Appendix E

Aquatic and Terrestrial Ecology

Halton Hills Premier Gateway Project

Watercourse Photo Appendix B.1

Reach GOLF-001 (May 28, 2015)

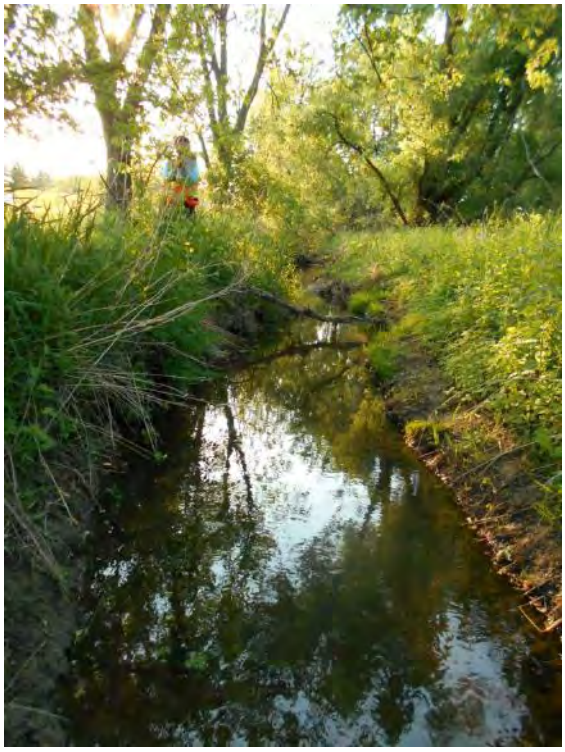

Photo 1. Upper extent of reach, looking downstream.

Photo 2. Mid-reach, looking upstream.

Photo 3. Downstream portion of reach, looking upstream.

Photo 4. Downstream extent, looking downstream.

Reach GOLF-002 (May 28, 2015)

Photo 5. Upstream extent of the reach, looking upstream.

Photo 6. Upstream extent of the reach, looking downstream.

Photo 7. Cart path (on the downstream end), looking upstream.

Photo 8. Cart path (on the downstream end), looking downstream.

Photo 9. Downstream extent, looking upstream.

Reach GOLF-003 (May 28, 2015)

Photo 10. Upstream extent, looking downstream.

Photo 11. Mid reach, looking downstream.

Photo 12. Downstream extent (cart path), looking upstream.

Photo 13. Downstream extent (cart path) looking downstream.

Reach GOLF-004 (May 28, 2015)

Photo 14. Mid-reach, looking upstream – east branch.

Photo 15. Mid-reach, looking downstream – east branch.

Photo 16. Looking upstream towards western pond – west branch.

Photo 17. Looking downstream – west branch.

Reach HWY-001 (November 18, 2015)

Photo 18. Upstream extent, looking downstream of east channel.

Photo 19. Upstream extent, looking upstream from main channel.

Photo 20. Upstream extent, looking downstream of main channel.

Photo 21. View under bridge facing downstream of main channel.

Reach SIXTH-001 (November 18, 2015)

Photo 22. Upstream extent, looking upstream.

Photo 23. Upstream extent, looking downstream.

Photo 24. Downstream extent, looking upstream.

Photo 25. Downstream extent, looking downstream.

Reach STEELES-001 (May 28, 2015)

Photo 26. Upstream extent, looking upstream.

Photo 27. Mid- reach, looking downstream.

Photo 28. Mid-reach, looking upstream.

Reach STEELES-002 (May 28, 2015

Photo 29. Upstream extent, looking upstream.

Photo 30. Mid-reach, looking upstream.

Photo 31. Downstream extent, facing upstream.

Photo 32. Downstream extent, facing downstream, Steeles-002 (left) is converging with Steeles-003 (right).

Reach STEELES-003 (May 28, 2015)

Photo 33. Upstream extent, looking upstream.

Photo 34. Upstream extent, looking downstream.

Photo 35. Mid-reach, looking upstream.

Reach STEELES-004 (May 28, 2015)

Photo 36. Upstream extent, looking upstream.

Photo 37. Upstream extent, looking downstream.

Photo 38. Mid-reach, looking upstream.

Photo 39. Downstream extent, looking upstream.

Photo 40. Downstream extent, looking downstream.

Reach STEELES-005 (May 28, 2015)

Photo 41. Upstream extent, looking upstream.

Photo 42. Mid-reach, looking downstream.

Photo 43. Mid-reach, looking upstream.

Photo 44. Downstream extent, looking upstream.

Photo 45. Downstream, extent, looking downstream.

Reach TRAFALGAR-001 – CROSSING AT TRAFALGAR (May 28, 2015)

Photo 46. Looking upstream from road crossing.

Photo 47. Looking upstream at channel.

Photo 48. Looking downstream from road crossing.

Reach TRAFALGAR-002 (May 28, 2015)

Photo 49. Upstream extent, looking upstream.

Photo 50. Upstream extent, looking downstream.

Photo 51. Downstream extent, looking upstream.

Photo 52. Looking upstream from road crossing.

Photo 53. Looking downstream from road crossing (downstream extent).

Subject: Halton Hills Premier Gateway Aquatic Stations (proj1624)
From: Katharina Walton <kwalton@nrsi.on.ca>
Date: 2015-05-27 11:28 AM
To: Samantha Mason <smason@hrca.on.ca>
CC: Dave Stephenson <dstephenson@nrsi.on.ca>

Hi Samantha,
Attached is a map showing proposed aquatic surveys stations. We propose to do a habitat assessment, benthic sample and e-fishing at each station. We have committed to 6 stations based on our budget. We do not have a fish permit from the MNRF yet, which we applied for April 7. The contact at the MNRF is Karen Golby. If you can help us get that permit for tomorrow, or if we can conduct the e-fishing under the CA's permit, then we can do this work this week, i.e. tomorrow and Friday.

Please let me know what you think of the aquatic stations we've selected. There are only 4 we hav e site access to. Access has been requested for the location marked with a star west of 6th Line, as well as south of Steeles Ave at the second star (not north of the road as indicated). There is access to a section of East 16 Mile Creek south of Steeles as well.

Please respond asap, as I am trying to organize staff.
Thank you!
Regards,
Katharina.
--

Attachments:

Part 1.1.2.2	0 bytes
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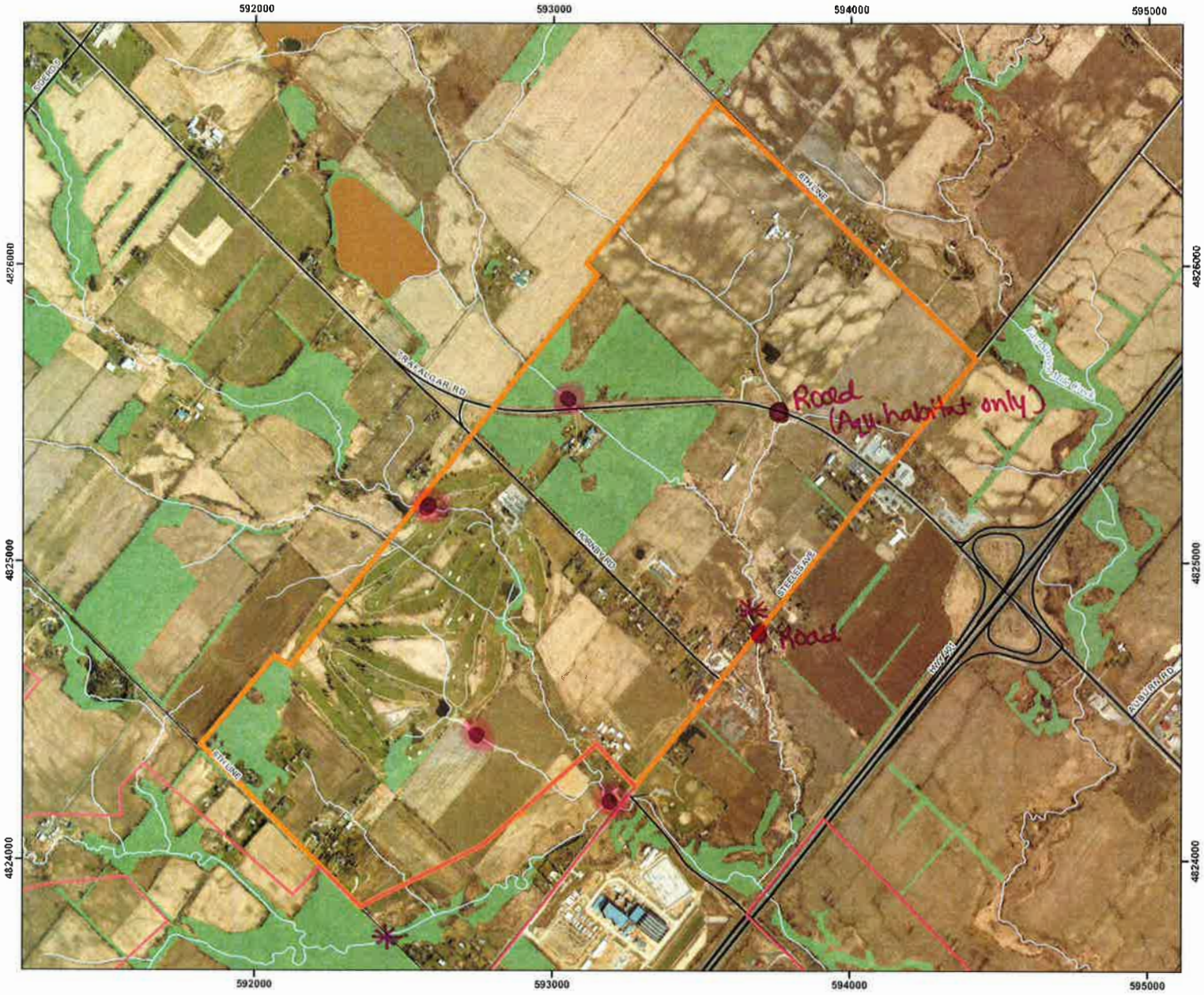
gateway_20150527112730.pdf	27 bytes
Signature_KSW_TB.JPG	0 bytes

NRSI 1624
May 27/15.



Map 1

Halton Hills Premier Gateway Secondary Plan

Existing Conditions

Legend

- Subject Area
- Highway
- Primary Road
- Secondary Road
- Watercourse
- Wetland (Non-PSW)
- Wooded Area
- Natural Heritage Area

● Aquatic survey stns with access

* Aquatic survey stn with on access permission to date

NATURAL RESOURCE SOLUTIONS INC.
Aquatic, Terrestrial and Wetland Biologists

Project: 1624
Date: April 06, 2015

NAD83 - UTM Zone 17
Size: 11x17"
1:12,500

0 400 800 Metres

N

Subject: Re: Halton Hills Premier Gateway Aquatic Stations (proj1624)
From: Katharina Walton <kwalton@nrsi.on.ca>
Date: 2015-05-27 12:20 PM
To: Samantha Mason <smason@hrca.on.ca>
CC: Dave Stephenson <dstephenson@nrsi.on.ca>

Thank you for your feedback, Samantha. I've attached another map showing our proposed benthic monitoring stations (green dots; ignore numbers) based on site access. There are 5 and we agree to have them as far as possible away from any roads. We will complete these surveys tomorrow or Friday.
-Katharina.

On 27/05/2015 12:12 PM, Samantha Mason wrote:

> Hi Katharina,
>
> The stations all look fine to me. The only thing I have a concern with is that there is only one site that isn't located at a road crossing. I wonder if it would make sense at this point to double the benthic stations and to drop the fish community work, since you don't have a scientific collector's permit? If you are agreeable to this approach, I would suggest attempting to have as many monitoring locations away from road crossings as there are sites *at* road crossings.
>
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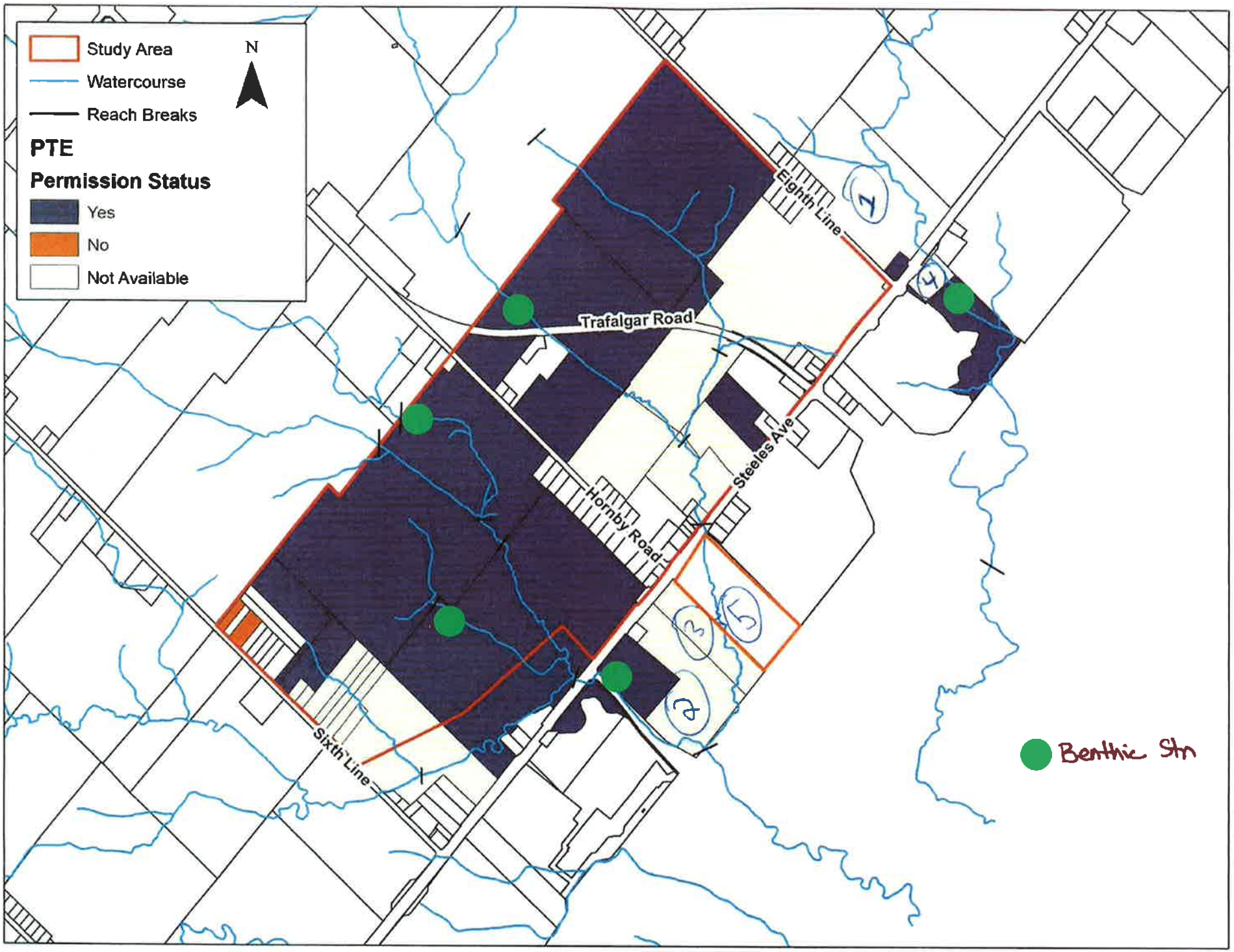
>
> My preference would be not to drop the benthic monitoring from the scope of the work if at all possible.
>
> Those are my thoughts. My apologies for not getting you a response sooner.
>
> Kind regards,
>
> **Samantha Mason, HBSc.|Senior Aquatic Ecologist**
> **Conservation Halton**
> 2596 Britannia Road West
> Burlington, Ontario L7P 0G3
> t: 905-336-1158 X 267 | f: 905-336-6684
> c: 905-299-8493
> www.conservationhalton.ca
>
> ---
>
> **From:** Katharina Walton [mailto:kwalton@nrsi.on.ca]
> **Sent:** May-27-15 11:28 AM
> **To:** Samantha Mason
> **Cc:** Dave Stephenson
> **Subject:** Halton Hills Premier Gateway Aquatic Stations (proj1624)


Study Area
Watercourse
Reach Breaks
PTE
Permission Status
Yes
No
Not Available
N
Eighth Line
Trafalgar Road
Steeles Ave
Hornby Road
Sixth Line
7
4
1
3
2
Benthic Stn

Hi Samantha,
Attached is a map showing proposed aquatic surveys stations. We propose to do a habitat assessment, benthic sample and e-fishing at each station. We have committed to 6 stations based on our budget. We do not have a fish permit from the MNRF yet, which we applied for April 7. The contact at the MNRF is Karen Golby. If you can help us get that permit for tomorrow, or if we can conduct the e-fishing under the CA's permit, then we can do this work this week, i.e. tomorrow and Friday.

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Thank you!
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Katharina.
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Attachments:

Part 1.1.2.2	0 bytes
image001.jpg	0 bytes
Signature_KSW_TB.JPG	0 bytes
benthics_20150527121247.pdf	27 bytes

Subject: RE: Halton Hills Premier Gateway Aquatic Stations (proj1624) **From:** Samantha Mason <smason@hrca.on.ca>
Date: 2015-06-03 1:50 PM
To: Katharina Walton <kwalton@nrsi.on.ca>
CC: Dave Stephenson <dstephenson@nrsi.on.ca>

OK, thanks very much Katharina. I hope all went well with the benthic sampling last week J

-Samantha

From: Katharina Walton [mailto:kwalton@nrsi.on.ca]
Sent: May-28-15 8:27 AM
To: Samantha Mason
Cc: Dave Stephenson
Subject: Re: Halton Hills Premier Gateway Aquatic Stations (proj1624)

Yes, we will do fish surveys once we receive the permit.
-Katharina.

On 28/05/2015 8:25 AM, Samantha Mason wrote:

> Hi Katharina,
>
> Thanks for your reply. Those site locations look good. I'm wondering if your plan is to do the fish community surveys once you receive your permits from the MNRF?
>
> Regards,
> Samantha
>
> ---
>
> **From:** Katharina Walton <kwalton@nrsi.on.ca>
> **Sent:** May 27, 2015 12:20 PM
> **To:** Samantha Mason
> **Cc:** Dave Stephenson
> **Subject:** Re: Halton Hills Premier Gateway Aquatic Stations (proj1624)
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Cc: Dave Stephenson
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Katharina.
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Attachments:

Part 1.1.2.2	0 bytes
Signature_KSW_TB.JPG	0 bytes
Signature_KSW_TB.JPG	0 bytes

Subject: Phase 1B surveyed wetland - Steeles & Trafalgar (proj1624)
From: Curtis Marshall <CurtisM@haltonhills.ca>
Date: 2017-01-26 3:46 PM
To: "McCabe, Owen (Owen.McCabe@halton.ca)" <Owen.McCabe@halton.ca>, "'Matt Howatt' (mhowatt@hrca.on.ca)" <mhowatt@hrca.on.ca>
CC: "Katharina Richter (krichter@nrsi.on.ca)" <krichter@nrsi.on.ca>, "Farrell, Aaron (aaron.farrell@amecfw.com)" <aaron.farrell@amecfw.com>

Hi Matt and Owen, please see below.
Curtis

Curtis Marshall
Senior Planner – Policy

Town of Halton Hills
1 Halton Hills Dr.
Georgetown, ON
L7G 5G2

905-873-2601 ext. 2253

From: Katharina Richter [mailto:krichter@nrsi.on.ca]
Sent: January-13-17 10:04 AM
To: Curtis Marshall; Farrell Aaron
Cc: Steve Burke; Steve Grace
Subject: Re: Phase 1B surveyed wetland - Steeles & Trafalgar (proj1624)

Curtis,
With regards to the surveyed wetland, I provide the following, fairly informal report and attached map.

The wetland boundary was surveyed October 26, 2016.

The core areas of the marsh are almost completely Cattails and contain shallow, sporadic pooled water and some degree of organic soils. Fringe areas transition to sparse Cattails mixed with Lance-leaved Aster and occasional Rushes. For a large portion of the eastern boundary the edge of the agricultural field is more or less the boundary of the wetland. There has been some tilling and cultivation of soils that would be part of the wetland but nothing major. There is an overgrown access to the field (grassy, not gravel) leading in from Trafalgar. This creates a separation of the 2 large wetland units by maybe 5m. A culvert could not be seen, but it was thick cattails and there may be direct connection under that laneway; it could be plugged up with muck and detritus.

Overall, the marsh is Cattails, Phragmites, Lance-leaved Aster, and Reed Canary Grass, with a couple of Willow shrubs present as well, but otherwise no trees or shrubs. There are a few other wetland indicators present but it's fairly low diversity overall. The fringe and upland is Canada Goldenrod, Smooth Brome, Canada Thistle, and Common Burdock. The auto shop appears to have encroached into the wetland historically, and there are a few areas of overgrown topsoil piles to the north of the auto shop, as well as a berm-like feature to the far east.

The far eastern wetland pocket is dominated by Reed Canary Grass and exists because of human disturbance. Topographically it is separated from the actual cattail marsh by an area which is fresh-moist meadow and contains no wetland species. The hydrology of the Reed canary Grass area is also likely further influenced by the ditch on the north side of Steeles Ave which would direct some amount of water into this lower area during high rainfall events, thus probably facilitating the wetter vegetation which would not naturally occur in the absence of the berm and the

ditch.

Regards,
Katharina.

Katharina Richter B.E.S.
Terrestrial and Wetland Biologist
Natural Resource Solutions Inc.
1-225 Labrador Drive
Waterloo, ON N2K 4M8
(p) 519-725-2227 (f) 519-725-2575
(m) 519-635-6051
(w) www.nrsi.on.ca (e) krichter@nrsi.on.ca

Attachments:

NRSI_1624_WetlandDelineation_2K_2016_10_31_LEH.pdf	27 bytes

Halton Hills Premier Gateway

Wetland Delineation

Legend

- Subject Area
- Surveyed Wetland
- Primary Road

0.243ha
0.008ha
0.958ha
0.051ha
TRAFALGAR RD
STEELES AVE

593800 593900 594000 594100 594200 594300

4825700 4825600 4825500 4825400 4825300

NATURAL RESOURCE SOLUTIONS INC.
Aquatic, Terrestrial and Wetland Biologists

Project: 1624
Date: October 31, 2016

NAD83 - UTM Zone 17
Size: 11x17"
1:2,000

N

0 40 80 120 Metres

Path: X:\1624_HaltonHillsGatewaySecondaryPlan\NRSI_1624_WetlandDelineation_2K_2016_10_31_LEH.mxd

Halton Hills Premier Gateway Project

Steeles/Trafalgar Wetland Boundary Photo Appendix

Photos taken October 26, 2016

NRSI Project 1624B

Steeles/Trafalgar Wetland Boundary Survey
October 26, 2016

Photo Appendix

Legend:

>1 Photo # and direction of view.
(in direction of arrow)

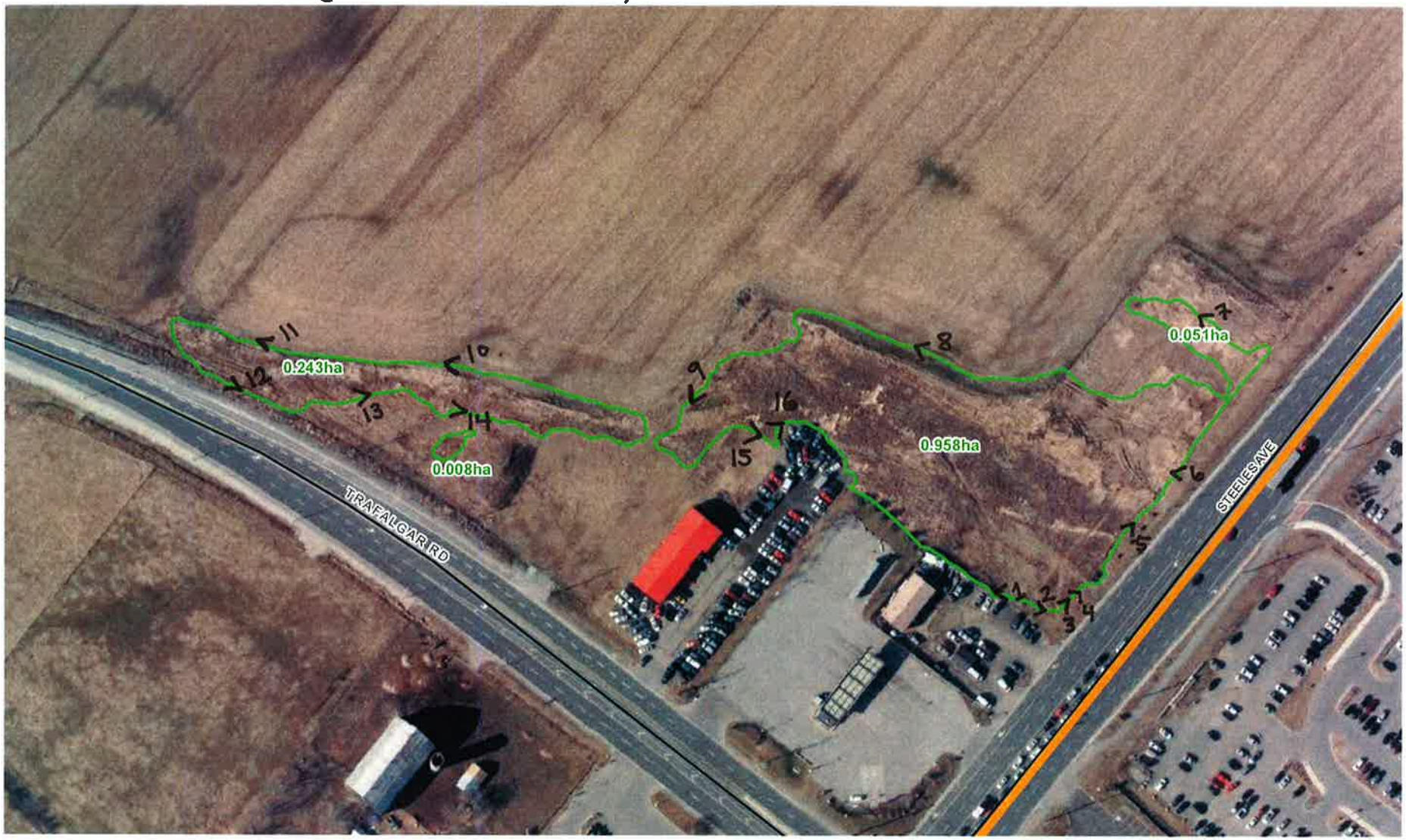

Photo 1.

Photo 2.

Photo 3.

Photo 4.

Photo 5.

Photo 6.

Photo 7.

Photo 8.

Photo 9.

Photo 10.

Photo 11.

Photo 12.

Photo 13.

Photo 14.

Photo 15.

Photo 16.

Halton Hills Premier Gateway

Woodland Edge Analysis

Prepared for:
Town of Halton Hills
1 Halton Hills Drive
Georgetown, ON L7G 5G2

Project No. 1624 l August 2017

NATURAL RESOURCE SOLUTIONS INC.
Aquatic, Terrestrial and Wetland Biologists

Halton Hills Premier Gateway

Woodland Edge Analysis

Project Team:

David Stephenson	Senior Biologist, Project Advisor
Katharina Richter	Senior Biologist, Project Manager
Christy Humphrey	Terrestrial & Wetland Biologist
Kaitlin Filipov	GIS Analyst
Monica Varga	GIS Analyst

Report submitted on August 9, 2017

Katharina Richter
Project Manager
Senior Biologist

225 Labrador Drive, Unit 1, Waterloo, Ontario, N2K 4M8 **Tel:** (519) 725-2227 **Web:** www.nrsi.on.ca **Email:** info@nrsi.on.ca

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1.0 Introduction

The Town of Halton Hills is currently undertaking the *Premier Gateway Phase 1B Employment Area Integrated Planning Project* in order to prepare a detailed land use plan for the Phase 1B lands. The Phase 1B lands are shown on Map 1. This project represents an integrated planning project that involves both secondary planning and subwatershed planning. The Scoped Subwatershed Study (SWS) is being completed by a team of consultants, led by Amec Foster Wheeler. NRSI is completing the terrestrial and aquatic ecology components of the SWS, which has included the delineation of a Premier Gateway Natural Heritage System (PGNHS), which is a refinement of the Regional Natural Heritage System (RNHS).

The RNHS was identified through "Sustainable Halton," a project undertaken by the Region of Halton that included the identification of a Natural Heritage System, which is intended to achieve long term protection of natural heritage features and functions (NSEI 2009). The RNHS developed through this project and identified in the Region's Official Plan (2014) and ROPA 38 (2015) is approximate, and it is recognized that additional studies will refine the boundaries through field verification (see Section 116.1 in ROPA 38).

The areas included in the RNHS include woodlands, wetlands, and watercourses, along with appropriate buffers, linkages, and enhancement areas identified by NSEI (2009) and shown on Map 1G of the Official Plan. Section 115.3 of ROPA 38 (Halton Region 2015a) lists the components of the RNHS as the following:

- key features, including:
    - significant habitat of Endangered and Threatened species
    - significant wetlands
    - significant coastal wetlands
    - significant woodlands
    - significant valleylands
    - significant wildlife habitat
    - significant Areas of Natural and Scientific Interest
    - fish habitat

- enhancements to key features, including Centres for Biodiversity
- linkages
- buffers
- watercourses
- wetlands

Sustainable Halton (NSEI 2009) established 30m buffers from all features, which is consistent with Greenbelt buffers and what some other municipalities are promoting.

There are 2 woodland areas contained within the Phase 1B lands: Coulson Tract, a Regional forest; and a woodland in the eastern corner of the Phase 1B lands that borders Sixth Line. Both are considered significant according to municipal policy and are included in the RNHS (see Map 1). The work completed through the SWS and Secondary Plan refined the RNHS in several locations, including excluding existing houses and roads from the Natural Heritage System. However, the Region has advised the Town that additional analysis and justification is required in order for the Region to consider a refinement to the RNHS to recognize existing building footprints. The additional analysis and justification are being presented in this report.

2.0 Methods

On June 2, 2017, the Town of Halton Hills mailed out a letter to homeowners whose properties overlap with one of the two woodlands requesting property access. The letter is attached in Appendix I. NRSI staff followed up with phone calls and emails to homeowners (June 9, 13, and 14). Table 1 indicates the properties where access was permitted, where access was denied, or where no response was received.

Table 1. Permission to Enter

Property	PTE	Notes
Sixth Line Woodland		
8299	Granted	Dripline surveyed
8301	Granted	Dripline surveyed
8303	Granted	Dripline surveyed
8307	Granted	Dripline surveyed
8325	Denied	Property could be viewed well from adjacent properties (8307 and 8341)
8341	Granted	Dripline surveyed
8355	No Contact	No working contact number. Knocked June 15, but no one home. Woodland edge could be viewed from adjacent property (8341).
8367	Denied	Woodland edge behind house could not be observed.
8381	Denied	Woodland edge behind house could not be observed.
8391	Denied	Access denied June 15 on site (speaking to homeowner). Woodland edge behind house could not be observed.
8399	Denied	Woodland edge behind house could not be observed.
Coulson Tract		
8285	No Contact	Property sold several months ago. No contact for new owners. Accessed property down driveway to knock and request PTE. No one home. Notes and photos taken from laneway.
8291	Denied	Property could be viewed well from road.
8305	Granted	Permission to enter was provided June 27, after the time when field work was conducted. As such, this property was not accessed. Property could be viewed well from adjacent Regional property and road.

Field work was conducted on June 15, 2017. Where access was permitted, biologists surveyed the woodland edge using a SXBlue II GNSS GPS unit with sub-metre accuracy. Biologists also noted the condition of the woodland edge, including vegetation species, particularly trees; and areas of disturbance and/or impact. Maps 2 and 3 show where property access was granted and therefore areas that were specifically surveyed. Where access was denied, the woodland edge was reviewed from the road or adjacent properties where possible. A photographic record of the site conditions was compiled. Where access was denied, points where surveyed from the side of the road or adjacent

properties to map the dripline (i.e. survey point take at furthest dripline extent). As Coulson Tract is a Regional forest, the public lands surrounding the private properties were accessed.

As the landowners of 8285 Hornby Road could not be contacted ahead of time, NRSI biologists walked along the laneway in order to request permission to enter. No one was home, so the dripline could not be surveyed, however observations of the woodland edge were made from the laneway.

3.0 Results

The dripline was surveyed where possible, and identified on properties that could not be accessed through air photo interpretation and observations made in the field from the road or neighbouring properties. Maps 2 and 3 show the dripline. Photos are provided in Appendix II.

The following provides a brief description of the Sixth Line and Coulson Tract woodland edges.

Sixth Line Woodland

The woodland is a Dry-Fresh Sugar Maple – White Ash Deciduous Forest (FOD5-8). Dominant species along the forest edge are American Basswood (*Tilia americana*), Red Oak (*Quercus rubra*), Sugar Maple (*Acer saccharum ssp. saccharum*), White Ash (*Fraxinus americana*), and Common Buckthorn (*Rhamnus cathartica*). Houses are located along the forest's southwestern edge. The forest edge appears stable, however manicured lawns extend underneath the dripline. Garages, sheds, and debris piles are located within the forest edge, showing occasional disturbance. Some trails were noted to lead into the forest, especially from the eastern edge. Along Sixth Line, it could be confirmed that the woodland does not extend to the road, other than on properties 8305 and 8307. See Photos 1-23.

Coulson Tract

Coulson Tract is comprised of a variety of vegetation communities, but is dominated by Mixed Plantations (CUP2), comprised predominantly by White Ash and White Pine (*Pinus strobus*). Significant dieback of White Ash was noted, resulting from infestations of Emerald Ash Borer (*Agrilus planipennis*). Dominant species along the forest edge are Black Walnut (*Juglans nigra*), Bur Oak (*Quercus macrocarpa*), White Ash, and White Pine. Although originally planted in a plantation, the Black Walnut communities (Black Walnut Deciduous Plantation, CUP1-3) are naturalizing and are now mixed with a variety of other species including Bur Oak, Eastern Cottonwood (*Populus deltoides*), and White Ash, as well as shrub and herbaceous species. Common Buckthorn is prevalent here also. The forest edge appears to be stable and less disturbed than the Sixth Line Woodland edge. The trees along the west side of the 8285 laneway from Hornby Road were identified as part of the woodland, as the laneway provides a gap of less than 20m

(Photo 30). The row of trees on the western edge of 8305 was confirmed as a hedgerow and not integral to the forest (Photo 26). See Photos 24-34 which pertain to the Coulson Tract woodland edge. Photo 35 shows the road widening works currently being undertaken along Trafalgar Road.

4.0 Buffer Analysis

4.1 Regional Buffer Framework

The Town of Halton Hills has requested a variable buffer approach within the Town's Premier Gateway lands for several reasons including a better development and consistency with other developments such as Vision Georgetown. The Region recognizes that variable buffers may be appropriate, as per the definition of 'buffer' within Section 220.1.1 of the ROP (Tovey 2016), however has stated (Halton Region comments made at the May 11, 2016 project TAC meeting; Tovey 2016) that appropriate buffer widths cannot be determined at coarse scale studies such as Subwatershed Studies or Secondary Plans, as there are not enough detailed investigations in place to make these determinations. Rather, it is the studies completed at the planning approval stage, that determine buffer widths through an Environmental Implementation Report (EIR) and Functional Servicing Study (FSS) and/or Environmental Impact Assessment (Tovey 2016; Halton Region 2017).

In February 2017, the Region released its *Framework for Regional Natural Heritage System Buffer Width Refinements for Area-Specific Planning* document (hereafter, "Framework"), which outlines how buffer widths are determined and through which study. This document, however, does not address existing development, nor current adjacent land uses. Nonetheless, the buffer Framework has been utilized to assess the buffer widths in the Phase 1B Lands.

According to the Framework, buffer width is determined through the following process:

Step 1: Risk factors assessment

- Step 1.1: Adjacent land use risk score (identified as high, medium, or low)
- Step 1.2: Significance/sensitivity risk score of key natural heritage feature (identified as high, medium, or low)
- Step 1.3: Uncertainty ranking (identified as 'too high', 'high', 'moderate', or 'low' uncertainty)

Step 2: Mitigating factors assessment

Step 3: Uses within a buffer assessment (e.g. trail)

Adjacent Land Use Risk Score

According to the preferred land use concept, the adjacent land use has been identified as “Employment”, with some areas adjacent to the Sixth Line Woodland identified as “Future Strategic Employment”. These uses would comprise light industrial (high risk), warehousing and logistics (medium risk), office (medium risk), commercial uses servicing the employment area such as printing shops or restaurants (medium risk), and hotel and convention facilities (medium risk). Since it is unknown at this time where the high risk light industrial uses will be located, compared with medium risk uses, a conservative approach has been taken by assuming that the adjacent land use risk is ‘high’. The “Future Strategic Employment” areas adjacent to the Sixth Line Woodland have been identified as ‘medium risk’, as, given the configuration of the lands available for future development when they do become part of the urban boundary, these areas are not expected to contain light industry, but office use or other medium risk uses. This use has also been assumed for the ‘James Snow Property’ within Coulson Tract. Parks and open space, including stormwater management and low impact development, are ‘low risk’ uses that have not been identified on the land use concept. Stormwater management facilities will be identified at the time of development applications.

Sensitivity Score of Natural Heritage Features

Most of the key natural heritage features within the Phase 1B Lands have been identified with a ‘high risk’ score as these areas contain functions and attributes that make them significant and sensitive. These functions include Significant Woodland (with a significant function/attribute), Significant Wildlife Habitat (habitat for Species of Conservation Concern, Eastern Wood-Pewee; candidate bat maternity colonies; woodland amphibian breeding habitat); and direct fish habitat. As per Conservation Halton’s direction, a conservative approach to fish habitat must be taken, as fish surveys were not completed in the spring, nor in all watercourses. The only ‘medium risk’ features that can be identified are certain headwater drainage features: the upper portion of the feature south of the Sixth Line Woodland (W-T1-2b) and the headwater drainage feature in the northern corner of the Phase 1B Lands (HT-2b-3). Headwater drainage features with “no management” recommendation are not included in this assessment. The coniferous plantations within Coulson Tract were also identified as ‘medium risk’ as these do not provide preferred habitat for bats.

Uncertainty Ranking

Based on these risk assessments, the interface areas between key features and adjacent land uses have been identified as “too high uncertainty” and “high uncertainty”. Areas with a too high uncertainty require a potential increase in buffer width (i.e. >30m), which is to be determined at the EIR/FSS stage. Areas identified with high uncertainty do not allow a change in the 30m buffer width. One small area, the interface between “Future Strategic Employment” and the upper portion of the headwater drainage feature, W-T1-2b, was identified as ‘moderate risk’ and therefore permits a minor buffer width reduction of 0-5m. The headwater drainage feature in the northern corner (HT-2b-3) has been proposed to be moved to the north side of Coulson Tract. As such, this area has been identified as ‘low uncertainty’, allowing for a modest buffer reduction of 5-10m.

Mitigating Factors Assessment

The Framework identifies only two mitigating factors: fencing and enhancement plantings. These can be implemented where appropriate in areas with ‘high’ or ‘moderate’ uncertainty, for an (additional) 5m buffer width reduction. Areas that have been identified with ‘too high uncertainty’ may benefit from mitigating factors, but the buffer cannot be reduced.

Uses Within Buffer Assessment

Should trails be identified within buffer areas, they will increase buffer width by the width of the proposed trail and maintenance area. Certain other trail criteria must be met in accordance with the Framework.

Framework Buffer Range

Map 4 shows the preferred land use concept, along with ELC boundaries and the application of uncertainty rankings. The following buffers are in accordance with the Framework:

- Red - ‘too high uncertainty’ - ≥30m buffer
- Orange - ‘high uncertainty’ - 25-30m buffer
- Yellow - ‘moderate uncertainty’ - 20-25m buffer
- Green – ‘low uncertainty’ – 15-20m buffer

Future site-specific studies may allow for reduced buffers in the following instances:

- where lower risk employment uses (i.e. other than heavy or light industry) are identified next to key features
- if stormwater management or low impact development is identified as an adjacent land use
- if it has been confirmed that the Coulson Tract (or certain portions) is/are not used by bats

4.2 Phase 1B Lands Buffer Recommendations

The Framework does not consider existing adjacent land uses nor existing impacts. Existing adjacent land uses within the Phase 1B Lands include urban development, golf course maintenance, and agricultural practices. These existing uses already impact the key natural heritage features, including:

- Watercourses impacted through fertilizers and pesticides from golf course, as well as man-made ponds, piping, erosion, and mowing;
- Headwater drainage features that are regularly altered or ploughed to accommodate agricultural operations;
- Existing buildings, garages, and sheds adjacent to woodlands, as well as mowing, gardens, and storage of equipment, vehicles, and play structures within or adjacent to woodlands;
- Trails through woodlands;
- Noise and light from adjacent residential homes, roads, and businesses.

Given these existing uses and impacts, providing a buffer around the key natural heritage features will not only protect the features, but also enhance them. The Framework does not consider these impacts and does not allow for enough flexibility in buffers. Greater flexibility is warranted, given the existing uses and impacts.

NRSI had proposed a reduced buffer where existing development (e.g. houses, roads) abuts a natural feature or is within the Sustainable Halton 30m buffer. Reduced buffers should be implemented on existing residential yards because of the existing and continued private uses, especially the houses, but also garages, sheds, continued mowing, gardens, and storage of equipment, vehicles, and play structures.

Additional Considerations

Buffer width is generally determined through the nature of the natural feature (e.g. how sensitive it is), as well as the proposed development next to the natural feature (some forms of development will impact the natural feature more than others, such as industrial development vs. a stormwater management pond). As per the Provincial Policy Statement, the natural feature's form and ecological function need to be protected. Some features are less sensitive, and especially if located adjacent to a non-intensive form of development, will not need a large buffer to be protected. In other cases, enhancements to the buffer will allow a smaller buffer to protect the natural feature in the same way as a wider buffer would. The Framework only provides two forms of mitigating factors/buffer enhancements, as described above, however the following list of potential buffer enhancements should also be considered and implemented where appropriate:

- Planting of buffer with native vegetation
- Cease agricultural practices early to allow buffers to naturalize
- Control of non-native and/or invasive plant species
- Adding soils or soil amendments to increase health of soil
- Loosening compacted soil
- Removing debris and/or fill piles
- Planting native vegetation that provides a barrier to people from encroachment, such as raspberries, blackberries, roses, and stinging nettles
- Fencing to delineate natural areas
- Chain link fencing to prohibit access by people and pets
- Providing walking trails (at edge of buffer or potentially within buffer) at the start of development to clearly delineate protected features while providing people a place to enjoy nature
- Creation of habitat features within buffers (e.g. snake hibernacula, nesting structures)
- Minimal grading to direct water

When considering appropriate buffer widths, the natural feature and its ecological functions, the proposed development, the existing development and its associated impacts, and buffer enhancement options must all be considered. Areas within the

Phase 1B Lands that contain existing development within or adjacent to the RNHS/PGNHS will be addressed through policy being developed for the Premier Gateway Secondary Plan.

5.0 Reference

Halton Region. 2014. Halton Region Official Plan Package – October 2, 2014.

Halton Region. 2017. Framework for Regional Natural Heritage System Buffer Width Refinements for Area-Specific Planning. Version 1.0. February 2017.

North-South Environmental Inc. (NSEI). 2009. Natural Heritage System Definition & Implementation. Phase 3, Sustainable Halton Report 3.02. April 7, 2009.

Tovey, D. 2016. Letter from Dan Tovey, Manager, Planning Policy at Halton Region to Tara Buonpensiero, Town of Halton Hills. Re. Draft Technical Memo: NHS Buffer Framework. August 3, 2016. [In relation to the Vision Georgetown project]

MAPS

592000
593000
594000
595000
4826000
4825000
4824000

SIDERD S
6TH LINE
TRAFALGAR RD
Coulson Tract
HORNBY RD
STEELES AVE
East Sixteen Mile Creek
6TH LINE
Sixth Line Woodland
East Branch
Hornby Tributary
HWY 401
AUBURN RD
West Branch
Middle Sixteen Mile Creek

Path: X:\1624_HaltonHillsGatewaySecondaryPlan\NRSI_1624_Map1_Phase1BLands_RegionalNHS_13K_2017_07_27_MV.mxd

Map 1

Halton Hills Premier Gateway

Phase 1B Lands and Regional NHS

Legend

- Phase 1B Lands
- Highway
- Primary Road
- Secondary Road
- Watercourse (LIO-MNRF)
- Wetland (Non-PSW) (LIO-MNRF)
- Wooded Area (LIO-MNRF)
- Greenbelt (LIO-MNRF)
- Greenbelt - Urban River Valley (120m)
- Regional Natural Heritage System (Halton Region)

NATURAL RESOURCE SOLUTIONS INC.
Aquatic, Terrestrial and Wetland Biologists

Project: 1624 Date: September 01, 2017	NAD83 - UTM Zone 17 Size: 11x17" **1:12,500**

N

0 400 800 Metres

Map 2

Halton Hills Premier Gateway

Property Access - Sixth Line Woodland

Legend

- Phase 1B Lands
- Property Boundary
- 1234 Property Not Accessed
- 1234 Property Accessed
- Dripline (Surveyed)
- Dripline (airphoto interpretation and field observations)
- Hedgerow
- 30m from Dripline
- Watercourse (LIO-MNRF)
- Contour (5m)

NATURAL RESOURCE SOLUTIONS INC.
Aquatic, Terrestrial and Wetland Biologists

Project: 1624 Date: July 26, 2017	NAD83 - UTM Zone 17 Size: 11x17" **1:2,000**

0 25 50 75 100 125 Metres

N

Path: X:\1624_HaltonHillsGatewaySecondaryPlan\NRSI_1624_Map2_PropertyAccess_SixthLineWoodland_2K_2017_07_26_JAS.mxd

Map 3

Halton Hills Premier Gateway

Property Access - Coulson Tract

592800 592900 593000 593100 593200

4825500 4825400 4825300 4825200

TRAFALGAR RD

HORNBY RD

8300

8285

8305

3291

Legend

- Phase 1B Lands
- Parcel Boundary
- 1234 Property Not Accessed
- 1234 Property Accessed
- Dripline (Surveyed)
- Dripline (airphoto interpretation and field observations)
- Hedgerow
- 30m from Dripline
- Watercourse (LIO-MNRF)
- Contour (5m)

NATURAL RESOURCE SOLUTIONS INC.
Aquatic, Terrestrial and Wetland Biologists

Project: 1624
Date: July 20, 2017

NAD83 - UTM Zone 17
Size: 11x17"
1:1,500

N

0 25 50 75 100 Metres

Path: X:\1624_HaltonHillsGatewaySecondaryPlan\NRSI_1624_Map3_PropertyAccess_CoulsonTract_2K_2017_07_20_GCS.mxd

Map 4

Halton Hills Premier Gateway

Buffer Framework Analysis

592000 593000 594000 595000

4826000 4825000 4824000

SIDERD 5
6TH LINE
TRAFALGAR RD
STEELES AVE
6TH LINE
HWY 401
AUBURN RD
Bush Sixteen Mile Creek

Legend

Phase 1B Lands

Uncertainty Ranking

- Too high uncertainty (≥ 30m)
- High uncertainty (25m - 30m)
- Moderate uncertainty (20m - 25m)
- Low uncertainty (15m - 20m)

Land Use Concept

- Enhancement Area
- Natural Heritage System
- Relocated Drainage Feature
- Employment
- Proposed Employment
- Existing Residential
- Future Strategic Employment
- Supportive Commercial
- Existing Commercial
- Cemetery
- Existing Building
- Parcel
- Wetland to be Replicated as Enhancement Area in NHS
- Road
- Road Alignment Option
- Potential Extention to Sixth Line
- Roundabout

Natural Features

- Ecological Land Classification (Boundaries only)
- Permanent Watercourse
- Ephemeral Watercourse
- Headwater Drainage Feature Assessment (Parish)
- Watercourse (MNRF)

NATURAL RESOURCE SOLUTIONS INC.
Aquatic, Terrestrial and Wetland Biologists

Project: 1624
Date: August 09, 2017

NAD83 - UTM Zone 17
Size: 11x17"
1:12,500

0 200 400 600 800 Metres

N

Path: X:\1624_HaltonHillsGatewaySecondaryPlan\NRSI_1624_Map4_BufferFrameworkAnalysis_13K_2017_08_09_MV.mxd

APPENDIX I

Land Access Letter to Property Owners

TOWN OF HALTON HILLS
Working Together Working for You!

June 2, 2017

Dear Landowner:

Re: Premier Gateway Phase 1B Employment Area Integrated Planning Project
Access to Properties for Detailed Environmental Impact Assessment Fieldwork
Property Address: XXXXXXXXXXX

As you may be aware, the Town of Halton Hills is currently undertaking the Premier Gateway Phase 1B Employment Area Integrated Planning Project, in order to prepare a detailed land use plan for the Phase 1B lands. The Phase 1 B lands are generally bounded by Steeles Avenue, Eighth Line, the Greenbelt Plan boundary, Sixth Line and the northern boundary of Lot 1, former Esquesing Township, but are also intended to include up to 75 hectares of additional employment land in Lot 2, former Esquesing Township.

The current status of the project is that Council has endorsed a Preferred Land Use Concept to serve as a basis for detailed planning studies, leading into preparation of the detailed land use plan, referred to as a Secondary Plan. Through the process to finalize the Preferred Land Use Concept, a number of rural residential property owners along Sixth Line and Hornby Road expressed concerns that their properties were significantly impacted by inclusion within the Regional Natural Heritage System.

Subsequently, Council adopted Resolution No. 2017-0069, which stated:

> WHEREAS certain existing residential lots in the Premier Gateway Phase 1B Study Area, identified on the proposed Preferred Land Use Concept as “Existing Buildings Subject to Further Study of Natural Heritage System” are entirely within the Regional Natural Heritage System in the approved Regional Official Plan;
>
> AND WHEREAS Section 116.1 of the Region Official Plan provides for the refinement of the boundaries of the Regional Natural Heritage System through a Subwatershed Study, Environmental Impact Assessment or other study, acceptable to the Region;
>
> AND WHEREAS the Region has advised the Town that additional analysis and justification is required in order for the Region to further consider a refinement to the Regional Natural Heritage System to recognize existing building footprints, at the Secondary Plan stage;

THEREFORE BE IT RESOLVED THAT Council for the Town of Halton Hills direct staff and the consulting team retained for the Premier Gateway Phase 1B Secondary Plan to complete the necessary work to address refinement of the Regional Natural Heritage System on the subject properties, at a cost not exceeding $10,000, and that the work be funded from the Tax Rate Stabilization Reserve.

In order for the Town's environmental consultants, Natural Resource Solutions Inc. (NRSI), to conduct the fieldwork outlined above, they will require access to your property at some point over the next 2 months to conduct their investigations.

We are writing to you, as a property owner in the area, to advise you of the work and seek your co-operation and support in allowing the environmental consultants access to your property. If possible, the consultants will contact you by phone or e-mail in advance to confirm your consent to access your property. In the event you do not want your lands accessed, or to confirm the Town has your phone number or e-mail, please notify the undersigned upon receipt of this letter.

Should you have any questions, please don't hesitate to contact: Steve Burke, Manager of Planning Policy at 905-873-2601 ext. 2254, stevebu@haltonhills.ca or Steve Grace, Program Manager - Water Resources at 905-873-2601 ext. 2315, steveg@haltonhills.ca.

Yours truly,

Steve Burke, MCIP, RPP
Manager of Planning Policy
Planning and Sustainability

cc. Mayor R. Bonnette
Councillor T. Brown
Councillor B. Lewis
Regional Councillor C. Somerville
Steve Grace

APPENDIX II

Site Photos (June 15, 2017)

Sixth Line Woodlot

Photo 1. Property 8301 – Southern woodland edge

Photo 2. Property 8301 – Debris in woodland edge

Photo 3. Property 8299 – Woodland 'corner'
Note the shed, vehicle, trailer, and play structure within the woodland

Photo 4. Property 8299 – Western property boundary

Photo 5. Property 8341 – Very back of property; eastern woodland edge
Large vegetable garden

Photo 6. Property 8299 – Western property boundary facing north from behind house

Photo 6. Property 8307 – Woodland between properties 8325 (on left) and 8307 (on right)
Note that the understory and groundcover are natural.

Photo 7. Property 8307 – Southeastern woodland edge facing towards Sixth Line

Photo 8. Property 8307 – Southwest woodland edge along Sixth Line (facing NW)

Photo 9. Property 8325 – Woodland edge on southeast side of property
Note location of building within the dripline of the forest. Photo taken from Property 8307.

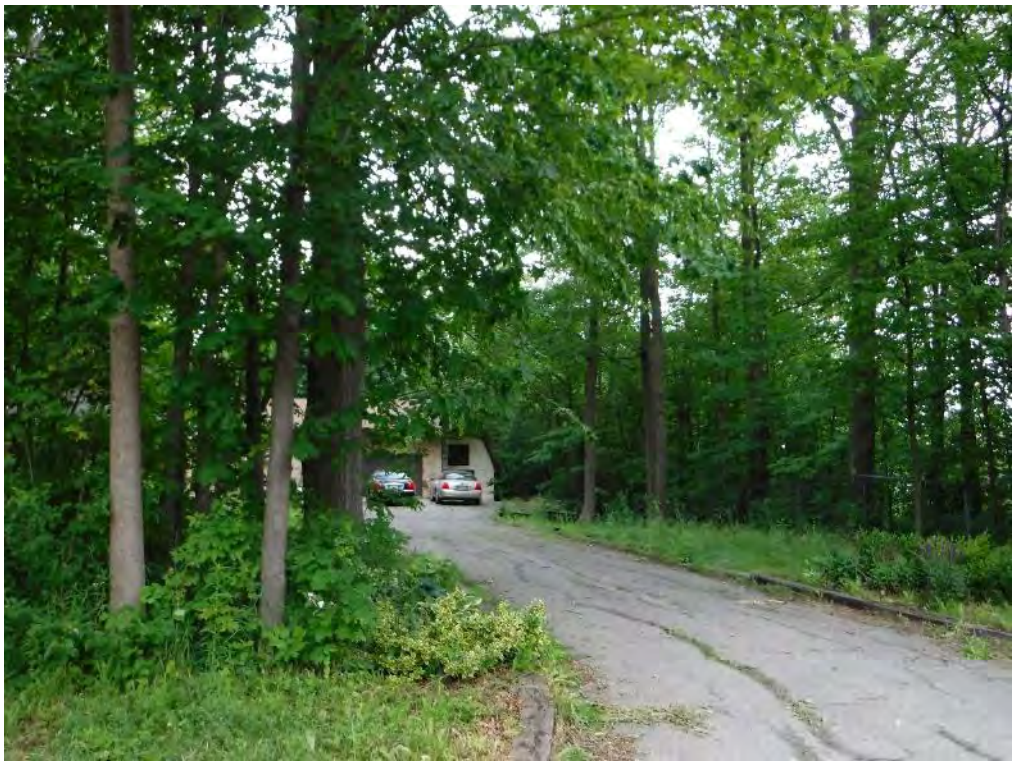

Photo 10. Property 8325 – Woodland as seen from Sixth Line
Woodland on both sides of driveway.

Photo 11. Property 8325 – Rear yard; southwest forest edge
Photo taken from property 8341.

Photo 12. Property 8341 – Front yard facing southeast
The trees in the front yard were not considered part of the forest because of the manicured state of the ground (no sub-canopy, shrubs, or herbaceous forest plants).

Photo 13. Property 8341 – Rear yard facing northeast (from southwest woodland edge)
Note shed and boardwalk within the woodland.

Photo 14. Property 8355 – Rear yard facing northwest
Open area and building were excluded from woodland.

Photo 15. Property 8355 – Rear yard facing northeast
Note cleared area in rear yard. This area was excluded from the woodland.

Photo 16. Properties 8367 (foreground) and 8355 (behind cedar rail fence)
Manicured lawn; not considered woodland.

Photo 17. Property 8367 – Front yard
No forest

Photo 18. Property 8381 – Front yard, southern laneway
Thick Cedar hedge along Sixth Line; not part of woodland.

Photo 19. Property 8381 – Front yard, centre laneway
Thick Cedar hedge along Sixth Line; not part of woodland. Cannot see woodland edge behind houses.

Photo 20. Property 8381 – Front yard, northern laneway
Thick Cedar hedge along Sixth Line; not part of woodland.

Photo 21. Property 8391 – Front yard
Row of trees on either side of property determined to be hedgerows and not part of the woodland proper.

Photo 22. Property 8399 – Front yard; hedgerow between properties 8391 and 8399

Photo 23. Property 8399 – Front yard

Coulson Tract

Photo 24. Regional land 8315, immediately NW of Property 8305, facing NW along Hornby Road

Photo 25. Regional land 8315, immediately northwest of Property 8305
Memorial to John Coulson, who bequeathed the land to the Region of Halton. The 5 planted White Pine were not deemed part of the woodland.

Photo 26. Regional land 8315, hedgerow along NW side of Property 8305

Photo 27. Property 8305 – Front yard not forested

Photo 28. Property 8285 – View of northwestern property boundary, SW of Property 8300

Photo 29. Property 8291 – Dripline along southeastern property boundary; view from Hornby Rd.

Photo 30. Property 8285 – Entrance from Hornby Road

Photo 30. Properties 8291 and 8285 – View southeast along Hornby Road

Photo 31. Property 8285 – View southwest towards back of Property 8291
Dripline on northwest side of 8285 laneway from Hornby Road.

Photo 32. Property 8300 – View towards southwest from Trafalgar Road

Photo 33. Property 8285 – View towards southeast from Trafalgar Road, along watercourse

Photo 34. Property 8285 – View southeast from house
Western forest edge on property.

Photo 34. Property 8285 – View south from house

Photo 35. Trafalgar Road – View to west; current road widening works