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March 21, 2014

Town of Oakville
c/o Planning Services
1225 Trafalgar Road
Oakville, ON L6H 0H3

ATTENTION: Mr. Kirk Biggar MCIP, RPP, Senior Planner
Long Range Planning, Planning Services

Dear Sir:

Re: Review of the Aquatic Resources and Natural Heritage Resources Components of the PHASE 2 Environmental Impact Study, Merton Tertiary Planning Study, Town of Oakville, Ontario. (Beacon Environmental, December 2013).

Dougan & Associates hereby provides the Town of Oakville with a peer review of the Phase 2 Environmental Impact Study (EIS) for the Merton (QEW/Bronte Road) Tertiary Planning Study. The review has considered the following documents:

- Phase 2 Environmental Impact Study (EIS) for the Merton (QEW/Bronte Road) Tertiary Planning Study, prepared by Beacon Environmental, December 2013.
- 'Response Matrix' entitled Response to Town of Oakville, Region of Halton, and Conservation Halton Comments on Draft Phase 1 EIS for Merton Tertiary Plan (last revised 20 Dec 2013)
- Environmental Impact Study, Merton Tertiary Planning Study, Town of Oakville, Ontario, prepared by Beacon Environmental, May 2013.
- The Merton (QEW/Bronte Road) Tertiary Planning Study Terms of Reference dated February 15, 2013.

The Draft Phase 1 EIS was a 'work in progress', with study area characterization still incomplete, and with no description of the proposed development, impact assessment, monitoring program, etc. The Phase 2 EIS incorporates the results of the 2013 field investigations and subsequent analysis, expanding on the Study Methodology and Study Findings report sections, and adding sections: Description of the Proposed Development, Impact Assessment & Mitigation, Monitoring Program - Terms of Reference, Policy Compliance, and Conclusions.

The following review of the Phase 2 EIS is divided into two components. The first component is the Phase 1 EIS comments, annotated as to whether they were addressed in the Phase 2 EIS. For clarity, annotated text is shown in bold and is underlined. Response matrix numbering is also included to facilitate future reference or review. The second component is a set of additional comments on the new material incorporated into the Phase 2 EIS.

Phase 1 EIS Peer Review Letter with
Annotated text reflecting Phase 2 EIS Content

General Comments

It is recognized that the Draft Phase 1 EIS is a 'work in progress' with study area characterization still incomplete, in terms of the Beacon work and other consultants whose work must be reported in the EIS. Our review has identified certain gaps in information, which may be addressed in a subsequent report version.

The Terms of Reference identify various levels of study for the EIS: a) Entire study area, generally from background information on specified biophysical resources, but with potential for supplementary fieldwork as required; b) Site-specific – Saw-Whet and Third Line lands, with detailed characterization of ground and surface water as well as geomorphic and natural heritage assessments; and c) Site-specific – Bronte Creek catchment, with similarly detailed studies under the environmental policy framework. We have concerns with the uneven biological monitoring coverage as evidenced on Figure 6 and as discussed in the comments. The Terms of Reference leave room for misinterpretation, so the EIS would benefit from a clearer discussion at the outset as to how the studies were planned and staged. **The additional data contained in the December 2013 Phase 2 EIS does fill in many of the data gaps and 'even' out the coverage between the four main study sites within the TPA.** (matrix comment #1)

The Phase 1 EIS sections on hydrogeology and hydrology apparently do not incorporate the most recent studies by other members of the TPS study team. Those documents are being peer reviewed separately by others, however our own scope does not extend to reviewing the additional supporting documents. The EIS will need to report on these other studies in order to meet the Terms of Reference. **The Phase 2 report does discuss hydrogeology and hydrology in greater detail than in the Phase 1 report; our comments are based solely on the Phase 2 EIS content.** (matrix comment #2)

The Beacon EIS references other Tertiary Plan Area consultant reports for further information on site-specific natural heritage studies. Given the comprehensive Terms of Reference for the EIS, all necessary content should be provided within the Beacon Phase 1 EIS, as the review of further studies is outside the scope of the Peer Review. **Response accepted.** (matrix comment #3)

The complexity of land parcels and ownerships, and the coverage of relevant data, is not clear in the EIS and could definitely be better referenced for clarity. Gaps in data, combined with some assumptions regarding interpretation of constraints, lead us to conclude that the current depiction of constraints to development in some areas is preliminary and subject to adjustment. **The tables and figures have been updated to show more clearly the boundaries of the four main study areas (plus the 14 Mile Creek area), and also illustrate well the amount and nature of field work done in them. Consideration should be given to reorganizing Figure 16 into two or three figures as it contains a lot of information at this scale and can therefore be difficult to interpret. However, Figure 17, which shows the comprehensive constraints, is the main goal and is very clear.** (matrix comment #4)

Aquatic Resources

The following are our comments on the aquatics resources components of the report.

2.1 Federal Fisheries Act (page 6).

i. Under the new Fisheries Act the authorization of a HADD will not trigger a CEAA review. As of this writing, we still do not know how the revised Fisheries Act will treat the protection of fisheries resources within a development. **Has been updated in Phase 2 for new Fisheries Act** (matrix comment #5)

Figure 5

i. "Water Temperature" locations should indicate that these are continuous temperature logger locations, and "Surface Water Flow" locations should indicate that spot water temperatures, and temperature loggers at W1, W2, S1, and S2, were also taken/deployed at these locations. **Addressed.** (matrix comment #6)

3.3.1 Background Review (page 24).

i. A report apparently not included in this review of background information was "Fourteen Mile Creek Main and West Branches Subwatershed Plan. Philips Engineering, June 2000 (Revised January 2002)". **Has been added to Phase 2 report.** (matrix comment #7)

Figure 6

i. Because all of the other location symbols had no specific labels, or were labelled within the symbol, it was not immediately apparent that the black number with the white background in the vicinity of the "Fisheries Survey" location symbol, was associated with the Fisheries Survey symbol. Perhaps including an example number label with the location symbol in the legend would make this clearer. Also, the superscript indicates that the information is referencing itself (this report), and likely should indicate that the information comes from Conservation Halton. **Recommendations have been implemented in this figure.** (matrix comment #8)

3.2.9.1 Aquatic Habitat Characterization (page 31)

i. States that "Flow observations were also noted." Were flows estimated? Or simply recorded as present or absent, low or high, etc.? If there was no flow, were there permanent standing pools, or some indication that flow occurred for an extended time, or for a very short time? These are important observations with regard to fish habitat. **This detail was not added. No corresponding response in the circulated response matrix.**

3.2.9.4 Stream Temperature Monitoring (page 32)

i. Table 3. - Can't find these stations, other than the above Stn 1 and Stn 2, easily on a map.

ii. The points on the map that indicate flow monitoring should indicate that temperatures were also gathered at these locations (see Figure 5). **Addressed.** (matrix comment #9)

4.1 Tertiary Plan Setting (page 35)

i. "Ontario Hydro Right-of-Way" is believed to be now “Hydro One Right-of-Way”. **Corrected in Phase 2 report.** (matrix comment #10)

4.2.5 Hydrogeology (page 38) **Has been expanded and improved to address comments.** (matrix comment #11)

i. Given the importance in groundwater discharge and processes to the instream conditions of 14 Mile Creek, and the maintenance of essential habitats for Redside Dace in this area, a more detailed treatment of groundwater should be provided, e.g. greater integration of groundwater processes and the observed water flows and water temperatures in study area watercourses.

ii. Even though it is offsite, discussion should deal with the major discharge point just north of Upper Middle Road that provides all the baseflow coming into the upstream end of the study area.

4.2.5.3 Recharge/Discharge Conditions (page 38).

i. This is very important to understand, as the fish community, and the Redside Dace population in particular, relies on these groundwater sources. It must be thoroughly understood so that the existing groundwater and thermal regimes can be protected under any future development scenarios. More detail and integration of temperature information must be provided. For example: it is stated on page 39 that small gains in flow occur in reach 14W-W1, however, this has not been related to the separate observation in the Thermal Regime section that 14W-W1 is the coldest stream in the study area. Somewhere in the report groundwater and thermal regime must be linked to Redside Dace habitat, and discussed. **Appears to be addressed in Phase 2 report.** (matrix comment #12)

4.2.5.4 Base Flows (page 38).

i. During some fisheries field work undertaken in 1998/1999, the flow in the main channel of 14 Mile Creek started about 100 m upstream of Upper Middle Road. Within a small stretch of watercourse, flow went from nothing to about 10 L/s or more during those dry summers. This discharge point is an important feature of the aquatic habitats within the study area, and must be fully addressed (characterized, protected, monitored, etc.) to the extent possible given that it is outside of the study area, as it is critical to the downstream habitats, in particular Redside dace habitat, that occur in the study area. **More detail has been added.** (matrix comment #13)

4.2.7.3.1 Meander Belt Widths (page 47).

i. The reaches in Table 9 are not shown on a map, but appear to be within Reaches 9b and 9c. This should be indicated somewhere to avoid confusion. **Now shown in Figure 5.** (matrix comment #14)

4.3.1 Background Review (page 50).

i. Missing report "Fourteen Mile Creek Main and West Branches Subwatershed Plan, June 2000, revised January 2002." by Philips Engineering Ltd. This report should be included in the background review. **Addressed.** (matrix comment #15)

4.3.9 Aquatic Resources (page 72).

i. Again, the report "Fourteen Mile Creek Main and West Branches Subwatershed Plan, June 2000, revised January 2002, Philips Engineering Ltd." is missing from this list. **Addressed.** (matrix comment #16)

4.3.9.1 Aquatic Habitat Characterization (page 73) (All addressed in matrix comment #17)

i. Conspicuously lacking are photographs that show representative sections and important features of each habitat area. A few photos could be included in the text, or a larger set could be included in an appendix. **Some photos have been added in an appendix.**
ii. In the third paragraph there is a reference to "aquatic habitat suitable for spawning". The information behind this statement needs to be presented, as these are critical habitats that may be affected by future development (e.g. SWMP discharge points). **Apparently still unknown.**
iii. Figure 3 appears to be the incorrect figure referenced. **Corrected.**

4.3.9.2 Fish Community, second paragraph (page 74) (All addressed in matrix comment #18)

i. The report states that since 1972, 22 species of fish have been collected from the stations within the Tertiary Planning Area, with over half of these species (14) still persisting in 2010 and 2012. As discussed at our first meeting, this does not necessarily mean there has been a reduction in species diversity, but may be more a factor of the number of different and varied times that the community has been sampled since 1972, compared to a smaller subset of sampling occasions in 2010 and 2012. **Addressed in text.**
ii. In the fourth paragraph it is mentioned that MNR advised not to collect fish, however, if the concern was for the stress of sampling on Redside Dace, then MNR should have allowed sampling in the minor tributaries which likely do not contain Redside Dace, but not in the main west and east channels of 14 Mile Creek where Redside Dace are already known to occur. This would help in determining the fish community sensitivities required to plan watercourse treatment and protection. **Not changed, but this is MNR's direction.**
iii. Table 13 (page 75) would have been better organized if the stations were along the top and the years were ranked in order within the cells, as it would be much more useful from the perspective of evaluating community assemblages associated with location and habitat. By ranking the years captured within each cell, the ability to discern trends over time on a species basis at a particular location is retained. **Revised as suggested. Much better thank you.**

4.3.9.2.1 Redside Dace (*Clinostomus elongatus*) (page 77)

i. In the second paragraph, "open habitats" should be changed to "open terrestrial habitats" **Corrected.** (matrix comment #19)

4.3.9.4 Thermal Regimes (page 79)

i. Thermal regimes in the different watercourses need to be integrated or related somehow to groundwater. This is very important to understand, as the fish community, and the Redside Dace population in particular, relies on these groundwater sources, and so a thorough understanding is needed so that the existing groundwater and thermal regimes can be protected. Other biophysical (e.g. shade) attributes should be discussed as well. **Addressed in Phase 2 report.** (matrix comment #20)
ii. (page 80) - the nomenclature for the five thermal categories is somewhat different from that used in Figure 13. **This appears to still be the case. Thermal regime classes in the text are inconsistent with the Figures 12 and 13. (matrix comment #20 states that this is addressed in Phase 2 report, but there are still inconsistencies)**

4.3.11.2 Fourteen Mile Creek Valley ESA (ESA #12) (page 105)

i. Table 20, primary criteria #9 (page 107) - If the proposed ESA boundary is adopted, which includes the short section of 14 mile Creek upstream of Upper Middle Road, then the ESA will include a significant groundwater discharge area. **Addressed. See same numbered section in the Phase 2 evaluation.** (matrix comment #21)

5.2 Natural Heritage Constraints to Development (page 112) (All addressed in matrix comment #22)

i. In the third paragraph it mentions "The presence of a Redside Dace fishery will..." which should be changed to "The presence of a Redside Dace population will...". **Corrected.**

ii. Table 22, second row entitled Habitat of Threatened and Endangered Species (page 113) - Table 22, third row entitled Fish Habitat (page 113) - The development setbacks for fish habitat are not specifically identified in Figure 16. However, could this be the same as the "setback to meander belt" that is defined in Figure 16? If this is the case, does there need to be an additional setback delineated between Bronte Road and the dripline of the existing ESA boundary, along watercourses 14W-W1, 14W-W1-2, and 14W-W1-3? **Addressed.**

Terrestrial Resources

Section 1 (Introduction) discusses the study area and Figure 1 shows property parcels, however in subsequent sections the discussion is organized under Saw-Whet Golf Course, Third Line Lands, and Enns Lands, however Figure 1 shows the properties under ownership names and parcels that are different from the boundaries shown on other EIS Figures, which lump some sub-areas and do not show distinctions such as Region of Halton lands or the Hydro Corridor. The clear distinction between any studies conducted on the Deerfield Golf Course and within the Fourteen Mile Creek ESA lands is important but not clear in the EIS. The text also mentions studies extending within Bronte Creek Provincial Park but the extent is not shown. Text discussion and data appendices are also ambiguous as to the extent of specific categories of study, and it is clear (and to a degree understandable) that data collection is uneven but the actual coverage and gaps are not readily transparent in the text and mapping. **The figures have been updated and are improved. However, there are still some inconsistencies. For example, Figure 1 lists "Saw-whet Lands" yet the text calls it "Saw-whet Property"; "Deerfield Property" is labeled as "Province of ON" in Figure 1, and "IO" (Infrastructure Ontario) is not defined on the map. Figure 1 does not show the 14 Mile Creek valley boundary. Figures have properties owned by "Bronte Green Corporation" while the text calls it "Bronte Creek Corporation". These are all minor discrepancies and don't change the overall conclusions of the report but are confusing nonetheless.** (matrix comment # 23)

To better support interpretation of Table 2 (Recent Ecological Surveys), we would recommend a corresponding figure that summarizes the scope of the various seasonal studies listed in Table 2, and clarity elsewhere in the report and Appendices. Appendix B (ELC Data Cards) denotes the site as “Saw-Whet” but the data clearly covers lands mapped outside the Saw-Whet Golf Course, and data cards from NRSI and Dance are not included. Table 2 should be revised or supplemented with an integrated listing of all studies, cross-referenced to the properties shown on Figure 1, and indicating whether these studies are ongoing or otherwise incomplete/lacking. **Table 2, Figure 6, and Appendix H summarize the new and existing data collected in a**

clear and easy to read manner. (matrix comment # 24)

3.2.1 Background Review (page 24)

i. Additional background documents that could be checked for records include: Birds of Hamilton (Curry 2006), Ontbirds listserv, South Peel Naturalists Club publications, Hamilton Noteworthy Bird records, and the Toronto Ornithological Club database; these encompass a lot of regional records. The butterfly, mammal and herpetological atlases for Ontario may also contain additional records. **Agreed - a lot of the data in these sources is not vetted, and it is unlikely that any records exist as it is mostly private property and/or not covered by naturalists.** (matrix comment #25)

ii. Field notes reflecting the use of the protocols for OBBA and MMP should be included in the Appendices. **Field notes are helpful for peer reviews as it allows the reviewer to check original field notes for accuracy and determine if the summary tables reflect the work appropriately. However, we understand that this was not in the scope of the Terms of Reference and, as such, was not required.** (matrix comment #25)

3.2.3 Vegetation Surveys (page 26)

i. Seasonal coverage for flora surveys is relatively even; Third Line, Saw-Whet and 14-Mile Creek ESA all have spring, summer and fall coverage. The Enns and Deerfield properties would benefit from May coverage for spring ephemerals. **Response accepted - it is not likely that additional floral surveys in the Deerfield property would yield relevant information. The Enns property was covered adequately in 2013, and the 14 Mile Creek property is being protected in its entirety.** (matrix comment #26)

3.2.4 Amphibian Surveys (page 27)

i. We note that additional surveys are underway in 2013 for the Enns, Deerfield and Saw-whet G.C. properties, and therefore development constraint areas may need to be revised; Data cards for MMP monitoring stations should be provided, including time and weather conditions. **Appendix H summarizes the 2013 surveys appropriately. See comment for 25ii regarding original field notes.** (matrix comment #27)

ii. The Saw-whet G.C. apparently only had amphibian surveys on May 8 and June 9 2012; an earlier survey in April should have been conducted according to MMP protocols. Table 2 should include dates and scope of additional 2013 surveys. **April amphibian surveys were conducted in 2013.** (matrix comment #27)

iii. A Third Line amphibian survey was conducted on March 22 2012 and no April surveys were conducted; the text indicates that protocols were followed, but this date is outside the normal MMP protocol timing windows; we understand that 2012 was unseasonably warm in late March and that frogs began calling early, but there should be some acknowledgement stating that this was the reason why the protocols were not adhered to as well as a discussion of any potential gaps that resulted from lack of April surveys. **Text has been updated accordingly regarding the early amphibian calling season in spring 2012.** (matrix comment #27)

iv. Figure 6 uses different levels of amphibian survey location detail on different properties; it would be helpful if the figure illustrated where all call stations were for amphibians.

Figure 6 has been updated appropriately to show the location of all amphibian survey stations. (matrix comment #27)

v. Figure 6 suggests that survey coverage is uneven across the TPA. The text suggests that Beacon did some of this survey work but the areas actually surveyed are unclear; see above for a recommended approach to indicate the status of surveys on all properties shown on Figure 1. **Given the uneven nature of the sites regarding amphibian habitat, the additional surveys conducted in 2013 appear to adequately cover the habitats in the TPA, and Figure 6 illustrates this clearly.** (matrix comment #27)

3.2.5 Reptile Surveys (page 28)

i. We note that additional surveys are underway in 2013 for the Enns, Deerfield and Saw-whet G.C. properties, and therefore development constraint areas may need to be revised. **The constraint analysis did consider the 2013 survey data, but did not result in the boundaries being changed.** (matrix comment #28)

ii. Field data for reptile monitoring should be provided, including time and weather conditions. **Appendix H updates the reptile survey data accurately.** (matrix comment #28)

iii. The Third Line lands received more detailed snake surveys in locations mapped on Figure 6; Saw-whet G.C. and Enns property studies only recorded snakes on an incidental basis; no data points are shown on Deerfield or Region of Halton lands; this uneven coverage is inadequate given the species on record in the overall area. We understand that additional cover board studies are underway in 2013 and trust that these deficiencies will be addressed. **Concerns regarding coverage were addressed.** (matrix comment #28)

iv. The text says that NRSI conducted turtle surveys; however Figure 6 does not indicate locations. **Figure 6 has been updated accordingly regarding turtle surveys.** (matrix comment #28)

v. According to the dates listed, it appears that the cover boards were checked 6 times, not 5 times as indicated; this should be clarified. **Text corrected.** (matrix comment #28)

vi. The text (page 29) refers the reader to the NRSI (2012) EIS for details on the turtle survey methodology; the methodology should be provided in the Phase 1 EIS, otherwise we cannot verify that the surveys were conducted appropriately. **The Phase 2 EIS text now describes turtle survey methodology.** (matrix comment #28)

vii. Figure 6 indicates that survey coverage is uneven across the TPA; the text indicates that some additional surveys are underway in 2013. See above for a recommended approach to indicate the status of surveys on all properties shown on Figure 1. **Figure 6 has been updated appropriately.** (matrix comment #28)

3.2.6.1 - Breeding Bird Surveys (page 29)

i. Field notes should be provided; survey coverage was apparently quite detailed on the Third Line site but very incomplete elsewhere. The time of day and weather conditions should be provided. **Appendix summarizes the 2013 BBS adequately. See comment for 25ii.** (matrix comment #29)

ii. Figure 6 suggests that the lands to the immediate east of the Saw-Whet property were not surveyed; the avifauna on these lands will be affected by development and need to be fully documented. **The breeding bird survey route appears to adequately cover the 14 Mile Creek valley, and certainly any areas within 120 metres of lands proposed for development. As such, Species-at-Risk documented within the valley (e.g. Eastern Wood-Pewee) have been adequately documented.** (matrix comment #29)

3.2.6.2 - Wintering Bird and Owl Surveys (page 29)

i. Figure 6 indicates two locations where winter surveys were conducted. However, it should also indicate that winter surveys were conducted on the Enns property. Given the important historical records, winter bird and owl surveys on the Third Line property should have also been conducted. **Figure 6 has been updated to show the owl surveys on the Enns property. It is agreed that the Third Line property has sub-optimal owl roosting habitat and no documented evidence of past usage in winter; therefore, owl surveys there would not likely yield useful data.** (matrix comment #30)

3.2.8 - Lepidoptera and Odonate Surveys (page 30)

i. Field data for butterfly monitoring should be provided, including time and weather conditions. Cloud cover significantly reduces butterfly and odonate activity. **The appendix is helpful, however, for five of the eight survey dates it still does not show cloud cover, only that the conditions were "suitable".** (matrix comment #31)

ii. For the Saw-whet G.C., the first two surveys (May 30 and June 23) were done concurrently with the breeding bird surveys, which are recorded as occurring between 05:30 and 11:00. The text states the weather was warm (above 17 °C) doesn't specify if this was the case throughout the survey (05:30). In our experience, most butterfly species do not begin to fly until at least 10:00 (especially in May) so surveys which finished by 11:00 would not adequately detect all butterfly species present. Also, the text doesn't mention cloud cover, which is important as sunny conditions are especially important for butterfly activity earlier in the day. This may explain why very few butterflies were recorded on the spring and summer dates. It appears that the first two surveys were likely deficient and should be repeated so that the time of day and weather conditions are optimum. **See response to v. below.**

iii. The third Saw-whet butterfly survey was conducted on September 10, which is late for detecting most breeding species (it would mostly detect vagrants) as most species will have finished their flight period by then. This third survey should have been conducted in July. **See response to v. below.**

iv. The Third Line lands EIS also covered Odonates and Lepidoptera concurrently with breeding bird surveys on May 29, which would be too early in the day. The June 22 survey was a dedicated survey, however, there were no later surveys so species flying in July and August would be missed. **See response to v. below.**

v. The Enns property had two surveys conducted, on August 22 and 30, which would have missed the majority of species present, typically in June and July. **While we agree that not all species present would be recorded by the surveys, the number and**

dates/times of the surveys are still fairly weak. For example, for the Saw-whet property, the May 30 and June 23 surveys were too early in the day, and the two surveys in September (2012 and 2013) would miss most species (except for Monarch and other late migrants). Third Line still only has two surveys (May 29 and June 22) and Enns two surveys in August only. The Terms of Reference (page 10 (b) vii) item g) asks for targeted surveys for butterflies and odonates in suitable habitat. We do agree, however, that these targeted habitats do not need to be completed on the Deerfield lands as most of this is fairways and greens which would not constitute suitable habitat for either group. (All addressed in matrix comment #31 ii. - v.)

4.3.2.1 Vegetation Communities (page 51)

i. Page 52 states that none of the vegetation communities are considered rare, however two communities listed have rarity status as per Appendix M of the Significant Wildlife Habitat Technical Guide (MNR 2000): Fresh-Moist Black Walnut Deciduous Forest (FOD7-4) is ranked S2S3, and Dry-Fresh Hickory Deciduous Forest (FOD2-3) is ranked S3S4. This should be clarified in the text. **Responses Accepted.** (matrix comment #32)

ii. The Saw-Whet land vegetation communities are described in some detail whereas Third Line Lands and Enns Property are just briefly summarized. Given the comprehensive Terms of Reference for the EIS, content should be provided at a uniform level of detail within the Phase 1 EIS. **Vegetation community descriptions have been updated.** (matrix comment #32)

4.3.2.2 Flora (Page 59)

i. Flora findings (native status, species ranks etc.) are discussed in detail for the Saw-Whet Lands, 14-Mile Creek, and Third Line, however this detail is lacking for the Enns property. However, the actual distribution of botanical surveys is unclear based on the locations as shown on Figure 6. **Section 4.3.2.2 and Figure 6 have both been updated accordingly.** (matrix comment #33)

4.3.2.3 Significant Flora (page 60)

i. The text states that Sharp-leaved Goldenrod and Slender Sedge have been historically reported but that there are no recent sightings. Given that these species form part of a complement of species attributed to specialized habitats that also occur in Bronte Provincial Park, did surveyors specifically search for these species? **These species were specifically searched for - response accepted.** (matrix comment #34)

ii. Figure 6 is vague as to the extent of botanical sampling. **Figure 6 has been appropriately updated.** (matrix comment #34)

4.3.4 Breeding Birds (page 63)

i. Apparently Beacon did not conduct breeding bird surveys within the 14 Mile Creek valley, rather only along the edges from the Saw-whet G.C. (an exception was made to search the valley for wintering Northern Saw-whet Owls). Therefore, the EIS relied on data from the Halton NAI and the OBBA (2001 – 2005) (Axon et al (1987) would be considered historic). **The report was adequately updated to reflect 2013 breeding bird surveys conducted in the 14 Mile Creek valley.** (matrix comment #35)

ii. On page 65, the text notes that one of the eight species heard calling from the 14 Mile Creek valley was Eastern Wood-Pewee, which has been nominated by COSEWIC and will therefore likely be added to the provincial ESA list; therefore, the EIS should discuss the implications of this. **The report was adequately updated with a discussion of Eastern Wood-Pewee in the 14 Mile Creek valley.** (matrix comment #35)

iii. We note that two Savannah Sparrows were documented but the location is not referenced; the area(s) are of interest as they could also support Eastern Meadowlark and/or Bobolink, which are provincially Threatened. **The report adequately discusses the Savannah Sparrows found during the breeding bird surveys as well as the potential for Bobolink and Eastern Meadowlark.** (matrix comment #35)

iv. 1st paragraph on page 66 – While no Eastern Meadowlarks were detected as breeding on the Saw-Whet property in 2012, the text should consider if there is any suitable habitat for the species on or adjacent to the Saw-Whet property, or in the overall study area. **Text on Eastern Meadowlark acceptable.** (matrix comment #35)

v. 3rd paragraph on page 66 – Why was the Yellow-bellied Sapsucker thought to be a late migrant? **The habitat at Third Line does appear to be unsuitable for Yellow-bellied Sapsucker (from NSRI 2012); the record from Axon et al. (1987) is historic and it is unclear whether it was a breeder or late migrant with no further details.** (matrix comment #35)

vi. 4th paragraph on page 66 – All species observed within or adjacent to (*i.e*. within 120 m minimum as per the Natural Heritage Reference Manual) the TPA should be listed. Those that were documented outside the TPA can be identified and discussed separately. The fact that a Species at Risk was documented adjacent to the TPA study area is relevant and the potential impacts of the proposed development should be appropriately considered. **Appendix E has been updated to show birds found in the adjacent 14 Mile Creek valley.** (matrix comment #35)

4.3.5.1 Migratory Birds (page 66)

i. Re 1st paragraph (page 67): fall surveys on Enns property, the text states "some of which were probably recorded in the adjacent woodland"; a more definitive discussion of species and locations should be provided as this is apparently within adjacent lands. **Appendix F1 adequately shows the Dance Environmental data for the Enns property.** (matrix comment #36)

ii. The text states on page 67 that "Winter bird surveys of the Enns property are scheduled for winter 2012/2013"; however the results were not included in the EIS (May 2013). **The EIS adequately documents the winter bird surveys for the Enns property from 2012/2013.** (matrix comment #36)

4.3.5.2 Wintering Owls (page 67)

i. Christmas Bird Count (CBC) data (reviewed by Beacon) should be listed in the documents utilized in the Background Review section. **CBC data is listed in Background Review.** (matrix comment #37)

ii. Bird records from local field naturalists clubs could be reviewed to better understand historical usage of the area. **See 25ii.** (matrix comment #37)

iii. The attempts to gain information are commendable. Nevertheless, local CBC data should be available to indicate what sub route the Tertiary Planning Area falls within. Data for those sub routes should be available. **It is not likely that the CBC data, even if tracked down, would provide much useful information for these mostly private land holdings.** (matrix comment #37)

iv. Although Long-eared Owls may flush when approached but they don't always do so; Saw-Whet Owls don't flush readily. Given the fact that owls are not always easy to detect, that no owls were observed during the 3 survey visits does not eliminate the possibility that they may be utilizing the habitat. The number of owls that overwinter fluctuates annually depending on food availability and snow depth locally and further to the north. Therefore, it may not be accurate to characterize local usage based on a single season of observations. More surveys may be warranted given the important historical records. **We contend that it would still be more accurate to base the current usage of owls in the 14 Mile Creek valley on more than one winter of surveys. However, even surveys over five or more winters may not show the usage of the valley in a peak winter (i.e. during a high influx year for irruptive species). Given that the valley is not being directly affected, and that there has been no recent documentation of significant owl usage found in the background review, conducting multi-winter surveys may not provide much additional information.** (matrix comment #37)

4.3.6 Herpetofauna (page 68)

i. This section lists records of Snapping Turtle and Milksnake for the Deerfield G.C., which lies between the Saw-whet G.C. and the Third Line lands; given the records and recent observation of Milksnake on Third Line lands, specific surveys should be conducted for these two species on the Deerfield G.C. and Region of Halton lands. **Nine and four reptile surveys were conducted for the Saw-whet property and Deerfield lands, respectively, which seems adequate considering their size and cover; all surveys seemed to have appropriate times and dates, and the EIS has been updated accordingly.** (matrix comment #38)

ii. The text (page 69 4th para) states that there were nine (9) herptile species confirmed on the Third Line lands; however, the subsequent text only lists seven (four anuran, three snakes, no turtles); Appendix F only lists six for the Third Line lands. Are there other species, or is this statement in error? **This typo has been corrected in the Phase 2 report.** (matrix comment #38)

4.3.8.1 Odonates (page 70)

i. Re: Beacon fieldwork and (page 71) Re: NRSI fieldwork – Were these incidental observations or results of the dedicated surveys (data should include survey dates of observations)? **As noted earlier, odonate surveys conducted in 2012 and 2013 could have been more comprehensive.** (matrix comment #39)

ii. Re: last paragraph - The concentration of uncommon and rare species could suggest that this habitat is locally important and needs to be considered for protection. Until odonate species status is reviewed and updated (at least provincially), status information should not be discounted without credible evidence that species are more common.

Table 16 shows that pond 4e was considered as SWH based on the occurrence of the Swamp Spreadwing (S3); it was subsequently rejected as candidate SWH based on the fact that the species is not confirmed as breeding and that the pond is constructed. Given that this species can wander and that a constructed pond of limited size does not represent high quality habitat overall, this analysis seems reasonable. (matrix comment #39)

4.3.10.5 Significant Valleylands (page 87)

i. Re: "Conservation Halton considers the Bronte Creek Valley a major valley system and the Fourteen Mile Creek a minor valley system." Please provide reference. **Reference accepted.** (matrix comment #40)
ii. Where criteria have not been developed by a planning authority, the Natural Heritage Reference Manual (2010) provides biophysical criteria that can be applied. **Response accepted.** (matrix comment #40)

4.3.10.6 Significant Wildlife Habitat (page 87)

i. Re: Table 15 (page 87) states that criteria are organized according to the four general categories that they belong to. However, a number of criteria have been incorrectly placed, and titles of the criteria do not always match those used in the SWHTG (2000), although the EIS states that it was followed. Some of the criteria categories used are confusing and some criteria overlap in the table. **Although organization remains confusing, all SWH categories are considered; response acceptable.** (matrix comment #41)
ii. Re: "Landbird/shorebird/butterfly migratory stopover area" (page 89) – The study area and valley of 14 Mile Creek is within 5 kilometres of the Lake Ontario shoreline, and should qualify as a significant landbird migratory stopover area. **Table 16 indicates that the 14 Mile Creek valley is considered as candidate SWH for landbird stopover habitat - therefore, response accepted.** (matrix comment #41)
iii. Re: "Bat/reptile hibernacula" (page 90) –The corresponding criterion in the SWHTG is "Bat maternal roosts and hibernacula". Is the provincially Endangered Little Brown Myotis (*Myotis lucifugus*) present? **Response acceptable, that is, Little Brown Myotis could be present in the 14 Mile Creek valley and that no suitable habitat for hibernacula exist on the sites.** (matrix comment #41)
iv. Re: "Rare vegetation" (page 90) – See comments above on Sect. 4.3.2; two communities may have status. Was the Great Lakes Conservation Blueprint for Terrestrial Biodiversity also reviewed? **Response acceptable.** (matrix comment #41)
v. Re: "Mink and otter feeding /denning sites" (page 91) – Clarify why the habitat along 14 Mile Creek is not favourable for Mink. **Mink could occasionally occur along 14 Mile Creek but given the lack of records and isolated nature of the valley, along with its deciduous cover, they likely do not occur on the frequency level to trigger SWH.** (matrix comment #41)
vi. Re: "Waterfowl nesting habitat" (page 91) – This criterion belongs under the "Seasonal Concentration Areas" group, not the "Rare Vegetation Communities or Specialized Habitats for Wildlife" Group. **Response acceptable.** (matrix comment #41)

vii. Re: "Waterfowl staging areas" (page 91) – This criterion belongs under the "Seasonal Concentration Areas" group, not the "Rare Vegetation Communities or Specialized Habitats for Wildlife" Group. **Response acceptable.** (matrix comment #41)

viii. Re: "Raptor hunting areas" (page 92) – "Raptor Wintering Areas" is already discussed on page 89. We note there is a SWHTG criterion "Raptor Nesting Habitat" under the "Rare Vegetation Communities or Specialized Habitats for Wildlife" group. There were no nest records since 1983 but apparently no additional surveys were conducted. Nesting Long-eared owls are not easy to find. According to the ROM's Breeding Birds of Ontario (1983) only 73 nests had been documented in the province (as of 1983). **The Cooper's Hawk nest, outside of the TPA, does likely not constitute SWH. We do stand behind our comment that species such as Long-eared Owl are very hard to find nesting, so the level of nest searching in portions of the TPA were likely not detailed enough to find this species if it were nesting.** (matrix comment #41)

ix. Re: "Sites supporting area-sensitive forest species" (page 92) Given the status of larger forested sites features in Oakville, we would agree this is SWH. Suitable buffers are required to protect this habitat. Note: a similar criterion is discussed on page 95 but not considered SWH? **Response acceptable.** (matrix comment #41)

x. Re: "Woodland amphibian breeding ponds" (page 93) – Non-forested breeding ponds should be considered as there are at least nine ponds present outside the valleylands. **Agreed that the number and diversity of amphibians detected in the dug out ponds in the golf course would not constitute SWH.** (matrix comment #41)

xi. Re: "Turtle nesting areas" (page 93) – This should include turtle nesting habitat and overwintering areas; in the Oakville planning area (which would be the area for which SWH is evaluated) most turtle habitat (away from the rivers and creeks) is likely related to dug ponds. Turtle populations, especially near urban areas, are declining due to the cumulative impacts of habitat loss and increased road mortality. We are not convinced that adequate surveys have been conducted to date to identify turtle nesting areas. **Given the habitats surrounding these dug out ponds, it is not likely that turtles are breeding in significant numbers. Turtle surveys in 2013 did search for evidence of nesting.** (matrix comment #41)

xii. Re: "Seeps and springs" (page 94) – What criteria were used to evaluate whether they would support SWH conditions? **Seeps and springs - response acceptable.** (matrix comment #41)

xiii. Re: "10-1-3 Habitat of Species of Conservation Concern" (page 94) – The criteria contained within this group do not correspond with those in the Significant Wildlife Habitat Technical Guide. As a result, the information is confusing and possibly misleading. The group should have included the following criteria levels:

- Species identified as Nationally Endangered or Threatened by COSEWIC which are not listed as Endangered or Threatened under Ontario's ESA. This would include Eastern Wood-Pewee and possibly Wood Thrush.
- Species identified as Special Concern or historical in Ontario. Monarch should be discussed.
- Species that are listed as rare (S1 - S3) or historical in Ontario
- Species whose populations appear to be experiencing substantial declines in Ontario.

- Species that have a high percentage of their global population in Ontario and are rare or uncommon in The Regional Municipality of Halton
- Species that are rare within the Regional Municipality of Halton, even though they may not be provincially rare
- Species that are subjects of recovery programs
- Species considered important to The Regional Municipality of Halton, based on recommendations from the Conservation Advisory Committee (e.g. EEAC, ESA studies). **Out of sequence - these all respond to our comment 41 xiii (with multiple bullets). xiv. Response acceptable; xv. Response acceptable; xvi. No Wood Thrush were detected within TPA - response acceptable; xvii. Response acceptable (matrix comment 41 xiii. – xvii.)** (matrix comment #41)

xiv. Mis-assigned or repetitive/redundant categories listed under Species of Conservation Concern include: include: Raptors, Area-Sensitive Birds, Grassland Birds, Other Birds, Amphibians, Reptiles, Mammals and Insects; content should be reorganized according to status levels of conservation concern. **Listing does cover all categories but alignment with references with regard to order would assist readers.** (matrix comment #41)

xv. Re: “Grassland birds” (page 95) – This criterion is covered as "Habitat for open country and early successional breeding bird species" and should be discussed in the "Rare Vegetation Communities or Specialized Habitats for Wildlife" group. While we agree with the determination, we do not agree that no significant grassland species were recorded; Savannah Sparrow is listed by OMNR as a species that would potentially qualify an area as significant wildlife habitat according to the Ecoregion 7E Criteria Schedule (OMNR, 2012). **Although Savannah Sparrow is listed by MNR as a species that could potentially qualify and area as SWH, it must be observed with at least one other listed species. No other listed species have been recorded to date.** (matrix comment #41)

xvi. Re: “Other birds” (page 95) – Although listed as rare in Halton NAI (which would trigger SWH as per page 87 last paragraph), Beacon state that they don’t consider Orchard Oriole to qualify as triggering SWH designation. This exception should be further qualified. **Response re: Orchard Oriole - Species is increasing and not dependent on rare or undisturbed habitat, response acceptable.** (matrix comment #41)

xvii. Swamp Spreadwing should be discussed under the S1 - S3 criterion. **Swamp Spreadwing is discussed accordingly in report.** (matrix comment #41)

xviii. The rationalization that there are better examples of Snapping Turtle Habitat would imply that the current study area has been fully documented for this species, and that no habitat outside of the major and minor river valleys should be considered. According to John Boos (Peterborough OMNR), all Snapping Turtle nests are considered SWH by OMNR. **Agreed that MNR recommends that non-natural sites not be considered SWH and that final SWH determination rests with the planning authority. However, turtle populations, which are under considerable threat and continue to decline, remain poorly protected in urban areas. Turtles don’t have many ‘natural’ sites available and simply select what is most suitable, regardless of its artificial status. A better strategy to protect turtle populations is necessary. The MNR Ecoregion**

7E Criterion Schedule considers a single Snapping Turtle nest SWH. (matrix comment #41)

xix. Milksnake is considered a secondary target species in the Great Lakes Conservation Blueprint for Terrestrial Biodiversity for Ecodistrict 7E-4 (Henson & Brodribb, 2005). A secondary target is defined as an element of biodiversity (species or vegetation community) that is of some conservation concern in the Ontario portion of the Great Lakes. Occurrences of secondary biodiversity targets were included in the Conservation Blueprint portfolio where their occurrence coincided with a primary target occurrence, a protected area, or conservation lands. **Response acceptable (comment noted).** (matrix comment #41)

xx. Re: Animal Movement Corridors – Although this criterion is listed on page 87, it is not discussed in Table 15. Existing Animal Movement Corridors should be mapped and described. **Table 16 has been updated with a response regarding SWH for animal movement corridors. Agreed that 14 Mile Creek valley is currently cut off at both ends by Upper Middle Road and the QEW and is likely limited as an animal movement corridor.** (matrix comment #41)

xxi. Re: Table 16 (page 98) – "Turtle nesting habitat and overwintering areas" may warrant SWH status in Table 16. Fourteen Mile Creek and associated tributaries likely merit designation as SWH as Animal Movement Corridors. **In a context such as the TPA, identifying potential animal corridors using aerial photography is appropriate. The generalized movement corridors indicated on Figure 15 seem appropriate. More work would need to be undertaken to establish if SWH for animal movement corridors exist; however, given the nature of the site, with barriers to movement at many areas, it may not exceed thresholds (that don't currently exist) for SWH.** (matrix comment #41)

4.3.11 Environmentally Sensitive Areas Assessment (page 99)

i. Re: last paragraph on page 100 and Figure 14 – It is not clear why some features were included in the proposed ESA boundary and others were excluded. Each area where the existing ESA boundary differs from the proposed boundary should be discussed, perhaps in a corresponding table. For example it is not clear why vegetation polygons 2q, 2r, parts of 2u, 12, 37, 39b, and 39c were excluded. **Update in report regarding delineation of ESA seems reasonable and acceptable.** (matrix comment #42)

4.3.11.1 Bronte Creek Valley ESA (ESA #10) (page 104)

i. Table 19 – The table heading is incorrect; it speaks to Bronte Creek Valley ESA #10, not Fourteen Mile Creek ESA #12. **Item corrected in Phase 2 report - response accepted.** (matrix comment #43)

ii. Re: Primary Criteria 6 in Table 19 (pg. 104) – Why isn't Swamp Spreadwing (S3) mentioned? **Swamp Spreadwing did not occur within the ESA, so not captured in Table 19 - response acceptable.** (matrix comment #43)

4.3.11.2 Fourteen Mile Creek Valley ESA (ESA #12) (page 105)

i. Primary Criterion 6 in Table 20 (pg. 107) – Given the information available, the ESA likely provides habitat for Snapping Turtle (Special Concern) and possibly Milksnake (Special Concern and S3). The proposed boundary on Fig. 14 does not reflect the

Redside Dace habitat as mapped on Figure 16. **Item corrected in Phase 2 report - response accepted.** (matrix comment #44)

ii. Primary Criterion 9 (significant groundwater discharge) and 10 (groundwater quality) may apply given the presence of cool/coldwater reaches and habitat for Endangered Redside Dace, a species reliant on these conditions. **Swamp Spreadwing did not occur within the ESA, so not captured in Table 19 - response acceptable.** (matrix comment #44)

4.3.12 Natural Heritage System (page 108)

i. Restoration/Enhancement Areas (pg. 109) – Vegetation unit 12 (i.e. field surrounded by forest) is not identified as a possible restoration/enhancement area, yet if reforested it would result in a significant increase in forest interior habitat, contributing to habitat for area-sensitive forest breeding birds which is was one of the SWH criteria applicable to the 14 Mile Creek valley. Restoration/enhancement areas 1, 2 and 3 are located very close to vegetation unit 12, and areas 2 and 3 would be negatively impacted if vegetation unit 12 was developed. **Response inadequate. Section 4.3.12.3 continues to exclude vegetation unit 12 as a key restoration or enhancement area. The value this unit could provide, if restored, is not acknowledged or addressed. The EIS should provide rationale for why it (and any others) were not considered.** (matrix comment #45)

ii. Figure 15 – Vegetation polygons 2q, 2r, 2u, 2v, 37, 39b and 39c should be discussed re: potential restoration/enhancement areas. ***Revised response*: Response not acceptable. As per paragraph 3 on page 150 of the Phase 2 EIS, restoration/enhancement areas are part of the NHS. The selection of restoration/enhancement areas requires greater clarity, especially how one is ranked vs. another.** (matrix comment #45)

5.2 Natural Heritage Constraints to Development (page 112)

i. Figure 16 - The buffers and setbacks applied to derive Constraints to Development are exclusively feature-based. **7.1.4 of the Terms of Reference do advocate a feature-based identification of constraints, however Section 4.3.12 of new report says "This EIS has adopted as systems based approach to establish an NHS for the TPA." Clarification is requested.** (matrix comment #46)

ii. The section does not discuss 120 m Adjacent Lands where future development may interfere with the natural heritage system and its functions, such as functions represented by Significant Wildlife Habitat. Examples of broader functions would include:
   - The relationship between potential owl roosting sites and adjacent open lands as foraging habitat should be addressed in the development constraints.
   - Protection of locally occurring turtle species, including Snapping Turtle, needs to address overwintering/foraging habitat, as well as nesting habitat and the overland connections that exist between them. Without this consideration there is no realistic expectation that these species will persist in the local landscape in the future.
   - Local frog populations (especially Spring Peeper) are reliant on upland forest as well as pools/ponds; need to consider how the necessary connections that exist will be protected as constraints. **7.1.4 of the Terms of Reference do advocate a feature-**

based identification of constraints. Therefore, response acceptable. (matrix comment #46)

iii. Given two Milksnake observations, more cover board surveys and a more comprehensive evaluation of critical habitat is warranted. Hibernacula are sometimes very difficult to identify. In recognition of this limitation, it would be appropriate to discuss how the constraint approach addresses this and similar species reliant on a range of cover conditions. **More snake surveys were conducted in 2013, and no potential hibernacula were found. Response acceptable.** (matrix comment #46)

iv. Animal Movement Corridor is another criterion that merits consideration under SWH and constraints. Ecological functions need to be considered and appropriately reflected on constraint mapping. **NHS does cover potential animal movement corridors, and it is discussed in Table 16 (SWH). Response acceptable.** (matrix comment #46)

Appendix C – Vascular Plant List

i. Are S-ranks current? We note that this list uses the old S-rank system (e.g. non-native species are SE# instead of SNA). **Appendix C was updated accordingly.** (matrix comment #47)

Appendix D – List of Rare and Uncommon Plants Recorded in the Tertiary Planning Area

i. Note typo in the Scientific Name for Slender Sedge **Typo corrected.** (matrix comment #48)

Appendix E – List of breeding birds recorded in TPA

i. This appendix requires a legend to define all of the codes used, and a reference list to match with the superscripts (1 through 10). **Appropriate legend added to Appendix E.** (matrix comment #49)

ii. For column 12, “B” and “NB” are not defined. **Ibid.** (matrix comment #49)

iii. Do the numbers indicated for various species for the three properties refer to the total number of birds seen, or pairs? There should be some indication of whether it refers to singing males, fledged young, etc., as well as the level of breeding evidence recorded (i.e. possible, probable, confirmed). **Ibid.** (matrix comment #49)

iv. For the Third Line lands, Yellow-bellied Sapsucker is listed as “B”, which presumably means breeding. However, the text on page 66 says that it is likely a late migrant; please clarify. **Explanation re: Yellow-bellied Sapsucker acceptable.** (matrix comment #49)

v. It would be helpful to include the field notes in an appendix to add detail (e.g. timing, weather conditions etc.) regarding the site visits. Also, it would be helpful to know where the species were observed (i.e. referenced according to ELC polygon). **See response to comment #25.** (matrix comment #49)

vi. Eastern Wood-Pewee should be listed as Special Concern in Canada, and Wood Thrush should be listed as Threatened in Canada. **Table updated appropriately regarding Eastern Wood-Pewee and Wood Thrush.** (matrix comment #49)

Appendix G – List of non-avian wildlife recorded in TPA

i. On page 69, Dekay’s Brownsnake is listed for the Third Line lands (NRSI 2012), yet it does not appear in this appendix (only for Geomatics 1993). **Appendix G updated to show Dekay's Brownsnake.** (matrix comment #50)

ii. It would be helpful to include field notes in an appendix to confirm the details (e.g. timing, weather conditions etc.) regarding the site visits. Also, it would be helpful to know where the species were observed (i.e. on a map or referenced according to ELC polygon). The ELC data cards were provided in the appendix. **Appendix G updated; see response to comment #25.** (matrix comment #50)

Phase 2 EIS Comments on New or Revised Material

Aquatic Resources

4.3.9.4 Thermal Regimes

i. Page 114, Figure 12b - The points in the legend appear to be all the same colour. Also, the figure caption should stipulate that this is dealing with the east and west forks of the east branch of Fourteen Mile Creek.

4.3.9.4.1 2013 Water Temperature Data

i. The temperature regime classifications in the text are not consistent with those used in Figures 13a-13c. However, it is generally understood what is meant with the figures, as the inconsistency appears to be a simple naming error that has been repeated.
ii. Page 116, last paragraph - Again, there seems to be some confusion with the temperature class nomenclature.

4.3.10.1 Significant Habitat of Endangered Species and Threatened Species

i. Page 122, watercourses falling into the habitat regulations - 14W should be added to the list attached to 3. West Branch of Fourteen Mile Creek (14W, 14W-E1, 14W-M1, 14W-W1).

4.3.11.2 Fourteen Mile Creek Valley ESA (ESA #12) (page 105)

i. Table 21, primary criteria #9 (page 146) - If the proposed ESA boundary is adopted, which includes the short section of 14 mile Creek upstream of Upper Middle Road, then the ESA will include a significant groundwater discharge area. I strongly support this inclusion, as it would capture in the ESA the most important source of baseflow to this portion of Fourteen Mile Creek, which is critical in maintaining the Redside Dace habitat in this area.

5.1 Physical Constraints to Development

ii. Page 155, Table 22 - Agree that first item in the table is essential in reducing the potential disruption to adjacent Redside Dace habitat.

6.4 Servicing

Page 169, treatment train approach to SWM. Noted.

6.5 Water Supply

Page 170, watercourse crossing done with trenchless methods. Crossing at road crossing of 14W-W1. Noted.

6.6 Sanitary Collection System

Page 170, no crossings of the NHS proposed. Noted.

6.7 Stormwater Management

Pages 171 and 172 - No increases in flows up to the regional storm event, 80% suspended solids removal, and bottom draw pipes and other measures will be implemented to mitigate thermal impacts to protect Redside Dace. Noted.

7.0 Impact Assessment and Mitigation - Table 24 starting on page 176. Lots of good plans in place to minimize impacts to Fourteen Mile Creek. The following are concerns/clarifications.

i. Page 183. My understanding of the road crossing of 14W-W1 is that it will be upstream of direct fish habitat and Redside Dace habitat. Please confirm and modify text to indicate that this is the case.
ii. Page 184. Last bullet under the "Recommended Mitigation" column in the "Redside Dace" row, suggests that restoration and naturalization is planned for Tributary 14W-W1. Please confirm that this will be for the upstream sections considered contributing fish habitat, and not the downstream sections (Reaches SW1 and SW2) considered Redside Dace recovery habitat.
iii. Page 185. Under the "Recommended Mitigation" column in the "SWM Facility and Storm Outfalls" row, it is suggested that there are requirements of maximum temperature and dissolved oxygen for discharge to Redside Dace habitat. While I agree with the importance of constructing SWM facilities to mitigate thermal impacts to Redside Dace habitat, how is it possible to ensure, given that these are passive cooling systems, that these temperature limits will never be exceeded?

7.1 Evaluation of Preferred Land Use Options - Agree with Option B as preferred. This option will provide a greater separation between Fourteen Mile Creek and urban development on the east side of the creek in the Brey's Lane area.

8.0 Monitoring Program - Terms of Reference.

i. Table 25, Page 190 - Under Aquatic Resources (can also be related to Groundwater Resources on page 189) there should be a requirement for the mapping of groundwater seeps and springs, watercress, skunk cabbage, and other observations/indicators of groundwater inputs to Fourteen Mile Creek and its tributaries within the study area. This mapping should be undertaken at similar periods over two years prior to construction. This will indicate the actual pattern of groundwater inputs to the creek system. Potential changes to this pattern will help connect the results of groundwater monitoring to potential impacts to aquatic habitat.

9.0 Policy Compliance

i. Page 192, Table 26, Endangered Species Act - It should be noted that the proposed road crossing will be in contributing Redside Dace habitat.

Terrestrial Resources

6.1 Description of the Proposed Development (page 162)

i. It is unclear how these three options were developed, other than the statement that they were developed to offer a balanced mix of employment and residential uses at varying densities to serve the needs of the local populations. Why were only 3 options considered in the evaluation? Placement of SWM ponds could benefit from a more strategic assessment based on benefits to NHS (e.g. linkages and buffers).

ii. Although the farm field on the Saw-Whet property may not be environmentally constrained in its own right, it's an obvious restoration and enhancement area given its local context (i.e. it is almost entirely surrounded by core areas of the proposed Natural Heritage System). In fact, it should have been considered for inclusion in the NHS. Its omission is confusing. Why is this area "yet to be determined"? We recommend a long list of restoration and enhancement areas be prepared (including the farm field), showing how they were screened for restoration and enhancement opportunities. Restoration of the farm field could significantly increase available habitat for area-sensitive birds. Please refer to the Great Lakes Factsheet: *Forest Birds in Urban Areas: Habitat Needs of Area-Sensitive Species* http://publications.gc.ca/collections/collection_2009/ec/CW66-260-2006E.pdf.

iii. Figures – Option A, B & C: NHS boundary should be included on mapping.

6.3 Preliminary Grading Requirements (page 168)

i. Earthworks and the corresponding removal of vegetative cover need to be compliant with the federal Migratory Birds Convention Act (MBCA). Section 6 of the Migratory Birds Regulations (MBRs) made under the 1994 MBCA makes it an offence to "disturb, destroy or take a nest, egg, nest shelter, eider duck shelter or duck box of a migratory bird." Environment Canada normally recommends restrictions on vegetation clearing during the core breeding period, which generally correspond to the beginning of May through to the end of July. The EIS should provide direction on avoiding conflict with the MBCA. It is noted that this issue was raised in the Impact Assessment Matrix (page 183).

7.0 Impact Assessment and Mitigation - Table 24 starting on page 176.

i. Water Balance – it would be desirable that monthly modeling of water balance be provide to assess potential changes that may affect key biota and wetlands.

ii. Woodlands (page 180) – Discussion of potential impacts and recommended mitigation is good, however there is no mention of the property marked TBD on mapping. Due to the location of this property within the wooded feature there should be discussion of impacts and mitigation in relation to future uses of this area. Restoring this area as part of the larger wooded block could contribute to the quality of the larger natural feature and avoid negative impacts that could occur from development in this area. Also see comment 6.1ii.

iii. Birds (page 183) – Text suggest that forest species will be unaffected. However, we are concerned that the 10 m minimum buffers recommended for woodlands may not be sufficient to protect forest breeding birds? Also see comment 6.1ii.

iv. Birds (page 183) – We support the recommendation to undertake vegetation clearing outside the breeding season.

v. Reptiles (page 183) – A more definitive commitment to compensate for lost turtle foraging and overwintering habitat should be made, not just recommendations. Suggested approach in EIS may not result in an overall neutral impact. It is acknowledged that SWM ponds can provide additional habitat but they are also known to pass along contaminants. Turtle nesting habitat is not mentioned.

vi. Reptiles (page 183) – Concerns remain that despite recommending pond removal take place in late summer/early fall that turtles will be negatively impacted. Construction plans should ensure that all turtles discovered during the draining of the ponds are rescued and transported to suitable alternative ponds. Permits will be required to handle turtles.

vii. Amphibians (page 183) – Concerns remain that despite recommending pond removal take place between late summer and early February that frogs and toads will be negatively impacted. Construction plans should ensure that all amphibians discovered during the draining of the ponds are rescued and transported to suitable alternative ponds. Permits will be required to handle amphibians.

viii. Species at Risk (page 184) – If possible, replacement nest structures for Barn Swallows should be located within the TPA.

7.1 Evaluation of Preferred Land Use Options (page 187)

i. It would be useful if a matrix was provided that reviewed how each of the options address or don't address key NHS protection issues.

ii. It appears that Option B does result in the most area being retained in Open Space.

8.0 Monitoring Program – Terms of Reference (page 188)

i. Breeding Bird Species (Table 25, Page 190) – Unless previous bird survey work was specifically conducted in such a way that point count stations can be integrated in a monitoring program, new stations will need to be surveyed pre-development.

ii. Breeding Bird Species (Table 25, Page 190) – the reference to the *Amphibian and Reptile Protection Plan* is confusing.

iii. Amphibians/Turtles and condition of created habitats (Table 25, Page 190) – Assuming newly created ponds are constructed prior to the initiation of development (requires to support any rescued amphibians or turtles), it is unclear why baseline conditions should not be established.

iv. Amphibians/Turtles and condition of created habitats (Table 25, Page 190) – Clarification is requested as to what the *Amphibian and Reptile Protection Plan* is.

v. Wildlife Movement (Table 25, Page 190) – It is unclear how long cameras will be collecting data during each of the monitoring periods (i.e. pre-, during and post-development). Will the cameras be functional for one night, one month or other length of time?

Conclusions

Overall, the Phase 2 EIS represents a significant improvement in content and clarity. The vast majority of issued raised in the Phase 1 EIS have been adequately addressed. Nevertheless, a few minor issues remain and a few others have been added. The consideration of Restoration & Enhancement Areas, as well as Land Use Options, is not as transparent as would be desirable.

Sincerely,

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