hydrological or ecological impacts on the wetland;*
- b) *All development is located outside of the wetland and maintains as much setback as feasible;*
- c) *Development is located above the water table, except as specified in Section 8.4.11; and*
- d) *Septic systems are located a minimum of 15 m (50 ft) from the wetland and 0.9 m (3 ft) above the annual maximum water table.*

3. Methodology

3.1. Background and Secondary Source Review

Given the extent of existing studies undertaken for the study area, a background information and secondary source review has been identified as the primary source of information to inform existing conditions. The background review includes the following sources:

- Background review of land designations (i.e., provincially significant wetlands (PSWs), Areas of Natural and Scientific Interest (ANSIs), etc.), land types and landforms, and Species at Risk (SAR) or locally significant species;
 - Ministry of Natural Resources and Forestry (MNRF) /Natural Heritage Information Centre (NHIC) screening for Species At Risk (SAR) along with documented communications with appropriate governing agencies via Information Request;
 - Land designation delineations as agreed upon in the OMB settlement (June 2014)
- Review of available background studies/reports
 - Environmental Impact Study Update: 72 Watson Road North, Guelph, Ontario. Report for Loblaw Properties Limited (D&A 2006);

- Environmental Impact Study Addendum: 72 Watson Road North, Guelph, Ontario. Report for Loblaw Properties Limited (D&A 2009);
- EIS Update: 115 Watson Parkway (NSE 2013);
- EIS Update: 115 Watson Parkway (NSE 2015);
- Hydrogeology Investigation Report and Water Balance Assessment: 115 Watson Parkway (Palmer 2022)
- Survey Plan: 115 Watson Parkway (Schaeffer Dzaldov Bennett Ltd Undated)
- Soil Survey of Wellington County Ontario (Hoffman and Mathews 1963);
- The Physiography of Southern Ontario, 3rd Ed. (Chapman and Putnam 1984);
- Review of online species atlases and records;
 - Atlas of the Breeding Birds of Ontario (Cadman 2007)
 - Ontario Reptile and Amphibian Atlas (Online)
 - eBird Canada (Online)
 - Ontario Butterfly Atlas (Online)
 - iNaturalist (online)
- Review of technical guidance documents
 - Natural Heritage Reference Manual (OMNR 2010)
 - Significant Wildlife Habitat (SWH) Technical Guide (MNRF 2000)
 - Significant Wildlife Habitat (SWH) Criteria Schedules for Ecoregion 6E (MNRF 2015)
 - City of Guelph Tree Technical Manual (2019)

3.2. Field Studies

3.2.1. Field Survey Dates

The following sections outline the methodology for the biological field program executed within the study area. **Table 1** summarizes the dates and survey types and the staff involved with each visit. Location of surveys are illustrated on **Appendix 1, Figure 2**.

Table 1. Summary of Field Surveys, Timing, and Staff

Date	NSE Staff	Purpose	Weather Conditions
2022			
March 22, 2022	Izabela van Amelsvoort, Sarah Mainguy	Reconnaissance Site Visit, Confirmation of ELC	n/a
April 20, 2022	Sarah Mainguy	Amphibian Calling Survey 2130 p.m. (station 1); 2141 (Station 2)	7°C, no precipitation, 100% cloud cover, wind 1
May 25, 2022	Sarah Mainguy	Amphibian Calling Survey 2145 (Station 1); 2154 (Station 2)	16°C, no precipitation, 100% cloud cover, wind 2

June 8, 2022	Grace Pitman	Breeding Bird Survey 630am-7am	11°C, no precipitation, 20% cloud cover, wind 1
June 16, 2022	Izabela van Amelsvoort	Wetland Delineation with GRCA (Ben Kissner)	n/a
June 23, 2022	Sarah Mainguy	Amphibian Calling Survey 2133 (Station 1); 2143 (Station 2)	20°C, no precipitation, 0% cloud cover, wind 2
June 29, 2022	Grace Pitman	Breeding Bird Survey 640am-711am	13°C, no precipitation, 50% cloud cover, wind 1
October 5, 2022	Izabela van Amelsvoort, Sarah Mainguy	Site Visit with City and GRCA to discuss sedimentation pond relocation	n/a
November 16, 2022	Devin Bettencourt	Tree Inventory	n/a
2015			
November 26, 2015	-	Reconnaissance Site Visit, Fall Flora	Cloudy, 10°C
2013			
April 7, 2013	-	Ambystoma salamander surveys, frog surveys	Rain for past day, wind 1, 8°C
April 9, 2013	-	Ambystoma salamander surveys, frog surveys, amphibian movement surveys, nocturnal birds, general salamander surveys	Rain for past two days, wind 1, 8°C
April 28, 2013	-	Frog surveys, amphibian movement surveys	Moderate rain, wind 0, 10°C
May 21, 2013	-	Frog surveys, amphibian movement surveys, nocturnal birds	Rain previous night and earlier in the day, wind 0, 18°C
May 31, 2013	-	Flora and ELC surveys	Light rain following heavy rain during the day, wind 2 with gusts to 3, 19°C
June 5, 2013	-	Wetland boundary survey, water level survey	-
June 28, 2013	-	Frog surveys, amphibian movement surveys, nocturnal birds	Rain most of day (though not during surveys), wind 1, 17°C
August 8, 2013	-	Bankfull channel survey, water level survey	-

Additional surveys were completed as part of field work in support of earlier ecological studies on the subject property:

- 2000 EIS, and revised in 2001 (Dougan & Associates, 2001). Property then known as 72 Watson Road North.
- 2006 EIS Addendum (Dougan & Associates, 2006).
- 2009 EIS Update (Dougan & Associates, 2009).

Available data from these reports was incorporated into the 2013 and 2015 EIS Updates (NSE 2013 and 2015) and subsequently incorporated into this current report.

3.2.2. Ecological Land Classification / Flora / Wetland Staking

A field visit on March 22, 2022 was undertaken to confirm 2013 vegetation community mapping (according to Ecological Land Classification [ELC] for Southern Ontario: First Approximation and Its Application (Lee et al. 1998), with the intent to confirm presence / absence of new features / communities.

Flora surveys were completed in 2013 and 2015 (May 31, November 2015). A three-season flora survey was also conducted in 2006.

As identified in consultation with the City, the limits of existing features have been delineated according to the OMB settlement (June 2014), as based on delineation undertaken in 2013, with one exception. As requested by GRCA, the boundaries of the PSW were confirmed / re-delineated on site with GRCA staff (Ben Kissner) on June 16, 2022.

3.2.3. Breeding Bird Surveys

Two breeding bird surveys were completed in 2022 (June 8, June 29) following the MNRF grassland bird survey protocols (10-minute point count) for survey time and the Ontario Breeding Bird Atlas (OBBA) protocols (2021, regarding breeding evidence determination) to confirm the presence / absence of Open Country Breeding Bird Habitat and habitat for grassland species at risk on the Subject Property. A breeding bird survey also occurred on May 31, 2013. In 2022, three point counts within the subject property were conducted. The surveys were completed within appropriate timing windows (first completed between May 24th and June 15th and second of these surveys completed no sooner than seven days from the first survey, between June 15th and July 10th). Surveys were completed in the morning between a half-hour before sunrise and 10:00 am during suitable weather conditions. Actual dates and times of the surveys are shown in Table 1. Breeding evidence was evaluated using the following guidelines (OBBA 2001):

“Possible breeding” is indicated by the presence of a singing male (or breeding calls heard) in suitable habitat or the presence of a bird observed in suitable breeding habitat in its breeding season.

“Probable breeding” is defined as an observation of any of the following: (1) a pair in breeding season in suitable habitat, (2) permanent territory presumed through registration of territorial song on at least two days, a week or more apart, at the same place or (3) courtship or display between a male and a female or two males, including courtship feeding or copulation; visiting probable nest site; agitated behaviour or anxiety calls of an adult; brood patch on an adult female or cloacal protuberance on an adult male; nest building or excavation of a nest hole.

“Confirmed breeding” is defined as observation of any of the following: (1) a distraction display or injury feigning; (2) used nest or egg shell found (occupied or laid within the period of the study); (3) recently fledged young or downy young, including young incapable of sustained flight; (4) adults entering or leaving nest site in circumstances indicating occupied nest (e.g., adult carrying fecal sac; adult carrying food for young), or (5) nest containing eggs, or nest with young seen or heard.

3.2.4. Nocturnal Bird Surveys

Nocturnal bird surveys were undertaken in 2013 (April 9, May 21, June 28) incidental to amphibian calling surveys to supplement early morning bird surveys.

3.2.5. Amphibian Calling Surveys

Amphibian calling surveys were undertaken in 2022 (April 20, May 25, and June 23) at the location of the sediment basin marsh (MAS2-1) and the thicket swamp (SWT2-5). The surveys undertaken at the sediment basin will inform its functions prior to replication / relocation (as agreed upon during the OMB Settlement; June 2014). Amphibian calling surveys were also completed in 2013.

Auditory surveys for amphibians were undertaken according to the Ontario Marsh Monitoring Protocol (MMP) (Bird Studies Canada 2008). The MMP requires that three (3) separate visits be made per survey location per year, occurring during the second half of each of April, May and June and in consideration with specific temperature thresholds associated with each survey period. Each survey consisted of a three-minute passive listening period during which calls and relative abundance are recorded. For each survey, the date and start time of each survey are recorded as well as air temperature, wind speed and level of precipitation.

In accordance with the MMP, three calling codes are used to indicate intensity and a second number to indicate species count:

- A calling code of 1 indicates that species' calls are not overlapping and therefore are easily distinguished, with an accurate count of numbers.
- A calling code of 2 indicates that species' calls are overlapping, but an estimation of the number of individuals can be made.

- A calling code of level 3 occurs when calls overlap such that a reasonable estimate/count of the number of individuals cannot be made. Calling code 3 does not include a species count number.

3.2.6. Amphibian Movement Surveys

Amphibian movement surveys were conducted in 2013 (April 9, April 28, May 21, May 31, June 28). Amphibian movement was inferred from road surveys of amphibian mortality, primarily on Watson Road North. Roads were surveyed at night or in the early morning after rain. Numbers of live and dead frogs were counted, and their locations marked with a hand-held GPS. The direction of movement was also recorded where it could be determined.

3.2.7. Ambystoma Salamander Surveys

Surveys were conducted in 2013 (April 7 and April 9) to determine the potential use of any ponds on the property by breeding salamanders of the genus *Ambystoma*, which breed in vernal pools in early spring and are generally only visible during the breeding period. Each of the areas of vernal pooling on site and on the floodplain just south of the site were examined with a strong flashlight, after the first spring rain and ground thaw in early spring, when reports of salamanders moving to breeding ponds were numerous in southern Ontario.

3.2.8. Incidental Wildlife

Incidental observations of all wildlife species (including mammals, birds, reptiles, and insects) were recorded during all site visits.

3.2.9. Aquatic Habitat Assessment

A bankfull channel survey and water level survey was completed in 2013 (June 5, August 8).

3.2.10. Site Visit to Review Location for Sedimentation Pond Relocation

Through the OMB settlement (June 2014), it was agreed that the sedimentation basin could be replaced with the condition that the functions would be maintained. Per the OMB settlement agreement, the detailed location and design of the amphibian breeding pond is to be established as part of a development application for the Subject Property, to the satisfaction of the City. A site meeting was held on October 25, 2022 with the City and GRCA to review the proposed location for the relocated sedimentation basin.

3.2.11. Tree Inventory

A Tree Inventory and Tree Preservation Plan has been completed per the City of Guelph's Tree Technical Manual (2019). It has been provided under separate cover.

The tree inventory was completed on November 16, 2022.

The Tree Inventory and Tree Preservation Plan includes:

- Inventory of all trees over 10 cm diameter at breast height (DBH), including size, form, species composition, health and risk assessment;
- Identify opportunities for transplanting smaller specimens of trees, where appropriate;
- Tree preservation plan specifying measures required for tree protection and monitoring during construction / development; and
- Measures for avoiding disturbance to any breeding birds during construction.

4. Characterization of the Natural Environment

This section of the EIS will describe the study area's biological and physical features. Two (2) levels of investigation will be used to describe different features, including (i) secondary sources (background review) as the primary source of information, and (ii) supplemental field inventories to confirm presence / absence of new features.

4.1. Physiography, Geology and Soils

The Subject Property is situated within a physiographic region described as the Guelph Drumlin Field (Chapman & Putman 1984). The area consists predominantly of sand and gravel terraces with modern alluvial deposits on the Clythe Creek floodplain. The surrounding Wentworth Till layer is described as a dense sandy till with some boulder sections and some areas of slightly higher silt and clay content.

Interpreted bedrock elevation in the vicinity of the study area is approximately 320 m Above Mean Sea Level (AMSL) (Stantec 1999, cited in D&A 2006). Bedrock was encountered at approximately elevation 323 m to 324 m AMSL during sewer construction of Watson Parkway, southwest of the site. Overburden thickness is estimated to range from 0 to 20 m, with exposures of bedrock noted along the tributary of Clythe Creek.

The overburden thickness throughout the watershed is reported to range from less than a metre to greater than 70 m in the northern portion of the watershed (Stantec 1999, cited in D&A 2006).

4.1. Hydrology and Hydrogeology

The Subject Property is located within the southern portion of the Eramosa River and Blue Springs Creek Subwatersheds. Drainage from the site is directed to Clythe Creek, which discharges to the Eramosa River approximately 1 km south of the Subject Property (D&A 2006).

Surface drainage on the site is primarily by sheet flow to the Clythe Creek floodplain. With the exception of a small dug pond (which was constructed at an unknown date, but prior to 2013, as a temporary sedimentation basin) above the floodplain and another small dug pond within the floodplain (NSE 2013), and a dug drainage channel at the south end of the site boundary, no tributaries or distinct surface drainage features occur. The dug pond situated on the floodplain is

separated from the Clythe Creek channel by a 3-4 m long swale. Although the pond elevation is slightly higher than the creek, it is likely that the creek flushes out the pond during flood events. The sedimentation basin receives water from a trench that extends west across the site and outlets via a stand pipe to a storm pond just west of the site.

Off-property, just west of the sedimentation pond is a stormwater pond built to receive flows from surrounding development.

A portion of the Clythe Creek Wetland Complex, a Provincially Significant Wetland (PSW) occurs adjacent to the Subject Property.

A hydrogeology investigation and water balance assessment were completed for the subject property (Palmer 2023). As per the report:

“the site is located within a Well Head Protection Area (WHPA) with an A and B designation, as well as in a Significant Groundwater Recharge Area (SGRA). This is due to the proximity of the Municipal Supply Well: Clythe Well, and Booster Pumping Station. It is understood that the Clythe Well is not currently used for municipal water supply, but the Booster Pumping Station is in use. The majority of the site is located within the WHPA-B, with a small portion to the east being located in the WHPA-A. It should be noted that no development is proposed in the WHPA-A. As the site is within SGRA, groundwater recharge (infiltration) associated with the site should be maintained post development.

Clythe Creek is located to the east of the site boundary, along with an associated wetland complex. Palmer installed a series of mini-piezometers to monitor these surface water features and characterize the surface water/groundwater interactions. It was determined that Clythe Creek and the wetland complex are primarily supported by surface water, with minor groundwater inputs to Clythe Creek. A feature based water balance has been completed for the site to determine how much infiltration and, more importantly, surface runoff from the site contributes to Clythe Creek and the wetland complex. Recommendations for LID measures to meet the pre-development runoff values are provided (Palmer 2023).”

Groundwater table elevations range from 321.93 to 324.01 masl, with deeper water levels being observed on the west side of the site. Shallow groundwater flow is interpreted to move southeast (Palmer 2023).

4.2. Aquatic and Fish Habitat

Clythe Creek, adjacent to the Subject Property, provides cold water fish habitat. The following characterization of fish habitat is derived from the D&A (2006) report, as described by NSE (2015).

Two reaches of Clythe Creek occur within the Study Area. Reach C7 is immediately downstream from Watson Road. The substrate is described as gravel and organic material. Reach C8 begins where the stream enters a stand of White Cedar. The Clythe Creek Subwatershed Overview (Ecologistics, 1998, cited in D&A 2006) describes the substrate as silt/organic, but D&A observed a lot of cobble substrate through this reach.

Clythe Creek is identified as a coldwater creek. Electrofishing by GRCA staff in 1990 captured seven fish species upstream from Watson Road in 1990. Of these, Mottled Sculpin requires cold water temperatures and the two *Phoxinus* are often considered cool water species. Additionally, during their March visit, D&A observed portions of the creek were unfrozen, consistent with groundwater inputs. Watercress was also observed to be common downstream of Watson Road and is also considered indicative of groundwater discharge.

D&A (2006) also noted that the existing culvert that conveys Clythe Creek under Watson Road is perched; that is, the elevation of the downstream end of the culvert is above the elevation of the creek. Thus, the water falls vertically out of the end of the culvert, creating a barrier to upstream fish migration. There are also several barriers to upstream fish migration in Clythe Creek downstream from Highway 7, through the reformatory lands (NSE 2015).

4.3. Terrestrial Vegetation

4.3.1. Ecological Land Classification

Vegetation communities within the study area have been characterized and mapped according to Ecological Land Classification (ELC) protocols (Lee et al. 1998) in 2013 by NSE (**Appendix 1, Figure 2**). Vegetation communities include:

- Red-osier Dogwood Mineral Thicket Swamp (SWT2-5)
- Reed Canary-grass Mineral Meadow Marsh (MAM2-2)
- Cattail Mineral Shallow Marsh (MAS2-1)
- Dry-Fresh White Cedar Coniferous Forest (FOC2-2)
- Scots Pine Coniferous Plantation (CUP3-3)
- Mineral Cultural Meadow (CUM1-1)
- Anthropogenic Area

Additional field studies undertaken as part of the current EIS identified the presence of a new wetland feature, a Red-Osier Dogwood Mineral Thicket Swamp (SWT2-5) (0.08 ha in size) (**Appendix 1, Figure 2**) occurring within an area previously identified as Cultural Meadow (CUM1-1). This thicket swamp is dominated by Red-Osier Dogwood (*Cornus sericea*) in the shrub layer, with Canada Goldenrod (*Solidago canadensis*) dominant in the understory. Species composition has remained relatively unchanged from 2013; both Red-Osier Dogwood and Yellow Sedge (*Carex flava*), wetland indicator

species, were present in 2013, but have since increased in abundance. A mix of upland and wetland, herbaceous and graminoid species occur in the groundcover. The GRCA has confirmed the feature as a wetland.

4.3.2. Flora

Eighty-four (84) flora species have been recorded on the site. No SAR, provincially rare, or regionally rare (Riley 1989) species were noted on the site. One significant flora species (locally significant in Wellington County according to Frank and Anderson 2009) was noted. Sweet Grass (*Anthoxanthum nitens*) was recorded on the south bank of the creek. Its location is shown in **Appendix 1, Figure 2**.

4.3.3. Tree Inventory

The subject property is highly disturbed and contains minimal trees. The trees that are present are primarily trees with small diameters. A tree inventory was completed by an ISA Certified Arborist. As part of the tree inventory, 52 trees over 10 cm diameter at breast height (DBH) were inventoried on the subject property or on adjacent lands within 6 m. The most abundant tree species were: Willow (*Salix sp.*), Balsam Poplar (*Populus balsamea*), Eastern Cottonwood (*Populus deltoides*) Eastern White-cedar (*Thuja occidentalis*), and Scots Pine (*Pinus slyvestris*).

Compensation will be required for regulated trees that will be removed. Tree protection measures will be implemented to protect retained trees. Please refer to the arborist report for further details (NSE, 2023).

4.4. Fauna

4.4.1. Birds

Surveys conducted in 2013 recorded 28 species of breeding birds were on the subject or adjacent to the subject property, evidence of breeding was noted for 24 of these. Most of these were generalist species that are common in a variety of habitats in urban and agricultural landscapes in southern Ontario, such as American Robin, Gray Catbird and House Wren. Five of the species recorded in 2013 are locally significant in both the City of Guelph and Wellington County (**Table 2**). Four of them are considered area sensitive, requiring larger tracts of habitat. None of the species are classified as SAR provincially or federally.

Surveys conducted in 2022 recorded 22 bird species on the subject property and adjacent lands. The majority of the species recorded were common species in Ontario, such as American Crow, Canada Goose, Mourning Dove, and Northern Cardinal. Five of the species are considered significant in Wellington County. Of these, three had possible or probable breeding evidence (Baltimore Oriole, Field Sparrow, Savannah Sparrow). The other two species, Great Blue Heron and Osprey were only observed as flyovers and there was no evidence of them breeding on the subject property (**Table 2**). Four of the species recorded are locally significant in the City of Guelph, three of them having

possible or probable breeding evidence. One species, Savannah Sparrow, is considered an area sensitive species, requiring more larger tracts for their habitat. However, this species is common in Ontario, including in the Guelph area, because it nests in croplands and other disturbed open environments, and unlike other area-sensitive grassland species it can be found in urban environments such as hydro corridors. None of the species are SAR.

Table 2 provides a list of regionally uncommon, area sensitive, and SAR breeding birds observed in the study area. These are also illustrated on **Appendix 1, Figure 2**.

Table 2. Regionally uncommon, area sensitive, or SAR breeding birds observed in the Study Area.

Scientific Name	Common Name	SARO	SARA	Wellington (regionally significant)	Guelph (locally significant)	Area Sensitive	Breeding Evidence
<i>Ardea herodias</i> ¹	Great Blue Heron			X	X	FALSE	Observed
<i>Butorides virescens</i> ²	Green Heron			X	X	FALSE	Probable
<i>Empidonax alnorum</i> ²	Alder Flycatcher					TRUE	Probable
<i>Empidonax traillii</i> ²	Willow Flycatcher			X	X	FALSE	Possible
<i>Icterus galbula</i> ¹	Baltimore Oriole			X	X	FALSE	Probable
<i>Pandion haliaetus</i> ¹	Osprey			X		FALSE	Observed
<i>Paserculus sandwichensis</i> ^{1,2}	Savannah Sparrow		SC	X	X	TRUE	Probable
<i>Setophaga pinus</i> ²	Pine Warbler			X	X	TRUE	Possible
<i>Setophaga ruticilla</i> ²	American Redstart			X	X	TRUE	Probable
<i>Spizella pusilla</i> ¹	Field Sparrow			X	X	FALSE	Possible

¹ NSE (2022); ² NSE (2015)

4.4.2. Amphibians

4.4.2.1. Amphibian Calling Surveys

Five anurans were documented during the 2022 Amphibian Breeding Surveys: Gray Treefrog (*Hyla versicolor*), Green Frog (*Lithobates clamitans*), Northern Leopard Frog (*Lithobates pipiens*), Wood Frog (*Lithobates sylvaticus*) and Spring Peeper (*Pseudacris crucifer*). All these species were recorded at Station 1 (at the existing sedimentation pond, MAS2-1) with a calling code of 1, with between 1 and 3 individuals calling. No individuals were recorded at Station 2 (SWT2-5 - the new wetland feature) during any of the three surveys.

5 anurans were documented during the 2013 Amphibian Breeding Surveys: Gray Frog, Green Frog, Northern Leopard Frog, Spring Peeper, and American Toad. The floodplain pond (MAM2 off-property) provided breeding habitat for small numbers of Leopard Frogs, and possibly for small numbers of Gray Treefrogs. The small dug pond above the floodplain (MAS2-1 – Station 1 in 2022) provided breeding habitat for small numbers (between 1 and 3 individuals) of Spring Peepers, Leopard Frogs, and Green Frogs, and moderate numbers of Gray Treefrogs (approximately 15-20 individuals). American Toad was recorded in low abundance in the stormwater pond located west of the subject property.

4.4.2.2. *Amphibian Movement Surveys*

Road surveys were undertaken by NSE in 2013 to identify patterns of amphibian movement / crossing along Watson Road North. "Amphibian movement was noted between the floodplain on the site and the floodplain to the east of Watson Road North, along Clythe Creek. In order to move across Watson Road North, amphibians must cross the road, as the culvert does not provide suitable habitat to promote amphibian movement, particularly from west to east (there is an approximately 40 cm drop on the west side of Watson Road between the edge of the culvert and the creek). Mortality of amphibians was evident on Watson Road North" (NSE 2015).

As conditions of the culvert have not changed since the time of the previous assessment, it has been reasonably assumed that amphibian movement has remained the same.

4.4.2.3. *Ambystoma Salamander Surveys*

No salamanders or salamander egg masses were observed during surveys in 2013. No incidental observations were made in subsequent surveys in 2015 and 2022.

4.4.3. Incidental Wildlife

Records of incidental wildlife were recorded during all site visits.

4.4.3.1. *Turtles*

Evidence for one species of turtle was found on the property: an excavated Snapping Turtle nest was noted in early 2013 adjacent to the small sedimentation pond on the site (NSE 2015). Since Snapping Turtles tend to nest later in the summer this nest was likely from the previous year and had been dug up by a predator (for example Raccoon, Red Fox or Striped Skunk). This species is considered provincially significant, and of Special Concern both federally and provincially.

A predated turtle nest of unknown species was identified during the October 2022 site visit, also occurring adjacent to the sedimentation pond.

4.4.3.2. *Crayfish*

Chimney Crayfish burrows were noted on the floodplain in 2013 (NSE 2015).

4.4.3.3. Mammals

The following four mammals were recorded during 2013 field surveys: Star-nosed Mole, Meadow Vole, Coyote, and Striped Skunk.

4.5. Species at Risk

One SAR was recorded within the study area:

- Snapping Turtle (Special Concern - ESA): A predated Snapping Turtle nest was observed in 2013. An additional predated turtle nest of an unknown species (potentially Snapping Turtle) was observed in 2022. The nest location in both instances was along the south edge of the sedimentation pond (MAS2-1). There is potential for Snapping Turtle to use the sedimentation pond, the stormwater pond off-property, and aquatic/wetland habitat along Clythe Creek (off-property). Snapping Turtle may move overland between these habitat patches.

Snapping Turtle, as a species of Special Concern, is not protected under the *Endangered Species Act*, but its habitat is protected as Significant Wildlife Habitat.

There is high potential for one additional SAR to use habitat on the subject property:

- Midland Painted Turtle (*Chrysemys picta marginata*) - Special Concern (ESA)

The SAR screening table is attached as **Appendix 5**.

5. Evaluation of Significance, Constraints, and Buffers

5.1. Significant Wetlands

The City's Official Plan (Section 4.1.3.4) protects Provincially Significant Wetland (PSW) and Locally Significant Wetlands.

5.1.1. Clythe Creek PSW Complex

The Clythe Creek PSW Complex occurs adjacent to the Subject Property. The boundary of this wetland was delineated (staked and surveyed) in 2022, together with GRCA. The City's policies (Section 4.1.3.4) require a minimum 30-m buffer which is shown on **Appendix 1, Figure 3**.

Based on the results of this EIS, a buffer greater than the 30-m minimum is not warranted.

5.1.2. Assessment of New Wetland Feature (SWT2-5) for Provincial and Local Significance

5.1.2.1. Analysis of Provincial Significance

In consideration of the new swamp thicket wetland feature (SWT2-5) (0.08 ha in size) identified during 2022 fieldwork, consultation was undertaken with MNRF between August and November 2022 to determine whether complexing with the adjacent PSW was appropriate.

Per the OWES Manual, "...wetland units less than 2 ha in size may be included as part of the complex. Such tiny wetlands may be recognized when, in the opinion of the [OWES] evaluator, the small wetland pocket may provide important ecological benefit. Some examples of such benefits would be: a grassy area used by spawning pike; an area containing a community or specimen of a rare or unusual plant species; a seepage area in which a regionally or provincially significant plant or animal species is found; or a wetland which strengthens a corridor link between larger wetlands or natural areas."

NSE Staff, Izabela van Amelsvoort and Sarah Mainguy (both OWES-Certified), provided additional context relevant to the above and concluded that there is not sufficient rationale to justify including the new wetland feature as part of the existing Clythe Creek PSW Complex. All species noted within the wetland are found abundantly throughout the adjacent Clythe Creek wetland. No regionally or provincially rare species or plants, significant wildlife habitat, or seepage areas were identified in / associated with the feature. Hydrogeological studies undertaken by Palmer Environmental Consulting Group indicated that this newly identified wetland feature is supported by surface water, and is not hydrologically connected to the adjacent Clythe Creek PSW Complex by groundwater or surface water.

The new wetland feature occurs within an Ecological Linkage, as identified by the City of Guelph Official Plan (see attached Figure). The Ecological Linkage ranges between 90 m in the area of the new wetland feature (adjacent to Watson Road North) to 150 m at its widest point. Environment Canada, in their 'How Much Habitat is Enough?' Guidelines (2013), identify that linkages and corridors should be a minimum of 50 to 100 m in width. The feature does not provide any new linkage areas beyond those that are already identified within the protected area. It does not contribute to linkage between larger wetlands or natural areas by filling a gap in the connection.

Amphibian movement studies, undertaken by NSE in 2013, indicate that frogs crossing the road at Watson Road North, do so primarily in the area of the bridge / culvert (associated with Clythe Creek). The new wetland feature occurs 25 m north of this crossing. It is also worth noting that as part of existing proposed development commitments, wildlife fencing will be installed along the length of Watson Road North to direct amphibians and other (small) wildlife to an improved crossing at Clythe Creek.

Since an existing Ecological Linkage already exists, which meets minimum recommended widths, and (small) wildlife crossing will be directed to Clythe Creek, the identification of the new wetland feature as part of the adjacent PSW will not strengthen the linkage connection.

MNRF provided a response which confirmed their agreement with this assessment (**Appendix 3**).

5.1.2.2. *Analysis of Significance According to City of Guelph Policies*

According to the City’s OP definitions, a Locally Significant Wetland means: “an evaluated wetland of at least 2 ha in size which is not identified as provincially significant, and an unevaluated wetland of at least 0.5 ha in size”. Considering the new swamp thicket wetland feature (SWT2-5) is 0.08 ha in size, it does not meet the definition as a Locally Significant Wetland.

5.1.2.3. *Analysis of Significance According to GRCA Policies*

GRCA regulates wetland features according to their policy manual (GRCA 2015). Policy 8.4.4. states that development within a naturally-occurring wetland may be permitted where the wetland is less than 0.5 hectares (1.24 acres), and it can be demonstrated that the wetland is not (analysis of whether the wetland meets each criteria is provided in italics under each criterion):

- a) part of a Provincially Significant Wetland,
 - a. *confirmed as not part of Clythe Creek PSW*
- b) located within a floodplain or riparian community,
 - a. *not located within a floodplain or riparian community.*
- c) part of a Provincially or municipally designated natural heritage feature, a significant woodland, or hazard land,
 - a. *does not meet these criteria*
- d) a bog, fen,
 - a. *not a bog or fen*
- e) fish habitat,
 - a. *does not support fish habitat, directly or indirectly.*
- f) significant wildlife habitat,
 - a. *is not significant wildlife habitat*
- g) confirmed habitat for a Provincially or regionally significant species as determined by the Ministry of Natural Resources and Forestry or as determined by the municipality,
 - a. *not confirmed habitat for Provincially or regionally significant species.*
- h) part of an ecologically functional corridor or linkage between larger wetlands or natural areas,
 - a. *the wetland is within the buffer to the Clythe Creek wetland, which is denoted as “Linkage” on Schedule 10 of Guelph’s OPA 42. However, as has been argued in the analysis of whether it should be considered part of the PSW, it provides no additional function that enhances this linkage. It is too small to have an ecological contribution to the linkage. It does not fill a gap in the connection between two larger features, and so*

does not provide an ecologically functional corridor or linkage between larger wetlands or natural areas.

- i) part of a groundwater recharge area, or
 - a. *not part of a groundwater recharge area*
- j) a groundwater discharge area associated with any of the above.
 - a. *not part of a groundwater discharge area.*

We conclude that the “new” wetland does not meet the criteria for protection as outlined by GRCA. Furthermore, most of the wetland is located within the wetland buffer to Clythe Creek PSW, and most of the wetland will be protected within this buffer.

5.2. Significant Woodlands

Significant Woodlands are defined by the City OP as “woodlands that are ecologically important in terms of features such as species composition, age of trees and stand history, functionally important due to its contribution on the broader landscape because of its location, size or due to the amount of remaining forest cover in the city”. Section 4.1.3.6 provide criteria for identification:

1. Woodlands (not identified as cultural woodlands or plantations) or 1 ha in or greater in size
2. Woodlands 0.5 ha or greater in size consisting of Dry-Fresh Sugar Maple Deciduous Forest
3. Woodland types provincially ranked as S1, S2, or S3 by the MNR NHIC

Woodlands identified according to ELC include Dry-Fresh White Cedar Coniferous Forest (FOC2-2) and Scots Pine Coniferous Plantation (CUP3-3). Although identified as plantation according to ELC, the CUP3-3 community does not meet the City’s OP definition of plantation (which includes tree communities managed for tree products, etc.), and is therefore included in consideration for the Significant Woodland assessment.

Woodlands within the study area (which are all south of the property boundary) are greater than 1 ha in size and therefore meet criteria 1 for identification as Significant Woodlands. Criteria 2 or 3 are not met.

The City’s policies (Section 4.1.3.6) require a minimum 10-m buffer. Please note only the greatest constraint has been mapped on **Appendix 1, Figure 3**. As the woodland occurs south of the mapped PSW, its buffer is not shown.

5.3. Significant Valleyland

Policy Context

Significant Valleylands (Undeveloped Portions of the Regulatory Floodplain) mapped on the City’s OP Schedules are associated with the Clythe Creek floodplain. A portion of significant valleyland

(undeveloped portions of the regulatory floodplain) extend onto the subject property. As indicated in Clause 6 of the OMB settlement (June 2014), boundaries of the Significant Valleyland may be refined through a development application in accordance with City OP policies.

The boundaries of the Clythe Creek floodplain (and associated valleyland) were refined by Odan Detech Consulting Engineers through a modelling exercise based on site topography (to be reviewed by GRCA), in accordance with the floodplain policies of the City's OP (Section 4.4.1) (**Appendix 1, Figure 3**).

The City's OP defines Significant Valleylands as: "a protected natural heritage feature or area that occurs in a valley or other landform depression that has water flowing through or standing for some period of the year. This includes regulatory floodplains / riverine flooding hazards, riverine erosion hazards and apparent / other valleylands ecologically important in terms of features, functions, representativeness, or amount, and contribution to the quality and diversity of the Natural Heritage System".

The objectives of the City's OP are "to protect Significant Valleylands associated with the Speed and Eramosa Rivers, including the remnant representative valley features and apparent valleys associated with the river system and their tributaries" (Section 4.1.3.7).

Section 4.1.3.7 of the City's OP also provides two criteria for the identification / designation of Significant Valleylands as follows:

1. "Undeveloped areas within the regulatory floodplain areas, riverine flooding hazards, riverine erosion hazards, as identified by the GRCA" (Section 4.1.3.7.1); or
2. "The remnant portions of the Speed and Eramosa Rivers, identified by the City, that are relatively undisturbed and represent the quality and diversity of the physical expression of the river system on the landscape and measures to the uppermost break in slope associated with the valley and including the terraces on the valley slopes" (Section 4.1.3.7.2)

The valleyland occurring on the Subject Property is associated with Clythe Creek (and not the Speed or Eramosa Rivers per the second criterion) as such, the assessment focuses on the first criterion and the developed / undeveloped state of mapped floodplain areas.

Off-property to the East

The valleyland located to the east of the subject property includes the Clythe Creek floodplain and is associated with naturally vegetated communities, including wetland communities swamp thicket, meadow marsh, and some cultural meadow.

Swamp thicket communities are comprised of Red-osier Dogwood, Glossy Buckthorn (*Rhamnus frangula*) and Common Buckthorn (*Rhamnus cathartica*) in various degrees of dominance. A diversity of native and non-native graminoids and herbaceous species occur in the understory.

Portions of the meadow marsh are dominated by the non-native Reed Canary-grass (*Phalaris arundinacea*) but support a diversity of native species as well.

In contrast to the cultural meadow occurring adjacent to Watson Road N, the cultural meadow occurring as part of the riparian vegetation is considered less disturbed; it does not occur within an area of previous disturbance (grading / addition of fill).

Although impacted by non-native, invasive species, the floodplain in this section of Clythe Creek remains in a relatively natural (unaltered) state and is considered 'undeveloped'. As such, it is determined to meet the criteria for designation as Significant Valleyland (**Appendix 1, Figure 3**), and will be subject to City OP policies under Section 4.1.3.7.

Northeast Edge of Subject Property (South Side of Watson Rd N)

Where the floodplain runs parallel to Watson Road N, along the northeastern property boundary, it overlaps mainly with the Watson Road N right-of-way as well as disturbed areas including cultural meadow. These are areas of fill / gravel with limited vegetation growth. An access road enters the property from Watson Road North. Just west of the subject property, a driveway provides access to the Watson Park Apartments off Watson Road North (**Appendix 1, Figure 3**).

The cultural meadow community has grown in an area of previous disturbance, where vegetation had been removed. The community is dominated by Canada Goldenrod (*Solidago canadensis*) with Kentucky Bluegrass (*Poa pratensis*) and Cow Vetch (*Vicia cracca*).

The Subject Property itself, identified as Anthropogenic Area, (which still shows signs of grading) is sparsely vegetated with very early successional species, most of them non-native, such as Birds'-foot Trefoil (*Lotus corniculatus*), Yellow Sweet Clover (*Melilotus officinalis*) and Viper's Bugloss (*Echium vulgare*). Bare ground is visible between small clumps of vegetation throughout most of the site.

Where the floodplain runs parallel to Watson Road North, it was observed to be highly disturbed by construction of the road and its associated embankment and ditches, as well as by grading of the site itself. Water has never been observed in this area over the years of study for the initial EIS and the present updates. Previous vegetation clearing, grading and addition of fill / gravel have resulted in a condition which is considered to be 'developed'. As such, it is determined that this portion is not "undeveloped" and does not meet criteria for designation as Significant Valleyland. This area will be naturalized and enhanced as part of the proposed community park. Please see correspondence with the City (J. Elliott, Environmental Planner, January 12, 2023), included in **Appendix 3**.

Off-property to the North (North Side of Watson Road N)

Although vegetation community surveys were not undertaken north of Watson Road N, based on observations made from the roadway, as well as orthoimagery interpretation, communities include meadow marshes along the banks of Clythe Creek, with adjacent thickets and woodlands. Communities are considered to be in a relatively natural / undisturbed state. As such, it is determined to meet the criteria for designation as Significant Valleyland.

Conclusion

The relatively natural / undisturbed portions of the Clythe Creek floodplain to the south, off-property, meet the criteria for designation as Significant Valleyland. The portion of the floodplain along Watson Road on the east side of the subject property is disturbed and does not meet criteria for designation as Significant Valleyland (**Appendix 1, Figure 3**).

5.4. Significant Wildlife Habitat

A Significant Wildlife Habitat assessment was completed by according to Ecoregion Criteria Schedules for Ecoregion 6E (MNRF 2015) and Appendix D of the City's EIS Guidelines.

Five types of significant wildlife habitat (SWH) are confirmed to be present within the study area.

Confirmed SWH:

- Marsh Bird Breeding Habitat along Clythe Creek
 - Green Heron observed along Clythe Creek in 2013.
- Terrestrial Crayfish Habitat
 - Crayfish chimneys observed along Clythe Creek in 2013.
- Turtle Nesting Habitat
 - Snapping Turtle nest observed on the south rim of the sedimentation pond (MAS2-1) in 2013. Nest of an unknown turtle observed at the same location in 2022. However, human-made structures (ponds, road edges) are not considered SWH for turtle nesting.
- Species of Conservation Concern
 - Snapping Turtle (nest observed, as described above). For this category, the sediment pond would qualify as SWH for turtle nesting.
- Amphibian Movement Corridor associated with Clythe Creek (crossing Watson Road).

Candidate SWH:

- None

SWH is mapped on **Appendix 1, Figure 3**.

5.5. Ecological Linkage

Ecological Linkages have been identified through the OMB settlement (June 2014). The northernmost limit of the Ecological Linkage remaining on the lands is the same as the northern limit of the PSW buffer, based on a 30-m buffer (**Appendix 1, Figure 3**).

5.6. Surface Water Features and Fish Habitat

Clythe Creek is identified as a surface water feature and cold-water fish habitat. The City's policies (Section 4.1.3.5) require a minimum 30-m buffer. Please note only the greatest constraint has been mapped on **Appendix 1, Figure 3**. As the creek occurs within the identified PSW, its buffer is not shown.

5.7. Cultural Woodlands

Cultural Woodlands are identified on the City's OP Schedules. They are located off-property (north of Watson Road N, and south of Watson Parkway North). They have not been verified as part of this study (**Appendix 1, Figure 3**).

5.8. Other Wetlands

City Policies

City OP policies protect Other Wetlands (Section 4.1.4.2), which are defined as unevaluated wetlands of at least 0.2 ha and no more than 0.5 ha. Considering the new swamp thicket wetland feature (SWT2-5) is 0.08 ha in size, it does not meet the definition as Other Wetland.

GRCA Policies

GRCA Policy 8.4.1 states that development and interference within a wetland or development within an area of interference will not be permitted except in accordance with the policies in Sections 8.4.3-8.4.13. (GRCA, 2015)

GRCA policies under Section 8.4.4 protect naturally occurring wetlands which are less than 0.5 ha in size which meet a number of criteria (a-j), as discussed in Section 5.1.2.

Development within a wetland's Area of Interference (defined as 30 m for wetland smaller than 2 ha; **Appendix 1, Figure 3**) is also regulated per policy 8.4.9, if it does not meet the criteria in section 5.1.2. However, the new wetland feature does not contribute significantly to the ecological function of the linkage, and meets none of the other criteria, as discussed in Section 5.1.2. MNRF agreed with this conclusion. It is our conclusion that the wetland is therefore not subject to GRCA regulation, as discussed in that section.

5.9. Habitat of Significant Species

Habitat of Significant Species (according to EIS Guidelines Appendix H: Locally Significant Species List 2012) is associated with the following bird species recorded in 2013 and / or 2022: Green Heron, Willow Flycatcher, Pine Warbler, American Redstart, Savannah Sparrow, Field Sparrow, and Baltimore Oriole. Sweet Grass (*Hierochloa odorata*), also a locally rare species, was recorded in 2013 adjacent to the creek. Available species locations are mapped on **Appendix 1, Figure 2**.

Records of most of the above species are associated with vegetation communities occurring adjacent to the Subject Property, along the Clythe Creek floodplain or in forests on the south side of the floodplain.

Savannah Sparrow and Field Sparrow were recorded within the anthropogenic field occurring on the Subject Property. However, this part of the site, where vegetation is very sparse, does not contribute significantly to this species' habitat.

5.10. Natural Hazards

As per the City's Official Plan and GRCA mapping, the floodplain associated with the Clythe Creek watercourse occurs along the northern boundary of the Subject Property (associated with the Significant Valleyland). It is considered a natural hazard.

The boundaries of the Clythe Creek floodplain (and associated valleyland) were refined by Odan Detech Consulting Engineers through a modelling exercise based on site topography (to be reviewed by GRCA), in accordance with the floodplain policies of the City's OP (Section 4.4.1) (**Appendix 1, Figure 3**).

5.11. Buffers

Buffers to natural features have been identified above. **Appendix 1, Figure 3** illustrates the maximum extent of all buffers. Buffers should consist of natural, self-sustaining vegetation and are a component of the overall approach to avoid and mitigate impacts from the proposed development on natural features and their ecological functions.

6. Proposed Development

The proposed development is for a mixed-use residential development. The proposal includes four mixed-use buildings (Buildings A, B, C, D) ranging in height from 10 to 14 storeys, town homes, and a public park area. Approximately 873 apartment units and 197 town home units are proposed, for a total of approximately 1070 units. A conceptual site plan is shown on **Appendix 1, Figure 4**.

7. Proposed Restoration, Enhancement and Stewardship

This section describes the stewardship and restoration activities that were included in the OMB settlement. Additional mitigation prescribed for specific impacts, which may include restoration, can be found in Section 8.

7.1. Amphibian Pond Relocation

A temporary sedimentation pond was constructed on the property sometime before 2006 as a result of grading activities. As part of the OMB agreement (June 2014), Clause 5, the applicant will relocate the temporary sedimentation pond (MAS2-1) onto the adjacent City land, at its own expense. As per the OMB agreement, "a small-scale sedimentation basin exists on the lands at the location shown on Schedule R as a result of past grading activities, which is temporary and will be decommissioned at the time of development consistent with the existing zoning and official plan approvals dated September 3, 2022. The City and the Appellant agree that the Appellant shall mitigate potential impacts resulting from the decommissioning of this basin on amphibian breeding habitat by creating/establishing an alternative amphibian breeding pond in a location outside the property boundary of the subject lands and on the adjacent City owned lands within the area marked as Minimum Buffer on Schedule P-2 in order to provide comparable habitat function to that provided by the basin in its current location. The detailed location and design of the amphibian breeding pond will be established as part of a future site plan to the satisfaction of the City. This shall be at the sole expense of the appellant". The OMB agreement is included in **Appendix 3**.

Four anuran species were observed calling (demonstrating presumed amphibian breeding) at this location in 2013: Spring Peeper, Leopard Frog, Green Frog, Gray Treefrog. Spring Peeper and Wood Frog were heard calling at this location in 2022. American Toad may occasionally use this pond as it was recorded using the nearby stormwater management pond to the west in 2013. This pond has a higher function to support amphibian breeding than any other part of Clythe Creek in the vicinity of the property, and populations of amphibians would likely decline if it were removed.

The pond will be relocated to adjacent City lands to the southeast, within the buffer to the PSW, in the proposed location shown on **Appendix 1, Figure 4**.

It should be designed so that it will have a similar depth (~> 1 m in spring, 30-40 cm by later summer) as observed in 2013 field surveys, though it should also incorporate variable depths to improve overall ecological function for an assortment of wildlife species (beyond amphibians) and to provide built-in climate resistance to extreme weather events (summer drought, cold winters). The banks for the pond should be shallowly sloped to permit entry and exit by breeding amphibians. Vegetation should be planted within the pond and fringing the banks and should incorporate a variety of native species, thus strengthening biodiversity, providing cover from predators, and providing various habitat and food sources for an assortment of wildlife.

Snapping Turtle, and potentially Midland Painted Turtle, may use the pond, as indicated by predated turtle nests along the south rim. Incorporation of deep pools within the pond design should be considered as it would provide potential habitat for turtle overwintering. Incorporation of basking structures (logs, rocks) should also be considered.

As part of the design development, it is recommended that incorporation of turtle nesting habitat be considered to replicate the habitat present beside the existing pond. Sand could be installed in a sunny area near the pond, in a location that would not conflict with the proposed trail.

The new pond location is ecologically preferable to the current location. The new location will strengthen the existing natural heritage system by converting existing culturally disturbed upland meadow to a naturalized pond. The new location will be closer to Clythe Creek and between the creek and the stormwater pond, thereby acting as stepping-stone habitat, which is especially important for amphibians and turtles, and also to other wildlife species. The pond will also be further away from the proposed development, thus mitigating impacts from noise, lighting, pets, etc.

Overall, it will improve the ecological function of the Clythe Creek riparian corridor (part of the City's Natural Heritage System).

7.2. Natural Heritage System Trail

The Guelph Trail Master Plan (May 2021) presents the City's vision and goals for its trail network. As part of the Plan, proposed trails have been identified (Map 3: Proposed Trails). As per Map 3, a City trail is proposed to form a loop around the subject property. According to the trail classification shown in Table 3 of the Guelph Master Trail Plan (May, 2021) the trail would most likely correspond with a Secondary Trail, described as follows: *"Secondary trails have a recreational focus and generally have a granular surface material. This makes them most appropriate for moderate volumes of walking, running, most mobility devices, and cycling. Secondary trails may form large connected loops, connect to other trails or may form stand-alone loops."* The trail would run along the west side of Watson Parkway North, then cross the road and run south of the stormwater management pond, then along the north side of Clythe Creek to Watson Road North, then north along the road until the junction with Watson Parkway North. The trail location is conceptual. As per the City of Guelph's website, *"separate studies and construction drawings will be developed to determine the precise locations of future trails and their infrastructure designs."*

The proposed development will include a trailhead that will lead from the south end of the central street to the proposed trail. A Trailhead from the subject property has been identified and is included on the site plan in **Appendix 1, Figure 4**.

Based on this study, and previous ecological studies completed on City lands adjacent to this site (e.g., 2013 and 2015 EIS Updates), the trail design should avoid impact to significant vegetation, and

sensitive habitats (e.g., locations of seepage). A further site visit should be made with agencies to walk and stake a potential trail alignment and discuss potential impacts and mitigation. The Trail Master Plan permits trails in buffers in certain circumstances. It notes that when evaluating an existing buffer for the addition of a trail or designing a buffer with intention to include a trail, the following factors should be considered, as shown in Table 3.

Table 3. Evaluation of Wetland Buffer Factors for Trail Suitability

Buffer Factor	Description	Buffer Meets Criteria for Trail Inclusion?
Natural Area Characteristics	The significance and sensitivity of the natural area that the buffer is intended to protect should be considered. Where ecological communities immediately adjacent to the buffer are highly sensitive to disturbance, a trail may not be appropriate	Yes; Clythe Creek has persisted as part of a highly urbanized matrix
Buffer Width	Depending on the significance and sensitivity of the natural area, a minimum of 10-30 meters should be available for the placement of a secondary trail. It is generally recommended that trails be situated toward the outer portion of the buffer zone. Buffers that are 10 m or more may be suitable for a tertiary trail where the risk of ecological impact is low. Buffers that are below 10 m wide are not suitable for trails.	Yes: buffer width is 30 m
Buffer Characteristics	Retention of the character and function of a buffer (i.e., vegetation community composition, structure, and function) should be considered. An Environmental Impact Study may be required to support the construction of a trail or trail modification adjacent to a core natural area such as a wetland. A trail may be permitted in a buffer if it meets the policy tests (passive recreational use/feature-specific permitted uses) and site conditions (slope/ topography/ trees/ vegetation/ drainage) are conducive to accommodating the proposed trail without resulting in a negative impact to the natural heritage system’s features and functions. If the trail does not meet these tests, it is not permitted.	To be determined. Buffer is within an area that has been graded and filled in the past, and is composed of successional species, with a large proportion of non-native species, and is resilient. The trail will be designed to enhance the function of the buffer through plantings and sensitive design. However, the trail alignment will need to be assessed in detail as part of the detailed design, as it is on City property.
Mitigation Ability within the Buffer	The effect(s) of the trail should be manageable through mitigation within the buffer, with the result being no	Yes: impacts of the trail will be managed through mitigation and

Buffer Factor	Description	Buffer Meets Criteria for Trail Inclusion?
	loss of function of the buffer (e.g., additional plantings within the buffer).	appropriate design, with additional plantings
Mitigation Ability within the Natural Area	The effect(s) of the trail should be manageable through mitigation within the natural area, with the result being no negative impact to the feature or its function (e.g., providing wildlife crossing structures under trails crossing ecological linkages to facilitate safe movement of amphibians, reptiles and small mammals). Measures that would avoid or mitigate impacts within core natural areas and their buffer zones should be implemented where necessary.	Yes: the trail will be designed so there will be no negative impacts to the feature or its functions

The trail alignment should also consider the following constraints. It is recommended that overland movement by amphibians and turtles be considered - it is likely that these species move between the creek, the stormwater pond, and the sedimentation pond. The new location of the sedimentation pond should not impede or threaten overland movement. Movement of turtles between wetland/aquatic habitat and their nesting habitat should also be considered as a part of trail planning to avoid human/wildlife conflicts along the trail. Routing of the trail should not impede passage of wildlife between the relocated sedimentation pond and the creek.

Within the natural heritage system, the trail should be the minimum trail width required as per City policies to minimize impact to the environment (3m). It is recommended the trail have a natural surface, noted as suitable for trails within the Natural Heritage System.

The trail system will facilitate nature appreciation and promote nature stewardship to current and future residents in the area. It will help to direct residents and other trail users through the least sensitive areas along the Clythe Creek corridor. Potential impacts of the trail, assuming these parameters are applied, are discussed in **Section 8.8**.

7.3. Greenscaping of Grounds and Road Frontages

The subject property has an anthropogenic history, having been graded pre-2006 and being largely devoid of vegetation since then. At one time the property was used for agricultural purposes (as seen on a 1954 air photo of the area).

As part of the site design, a conceptual landscape plan has been prepared that will see the property greenscaped. It is anticipated that trees, shrubs, and herbaceous vegetation will be installed throughout the property along streets, around apartment buildings, and along road frontages (Watson Road North, Watson Parkway North). Topsoil should be added to improve growing conditions. It is understood that parkland will be dedicated along Watson Road and will be 4488m².

Existing tree cover is sparse and primarily consisting of low-value trees (e.g., non-native willows, Manitoba Maples) with limited species diversity. The landscaping plan should incorporate an assortment of higher value trees (incorporating native species, pollinator-friendly species, bird friendly species such as fruit trees, etc.).

The greenscaping of the development lands will improve neighbourhood aesthetics, improve climate resilience (increased tree cover will provide shade, reduce heat island effects, and reduce atmospheric CO²), and provide wildlife habitat.

7.4. Enhancement Plantings within the Buffer

Enhancement plantings of trees, shrubs, and herbaceous species are recommended within the 30 m buffer to the riparian corridor along Clythe Creek. Plantings should incorporate native, self-sustaining vegetation.

The buffer plantings will strengthen the ecological function of the Natural Heritage System by creating a wider linkage / corridor for species movement and genetic exchange, buffering more sensitive features associated with the PSW (seepage, significant species), and buffering more sensitive functions (SWH for marsh breeding birds, terrestrial crayfish, amphibian movement).

7.5. Enhanced Amphibian Movement Corridor

Per the OMB agreement, Clause 4, *“(the applicant) will, at its own cost install improvements under Watson Road North to improve amphibian movement within the area of the Ecological Linkage as part of a future site plan or other development application for the Lands. These improvements are to be based on best management practices, current science, and design as it relates to amphibian movement structures, and incorporate the following, and shall be to the satisfaction of the City, acting reasonably: a) changes to the Clythe Creek under Watson Road North to promote amphibian passage and/or installation of amphibian passage structure(s) to the north of Clythe Creek between the east side (floodplain) and the west side (wetland); b) barriers along the east and west sides of Watson Road North to discourage amphibian movement over the road and funnel movement to encourage use of the culvert(s)/structure(s)”* (OMB, 2014).

In the interim since the OMB settlement, North-South Environmental Inc. has been commissioned by the City of Guelph to complete guidelines for wildlife crossing structures within its jurisdiction. The guidelines are scheduled for release to the public on October 20, 2023 via an information report to council. It is proposed that these City guidelines be followed in the detailed design.

A proposed preliminary location for the crossing structure is provided in **Appendix 1, Figure 4**. As described in the 2015 EIS Update, as based on the 2013 amphibian movement surveys, “frogs were noted on the road primarily near the bridge (over the Clythe Creek floodplain) indicated that they likely follow the creek to the culvert and then go up and over the road, rather than moving through

the culvert under the bridge. This may be because the culvert is a drop structure on the west side (under the bridge). Thus, frogs could move through the culvert going west, but would fall approximately 40 cm into a pool on the west side of the culvert. It is unlikely they could jump from the pool up into the culvert going east. The culvert is approximately 1 m in diameter and water flowed through at a relatively fast rate during all surveys.”

The new crossing structure will facilitate amphibian movement under Watson Road North, and serve as an alternative to movement over the road. The design should include barriers (amphibian and reptile fencing) along both sides of Watson Road North to discourage movement over the road and to funnel movement into the crossing structure.

The improved design should reduce amphibian roadkill at this location which is an important consideration given the increase of traffic at this location over the last decade due to recently completed developments and given the increase of traffic from the proposed development.

It is anticipated that the improved design will also benefit other semi-aquatic species (such as turtles) and may also benefit terrestrial species (such as mammals). As such it will improve wildlife passage along the riparian corridor along Clythe Creek (part of the City’s Natural Heritage System).

8. Impact Assessment, Avoidance Alternatives, and Recommended Mitigation

Potential impacts to the natural environment as a result of the proposed development may be short-term (i.e., occurring during construction and resolving a short time after construction) or long-term (i.e., lasting effects of construction or effects resulting from use of the subject property). Where impacts cannot be avoided, they can be minimized by incorporating mitigation measures into the project design and implementing mitigation measures during construction. The potential impacts of the project, avoidance alternatives, and the recommended mitigation measures to reduce net effects on the natural environment are summarized below.

8.1. Surface Water and Groundwater

8.1.1. Impact Assessment

Short-term impacts to surface water and groundwater as a result of construction are primarily related to erosion, sedimentation, and chemical spills. Vegetation removal, grading, and excavation during construction will leave soils exposed and vulnerable to erosion, which can lead to sediment inputs into watercourses and other hydrologic features. Sediment can impact water quality as it is considered deleterious to freshwater ecosystems since it increases turbidity, reduces dissolved oxygen and can carry additional harmful pollutants such as phosphorus, nitrogen and heavy metals. Sediment is considered a pollutant by MECP and sediment inputs into surface water features are classified as

pollutant spills. Other pollutants which are commonly found on construction sites include fuels and oils for machinery. Accidental spills of these pollutants can contaminate surface water and groundwater.

Long-term impacts to surface water and groundwater related to the residential development could include the release of fuel, oil, and other contaminants from parked vehicles; runoff or infiltration of road salt from winter property maintenance; and runoff or infiltration of fertilizers or herbicides.

Long-term impacts to groundwater without mitigation could include changes to pre-development infiltration values. The soil conditions are suitable for at-source infiltration of precipitation (Palmer 2023).

A pre-development water balance was completed as part of the Palmer report. As per the report, "the pre-development runoff from the site was calculated to be 7,730 m³/year and the calculated infiltration is 18,036 m³/year. Based on the topographic profile and estimated runoff flow, it was determined that 3,439 m³/year of runoff contributes to the wetland complex, and 8,025 m³/year of infiltration contributes to the regional groundwater system" (Palmer 2023).

A post-development water balance was completed. *"Post-development runoff from the site was calculated to be 30,580 m³/year (+396%), and infiltration was 8,971 m³/year (-50%). A feature based pre-to-post development water balance was also completed for the large wetland complex to the southeast of the site boundary. As the complex is primarily surface water supported, the focus of the feature-based water balance is on maintaining runoff. The calculated runoff from the site is 3,439 m³/year. Post-development, assuming no runoff from the site contributes to the wetland, the runoff value is 551 m³/year (-84%).* (Palmer 2023). Without mitigation, there would be a deficit of runoff to maintain the function of the wetland.

8.1.2. Avoidance Alternatives

To avoid direct impacts to surface water features, the site plan has incorporated a 30 m buffer to the Clythe Creek riparian corridor. It retains within the buffer most of the thicket swamp feature (SWT2-5). It will relocate the sedimentation pond (MAS2-1) to within the Natural Heritage System and will replicate its amphibian breeding function.

The development footprint avoids the most sensitive Well Head Protection Area on the property - the area designated as WHPA-A due to its proximity to the municipal supply well (Clythe Well) and the Booster Pumping Station.

8.1.3. Recommended Mitigation

Design Considerations

General design considerations include:

- Limit the development footprint (the footprint has been almost completely limited to areas that are highly disturbed, away from surface water features, with impacts only on a portion of the small (0.08 ha) wetland at the north edge of the wetland buffer)
- Establish vegetated buffers around natural features and naturalize / enhance these buffers (the recommended buffer to the Clythe Creek corridor is shown on **Appendix 1, Figure 3**).
- Incorporate infiltration considerations (such as LID measures) to maintain groundwater inputs
- Maintain post-development feature water balance.

Palmer’s preliminary recommendations included Low Impact Development measures such as directing roof runoff to address the water balance. However, the Functional Servicing Report (FSR) by Odan-Detech (Odan-Detech 2023) noted that due to the large water balance deficit, it is not possible to achieve the water balance for the site solely through the infiltration of clean roof runoff from the southern properties. Therefore, flows for water balance are captured from a combination of roof runoff and hardscape area to a soak away pit in the northeast portion of the site. Oil grit separators are proposed upstream of the soak away pit to provide water quality control. Details of this mitigation can be found in the FSR (Odan-Detech 2023).

During Construction

During construction mitigation includes:

Erosion and Sediment Control Measures

- Erosion and Sediment Control (ESC) measures should be used as required during construction. An ESC plan should be developed and submitted to the City for review. ESC measures may include fabric silt fencing, flow checks (e.g., fibre filtration tubes) and surface treatments to protect soil on slopes until vegetation has re-established. Netted erosion control blankets and other netted materials should not be used because they can pose an entanglement risk to snakes and other wildlife. ESC fencing will also double as exclusionary fencing to avoid intrusion into retained natural areas.

Regular monitoring of erosion control fences should be implemented to ensure fencing remains in working order and is repaired as needed.

Fuel and Related Substance Control Measures

Handling of potentially harmful substances (e.g., fuels, oils, etc.) should be conducted at least 30 m away from watercourses and wetlands. A spill kit should be accessible anywhere where deleterious substances are stored or handled.

Post Occupancy

Post occupancy mitigation includes:

- Careful handling of fuel, oil and other contaminants associated with vehicle and lawn equipment use and maintenance.
- Avoid or limit the use of de-icing salts. Snow storage sites should be provided that limit the migration of salt into Clythe Creek, as proposed by the Salt Management Plan (Odan-Detec 2023).
- Avoid or limit the use of fertilizers and herbicides.

8.2. Fish and Fish Habitat

8.2.1. Impact Assessment

Clythe Creek is fish habitat. Construction activity on the subject property has the potential to harm fish and fish habitat in Clythe Creek. These activities may indirectly impact fish and fish habitat.

Indirect impacts to fish and fish habitat (both short-term and long-term) related to sediment, other contaminants, and chemical spills were discussed in the previous section (**Section 8.1**).

8.2.2. Avoidance Alternatives

The residential development will be fully outside of fish habitat.

8.2.3. Recommended Mitigation

Please see mitigation measures described under Surface Water (above).

8.3. Migratory Bird Nesting Habitat

8.3.1. Impact Assessment

The development footprint is within a sparsely vegetated field with occasional trees and a sedimentation pond. These habitats support a small number of breeding birds that are protected under the *Migratory Birds Convention Act*. Migratory birds could be impacted during clearing / grading. In addition to destruction of habitat, noise, vibrations and light from construction activities could disturb birds and deter them from establishing or using their nests.

8.3.2. Recommended Avoidance and Mitigation

Clearing, grading, and tree removals should be conducted outside of the active bird nesting season (generally April 1 - August 31) to minimize the potential to contravene the *Migratory Birds Convention Act* and its Regulations. Nests of certain protected species are protected even if encountered outside of the active bird nesting season. If it is not possible to restrict work to these timing periods, a nest sweep should be conducted by a qualified biologist, and locations of any nests should be identified. If migratory birds, their nests or eggs are encountered during the nest sweep, or subsequently during

clearing /grading, all work shall cease and the contract administrator or environmental inspector be contacted for advice. Generally, a protective buffer will be placed around the nest and work will be prohibited within the buffer until the young have fledged.

8.4. Species at Risk

8.4.1. Impact Assessment

Known SAR

No SAR that are protected under the *Endangered Species Act* (i.e., Endangered or Threatened) are known to be present.

One Species at Risk has been recorded in the study area: Snapping Turtle (Special Concern). This species and its habitat are not protected under the *Endangered Species Act*. However, habitat for this species is considered Significant Wildlife Habitat and is addressed in the next section.

Other SAR with Potential to be Present

- There is moderate to high potential for one additional SAR to use habitat within the study area: Midland Painted Turtle (*Chrysemys picta marginata*) – Special Concern (designated on the federal Species at Risk Act).

This species and its habitat are not protected under the *Endangered Species Act*. However, habitat for this species may be considered Significant Wildlife Habitat in the future, if the species is listed as Special Concern under Ontario's Endangered Species Act as well as under Canada's Species at Risk Act, and is addressed in the next section.

Construction activities could impact turtles through the removal of habitat used for its life processes such as the pond and adjacent nesting habitat. It could also impact turtles moving between habitats.

8.4.2. Recommended Mitigation

Pond Relocation

The pond (MAS2-1) likely provides occasional habitat for Snapping Turtle, and may also provide habitat to Midland Painted Turtle, though the latter species has not been confirmed to be present. The pond will be relocated to adjacent City lands as per the agreement outlined in the OMB settlement (June 2014). As part of the relocation, the pond is to be designed to replicate its function as amphibian breeding habitat. It should be inundated with water beginning in late April until approximately mid-July, and contain robust emergent vegetation. It is expected that the pond design will be similar to the existing condition, and therefore should continue to support turtles occasionally, if present.

It is recommended that the design also incorporate design aspects to support turtle life processes. This could include designing for variable depths including deep pools that would not freeze and therefore could provide overwintering habitat. A soft mud bottom or organic soil will provide refuge and freeze-protection. It could also include design elements such as basking structures (salvaged logs, rocks).

Various in-water and near shore planted vegetation that is recommended for the recreating the amphibian breeding habitat will also provide food and cover for turtles.

Incorporating sandy soil around the pond should be considered as it will replicate turtle nesting habitat.

Consideration should be given to routing the trail and any other human infrastructure away from the pond and nesting habitat to mitigate the potential for harm or harassment of turtles by pedestrians, bicyclists, and pets.

As turtles may use the pond, this has been considered in planning for the pond relocation. Turtles may use the pond during their active season, though it is unknown if the pond is currently deep enough to support overwintering turtles. Surveys in early spring for basking turtles, just after snow melt, are recommended to determine if the pond is overwintering habitat.

The timing of the pond relocation should consider when turtles are likely to be using the pond. If overwintering can be ruled out, then relocating the pond in the winter could be considered. However, impacts to other species (such as overwintering amphibians) must also be considered.

If the pond relocation occurs during the active season (i.e., when turtles are not overwintering) then a turtle rescue by qualified biologists during pond drawdown is recommended. Any turtles would then be relocated to the new pond (if it has been constructed at this point) or potentially could also be relocated to the stormwater pond.

Pond design and nesting habitat design should adhere to best practices and current scientific methods.

Encounters During Construction

ESC fencing around the construction site will double as wildlife exclusionary fencing. Construction staff should receive SAR awareness training. If a turtle enters the construction site, work in the vicinity should cease and the turtle should be permitted to leave on its own. If this is not possible, the construction administrator should contact the consulting biologist for advice. Turtle nests should be protected from disturbance.

8.5. Significant Wildlife Habitat

8.5.1. Impact Assessment

Five types of SWH are confirmed within the study area, as shown in **Figure 3**:

- Marsh Bird Breeding Habitat (along Clythe Creek)
- Terrestrial Crayfish Habitat (along Clythe Creek)
- Turtle Nesting Habitat (south edge of the sedimentation pond - MAS2-1)
- Special Concern and Rare Wildlife Species (Snapping Turtle) and
- Amphibian Movement Corridor (across Watson Road North).

Marsh Bird Breeding Habitat

- Green Heron was observed along Clythe Creek in 2013.
 - Removal of trees or disruption from human activity could prevent Green Heron from using habitat along the creek.

Terrestrial Crayfish Habitat

- Terrestrial Crayfish chimneys were observed along Clythe Creek
 - Changes to water quality or quantity could prevent terrestrial crayfish from using habitat along the creek.

Turtle Nesting Habitat

- Turtle nesting has been observed along the southern side of the sedimentation pond (in 2013 and 2022).
 - Loss of nesting habitat, or impact to species attempting to move to/from nesting habitat, could impact species reproduction.

Special Concern and Rare Wildlife Species

- A predated Snapping Turtle nest was observed along the southern side of the sedimentation pond in 2013. A predated turtle nest (unknown species) was also observed in 2022).
 - Loss of habitat or human persecution could impact species persistence on the local landscape.

Amphibian Movement Corridor

- Amphibians (anurans) are known to move across Watson Road North at Clythe Creek
 - Residential development will increase occupancy and vehicle use, which could lead to more road-kill of amphibians.

8.5.2. Avoidance Alternatives

Marsh Breeding Bird Habitat

- The development will be fully outside of the SWH. There will be no direct impact to Clythe Creek.

Terrestrial Crayfish Habitat

- The development will be fully outside of the SWH. There will be no direct impact to Clythe Creek.

Turtle Nesting Habitat

- N/A

Special Concern and Rare Wildlife Species

- Snapping Turtle and Painted Turtle habitat will be provided by the relocation of the sediment pond, as described in the previous section.

Amphibian Movement Corridor

- The development will be fully outside of the SWH. There will be no direct impact to Clythe Creek. As discussed in the next section, improvements to the corridor should prevent amphibians from crossing Watson Road North.

8.5.3. Recommended Mitigation

Marsh Breeding Bird Habitat

- N/A - There will be no direct or indirect impacts from development to marsh breeding bird habitat along Clythe Creek.

Terrestrial Crayfish Habitat

- There will be no direct impacts to Clythe Creek. Water quality and quantity will be maintained.

Turtle Nesting Habitat

- It is recommended that turtle nesting habitat be provided along the edge of the relocated pond.

Special Concern and Rare Wildlife Species

- It is recommended that habitat be provided to support the life processes of Snapping Turtle, as discussed previously.

Amphibian Movement Corridor

- An amphibian crossing structure will be installed along Watson Road North. Further, a barrier (amphibian and reptile fencing) will be installed along both sides of Watson Road North to discourage movement over the road and to funnel movement into the crossing structure.

8.6. Terrestrial Vegetation - Tree Removal

8.6.1. Impact Assessment

Terrestrial vegetation on anthropogenic land will be removed to accommodate the proposed development. The vegetation is sparse and regrowing on land previously graded and with a history of agricultural use. Wildlife use was very limited in this area.

As part of this vegetation removal, as determined by the arborist's report (NSE, 2023, under separate cover), 45 trees > 10 cm DBH will be removed, and one additional tree may be injured. The trees are of low value (e.g., young, non-native, weedy, poor form, poor health, etc.).

Terrestrial vegetation retained on site, especially trees, could be accidentally damaged during construction. Terrestrial vegetation retained on site, especially trees, could be indirectly harmed through soil compaction, increased impervious surfaces or pollutants such as deicing salts.

Invasive alien plant and animal species could potentially be introduced into the surrounding area from residential gardens (an induced impact). Residents of the proposed development could potentially trample or otherwise damage local vegetation within the Natural Heritage System, but this potential impact is expected to be minor since the development envisions a managed amenity area (parkland) and a trailhead is proposed.

8.6.2. Avoidance Alternatives

N/A

8.6.3. Recommended Mitigation

Tree protection measures should be implemented as per the Tree Preservation Plan (submitted under separate cover, NSE 2023). Compensation plantings as per City of Guelph requirements (please see NSE 2023) will be installed, primarily in wetland buffer areas and floodplain. The property will be landscaped with trees, shrubs, and herbaceous plants.

8.7. Natural Heritage System

8.7.1. Impact Assessment

There will be no direct impacts (i.e., removals/intrusions) into the Natural Heritage System.

In addition to the potential indirect impacts addressed elsewhere in Section 8, the following additional impacts include: illegal removal of vegetation, illegal collecting of wildlife (e.g., turtles, snakes, frogs), illegal release of pets (e.g., non-native turtles), and wildlife persecution (e.g., Snapping Turtle).

8.7.2. Avoidance Alternatives

The proposed development will be fully outside of the NHS.

8.7.3. Recommended Mitigation

In addition to those commitments made through the OMB settlement (see Project History), the following additional mitigation measures were proposed for potential indirect impacts to the Clythe Creek floodplain (identified in NSE 2015), and are still relevant:

- Access to the floodplain should be restricted prior to construction through the use of a chain-link fence at the boundaries of the rear yards, with the location finalized at the time when residential development plans are at the detailed design stage. Construction of the fence should commence immediately prior to when grading commences. Construction impacts should be limited to this boundary, and the fence should be maintained to prevent dumping and encroachment to the floodplain.
- Impacts such as an increase in lighting and noise should be prevented from affecting the Clythe Creek floodplain through a landowner brochure that promotes stewardship of the buffers adjacent to the wetland.
- A protective screen of Eastern White Cedar should be planted between the development line and the edge of the buffer.
- Snow should not be stored where road salt could migrate into the floodplain.
- The buffer between the development limit and the creek should be planted with shrubs, herbs and grasses to improve its function.
- Floodplain Vegetation Enhancement should be undertaken. The floodplain of Clythe Creek supports a diversity of native plant species of trees, shrubs and ground flora, but also supports a high abundance of invasive non-native species, especially Glossy Buckthorn. A management plan for enhancing the vegetation along the floodplain should be completed.
- The enhanced area of floodplain adjacent to Watson Road (within the proposed park) should also be managed for non-native invasive species.

- Current surface water flows to Clythe Creek should be maintained in order to support the wetland.
- Post-development ground water flows to Clythe Creek should be assessed, and maintained through infiltration trenches and other suitable methods, when post development flows are determined and when the functionality of the current infiltration trench is assessed.

8.8. City Trail

The site plan includes trail connections to a proposed future trail that the City has identified on their land on the property to the south. While this future trail is on City land and will be designed by the City, as the subject property will provide a trail connection, we have provided an assessment of potential impacts and recommended mitigation.

The proposed trail location shown in the City's Trail Master Plan has largely been recommended along the upland edge of the buffer to the wetland, in a location that is already disturbed by grading conducted in the early 2000s. This location is ecologically supported based on the work undertaken as part of this EIS. Where it is not possible to locate the trail along this disturbed area, the trail should be constructed using low-impact construction techniques such as boardwalks on helical piers.

8.8.1 Impact Assessment

The trail will provide access to the Clythe Creek corridor. The trail may potentially have direct impacts through soil disturbance and placement of fill. For example, the trail will need to be designed to accommodate grade changes within the buffer.

A trail is an important measure to direct access to less sensitive parts of the creek corridor, but it also may allow people to create unsanctioned trails to more sensitive parts of the PSW. In addition, it can provide access for people who want to dump compost and construction debris, which is a common impact associated with trails in urban areas.

8.8.2 Avoidance Alternatives

The City has identified a proposed future trail south of the subject property. The alternative would be for the City to 'do nothing' and not implement the trail.

8.8.3 Recommended Mitigation

Techniques for managing grade changes should be managed as site conditions require, including low-impact trail techniques such as helical piers for the most sensitive areas.

Barriers of dense shrubs should be placed adjacent to the trail to discourage encroachment (such as unauthorized trails). Signage should identify prohibited activities (e.g., dumping, pets off leash, fires, off-trail use). Following the preliminary design of the trail, the City should consider a tree inventory of

trees that could be impacted along the route, as well as conduct surveys to identify any sensitive or rare species along the route. The City should consider a bat habitat cavity tree assessment to determine if trees along the route could support bats, and if so, should consult with the MECP to ensure compliance with the ESA.

9. Monitoring Plan

During-construction monitoring will be conducted by a contract administrator or environmental inspector to ensure implementation of mitigation measures including ESC fencing, spill management, and migratory bird protection (per the MBCA and its Regulations).

Naturalization of buffers will involve tree and shrub planting and seeding activities. Post-installation health monitoring and tree / shrub replacements will occur for two years post-installation, or as directed by the City.

10. Policy Conformity

Table 4 provides an overview of conformity with applicable Federal, Provincial, Municipal and Conservation Authority policies.

Table 4. Summary of Policy Conformity

Legislation or Policy Document	Conformity	Comment
Fisheries Act	Yes	Fish habitat is present within Clythe Creek. The development footprint is setback from Clythe Creek and will require no in-water works to facilitate construction of the residential development.
Migratory Bird Convention Act	Yes, with recommended avoidance and mitigation	Vegetation clearing should not occur during the active bird breeding season (between April 1 and August 31) to mitigate contravening the MBCA. Nests are protected at any time, including outside of the active season. If a nest is found, the nest must be retained and protected with a buffer.
Species at Risk Act	Yes	No aquatic SAR are known to be present in Clythe Creek.
Endangered Species Act	Yes	No SAR that are protected under the ESA are known to be present.
Provincial Policy Statement	Yes, with recommended avoidance and mitigation	No development will occur within the riparian corridor along Clythe Creek. The corridor contains provincially significant wetland (PSW), significant woodland, significant wildlife habitat, significant valleyland, and fish habitat. Development adjacent to this feature will result in no negative impact with recommended avoidance and mitigation. A 30 m minimum buffer to the riparian corridor has been incorporated into the site design. Pre and post feature-based water balance will be maintained. Other mitigation measures as discussed herein are recommended.
City of Guelph Official Plan	Yes	An EIS has been prepared per the requirement of Section 4.1 of the Guelph Official Plan as development and site alteration is proposed within the Natural Heritage System or on adjacent lands to natural heritage features and/or areas. This Environmental Impact Study has been prepared in accordance with the City of Guelph's EIS guidelines and the approved Terms of Reference. The development will have no negative impact on the NHS and its ecological functions.
City of Guelph Zoning By-law	Yes, pending approval of the Zoning By-law Amendment	The majority of the property will require a rezoning from Commercial to Residential to accommodate residential development.
City of Guelph Tree By-law	Yes, with implementation of tree protection measures and compensation plantings	A tree inventory and tree preservation plan has been prepared. Further details are presented in the arborist report under separate cover.
Clean Water Act	Yes	The Subject Property is located within WHPA-B and WHPA-A and is near a municipal well (unused). The proposed development must therefore conform with relevant policies in Section 8.2 of the Grand River SPP (Lake Erie Source Protection Region, 2021).
GRCA Regulation	Yes - a permit is required	A permit will be required as the proposed development is partially within a GRCA regulated area.

11. Summary of Recommendations

It is recommended that the mitigation measures described in **Section 8** be incorporated into the site plan and/or implemented during construction, and/or post construction, as appropriate. A summary of these recommendations is provided below:

The following recommendations have been incorporated into the site plan:

1. The proposed development is restricted to an existing disturbed area and avoids Guelph's Natural Heritage System (NHS).
2. A minimum 30 m buffer has been applied to the Clythe Creek riparian corridor to mitigate impacts to Guelph's NHS.
3. Grading will be fully outside of the NHS and its buffer.
4. Post development feature-based water balance measures have been incorporated including a soak-away pit and the use of clean roof runoff.
5. A permanent chain-link fence (without gates) will be installed at the rear of lots backing onto the buffer to prevent encroachment.
6. A Salt Management Plan has been developed to mitigate impact of de-icing salt to the natural environment.
7. A Landscape Plan has been developed to provide green space including parkland and a trailhead.
8. A Stormwater Management Plan has been developed in accordance with City of Guelph requirements.

The following recommendations should be implemented during construction:

9. Exclusionary fencing should be placed around retained natural areas and their buffer to avoid intrusion by construction vehicles, and to prevent equipment storage and other discouraged activities in retained natural areas. The exclusionary fencing will also reduce the likelihood of certain wildlife (such as turtles, snakes, frogs) from entering the construction zone.
10. If SAR or other wildlife that enter the active construction zone, the contract administrator should allow the wildlife to leave on their own accord. If this is not possible, a qualified biologist should be contacted for advice.
11. Tree protection measures as described in the arborist report (NSE, 2023) should be implemented.
12. An Erosion and Sedimentation Plan should be developed and implemented. Netted erosion control blankets and other netted materials will not be used because they can pose an entanglement risk to snakes and other wildlife.

13. A Spills Management Plan should be developed and implemented. This Plan should identify a safe storage and refilling location greater than 30 m from watercourses and wetlands. A spill kit should be kept on site. All spills should be reported immediately to the Spills Action Centre.
14. Vegetation clearing should occur outside of the active nesting season for birds (i.e., not between April 1 - August 31). If this is not possible, to reduce the potential to contravene the MBCA and its Regulations, due diligence bird nest searches are recommended within 48 h of clearing.

The following recommendations should be considered at detailed design:

15. The trail connection from the development should be finalized, and the route along the north end of the buffer finalized with the City.
16. A non-native species management plan should be designed and implemented for the Clythe Creek floodplain.
17. The landscape plan should make use of native plant species where possible.
18. The required replacement trees as compensation for removed trees should be incorporated into the landscape plan. Please refer to the arborist report (NSE, 2023).
19. Low Impact Development (LID) strategies should be incorporated where possible.
20. Light pollution should be minimized through use of downward facing lighting.
21. Impervious surfaces should be minimized by maximizing landscaped area and using permeable surface treatments.
22. Decommissioning of the sediment pond should consider appropriate timing and need for wildlife rescue (e.g., of turtles, frogs).
23. The design of the new amphibian pond new pond should consider current science and best practices. The restored pond should be designed and landscaped to foster amphibian breeding, turtle nesting, and if feasible, turtle overwintering.
24. The design of the amphibian road crossing should consider current science and best practices, following Guelph's Wildlife Crossing guidelines to be issued in October, 2023.

The following recommendations should be considered at occupancy:

28. A landowner brochure could be provided that promotes stewardship of the adjacent natural area.

12. Conclusions

If above recommendations are properly implemented, the proposed development will have no negative impact on the City's NHS and will conform with the applicable federal, provincial and municipal environmental policies and guidelines.

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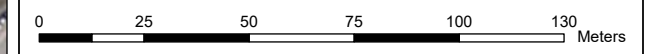
APPENDIX 1 | Figures



Figure 1 | Project Location
115 Watson Pkwy N EIS

Legend

Subject Property



Project Number 22-1267	Date: 2023-09-11	N ▲
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Figure 2 | Field Data Summary
115 Watson Pkwy N EIS



Legend

- Subject Property
- Watercourse
- Wetland Boundary (Staked with GRCA June 2022)
- Ecological Land Classification
- New Wetland Feature (Staked with GRCA June 2022)
- Seepage Area
- Survey Locations (NSE, 2022)

Area Sensitive Bird Species

- Pine Warbler (NSE, 2015)

Locally Significant Bird Species

- American Redstart (NSE, 2015)
- Baltimore Oriole (NSE, 2015 & 2022)
- Green Heron (NSE, 2015)
- Savannah Sparrow (NSE, 2022)
- Field Sparrow (NSE, 2022)

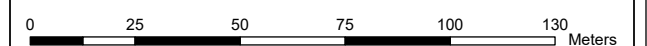
Locally Significant Plant Species

- Sweet Grass (NSE, 2015)

Species of Special Concern

- Snapping Turtle (NSE, 2015)

- CUM1** - Mineral Cultural Meadow
- CUP3-3** - Scotch Pine Coniferous Plantation
- CUT1** - Mineral Cultural Thicket
- FOC2-2** - Dry/Fresh White Cedar Coniferous Forest
- MAM2** - Mineral Meadow Marsh
- MAM2-2** - Reed-canary Grass Mineral Meadow Marsh
- MAS2-1** - Cattail Mineral Shallow Marsh
- SWT2-5** - Red-osier Mineral Thicket Swamp



Project Number 22-1267	Date: 2023-09-11	N ▲
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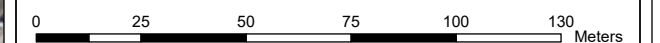


Figure 3 | Natural Heritage Features and Constraints
115 Watson Pkwy N EIS



Legend

- Subject Property
- Significant Natural Areas**
- Clyde Creek (Surface Water Feature and Cold Water Fish Habitat)
- Provincially Significant Wetland Limit (Staked with GRCA June 2022)
- Provincially Significant Wetland Buffer (30 m)
- Significant Woodland (FOC and FOC/CUP communities)
- Estimated Regulatory Flood Line (Based on Topographic Survey)
- Estimated Regulatory Flood Line 5m Setback
- Significant Valleyland (Northern Limit)
- Ecological Linkage (Northern Limit)
- Significant Wildlife Habitat**
- Marsh Bird Breeding Habitat / Terrestrial Crayfish Habitat
- Turtle Nesting Habitat (Candidate) / Provincial Species of Conservation Concern (Candidate – Snapping Turtle) / Federal Species of Conservation Concern (Candidate – Snapping Turtle and Midland Painted Turtle)
- Natural Areas**
- Cultural Woodland Overlay
- Other**
- GRCA-regulated Wetland Features (Staked with GRCA June 2022)

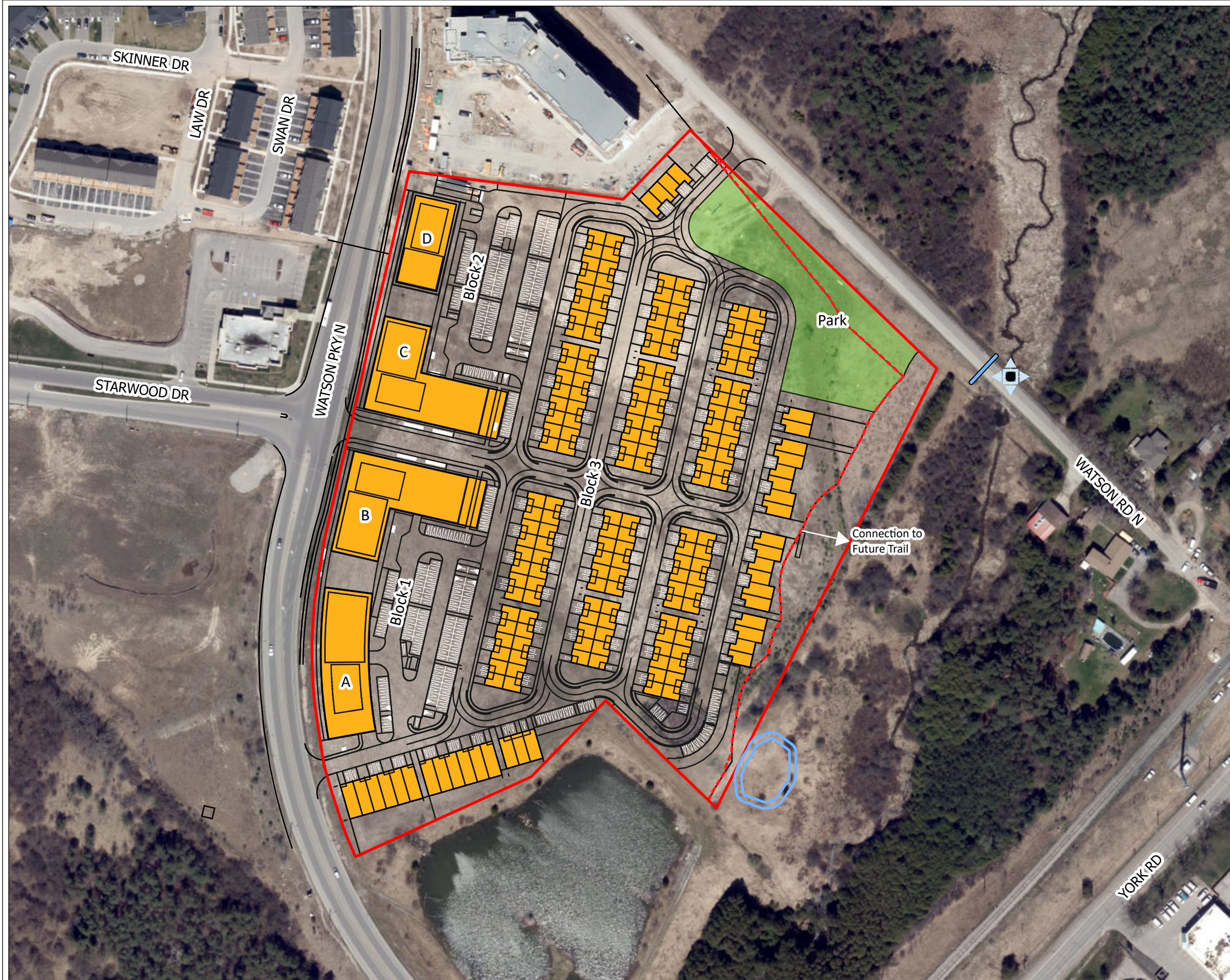


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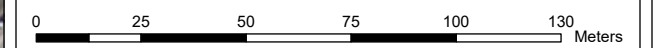


Figure 4 | Proposed Development
115 Watson Pkwy N EIS



Legend

- Subject Property
- Proposed Development**
- Proposed Structures
- Combined Setback
- Development
- Amphibian Funnel Fencing (extent of fencing to be determined at detail design)
- Approximate Location of Relocated Amphibian Pond
- Amphibian Crossing Structure



Project Number 22-1267	Date: 2023-09-25	N ▲
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APPENDIX 2 | Terms of Reference

November 11, 2022

Draft Terms of Reference for Environmental Impact Study

115 Watson Parkway North,

Prepared for

Tercot Reality Inc.



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North-South Environmental Inc. (NSE) has been retained by Tercot Realty Inc. to complete a Scoped Environmental Impact Study (EIS) to assess the impact of a proposed residential / commercial development at 115 Watson Parkway North (the Subject Property). The Subject Property is located at the northeastern edge of Guelph, along Watson Parkway North at Starwood Drive (part of Lot 5, Concession 3) (**Figure 1**). The Subject Property is currently composed of a vacant, disturbed lot. The requirement for an EIS at this location is triggered by the presence of the following environmental features adjacent (within 120 m) to the Subject Property (based on the City of Guelph Official Plan Schedules):

- Clythe Creek (Surface water and [cold water] fish habitat);
- Clythe Creek floodplain (hazard lands regulated by Grand River Conservation Authority; GRCA);
- Provincially Significant Wetland (PSW) - Clythe Creek Wetland Complex;
- Significant Woodland;
- Significant Valleyland (Undeveloped Portions of the Regulatory Floodplain); and
- Ecological Linkage (within 50 m).

The Subject Property also occurs with Grand River Conservation Authority's (GRCA's) Regulated Area such that proposed development required permitting according to O. Reg. 150/06.

In accordance with the City of Guelph Official Plan (OP), development is not permitted on lands adjacent to natural heritage features and areas, unless the ecological function of the adjacent lands has been evaluated and it has been demonstrated through an Environmental Impact Study (EIS) that there will be no negative impacts on the natural features or on their ecological functions.

The purpose of the EIS is to characterize the existing conditions and assess potential impacts to the natural areas within and immediately adjacent to the area of proposed development. The EIS will assess the significance of features identified as part of the City's Natural Heritage System, determine the potential for occurrences of Species at Risk (SAR) and/or the habitat of SAR, and assess the presence of any Significant Wildlife Habitat (SWH).

Subsequent to the determination of the preferred design, potential impacts to any Natural Heritage Features and/or functions and their associated buffers shall be evaluated. The EIS will identify potential constraints, assess impacts, and provide protection and mitigation recommendations to minimize any adverse effects to the Natural Heritage System and associated features and functions.

The following contents have been prepared according to the City of Guelph EIS Guidelines (2020), in consideration of the City of Guelph Official Plan and Schedules (City of Guelph 2001, consolidated February 2022), and in consideration with pre-consultation undertaken with the City and GRCA, to

date. Revisions have been made based on comments received from the City and GRCA on September 8, 2022.

1. Introduction

The Subject Property, which is approximately 6.45 ha in size, are undeveloped. The subject lands have frontage on both Watson Parkway North and Watson Road North. The Subject Property is currently composed of a vacant, disturbed lot. The property is located adjacent to Clythe Creek and associated floodplain, wetland and riparian woodlands. Natural heritage features on the site are limited due to recent grading of the site outside the floodplain.

The proposed development includes a mixed-use development (residential / commercial), which includes 647 residential units and a non-residential gross floor area of 3,264 sq. m. (**Appendix A**).

1.1. Study Area

The Study Area will encompass the area of proposed development and include adjacent lands that might reasonably be directly or indirectly affected by the proposed development. To the extent that is permitted by adjacent landowners, the area within 120 m of the edge of the proposed development will be included for evaluation under this EIS.

1.2. Project History

An EIS was first submitted for this site (then known as 72 Watson Road North) as part of a previous, entirely commercial, development proposal in 2000, and revised in 2001 (D&A 2001). This EIS primarily used information from the Clythe Creek Subwatershed Study (Ecologistics 1998a) and Grange Hill Developments EIS (Ecologistics 1998b) to inform the biological inventories. An EIS Addendum was submitted in 2006 (D&A 2006) as part of a subsequent revised commercial development proposal. Additional study information included a vegetation inventory (2004), and amphibian calling surveys (2005). This EIS was updated in 2009 (D&A 2009), based on a revised site plan and to address City comments regarding water balance and restoration plantings.

In 2013/2014, NSE prepared a subsequent EIS Addendum (NSE 2014), which updated information in Dougan's 2006 report, and addressed an appeal of Official Plan Amendment (OPA) 42 respecting the former Loblaws property at 115 Watson Parkway, Guelph. The surveys for the 2014 addendum included updates of natural heritage surveys, including vegetation and flora surveys, breeding bird surveys and amphibian surveys, conducted throughout the spring and summer of 2013. Studies of amphibian movement were also included in this study. During the Ontario Municipal Board (OMB) settlement process, studies of the property determined the appropriate boundaries for the PSW on the property and its buffers. Though the development concept was not known at that time, the

proposed buffers were established based on the assumption that the property's land use would change from a vacant lot to a highly urban land use.

In 2015, NSE prepared an EIS Update for 115 Watson Parkway based on the City's new EIS guidelines. The EIS Update was based on the 2013/2014 field surveys in addition to inventories conducted as part of the previous 2006 EIS. Results of previous surveys are presented in **Figure 2**.

Previously Identified Constraints

The constraints related to development on the Subject Property were previously established as part of an OMB settlement in June 2014, which was concerned with establishing constraints and buffers in the context of the City's then-proposed Natural Heritage System (NHS; proposed through OPA 24).

During the settlement process, studies of the property determined the appropriate boundaries for the Provincially Significant Wetland (PSW) on the property and its buffers (**Figure 3**). An appropriate linkage between the portions of the Clythe Creek corridor west and east of Watson Road was also delineated. The northernmost limit of the Ecological Linkage remaining on the lands is the same as the northern limit of the wetland buffer.

Previous Commitments

Through the OMB settlement process, the following commitments were made regarding amphibian breeding habitat and movement corridors.

In conjunction with the revised Ecological Linkage mapping, the appellant agreed to provide certain improvements to facilitate passage of wildlife along Clythe Creek under Watson Road, at its own cost, especially to improve amphibian movement as part of a future site plan or other development application for the lands. These improvements are to be based on best management practices, current science and design as it related to amphibian movement structures and incorporate the following, and shall be to the satisfaction of the City (per OMB settlement Clause 4):

- a) Changes to the Clythe Creek culvert under Watson Road North to promote amphibian passage and/or installation of amphibian passage structure(s) to the north of Clythe Creek between the east side (floodplain) and the west side (wetland)
- b) Barriers along the east and west sides of Watson Road North to discourage amphibian movement over the road and funnel movement to encourage use of the culvert(s)/structure(s)

During pre-consultation undertaken with the City on May 25, 2022, it was identified that the limit of the Ecological Linkage may be refined through a floodplain study.

There is a temporary sedimentation basin on the lands which currently provides amphibian breeding habitat (see MAS2-1 on **Figure 2**), but is not part of the NHS, and which may be removed as per

previous approvals at the time of development. It was agreed that at the time of development, that the appellant will provide an alternate amphibian habitat on adjacent City lands, at its own expense, within the area marked as Minimum Buffer on Schedule P-2 of the OMB settlement minutes (see “Wetland Buffer” illustrated on **Figure 2**). The detailed location and design of the amphibian breeding pond is to be established as part of a future site plan or other development application for the lands, to the satisfaction of the City.

The 2015 EIS Update (NSE 2015), proposed to implement these commitments through the development proposed at the time. Commitments will be implemented as part of the current development proposal.

2. Planning Context

Plans, policies and legislation relating to natural heritage that will be considered include the following:

- Provincial Policy Statement (2020)
- City of Guelph Official Plan (2001, consolidated February 2022)
- Grand River Conservation Authority (GRCA) Policies for the Administration of the Development, Interference with Wetlands and Alterations to Shorelines and Watercourses Regulation Ontario Regulation 150/06
- Endangered Species Act (2007)
- Species at Risk Act (2002)

Under the Guelph Official Plan, Subject Property is predominantly designated Commercial Mixed-use Centre (CMUC) with lands near Clythe Creek designated Significant Natural Areas & Natural Areas on Schedule 2: Land Use Plan. The Subject Property is within the York/Watson Parkway/Starwood CMUC.

Clythe Creek watercourse, associated floodplain, the Clythe Creek Wetland Complex (PSW) and associated buffers are regulated by GRCA.

The relevant natural heritage provincial and municipal policies and regulations will be reviewed. The proposed development will be assessed with respect to conformity with the relevant natural heritage policies. In accordance with the City of Guelph EIS Guidelines (2020), this section shall also include:

- Current land use designation and zoning for the subject property and for the adjacent lands;
- Identification of required development applications; and
- Map(s) of the development location and extent of the area to be studied including Zoning/Land Use.

3. Background Review

Given the extent of existing studies undertaken for the study area, a background information review will be the primary source of information to inform existing conditions. The background review will include, the following sources:

- Background review of land designations (i.e., provincially significant wetlands (PSWs), Areas of Natural and Scientific Interest (ANSIs), etc.), land types and landforms, and Species at Risk (SAR) or locally significant species;
 - Ministry of Natural Resources and Forestry (MNRF) /Natural Heritage Information Centre (NHIC) screening for Species At Risk (SAR) along with documented communications with appropriate governing agencies via Information Request;
 - Land designation delineations as agreed upon in the OMB settlement (July 2014)
- Review of available background studies/reports
 - Environmental Impact Study Update: 72 Watson Road North, Guelph, Ontario. Report for Loblaw Properties Limited (D&A 2006);
 - Environmental Impact Study Addendum: 72 Watson Road North, Guelph, Ontario. Report for Loblaw Properties Limited (D&A 2009);
 - EIS Update: 115 Watson Parkway (NSE 2013);
 - EIS Update: 115 Watson Parkway (NSE 2015);
 - Soil Survey of Wellington County Ontario (Hoffman and Mathews 1963);
 - The Physiography of Southern Ontario, 3rd Ed. (Chapman and Putnam 1984);
- Review of online species atlases and records;
 - Atlas of the Breeding Birds of Ontario (Cadman 2007)
 - Ontario Reptile and Amphibian Atlas (Online)
 - eBird Canada (Online)
 - Ontario Butterfly Atlas (Online)
 - iNaturalist (online)
- Review of technical guidance documents
 - Natural Heritage Reference Manual (OMNR 2010)
 - Significant Wildlife Habitat (SWH) Technical Guide (MNRF 2000)
 - Significant Wildlife Habitat (SWH) Criteria Schedules for Ecoregion 6E (MNRF 2015)
 - City of Guelph Tree Technical Manual (2019)

Ultimately, this section of the EIS shall identify relevant information from existing studies, plans, databases, and other sources to be analyzed as part of the EIS.

4. Characterizing the Natural Environment: Methodology and Data Collection

This section of the EIS will describe the study area's biological and physical features. Two (2) levels of investigation will be used to describe different features, including (i) secondary sources (background review) as the primary source of information, and (ii) supplemental field inventories to confirm presence / absence of new features.

4.1. Geology and Soils

The underlying bedrock of the study area is comprised of middle Silurian age dolostones of the Albermarle Group, which is subdivided further into the Guelph and Amabel Formations (D&A 2006).

The Subject Property is situated within a physiographic region described as the Guelph Drumlin Field (Chapman & Putman 1984). The area consists predominantly of sand and gravel terraces with modern alluvial deposits on the Clythe Creek floodplain. The surrounding Wentworth Till layer is described as a dense sandy till with some boulder sections and some areas of slightly higher silt and clay content. The overburden thickness throughout the watershed is reported to range from less than a metre to greater than 70 m in the northern portion of the watershed (Stantec 1999, cited in D&A 2006). Interpreted bedrock elevation in the vicinity of the study area is approximately 320 m Above Mean Sea Level (AMSL) (Stantec 1999, cited in D&A 2006). Bedrock was encountered at approximately elevation 323 m to 324 m AMSL during sewer construction of Watson Parkway, southwest of the site. Overburden thickness is estimated to range from 0 to 20 m, with exposures of bedrock noted along the tributary of Clythe Creek.

Significant Valleylands

Significant Valleyland (Undeveloped Portions of the Regulatory Floodplain) are associated with the Clythe Creek floodplain, which also runs adjacent to the northern Subject Property boundary (**Figure 3**). As indicated in Clause 6 of the OMB settlement (July 2014), boundaries of the Significant Valleyland may be refined through a development application in accordance with City OP policies (i.e., through determination of the regulatory floodplain; Policy 4.1.3.7).

Significant Landform

No Significant Landforms are identified within or adjacent to the area of proposed development.

4.2. Hydrology and Hydrogeology

The Subject Property is located within the southern portion of the Eramosa River and Blue Springs Creek Subwatersheds. Drainage from the site is directed to Clythe Creek, which discharges to the Eramosa River approximately 1 km south of the Subject Property (D&A 2006).

Surface drainage on the site is primarily by sheet flow to the Clythe Creek floodplain. With the exception of a small dug pond (which was constructed as a sedimentation basin) above the floodplain and another small dug pond within the floodplain (NSE 2013), and a dug drainage channel at the south end of the site boundary, no tributaries or distinct surface drainage features occur. The dug pond situated on the floodplain is separated from the Clythe Creek channel by a 3-4 m long swale. Although the pond elevation is slightly higher than the creek, it is likely that the creek flushes out the pond during flood events. The sedimentation basin receives water from a trench that extends west across the site and outlets via a stand pipe to a storm pond just west of the site.

A portion of the Clythe Creek Wetland Complex, a Provincially Significant Wetland (PSW) occurs adjacent to the Subject Property (**Figure 2**).

Hydrogeological Study

A hydrogeological study is proposed to be undertaken by Palmer per the drawing included in **Appendix B**. These are summarized below:

- ❑ 22BH-1, 22BH-6, 22BH-8 completed to 15.24 m to assess deep groundwater pressures
- ❑ 22BH-9, 22BH-12, 22BH-13 completed to 6.096 m to assess the shallow groundwater table
- ❑ 22BH-3 and 22BH-7 completed as monitoring well nests with a shallow well at 6.096 m and a deep well at either 12 m or 15.24 m depending upon the aquifer depth(s)
- ❑ Installation of three (3) wetland mini-piezometers in the Clythe Creek valley to measure groundwater/surface water interactions and establish a wetland hydroperiod
- ❑ Installation of a wetland mini-piezometer at a new wetland feature, installed August 10, 2022, labeled as MP4 (installed 1.24 m into the wetland feature, with 1.16 m of stickup)
- ❑ Completion of 1-year of groundwater level monitoring including a seep survey along the valley wall
- ❑ Installation of continuous dataloggers in selected wells/ well nests and mini-piezometers to collect continuous water level data
- ❑ Collection of two (2) groundwater quality samples
- ❑ Completion of a site wide water balance assessment
- ❑ Completed of in-situ percolation testing using a Guelph Permeameter at 4-5 locations

A Hydrogeological Investigation Report will be completed and integrated with the EIS and Stormwater Reports for the site.

If more detail is required to approve the hydrogeological study, a proposal can be submitted separately.

4.3. Aquatic and Fish Habitat

Clythe Creek, adjacent to the Subject Property, provides cold water fish habitat. Background review of existing data from GRCA and D&A (2006) will be used to characterize fish habitat.

4.4. Terrestrial Vegetation (including Wetlands)

Vegetation communities within the study area have been characterized and mapped according to Ecological Land Classification (ELC) protocols (Lee et al. 1998) in 2013 by NSE (**Figure 2**). Vegetation communities include:

- Red-osier Dogwood Mineral Thicket Swamp (SWT2-5)
- Reed Canary-grass Mineral Meadow Marsh (MAM2-2)
- Cattail Mineral Shallow Marsh (MAS2-1)
- Dry-Fresh White Cedar Coniferous Forest (FOC2-2)
- Scots Pine Coniferous Plantation (CUP3-3)
- Mineral Cultural Meadow (CUM1-1)
- Anthropogenic Area

The boundaries of the PSW were surveyed together with GRCA in 2013. Boundaries and associated buffer constitute part of the OMB settlement agreements (July 2014; see Project History). As requested by GRCA in pre-consultation comments received on May 26, 2022, the wetland limits will be flagged and subsequently verified by the GRCA staff.

Botanical inventories were undertaken during previous assessment and most recently by NSE in 2013. Results of previously completed flora studies will be summarized in the current EIS.

Additional field studies are proposed as part of the current EIS and include confirmation of ELC communities with the intent to confirm presence / absence of new features / communities (see **Section 4.10**).

Significant Woodlands

Significant Woodlands have been identified on the City's OP Schedules. Woodlands within the study area will be assessed for significance according to the City's criteria.

Cultural Woodlands

A Cultural Woodland occurs east of Watson Road west but occurs outside of the Study Area (farther than 120 m).

Significant Wetlands and Other Wetlands

The Clythe Creek Wetland Complex, a Provincially Significant Wetland (PSW) occurs adjacent to the Subject Property.

4.5. Wildlife and Wildlife Habitat

Significant Wildlife Habitat assessment was completed by NSE in 2015 according to Ecoregion Criteria Schedules for Ecoregion 6E (MNRF 2015). Identified SWH types include:

- Marsh Bird Breeding Habitat (as indicated by the presence of Green Heron) and habitat for Chimney Crayfish (as indicated by the presence of crayfish burrows) associated with the Clythe Creek Floodplain;
- Amphibian Breeding Habitat (Wetland) associated with the sedimentation basin;
- SWH for Snapping Turtle (nesting at the edge of the sedimentation basin); and
- Amphibian Movement Corridor associated with Clythe Creek (crossing Watson Road).

The Significant Wildlife Habitat assessment will be updated / confirmed based on results of the proposed field program.

Through the OMB settlement (July 2014), it was agreed that the sedimentation basin could be replaced with the condition that the functions would be maintained. Per the OMB settlement agreement, the detailed location and design of the amphibian breeding pond is to be established as part of a development application for the Subject Property, to the satisfaction of the City. Regard will also be given to turtle habitat in consideration with the previously identified Snapping Turtle nest on the berm adjacent to the pond. The City has requested that a site meeting be held to review the proposed location of the sedimentation basin; this is included in **Section 4.10**, Field Studies.

Breeding bird surveys are proposed as part of the current EIS in order to confirm the absence of Open Country Breeding Habitat on the Subject Property (see **Section 4.10**).

Additional surveys to characterize amphibian movement have not been proposed. As identified by NSE (2015):

“Amphibian movement was noted between the floodplain on the site and the floodplain to the east of Watson Road North, along Clythe Creek. In order to move across Watson Road North, amphibians must cross the road, as the culvert does not provide suitable habitat to promote amphibian movement, particularly from west to east (there is an approximately 40 cm drop on the west side of Watson Road between the edge of the culvert and the creek). Mortality of amphibians was evident on Watson Road North.”

Conditions of the culvert have not changed since this time, and therefore, it has been reasonably assumed that amphibian movement has remained the same.

Habitat of Significant Species

Habitat of Significant Species (according to EIS Guidelines Appendix H: Locally Significant Species List 2012) is known to the Study Area and is associated with the following recorded species: Green Heron, Willow Flycatcher, Pine Warbler, American Redstart, Savannah Sparrow, Baltimore Oriole. All records are associated with vegetation communities occurring adjacent to the Subject Property. (Available species locations are mapped on **Figure 2**).

The Habitat of Significant Species assessment will be updated / confirmed based on results of the proposed field program.

4.6. Species at Risk

One Species at Risk was recorded within the study area. A Snapping Turtle (Special Concern) nest was noted on the berm at the edge of the sedimentation basin (**Figure 2**).

Species at Risk habitat assessment will be updated / confirmed based on results of the proposed field program, and recent correspondence with MECP.

4.7. Natural Hazards

According to the City's Official Plan and GRCA mapping, floodplain associated with the Clythe Creek watercourse occurs along the northern boundary of the Subject Property (associated with the Significant Valleyland).

4.8. Connectivity and Ecological Linkages

An Ecological Linkages have been identified through the OMB settlement (July 2014). The northernmost limit of the Ecological Linkage remaining on the lands is the same as the northern limit of the wetland buffer (**Figure 3**).

Per the OMB settlement (July 2014), the EIS will address amphibian crossing commitments (Clause 4).

4.9. Other Natural Heritage Features

Areas of Natural and Scientific Interest (ANSIs)

None known to the study area.

4.10. Field Studies

A table with details on survey times and weather conditions during all wildlife-specific surveys will be included in the EIS.

Ecological Land Classification / Wetland Staking

As described in Section 4.4, a field visit is proposed to confirmation ELC communities with the intent to confirm presence / absence of new features / communities.

As identified in consultation with the City, the limits of existing features will be delineated according to the OMB settlement (July 2014).

Any new wetland communities identified during field surveys will be delineated using Ontario Wetland Evaluation Survey (OWES) protocols. Complexing of new wetland features with the existing PSW will be determined in consultation with MNRF.

Breeding Bird Survey

Two breeding bird surveys will be completed following the Ontario Breeding Bird Atlas (OBBA) protocols (2001) to confirm the presence / absence of Open Country Breeding Bird Habitat and habitat for grassland species at risk on the Subject Property. The first of these surveys will be completed between May 24th and June 15th and the second of these surveys will occur no sooner than seven days from the first survey, between June 15th and July 10th. These surveys will be completed in the morning between a half-hour before sunrise and 10:00 am during suitable weather conditions. Breeding evidence will be evaluated using the following guidelines (OBBA 2001):

“Possible breeding” is indicated by the presence of a singing male (or breeding calls heard) in suitable habitat or the presence of a bird observed in suitable breeding habitat in its breeding season.

“Probable breeding” is defined as an observation of any of the following: (1) a pair in breeding season in suitable habitat, (2) permanent territory presumed through registration of territorial song on at least two days, a week or more apart, at the same place or (3) courtship or display between a male and a female or two males, including courtship feeding or copulation; visiting probable nest site; agitated behaviour or anxiety calls of an adult; brood patch on an adult female or cloacal protuberance on an adult male; nest building or excavation of a nest hole.

“Confirmed breeding” is defined as observation of any of the following: (1) a distraction display or injury feigning; (2) used nest or egg shell found (occupied or laid within the period of the study); (3) recently fledged young or downy young, including young incapable of sustained flight; (4) adults entering or leaving nest site in circumstances indicating occupied nest (e.g., adult carrying

fecal sac; adult carrying food for young), or (5) nest containing eggs, or nest with young seen or heard.

Amphibian Calling Surveys

Amphibian calling surveys are proposed at the location of the sediment basin to inform its functions prior to replication / relocation (as agreed upon during the OMB Settlement; July 2014).

Auditory surveys for amphibians will be undertaken according to the Ontario Marsh Monitoring Protocol (MMP) (Bird Studies Canada 2008). The MMP requires that three (3) separate visits be made per survey location per year, occurring during the second half of each of April, May and June and in consideration with specific temperature thresholds associated with each survey period. The first round of amphibian surveys was undertaken on April 20, 2022. Each survey consists of a three-minute passive listening period during which calls and relative abundance are recorded. For each survey, the date and start time of each survey are recorded as well as air temperature, wind speed and level of precipitation.

In accordance with the MMP, three calling codes are used to indicate intensity and a second number to indicate species count:

- A calling code of 1 indicates that species' calls are not overlapping and therefore are easily distinguished, with an accurate count of numbers.
- A calling code of 2 indicates that species' calls are overlapping, but an estimation of the number of individuals can be made.
- A calling code of level 3 occurs when calls overlap such that a reasonable estimate/count of the number of individuals cannot be made. Calling code 3 does not include a species count number.

Other Wildlife Surveys

Incidental observations of all wildlife species (including mammals, birds, reptiles, and insects) will be recorded during all site visits.

Site Visit to Review Location for Sedimentation Pond Relocation

Through the OMB settlement (July 2014), it was agreed that the sedimentation basin could be replaced with the condition that the functions would be maintained. Per the OMB settlement agreement, the detailed location and design of the amphibian breeding pond is to be established as part of a development application for the Subject Property, to the satisfaction of the City. A site meeting be held with the City (and GRCA, as required) to review the proposed location of the sedimentation basin.

Wetland Boundary Staking

As requested by GRCA, the boundaries of the PSW and any newly identified wetland features will be reviewed and re-staked together with GRCA staff.

Summary of Previous Fauna Surveys

Results of previously complete fauna surveys will be summarized, including:

- Amphibian Breeding and Amphibian Movement Surveys (NSE 2015)
- Breeding Bird Surveys (NSE 2015)
- Fisheries Survey Results (D&A 2006)

Tree Inventory and Preservation Plan

A Tree Inventory and Tree Preservation Plan will be completed per the City of Guelph’s Tree Technical Manual (2019). The plan shall include as a minimum:

- Inventory of all trees over 10 cm diameter at breast height (DBH), including size, form, species composition, health and risk assessment;
- Identify opportunities for transplanting smaller specimens of trees, where appropriate;
- Tree preservation plan specifying measures required for tree protection and monitoring during construction / development; and
- Measures for avoiding disturbance to any breeding birds during construction.

5. Evaluation of Significance

Previous commitments including identified feature boundaries (e.g., wetland boundaries, Ecological Linkage boundaries) will be carried forward as part of this study. The data obtained from the field investigations will be evaluated in order to determine significance of any newly identified features and functions. The criteria for determining significant features and functions (e.g. Significant Woodlands, Significant Wildlife Habitat, etc.) will be evaluated according to appropriate policy and guidance documents. Specifically, this Section of the EIS will:

- Summarize existing feature boundaries as identified in the OMB Settlement (July 2014);
- Assess any newly identified natural heritage features and areas against the appropriate policies and guidelines to determine significance;
- Assess any newly identified natural heritage features and areas against the appropriate policies and guidelines related to natural hazards; and
- Assess appropriate buffers and / or setbacks for any newly identified natural heritage features and areas.

6. Opportunities and Constraints

This Section of the EIS will:

- Identify all the constraints to potential development related to natural heritage features and areas identified for protection, as well as natural hazards, including their respective buffers and setbacks;
- Identify opportunities for development on the Subject Property that work within the limitations of the site-specific constraints; and
- Identify opportunities for restoration, enhancement and/or stewardship opportunities.

7. Evaluation of Alternative Options and Recommended Mitigation Measures

This Section of the EIS will:

- Consider alternative options to avoid potential impacts;
- Describe any proposed restoration recommendations for disturbed areas and other impacts; and
- Describe other mitigation or compensation measures proposed to eliminate, reduce or off-set impacts such as tree removal.
 - Mitigation also includes the consideration of enhancement, naturalization and restoration opportunities to improve natural heritage features and areas, and their ecological functions.
 - Mitigation may also include environmental education and outreach opportunities.

Through this section, alternatives for a trail within the wetland buffer will be explored according to City OP Policy 4.1.2.1 (which allows for passive recreational activities within established buffers), City OP Policy 4.1.3.4.7, and in consultation with the City. The approximate location of the proposed trails per the Guelph Master Trail Plan are illustrated on **Figure 3**.

In addition to those commitments made through the OMB settlement (see Project History), the following additional mitigation measures were proposed for potential indirect impacts to the Clythe Creek floodplain (identified in NSE 2015):

- Access to the floodplain should be restricted prior to construction through the use of a chain-link fence at the boundaries of the rear yards, with the location finalized at the time when residential development plans are at the detailed design stage. Construction impacts should be limited to this boundary, and the fence should be maintained to prevent dumping and encroachment to the floodplain.

- ❑ Impacts such as an increase in lighting and noise should be prevented from affecting the Clythe Creek floodplain through a landowner brochure that promotes stewardship of the buffers adjacent to the wetland.
- ❑ A protective screen of Eastern White Cedar should be planted between the development line and the edge of the buffer.
- ❑ Snow should not be stored where road salt could migrate into the floodplain.
- ❑ The buffer between the development limit and the creek should be planted with shrubs, herbs and grasses to improve its function.
- ❑ Current surface water flows to Clythe Creek should be maintained in order to support the wetland.
- ❑ Post-development ground water flows to Clythe Creek should be assessed, and maintained through infiltration trenches and other suitable methods, when post development flows are determined and when the functionality of the current infiltration trench is assessed.

These proposed mitigation measures will be updated, as needed (e.g., based on water quality, thermal mitigations, etc.).

8. Impact Assessment

The Impact Assessment section of the EIS will:

- ❑ Provide a detailed description of the proposed development with an assessment of elements of the development that may impact the natural heritage features and areas identified for protection, and/or their ecological functions;
- ❑ Evaluate potential impacts to SAR and/or their habitat;
- ❑ Describe direct, indirect, short-term, long-term, and cumulative impacts; and
- ❑ Provide recommendations for additional mitigation of all impacts.

Among others, the impact assessment will consider wetland water balance (surface and groundwater inputs).

9. Monitoring Plan

If appropriate, the EIS will include recommendations for short- or long-term management, conservation, enhancement, and/or the monitoring of significant environmental features and/or functions within the study area and/or adjacent lands.

10. Policy Analysis

This section of the EIS will provide an analysis of whether the proposed development complies with provincial, municipal and Grand River Conservation Authority policies and legislation.

11. Recommendations and Conclusion

This section of the EIS will summarize all the recommendations, provide a general statement as to whether or not the EIS complies with applicable policies and legislation, and include a list of conditions of approval to be completed during the preparation of the Environmental Implementation Report, or at another detailed design stage, or implemented during/following construction.

12. Appendices

Appendices will include the final approved Terms of Reference.

□

13. References

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Figure 1 | Starwood-Watson
Project Location

Legend

- ▭ Subject Property
- Watercourse

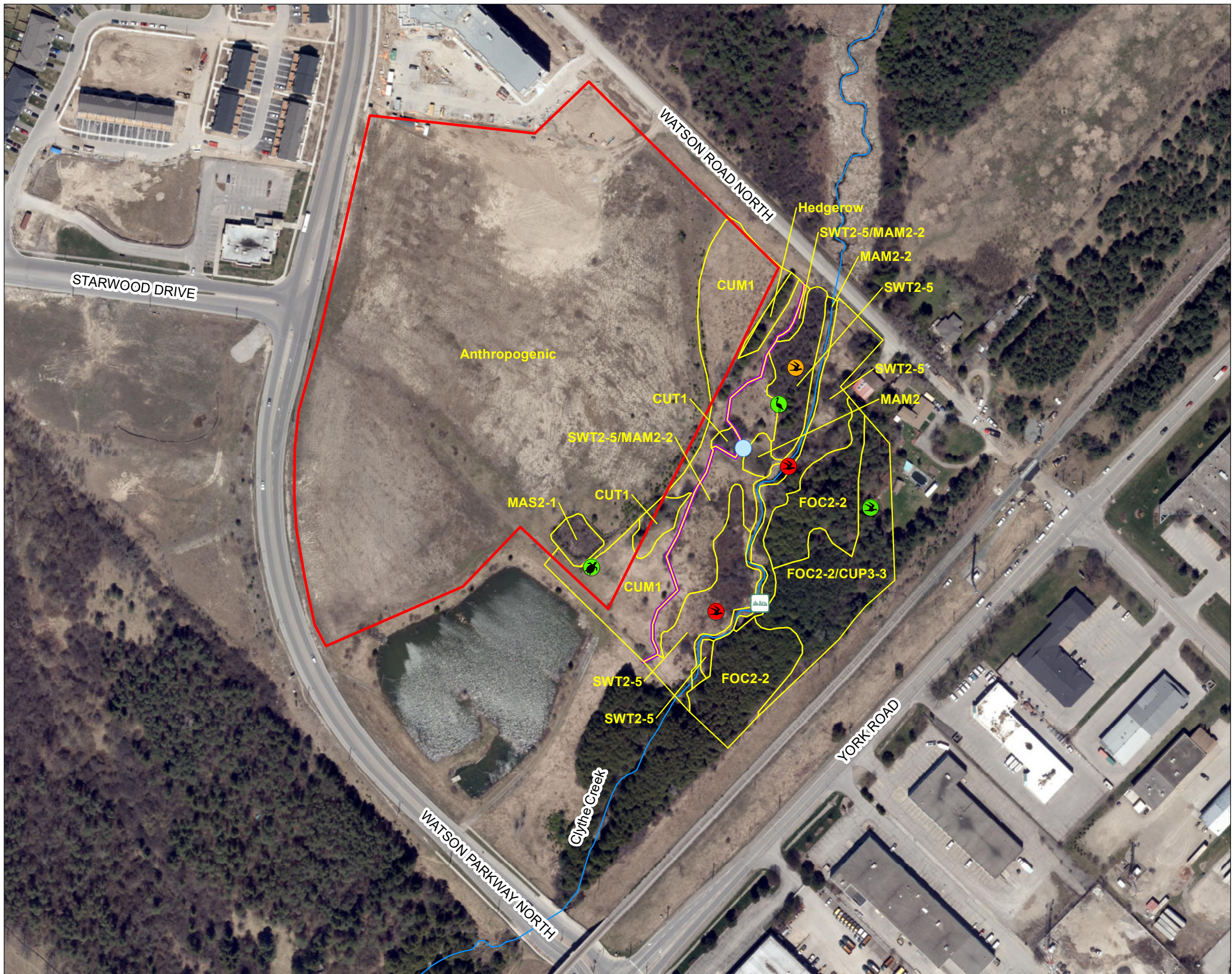


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Imagery: ESRI



Figure 2 | Starwood-Watson
Results of Previous Fieldwork



Legend

- Subject Property
 - Watercourse
 - Wetland Boundary
 - Ecological Land Classification
 - Seepage Area
- Area Sensitive Bird Species**
- Pine Warbler
- Locally Significant Bird Species**
- American Redstart
 - Baltimore Oriole
 - Green Heron
- Locally Significant Plant Species**
- Sweet Grass
- Species of Special Concern**
- Snapping Turtle
- Vegetation Communities**
- CUM1 - Mineral Cultural Meadow
 - CUP3-3 - Scotch Pine Coniferous Plantation
 - CUT1 - Mineral Cultural Thicket
 - FOC2-2 - Dry/Fresh White Cedar Coniferous Forest
 - MAM2 - Mineral Meadow Marsh
 - MAM2-2 - Reed-canary Grass Mineral Meadow Marsh
 - MAS2-1 - Cattail Mineral Shallow Marsh
 - SWT2-5 - Red-osier Mineral Thicket Swamp



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Figure 3 | Starwood-Watson
Previous Commitments



Legend

- Subject Property
- Watercourse
- Wetland Boundary
- Wetlands Buffer
- Modify Culvert for Amphibian
- Amphibian Funnel Fencing (location and extent to be determined)
- Seepage
- Sediment / Amphibian Pond Relocation (exact location to be determined)
- Guelph Master Trail Plan
- Cultural Woodland Overlay (Approx.)

Development Limit (Relocated)

- Limit of Significant Valleyland Area as agreed in Settlement Minutes dated June 10, 2014
- Wetland Boundary Buffer as agreed in Settlement Minutes dated June 10, 2014 (North limit is consistent with the northmost limit of the Ecological Linkage)



Project Number 22-1267	Date: 2022-09-16	N ▲
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Map Produced by North South Environmental (NSE) Inc.
This map is proprietary and confidential and must not be duplicated or distributed by any means without permission of NSE.
Data Provided by: North South Environmental Inc.
Imagery: ESRI



APPENDIX A | Draft Development Proposal

□



A-6

PRELIMINARY

SHEET TITLE: TYPICAL FLOOR PLAN
 SCALE: 1:800
 DATE: 2022-04-28

115 Watson Parkway North, Guelph, ON
 22.028

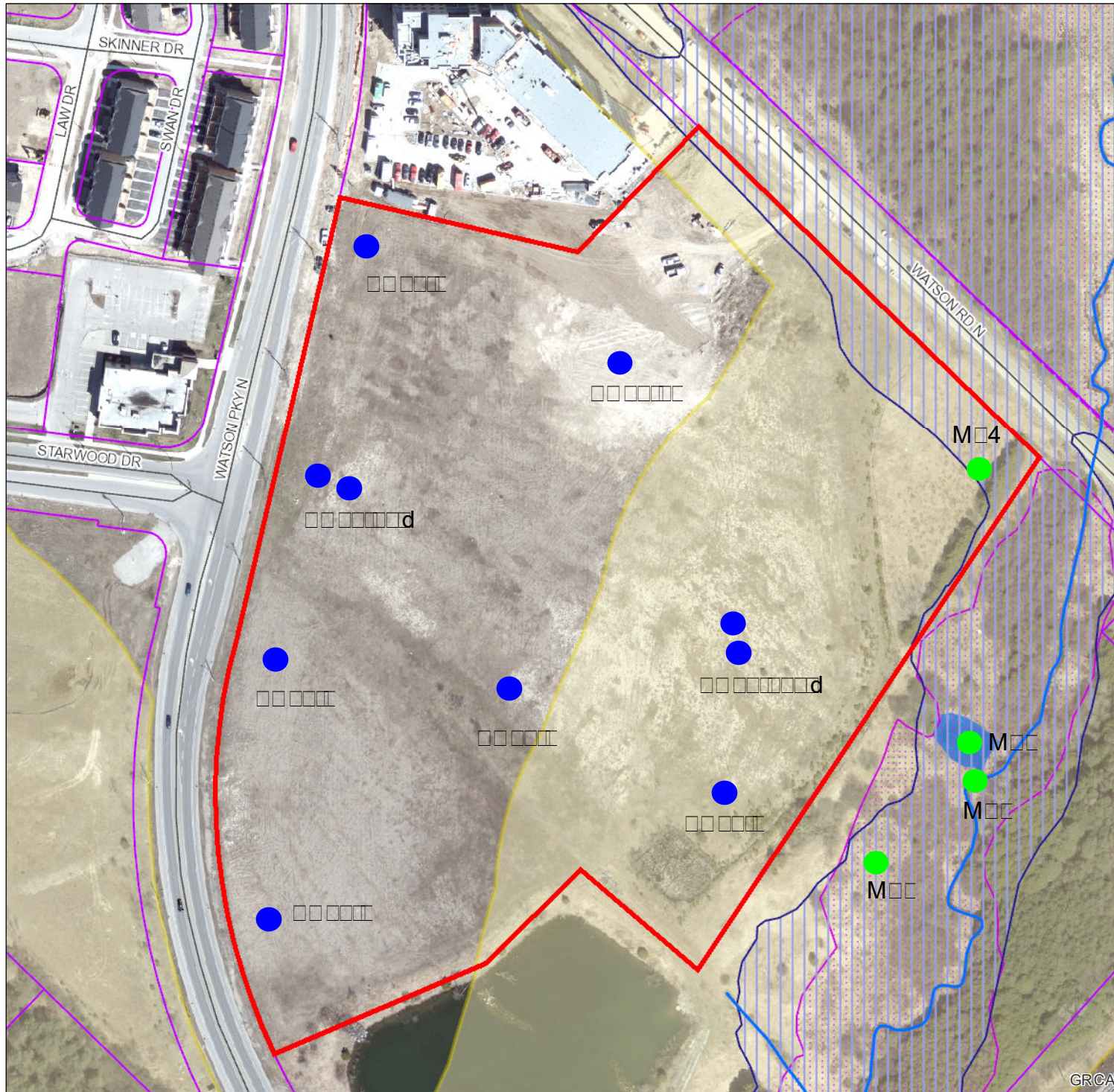
This proposal constitutes Preliminary Work. "Preliminary Work" means all artwork, renderings, key plans, and other preliminary materials and designs prepared by us solely for this project/site. All Preliminary Work remains our exclusive property and we retain all rights and title to the Preliminary Work. Preliminary Work may not be copied, reproduced, or republished without our prior written consent. The Preliminary Work is subject to change and is made available for your review for informational and consultation purposes only in relation to this project/site.



APPENDIX B | Hydrogeological Study Proposal



115 Watson Parkway North, Guelph

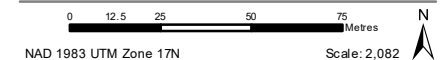


Legend

- Regulation Limit (GRCA)
- Regulated Watercourse (GRCA)
- Regulated Waterbody (GRCA)
- Wetland (GRCA)
- Floodplain (GRCA)
 - Engineered
 - Estimated
 - Approximate
 - Special Policy Area
- Slope Valley (GRCA)
 - Steep
 - Oversteep
 - Steep
- Slope Erosion (GRCA)
 - Oversteep
 - Toe
- Lake Erie Flood (GRCA)
- Lake Erie Shoreline Reach (GRCA)
- Lake Erie Dynamic Beach (GRCA)
- Lake Erie Erosion (GRCA)
- Parcel - Assessment (MPAC/MNRF)

This legend is static and may not fully reflect the layers shown on the map. The text of Ontario Regulation 150/06 supercedes the mapping as represented by these layers.

Copyright Grand River Conservation Authority, 2022. Disclaimer: This map is for illustrative purposes only. Information contained herein is not a substitute for professional review or a site survey and is subject to change without notice. The Grand River Conservation Authority takes no responsibility for, nor guarantees, the accuracy of the information contained on this map. Any interpretations or conclusions drawn from this map are the sole responsibility of the user. The source for each data layer is shown in parentheses in the map legend. For a complete listing of sources and citations go to: <https://maps.grandriver.ca/Sources-and-Citations.pdf>



**TOR APPROVAL BY CITY OF GUELPH,
JANUARY 11, 2023**

From: [Jason Elliott](#)
To: [Izabela van Amelsvoort](#); [Ben Kissner](#)
Subject: Re: 115 Watson Rd - EIS Update - TOR
Date: Wednesday, January 11, 2023 4:32:08 PM
Attachments: [image001.png](#)
[image003.png](#)
[image004.png](#)
[image005.png](#)
[image006.png](#)

Hi Izabela,

I have reviewed the revised EIS ToR dated November 11, 2022. While the majority of my comments on the first submission have been satisfactorily addressed, a few relatively minor items remain as outlined below. Nevertheless, the City accepts the ToR as final, subject to GRCA's agreement, and expects the comments to be addressed in the EIS as appropriate. I have not received any correspondence from GRCA regarding their comments on the previous draft ToR. I am also not clear on the scope of their continued involvement given the recent changes to the CA Act through Bill 23. Given the haste from the Province on that Bill's approval, staff haven't had a chance to discuss this with GRCA. Perhaps Ben can weigh in on this and let us know the status of the ToR from their perspective. Nevertheless, I didn't want to delay my correspondence on this anymore than I have already hence providing you my comments now.

Comments:

- While other similar incorrect instances were revised, a sentence on page 3 regarding refinement of the Ecological Linkage was missed. This sentence should refer to the refinement of the Significant Valleyland. Similarly, the concept plan in Appendix A still incorrectly displays the Ecological Linkage as extending north along Watson Road. This comment was provided only for clarity.
- While it is difficult to see in the Official Plan schedules, the Cultural Woodland located east of Watson Road actually begins at the eastern limit of the road (not outside of the Study Area as stated in Section 4.4 or 108 m away from the property as stated in the Response to comments. Ensure that this feature is included in the EIS.
- The response to comments indicates that geospatial data for the Savannah Sparrow and Willow Flycatcher observations in previous EISs is not available. However, the 2013 EIS update by NSE provides a location for Willow Flycatcher and indicates that Savannah Sparrow was observed on the property in the graded area. Ensure this is reflected in the EIS.

Regards,

Jason

Jason Elliott, Environmental Planner
Planning and Building Services
City of Guelph
519-822-1260 extension 2563

APPENDIX 3 | Agency Correspondence

115 Watson Pkwy N - Scoped Environmental Impact Study • November, 2023

MNRF CORRESPONDENCE

From: Denyes, David (MNR) <David.Denyas@ontario.ca>
Sent: Wednesday, December 7, 2022 9:10 AM
To: Izabela van Amelsvoort <ivanamelsvoort@nsenvironmental.com>
Cc: Sarah Mainguy <smainguy@nsenvironmental.com>
Subject: RE: 115 Watson Pkwy N - New Wetland Feature

Hello Izabela,

The Guelph District MNR office has reviewed the information that you provided and are in agreement with your conclusion that there isn't sufficient rationale to justify including this new wetland feature as a part of the existing Clythe Creek PSW Complex.

It is understood that an OWES certified evaluator has followed the OWES process in making this determination.

Regards,

David

1

David Denyes
Management Biologist
Ministry of Natural Resources and Forestry
Vineland Field Office
4890 Victoria Avenue North
Vineland Station ON, L0R 2E0
Tel: (289) 241-6872
david.denyas@ontario.ca

From: [Denyes, David \(NDMNRF\)](#)
To: [Izabela van Amelsvoort](#)
Subject: RE: 115 Watson Pkwy N - New Wetland Feature
Date: Monday, August 15, 2022 1:44:20 PM
Attachments: [image001.png](#)

Hello Izabela,

An OWES certified evaluator may provide our office with an assessment of whether or not they are of the opinion that this small wetland unit should be complexed with the adjacent Provincially Significant Clythe Creek Wetland Complex.

A single contiguous wetland smaller than 2 ha may be complexed when, in the opinion of the evaluator, the small wetland community provides important benefits to the wetland complex. The evaluator must attach to the Wetland Data Record a brief documentation of the reasons for inclusion of those areas less than 2 ha (page 39-40, [Ontario Wetland Evaluation System Manual](#)).

The minimum size of a vegetation community that can be mapped under OWES is typically 0.5 ha (but exceptions can be made). Vegetation communities should be discernable as polygons that define a break in dominant vegetation form or in wetland type. A specific rationale must also be included for wetland vegetation communities under 0.5 ha (see page 64 of OWES).

If the OWES evaluator is recommending adding this wetland unit in the complex, our office would need to be provided with a brief documentation for including a wetland less than 2 ha, as well as, any specific rationale for mapping a vegetation community under 0.5ha in size.

If you have any questions, please don't hesitate to contact me.

Regards,

David

David Denyes

Management Biologist
Ministry of Natural Resources and Forestry
Vineland Field Office
4890 Victoria Avenue North
Vineland Station ON, L0R 2E0
Tel: (289) 241-6872
david.denyesh@ontario.ca

From: Izabela van Amelsvoort <ivanamelsvoort@nseenvironmental.com>

Sent: August 10, 2022 2:57 PM

To: Ungar, Darren (NDMNRF) <Darren.Ungar@ontario.ca>; Thompson, Melinda (MECP) <Melinda.Thompson@ontario.ca>; Kearney, Jocelyn (NDMNRF) <Jocelyn.Kearney@ontario.ca>

Cc: Sarah Mainguy <smainguy@nseenvironmental.com>

Subject: 115 Watson Pkwy N - New Wetland Feature

CAUTION -- EXTERNAL E-MAIL - Do not click links or open attachments unless you recognize the sender.

Hello,

Apologies for the multiple recipients - I did call the Guelph MNDMNRF office but was not able to get clear direction on who the contact person is for wetland / PSW evaluations. Please let me know if it is someone not yet included.

I am contacting you with regards to a new wetland feature (0.08 ha in size) identified in close proximity (~20 m) to an evaluated PSW (Clythe Creek Wetland Complex) at 115

Watson Parkway North in Guelph, Ontario. This new wetland feature was staked together with Grand River Conservation Authority (GRCA) last month (June 2022). Ultimately, our question is whether this new wetland feature should be complexed with the adjacent evaluated PSW. Below are specifics of the wetland in question. Please see also attached figure.

- The features on the property were previously assessed in 2013, at which time the area of the 'new wetland feature' had been described as a cultural meadow (the wetland boundary, which excluded that meadow, was reviewed by staff from GRCA and City of Guelph and there were no issues at the time with excluding the area). The area in question was then, and continues to be, dominated by Canada Goldenrod (WC +3). However, although present in 2013, Red-osier Dogwood (WC -3) and *Carex flava* (WC -5) have increased in abundance. According to 2022 surveys, the features is now co-dominated by Canada Goldenrod together with Red-osier Dogwood, with scattered *Carex flava*.
- Mottles are located more than 20 cm below the surface. Soils were determined to be Moist (5).
- Based on the above, GRCA determined that a portion of this area now qualifies as wetland, and a 0.08 ha polygon was delineated.
- This 'new wetland feature' is located within 20 m of the adjacent evaluated PSW, however, it is separated by a hedgerow and berm which effectively block overland flow.
- The PSW boundary was surveyed in both 2013 and 2022, and determined to have remained unchanged in the area adjacent to the new wetland. The size and existing characteristics of the adjacent PSW have not changed (i.e., as far as can be determined, the PSW is not fed / influenced by the 'new wetland feature').

Please let us know if the 'new wetland feature' should be complexed with the adjacent evaluated PSW.

The outcome of the assessment is of concern to the proponent, as it may have large impacts on the adjacent proposed development.

Let us know if you require any additional information to complete your assessment, as well as an approximate timeline for receiving a response.

Thank you and kind regards,

Izabela



OMB DECISION

ONTARIO MUNICIPAL BOARD

IN THE MATTER OF subsection 17(36) of the *Planning Act*, R.S.O. 1990, c.P.13, as amended

Appellant:	1077955 Ontario Inc.
Appellant:	Armel Corporation
Appellant:	Brock Road Nursery (Fritz Marthaler)
Appellant:	Thomasfield Homes Limited (substituted for Donald James Cabeldu, John Frederick Cabeldu, Doreen Margaret Godbout, Gregory Allen Godbout, Irene Humfries, Jacqueline McGladrey and Deborah Ann Sefton (jointly))
Appellant:	Frank Cerniuk, H and J Produce Limited, McEnery Industry Limited, Herbert Neumann and Sieben Holdings Limited (jointly)
Appellant:	Loblaw Properties Limited
Appellant:	Silvercreek Guelph Developments Ltd.
Appellant:	South Edge Ltd.
Appellant:	Thomasfield Homes Limited
Appellant:	Eleanor M. Marshall, Eugene Michael Valeriote and Estate of Loyola Martha Mary Valeriote (jointly)
Appellant:	Lisa White
Appellant:	Hugh Whiteley
Appellant:	Barbara Zuccala
Subject:	Proposed Official Plan Amendment No. 42
Municipality:	City of Guelph
OMB Case No.:	PL110278
OMB File No.:	PL110278

MINUTES OF SETTLEMENT

BETWEEN:

Loblaw Properties Limited

(the "Appellant")

- and -

THE CORPORATION OF THE CITY OF GUELPH

(the "City")

WHEREAS the City passed Official Plan Amendment No. 42 to the City of Guelph Official Plan ("Official Plan") on July 27, 2010, approved by the Ministry of Municipal Affairs and Housing on February 22, 2011 with amendments ("OPA 42"), which establishes a Natural Heritage System in the City's Official Plan (the "Natural Heritage System");

AND WHEREAS the Appellant is the owner of lands known municipally as 115 Watson Road North with the legal descriptions shown on Attachment "A" hereto (the "Lands");

AND WHEREAS pursuant to OPA 42:

- (a) a portion of the Lands is identified as Minimum Watercourse Buffer on Schedule 10B, Significant Valleyland on Schedule 10D and Buffer to Provincially Significant Wetlands and to Locally Significant Wetlands in Schedule 10A (Attachments B, C and D hereto); and

(b) due to the presence of Minimum Watercourse Buffer, Significant Valleyland, Buffer to PSW and LSW, and Ecological Linkage, portions of the Lands are designated as Significant Natural Areas on Schedule 1 (Land Use Plan) and shown as Significant Natural Areas and Ecological Linkage on Schedule 10 (Natural Heritage System) (Attachments "E and "F" hereto),

((a) and (b) collectively being the "Designation");

AND WHEREAS, as a result of the Designation, the Lands are also shown within the Natural Heritage System on Schedule 2 and Schedules 10C and 10E to OPA 42;

AND WHEREAS a letter of appeal to the Designation as it pertains to its Lands was submitted on March 15, 2011, shown in Attachment "G" hereto (the "Appeal");

AND WHEREAS site specific modifications to the mapping of Significant Wetlands and Ecological Linkage are proposed to be made for the Lands, in a manner that is consistent with the original purpose and intent of OPA 42, as modified, as set out herein;

AND WHEREAS in conjunction with the revised Ecological Linkage mapping, the appellant has agreed to provide certain improvements to Watson Road to improve amphibian movement as part of a future site plan or other development application for the Lands;

AND WHEREAS there is a temporary sedimentation basin on the lands which currently provides amphibian breeding habitat, but is not part of the NHS, and which may be removed as per previous approvals at the time of development;

AND WHEREAS it is agreed at the time of development, that the appellant will provide an alternate amphibian habitat on adjacent City lands;

AND WHEREAS certain site specific mapping changes as identified herein, fully address the issues raised in the Appeal of OPA 42;

AND WHEREAS the City and the Appellant are desirous of entering into Minutes of Settlement in order to resolve all issues between the parties relating to the Appeal in this matter;

THEREFORE, THE PARTIES HEREBY AGREE AS FOLLOWS:

1. The parties confirm that the recitals set out above are true and correct;
2. The City and the Appellant agree to request that the Board allow the Appeal, in part, and issue an Order as follows:
 - a. Modifying Schedule 10A of OPA 42 to implement mapping changes to Significant Wetland specific to the lands in accordance with Attachment H;

- b. Modifying Schedules 10 and 1 to implement mapping changes to Ecological Linkage, specific to the lands, and to implement the changes in clauses 2(a), in accordance with Attachments I and J;
 - c. Modifying Schedules 2, 10B, 10C, 10D and 10E of OPA 42 to reflect the changes pursuant to clause 2(a) and (b) of these Minutes of Settlement, as shown on the attached Attachments "K", "L", "M", "N" and O;
3. The parties agree that the modifications in clauses 2(a) and (b) shall be consistent with the modifications shown on the site specific conceptual mapping on the attached Schedules P-1, P-2, Q-1 and Q-2. The Ecological Linkage is generally located in the southeast corner of the Lands and on the adjacent City owned lands shown as Significant Natural Area. The Ecological Linkage includes lands associated with Clythe Creek, and bisects Watson Road North. Modifications to the Ecological Linkage reduce the width of the linkage from 100 metres to approximately 80 metres along the frontage of Watson Road North and 79 metres at its narrowest point between the Lands and the boundary of existing development south of Clythe Creek. The northernmost extent of the linkage boundary remaining on the Lands is the same as the northern limit of the wetland buffer as shown on Schedule P-2.
4. Loblaws will, at its cost, install improvements under Watson Road North to improve amphibian movement within the area of the Ecological Linkage as part of a future site plan or other development application for the Lands. These improvements are to be based on best management practices, current science and design as it relates to amphibian movement structures and incorporate the following, and shall be to the satisfaction of the City, acting reasonably:
 - a) Changes to the Clythe Creek under Watson Road North to promote amphibian passage and/or installation of amphibian passage structure(s) to the north of Clythe Creek between the east side (floodplain) and the west side (wetland)
 - b) Barriers along the east and west sides of Watson Road North to discourage amphibian movement over the road and funnel movement to encourage use of the culvert(s)/structure(s)
5. Further, the parties acknowledge that a small-scale sedimentation basin exists on the lands at the location shown on Schedule R as a result of past grading activities, which is temporary and will be decommissioned at the time of development consistent with the existing zoning and official plan approvals dated September 3, 2002. The City and the Appellant agree that the Appellant shall mitigate potential impacts resulting from the decommissioning of this basin on amphibian breeding habitat by creating/establishing an alternative amphibian breeding pond in a location outside the property boundary of the subject lands and on the adjacent City owned lands within the area marked as Minimum Buffer on Schedule P-2 in order to provide comparable habitat function to that provided by the basin in its current location. The detailed location and design of the amphibian breeding pond will be established as part of a future site plan or other development application for the Lands, to the satisfaction of the City. This shall be at the sole expense of the appellant.

6. The parties agree that the boundaries of the Significant Valleyland on the Lands, as shown on Attachment N and in the site specific map found on Attachment S, may be reviewed and refined, in accordance with the policies of OPA 42 and the Official Plan, as part of a future site plan or other development application. Where these refinements are coterminous with the regulatory limits of the flood plain, the boundary of the flood plain, as shown on Attachment K, may be refined in accordance with the Flood Plain policies of the Official Plan.
7. These Minutes of Settlement resolve all issues relating to the Appeal;
8. Each party will bear its own costs with respect to the Appeal;
9. These Minutes of Settlement are subject to the approval of the Board, and shall be null and void in the event that the Board does not approve the settlement as contained herein;
10. These Minutes of Settlement shall enure to the benefit of and be binding upon the parties hereto and their respective heirs, personal representatives, successors, and assigns.
11. In the event that the Lands are proposed to be sold, the Appellant shall ensure that any purchaser is provided with a copy of these Minutes of Settlement, so that the purchaser has full notice of its rights and obligations under these Minutes of Settlement, and shall provide to the City proof of such notice prior to completion of the sale of the Lands.

Loblaw Properties Limited

Per:



Mario Fatica
Vice President, Planning, Development
and Approvals Ontario
Loblaw Properties Limited

JUNE 5 2014
Date

The Corporation of the City of Guelph

Per:



Donna Jaques - City Solicitor

June 10, 2014.
Date

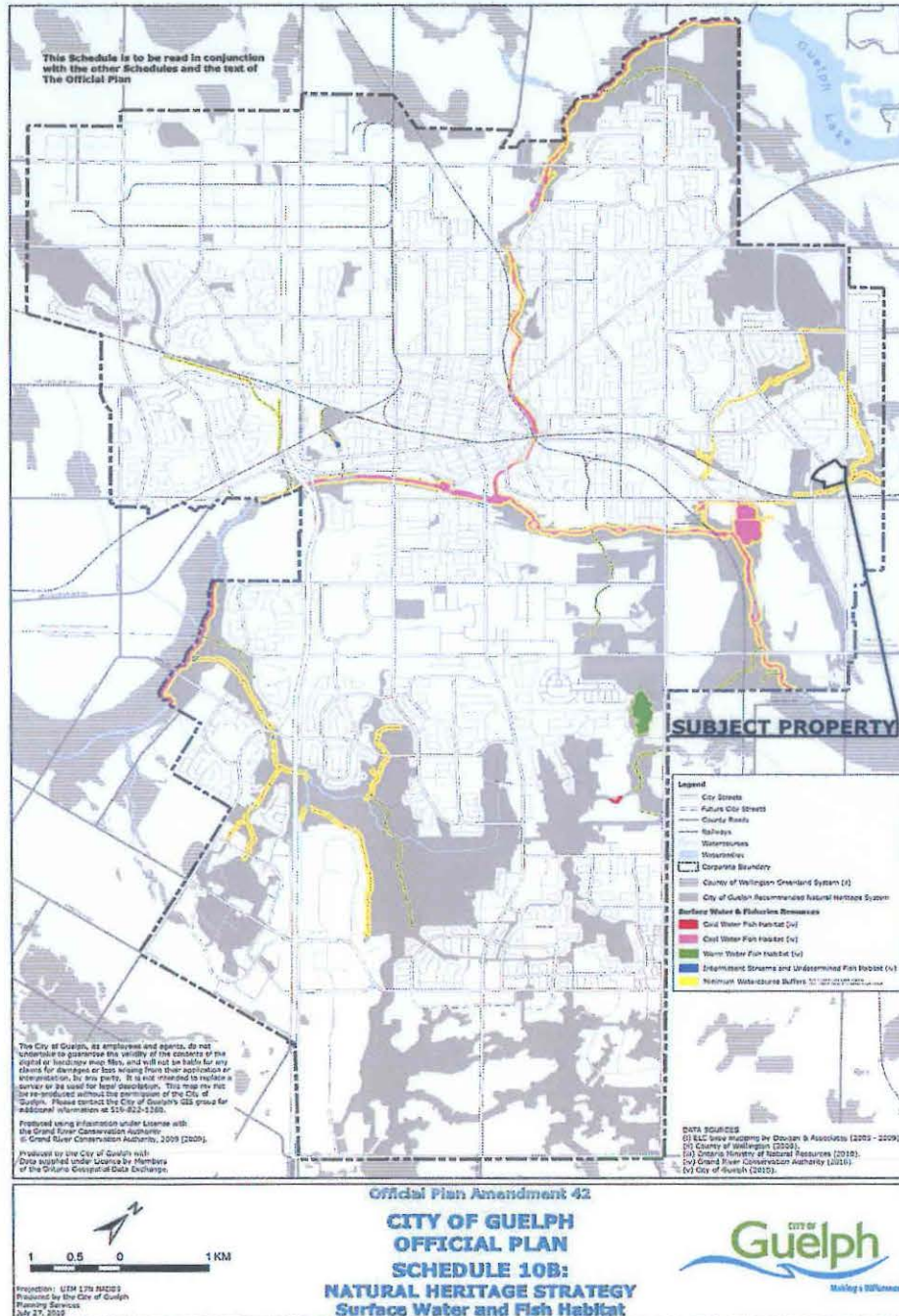
Attachment "A"

Legal Description (the "Lands")

Part Lot 5 Con 3 Div C Township of Guelph Pt 1 61R9256; Guelph
Part Lot 5 Con 3 Div C Township of Guelph Pt 4 61R9256; Guelph

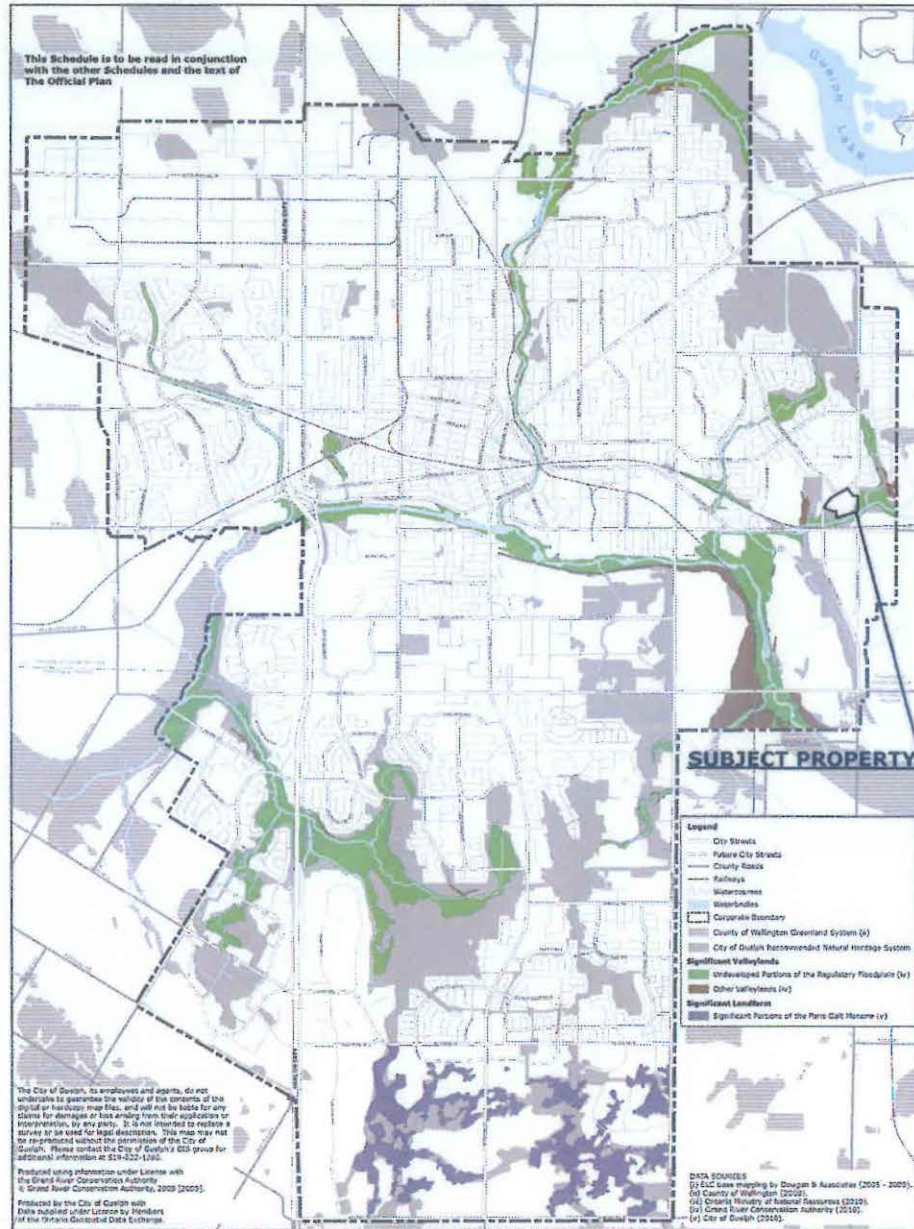
Attachment "B"

Schedule 10B as Approved by the Ministry of Municipal Affairs and Housing February 22 2011



Attachment "C"

Schedule 10D as Approved by the Ministry of Municipal Affairs and Housing February 22, 2011



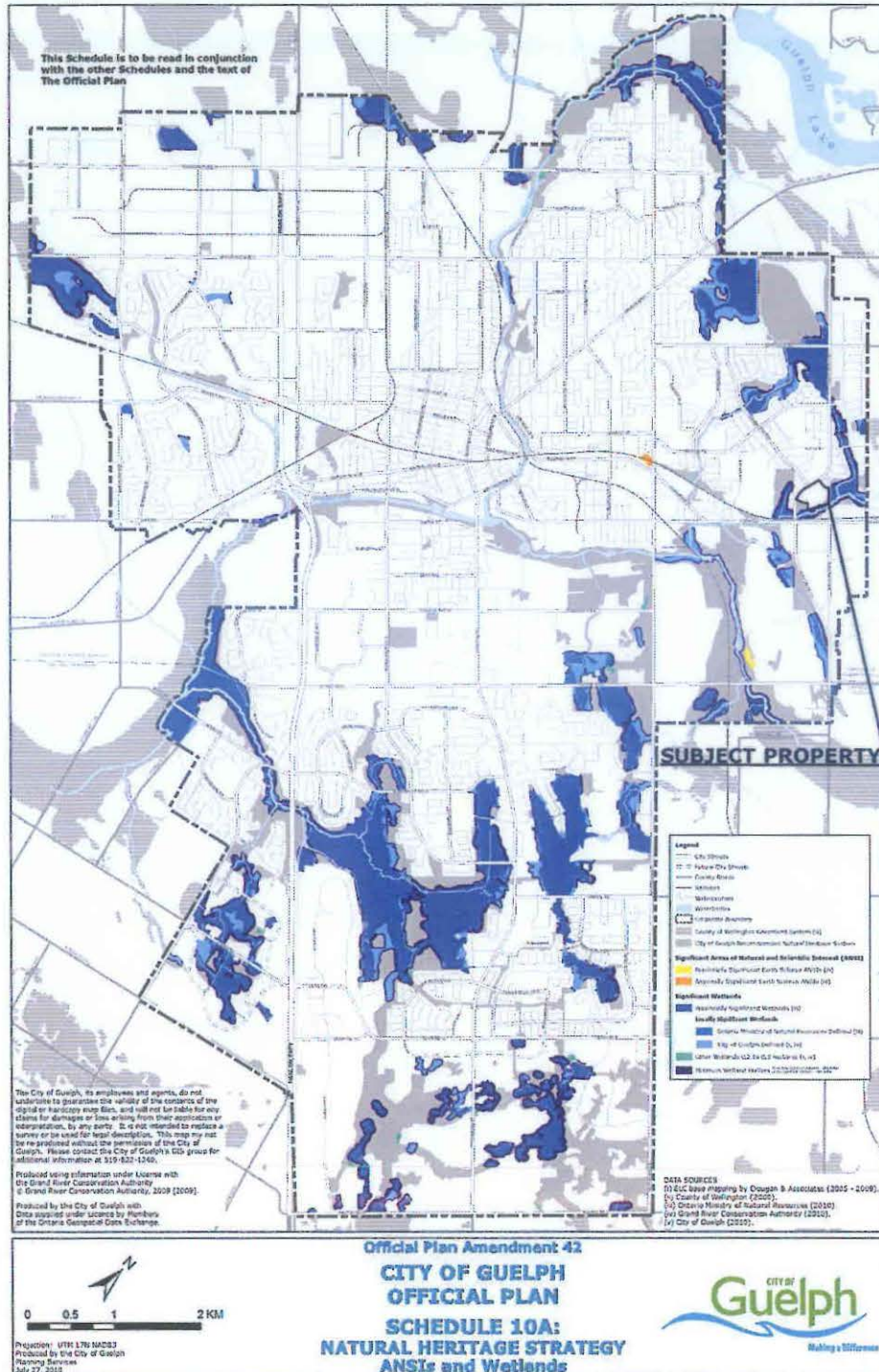
Official Plan Amendment 42
CITY OF GUELPH
OFFICIAL PLAN
SCHEDULE 10D:
NATURAL HERITAGE STRATEGY
Significant Valleylands & Significant Landform

1 0.5 0 1KM

Projection: UTM 18N 110278
 Produced by the City of Guelph
 Planning Services
 July 27, 2010

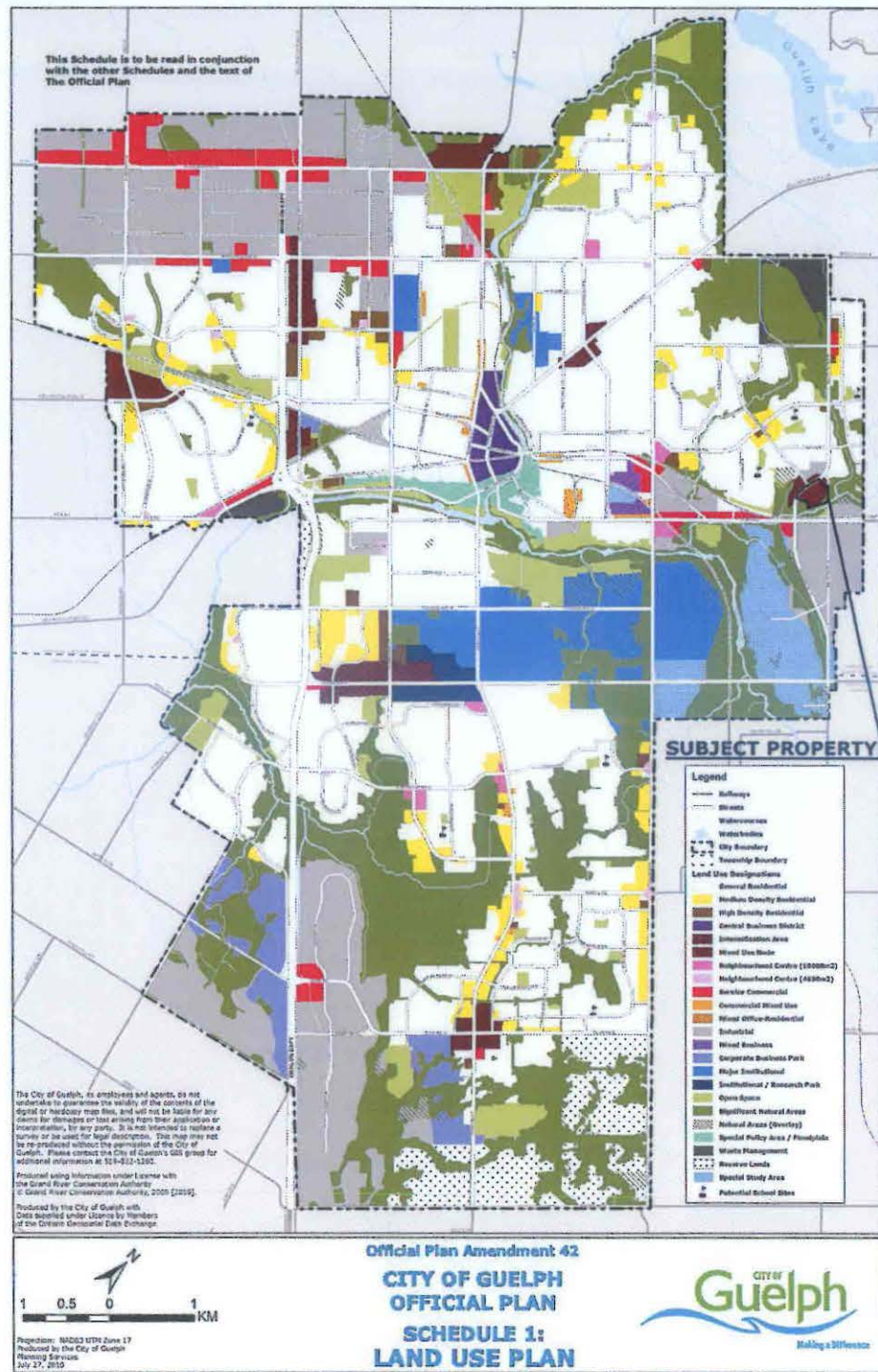
Attachment D

Schedule 10A as Approved by the Ministry of Municipal Affairs and Housing February 22 2011 - Significant Valley Lands & Significant Landform



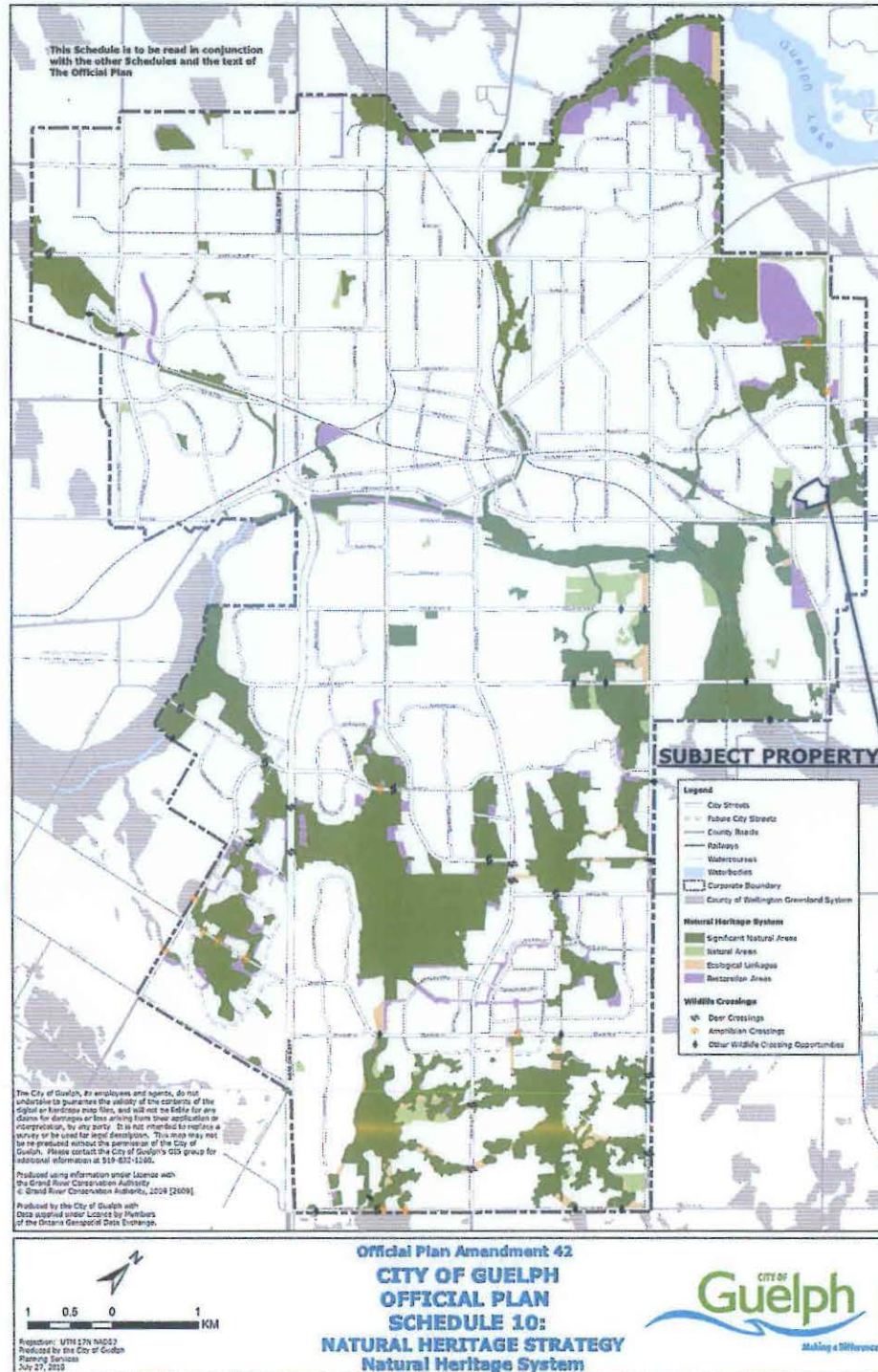
Attachment "E"

Schedule 1 as Approved by the Ministry of Municipal Affairs and Housing February 22 2011



Attachment F

Schedule 10 as Approved by the Ministry of Municipal Affairs and Housing February 22 2011 – Land Use Plan



Attachment "G"

Appeal Letter

AIRD & BERLIS LLP

Barristers and Solicitors

Tom Halinski
Direct: 416.863.7767
E-mail: thalinski@airdberlis.com

VIA FAX AND DELIVERED

March 15, 2011

File No. 84246

Ministry of Municipal Affairs and Housing
Municipal Services Office – Western
659 Exeter Road, 2nd Floor
London, Ontario
N6E 1L3

Attention: Dwayne Evans, Planner

Received

MAR 15 2011

MSO-W

Dear Mr. Evans:

**Re: City of Guelph Official Plan Amendment No. 42
Notice of Appeal
Loblaw Properties Limited**

We are counsel to Loblaw Properties Limited. Enclosed please find our client's Appellant Form (A1) together with a cheque in the amount of \$125.00 representing the appeal fee.

Acknowledgement of your receipt of this appeal would be greatly appreciated.

Should you require any further clarification or information respecting this appeal, please do not hesitate to contact the undersigned.

Yours very truly,

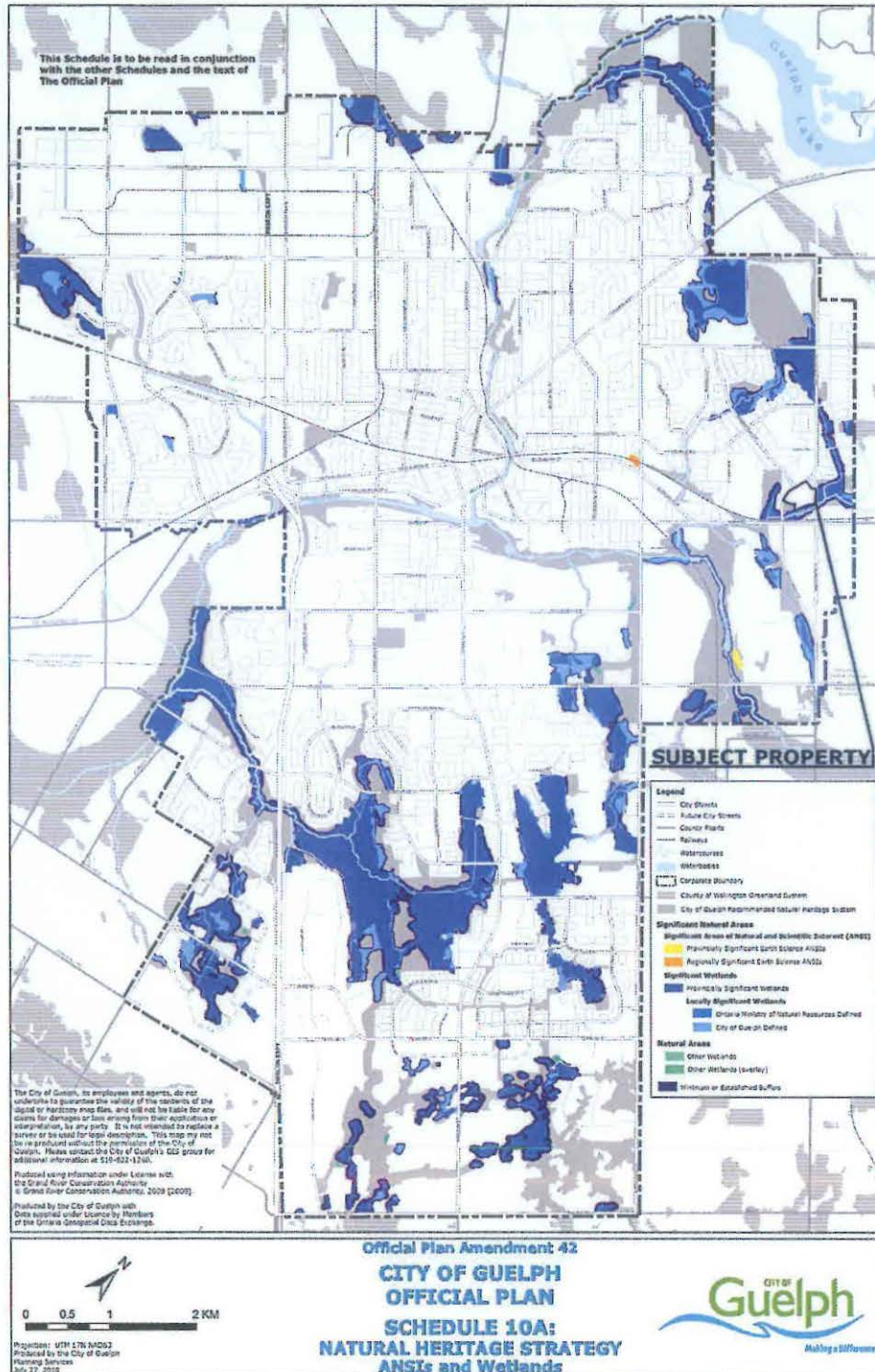
AIRD & BERLIS LLP



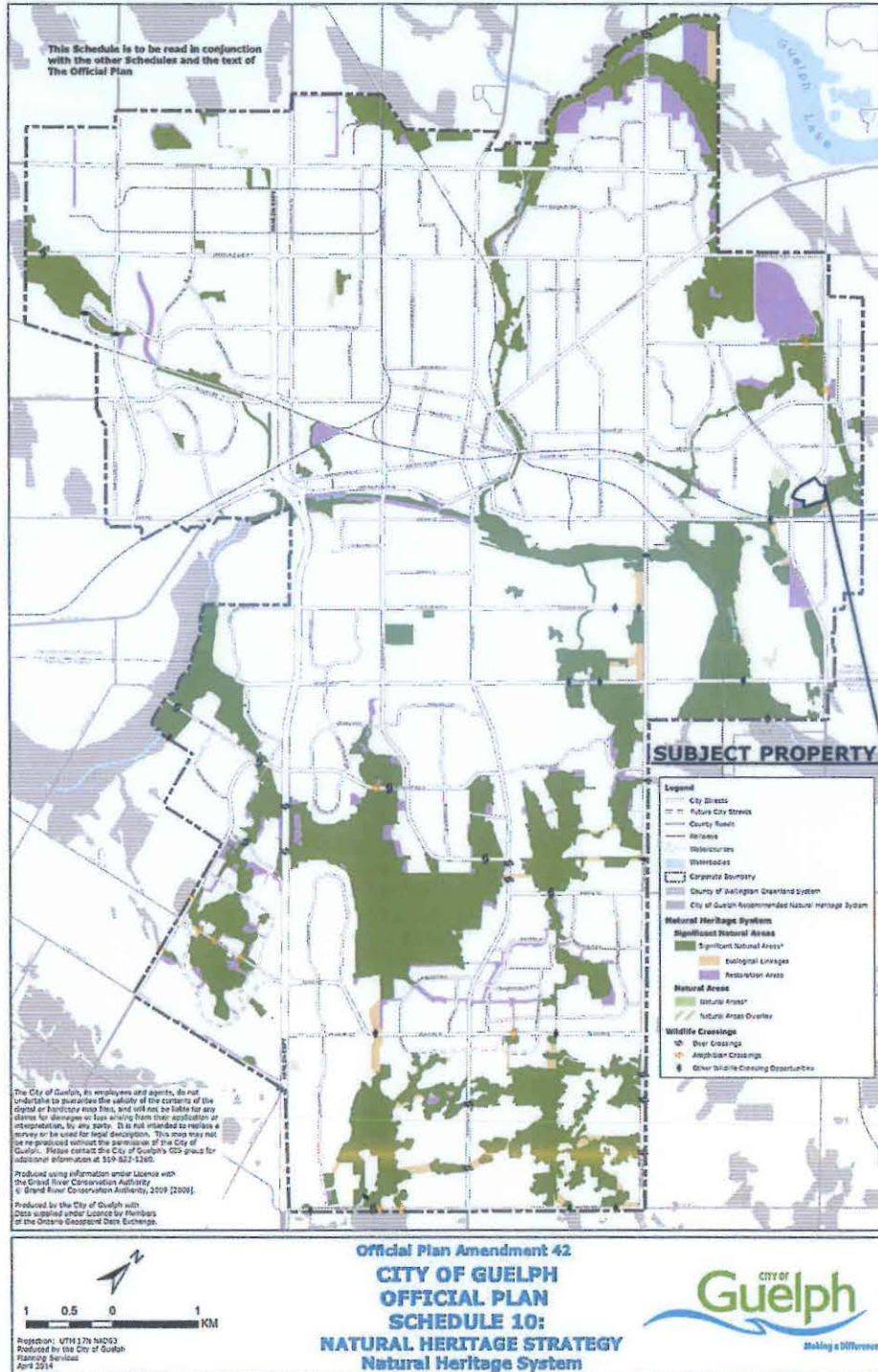
Tom Halinski
TH/ly
Encls.

8182377.1

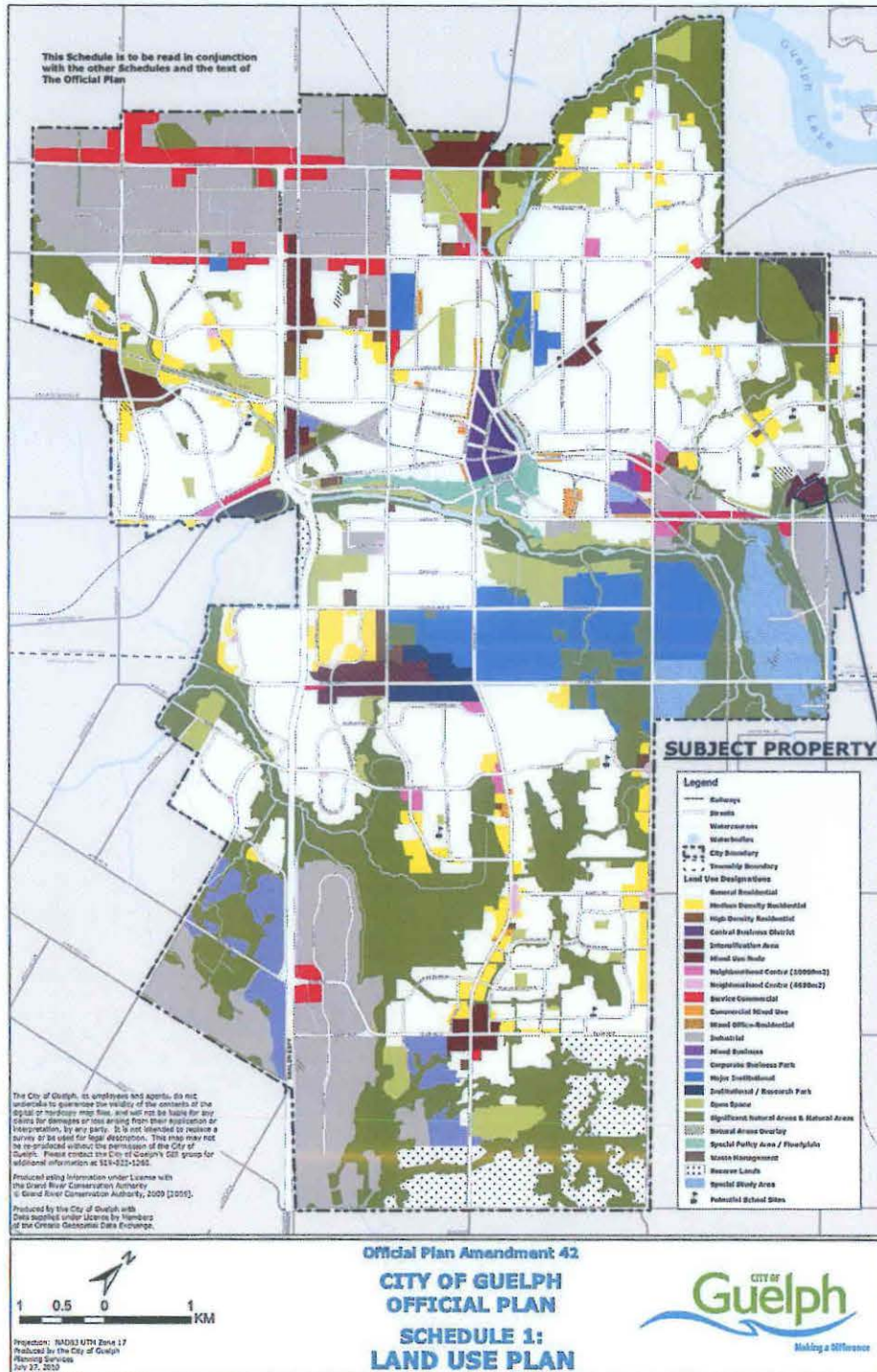
Attachment "H"
 Modified Schedule 10A



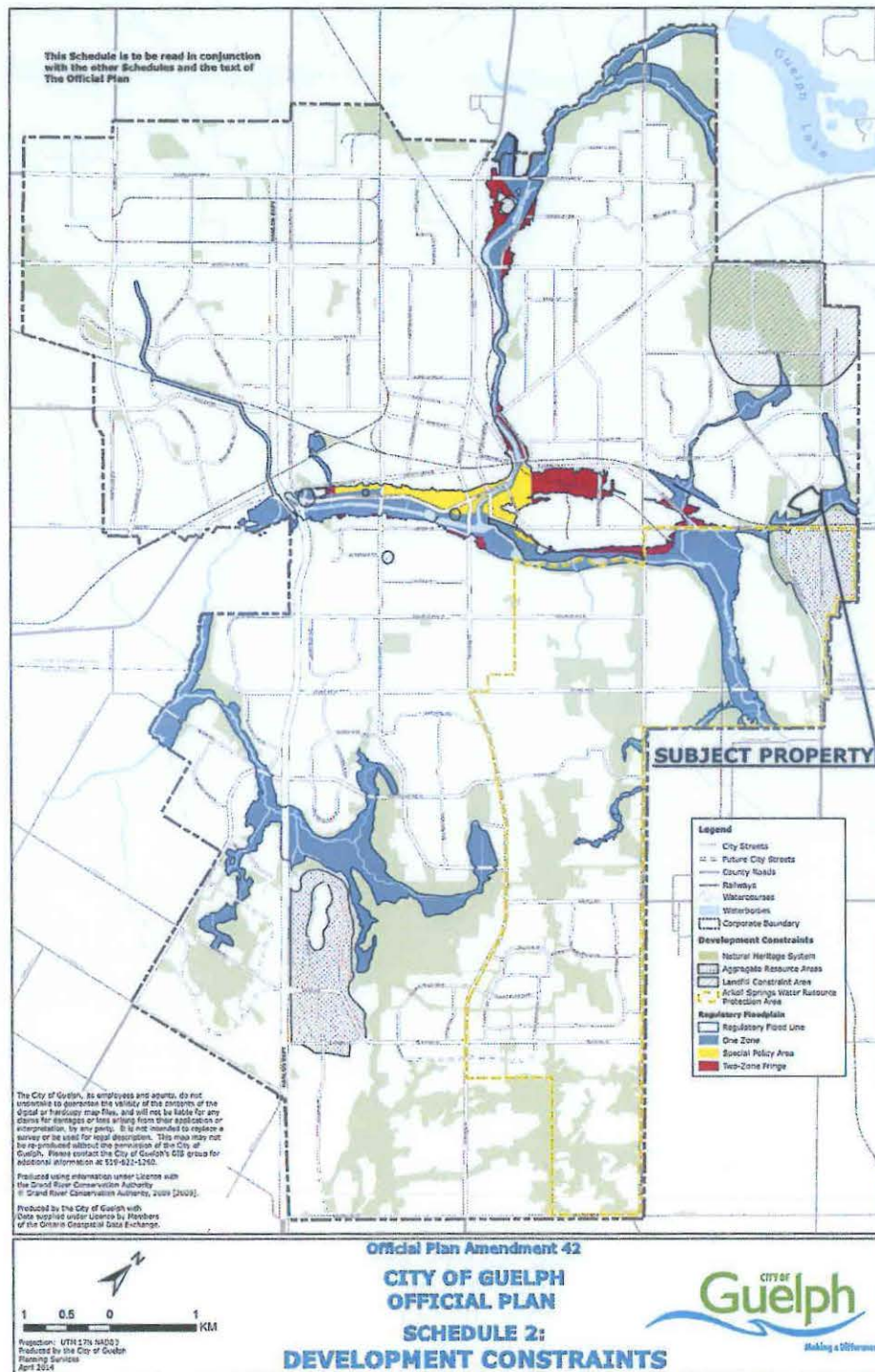
Attachment I
 Modified Schedule 10



Attachment J
Modified Schedule 1

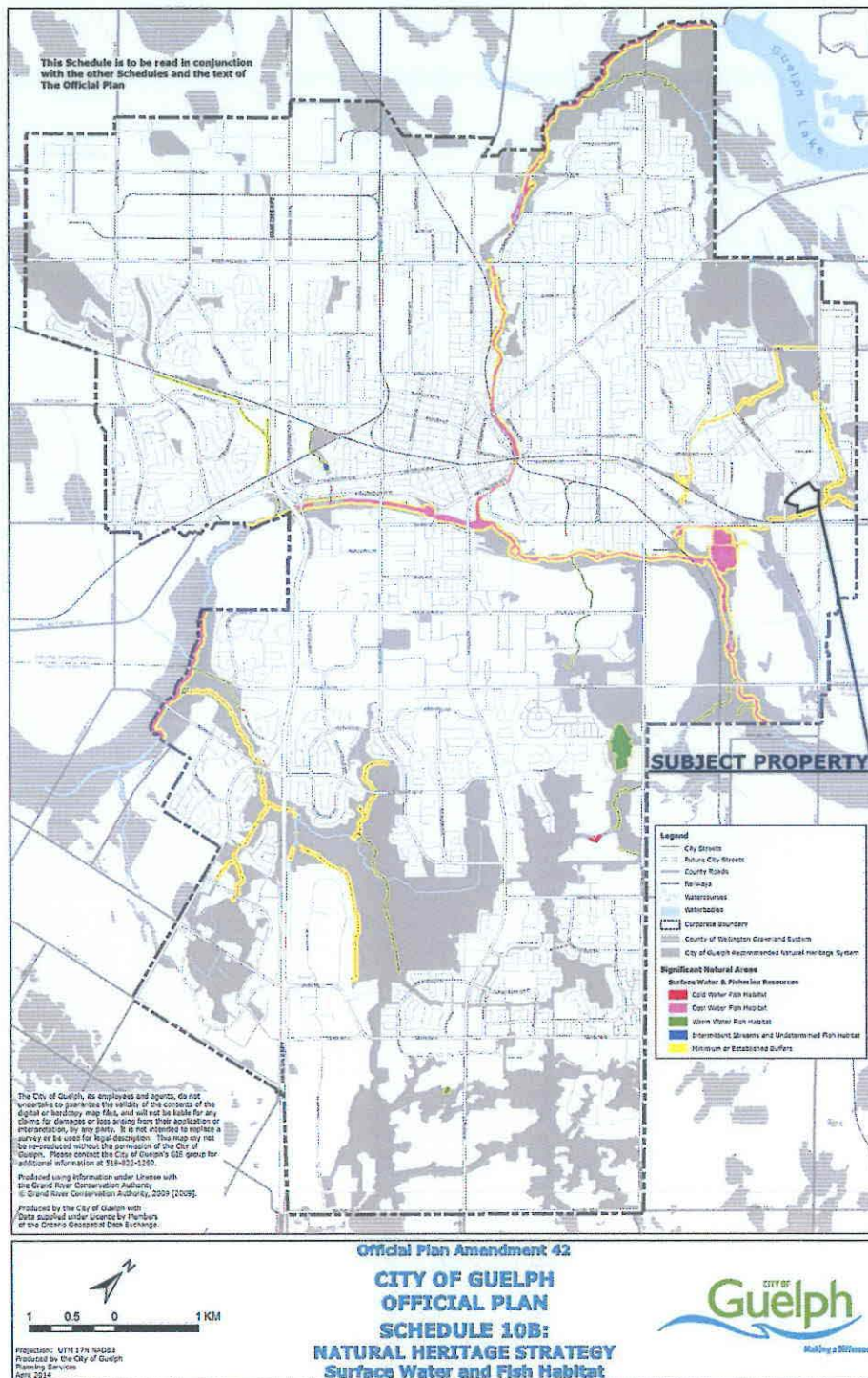


Attachment K
Modified Schedule 2



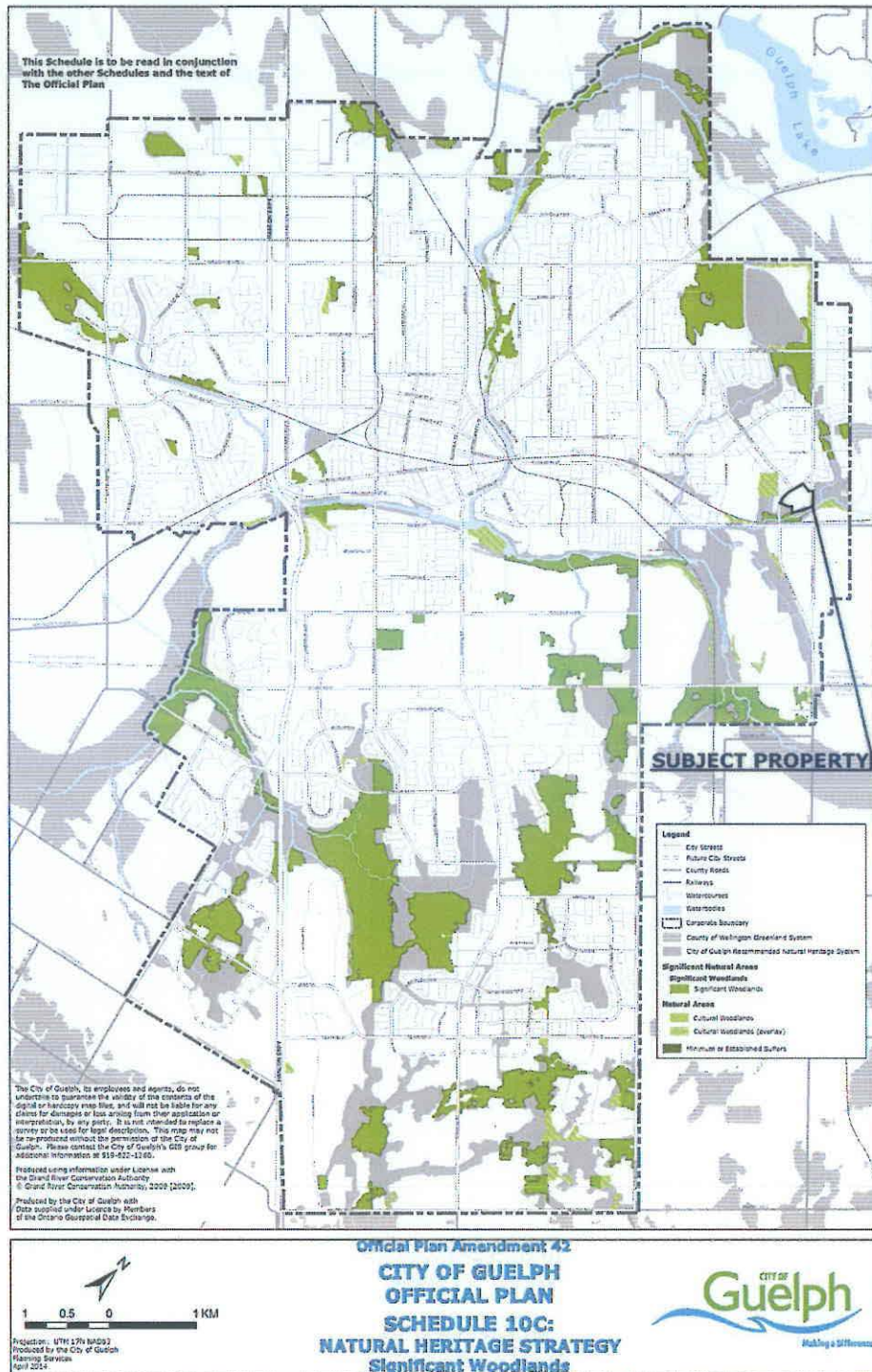
Attachment L

Modified Schedule 10B



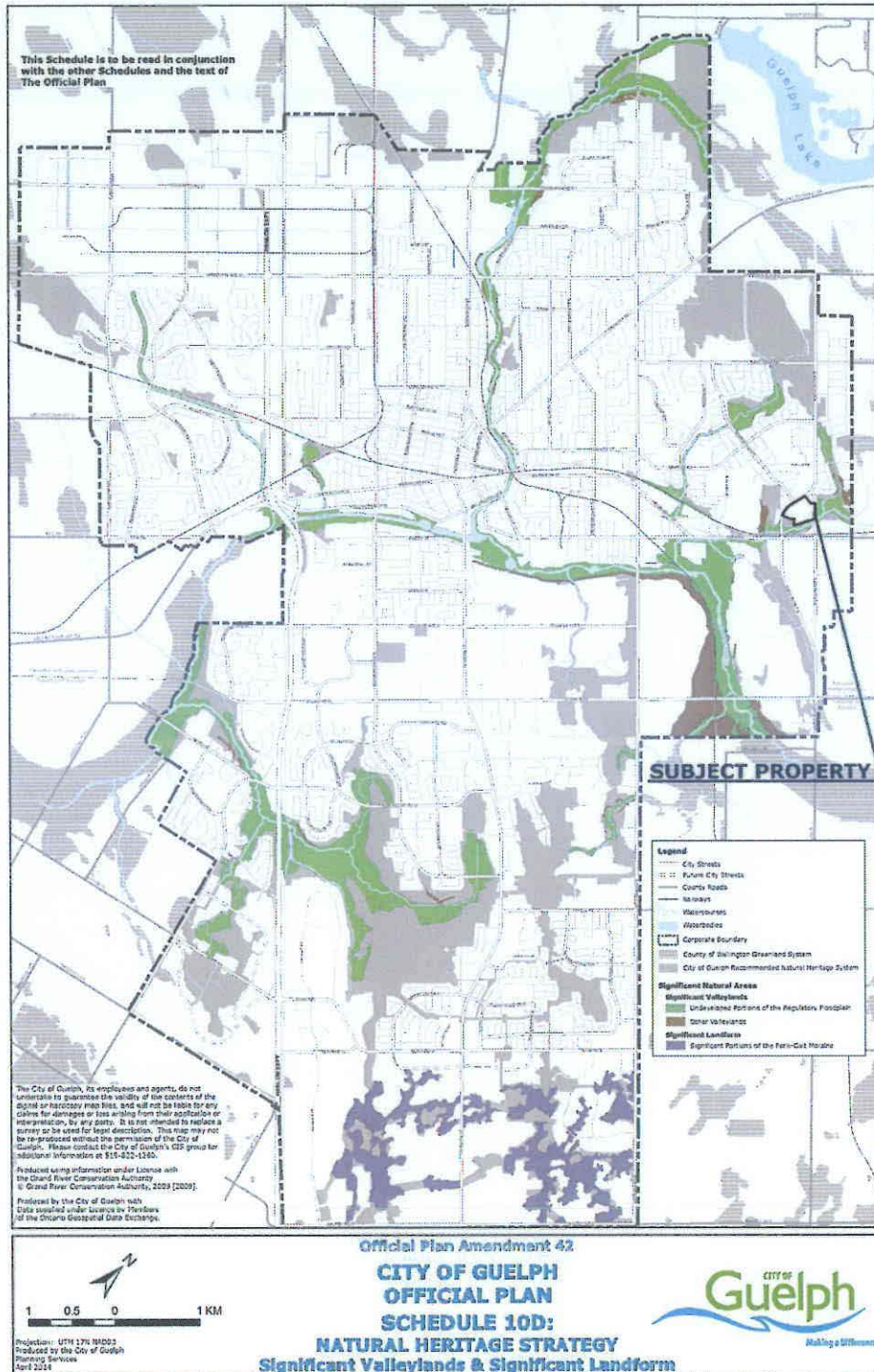
Attachment M

Modified Schedule 10C



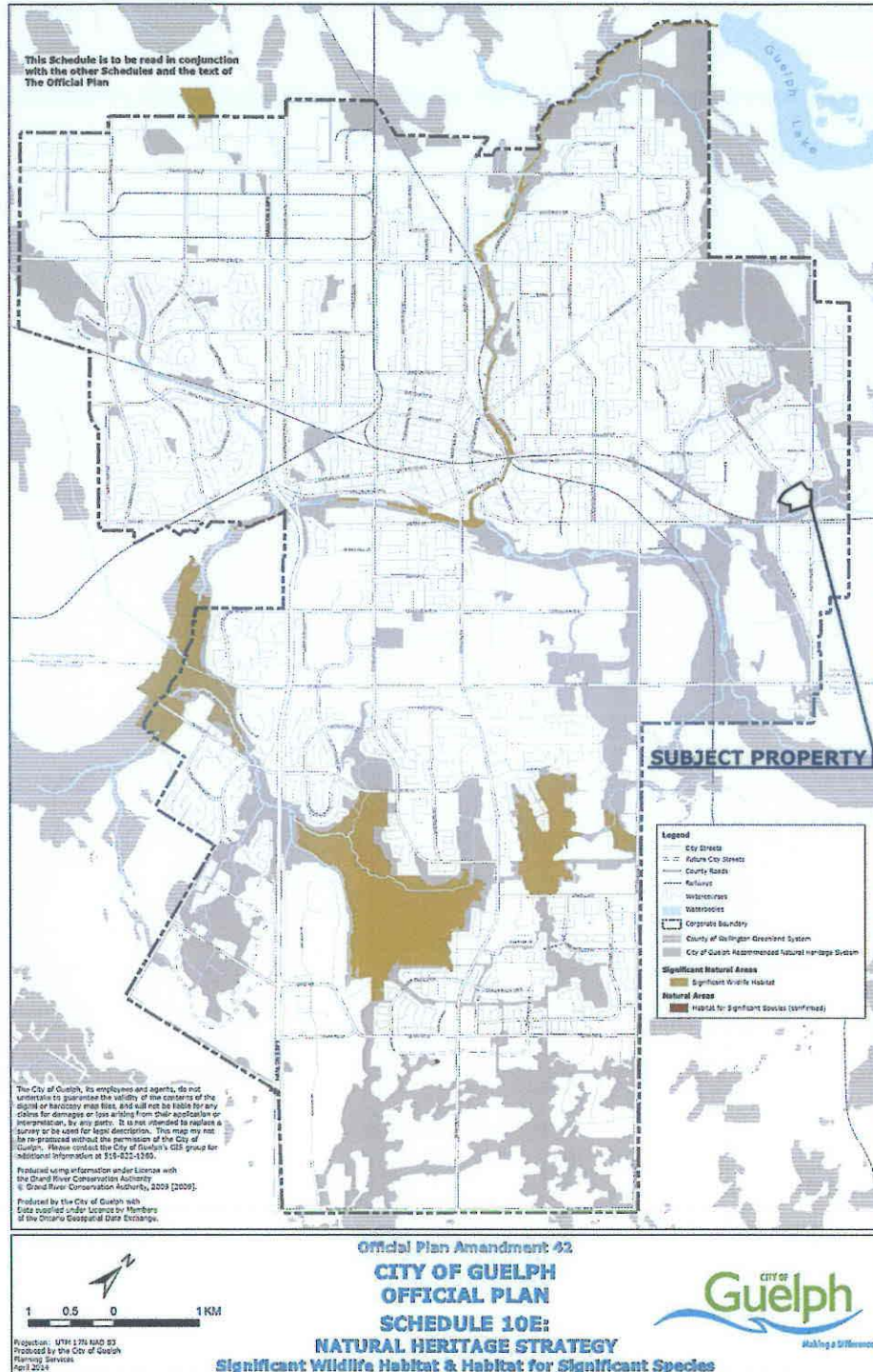
Attachment N

Modified Schedule 10D



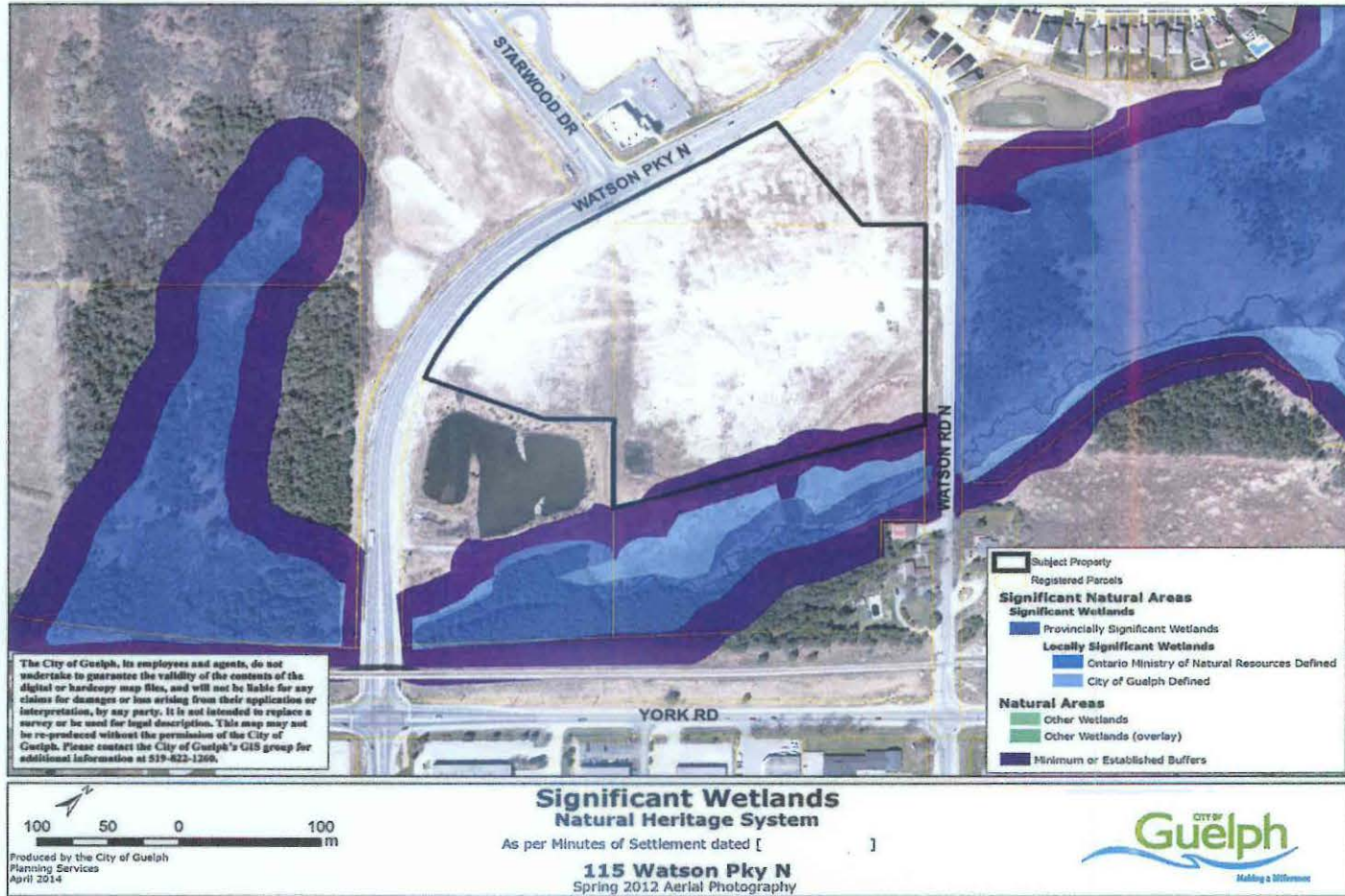
Attachment O

Modified Schedule 10E

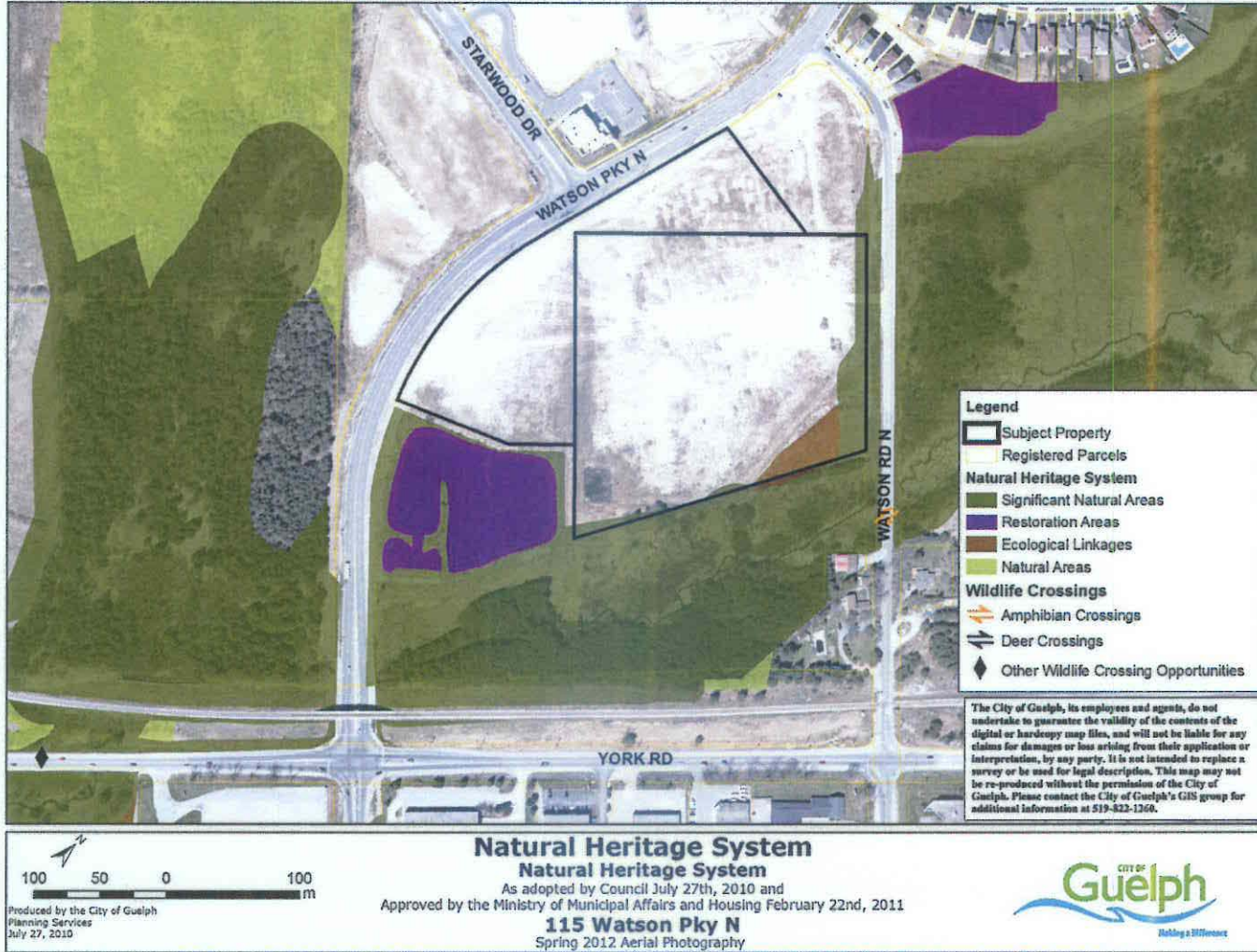




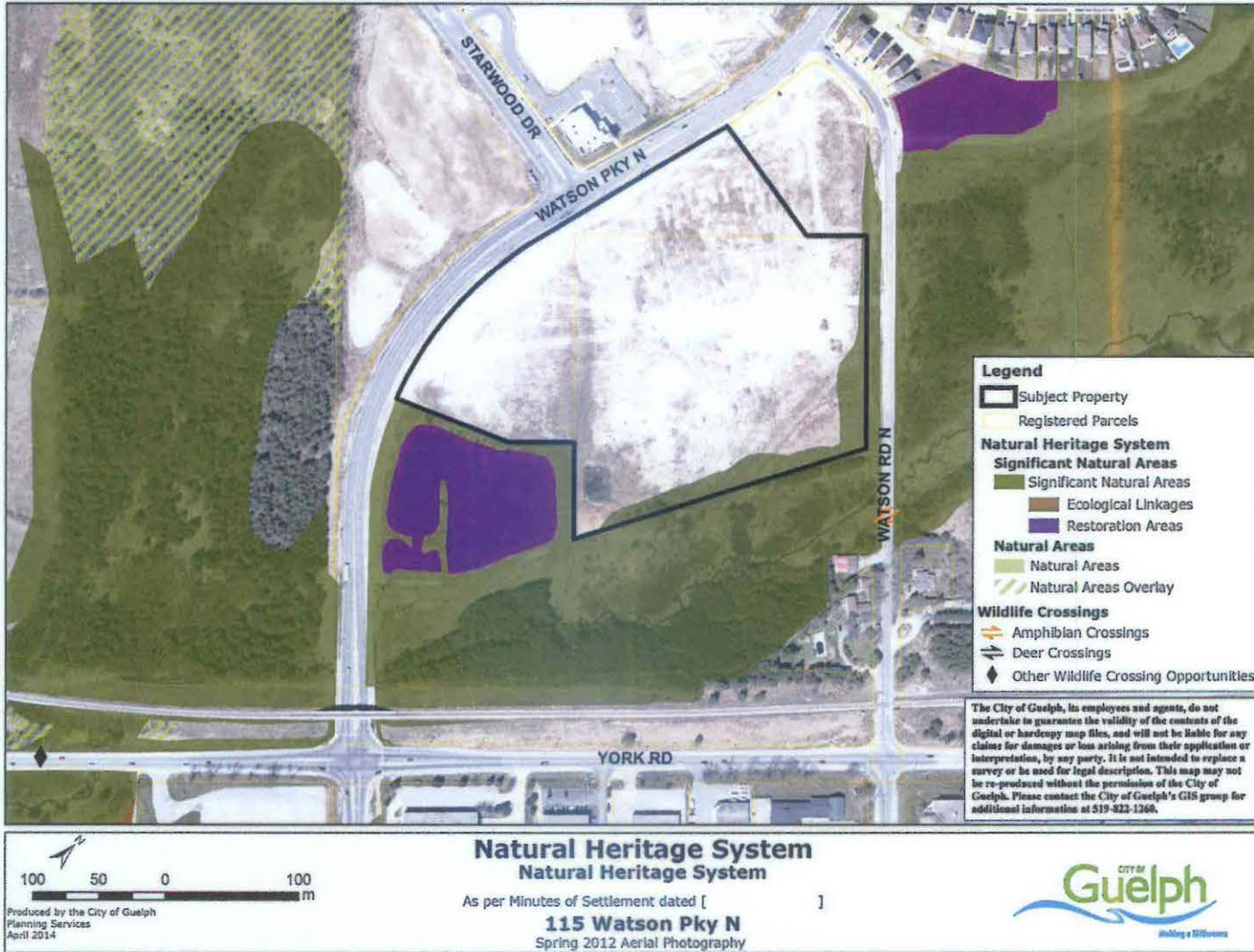
Attachment P-2
Modified Significant Wetland Mapping



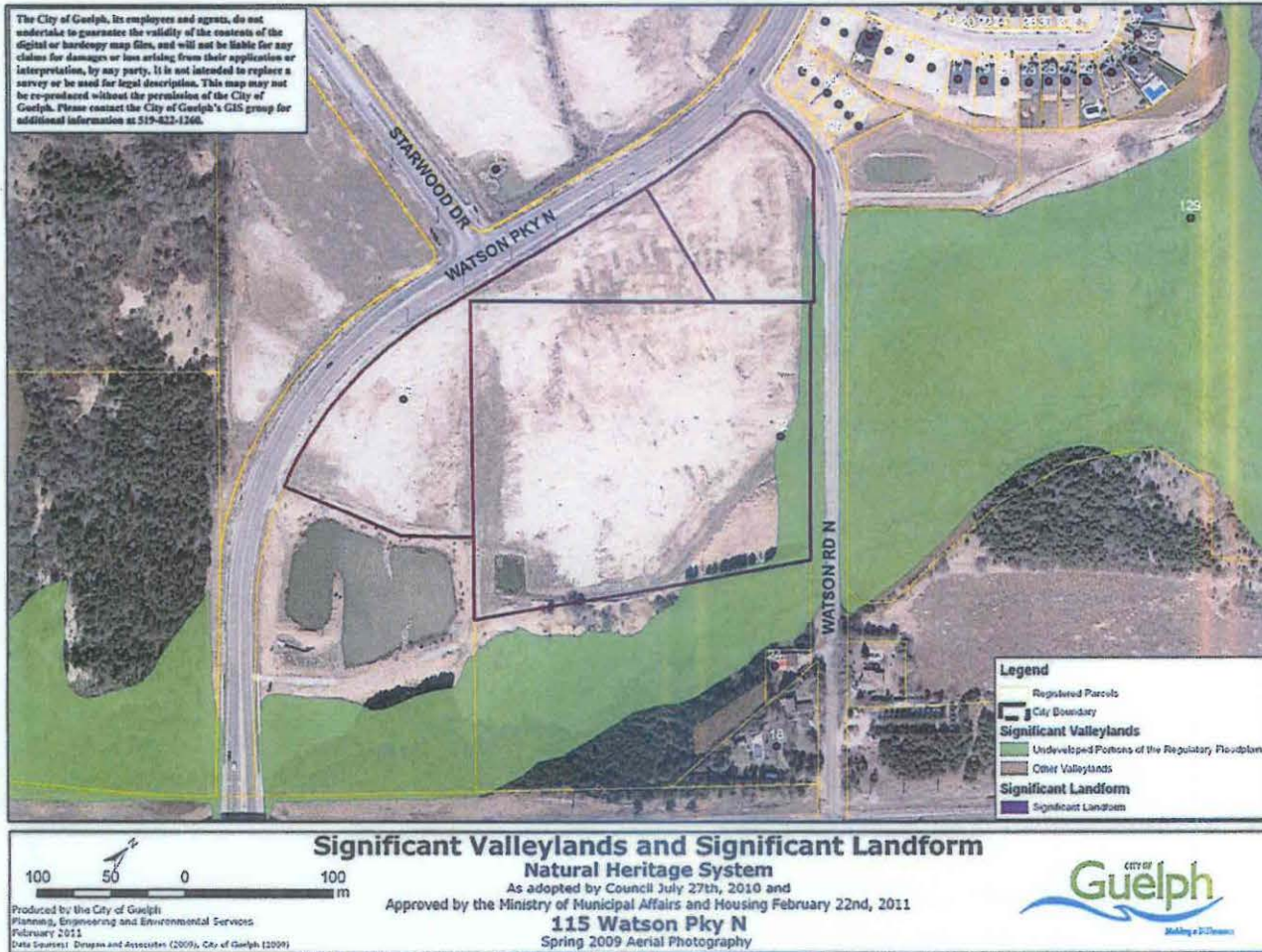
Attachment Q-1
Current Natural Heritage System



Attachment Q-2
Modified Natural Heritage System







CITY CORRESPONDENCE

From: [Jason Elliott](#)
To: [Izabela van Amelsvoort](#)
Cc: [Tatiana Guzman](#); [Filipe Dias](#); [Ben Kissner](#); [Sarah Mainguy](#)
Subject: Re: 115 Watson Pkwy - Significant Valleyland Assessment
Date: Thursday, January 12, 2023 2:31:29 PM
Attachments: [image001.png](#)
[image002.png](#)
[image003.png](#)
[image004.png](#)
[image005.png](#)
[image006.png](#)

Hi Izabella,

I have reviewed the 115 Watson Parkway - Significant Valleyland Assessment memo dated December 6, 2022. While I generally support the conclusion that the NHS can be refined to remove a portion of the mapped Significant Valleyland along the west side of Watson Road, please address the following when incorporating the assessment into the forthcoming EIS:

- The assessment appears to be using the floodplain boundary refined by Oden Detech. Until that floodplain refinement is approved by GRCA, the assessment must use the mapped Significant Valleyland boundary from the Official Plan. The existing and proposed Significant Valleyland mapping for the entire study area must be displayed in the report (as well as the proposed floodplain refinement). The extent of the proposed removal is not clear in the submitted assessment. Note that the assessment should include the portion of the feature located within the RoW and on the property to the north.
- The assessment focuses on whether the mapped Significant Valleyland is considered 'developed'. This is an important consideration given that concept is part of the designation criterion provided by 4.1.3.7.1 of the Official Plan. However, all of the objectives and designation criteria in 4.1.3.7 must be addressed / discussed. Further, given that the majority of the portion of the feature that is assumed to be proposed for removal is cultural meadow, the distinction between 'developed' and 'undeveloped' is not entirely clear on its own in this case. It is anticipated that a more fulsome discussion on the developed aspects (e.g. driveway and manicured area of on the property to the north, access road across the RoW and into the subject lands, etc.) as well as aspects of the Significant Valleyland definition (e.g. ecological importance, contribution to the NHS) and the objectives in 4.1.3.7 (e.g. remnant valley features and apparent valleys) in combination will provide sufficient justification for the removal of a portion of the Significant Valleyland from the NHS (i.e. the portion on the west side of Watson Road that is north of any natural areas to be otherwise protected).

I am happy to discuss my comments or provide clarification prior to the preparation of the EIS if that is helpful.

Regards,

Jason

Jason Elliott, Environmental Planner
Planning and Building Services
City of Guelph
519-822-1260 extension 2563
TTY 519-826-9771
jason.elliott@guelph.ca

guelph.ca
[Facebook.com/cityofguelph](https://www.facebook.com/cityofguelph)
[@cityofguelph](https://www.instagram.com/cityofguelph)

From: Izabela van Amelsvoort <ivanamelsvoort@nsenvironmental.com>
Sent: December 6, 2022 9:50 AM
To: Jason Elliott <Jason.Elliott@guelph.ca>
Cc: Tatiana Guzman <tguzman@tercot.com>; Filipe Dias <fdias@tercot.com>; Ben Kissner <bkissner@grandriver.ca>; Sarah Mainguy <smainguy@nsenvironmental.com>
Subject: 115 Watson Pkwy - Significant Valleyland Assessment

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Hello Jason,

Per our last meeting, please find attached the discussed Significant Valleyland Assessment memorandum for 115 Watson Parkway in Guelph.

Please let me know if you have any comments or wish to discuss.


Thank you,
Izabela



Sustainable solutions for natural systems

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APPENDIX 4 | Species Lists

Appendix 3. Flora noted within the study area, 115 Watson Parkway, Guelph. G Rank indicates Global rank, S Rank indicates Subnational rank. A question mark indicates that there is insufficient information to assign a status.

Scientific Name	Common Name	Rarity Status					Wetness Index	Vegetation Communities								
		COSEWIC	Wellington	MNR	G_Rank	S_Rank		SWT	SWT/MAM	FOC	FOC/CUP	MAS	CUM	Anthropogenic	MAM	CUT
Equisetaceae																
Equisetum arvense L.	Field Horsetail				G5	S5	0	x	x					x		
Pinaceae																
* Pinus sylvestris L.	Scotch Pine				GNR	SNA	5				x					
Cupressaceae																
Thuja occidentalis L.	Eastern White Cedar				G5	S5	-3		x	x	x		x		x	
Ranunculaceae																
Anemone canadensis L.	Canada Anemone				G5	S5	-3	x								
* Ranunculus acris L.	Tall Butter-cup				G5	SNA	-2		x							
Thalictrum pubescens Pursh	Tall Meadow-rue				G5	S5	-2		x						x	
Urticaceae																
* Urtica dioica L. ssp. dioica	European Stinging Nettle				G5T5?	SNA	-1								x	
Caryophyllaceae																
* Silene vulgaris (Moench) Garcke	Bladder Campion				GNR	SNA	5								x	
Polygonaceae																
Rumex orbiculatus A. Gray	Water Dock				G5	S4S5	-5									x
Violaceae																
Viola cucullata Aiton	Marsh Blue Violet				G4G5	S5	-5									x
Salicaceae																
Populus balsamifera L. ssp. balsamifera	Balsam Poplar				G5	S5	-3						x	x		
Populus tremuloides Michx.	Trembling Aspen				G5	S5	0							x		
Salix eriocephala Michx.	Heart-leaved Willow				G5	S5	-3						x	x		
Salix exigua Nutt.	Sandbar Willow				G5	S5	-5						x			
Salix petiolaris Sm.	Slender Willow				G5	S5	-4		x							
* Salix purpurea L.	Basket Willow				G5	SNA	-3							x		



Scientific Name	Common Name	Rarity Status					Wetness Index	Vegetation Communities									
		COSEWIC	Wellington	MNR	G_Rank	S_Rank		SWT	SWT/MAM	FOC	FOC/CUP	MAS	CUM	Anthropogenic	MAM	CUT	
* Salix x rubens Schrank	Hybrid Willow				GNA	SNA	-4						x				
Brassicaceae																	
* Nasturtium officinale R. Br.	True Watercress				G?	SNA	-5									x	
Primulaceae																	
Lysimachia ciliata L.	Fringed Loosestrife				G5	S5	-3									x	
Rosaceae																	
Crataegus pringlei Sarg.	Hawthorn				G5	S5	5				x						x
Crataegus pruinosa (Wendl. f.) K. Koch	Hawthorn				G5	S4?	5										x
Crataegus sp.	Hawthorn				GNR	S?								x			
Fragaria virginiana Miller ssp. virginiana	Virginia Strawberry				G5	SU	1		x								
* Potentilla recta L.	Sulphur Cinquefoil				GNR	SNA	5							x			
Rosa sp.	Rose				GNR	S?								x			
* Rubus idaeus L. ssp. idaeus	Red Raspberry				G5T5	SE1								x			
Fabaceae																	
* Lotus corniculatus L.	Birds-foot Trefoil				GNR	SNA	1									x	
* Medicago lupulina L.	Black Medic				GNR	SNA	1							x		x	
* Melilotus officinalis (L.) Pall.	Yellow Sweet Clover				GNR	SNA	3									x	
* Trifolium pratense L.	Red Clover				GNR	SNA	2									x	
* Vicia cracca L.	Tufted Vetch				GNR	SNA	5							x			
Onagraceae																	
Circaea lutetiana L. ssp. canadensis (L.) Aschers. & Magnusson	Enchanter's Nightshade				G5	S5	3							x			
* Epilobium hirsutum L.	Great-hairy Willow- herb				GNR	SNA	-4										x
Cornaceae																	
Cornus stolonifera Michx.	Red-osier Dogwood				G5	S5	-3	x	x						x		
Euphorbiaceae																	
* Euphorbia esula L.	Leafy Spurge				G5	SNA	5							x			
Rhamnaceae																	



Scientific Name	Common Name	Rarity Status					Wetness Index	Vegetation Communities								
		COSEWIC	Wellington	MNR	G_Rank	S_Rank		SWT	SWT/MAM	FOC	FOC/CUP	MAS	CUM	Anthropogenic	MAM	CUT
* Rhamnus cathartica L.	European Buckthorn				GNR	SNA	3	x	x	x	x		x		x	
* Rhamnus frangula L.	Glossy Buckthorn				GNR	SNA	-1	x		x	x			x		
Vitaceae																
Vitis riparia Michx.	Riverbank Grape				G5	S5	-2				x		x			
Aceraceae																
Acer negundo L.	Manitoba Maple				G5	S5	-2						x	x		
Balsaminaceae																
Impatiens capensis Meerb.	Spotted Jewel-weed				G5	S5	-3								x	
Apiaceae																
Cicuta bulbifera L.	Bulb-bearing Water-hemlock				G5	S5	-5								x	
Cicuta maculata L.	Spotted Water-hemlock				G5	S5	-5								x	
* Daucus carota L.	Wild Carrot				GNR	SNA	5							x		
Solanaceae																
* Solanum dulcamara L.	Climbing Nightshade				GNR	SNA	0			x					x	
Boraginaceae																
* Echium vulgare L.	Common Viper's-bugloss				GNR	SNA	5							x		
Lamiaceae																
Lycopus americanus Muhlenb. ex Bartram	American Bugleweed				G5	S5	-5								x	
Mentha arvensis L.	Field Mint				G5	S5	-3								x	
Rubiaceae																
Galium palustre L.	Marsh Bedstraw				G5	S5	-5	x	x							
Galium trifidum L. ssp. trifidum	Small Bedstraw				G5	S5	-4		x							
Caprifoliaceae																
* Lonicera tatarica L.	Tartarian Honeysuckle				GNR	SNA	3						x			
Sambucus racemosa L. ssp. pubens (Michx.) House	Red-berried Elderberry				G5	S5	2			x			x			



Scientific Name	Common Name	Rarity Status					Wetness Index	Vegetation Communities								
		COSEWIC	Wellington	MNR	G_Rank	S_Rank		SWT	SWT/MAM	FOC	FOC/CUP	MAS	CUM	Anthropogenic	MAM	CUT
* Viburnum opulus L.	Guelder Rose				G5	SNA	0				x					
Asteraceae																
* Achillea millefolium L.	Common Yarrow				G5T?	SNA	3		x				x			
* Arctium minus (Hill) Bernh.	Common Burdock				GNA	SNA	5						x			
* Chrysanthemum leucanthemum L.	Oxeye Daisy				GNR	SNA	5							x		
* Cirsium vulgare (Savi) Ten.	Bull Thistle				GNR	SNA	4		x					x		
Eupatorium maculatum L. ssp. maculatum	Spotted Joe-pye-weed				G5TNR	S5	-5		x							
Eupatorium perfoliatum L.	Common Boneset				G5	S5	-4								x	
Solidago canadensis L.	Canada Goldenrod				G5	S5	3	x	x				x	x		
Symphotrichum lanceolatum (Willd.) Nesom ssp. hesperium (A. Gray) Nesom	Lance-leaved Aster				G5T5?	S5			x				x	x		
Symphotrichum novae-angliae (L.) Nesom	New England Aster				G5	S5	-3							x		
Symphotrichum puniceum (L.) Love & Love	Purple-stemmed Aster				G5	S5	-5		x						x	
* Taraxacum officinale G. Weber	Common Dandelion				G5	SNA	3			x	x		x			
* Tragopogon pratensis L. ssp. pratensis	Meadow Goat's-beard				GNR	SNA	5							x		
* Tussilago farfara L.	Colt's Foot				GNR	SNA	3							x		
Alismataceae																
Alisma plantago-aquatica L.	Broad-leaved Water-plantain				G5	SNA	-5								x	
Hydrocharitaceae																
Elodea canadensis Rich. ex Michx.	Broad Waterweed				G5	S5	-5								x	
Araceae																
Calla palustris L.	Water Arum				G5	S5	-5								x	
Juncaceae																
Juncus brachycephalus (Engelm.) Buch.	Small-head Rush				G5	S4S5	-5								x	
Juncus dudleyi Wiegand	Dudley's Rush				G5	S5	0		x							
Cyperaceae																



Scientific Name	Common Name	Rarity Status					Wetness Index	Vegetation Communities								
		COSEWIC	Wellington	MNR	G_Rank	S_Rank		SWT	SWT/MAM	FOC	FOC/CUP	MAS	CUM	Anthropogenic	MAM	CUT
Carex flava L.	Yellow Sedge				G5	S5	-5	x	x				x		x	
Carex granularis Muhlenb. ex Willd.	Meadow Sedge				G5	S5	-4	x	x							
Carex stricta Lam.	Tussock Sedge				G5	S5	-5		x						x	
Carex utriculata Boott	Beaked Sedge				G5	S5	-5		x						x	
Eleocharis erythropoda Steud.	Red-stemmed Spike-rush				G5	S5	-5								x	
Schoenoplectus validus (val) A.& D. Love	Softstem Bulrush				GNR	S5	-5								x	
Poaceae																
Agrostis stolonifera L.	Spreading Bentgrass				G5	S5	-3		x							x
* Bromus inermis Leyss. ssp. inermis	Smooth Brome				G5TNR	SNA	5						x			
* Dactylis glomerata L.	Orchard Grass				GNR	SNA	3							x		
Anthoxanthum nitens (Weber) Y. Schouten & Veldkamp ssp. nitens	Sweet Grass		R1		G5	S4	-3								x	
Phalaris arundinacea L.	Reed Canary Grass				G5	S5	-4		x				x		x	
Poa pratensis L. ssp. pratensis	Kentucky Bluegrass				G5T5	S5	1	x	x				x			
Typhaceae																
* Typha angustifolia L.	Narrow-leaved Cattail				G5	SNA	-5						x		x	
Iridaceae																
Iris versicolor L.	Blueflag				G5	S5	-5		x						x	



Taxa	ScientificName	CommonName	Exotic	G Rank	S Rank	Bird Breeding Status	COSEWIC Status	SARA	SARO	Area Sensitive	Anthro	CUT	MAS2-1	Guelph (2012)	Wellington (2005)
Bird	<i>Corvus brachyrhynchos</i>	American Crow		G5	S5B	O					x				
Bird	<i>Spinus tristis</i>	American Goldfinch		G5	S5B	PR					x				
Bird	<i>Icterus galbula</i>	Baltimore Oriole		G5	S4B	PR					x			x	x
Bird	<i>Poecile atricapillus</i>	Black-capped Chickadee		G5	S5	PO					x				
Bird	<i>Cyanocitta cristata</i>	Blue Jay		G5	S5	PO					x				
Bird	<i>Molothrus ater</i>	Brown-headed Cowbird		G5	S4B	PO					x	x			
Bird	<i>Branta canadensis</i>	Canada Goose		G5	S5	C					x				
Bird	<i>Quiscalus quiscula</i>	Common Grackle		G5	S5B	PO					x				
Bird	<i>Geothlypis trichas</i>	Common Yellowthroat		G5	S5B	PR					x	x			
Bird	<i>Sturnus vulgaris</i>	European Starling	SE	G5	SNA	PO					x				
Bird	<i>Spizella pusilla</i>	Field Sparrow		G5	S4B	PO					x	x		x	x
Bird	<i>Ardea herodias</i>	Great Blue Heron		G5	S4	O					x			x	x
Bird	<i>Passerina cyanea</i>	Indigo Bunting		G5	S4B	PO					x				
Bird	<i>Charadrius vociferus</i>	Killdeer		G5	S5BS5N	PO					x				
Bird	<i>Zenaida macroura</i>	Mourning Dove		G5	S5	PO					x				
Bird	<i>Cardinalis cardinalis</i>	Northern Cardinal		G5	S5	PR					x	x			
Bird	<i>Pandion haliaetus</i>	Osprey		G5	S5B	O					x				x
Bird	<i>Agelaius phoeniceus</i>	Red-winged Blackbird		G5	S4	PR					x	x			
Bird	<i>Passerculus sandwichensis</i>	Savannah Sparrow		G5	S4B	PR				TRUE	x			x	x
Bird	<i>Melospiza melodia</i>	Song Sparrow		G5	S5B	PR					x	x			
Bird	<i>Actitis macularius</i>	Spotted Sandpiper		G5	S5	O					x				
Bird	<i>Setophaga petechia</i>	Yellow Warbler		G5	S5B	PO					x	x			
Amphibian	<i>Hyla versicolor</i>	Gray Treefrog		G5	S5								x		
Amphibian	<i>Lithobates clamitans</i>	Green Frog		G5	S5								x		
Amphibian	<i>Lithobates pipiens</i>	Northern Leopard Frog		G5	S5		NAR		NAR				x		
Amphibian	<i>Pseudacris crucifer</i>	Spring Peeper		G5	S5								x		
Amphibian	<i>Lithobates sylvaticus</i>	Wood Frog		G5	S5								x		

Appendix 4. Fauna noted within the study area for 115 Watson Parkway. G Rank indicates Global rank, S Rank indicates subnational rank. B indicates the status applies to breeding individuals only.

Scientific Name	Common Name	Rarity Status					Area Sensitive	Breeding	Vegetation Communities		
		G Rank	S Rank	COSEWIC	MNR	Wellington			Anthropogenic	Floodplain	FOC/CUP
Bird											
Ardea herodias	Great Blue Heron	G5	S5			Yes		O		x	
Butorides virescens	Green Heron	G5	S4B			Yes		PO		x	
Buteo jamaicensis	Red-tailed Hawk	G5	S5	NAR	NAR			PO		x	
Charadrius vociferus	Killdeer	G5	S5B,S5N					PO	x		
Actitis macularia	Spotted Sandpiper	G5	S5					PR	x	x	
Empidonax alnorum	Alder Flycatcher	G5	S5B				Yes	PO		x	
Empidonax traillii	Willow Flycatcher	G5	S5B			Yes		PO		x	
Tyrannus tyrannus	Eastern Kingbird	G5	S4B					PO		x	
Eremophila alpestris	Horned Lark	G5	S5B					PO	x		
Tachycineta bicolor	Tree Swallow	G5	S4B					PO		x	
Stelgidopteryx serripennis	Northern Rough-winged Swallow	G5	S4B					PO		x	
Poecile atricapillus	Black-capped Chickadee	G5	S5					PO		x	x
Troglodytes aedon	House Wren	G5	S5B					PO		x	
Turdus migratorius	American Robin	G5	S5B					PO		x	
Dumetella carolinensis	Gray Catbird	G5	S4B					PO		x	
Bombycilla cedrorum	Cedar Waxwing	G5	S5B					O		x	
Dendroica petechia	Yellow Warbler	G5	S5B					O		x	
Dendroica pinus	Pine Warbler	G5	S5B			Yes	Yes	PO			x
Setophaga ruticilla	American Redstart	G5	S5B			Yes	Yes	PO		x	x
Geothlypis trichas	Common Yellowthroat	G5	S5B					PO		x	
Passerculus sandwichensis	Savannah Sparrow	G5	S4B			Yes	Yes	PO	x		
Melospiza melodia	Song Sparrow	G5	S5B					PO		x	
Melospiza georgiana	Swamp Sparrow	G5	S5B			Yes		PO		x	
Dolichonyx oryzivorus	Bobolink	G5	S4B	THR	THR	Yes	Yes	O		x	
Agelaius phoeniceus	Red-winged Blackbird	G5	S5					PR		x	
Molothrus ater	Brown-headed Cowbird	G5	S4B					PO		x	



Scientific Name	Common Name	Rarity Status					Area Sensitive	Breeding	Vegetation Communities		
		G Rank	S Rank	COSEWIC	MNR	Wellington			Anthropogenic	Floodplain	FOC/CUP
Icterus galbula	Baltimore Oriole	G5	S4B			Yes		PO		x	
Carduelis tristis	American Goldfinch	G5	S5B					PO		x	
Mammal											
Condylura cristata	Star-nosed Mole	G5	S5					O		x	
Microtus pennsylvanicus	Meadow Vole	G5	S5					O		x	
Canis latrans	Coyote	G5	S5					O		x	
Mephitis mephitis	Striped Skunk	G5	S5					PO		x	
Amphibian											
Hyla versicolor	Gray Treefrog	G5	S5					O		x	
Pseudacris crucifer	Spring Peeper	G5	S5					O		x	
Lithobates clamitans	Green Frog	G5	S5					O		x	
Lithobates pipiens	Northern Leopard Frog	G5	S5	NAR	NAR			O		x	
Reptile											
Chelydra serpentina	Snapping Turtle	G5	S3	SC	SC			C		x	



APPENDIX 5 | Species at Risk Screening

Endangered, Threatened Species							
Species	Source	Status	Habitat Description	Habitat Present on Site	Surveys Conducted	Probability of Occurrence and Rationale	Potential to be Impacted by Proposed Activities
Fish							
None							
Insects							
None							
Amphibians							
Western Chorus Frog - Great Lakes / St. Lawrence - Canadian Shield population <i>Pseudacris triseriata</i>	ORRA (2017)	SARO - NAR SARA - THR	"roadside ditches or temporary ponds in fields; swamps or wet meadows; woodland or open country with cover and moisture; small ponds and temporary pool" (OMNR, 2000)	Yes	Amphibian Calling (2013, 2022) Incidental Wildlife (2013, 2015, 2022)	Low, dug drainage channel and wetlands (dug marsh, thicket swamp) present, potential for seasonal puddling on subject property field. Species not observed during amphibian surveys.	LOW. Species not observed during multiple surveys by NSE spanning approximately 10 years, and additional surveys going back to the year 2000. Species receives no protection under the federal Species at Risk Act as the subject property is not federally owned.
Reptiles							
Blanding's Turtle <i>Emydoidea blandingii</i>	ORRA (2016), iNaturalist	SARO- THR SARA - NAR COSEWIC- END	"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" (OMNR, 2000)	Yes	Incidental Wildlife (2013, 2015, 2022)	Low, potential to occur in Clythe Creek or in wetlands within the study area. However, species not observed during multiple surveys by NSE spanning approximately 10 years, and additional surveys going back to the year 2000. Species is conspicuous when seen, and unlikely to avoid detection in an urban environment.	LOW. Species not observed during multiple surveys by NSE spanning approximately 10 years, and additional surveys going back to the year 2000. Given species conspicuousness and urban location, species is unlikely to have avoided detection. The riparian corridor along Clythe Creek will be retained. The thicket swamp will be retained. The small dug marsh (sedimentation pond) will be removed. Mitigation is recommended to address turtle encounters (e.g., SAR awareness training, wildlife exclusionary fencing).
Birds							
Bank Swallow <i>Riparia riparia</i>	eBird (2013)	SARO-THR SARA-THR	"Sand, clay or gravel riverbanks 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 a limited factor for species presence" (OMNR 2000).	No	Breeding Bird Surveys (2013, 2022), Incidental Wildlife (2013, 2015, 2022)	None, habitat not present. No observations.	NONE
Barn Swallow <i>Hirundo rustica</i>	NHIC, OBBA, eBird (2022), iNaturalist	SARO- SC SARA- THR	"farmlands or rural areas; cliffs, caves, rock niches; buildings or other man-made structures for nesting; open country near body of water" (OMNR, 2000)	No	Breeding Bird Surveys (2013, 2022), Incidental Wildlife (2013, 2015, 2022)	None, no structures on the subject property that could provide nesting habitat. Anthropogenic field is not suitable foraging habitat. Potential for nesting and foraging habitat off-property nearby. No observations.	NONE
Bobolink <i>Dolichonyx oryzivorus</i>	NHIC, OBBA, iNaturalist	SARO- THR SARA- THR	"Large, open expansive grasslands with dense ground cover; hayfields, meadows or fallow fields; marshes; requires tracts of grassland >50 ha" (OMNR 2000).	No	Breeding Bird Surveys (2013, 2022), Incidental Wildlife (2013, 2015, 2022)	None, field is not large enough or with the correct vegetation to be foraging and nesting habitat. One Bobolink was heard singing as it flew over the site to the west in 2013, however it did not land on the site.	NONE
Chimney Swift <i>Chaetura pelagica</i>	OBBA	SARO- THR SARA- THR	"Commonly found in urban areas near buildings; nests in hollow trees, crevices of rock cliffs, chimneys; highly gregarious; feeds over open water" (OMNR 2000).	No	Breeding Bird Surveys (2013, 2022), Incidental Wildlife (2013, 2015, 2022)	Low, no buildings on subject property. Hollow trees may be present in woodland located off-property. No observations.	NONE
Eastern Meadowlark <i>Sturnella magna</i>	NHIC, OBBA, eBird (2020), iNaturalist	SARO- THR SARA- THR	Generally prefers large, open expansive grasslands with dense ground cover; hayfields, meadows or fallow fields; marshes; requires tracts of grassland >50 ha. In migration and winter uses freshwater marshes and grasslands (OMNR 2000).	No	Breeding Bird Surveys (2013, 2022), Incidental Wildlife (2013, 2015, 2022)	None, field is not large enough or with the correct vegetation to be foraging and nesting habitat. No observations.	NONE

Golden-winged Warbler <i>Vermivora chrysoptera</i>	OBBA	SARO- SC SARA- THR	"early successional habitat; shrubby, grassy abandoned fields with small deciduous trees bordered by low woodland and wooded swamps; alder bogs; deciduous, damp woods; shrubbery clearings in deciduous woods with saplings and grasses; brier-woodland edges; requires >10 ha of habitat" (OMNR, 2000)	No	Breeding Bird Surveys (2013, 2022), Incidental Wildlife (2013, 2015, 2022)	None, no habitat present on subject property. No observations.	NONE
Henslow's Sparrow <i>Ammodramus henslowii</i>	OBBA	SARO- END SARA- END	"Large, fallow, grassy areas with ground mat of dead vegetation, dense herbaceous vegetation, ground litter and some song perches; neglected weedy fields; wet meadows; cultivated uplands; a moderate amount of moisture needed; requires a minimum tract of grassland of 40 hectares (ha), but usually in areas larger than 100 ha" (MNR, 2000).	No	Breeding Bird Surveys (2013, 2022), Incidental Wildlife (2013, 2015, 2022)	None, no habitat present. No observations.	NONE
Least Bittern <i>Ixobrychus exilis</i>	OBBA	SARO- THR SARA- THR	"deep marshes, swamps, bogs; marshy borders of lakes, ponds, streams, ditches; dense emergent vegetation of cattail, bulrush, sedge; nests in cattails; intolerant of loss of habitat and human disturbance" (OMNR, 2000)	No	Breeding Bird Surveys (2013, 2022), Incidental Wildlife (2013, 2015, 2022)	None, no habitat present. No observations.	NONE
Olive-sided Flycatcher <i>Contopus cooperi</i>	iNaturalist	SARO- SC SARA- THR COSEWIC- SC	"semi-open, conifer forest, prefers spruce; near pond, lake or river; treed wetlands for nesting; burns with dead trees for perching" (OMNR 2000)	Yes	Breeding Bird Surveys (2013, 2022), Incidental Wildlife (2013, 2015, 2022)	None, no habitat present on subject property. Potential to be present off-property along Clythe Creek. No observations.	NONE
Red-headed Woodpecker <i>Melanerpes erythrocephalus</i>	iNaturalist	SARO- END SARA- END	"open, deciduous forest with little understory; fields or pasture lands with scattered large trees; wooded swamps; orchards, small woodlots or forest edges; groves of dead or dying trees; feeds on insects and stores nuts or acorns for winter; loss of habitat is limiting factor; requires cavity trees with at least 40 cm dbh; require about 4 ha for a territory" (OMNR 2000)	No	Breeding Bird Surveys (2013, 2022), Incidental Wildlife (2013, 2015, 2022)	None, no habitat present on subject property. Potential to be present off-property where trees are present. No observations.	NONE
Wood Thrush <i>Hylocichla mustelina</i>	OBBA	SARO-SC SARA- THR	"Undisturbed moist mature deciduous or mixed forest with deciduous sapling growth; near pond or swamp; hardwood forest edges" (OMNR 2000).	No	Breeding Bird Surveys (2013, 2022), Incidental Wildlife (2013, 2015, 2022)	None, no habitat present. No observations.	NONE
Plants							
Black Ash <i>Fraxinus nigra</i>	iNaturalist	SARO- END SARA - NAR COSEWIC - THR	Occurs in moist to wet sites such as swamps, bogs, and riparian areas (COSSARO, 2021)	No	Ecological Land Classification/Botanical (2013), Incidental Observations (2015, 2022)	None, no habitat present on subject property. Potential habitat along Clythe Creek however no observations.	NONE
Butternut <i>Juglans cinerea</i>		SARO- END SARA - END	Deciduous forests with moist, well-drained soil. Often found along streams and on well drained gravel sites. (OMNR, 2013)	No	Ecological Land Classification (2013), Incidental Observations (2015, 2022)	None, no habitat present on subject property. Potential habitat along Clythe Creek however no observations.	NONE
Mammals							
Little Brown Myotis <i>Myotis lucifugus</i>	within known range	SARA - END ESA - END	"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, manmade structures but prefers hollow trees or under loose bark; hunts within forests, below canopy" (OMNR 2000)	No	Incidental Wildlife (2013, 2015, 2022)	None, no roosting habitat present on subject property. Marginal foraging habitat. Potential to be present off-property. No observations.	NONE
Northern Myotis <i>Myotis septentrionalis</i>	within known range	SARA - END ESA - END	"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, manmade structures but prefers hollow trees or under loose bark; hunts within forests, below canopy" (OMNR 2000)	No	Incidental Wildlife (2013, 2015, 2022)	None, no roosting habitat present on subject property. Marginal foraging habitat. Potential to be present off-property. No observations.	NONE
Tri-coloured Bat <i>Pipistrellus subflavus</i>	within known range	SARA - END ESA - END	"found in a variety of forested habitats. 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. 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." OMNR, 2016)	No	Incidental Wildlife (2013, 2015, 2022)	None, no roosting habitat present on subject property. Marginal foraging habitat. Potential to be present off-property. No observations.	NONE
Special Concern Species							
Fish							
None							
Insects							

Monarch <i>Danaus plexippus</i>	iNaturalist, OBA (2022)	SARO - SC SARA - SC	Breeding habitat is confined to where milkweed grows, since the leaves of these plants are the sole food of the caterpillars. Different species of milkweed grow in a variety of environments, including meadows, along roadsides and in ditches, open wetlands, dry sandy areas, short and tall grass prairies, river banks, irrigation ditches, arid valleys and south facing hillsides. Nectaring habitat ranges from native grasslands to home gardens with adult butterflies nectaring on a wide variety of flowers including Goldenrods, Asters and Milkweeds. (Environment Canada 2014)	Yes	Incidental Wildlife (2013, 2015, 2022)	Low, Common Milkweed (larval host plant) present in low abundance. Potential nectaring plants present. No observations.	LOW. Species is a habitat generalist and habitat is abundant on the local landscape. No critical habitat for the species is present on the subject property. No observations.
West Virginia White <i>Pieris virginiensis</i>	OBA (1993)	SARO- SC SARA- NAR	"moist mature deciduous forest with riparian features" (OMNR, 2000)	No	Incidental Wildlife (2013, 2015, 2022)	None, no habitat present. No observations.	NONE
Yellow-banded Bumble Bee <i>Bombus terricola</i>	iNaturalist	SARA- SC SARO- SC	Habitat and forage generalist. Mixed woodlands, native grasslands, farmlands, and urban areas. Nests in abandoned rodent burrows (COSSARO 2016).	Yes	Incidental Wildlife (2013, 2015, 2022)	Low, potential habitat present. No observations.	LOW. Species is a habitat generalist and habitat is abundant on the local landscape. No critical habitat for the species is present on the subject property. No observations.
Amphibians							
None							
Reptiles							
Eastern Milksnake <i>Lampropeltis triangulum</i>	NHIC, ORRA (2018), iNaturalist	SARO- NAR SARA- SC	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 (OMNR 2000).	No	Incidental Wildlife (2013, 2015, 2022)	Low. No habitat present on the subject property. Potential to be present on adjacent lands. No observations.	LOW. No habitat present on the subject property. Potential to be present on adjacent lands. No observations. Species receives no protection under the federal Species at Risk Act as the subject property is not federally owned.
Eastern Ribbonsnake <i>Thamnophis sauritus</i>	ORRA (1985)	SARO- SC SARA-SC	The Eastern Ribbonsnake is usually found close to water, especially in marshes, where it hunts for frogs and small fish. A good swimmer, it will dive in shallow water, especially if it is fleeing from a potential predator. At the onset of cold weather, these snakes congregate in underground burrows or rock crevices to hibernate together (MECP, 2014).	Yes	Incidental Wildlife (2013, 2015, 2022)	Low. No habitat present on the subject property. Potential to be present on adjacent lands. No observations.	LOW. No habitat present on the subject property. Potential to be present on adjacent lands. No observations.
Midland Painted Turtle <i>Chrysemys picta marginata</i>	NHIC, ORRA (2018)	SARO- NAR SARA- SC	Quiet, warm, shallow water with abundant aquatic vegetation such as ponds, large pools, streams, ditches, swamps, marshy meadows; eggs are laid in sandy places, usually in a bank or hillside, or in fields; basks in groups; not territorial (OMNR 2000).	Yes	Incidental Wildlife (2013, 2015, 2022)	HIGH. Suitable habitat in creek, thicket swamp, and marsh. A dug-up (predated) turtle nest (potentially Snapping Turtle or Midland Painted Turtle) was observed in 2022 adjacent to the the small sedimentation marsh.	HIGH without mitigation. MINIMAL with mitigation - The Clythe Creek riparian corridor and thicket swamp will be retained with setbacks and ESC measures. Exclusionary fencing is recommended around the proposed work site to prevent turtles from entering the construction area. SAR awareness training is recommended. The sedimentation marsh will be removed to accommodate construction. The small dug wetland is approximately 20 x 25 m. A turtle sweep and rescue is recommended as part of mitigation to ensure that no turtles are present in the pond prior to it being filled.
Northern Map Turtle <i>Graptemys geographica</i>	NHIC, ORRA (1985)	SARO- SC SARA- SC	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; home range size is larger for females (about 70 ha) than males (about 30 ha) and includes hibernation, basking, nesting and feeding areas; aquatic corridors (e.g. stream) are required for movement; not readily observed (OMNR 2000).	No	Incidental Wildlife (2013, 2015, 2022)	None, historic record only (1925). No observations.	NONE

Snapping Turtle <i>Chelydra serpentina</i>	NHIC, ORRA (201	SARO- SC SARA- SC	Permanent, semi-permanent fresh water; marshes, swamps or bogs; rivers and streams with soft muddy banks or bottoms; often uses soft soil or clean dry sand on south-facing slopes for nest sites; may nest at some distance from water; often hibernate together in groups in mud under water; home range size ~28 ha (OMNR 2000).	Yes	Incidental Wildlife (2013, 2015, 2022)	CONFIRMED. A dug-up (predated) Snapping Turtle nest was observed in 2013 adjacent to the small sedimentation marsh. Another dug-up (predated) turtle nest (potentially Snapping Turtle or Midland Painted Turtle) was observed in 2022 adjacent to the the small sedimentation marsh.	HIGH without mitigation. MINIMAL with mitigation - The Clythe Creek riparian corridor and thicket swamp will be retained with setbacks and ESC measures. Exclusionary fencing is recommended around the proposed work site to prevent turtles from entering the construction area. SAR awareness training is recommended. The sedimentation marsh will be removed to accommodate construction. The small dug wetland is approximately 20 x 25 m. A turtle sweep and rescue is recommended as part of mitigation to ensure that no turtles are present in the pond prior to it being filled. The sedimentatio marsh will be replaced with a constructed wetland of similar function of adjacent City land.
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Birds

Bald Eagle <i>Haliaeetus leucocephalus</i>	OBBA, eBird (2021), iNaturalist	SARO- SC SARA- NAR	Bald Eagles nest in a variety of habitats and forest types, almost always near a major lake or river where they do most of their hunting. While fish are their main source of food, Bald Eagles can easily catch prey up to the size of ducks, and frequently feed on dead animals, including White-tailed Deer. They usually nest in large trees such as pine and poplar. During the winter, Bald Eagles sometimes congregate near open water such as the St. Lawrence River, or in places with a high deer population where carcasses might be found (MECP, 2014).	No	Breeding Bird Surveys (2013, 2022), Incidental Wildlife (2013, 2015, 2022)	None, no habitat present. No observations.	NONE
Canada Warbler <i>Cardellina canadensis</i>	eBird iNaturalist	SARA- SC ESA- SC	"an interior forest species; dense, mixed coniferous, deciduous forests with closed canopy, wet bottomlands of cedar or alder; shrubby undergrowth in cool moist mature woodlands; riparian habitat; usually requires at least 30 ha " (OMNR 2000)	No	Breeding Bird Surveys (2013, 2022), Incidental Wildlife (2013, 2015, 2022)	None, no habitat present. No observations.	NONE
Common Nighthawk <i>Chordeiles minor</i>	eBird	SARA- THR ESA-SC	Generally prefer open, vegetation-free habitats including dunes, beaches, recently harvested forests, burnt-over areas, logged areas, rocky outcrops, rocky barrens, grasslands, pastures, peat bogs, marshes, lakeshores, and riverbanks. This species also inhabits mixed and coniferous forests. Can also be found in urban areas (nest on flat roof-tops) (Environment Canada 2016).	No	Breeding Bird Surveys (2013, 2022), Incidental Wildlife (2013, 2015, 2022)	Low, marginal habitat present. No observations.	LOW. Species not observed during multiple surveys by NSE spanning approximately 10 years, and additional surveys going back to the year 2000.
Eastern Wood-Pewee <i>Contopus virens</i>	eBird (2022), iNaturalist	SARO- SC SARA- SC	"open, deciduous, mixed or coniferous forest; predominated by oak with little understory; forest clearings, edges; farm woodlots, parks" (OMNRF, 2000)	No	Breeding Bird Surveys (2013, 2022), Incidental Wildlife (2013, 2015, 2022)	None, no habitat present. No observations.	NONE
Grasshopper Sparrow <i>Ammodramus savannarum pratensis</i>	OBBA	SARO - SC SARA - NAR	The Grasshopper Sparrow lives in open grassland areas with well-drained, sandy soil. It will also nest in hayfields and pasture, as well as alvars, prairies and occasionally grain crops such as barley. It prefers areas that are sparsely vegetated. Its nests are well-hidden in the field and woven from grasses in a small cup-like shape. The Grasshopper Sparrow is a short-distance migrant and leaves Ontario in the fall to migrate to the southeastern United States and Central America for the winter (MECP, 2016).	No	Breeding Bird Surveys (2013, 2022), Incidental Wildlife (2013, 2015, 2022)	Low, marginal habitat present. No observations.	LOW. Species not observed during multiple surveys by NSE spanning approximately 10 years, and additional surveys going back to the year 2000.

Plants

Common Hoptree <i>Ptelea trifoliata</i>	iNaturalist	SARO- SC SARA - SC	"along shorelines in areas of nutrient poor sandy soils, although it is sometimes found on thin soils overlying limestone. It does best in full sun and is intolerant of shade." (MECP, 2014)	No	Ecological Land Classification/Botanical (2013), Incidental Observations (2015, 2022)	None, no habitat present	NONE
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Mammals

None							
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APPENDIX 6 | Significant Wildlife Habitat Assessment

Significant Wildlife Habitat Type	Known or Candidate SWH present within or adjacent to the Subject Property Based on Background and Secondary Source Review?	Rationale (Habitat Presence or Absence)	Confirmed or Candidate Habitat Present Based on Field Surveys?
Seasonal Concentration Areas			
Deer Yarding Areas (as identified by MNRF)	None identified by the MNRF	Habitat not present within study area. Figure 11 of the City of Guelph Terrestrial Inventory & Natural Heritage System Final Report (Dougan & Associates Incorporated and Snell & Cecile Environmental Research 2009) indicates that Deer Wintering Areas are not present within the Subject Property	No
Deer Winter Concentration Areas (as identified by MNRF)	None identified by the MNRF	Habitat not present within study area	No
Colonial Bird Nesting Habitat: <ul style="list-style-type: none"> • tree/shrub • cliff/bank • ground 	None	Habitat not present within study area	No
Waterfowl Stopover and Staging Areas: <ul style="list-style-type: none"> • Aquatic • Terrestrial 	None	No fields with evidence of standing water in spring. No suitable aquatic habitats present.	No
Waterfowl Over Wintering Areas (as identified by MNRF)	None identified by the MNRF	Habitat not present within study area. Figure 11 of the City of Guelph Terrestrial Inventory & Natural Heritage System Final Report (Dougan & Associates Incorporated and Snell & Cecile Environmental Research 2009) indicates that Waterfowl Over Wintering Areas are not present within the Subject Property	No
Raptor Wintering (Feeding and Roosting) Areas	None	Criteria for SWH is the presence of raptor indicator species in combination of fields and woodlands > 20 ha that provide roosting, foraging and resting habitats for wintering raptors. The field on the subject property is highly disturbed and does not function as foraging habitat.	No
Turtle Wintering Areas	None	There is potential for turtles to overwinter in Clyde Creek, the dug marsh, and the SWM pond located to the southwest of the property though water depth and substrate have not been confirmed to be suitable. The dug pond may be too small. The thicket swamp does not provide suitable habitat (i.e., insufficient water depth). Clyde Creek may not have sufficient water depth. The dug marsh and SWM pond are manmade structures and thus even if they supported overwintering turtles, they would not qualify as SWH. Mitigation would still be recommended.	No

Significant Wildlife Habitat Type	Known or Candidate SWH present within or adjacent to the Subject Property Based on Background and Secondary Source Review?	Rationale (Habitat Presence or Absence)	Confirmed or Candidate Habitat Present Based on Field Surveys?
Reptile (Snake) Hibernacula	None	No rock piles present on Subject Property. No areas of broken or fissured rocks were observed. Though reptile hibernacula can be found in most habitat, the subject property provides little habitat. There may be potential for hibernacula to be found on adjacent lands,	No
Bat Hibernacula	None	No caves, mine shafts, underground formations/foundations, crevices, or Karst observed	No
Bat Maternity Colonies	None	No mature to over-mature mixed/deciduous stands with large diameter dead or dying trees with cavities	No
Rare Vegetation Communities			
Alvar	None	Habitat not present within study area	No
Prairie	None	Habitat not present within study area	No
Savannah	None	Habitat not present within study area	No
Rare Forest Types	None	Habitat not present within study area	No
Cliff/ Talus	None	Habitat not present within study area	No
Rock Barrens	None	Habitat not present within study area	No
Sand Barrens	None	Habitat not present within study area	No
Other Rare Vegetation Types, including Old Growth Forest	None	Habitat not present within study area	No
Specialized Habitats for Wildlife			
Waterfowl Nesting Area	None	Habitat not present within study area, indicator species not observed during surveys	No
Bald Eagle and Osprey nesting, foraging and Perching Habitat	None	An Osprey was observed during field surveys, however the forest communities in the study area are too far from Eramosa River (1 km) or another natural body of water to qualify as SWH. No stick nests were observed.	No
Woodland Raptor Nesting Habitat	None	This SWH type is associated with forested communities >30 ha with >10 ha of interior habitat. This habitat not present.	No

Significant Wildlife Habitat Type	Known or Candidate SWH present within or adjacent to the Subject Property Based on Background and Secondary Source Review?	Rationale (Habitat Presence or Absence)	Confirmed or Candidate Habitat Present Based on Field Surveys?
Amphibian Breeding Habitat: <ul style="list-style-type: none"> • Woodland • Wetland (includes bullfrog concentration areas) 	Candidate SWH	Five species of frogs were heard calling from the MAS2-1 community in 2022. Three indicator species were recorded: Gray Treefrog, Green Frog and Northern Leopard Frog. However, these indicator species were recorded as having fewer than 20 individuals, or a calling code of 3. As well, no wetlands are large enough (500 m ²) to qualify as SWH. The 2015 EIS stated that SWH for amphibian breeding in wetlands was present in the sedimentation pond/marsh based on species diversity and abundance. However the sedimentation pond/marsh does not meet the size threshold for SWH. 2022 field surveys also did not result in meeting species diversity and abundance criteria for SWH.	No
Turtle Nesting Habitat	Confirmed SWH	Evidence for one species of turtle was found on the property: an excavated Snapping Turtle nest was noted in early 2013 adjacent to the small sedimentation pond on the site (NSE 2015). A predated turtle nest of unknown species was identified during the October 2022 site visit, also occurring adjacent to the sedimentation pond.	Confirmed
Woodland/Specialized Raptor Nesting	None	No Intermediate-aged to mature forests within study area	No
Bald Eagle Wintering Areas	None	Habitat not present within study area	No
Seeps and Springs	None	Threshold for SWH is not met (i.e., two or more seeps or springs). One seepage location along Clythe Creek as shown on Figure 2.	No
Wildlife Movement Corridors			
Animal Movement Corridors (including Ecological Linkages) <ul style="list-style-type: none"> - Deer Movement Corridors - Amphibian Movement Corridors - Other Wildlife Movement Corridors 	Confirmed (Ecological Linkage identified by the City's OP)	City of Guelph's Natural Heritage System identifies Ecological Linkages at the northern edge of the study area. Amphibian movement corridor is considered present based on results presented by NSE (2015); amphibian indicator movement (Green Frog, Leopard Frog) noted across Watson Road	Confirmed (Ecological Linkage identified by the City's OP) (Amphibian Movement Corridor across Watson Road)
Habitats of Species of Conservation Concern			

Significant Wildlife Habitat Type	Known or Candidate SWH present within or adjacent to the Subject Property Based on Background and Secondary Source Review?	Rationale (Habitat Presence or Absence)	Confirmed or Candidate Habitat Present Based on Field Surveys?
Marsh Bird Breeding Habitat	Candidate SWH	Green Heron was recorded in suitable habitat in 2013, though it was not confirmed to be breeding. 2022 field surveys (including breeding bird surveys) did not identify any Green Heron or old stick nests used by Green Heron, though surveys were restricted to the subject property.	Confirmed
Woodland Area-Sensitive Breeding Habitat	None	No forest stands (large, mature >60 years) or woodlots (>30 ha) apparent within the study area	No
Open Country Bird Breeding Habitat	None	Available grassland habitat does not meet size requirements (>30 ha)	No
Shrub / Early Successional Breeding Bird habitat	None	Available shrubland habitat does not meet size requirements (>10 ha)	No
Terrestrial Crayfish Habitat	Candidate SWH	Crayfish burrows recorded along Clythe Creek (NSE 2015)	Confirmed
Global Species of Conservation Concern (i.e., G1, G2 and G3) as identified by the NHIC	None	No recent records of Global Species of Conservation Concern identified by NHIC	No
Federal Species of Conservation Concern (i.e., listed as endangered, threatened or special concern federally)	Candidate SWH	<p>A predated Snapping Turtle nest was recorded in during 2013 field surveys adjacent to the sedimentation pond. In a similar location, one turtle nest of an unknown species was also observed in 2022.</p> <p>The small sedimentation pond occurring on the Subject Property is considered SWH for Snapping Turtle, and potentially other turtle species (e.g., Midland Painted Turtle). The SWM pond located off-property to the west of the sedimentation pond and Clythe Creek may also support turtle species of Special Concern.</p> <p>Savannah Sparrow was recorded during breeding bird surveys undertaken during both the 2013 and 2022 studies. Confirmed SWH for this species is considered present within the anthropogenic field at the Subject Property.</p>	Confirmed (Snapping Turtle)

Significant Wildlife Habitat Type	Known or Candidate SWH present within or adjacent to the Subject Property Based on Background and Secondary Source Review?	Rationale (Habitat Presence or Absence)	Confirmed or Candidate Habitat Present Based on Field Surveys?
Provincial Species of Conservation Concern (i.e., listed as special concern provincially or S1, S2 or S3 by the NHIC)	Candidate SWH	<p>A predated Snapping Turtle nest was recorded in during 2013 field surveys adjacent to the sedimentation pond. In a similar location, one turtle nest of an unknown species was also observed in 2022.</p> <p>The small sedimentation pond occurring on the Subject Property is considered SWH for Snapping Turtle, and potentially other turtle species (e.g., Midland Painted Turtle). The SWM pond located off-property to the west of the sedimentation pond and Clythe Creek may also support turtle species of Special Concern</p>	Confirmed (Snapping Turtle)