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January 17, 2018 Premier Project 613015.CE

Springfield Construction Limited
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Attention: Mr. Michael Corrado, President

RE: RESPONSES TO QUESTIONS PROVIDED ON THE 2017 ENVIRONMENTAL IMPACT STUDY AND TREE INVENTORY AND PRESERVATION STUDY, 4063 UPPER MIDDLE ROAD, BURLINGTON, ON

Premier Environmental Services (Premier) prepared an Environmental Impact Study (EIS) and Tree Inventory and Preservation Study (TIPS) for 4063 Upper Middle Road in Burlington (hereinafter, the Site) and submitted it for review during September, 2016. Technical review comments were provided on the 2016 EIS and TIPS, and a revised version was prepared, dated February, 2017. During June 2017, additional comments were provided on the 2017 EIS and TIPS from Conservation Halton (CH), dated June 30, 2017. During July 2017, Mark Hefferton, Senior Planner for City of Burlington directed Marina Fensham of thinkGiraffe Environmental Design and Dean Fitzgerald of Premier to prepare responses to the June 2017 comments from CH using a matrix format, with the CH comment listed followed by the response. Mr. Hefferton's direction during July was via electronic mail followed by telephone calls, to facilitate the efficient completion of the revision process for the development application given the separate 2016 and 2017 submissions.

In lieu of Mr. Hefferton's direction, the information included on the following pages represents detailed responses to each of the June 2017 comments provided by CH. At this time, Premier considers this letter as an addendum to the February 2017 EIS and TIPS.

We can provide additional clarification, as required. Feel free to phone 519-653-7140, ext. 291.

Sincerely,

Premier Environmental Services

Dean Fitzgerald, M.Sc., Ph.D.
Senior Ecologist

Re: 4063 Upper Middle Road
Proposed Zoning By-law Amendment Application
File Number: 520-03- 17 (Re-Submission)
City of Burlington

Acknowledgement: Ontario Regulation 162/06

River and Stream Valley Hazards (flooding/erosion) & allowances

The subject property is designated as Residential – High density and watercourse under the OP. Through this application the Hazard limits and buffers associated with the watercourse will be determined and Zoned Open Space (O2).

Requirements identified under Ontario Regulation 162/06 to be addressed in revised EIS:

Ontario Regulation 162/06	**Applicable**
Lake Ontario/Burlington Bay/Hamilton Harbour Shoreline Hazards &/or allowances	☐
River and Stream Valley Hazards (flooding/erosion) &/or allowances	☒
Wetlands &/or Other Areas*	☐
Hazardous Lands (Unstable Soil/Unstable Bedrock)	☐
CH Permit Requirements	☒
One Window Delegated Authority under PPS	
Natural Hazards (Sections 3.1.1-3.1.7 inclusive)	☒
CA/MOU	
Impacts on Lakes and Rivers	☐
Wildlife Habitat	☒
Endangered & Threatened Species	☐
Fish Habitat	☐
Stormwater Management (as per Schedule I)	☒
Sub-watershed Planning/Master Drainage Planning	☐
Other Comments (as a Public Body)	
Niagara Escarpment Plan	☐
Watershed Plan	☐
Greenbelt Plan	☐
Source Protection Plan	☐
Hamilton Harbour Remedial Action Plan	☐

CH Permit Requirements

1. *As per Conservation Halton's policies and regulation, development is to be setback 7.5 metres away from the greatest hazard (in this case the Top of Bank) associated with the Shoreacres Creek.*

   RESPONSE:

Top of Bank was inspected at a Site Meeting on August 31, 2017 between Leah Chishimba, Heather Dearlove (Conservation Halton), Brian Hudson (Halton Region), Dean Fitzgerald (Premier Environmental Services) and Marina Fensham (thinkGiraffe Design). Orange flags indicating the Tree Dripline set on July 18 by Regional Planner Richard Clark and Regional Forester Ron Reinhold were inspected by Brian Hudson. This inspection revealed the line was satisfactory. thinkGiraffe confirmed that the flags had been added to the survey submitted by the surveyors. All inspected the drawing from the surveyors and agreed the tree drip line was correctly represented.

2. A geotechnical assessment of the Long Term Stable Top of Slope has not been provided. The topographic information provided on Dwg. C1 Preliminary Grading & Erosion Control Plan indicates the Shoreacres Creek Valley is approximately 4 m high, at inclinations of up to 1.75:1. The provided Geotechnical Report indicated that variable depth to shale across the property ranging from 2-4m. Based on the above, the stability of the existing slope must be assessed to determine the limit of regulation. The limits of the proposed Open Space (O2) zoning should minimally include a 7.5 m setback from the greater of the Long Term Stable Top of Bank or Top of Bank Staked by Conservation Halton. As such this information is required for our review in order for staff to provide recommendation to the City of Burlington on appropriate limits of the hazard lands and associated allowance to be zoned Open Space. As part of this evaluation, also please confirm the source of the survey information utilized in the analysis.

   RESPONSE:

See Slope Study prepared by Soil-Mat Engineers and Consultants, dated September 27, 2017, submitted with the Application. This slope study demonstrates the Site is suitable for the proposed development.

3. On November 5, 2012, Antonio Locantore provided Jane DeVito a drawing entitled "Plan of Topographic Survey of Part of Lot 10, Con. 1 SDS, in the Geographic Township of Nelson, now in the City of Burlington, Regional Municipality of Halton. The survey was prepared by Ashenhurst Nouwens Ltd, dated October 2, 2002, but had been updated to show the Regional Storm Flood Elevation of 137.2m and also showed a line labeled Top of Bank. Planning and Regulations staff confirmed that the Top of Bank Line shown in this figure appeared appropriate relative to what was staked in the field. It is noted that the Ex. Top of Bank Line shown in Dwg. C1 and C2 differs from the previously provided linework. Please confirm the source of the lines and ensure that top of bank as staked in the field by Conservation Halton is shown on the plans.

RESPONSE:

See Comment # 1. Top of Bank was inspected at a Site Meeting on August 31, 2017 between Leah Chishimba, Heather Dearlove from Conservation Halton (CH), Brian Hudson (Halton Region), Dean Fitzgerald (Premier Environmental Services) and Marina Fensham (thinkGiraffe Design). Orange flags were placed on-Site to mark the Top of Bank by Mr. Charles Priddle, Coordinator, Regulations Program, on October 12, 2012. This line was inspected by all and the locations of the flags on the survey confirmed by Brian Hudson. Other individuals in attendance also provided confirmation the line on the survey submitted by the surveyors was satisfactory.

4. A permit under O.Reg. 162/06 will be required for all proposed grading within the 7.5m regulated setback from the greater of the staked or long term stable top of bank.

   RESPONSE:

No grading within the 7.5m setback is intended. See Grading Plan and Response to CH comment #1.

5. General comment pertaining to all plans reviewed (Site Plan, Preliminary Grading & Erosion Control Plan, Preliminary Site Servicing Plan): Please include the top-of-bank staked line with the date with the associated 7.5 metre setback on the drawing.

   RESPONSE:

These lines have been shown on the Site Plan, Preliminary Grading & Erosion Control Plan, and Preliminary Site Servicing Plan. thinkGiraffe reviewed the setbacks as shown during the August 31, 2017 site meeting and Conservation Staff deemed it as clear.

6. Environmental Impact Assessment, 4063 Upper Middle Road: Section 9.2, Impact Avoidance Measures, page 42: Please show where snow storage will be located. Note that snow storage is not to be located within the buffer area.

   RESPONSE:

See thinkGiraffe A1 Architectural Site Plan Attached within the complete Application.

<u>One Window Delegated Authority under PPS</u>

Natural Hazards (Sections 3.1.1-3.1.7 inclusive)

Policy 3.1.1 b) of the Provincial Policy Statement (2014) states;

> *"Development shall generally be directed to areas outside of hazardous lands adjacent to river, stream and small inland lake systems which are impacted by flooding hazards and/or erosion hazards"*

Staff recommend that all proposed development on the subject property should be located outside the hazardous lands in order for this application to be in conformity with the PPS. Please refer to comments related to natural hazards provided above under the heading Ontario Regulation 162/06.

1. The proposed Basement Floor Elevation shown in Drawing C1 and associated with underground parking appears to be located below the 1:2 year Return period flood for the adjacent Shoreacres Creek, which is indicated to be at an elevation of 136.37 m at Hydraulic Cross Section 6.78 (upstream of Upper Middle Road). The anticipated 1:2 year flood elevation decreases rapidly downstream of Upper Middle Road and is identified to be 135.12 m downstream of Upper Middle Road, *per EWRG's 1997 Shoreacres Creek Floodplain Mapping Update*. Please confirm how the underground parking lot is intended to be drained, and identify any connections to the adjacent Shoreacres Creek. The potential flood susceptibility associated with the proposed underground parking area should be evaluated prior to granting support for the proposed zoning by-law amendment. Provided no new outfalls are proposed, Conservation Halton defers review related to this issue to the City of Burlington, as part of their assessment of the hydraulic grade line.

RESPONSE:

S Llewellyn submitted report and discussed matter directly with Conservation Halton.

CH/Halton Region MOU

Wildlife Habitat Advisory comments are provided under each MOU heading.

Staff note that the subject property is adjacent to Significant Woodlands as designated by the Region of Halton. Comments related to significant woodlands and wildlife habitat are provided below under the headings *Environmental Impact Study and Tree Inventory and Preservation Study, dated September 2016, prepared by Premier and Functional Servicing Report, 4063 Upper Middle Road, City of Burlington', dated January, 2017, prepared by S, LLewenllyn & Associates LTD.*

Environmental Impact Study and Tree Inventory and Preservation Study, dated September 2016, prepared by Premier:

1. **General Comment**: The EIS does not adequately demonstrate how the setback will effectively achieve "no disturbance to the sensitive natural feature" as noted on page 4. The clarification requested subsequently in this letter will provide staff with a better understanding of the potential impacts to the natural area.

RESPONSE:

Following the receipt of the comments from CH regarding the 2017 EIS (hereinafter, EIS), the study area (hereinafter, the Site) was re-mapped and the ELC polygons were updated. This update was justified, as number of natural disturbance events re-shaped these features during 2013 and 2014. As a result, updated FOD9-5 ELC data forms were prepared on August 28, 2017 and are included in **Appendix A** of this response. The updated ELC map from this recent effort was submitted to CH prior to the inspection of the Site, completed on August 31, 2017. Staff from Premier explained the justification for the designation of cultural woodland (CUW) between the proposed development and Shoreacres Creek and floodplain forest at the August 31 meeting. Premier also explained that the previous studies designated the CUW as floodplain forest and that was incorrect as well as the fact the updated mapping showed the CUW was approximately 20 – 25 m wide. Also, the polygon for the floodplain forest, defined previously as FOD9-1 Fresh-Moist Oak - Sugar Maple Deciduous Forest was changed to FOD9-5 Fresh-Moist Bitternut Hickory Deciduous Forest. This change was completed to reflect the fact Bitternut Hickory and Shagbark Hickory along with Eastern White Pine are the most common mature tree species found in proximity to the creek. During the August 31 site walk, staff from CH provided verbal agreement this area represented CUW not woodland, given the past disturbance, dominance of non-native herbaceous and woody species as well as the extensive garbage and other features. A copy of this updated ELC map is included herein, as it is germane to the responses included in a number of the following comments. This new ELC map shows the CUW as 20+ m wide and represents a band separating the proposed 7.5 m setback and tree drip line area from the adjacent flood plain forest. This identifies the flood plain forest is actually buffered by the CUW as well as the 7.5 m setback and tree drip line, representing an area that is 35+ m wide. Text below explains how this CUW represents an area well suited for control of non-native herbaceous and woody species as well as the area proposed for compensation tree planting, since it is 20+ m wide and 100+ m long.

It should also be noted that the Municipal Class Environmental Assessment for Shoreacres Creek Erosional Control Project (Shoreacres Class EA), completed for the City of Burlington in 2014 actually mapped these exact areas using ELC (available at: https://www.burlington.ca/en/resources/Teresa/Sho-Millcroft-CNR-Class-EA-Rept.pdf). This Class EA document includes extensive information on vegetation communities, bird surveys, wildlife surveys, and ELC maps. Some of this information from the Class EA is referenced in the response to the comments in this document, for context as well as independent verification of the studies completed by Premier.

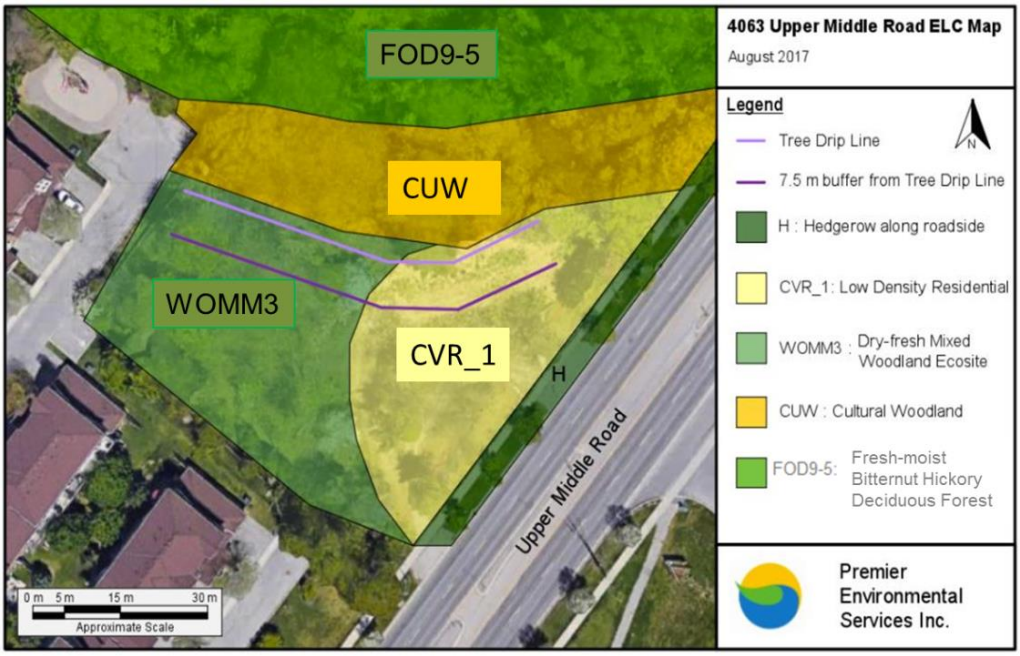


Figure 1: Updated ELC for Site based on inspections on-Site during August, 2017. This map shows inclusion of the cultural woodland (CUW) that varies in width from 20 – 25 m and separates the significant woodland (FOD9-5) from the trees that exist at the top of the slope of the creek valley. In other words, the CUW is acting to buffer the core FOD9-5 woodlands. Future tree compensation plantings are proposed for the 7.5 m setback, tree drip line, and CUW. This also identifies that an area that is 35+ m wide will separate the proposed development from the FOD9-5 woodland that exists along Shoreacres Creek.

In a number of sections, the EIS explains how the proposed development will act to provide protection as well as enhance the sensitive natural feature – the degraded Shoreacres Creek and associated floodplain forest. These varied proposed activities are expected to result in immediate as well as long-term benefits to Shoreacres Creek and flood plain forest. It is prudent to review these key benefits from the proposed activity, as described in detail in the EIS, and also restated here, as follows:

1. Area downslope of the 7.5 m setback and tree drip line area has been remapped and identified as CUW and is 20 – 25 m wide. This identifies that vegetation > 35 m wide will separate the proposed development from the FOD9-5 flood plain forest. A vegetation buffer that is > 35 m wide can be expected to provide protection to the existing natural heritage features of the flood plain forest. In the past, the EIS reported the area in question was regularly cut by the past land owner, creating a highly disturbed area. This area in the future will not be cut and will become more natural over time. The Class EA also identified this woodland as FOD9-5, due to the frequency of Bitternut Hickory.
2. EIS explains how the trees lost on-Site will be replaced via planting of native tree species. The current plan for tree management presented to the public during autumn 2017 identified that a total of 25 trees require removal, have died, have fallen, or have been removed to date. In response, a total of 120 trees are proposed for planting along the edge of the natural feature, to provide additional enhancement, representing a replacement ratio > 5:1. The majority of the compensation trees to be planted will be 'whip' size (~0.5 m height) while a number of larger trees (>1 m height) will be planted along the property lines, to enhance visual screening (see detailed proposed plant list with explanation in **Appendices B and C** of this document). For historical context, Ms. Rosalind Minaji, Coordinator of Development Review for the City of Burlington stated on April 30, 2013 that a compensation ratio of 1:1 would be sufficient for tree planting on-Site. Hence, the current proposal will result in more extensive reforestation than the original scenario described in the EIS.

3. EIS explains all future trees that are planted on-Site will involve species native to Halton Region and are currently evident in the flood plain forest. Suggested species included deciduous species like Bitternut Hickory (*Carya cordiformis*), Shagbark Hickory (*Carya ovata*), Bur Oak (*Quercus macrocarpa*), Red Oak (*Quercus rubra*), and Red Maple (*Acer rubrum*) along with coniferous species such as Eastern White Pine (*Pinus strobus*).
4. EIS explains how non-native herbaceous and woody vegetation is to be managed and removed from the 7.5 m setback along with the tree drip line area. For example, non-native Common Periwinkle (*Vinca minor*) has established three patches in the CUW area during the last few years, and is growing downslope toward the flood plain forest and creek. These three areas of Common Periwinkle perhaps covers ~ 30 m^2 and will be removed in the future. Also, the 7.5 m setback area also contains extensive patches of non-native Garlic Mustard (*Alliaria petiolata*), non-native Wild Carrot (*Daucas carota*) as well as non-native Common Buckthorn (Rha*mnus cathartica*). Hence, the future actions on-Site will involve the removal of Periwinkle, Garlic Mustard, Wild Carrot, and Common Buckthorn from the 7.5 m setback and tree drip line areas. The removal of these non-native plants will result in immediate benefits to the native species evident in the 7.5 m setback and tree drip line area. This strategy was discussed with CH during the August 31 walk with focal conversation on the non-native plants in question.
5. EIS explains how the retention of the 7.5 m setback in addition to the tree drip line area maintains the relatively flat area in a natural state, and this will allow for the continued runoff of water from this area toward the creek and floodplain forest. The current landscape on-Site involves a slope up toward the setback and tree drip line area. Hence, drainage currently flows downslope from the site toward Upper Middle Road or from the flat 7.5 m setback area toward the tree drip line, and then further downslope toward the creek. The retention of natural drainage to the creek and floodplain forest will result in long-term benefits to these natural heritage features.
6. EIS describes how extensive garbage and other debris exist in the 7.5 m setback and the tree drip line area as well as the CUW, especially between the Top of Bank and the core of the floodplain forest. The EIS identifies that this garbage will be removed in the future. When the garbage is removed, it will result in the immediate enhancement of these three areas. This topic was also discussed in detail during the August 31 walk.
7. EIS describes how the proposed future construction of the proposed development will use Best Management Practices (BMPs) and result in no transport of sediment or runoff water to Shoreacres Creek or the flood plain forest. In addition, the use of BMPs will also result in the protection of the trees to be retained in the development. Other BMPs will result in site activity only during times of the year that do not disturb wildlife, particularly the 1 May to August 31 breeding bird period. Other BMPs such as tree hoarding will be used, to protect the mature trees on-Site as well.
8. During recent discussions with CH on August 31, it was noted that another BMP for use will be to include the placement of artificial nesting habitat for bats (myotis) within the CUW on-Site. When such artificial nest habitat for bats is placed in the CUW, it will act to enhance the wildlife habitat that exists in the general area for bats. The EIS reported that the trees in the CUW as well as the adjacent flood plain forest does not represent suitable habitat for bats in the close proximity to the Site (within 120 m of the 7.5 m setback). Hence, the suggestion was made from CH during the August 31 meeting that artificial habitat for bats could be placed in the CUW, to provide additional habitat for bats that are likely in the general area. In summary, a number of explicit activities will occur in conjunction with the proposed development that are expected to result in immediate and long-term benefits to Shoreacres Creek and adjacent floodplain forest. For additional information, please refer to Sections 8 and 9 of the EIS.

9. During the August 31 walk with CH, staff also recommended placement of a fence on-Site, to separate the development from the flood plain forest. Brian Hudson, Senior Planner for Region of Halton (ROH) also stated on-Site on August 31 that the fence seemed like a reasonable addition to the plan. Then, Mr. Hudson asked if a fence would be included within the revised design, in an email dated Thursday, September 21. For these reasons, the proponents propose to install a standard chain link fence to limit access by residents to the flood plain forest. This proposal for the fence includes the provision to locate it approximately 7.5 m from the top of bank, in the tree drip zone area. It is inferred the fence posts can be placed in locations that will avoid disturbance of the tree roots, based on the variable distribution of trees along the top of bank. The approximate location of the proposed fence is included in the layout drawing included within the application package. Premier infers the inclusion of a fence will limit the transfer of garbage in the future to the flood plain forest as well as reduce direct encroachment by residents and their pets in to the flood plain forest.

2. **Section 2.3 Government Regulation and Regulatory Guidance, page 8**: Please revise this section as the Provincial Policy Statement, 2014 was not properly interpreted. The report currently states *"development may be permitted in, and adjacent to, the other five types of natural heritage features provided that there will be no negative impacts on the features and functions for SAR associated with the area identified".* Please note that the impact to these natural heritage features is independent to the features and functions for SARs associated with the area should they be present. As per Section 2.1 of the PPS, development and site alteration shall not be permitted in significant woodlands (Ecoregions 6E and 7E); significant valleylands (Ecoregions 6E and 7E), significant wildlife habitat, significant areas of natural and scientific interest, and coast wetlands in Ecoregions 5E, 6E and 7E unless it has been demonstrated that there will be no *negative impacts* on the natural features or their *ecological functions*.

   RESPONSE:

The EIS reports the presence of no significant wildlife habitat in Shoreacres Creek area, within 120 m of the proposed development. However, the EIS does identify the presence of woodlands along the creek. As noted above, these woodlands do meet the area criterion for designation as significant in the PPS (2014), since the area is larger than 1 ha within an urban area. The proposed development will not encroach on the significant woodlands, and this identifies the proposed development is consistent with the PPS (2014). In addition, the woodlands in question will not be disturbed by the proposed development, as they are separated from the proposed development by the 20 – 25 m wide CUW as well as the 7.5 m setback plus tree drip line. This information should be considered in conjunction with the detailed included in Response 1. In summary, the woodlands evident along Shoreacres Creek are protected from disturbance by a 35+ m of natural vegetation that will be enhanced in the future, leading to long-term protection of these woodlands.

As noted in the response to comment #1, CH recommended the placement of a fence to separate the proposed development from the flood plain forest. The proponents are willing to follow this recommendation with the expectation the fence will provided added protection to this 35+ m of natural vegetation that separates the proposed development from the forest.

3. **Section 2.3.2 City of Burlington, page 9**: The report mentions that there is a wetland identified “at the south of the Site” as shown in Schedule B of the City of Burlington Official Plan. Please clarify if there is a wetland on the subject property or is it south of the site?

   RESPONSE:

There is no known wetland on-Site. The text refers to the presence of a wetland located to the south and downstream of the Site, on the opposite side of Upper Middle Road, within a 1.0 km radius. In addition, there was also no wetland feature mapped within 120 m of the top of bank of the Site, as reported in the 2015 Class EA for Shoreacres Creek prepared by Cole Engineering for the City of Burlington within 120 m of the top of bank of the Site, referred to in response to comment #1. Thus, no wetland exists within close proximity to the proposed development.

4. **Section 2.3.3. Conservation Halton, page 10:** ***the document has several misinterpretation of CH’s policy regarding the staking of the top-of –bank. For instance the report indicates that ‘the top-of-bank of the flood plain forest of Shoreacres Creek was staked’***, this statement is incorrect and does not technically make sense. Conservation Halton staff staked the physical Top of Bank associated with the Shoreacres creek.

   RESPONSE:

Current staff members from Premier were not in attendance on the date that CH staked the top of bank adjacent to the proposed development on-Site. This lack of attendance on the date by current staff provides a simple explanation for the incorrect description of the activities that were completed on that date. Hence, the EIS should have included the sentence: “Premier staff observed Conservation Halton staff stake the physical Top of Bank associated with Shoreacres Creek on April 26, 2013.”

5. **Section 2.3.4 Ontario Ministry of Natural Resources, page 11:** Staff request confirmation as to any communications with the MNRF regarding potential bat habitat on or adjacent to the development. If there has been no communication, staff recommends consultation with MNRF to this regard.

   RESPONSE:

The comment provided refers to one aspect of the Myotis (bat) screening and the only way to provide the full (and correct) explanation included within the EIS is to re-state the entire communication sequence, as previously included in the EIS here. This concerns Species At Risk (SAR) generally as well as bat habitat:

1) During 2013, a letter from the MNR was issued from Ms. Natosha Fortini, Assistant Species At Risk Biologist, Aurora District, regarding the screening for Species At Risk (SAR). A copy of this letter was included in the EIS. This letter did not refer to myotis (bats) because these species were not listed for protection at that time.
2) Premier completed the requested screening for SAR during 2013 and 2014.
3) Following the ice storms and wind storms of 2013 and 2014, Premier requested a re-inspection of the tree canopy on-Site with Region of Halton (ROW), as the tree canopy had been damaged due to these natural events. A meeting was requested during June 2015, and was scheduled for July 16, 2015.
4) On July 16, 2015, ROH via Richard Clark and Ron Reinholt re-set the tree drip line, due to the changes in tree canopy caused by past storms. During this meeting, Mr. Clark also identified that they were also concerned about screening mature trees for possible bat use, and that such an activity should be added in the EIS. Mr. Clark

noted correctly that myotis were elevated to SAR after the original SAR screening was provided by MNRF. Mr. Clark advised to contact staff from Conservation Halton (CH) and request guidance on myotis screening, as no formal guidance for myotis screening was available for use. See Section 2.3.3 in the EIS for additional details. Also see Appendix C of the 2016 EIS for copies of this email exchange.

5) During the July 16 meeting, it was also explained to ROH that the EIS had been started during 2013, and Premier was hoping to complete the tree inspection as soon as feasible, ideally during July.
6) Immediately after the meeting with ROH, Premier searched online for MNRF guidance on myotis surveys. On July 16, Premier wrote to Richard Clark and stated that no MNRF survey protocol could be found. As such, Mr. Clark recommended Premier contact Lesley Matich of CH, to request guidance for myotis surveys. See Appendix C of the EIS for this email exchange.
7) Also on July 16, due to the importance of this matter, Premier phoned MNRF contact in Aurora, Ms. Fortini, whom issued the original SAR screening letter. Ms. Fortini advised the myotis screening methods were in development, and suggested we discuss the matter with Conservation Halton, as they had discussed the matter previously. Thus, MNRF declined to provide additional comment on myotis, as they had no guidance to share at that time.
8) Lesley Matich responded to the request for guidance on myotis surveys the next day, on July 17. Ms. Matich stated that MNRF did not have a set protocol at that time for myotis surveys but her correspondence with MNRF confirmed the types of activities they considered valid. So, Ms. Matich shared her insights on suitable survey approaches for myotis. It was also noted that the surveys were to be focused on land formally used as urban residence (ecological land classification CVR_1) and this area technically did not require surveys for myotis as it was not a forest polygon. This comment about the survey area was also predicated on the notion that there would be no disturbance of the existing floodplain forest habitat. In other words, since there was no proposed disturbance of the proposed floodplain habitat, there was no justification to complete extensive surveys for myotis habitat, since they were not to be disturbed.
9) The response to Ms. Matich and Mr. Clark was that Premier would inspect all trees on CVR_1 for possible use by myotis during the month of July, as a way to generate information on the site even though it was not technically required by MNRF. In order to fully survey the CVR_1 area proposed for disturbance, the inspection of mature trees would also extend in to the flood plain forest. The justification for extending the myotis survey in to the adjacent flood plain forest was to search for candidate myotis habitat in the general area. This survey of the 120 m of the flood plain forest in proximity to the CVR_1 was intended to generate information on possible habitat used by myotis in the area.
10) On July 22, Ms. Matich stated the following: “I think the approach put forward below is reasonable.” The note went on to say that searching within 120 m of the CVR_1 area was justified, to ensure no possible disturbance to possible significant wildlife habitat. Thus, it was confirmed the Premier survey would address the concerns of MNRF by following direct guidance provided by CH when no formal survey protocol was available.
11) On July 22, Premier phoned Ms. Fortini, Aurora Assistant Species At Risk biologist, and informed her that Ms. Matich had identified a survey protocol to follow.
12) On July 29, Premier inspected all mature trees on CVR_1 and within 120 m with binoculars. The results of this inspection were described in the EIS in Section 4 while a full description of the tree survey was included in Appendix F of the EIS. When the trees in question were inspected, very few had the presence of cavities that were large enough for use by myotis. However, large tree specimens with obvious cavities were found > 150 m from the CVR_1 areas proposed for disturbance. Premier

reported the presence of large cavity trees located > 150 m from the CVR_1 area as evidence the survey protocol was able to find cavity trees in the flood plain forest during July. The large majority of trees near CVR_1 (within the 120 m radius) were rather small with very few large specimens – presumably due to past forestry.

13) In Section 8.8 of the EIS, the observation of no tree cavities available for use by myotis was stated as absent within CVR_1. Explicitly, in Section 8.8, page 38, the text states: “Habitat may exist in FOD-9 forest but not in proximity to manicured CVR-1 or WOMM-3m”. The EIS includes the following summary on page 40: “Regarding the screening for possible myotis habitat, it was reported in Chapter 4 that no cavities were observed in the trees located on-Site. This screening was conducted across CVR-1, WOMM-3, and FOD9-1 within the flood plain forest. There were no caves or other features in the vicinity of the Site where myotis could possibly roost or overwinter located. Hence, habitat that could be possibly used by myotis for roosting or as winter hibernacula is inferred as absent.”
14) Due to the fact Premier followed the technical guidance provided from CH for myotis surveys in 2015, and no formal protocol on myotis surveys was available from MNRF at that time, the absence of myotis habitat in the CVR_1 and within 120 m of this area was not shared with MNRF. It was interpreted that sharing of the determination of no habitat would be disrespectful to MNRF. The absence of critical habitat for myotis in CVR_1 and within 120 m identifies that that proposed development does not have potential to disturb myotis that may exist in this area. Since no potential for disturbance of habitat exists, this proposed activity is consistent with the PPS.

6. **Summary, page 12:** The section notes that an “updated storm water drainage plan is expected for the proposed development in the future.” Staff require this information to confirm that the setbacks proposed are suitable to protect the natural feature.

   RESPONSE:

S Llewellyn submitted report independently to CH for review.

7. However, with this submission, engineering drawings/SWM Plans were submitted with the package and based on our review of the plans staff note that the drainage will be maintained pre and post construction. As such, please confirm the report is referring to these plans and if so please update this section of the report accordingly to indicate that storm water drainage plans have been provided.

   RESPONSE:

The Functional Servicing Report (FSR) was submitted as an addendum to the EIS during February, 2017. This FSR includes the storm water drainage plan referred to in the response to comment #6. The FSR provides a detailed explanation of how the drainage flows will be maintained post-development and justifies the statements included in the EIS.

8. **Section 3.0 Data Collection, Analysis and Additional Resources, page 13**: Staff recommend an additional tree inspection be conducted during leaf-off (fall to early spring) to determine whether there are suitable trees on the property for little brown myotis and northern myotis. This is in keeping with the Survey Protocol for Species at Risk Bats within Treed Habitats Little Brown Myotis, Northern Myotis & Tri-Colored Bat, MNRF (2017). Leaf-on surveys are only suitable for detecting habitat suitability for Tri-coloured bats. Staff recommend that the MNRF be consulted to determine whether the studies conducted in all three vegetation communities mapped is sufficient.

   RESPONSE:

The EIS explained that during 2015, the benefit of a leaf-off survey for myotis was discussed with CH, as described in the response to comment #5, as no approved MNR protocol for bat surveys was available at that time. This discussion with CH focused on the fact the area in question is highly disturbed and populated primarily by young and small trees (DBH<10 cm) due to previous land owner cutting area with lawn mower etc. This led to the determination that a delay for leaf off survey was not justified. During the August 31, 2017 inspection of the area, the small size of the trees in question was also discussed in detail with CH staff in attendance, with the confirmation the trees of concern are small and those trees with DBH>10 cm do not show cavities suitable for use by myotis, as they are mostly small and free of cavities. Staff from CH were also led to the single large Swamp White Oak (Quercus bicolor), and it was discussed how this tree was very large unlike most other trees due to large size and greater than 120 m from the top of bank on-Site. During the walk to the large Swamp White Oak, it was also discussed the area had no other Swamp White Oak, attributable to deer / rabbit browse in the area.

9. Please note, as was flagged in the correspondence with CH in Appendix C, Conservation Halton staff raised that the subject area, or adjacent area (the area within 120 metres of a key natural feature as defined by the Provincial Policy Statement) may be considered significant wildlife habitat for bat maternity roosts. Based on the cursory assessment of the FOD9-1 habitat, suitable trees do exist in the woodland feature (*Salix babylonica* with a dbh of 104 and *Quercus bicolor* dbh of 92*).* As raised further in subsequent comments, please clarify how a 7.5 metre unvegetated buffer will provide ample mitigation to the surrounding natural area. Staff recommend that the proponent refer to the Significant Wildlife Habitat Mitigation Support Tool for guidance on appropriate mitigation measures.

   RESPONSE:

Refer to the response to comment #1 regarding setbacks and buffers and response to comment #5 and #8 regarding survey planning and survey methods used to search for myotis habitat.

The large Weeping Willow (*Salix babylonica*) and large Swamp White Oak (*Quercus bicolor*) were located on the opposite side of Shoreacres Creek, at a distance > 150 m from the top of bank of the Site. These two large trees were included in the survey results as evidence the approach was successful in documenting presence of cavities during leaf-on conditions during July. Since these large tree specimens are > 150 m from the top of bank, it can be expected these trees and any associated wildlife in the area will not be disturbed by the proposed development. The 2014 Shoreacres Creek Class EA of the same area did not report the presence of either the Weeping Willow or Swamp White Oak presumably because they were not closely associated with Shoreacres Creek or were missed. However, they did report the physically similar Crack Willow (*Salix fragilis*) and Bur Oak (*Quercus macrocarpa*) but the specimens had DBH that was always smaller than the 1.04 m Weeping Willow and 0.92 m Swamp White Oak. As noted in #8, recent surveys also indicate zero Swamp White Oak in the area of the old tree. Hence, planting of sapling Swamp White Oak in this area is justified.

10. **Section 4.2.1 Herbaceous Species, page 18:** This section notes that the vegetation in the floodplain and slope are distinct due to the local moisture and shade regimes. The report notes “the slope is well drained and receives direct sunlight attributable to the incomplete tree canopy on the lawn.” Given that the development proposal is for a multi-storey building, please discuss whether the development will have an impact on local moisture and shade regimes.

    RESPONSE:

A shade study was completed independent of the EIS and is included in the development application. This shade study identified the future shading regime was not expected to have any negative consequences on the existing woodland (i.e., FOD9-5 flood plain forest). For example, the building is proposed to be located >35 m to the south of the flood plain forest and this implies the morning sun from the east and afternoon sun from the west will not be impeded. The building placement originally considered shading, based on side conversations from staff from ROH and City of Burlington during 2013 and follow up meetings during 2015. These earlier conversations led to the placement of the building in a manner to reduce / eliminate any negative consequences of shading on the creek valley (as well as the neighbours) on both sides, as they will also still receive the sunshine from east and west, just like the woodland.

11. **Section 4.2.2 Woody Species, Tree inspections 2015, page 20:** Please provide a map indicating the location of the suitable trees. It is unclear to staff where these trees located 150m from the proposed development were observed.

    RESPONSE:

Please refer to the map included in **Appendix D**. The EIS explained the survey involved identified trees with DBH > 25 cm as candidate bat habitat, per the communications during 2015 with staff from CH. Also refer to the detailed explanation of this process in item #9 whereas the large Weeping Willow and Swamp White Oak are flagged on the map. Also, Premier led CH staff to these two large trees during the walk on August 31.

12. Additionally, Staff found the referenced information on the trees in Appendix G, not E as noted in this section. Please revise the report accordingly.

    RESPONSE:

It is correct to state that the appendix was mis-labelled in the EIS. The reference to Appendix E was a carry-over error after the first revision of the EIS, when additional information was added, between EIS from 2016 and the subsequent revised version from 2017.

13. **Section 4.2.3 Tree Inventory and Preservation Plan, page 21:** Please note that it is the Region of Halton that identifies and delineates the significant woodlands. Consultation with the Region is recommended.

    RESPONSE:

Please refer to the response to comment #1. Also, the ROH visited the site on numerous occasions, as described in Section 2 of the EIS and provided written guidance, with copies of this guidance included in Appendix C of the EIS. These staff members from ROH also advised on the designation and then re-designation of the tree drip line plus buffer and how this area would separate the proposed activity from adjacent lands. This advisory role from ROH also included recognition of the presence of CUW along the edge of the CVR_1 proposed development area (varying from 20 – 25 m wide) and significant woodlands beyond the CUW.

14. **Section 4.2.3 Tree Inventory and Preservation Plan, page 21:** There is a discrepancy between this section and section 3.3 Evaluation of Health of Live Trees, page 15 of Appendix G regarding the number of trees proposed for removal. This section notes that 60 trees will be removed. Appendix G discusses the removal of 57 trees. Please revise the report for consistency.

    RESPONSE:

Based on comments from CH and the public, the revised number of trees proposed for removal is now 25. We are now proposing to plant 120 trees to replace the 25 trees, a compensation ratio that is > 5:1. See below for additional details as well as **Appendices B and C**.

15. **Section 4.2.3 Tree Inventory and Preservation Plan, page 21:** Staff support the recommendation to enhance the natural feature by planting trees between the creek and the proposed development, specifically in the proposed 7.5 m buffer. This area serves both a buffer to development from natural hazards, as well as a vegetated protection area to the natural feature. This approach is in keeping with Conservation Halton's policy 3.11 whereby the intention of the vegetation protection zone is to utilize vegetation native to the watershed and be established to achieve and be maintained as natural self-sustaining vegetation. Please note however, that the plantings utilize be native and non-invasive species as per CH's tree planting and preservation guidelines.

    RESPONSE:

The original EIS stated in several locations that only tree species native to Halton Region would be planted as compensation for the trees lost and removed. Please refer to **Appendices B and C** to review the updated planting lists for the 120 specimens.

16. **Table 4-3, page 22:** please confirm if any additional trees been removed as a November 2015, when trees were identified for removal due to past damage from various storms, insects and/or disease? Removal of trees in the floodplain is discouraged. Please confirm whether the Eastern White Pines and White Birch are considered hazard trees. The report indicates that they "likely would be classified as hazard." Should be required for removal, staff would recommend that the tree be delimbed and left standing at 3 metres in height or more for wildlife purposes.

    RESPONSE:

This comment requires three separate statements:

1) There have been zero trees removed since November 2015. The trees that were cut prior to this date were done under the direction of the COB. As described in the EIS, the cutting of trees was in direct response to an order from COB. The text from the EIS on this topic (from page 10) was: "On November 24, 2015, Mr. Morgan met with representatives from Springfield, and confirmed that the hazard trees were cut and the problem was considered resolved." Thus, CH is incorrect to infer that trees were removed during the last two years.
2) There has been zero removal of any trees in the flood plain forest since this study started, in 2013. It is incorrect for CH to state trees were removed from this area.
3) The information on the remaining single, large Eastern White Pine and stump-sprouted White Birch listed in the EIS identify the respective health status circa 2016. To review, the EIS reported the single large Eastern White Pine as in decline while

the White Birch was listed as recovering from ice and wind storm damage. Neither specimen is reported as a hazard tree at this time. The current expectation is the White Birch will be retained during the future development while the COB will determine if the large Eastern White Pine represents a hazard during the future. If the large Eastern White Pine is removed, it does make sense to leave a portion of the stem as habitat.

17. **Table 4-3, page 22:** Please note that *Quercus bicolor*, Swamp White Oak is considered regionally rare in Halton, not uncommon.

    RESPONSE:

Premier incorrectly identified the Swamp White Oak located > 150 m from the edge of the CVR_1 site as 'uncommon'. The correct description for Halton is that this species is Regionally Rare. Note that Premier only found one specimen of Swamp White Oak in the general flood plain area and this very low density is likely attributable to the heavy browsing of rabbits/deer in the area. This Swamp White Oak is rather large and likely was spared during past forestry in the area, as the main stem is perhaps only 3 m long before it splits to multiple branches – so the timber is not truly valuable. Hence, the tree was likely spared for economic reasons.

18. **Section 4.3 Ecological Land Classification, page 23:** please confirm if the species identified in the floodplain are listed in the order of dominance? If so, the presence of shagbark hickory, bitternut hickory, Eastern White Pine, Black Walnut and a few Swamp Oaks does not appear to represent a Fresh Moist Oak Maple Hickory community. The report identifies the floodplain area as an FOD9-1. According to the Ecological Land Classification, FOD9-1 is composed predominantly of red oaks, white oaks and sugar maples –none of which were identified in this area. Please provide soil surveys as this would help confirm the appropriate ELC community.

    RESPONSE:

Please refer to the response to comment #1, as the ELC component was updated to FOD9-5. The original ELC designation of FOD9-1 was identified by a former Premier employee whom was adamant that the extensive disturbance regime was obscuring past dominance by Red Oak, White Oak, and Sugar Maple.

19. **Section 5.2 Results, page 24:** In order to be considered a complete EIS, all field sheets must be submitted. Please provide the associated field sheets for the Marsh Monitoring Protocol.

    RESPONSE:

The Marsh Monitoring Protocol data sheets are included at the end of this addendum, as **Appendix E**.

20. **Section 6.2.1 Bird Surveys, page 28:** Carolina Wren is considered rare in Halton region as per the Halton Natural Area Inventory. Given the species regionally rare status, please discuss whether the proposed development will impact this species negatively in the appropriate section.

    RESPONSE:

Please refer to the response to comment #1. No mature trees in the floodplain forest will be disturbed by the proposed development, and so the potential habitat available to Carolina Wren will not be modified. In addition, the proposed development will involve removal of garbage, removal of non-native plants (e.g., Periwinkle) as well as planting woody stems in the CUW along the edge of the flood plain forest. With these considerations, it is clear the potential habitat of Carolina Wren in proximity to the proposed development will be improved in the future.

21. **Section 8.0 Integration of Information from Ecological surveys, page 31:** Please ensure that the proper terminology used in this section is in keeping with the Provincial Policy Statement. Key natural heritage features are defined by "significant" wetlands, woodlands, valleylands and wildlife habitat. Further guidance on the distinction between these features and significant features can be found in the Natural Heritage Reference Manual (2010).

    RESPONSE:

Section 8 of the EIS was designed to expressly address the requirements of the PPS (2014). To illustrate this theme, the content of Table 8-1 on page 34 of the EIS is copied below. This Table was designed to represent <u>all</u> criteria listed in the PPS (2014) within the theme of 'Significant Wildlife Habitat Criteria (SWHC)' for Ecoregion 7E. To illustrate the comprehensive nature of Table 8-1, the headings used are copied here:

Waterfowl Stopover & Staging Areas (Terrestrial)
Waterfowl Stopover & Staging Areas (Aquatic)
Shorebird Migratory Stopover Area
Raptor Wintering Area
Bat Hibernacula
Bat Maternity Colonies
Bat (Myotis) Migratory Stopover Area
Turtle Wintering Areas
Snake Hibernaculum
Colonially-Nesting Bird Breeding Habitat (Bank & Cliff)
Colonially-Nesting Bird Breeding Habitat (Tree/Shrubs)
Colonially-Nesting Bird Breeding Habitat (Ground)
Migratory Butterfly Stopover Areas
Landbird Migratory Stopover Areas
Deer Winter Congregation Areas

Review of Table 8-1 in the EIS will reveal that direct explanations of the applicability of each topic are addressed. Since this table was designed to match the PPS (2014), it is inferred the syntax also matches the PPS (2014).

22. **Section 8.2 Woodlands, page 32:** Please note that the purpose of an EIS is to determine the appropriate buffer size for the significant woodland based on the results of the studies. As noted above, the Region of Halton should be consulted on this aspect.

    RESPONSE:

Please refer to the response to comment #1 and #9. Also, the EIS reviewed how the ROH consulted on the topic of vegetation buffers from 2013 to 2014 to 2015. Hence, it is inferred this extensive process of consultation, as described in detail in the EIS, acts to confirm the ROH is supportive of the proposed approach.

23. **Section 8.3 Valleylands, page 32:** Staff question how a 7.5 metre buffer, unvegetated, "is expected to protect the ecological functionality of the habitats within the flood plain forest of Shoreacres Creek." How will the long-term impacts such as light and noise be mitigated with a 7.5 metre buffer? Please discuss this in the appropriate section.

    RESPONSE:

    Please refer to the response to comments #1, #9, and #22. This earlier comments explained the vegetation that will separate the proposed development from the significant woodland is actually > 35 m in width (i.e., 7.5 m buffer + tree drip line + cultural woodland that varies from 20 - 25 m wide). With the presence of a vegetation that is > 35 m, it is expected to protect the ecological functionality of the woodland habitat along the creek. In addition, the EIS proposed to plant native tree species in the cultural woodland polygon, as further enhancement of this vegetation features. The merits of planting native woody stems in this cultural woodland polygon were also discussed in detail during the August 31 walk with staff from CH. At the meeting, the CH staff indicated the removal of garbage, removal of non-native plants, and the planting of native woody stems would act to enhance this area and provide additional protection of the ecological functionality of the woodland along Shoreacres Creek.

    The proposed development plan is to include lights pointed to the ground and also uses best practices to reduce noise pollution. These approaches in conjunction with the vegetation buffer that is > 35 m wide will also help to protect the woodland along Shoreacres Creek.

24. **Section 8.5 Wildlife Habitat, page 34:** In line with the previous comment, please discuss the impacts to the potential significant wildlife habitats to ensure that the development demonstrates no negative impact to the ecological form and function of these communities. Alternatively, please conduct the required surveys to confirm the presence or absence of the likely wildlife habitats as per the Significant Wildlife Habitat Criteria Schedule for Ecoregion 7E. Staff draw specific attention to raptor wintering area, bat maternity colonies, landbird migratory stopover areas and special concern & rare wildlife species (e.g. wood thrush and eastern wood pewee).

    RESPONSE:

Surveys of the habitats and wildlife along Shoreacres Creek were completed, as directed during 2013, 2014, and 2015. For example, amphibian surveys following Marsh Monitoring Program identified no amphibians calling within the cultural woodland and very few in the adjacent woodland along the creek in 2013. This lack of amphibians in this area can be attributed to the past wide-scale disturbance in the area (e.g., former owner would cut the plants in the woodland with their lawnmower) as well as the presence of a high density of predators, such as feral and

domestic cats. Predators such as domestic cats are known to prey frequently on species such as amphibians and song birds. Indeed, the high density of cats in urban areas has been reported to depress amphibian and bird populations. For example, Baker et al (2005) reported densities of cats in urban areas often exceed 100 cats/km^2. Baker et al. (2005) reported in their study that domestic cats were observed to kill birds, amphibians, and small mammals. In a review of this problem for the U.S.A., Loss et al (2013) estimated that domestic cats kill 10s of millions of amphibians each year along with more than 1 billion birds and more than 6 billion mammals. These studies identify urban areas as being highly hazardous to the health of wildlife simply due to the presence of domestic and feral cats. So, it follows that the disturbed habitats within 120 m of the edge of the proposed development do not represent significant wildlife habitat for amphibians or birds.

Baker, P.J., Bentley, A.J., Ansell, R.J. and Harris, S., 2005. Impact of predation by domestic cats *Felis catus* in an urban area. Mammal Review, 35(3-4):302-312.

Loss, S.R., Will, T. and Marra, P.P., 2013. The impact of free-ranging domestic cats on wildlife of the United States. Nature Communications, 4, p.1396

The appropriateness of the cultural woodland and floodplain forest along Shoreacres Creek for bat habitats was discussed in #5 above.

No winter raptor surveys were conducted, because CH staff did not direct Premier in 2013 or 2014 to complete such an activity. Rather, CH stated to complete breeding bird surveys, during May and June, following the Ontario Breeding Bird Atlas (OBBA). Such OBBA surveys were completed and reported in the EIS.

If raptors do exist in the area, they will not be disturbed by the proposed development, as the land use planning will result in retention of all mature trees. In addition, the core habitat that could be used by raptors exists in the flood plain forest, found beyond the CUW, as described in response #1. This possible use of mature trees in the flood plain forest identifies most mature trees are > 35 m from the edge of the proposed development, and can be expected to be continue to function as raptor perches, if such features actually exist.

25. **Section 8.5 Wildlife Habitat, page 34:** Please use the criteria in the candidate section of the Significant Wildlife Habitat Criteria Schedule for Ecoregion 7E to further narrow down which significant wildlife habitats are likely present. Several habitats, such as Woodland area sensitive bird breeding habitat were listed as “may exist in the FOD-9 forest”. Please note woodland area-sensitive bird breeding habitat require interior forest located at least 200m from the forest edge, which is not present in the adjacent natural area.

    Response:

Please refer to the response to comment #21. To review, this topic was addressed in detail in the EIS in Section 8.0. Specifically, the content of Table 8-1 on page 34 of the EIS was designed to represent <u>all</u> criteria listed as MNR’s SWHC for Ecoregion 7E. Thus, the approach used in the EIS is consistent with PPS (2014). This analysis of the habitats in the floodplain forest was placed in the context of the fact the EIS only surveyed a portion of the forest, as required by the PPS (2014) but tacitly acknowledges that adjacent areas that were not surveyed, beyond 120 m, of the same habitat polygon, could act as habitat. That is why the text: “may exist in the FOD-9 forest” was written and did <u>not</u> include any reference to the Site. To illustrate the comprehensive nature of Table 8-1, the headings are copied hereto illustrate how these varied criteria were included and subsequently assessed:

Waterfowl Stopover & Staging Areas (Terrestrial)
Waterfowl Stopover & Staging Areas (Aquatic)
Shorebird Migratory Stopover Area
Raptor Wintering Area
Bat Hibernacula
Bat Maternity Colonies
Bat (Myotis) Migratory Stopover Area
Turtle Wintering Areas
Snake Hibernaculum
Colonially-Nesting Bird Breeding Habitat (Bank & Cliff)
Colonially-Nesting Bird Breeding Habitat (Tree/Shrubs)
Colonially-Nesting Bird Breeding Habitat (Ground)
Migratory Butterfly Stopover Areas
Landbird Migratory Stopover Areas
Deer Winter Congregation Areas

In summary, given that these criteria match the SWHC, and each was explained in detail in the EIS, there is no justification to state certain features exist when they were reported as absent in the EIS. The data in the EIS provided an objective explanation for the assessment surrounding each criteria, and was necessarily focused on the findings from 120 m of the top of bank and did not extend beyond the property lines. The reality is the flood plain forest is highly disturbed, as reported in the Shoreacres Creek Erosion Study (2015), as described in the response to comment #1. Hence, the statements in the EIS are consistent with the SWHC and PPS (2014) and correctly represent existing conditions on-Site. Justification for this view is also included in the comment, as CH notes the general area may demonstrate wildlife habitat beyond the survey area, as the flood plain forest follows the creek upstream and downstream of the proposed development. In other words, it would be incorrect for the EIS to speculate on what habitat exists when surveys were not done much beyond 120 m as well as avoided adjacent private property. Due to the extensive disturbance of the flood plain forest in proximity to the proposed development, it does not represent significant wildlife habitat, as reported in the EIS and reviewed in Table 8-1.

26. **Section 8.5.1 Seasonal Concentration Areas, page 34:** No raptor surveys were conducted during the winter to determine whether the natural area serves as a wintering area. According to third party sources, (ebirds) several raptors have been identified in the area recently. Please conduct additional surveys to confirm whether the adjacent woodland serves as a raptor wintering area, or assume that it is present and discuss the potential impacts that the proposed development may have on this habitat feature in the appropriate section.

    RESPONSE:

These topics were addressed in #5, #8, #23, #24, and #25 as well as in different sections in the EIS.

Premier was not directed at any stage of the study to conduct winter raptor surveys during 2013, 2014, or 2015.

Again, all mature trees in the cultural woodland and woodland along Shoreacres will be retained in the future, and this will result in no disturbance to possible bird perches. If birds currently use these habitats, there is no risk to future use, as the area will not be disturbed other than removal of garbage along with planting of trees.

27. **Section 8.8 Myotis Screening, page 40:** Staff recommend that the MNRF be consulted to confirm that the level of rigour of the surveys is suitable to disqualify this area as suitable habitat for SAR bats.

    RESPONSE:

This comment was addressed in detail in #5 and #8 above.

To review #5, during July 2015, communications were completed with MNR Assistant Species At Risk Biologist Natosha Fortini. Ms. Fortini initially stated over the phone that no myotis survey protocol was available to use at that time and she directed Premier to consider communications with CH staff, as they had recently communicated with CH about the same topic. Then after CH staff directed Premier to follow a protocol, Ms. Fortini was informed over the phone that Premier was to follow the CH protocol. Ms. Fortini identified the approach seemed like a suitable strategy given the lack of a formal protocol.

In summary, due to the fact Premier followed the technical guidance provided from CH for myotis surveys in 2015, and no formal protocol on myotis surveys was available from MNR at that time, the absence of myotis habitat in the CVR_1 and within 120 m of this area was not shared with MNR. It was interpreted that sharing of the determination of no habitat would be disrespectful. The absence of critical habitat for myotis in CVR_1 and within 120 m identifies that that proposed development does not have potential to disturb myotis that may exist in this area. Since no potential habitat exists, there is no risk of disturbance of habitat, and this proposed activity is thereby consistent with the PPS (2014).

Despite the lack of suitable habitat in the floodplain forest and cultural woodland reported in the EIS, staff from CH discussed the appropriateness to place bat roosting boxes in the cultural woodland, to provide alternative habitats in this area during the August 2017 inspection. The proponents of the development are willing to place bat roosting boxes in the cultural woodland, as one method to enhance existing disturbed habitats to benefit bats in the future.

28. **Section 8.9 Summary, page 40:** There is not enough information provided through this report to disqualify the adjacent natural area as meeting the requirements for significant wildlife habitat. In fact, the cursory evaluation of SWH revealed that several SWH categories were “existing” (i.e. Amphibian Breeding Habitat) or probable (e.g. bat maternity roost may be present) within 120m of the proposed development. As such, please revise the statement that “no candidate SWH or SWH exists” as this contradicts the information provided previously. *Dean Fitzgerald email sent on July 17 2015 also notes that “the floodplain forest associated with Shoreacres Creek … is likely myotis habitat”*

    RESPONSE:

See the response to comment #1 about re-assessing the ecological features adjacent to the proposed development and responses to comment #5 and #8 regarding myotis. To review, Premier conducted surveys of the 120 m of forest habitat and determined that no suitable habitat for myotis was evident in this area and that is why it was not classified as significant myotis habitat. In addition, the edge of the flood plain forest is highly disturbed due to past forestry as well as encroachment of urban activities as well as other sources of disturbance (e.g., non-native plant establishment). Recent re-analysis of this area resulted in the re-designation of the entire edge habitat as cultural woodland. Recall the width of the cultural woodland in this area is 20 – 25 m in width and it slopes to the flood plain area and lacks any standing water; all water runs down slope, to the creek valley.

The EIS reported in Section 5.0 very little amphibian calling heard from the observation station located in proximity to the flood plain forest. Specifically, Section 5.0 reports no amphibians heard on May 2. However, one Green Frog (*Lithobates clamitans*) was heard in the flood plain forest on May 9 and May 27. A total of four Green Frog specimens were heard calling on June 14. Refer to Appendix E for copies of the Marsh Monitoring Protocol data sheets.

Also, the text from Dean Fitzgerald provided to CH is mis-quoted above. Here is the full quote, for proper context: “will also note that the proposed development will not disturb any of the existing flood plain forest associated with Shoreacres Creek that is likely myotis habitat”.

The text quoted was provided as explanation of the conversation with Richard Clark about the justification to survey the area for myotis. The explain explained the fact that mature trees were found along Shoreacres Creek and regarded as likely myotis habitat, as they had not yet been surveyed. In other words, this text provides the justification to CH why Richard Clark requested Premier to survey these very trees. Premier has never stated this habitat was actually myotis habitat but rather, it needed to be surveyed in proximity to the proposed development, to consider the potential likelihood for myotis habitat to be present in this disturbed forest. The inspections approved by CH in 2015 demonstrated most trees were small and demonstrated very few cavities. However, surveys > 150 m from the top of bank, did identify two specimens of trees that demonstrated cavities that were available for use by myotis. Since the survey protocol was able to demonstrate the presence of cavity trees during July, it confirms the approach was sufficiently robust to find similar habitats within 120 m of the top of bank. In summary, the past disturbance, especially forestry and wind storms, has removed most large trees in the flood plain forest and the remaining tree cover is composed primarily of younger and smaller trees that are not well suited for use by myotis.

29. **Section 8.9 Summary, page 40:** Please be mindful of sequence in which the information in this EIS is presented. It is too premature to declare that there will be no significant disturbance to the Shoreacres Creek or FOD9-1 in the key feature section of the report. Once all the direct, indirect, cumulative, long and short term impacts have discussed, then the proponent should be providing their professional opinion on whether the proposed development will have a negative impact on the surrounding natural area. Please refrain from discussing mitigation and compensations until all impacts has been presented.

    RESPONSE:

Refer to the response included to comment #1. The retention of a habitat that is >35 m wide along the edge of the flood plain forest will provide a robust level of protection of these areas from future disturbance. If a fence is installed, as suggested during the August 31 walk on-Site, then additional protective measures will exist. It is for these types of reasons the EIS stated significant disturbance to the FOD9-1 was not expected from the proposed development.

30. **Section 9.1 Existing Habitat on Site, page 41:** Please clarify the statement “With the proposed development plan, it is highly likely that no disturbance will extend to either the creek or FOD9-1.” Staff recommend that a table be included in the EIS noting all possible impacts and whether these impacts will have an impact on the natural feature to justify this statement.

    RESPONSE:

The statement noted was based on detailed analysis included in different sections of the EIS. For example, a table of potential impacts to the documented natural features on-Site was included in Section 9.0. This table was based on observations reported in the various sections of the EIS, with the title: “Table 9-1: Summary of the expected effects of the proposed development on the documented environmental features on-Site. Each of these features are classified as non-sensitive (i.e., Low), somewhat sensitive (i.e., Moderate), or sensitive (i.e., High).” Hence, the EIS provided the detailed explanation identified in item #30 that was reported as missing. Please refer to Section 8.0 for the analysis of the information used to justify Table 9-1 and information requested in #30.

31. **Section 9.1. Existing Habitat on Site, page 41:** Please clarify how the 7.5 metre buffer will prevent negative effects onto the natural area? Please also elaborate on what these negative effects are.

    RESPONSE:

This topic was addressed in the EIS. Additional information has been included in the response to comment #1 to reflect the current status of this area, with additional details on the proposed planting of native trees in this area, at a ratio > 5:1 to compensate for the loss of 25 trees.

32. **Section 9.2 Impact Avoidance Measures, page 42:** Staff support the recommendation for appropriate erosion and sediment control. Please ensure that all the recommendations are provided on the ESC plans.

    RESPONSE:

The EIS stated in Section 9 that erosion and sediment control plans as well as tree hoarding measures would be applied across the Site, at the time of site preparation before construction. The proponents plan to apply appropriate erosion and sediment control in the future and cited a document prepared by Hamilton Conservation as the guide for this activity.

33. **Section 9.2.1 Lighting and Terraces for Proposed Development, page 44**: Staff support the recommendation for directional lighting. Additional measures to prevent bird collisions should also be considered. Please provide the plans demonstrating how this will be achieved.

    RESPONSE:

This topic was addressed in the response to comment #23. In addition, the design of the building will use glass designed for urban areas, intended to reduce bird collisions with glass. In summary, the establishment of > 35 m of vegetation buffer is expected to reduce the possible negative consequences of light and the interactions of birds with the building.

34. **Section 10, Summary and Conclusion, page 45:** Please revise this statement in light of Carolina Wren being a Regionally Rare species.

    RESPONSE:

It is correct to identify Carolina Wren is reported as a rare species in Halton Region. This was an error in the EIS, as it was reported only as an 'uncommon breeder in Ontario'.

35. **Section 10, Summary and Conclusion page 45:** Please clarify "when disturbance in FOD9-1 and Shoreacres Creek is avoided, it will enhance protection of the groundwater recharge zone known to exist in the general area." No discussion up until this point has mentioned that this area is a groundwater recharge zone. Please revise previous sections accordingly. Furthermore, please clarify how avoidance of disturbance will enhance protection. Are additional enhancement measures proposed in the area?

    RESPONSE:

The review correctly identified that groundwater resources are not located in the area. This detail was addressed in Section 2.2 of the EIS in the context of source water protection plans that do not refer to groundwater but rather the water intake in Lake Ontario.

Avoidance of disturbance represents the ideal form of environmental management. For this reason, the EIS states, in the context of several topics, the proposed development is attempting to avoid disturbance using best management practices, as a way to enhance environmental protection. The alternative scenario is undesirable where environmental features are not considered during the preparation of development plans. For example, proposed use of tree hoarding to avoid disturbance of tree roots is a method to enhance protection of mature trees. If best practices and timing windows are applied to the proposed development, disturbance of natural heritage features on-Site is expected to be reduced and/or avoided.

36. **Section 10, Summary and Conclusion page 45:** Please note that the City of Burlington staff recommended a minimum of 1:1 tree replacement. The purpose of the EIS is to determine whether the 1:1 ratio is sufficient based on the characteristics of the trees proposed for removal and the ecological form and function they currently provide. Conservation Halton typically requests a replacement ratio of 3:1 for trees proposed for removal within the regulated area. Please revise this section accordingly.

    RESPONSE:

Refer to the detailed response to comment #1. To review, the 2013 guidance reported in the EIS identified that a 1:1 tree replacement ratio was acceptable. However, the current proposal is to replace each tree lost with a ratio of 5:1 using only tree species native to Halton Region. Please refer to Appendices A and B for the list of tree material proposed for planting on-Site.

37. **Section 10, Summary and Conclusion page 45:** Please identify where along Shoreacres Creek would the planting of 60 trees be beneficial.

    RESPONSE:

Refer to the detailed response to comment #1 (also see Appendices A and B) as well as the planting plan submitted by Reynolds and Associates with the development application.

38. **Section 10, Summary and Conclusion page 45:** Staff recommend the removal of the shed in the buffer area as the buffer is meant to prevent encroachment into the natural area.

    RESPONSE:

The EIS stated the residence had been fully demolished in Section 2 (page 3) with appropriate permits obtained from City of Burlington. The updated Phase I for the Site prepared by Premier (2014) and included in the EIS as Appendix B also noted the removal of the garden shed. The garden shed it also not included in the description of the Site within Section 2.0.

39. **Section 10, Summary and Conclusion page 45:** As noted previously, staff recommend that the buffer be planted to serve as a vegetation protection zone. For guidance on planting staff recommend that Conservation Halton's Landscaping and Tree Preservation Plans be referenced.

    RESPONSE:

Please refer to the detailed response included for comment #1. In addition, the EIS stated in a number of sections that only trees native to Halton Region would be planted on-Site.

40. **Appendix G:**

    Section 3.4 Screening for Species-At-Risk, page 15: This section incorrectly references Appendix E, please revise to Appendix H for the July 2015 tree inventory information.

    RESPONSE:

Some errors exist with the names of some sections of the EIS.

Section 3. Proposed Compensation for Trees Removed from Site, page 16: Please include a map indicating the location along the creek where restoration would be beneficial.

RESPONSE:

This topic is also addressed in the response to comment #1.

The EIS included several maps. The text in the EIS identified the future tree compensation area as located between the proposed development area and adjacent forest.

Section 3. Proposed Compensation for Trees Removed from Site, page 16: Please demonstrate the proponent has been granted access to plant the trees in this location.

Response:

The proponent owns the land in question and does not require permission for access. Region of Halton directed Premier during 2015 to place compensation plantings in the area owned by the proponent, downslope from the proposed development. For these reasons, the proposed planting area seems appropriate for the future tree plantings.

Section 3. Proposed Compensation for Trees Removed from Site, page 16: Conservation Halton typically recommends a tree replacement of 3:1. If CH staff previously indicated that a 1:1 compensation would be suitable, please provide this correspondence in the report.

Response:

The EIS describes the interaction leading to the recommendation for compensation planting of 1:1, in Section 2.0. Copies of relevant electronic mail were also included in Appendix C of the EIS. However, refer to the response to comment #1 where a 5:1 ratio of tree compensation is now proposed for this Site.

Section 3.6 Proposed Compensation for Trees Removed from Site: Please provide the botanical name to ensure the proper sourcing of the species. Typically Conservation Halton does not recommend the planting of locally rare species such as Swamp Oak for development purposes. Given that the Swamp Oak is proposed along the creek for restoration purposes, Conservation Halton would be supportive of planting this species if it can be sourced locally.

Response:

The EIS describes all tree species with Latin equivalents (Genus species). This syntax involves reference to a common name with Latin equivalents during first use. Then all following uses of the common name exclude the Latin equivalent. Each tree proposed for planting on-Site is native to Halton Region. In addition, the topic of planting Swamp White Oak was discussed during the August 2017 meeting on-Site. As a result of this discussion, n=5 Swamp White Oak are proposed for planting on-Site, at the lower end of the CUW, adjacent to FOD9-5.

41. **Appendix F: Tree Survey Results for Project July 2015:** Please provide a map indicating where these surveys were conducted. Please also include the methodology that was used to select these trees. The description provided in this appendix notes that the largest trees were inspected only. Although circumference of tree is one criteria for maternity roost suitability, it is not the only criteria.

    Response:

This topic is addressed in the response to comments #5 and #11. Refer to **Appendix D** for a map that shows the locations of the 29 trees inspected for cavities. Note the Shoreacres Creek Class EA (2014) also inspected this same area and did not report the presence of the large Weeping Willow or large Swamp White Oak. This approach of inspecting trees with DBH > 25 cm as candidate myotis habitat was the agreed strategy in 2015, based on communications with different groups.

42. Appendix E: Field Survey Sheets for ELC: Please provide the ELC sheets for the FOD9-1 habitat.

RESPONSE:

The ELC field sheets for FOD9-1 are no longer relevant, as this habitat was assessed by a former Premier employee and their interpretation has been proven to contain varied errors. This area was re-assessed by Dean Fitzgerald during August, 2017. As such, the updated field sheets for the ELC studies prepared during 2017 are included in **Appendix A**.

Stormwater Management (as per Schedule I)

Functional Servicing Report, 4063 Upper Middle Road, City of Burlington', dated January, 2017, prepared by S, LLewenllyn & Associates LTD.

1. Provided the proposed stormwater management strategy carried forward through the site plan application maintains discharge to the existing storm sewer on Upper Middle Road, and continues to provide enhanced quality control and minimally, post to pre quantity control, further review of the proposes stormwater management strategy is deferred

   RESPONSE:

Staff from S Llewellyn reviewed this topic directly with staff from CH and it considered resolved.

APPENDIX A:

ECOLOGICAL LAND CLASSIFICATION DATA SHEETS

floodplain forest.

Cuday

ELC COMMUNITY DESCRIPTION & CLASSIFICATION	SITE: 4063 uMP	POLYGON:	
	SURVEYORS: DF	DATE: 28 Aug 17	TIME: start 1:00 end 3:00
	UTMZ:	UTME: 0	UTMN:

POLYGON DESCRIPTION:

SYSTEM	SUBSTRATE	TOPOGRAPHIC FEATURE	HISTORY	PLANT FORM	COMMUNITY
☑ Terrestrial	☐ Organic	☐ Lacustrine	☑ Natural	☐ Plakton	☐ Lake
☐ Wetland	☑ Mineral Soil	☐ Riverine	☐ Cultural	☐ Submerged	☐ Pond
☐ Aquatic	☐ Parent Mat'l	☑ Bottomland		☐ Floating-LVD	☐ River
	☐ Acidic Bedrock	☐ Terrace		☐ Graminoid	☐ Stream
	☐ Basic Bedrock	☐ Valley Slope		☐ Forb	☐ Marsh
	☐ Carb. Bedrock	☐ Tableland		☐ Lichen	☐ Swamp
		☐ Roll Upland		☐ Bryophyte	☐ Fen
		☐ Cliff		☑ Deciduous	☐ Bog
		☐ Talus		☐ Coniferous	☐ Barren
		☐ Crevice/Cave		☐ Mixed	☐ Meadow
SITE:		☐ Alvar	**COVER:**		☐ Prairie
☐ Open Water		☐ Rockland			☐ Thicket
☐ Shallow Water		☐ Beach/Bar			☐ Savannah
☑ Surficial Dep		☐ Sand Dune	☐ Open		☐ Woodland
☐ Bedrock		☐ Bluff	☐ Shrub		☑ Forest
			☑ Treed		☐ Plantation

CARCORD
FRAPENN
PINSTRO
CARLACI
ACENEGU
ACESACC
ULMAMER
OSTVIRG

minor trees:
ACESPIC
FAGGRAN

STAND DESCRIPTION:

LAYER	HT	CVR	SPECIES IN ORDER OF DECREASING DOMINANCE (up to 4 sp) (>> Much greater than; > Greater than; = About equal to)
1 Canopy	2	4	CARCORD = FRAPENN > PINSTRO > CARLACI
2 Sub-Canopy	3	2	ACENEGU > ACESACC > ULMAMER > OSTVIRG
3 Understory	4	2	ACENEGU > ACESACC > ULMAMER
4 Grd. Layer	5	2	TOXRADI > IMPCAPE > ARCMINU > URTDIO

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

CVR CODES: 0 = None; 1 = >0 - 10%; 2 = >10 - 25%; 3 = >25 - 50%; 4 = >50%

+ some RHACATH on edge, close to CUW as understory but minor - should be removed

STAND COMPOSITION:			BA:

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

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

COMMUNITY AGE:		PIONEER		YOUNG	✓	MID-AGE		OLD GRWTH

SOIL ANALYSIS:

TEXTURE:	DEPTH TO MOTTLES/GLEY: g =	G =
MOISTURE:	DEPTH OF ORGANICS: >50	(cm)
HOMOGENOUS/VARIABLE	DEPTH TO BEDROCK: >120	(cm)

COMMUNITY CLASSIFICATION:

		ELC CODE
COMMUNITY CLASS:	FOREST	FO
COMMUNITY SERIES:	Deciduous Forest	FOD
ECOSITE:	Fresh Moist Deciduous	
VEGETATION TYPE:	B. Hemlock Hickory	FOD9-5
INCLUSION:		
COMPLEX:		

Notes:

Dominant canopy tree → CARCORD,
All ash are dead
2nd abundant live canopy tree → PINSTRO ; some ACESACC in canopy (rare)
↳ even aged w similar size of trees, due to disturb.

Dominant subcanopy → ACENEGU

Dominant understory → ACENEGU

Ground → extensive TOXRADI with patches of other key species like IMPCAPE, ARCMINU, URTDIO

no JUGNIGR in FOD but it is in CUW; FOD too wet for walnut.

ELC STAND CHARACTERISTICS	SITE: 4063 UMR
	POLYGON: flood plain forest
	DATE: 28 AUG
	SURVEYORS: DF

TREE TALLY BY SPECIES:

PRISM FACTOR: 2

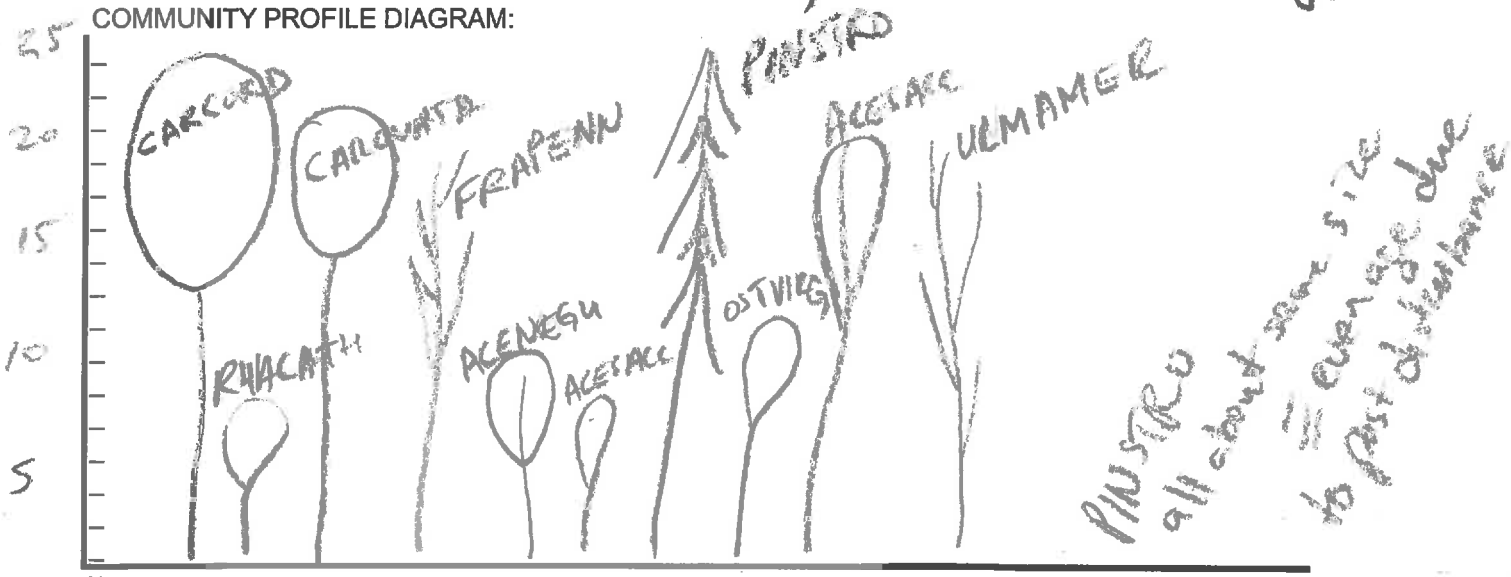
SPECIES	TALLY 1	TALLY 2	TALLY 3	TALLY 4	TALLY 5	TOTAL	REL. AVG.
CARCORD	11		1	1		4	40
FRAPENN		1		1	1	3	30
PINSTRO			11	1		3	30
CARGLABA					1	1	10
ACESACC		1				1	10
TOTAL	2	2	2	3	3	11	100
BASAL AREA (BA)	4	2	3	4	2	15	
DEAD		1		1	1	3	

no JUGNIG in FOD but in CUW too wet in FOD for walnut

STAND COMPOSITION:

All ash and elm dead; hickory most common tree type

COMMUNITY PROFILE DIAGRAM:



Notes:

understory dominated by TOXRADI with patches of IMPCAPE, ARCMINU, URT DIOI

* some RHACATH on edge of FOD, at ecotone with CUW.
* couple FAGGRAN in area but rare and small
* ACENEGU near edge of FOD, at ecotone w CUW

APPENDIX B:

LIST OF NATIVE TREES PROPOSED FOR PLANTING ON-SITE

Appendix B: Overview of Proposed Compensation Tree Planting

A summary is provided that reviews the tree species proposed for planting on-Site, as compensation of the 22 tree specimens with DBH > 10 cm proposed for removal (or removed to date). This proposal includes the provision to compensate for the removed trees with a ratio that exceeds 5:1, thereby adding 120 trees on-Site. These future trees are proposed for planting in three areas: 1) within the CUW, adjacent to the floodplain forest, identified as FOD9-5, 2) within 15 m of the tree drip line, and 3) beyond 15 m from the tree drip line. Please refer to **Appendix C** for a detailed description of plants proposed for planting beyond the tree drip line. Thus, a total of 120 trees are proposed for planting to compensate for the loss of 25 trees.

Trees proposed for planting in the CUW will use 'whip stock' minimally 0.5 m tall, as follows:

Bitternut Hickory (*Carya cordiformis*): 20 specimens
Shagbark Hickory (*Carya ovata*): 15 specimens
Bur Oak (*Quercus macrocarpa*): 10 specimens
Red Oak (*Quercus rubra*): 10 specimens
Swamp White Oak (*Quercus bicolor*)*; 5 specimens
Red Maple (*Acer rubrum*): 10 specimens
Black Cherry (*Prunus serotina*): 10 specimens
Eastern White Pine (*Pinus strobus*): 15 specimens
Eastern White Cedar (*Thuja occidentalis*): 10 specimens
Total trees to be planted in CUW: 105;
*CH suggested the Swamp White Oak should be placed at the lowest end of the CUW

Trees proposed for planting on-Site within 15 m of the tree drip line with proposed heights noted (full details provided by Reynolds and Associates, in Appendix B), as follows:

Silver Maple (*Acer saccharinum*): 3.65 m – 1 specimen
Shagbark Hickory: 3.65 m – 1 specimen
Bur Oak: 3.65 m – 1 specimen
American Basswood (*Tilia americana*): 3.65 m – 1 specimen
White Spruce (*Picea glauca*): 1.825 m – 1 specimen
White Spruce: 1.5 m – 1 specimen
White Spruce: 1.22 m – 1 specimen
Eastern White Cedar: 1.5 m – 1 specimen
Downy Serviceberry (*Amelanchier arborea*): 0.6 m – 1 specimen
Alternate-leaf Dogwood (*Cornus alternifolia*): 0.6 m – 1 specimen
Red-ossier Dogwood (*Cornus sericea*): 0.6 m: – 1 specimen
Choke Cherry (*Prunus virginiana*): 0.6 m: – 1 specimen
Total trees to be planted within 15 m of tree drip line: 12

Trees proposed for planting on-Site beyond 15 m of the tree drip line with heights noted (full details in Appendix B), as follows:

Freeman's Maple (*Acer freemanii*): 4.5 m – 1 specimen
Honey Locust (*Gleditsia triacanthos*): 4.5 m – 1 specimen
Bur Oak: 4.6 m – 1 specimen
Total trees to be planted beyond 15 m of tree drip line: 3

APPENDIX C:

PLANT MATERIAL PROPOSED FOR PLANTING BY REYNOLDS AND ASSOCIATES

PLANT LIST (NATIVE MATERIAL PLANTED WITHIN 15M OF CONSERVATION LANDS)

KEY	BOTANICAL NAME	COMMON NAME	HEIGHT	SPREAD	CALIPER	ROOT	REMARKS
AsA	Acer saccharinum	Silver Maple	3650		50	W.B.	FULL FORM
							.
CaO	Carya ovata	Shagbark Hickory	3650		50	W.B.	FULL FORM
							.
QmB	Quercus macrocarpa	Bur Oak	3650		50	W.B.	FULL FORM
							.
TiA	Tilla Americana	American Basswood	3650		50	W.B.	FULL FORM
							.
							FULL FORM
							.
Pg1	Picea glauca	White Spruce	1825			W.B.	FULL FORM
							.
Pg2	Picea glauca	White Spruce	1500			W.B.	FULL FORM
							.
Pg3	Picea glauca	White Spruce	1220			W.B.	FULL FORM
							.
ToW	Thuja occidentalis	Easten White Cedar	1500			Potted	FULL FORM
							.
							FULL FORM
							.
AmA	Amelanchier arborea	Downy Serviceberry	600	450		Potted	FULL FORM
							.
CaL	Cornnus alternifolia	Alternate-Leaf Dogwood	600	450		Potted	FULL FORM
							.
CoS	Cornnus stolonifera	Red Osier Dogwood	600	450		Potted	FULL FORM
							.
PrV	Prunus virginiana	Choke Cherry	600	450		POTTED	FULL FORM
							.
SaC	Sambucus canadensis	Elderberry	600	450		Potted	FULL FORM
							.

PLANT LIST (MATERIAL PLANTED MIN. OF 15M BEYOND CONSERVATION LANDS)

KEY	BOTANICAL NAME	COMMON NAME	HEIGHT	SPREAD	CALIPER	ROOT	REMARKS
AfJ	Acer freemanii	Autumn Blaze Maple	4500		65	W.B.	FULL FORM
	' Jeffersred '						.
11 Gth	Gleditsia triacanthos inermis	Shademaster Honey-locust	4500			W.B.	FULL FORM
	"Shademaster"						.
QmB	Quercus macrocarpa	Bur Oak	4600		65	W.B.	FULL FORM
							.
Srl	Syringa reticulata	Ivory Silk Lilac	3650		50	W.B.	FULL FORM
	' Ivory Silk '						.
							FULL FORM
							.
Pp1	Picea pungens	Colorado Spruce	3000			W.B.	FULL FORM
							.
Pp2	Picea pungens	Colorado Spruce	2440			W.B.	FULL FORM
							.
Pp3	Picea pungens	Colorado Spruce	1825			W.B.	FULL FORM
							.
							FULL FORM
							.
KgG	Kerria japonica	Golden Guinea Kerria	750	500		Potted	FULL FORM
	' Golden Guinea '						.
Pr	Prunus cistena	Purpleleaf Sandcherry	900	600		Potted	FULL FORM
							.
PfG	Potentilla fruticosa	Goldstar Cinquefoil	600	450		POTTED	FULL FORM
	' Goldstar '						.
SgM	Spiraea bumalda	Gold Mound Spirea	600	450		POTTED	FULL FORM
	' Gold Mound '						.
							FULL FORM
							.
JpN	Juniperus procumbens	Japanese garden juniper		500		POTTED	FULL FORM
	' Nana '						.
							FULL FORM
							.
Ca	Calamagrostis acutiflora	Feather Reed Grass				POTTED	FULL FORM
	' Karl Foerster '						.
PaH	Pennisetum alopecuroides	Dwarf Fountain Grass				POTTED	FULL FORM
	' Hameln '						.
HmA	Hakonechloa macra	Japanese forest Grass				POTTED	FULL FORM
	' Aureola '						.

APPENDIX D:

MAP WITH LOCATIONS OF TREES INSPECTED FOR CANDIDATE MYOTIS HABITAT

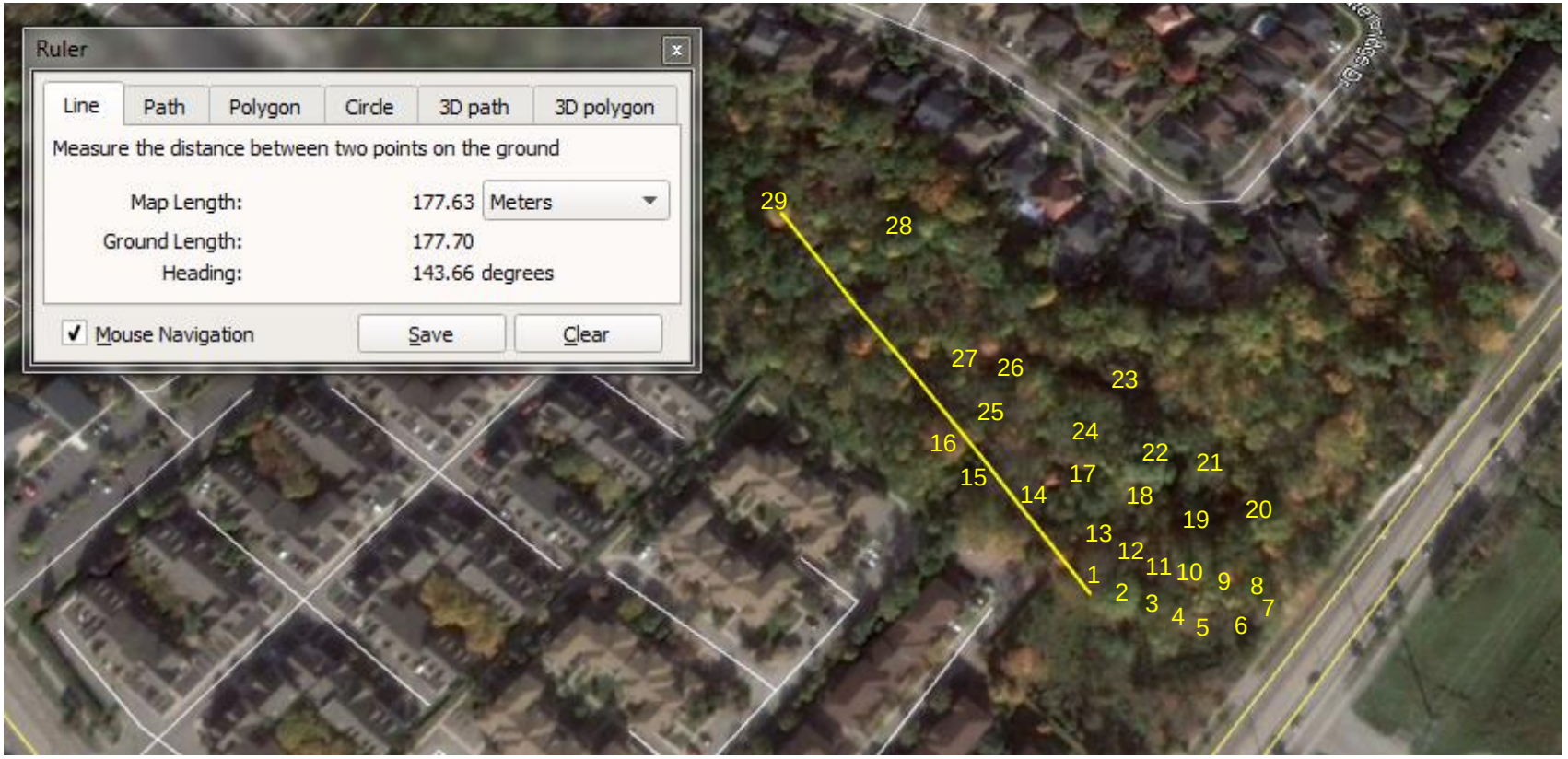


Figure 1: View of the distribution of 29 trees with DBH > 25 cm inspected for cavities, representing candidate myotis habitat. The largest tree was a Weeping Willow (#29), located about 177 m from the top of bank (distance marked with yellow line). The second largest tree was a Swamp White Oak (#28) located about 159 m from the top of bank. All other trees were located in the area were included within 120 m of the top of bank.

APPENDIX E:

MARSH MONITORING PROTOCOL DATA SHEETS FOR AMPHIBIAN SURVEYS

Table 1: Amphibian survey results using MMP for Site on May 2. Rain observed during previous 24 h (> 1 mm).

Zero - light wind
Arrival ~9.45 → 10:50

T°C start ~13°C
T°C end ~11°C

Station Number	Listening times Amphibian Calling Activity		Other notes
	1	2	
1 (South)	9:50 → 9:54 Ø	9:53 – 10:01 Ø	Light traffic; little residual noise
2 (North)	10:05 – 10:09 Ø	10:10 – 10:13 Ø	Little to zero noise from adjacent complex
Other	10:20 – 10:35 Sat in middle of site for ~15 minutes and just observed		No wild life, no amphibian calls

→ not much action
→ wind was not a factor, as it was generally quiet

Table 2: Amphibian survey results using MMP for Site on May 9. Rain observed during previous 24 h (> 1 mm).

Some light winds
Arrival @ 9:30 Departed @ 10:45 T°C start ~9C
T°C end ~7C

Station Number	Listening times			Other notes
	1	2	3	
1 (South)	10:35 - 10:39 1GF	10:42 - 10:45 0		light traffic low noise from road
2 (North)	10:58 - 11:02 0	11:05 - 11:08 0		zero noise from apartment complex
Other	10:10 - 10:25 Sat in middle of site for ~15 mins No amphibian calls; no wildlife			

→ one GF heard calling from Flood Plain Forest
- no action on building side
- wind/rain not a factor, as noise was low.
- spoke to person walking brown dog about land development.

Table 3: Amphibian survey results using MMP for Site on May 27. Rain observed during previous 24 h (> 1 mm).

Arrived at 9:45, departed at 11:00
light rain not loud - perhaps ideal for this survey
wind mostly light but sometimes absent
T°C @ start 15 T°C @ end 12

Station Number	Listening times			Other notes
	1	2	3	
1 (South)	9:50 - 9:53 1GF	9:55 - 9:59 1GF	10:03 - 10:06 Ø	low traffic with splashes from water on roadway
2 (North)	10:10 - 10:12 Ø	10:15 - 10:18 Ø		zero noise from land developed next door
Other	10:20 to 10:35 Sat in middle of site for 15 minutes no amphibian calls, no wildlife observed			

- one GF heard on south side, near edge of flood plain forest
- otherwise quiet
- wind rain not a problem for background noise.

Table 4: Amphibian survey results using MMP for Site on June 14. Rain observed during previous 24 h (> 1 mm).

Arrived at 10:00; departed at 11:00
T °C at start – 20; T °C at end 17.
light winds; rain last night.

Station Number	Listening times			Other notes
	1	2	3	
1 (South)	10:03 – 10:06 3 - 3GF	10:09 – 10:13 3 - 4GF	10:15 – 10:19 3 - 3GF	lower steady hum of traffic but not loud
2 (North)	10:22 – 10:25 0	10:28 – 10:31 0		zero residual noise from neighbour's apartments
Other	10:35 – 10:50 sat in middle of site for ~15 minutes no amphibian calls; no wildlife observed			

- multiple GF heard calling from floodplain forest
- north side of site to no amphibian calls
- wind rain not a problem for noise
- striped skunk observed near fence line as I was leaving
  - seemed to be attracted to adjacent garbage can on other side of wooden fence.