Michalski Nielsen
ASSOCIATES LIMITED

March 30, 2023 (updated August 15, 2024)

Nick Pileggi, MCIP, RPP
Principal
Macaulay Shiomi Howson Ltd.
600 Annette Street
Toronto, Ontario M6S 2C4

Re: Response to Peer Review of Environmental Impact Study Addendum – Hanley Park North Subdivision; Our File 3217

Dear Mr. Pileggi:

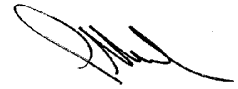
Michalski Nielsen Associates Limited, working in conjunction with Palmer, is pleased to provide you with our response to a peer review of our Environmental Impact Study (EIS) Addendum for the Hanley Park North Subdivision in Belleville. That peer review was prepared by Dillon Consulting on September 7, 2022. The peer review comments were provided in a matrix format, which we have also used in our attached response (**Table 1**). Also included as **Appendix A** is our screening for Significant Wildlife Habitat (SWH), in satisfaction of one of the requests of the peer reviewer.

Please note that our response to this peer review was originally provided on March 30, 2023, however we understand that there have been some process delays relating to project approvals, with the City of Belleville having recently requested that our peer review response be re-issued, ensuring all of our responses are reflective of up-to-date information and the current regulatory framework; we have carefully reviewed our original responses in the attached peer review response matrix and **Appendix A**, with all such information remaining accurate. We note that consultation with MECP regarding the *Endangered Species Act* is ongoing, however as is typical for such projects, that agency's final sign-off is unlikely to occur until the municipality and proponent have finalized all project details, including the final layout, so is appropriately addressed as a condition of draft approval.

I trust this response fully addresses the peer review comments and meets with the City of Belleville's requirements. Please do not hesitate to contact me should you have any questions or comments.

Yours truly,

MICHALSKI NIELSEN ASSOCIATES LIMITED
Per:



Gord Nielsen, M.Sc.
Ecologist
President

Table 1. Peer Review Response Matrix.

Item #	Addendum to EIS Report Page	Comment Category	Applicable Legislation / Regulations / Policies / Guidance Documents	Comment	Proponent Response
1	Page 2	Introduction	Natural Heritage Reference Manual (MNR, 2010) (NHRM)	The Addendum to EIS Report (the "report") states that *"Our analyses which follows is scientifically based and conforms to Evaluation Criteria for Determining Significance of Woodlands set out in the Natural Heritage Reference Manual for Natural Heritage Policies of the Provincial Policy Statement..."* The PRC is in agreement that in absence of local criteria (i.e. set out in local municipal Official Plans) the NHRM is the correct criteria to apply. While the PRC agrees with the descriptions of the ELC communities and the determination that FOMM4-2 community is low in diversity and specific habitat function (based on one high-level site visit in July 2022, during which specific delineation or staking of features or communities was not completed), the PRC disagrees with the application of the evaluation criteria as you cannot consider a woodland in sub-units unless there are breaks of greater than 20 m in the canopy (e.g. highway, etc.). This is outlined in Table 7-2 on page 68 of the in the NHRM; *"Woodland areas are considered to be generally continuous even if intersected by narrow gaps 20 m or less in width between crown edges."* Since the entire woodland meets the PPS definition, and the Forestry Act definition of a woodland, the whole area must be included in the delineation of the Significant Woodland. This reflects the comments provided by Quinte Conservation (QC) in May, 2022. PPS: *Woodlands: means treed areas that provide environmental and economic benefits to both the private landowner and the general public, such as erosion prevention, hydrological and nutrient cycling, provision of clean air and the long-term storage of carbon, provision of wildlife habitat, outdoor recreational opportunities, and the sustainable harvest of a wide range of woodland products. Woodlands include treed areas, woodlots or forested areas and vary in their level of significance at the local, regional and provincial levels.* Forestry Act: *Under the Forestry Act, "woodlands" means land with at least:* • *1,000 trees of any size per hectare; or* • *750 trees measuring over 5 centimetres in diameter, per hectare; or* • *500 trees measuring over 12 centimetres in diameter, per hectare; or* • *250 trees measuring over 20 centimetres in diameter, per hectare* *but does not include a cultivated fruit or nut orchard or a plantation established for the purpose of producing Christmas trees* More comments on this below.	Our addendum did acknowledge through a review of the NHRM criteria that yes, technically all of the forest would be considered SIGNIFICANT. Section 2.1.5 and 2.1.8 of the PPS indicates development within lands considered significant woodland is possible, with demonstration "*that there will be no negative impacts on the natural features or their ecological functions*". As per the PPS, the following definition of "negative impacts" would apply in this situation: *d) in regard to other natural heritage features and areas, degradation that threatens the health and integrity of the natural features or ecological functions for which an area is identified due to single, multiple or successive development or site alteration activities.* This definition is permissive and allows for carefully planned development which encroaches into woodland areas while protecting their ecological functions. Based on the PPS' allowance for development within Significant Woodlands through a no negative impact assessment, we considered the approach that made the most ecological sense was to assess each forest community individually. With acknowledgement that the entire forested portion would be considered significant, this approach allowed for the protection of communities to be prioritized based on their ecological functions and quality. This is an approach which is appropriate in demonstrating conformity with the PPS, and has been used by us on other occasions. By updating the site plan to ensure a relatively small development footprint on these lands, and one which protects the identified higher priority (or more significant) communities, it has been demonstrated that the proposed development minimizes the potential for negative ecological impacts. Such impacts are further reduced through the proposed mitigation strategy.

Table 1. Peer Review Response Matrix.

2	Page 3	Approach to Re-evaluating Revised Hanley Park North Draft Plan of Subdivision	Significant Wildlife Habitat Criteria Schedules for Ecoregion 6E (MNRF, 2015)	It is mentioned that one Wood Thrush was observed, which would not be an indicator of breeding in itself, but nonetheless, it was noted within the FOMM5-2 community which is preferable habitat for the species and is being protected. The term "area-sensitive species" is also used in this section. Something that is missing from the report as well as the original EIS, is a fulsome screening and discussion on Significant Wildlife Habitat (SWH). The original EIS quotes the correct guidance document for SWH (the Ecoregion Criteria Schedules) but states that a SWH analysis was not undertaken, given that the only significant feature is the PSW, which is not the case. There could be several other significant natural heritage features including SWH (and the Significant Woodland). Significant Wildlife Habitat is not evaluated by the MNRF and must be assessed for each individual development application by proponents. The discussion is highly focused on the tablelands in which the development is proposed. While the FOMM4-2 community is unlikely to provide direct SWH based on current composition, the evaluation should consider adjacent impacts to the PSW. For example, amphibian breeding surveys were conducted in accordance with the appropriate protocols, however there is no discussion of the results. Based on the results, the PSW provides SWH for Amphibian Breeding Habitat (wetland) as there were 2 or more indicator species (American Toad and Western Chorus Frog) with greater than 20 individuals noted, or call codes of 3. The presence of SWH adjacent to the development may not necessarily change anything in in terms of planning of the subdivision (although some could); however they are important to tell the whole story of the property and the adjacent uses and help to determine impacts and appropriate mitigation measures for development. The PRC understands that no specific survey work was done within the PSW which makes sense in this scenario, however a quick screening of the Criteria Schedules would suggest that the following habitats (at a minimum) should be considered as Candidate SWH based on the nature of the PSW and the species noted in the wetland evaluation and through on-site observations: • Turtle Wintering • Waterfowl Nesting Area • Turtle Nesting Area • Marsh Bird Breeding Habitat Note that for Waterfowl Nesting Areas, the habitat includes a radius of 120 m from a wetland. An analysis of whether the 120 m buffer would be required in this case should be undertaken. The PRC agrees with the conclusions regarding bat habitat based on the July 2022 site visit. As bats have been listed as SAR since the issuance of these guidelines, they are discussed below.	The Natural Heritage Policies of the Provincial Policy Statement [Subsection 2.1.4 d)] identify four principal components of SWH as described in the *Significant Wildlife Habitat Technical Guide* (MNRF, 2000), including: a) Seasonal Concentration Areas of Animals; b) Rare Vegetation Communities or Specialized Habitat for Wildlife; c) Animal Movement Corridors; and, d) Habitats for Species of Conservation Concern. Criteria for the identification of these features provided in the *Significant Wildlife Habitat Criteria Schedules for Ecoregion 6E* (MNRF, 2015) were used to screen wildlife habitat within the study area for potential SWH. As per the attached screening assessment, the following SWH (candidate and confirmed) have been identified in specific association with the adjacent Bell Creek PSW: **Seasonal Concentration Areas of Animals** Waterfowl Stopover and Staging Area (Aquatic) Turtle Wintering Area Colonially-nesting Bird Breeding Habitat (Tree/Shrubs) **Specialized Habitat for Wildlife** Waterfowl Nesting Area (includes 120 m from wetland) Turtle Nesting Area Amphibian Breeding Habitat (Wetlands) **Habitat of Species of Conservation concern** Marsh Bird Breeding Habitat Special Concern and Rare Wildlife Species (Snapping Turtle) **Animal Movement Corridor** Amphibians The measures recommended within the EIS, Addendum and this response matrix are intended to mitigate impacts to the Bell Creek PSW Furthermore, the following Special Concern species were identified as being associated with the forest communities on the subject property: Wood Thrush and Eastern Wood-pewee. No other types of SWH were identified in association with these woodlands. By preserving those areas of woodland (and treed wetland) providing the best habitat opportunities for these two bird species, there are no concerns that habitat opportunities for them will not continue to be present and remain viable subsequent to the proposed development.

Table 1. Peer Review Response Matrix.

3	Page 3	Approach to Re-evaluating Revised Hanley Park North Draft Plan of Subdivision	Endangered Species Act, 2007 (ESA)	The PRC agrees that FOMM4-2 community provides little to no habitat for SAR bats or SWH. Based on the lack of suitable habitat for bats within the area proposed for development, recommendations for installation of bat boxes appears to be a suitable mitigation measure to prevent impacts to the species, however it is recommended that the number of boxes/ approach be confirmed with MECP. Understanding that the ESA, 2007 is a proponent driven piece of legislation, consultation with the MECP is being recommended based on the occurrences of Least Bittern in the PSW. Acknowledging Least Bitterns do not have a General Habitat Description under the ESA, they typically require a buffer of 100 m from the wetland habitat in which they reside. There could be flexibility in this depending on existing conditions, however the approach should be confirmed with MECP. In addition, specialized mitigation may be required/ recommended which could include limiting backlot lighting (timers, angles, etc.) into the wetland which is a disruptor to Least Bittern habitat. It should be noted that these types of measures are recommended regardless of whether Least Bittern are present as a measure to reduce disturbance to the wildlife using the wetland including amphibians, which is a confirmed SWH. MECP consultation is also recommended based on the potential presence of Blanding's Turtle. The PRC acknowledges that no Blanding's Turtle occurrences appeared in the NHIC squares, however, there are records of Blanding's Turtles in the vicinity of the property (NHIC squares to the east, west, south and north), and based on their habitat description, their habitat includes wetlands within 2 km of occurrences (plus buffers).	In Ecoregion 6E, Significant Wildlife Habitat (SWH) for Bat Maternity Colonies is considered as "Mature deciduous and mixed forests with >10/ha cavity trees >25 cm DBH". The total area of the FOMM4-2 forest community proposed for removal to accommodate the current proposed development is 5.67 ha. As described within the EIS Addendum, the FOMM4-2 community supports a canopy almost entirely dominated by Red Cedar (*Juniperus virginiana*), expected to have been planted in the 1950s. The typical size range of trees are between 15 centimetres (cm) and 25 cm Diameter at Breast Height (DBH), with the exception of a few mature Bur Oaks (>40 cm DBH), which we assume were planted as part of original restoration following agricultural use. Based on these conditions, it is not expected that the community supports a snag density high enough to be considered SWH (as identified within the SWH Screening prepared in response to Comment 2, above); however, in an attempt to be conservative and to ensure that more than sufficient mitigation for potential roosting bats is being implemented, we propose the following approach: • Assume that the FOMM4-2 community provides at least 8 suitable cavity trees per hectare (10 trees/ha is considered SWH, and as stated this community is note considered as providing conditions suitable for a SWH consideration). • Assuming 8 suitable cavity trees per hectare, and a total forest area to be removed of 5.67 ha = estimated total of 45 cavity trees to be removed. • For every six cavity trees to be removed, we proposed installation of a single 4-chambered bat box. Based on this approach, a total of 8 bat boxes should be installed in order to compensate for the assumed removal of 45 cavity trees. Bat boxes are to be installed on either the trunks of mature trees or on poles, all at a height of 15' or higher (at top of box). Bat boxes are to generally be oriented to have some exposure to sun from the south. A biologist will oversee the implementation of these bat boxes, with every effort made to install all or a majority of bat boxes prior to April 15 of the season immediately following tree removals, such that an alternate habitat is available for any bats returning to the site that spring. In addition to tree removals being in compliance with sensitive timing windows associated with roosting bats, the above described approach is considered an appropriate method for mitigating the loss of potential SAR bat habitat. Also, this approach is also considered a way to demonstrate positive stewardship initiatives. In addition, we recommend providing site-specific SAR sensitivity training to all contractors before they commence any clearing, grubbing, grading, servicing and other heavy construction activities on the lands. Training should focus on those SAR which they might potentially encounter, dependent on the nature and seasonality of the work they are undertaking. Consultation with MECP has been already commenced to address SAR concerns for species within the PSW.

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4	Page 4-6	Determination of Woodland Significance (1-2)	NHRM City of Belleville Official Plan (OP)	Based on one site visit in July 2022, determinations made by the PRC regarding the composition and function of the FOMM4-2 community appear to be consistent with the Addendum to the EIS report. However, as mentioned above, a woodland can't be broken down into specific communities to apply the evaluation criteria, but must be considered as a whole woodland, as per the Forestry Act definition. Using the 5-15% threshold is a conservative way to approach the evaluation (and is a good practice in scenarios where tree cover varies across a geographic area), but should be in consideration of the entire feature. The Addendum to the EIS does include detailed evaluation of each of the criteria, which is great, however not at the correct scale. It is acknowledged in 2. Ecological Criteria that based on interior habitat alone, that woodland (community) would be considered significant (i.e. the entire woodland would be significant and almost the entire woodland interior within the property is located within that community). Furthermore, excluding something on the basis of it being too small is contradictory when the NHRM states that size should not be considered solely and even meeting one of the other criteria may make a woodland significant. Similarly, the proximity metric cannot be applied here as this is referring to woodland patches, or woodlands within proximity of other features. For example if there was a smaller woodland not directly connected, but within 30 m of a wetland or watercourse, it could be considered significant. This can't be applied at the community level. Lastly linkage functions include movement corridors, dispersal corridors etc. connecting features to features, a buffer of existing woodland cannot be considered as a linkage. This would be considered retaining some part of a linkage. By definition, if the FOMM4-2 community was considered as a stand-alone, this would be considered Significant Woodland based on both the proximity and linkage criteria. In terms of diversity, the report states *"more native diversity is more valuable than less diversity, which we think is key to discriminating between the two wooded areas."* The PRC recommends that the detailed analysis of this FOMM4-2 community be used together with section 3.5.5 of the City's OP to provide evidence for or against retaining that portion of the Significant Woodland, rather than to exclude it from the Significant Woodland designation. As per the PPS, Significant Woodland can be removed where you can demonstrate no negative impacts to the overall feature. Section 3.5.5 of the City OP includes a description of the Significant Woodlands that would warrant an Environmental Protection designation, and therefore protection.	As detailed above within our response to Comment #1, we acknowledge that the entire area would be considered significant based on the criteria of the Natural Heritage Reference Manual. However, Section 2.1.5 and 2.1.8 of the PPS allows for development within and adjacent to such habitat, with an assessment of impacts and demonstration that ecological functions will be protected. The approach that we deemed most appropriate in achieving this was to determine which forest communities provide the most significant ecological functions, and to have a relatively small development footprint which ensures the preservation of considerable forested lands, including those areas deemed most sensitive.
5	Page 7	Revised Draft Plan of Subdivision	Provincial Policy Statement, 2020 (PPS) City OP Section 3.5.6	In this section, the report states that "*there will be no negative impacts on the PSW from the revised proposal; more specifically, there will be no site alteration or development within the feature, and all of its functions will be more than adequately protected by a 30 m buffer, which will virtually encompass the entire property. The same can be said of ELC unit FOMM5-2…"* It's a little confusing as to why this statement has changed from the original EIS that indicated there would be unavoidable impacts to features as a result of development. The justification for the 30 m PSW buffers and the removal of the FOMM4-2 community in the remainder of this section are well laid out and explained, however the buffer alone is not going to mitigate potential impacts. The buffer should be considered as part of an overall mitigation plan in addition to other detailed mitigation measures specific to surface flow, wildlife, the woodland and the wetland. Several mitigation measures would need to be implemented and maintained in order to avoid potential negative impacts to the surrounding woodland and PSW. These could include, but are not limited to, installation of erosion and sediment control (ESC) measures (through an ESC plan), wildlife exclusions fencing, timing ofvegetation removal, installation of lighting, etc. Overall, there needs to be a more fulsome discussion on potential impacts and mitigation measures,	To clarify, there have been improvements to the development proposal, including those in relation to the development footprint, which **minimize** the potential for adverse impacts on the wetland. Stormwater management measures are summarized within Section 6.3.3 of the EIS. Such measures include Level 1 treatment and quality control of stormwater entering the adjacent PSW. It is further noted that Level 1 treatment is considered MECP's "*highest degree of protection".* All measures are further detailed within the study entitled *Servicing Report – Hanley Park North Residential Subdivision* (2019) prepared by Ainley Graham & Associates. The main measure detailed within the EIS related to management of SW quality within the southern parcel of the Hanley Park subdivision involved construction of a wet pond; storm sewers will convey stormwater towards the pond. In addition to the approaches already detailed in the EIS, other measures that will be incorporated to further ensure both quality of stormwater to the PSW are to include the following:

Table 1. Peer Review Response Matrix.

				specific to woodland and PSW features. Some of these will be confirmed through detailed design of the project, but in general, more specific impacts such as changes to impervious cover, colonization of invasive species, anthropogenic disturbances, removal of trees, and disturbance to SAR and SWH should be specifically outlined. This requirement is outlined as part of the City's EIS requirements in section 3.5.6 of the OP. This should include a discussion on the hydrology of the PSW that can be pulled from other consultant report (e.g. hydrogeology study). In addition, it is recommended that detailed ESC plans, and Edge Management Plan and an Environmental Monitoring Plan (EMP) (at minimum) be created for the development. Due to the sensitivity of the wetland habitat, and EMP would be recommended to include pre-construction wildlife and vegetation surveys within and adjacent to the PSW to establish monitoring points and gather baseline data, and a multi-year post-construction surveys to monitor for changes in wildlife and vegetation communities as a result of the development.	• At the onset of grubbing, and prior to any other earthworks, a heavy-duty silt fence is to be properly installed around the downgradient perimeter of all such works. Sediment fence is to consist of a minimum 4' high heavy duty filter fabric cloth, supported by page wire affixed to t-bars. The sediment fence is to be properly trenched into the ground, with clear stone used to bury the bottom of the fencing where rock does not allow for such trenching. A qualified individual is to provide certification that the silt fencing has been properly installed. It is noted that by installing sediment fence in this manner, it will also serve as at least a partial barrier against the entry of species such as turtles from the adjacent PSW into the work area; sediment and erosion controls are to be inspected daily by the contractor, and at least monthly by qualified members of the project team. Any deficiencies in these controls are to be remedied immediately. • Once an area has been grubbed, works are to progress as quickly as possible, with all disturbed areas to be stabilized by grading, then by seeding or sodding, as soon as can be practically achieved. • Sediment and erosion controls are to be left in place and regularly monitored and repaired until such time as the lands which have been disturbed are certified by a qualified individual as being stable. • Grading of the rear portions of the lots backing on to the wetland such that they promote sheet flow, with the retention of a vegetated filter strip at the rear of these lots to provide attenuation and polishing benefits for such clean runoff. We agree with the peer reviewer that it is very important that this development be implemented with care. The creation of detailed ESC plans and an edge management plan are important to that objective, as are having protocols in place for environmental inspection and monitoring during construction. Creating stewardship materials for property owners is also important in fostering better awareness and long-term protection of the adjacent environmental features. These are details that are most appropriately addressed at the detailed design stage, as a condition of draft approval. While the focus of environmental inspection and monitoring should be in ensuring plans are carried out with the necessary care to protect the adjacent natural features, we agree that monitoring efforts could include some targeted longer-term monitoring to demonstrate the protection of both environmental features and their ecological functions; the details of any such longer-term monitoring will need to be informed through our ongoing consultation with MECP on this project.
6	Page 10-11	Revised Draft Plan of Subdivision	Best Practices	In terms of the recreational trail/ pathway, should the City and QC approve, it would be recommended that the buffer width increase to accommodate the pathway. This is a practice implemented in many other geographies across Ontario where recreational trails are located.	This comment is pertinent to the final design of the project, so is most appropriately addressed as a condition of draft approval. In general terms, we have always promoted the creation of narrower and permeable pedestrian trails within ecological buffers. These trails can be installed in a manner that locates them in areas of lowest sensitivity, takes advantage of good grades and avoiding removal of larger trees. The ecological benefits of smaller, properly thought-out trails (i.e., encouraging better stewardship, avoiding ad-hoc trails) can significantly outweigh their potential adverse impacts on buffer functions. We agree that buffer widths are appropriately increased in situations where planning authorities require wider or impermeable trails, or trails requiring grading works, for safety or accessibility purposes.

APPENDIX A SIGNIFICANT WILDLIFE HABITAT SCREENING

SWH Type	Associated Species	Associated ELC Ecosites	Habitat Criteria	Presence (Y/N)	Additional Notes and Species Observations
Seasonal Concentration Areas of Animals					
Waterfowl Stopover and Staging Areas (Terrestrial)	Ducks	CUM + CUT ecosites	Fields with sheet-water flooding mid-March to May	N	No associated ELC ecosites present
Waterfowl Stopover and Staging Area (Aquatic)	Ducks, Geese	Ponds, Lakes, Inlets, Marshes, Swamps, Shallow Water Ecosites	Sewage & SWM ponds **not** SWH. Reservoir managed as a large wetland or pond/lake qualifies.	Y (candidate)	The Bell Creek PSW supports shallow marsh communities that may be considered candidate for this SWH type.
Shorebird Migratory Stopover Area	Shorebirds	Beaches, Dunes, Meadow Marshes	Shorelines. Sewage treatment ponds and storm water ponds **not** SWH.	N	The Bell Creek PSW does not support suitable meadow marsh communities.
Raptor Wintering Area	Eagles, Hawks, Owls	**Hawks/Owls:** Combination of both Forest and Cultural Ecosites **Bald Eagle:** Forest or swamp near open water (hunting ground)	**Raptors:** >20ha, with a combo of forest and upland. Meadow (>15ha) with adjacent woodlands. **Eagles:** open water, large trees & snags for roosting.	N	The on-site forest communities do not provide suitable size and combination with upland meadow to deem suitable for SWH.
Bat Hibernacula	Big Brown Bat, Tri-coloured Bat	Caves, Crevices, mines, karsts	Buildings and active mine sites **not** SWH.	N	No suitable habitat features for hibernacula use were identified on the subject property.
Bat Maternity Colonies	Big Brown Bat, Silver-haired Bat	Decidious or mixed forests and swamps.	Mature deciduous and mixed forests with >10/ha cavity trees >25 cm DBH.	N (but mitigation reccomended)	Although the forested communities on the subject property are not considered to be suitable for SWH (based on age/size and species composition), measures have been reccomended based on conservative assumptions of snag density in order to provide mitigation to potential present bat roosting habitat. Such measures include installation of bat boxes and tree removals in compliance with sensitive timing windows.
Turtle Wintering Area	**Turtles** (Midland, N. Map, Snapping)	SW, MA, OA, SA, FEO, BOO (requires open waters)	**Free water beneath ice.** Soft mud substrate. Permanent water bodies, large wetlands, bogs, fens with adequate DO.	Y (candidate)	Suitable vegetation communities are present within the PSW.

SWH Type	Associated Species	Associated ELC Ecosites	Habitat Criteria	Presence (Y/N)	Additional Notes and Species Observations
Reptile Hibernaculum	Snakes	**Snakes:** Any ecosite (esp. w/ rocky areas), other than very wet ones. **Five-lined Skink:** FOD and FOM, FOC1, FOC3 - with rock outcrops	**Access below frost line:** burrows; **rock** crevices, piles or slopes, **stone** fences or foundations. Conifer/shrubby swamps/swales, poor fens, depressions in bedrock w/ accumulations of sphagnum moss or sedge hummock ground cover.	N	No suitable habitat features identified.
Colonially-nesting Bird Breeding Habitat (Bank and Cliff)	Cliff Swallow, N. Rough-winged Swallow	Banks, sandy hills/piles, pits, slopes, cliff faces, bridge abutments, silos, barns.	Exposed soil banks, **not** a licensed/permitted aggregate area or new man-made features (2 yrs).	N	No suitable habitat features identified.
Colonially-nesting Bird Breeding Habitat (Tree/Shrubs)	Great Blue Heron, Black-crowned NightHeron, Great Egret, Green Heron	SWM2, SWM3, SWM5, SWM6, SWD1 to SWD7, FET1	Nests in live or dead standing trees in wetlands, lakes, islands and peninsulas. Shrubs and emergents may be used. Nests in trees are 11 - 15 m from ground, near tree tops.	Y (candidate)	The PSW adjacent to the southern property limits was described in the EIS as supporting areas of Green Ash swamp (SWD) with abundant understory cover. As such, the PSW may have potential to support this SWH.
Colonially-nesting Bird Breeding Habitat (Ground)	Herring Gull, Great Black-backed Gull, Little Gull, Ring-billed Gull, Common Tern, Caspian Tern, Brewer's Blackbird	**Gulls/Terns:** Rocky island or peninsula in lake or river. **Brewer's Blackbird:** close to watercourses in open fields or pastures with scattered trees or shrubs.	**Gulls/Terns:** islands or peninsulas with open water or marshy areas. **Brewers Blackbird colonies:** on the ground in low bushes close to streams and irrigation ditches.	N	Suitable habitat not available.
Migratory Butterfly Stopover Area	Painted Lady, Red Admiral, **Special Concern:** Monarch	Combination of open (CU) and forested (FO) ecosites (need one from each).	≥10 ha, located within 5 km of Lake Ontario. Undisturbed sites, with preferred nectar species.	N	Suitable habitat not available.
Landbird Migratory Stopover Areas	All migratory songbirds. All migrant raptor species.	Forest (FO) and Swamp (SW) ecosites	Woodlots >10 ha within 5 km of Lake Ontario. If multiple woodlands are along the shoreline, those <2 km from L. Ontario are more significant.	N	Suitable habitat not available.
Deer Yarding Areas	White-tailed Deer	Mixed or Conifer ecosites	Determined by MNRF - no studies	N	Suitable habitat not available.
Deer Winter Congregation Areas	White-tailed Deer	Mixed or Conifer ecosites	Determined by MNRF - no studies	N	Suitable habitat not available.
Rare Vegetation Communities					
Cliffs and Talus Slopes		TAO, TAS, CLO, CLS, TAT, CLT e.g., Niagara Escarpment (contact NEC)	**Cliff:** near vertical bedrock >3m **Talus Slope:** coarse rock rubble at the base of a cliff	N	Suitable habitat not available.

SWH Type	Associated Species	Associated ELC Ecosites	Habitat Criteria	Presence (Y/N)	Additional Notes and Species Observations
Sand Barren		SBO1, SBS1, SBT1	Sand Barrens >0.5 ha. Vegetation can vary from patchy and barren to tree covered, but <60%. <50% vegetation cover are exotic species.	N	Suitable habitat not available.
Alvar	*Carex crawei, Panicum philadelphicum, Eleocharis compressa, Scutellaria parvula, Trichostema brachiatum,* Loggerhead Shrike	ALO1, ALS1, ALT1, FOC1, FOC2, CUM2, CUS2, CUT2-1, CUW2	Alvar >0.5 ha. **Need 4 of the 5 Alvar Inidcator Spp**. <50% vegetation cover are exotic species.	N	Suitable habitat not available.
Old Growth Forest	Trees >140 yrs; heavy mortaily = gaps. Multi-layer canopy, lots of snags and downed logs	FOD, FOC, FOM, SWD, SWC, SWM	Woodland areas ≥30 ha with a≥10 ha interior habitat, assuming a 100 m buffer at edge of forest.	N	Suitable habitat not available.
Savannah	Prairie Grasses w/ trees	TPS1, TPS2, TPW1, TPW2, CUS2	A Savannah is a tallgrass prairie habitat that has tree cover of 25 – 60%. <50% cover of exotic species.	N	Suitable habitat not available.
Tallgrass Prairie	Prairies Grasses dominate	TPO1, TPO2	An open Tallgrass Prairie habitat has < 25% tree cover. Less than 50% cover of exotic species.	N	Suitable habitat not available.
Other Rare Vegetation Communities		Provincially Rare S1 - S3 veg. comm. are listed in Appendix M of SWHTG.	Rare Vegetation Communities may include beaches, fens, forest, marsh, barrens, dunes and swamps.	N	Suitable habitat not available.
Specialized Habitat for Wildlife					
Waterfowl Nesting Area	Ducks	Upland habitats adjacent to: MAS1 to MAS3, SAS1, SAM1, SAF1, MAM1 to MAM6, SWT1, SWT2, SWD1 to SWD4 (>0.5 ha open water wetlands, alone or collectively).	Extends 120 m from a wetland or wetland complex. Upland areas should be at least 120 m wide. Wood Ducks and Hooded Mergansers use cavity trees (>40 cm dbh).	Y (candidate)	The Bell Creek PSW provides a variety of suitable wetland ELC ecosites.
Bald Eagle & Osprey Nesting, Foraging and Perching Habitat	Osprey, Bald Eagle	FOD, FOM, FOC, SWD, SWM, SWC directly adjacent to riparian areas	Nesting areas are associated with waterbodies along forested shorelines, islands, or on structures over water.	N	No nests associated with Bald Eagle or Osprey were noted during site investigations.
Woodland Raptor Nesting Habitat	Barred Owl. **Hawks:** N. Goshawk, Cooper's, Sharp-shinned, Red-shouldered, Broad-winged.	Forests (FO), swamps (SW), and conifer plantations	>30 ha with > 10 ha interior habitat.	N	The on-site forest communities do not provide suitable size for SWH.
Turtle Nesting Areas	Midland Painted Turtle **Special Concern:** Snapping Turtle, Northern Map Turtle	Exposed mineral soil (sand or gravel) areas adjacent (<100m) or within: MAS1 to MAS3, SAS1, SAM1, SAF1, BOO1	Nest sites within open sunny areas with soil suitable for digging. Sand and gravel beaches.	Y (candidate)	Potential for this SWH throughout the Bell Creek PSW.

SWH Type	Associated Species	Associated ELC Ecosites	Habitat Criteria	Presence (Y/N)	Additional Notes and Species Observations
Seeps and Springs	Wild Turkey, Ruffed Grouse, Spruce Grouse, White-tailed Deer, Salamander spp.	Seeps/Springs are areas where ground water comes to the surface.	Any forested area within the headwaters of a stream/river system. **(2 or more confirms SWH type).**	N	Suitable habitat not available.
Amphibian Breeding Habitat (Woodland)	Woodland Frogs and Salamanders	FOC, FOM, FOD, SWC, SWM, SWD	Open water wetlands, pond or woodland pool of >500 m^2 within or adjacent to wooded areas. Permanent ponds or holding water until mid-July preferred.	N	Suitable habitat not available.
Amphibian Breeding Habitat (Wetlands)	Toads, Frogs, and Salamanders	SW, MA, FE, BO, OA and SA. Typically isolated (>120m) from woodland ecosites, however larger wetlands may be adjacent to woodlands.	Open water wetland ecosites >500m^2 isolated from woodland ecosites with high species diversity. Permanent water with abundant vegetation for bullfrogs.	Y (confirmed)	Suitable habitat is confirmed within the Bell Creek PSW. Based on the breeding surveys that were completed, two indicator species (American Toad and Western Chorus Frog) were reported with call codes of 3.
Woodland Area-Sensitive Bird Breeding Habitat	Birds (area-sensitive species)	FOC, FOM, FOD, SWC, SWM, SWD	Large mature (>60 years) forest stands/woodlots >30 ha. Interior forest habitat >200m from forest edge.	N	The on-site forest communities are not of sufficient size/shape to qualify as suitable for SWH.
Habitat of Species of Conservation Concern					
Marsh Bird Breeding Habitat	Wetland Birds	MAM1 to MAM6, SAS1, SAM1, SAF1, FEO1, BOO1 **Green Heron**: SW, MA and CUM1	Wetlands with shallow water and emergent vegetation. Gr. Heron @ edges of these types w/ woody cover.	Y (candidate)	The Bell Creek PSW provides a variety of suitable wetland ELC ecosites.
Open Country Bird Breeding Habitat	Upland Sandpiper, Grasshopper Sparrow, Vesper Sparrow, N. Harrier, Savannah Sparrow, **Short-eared Owl (SC)**	CUM1, CUM2	Grassland/meadow >30 ha. Not being actively used for farming. Habitat established for 5 years or more.	N	Suitable habitat not available.
Shrub/Early Successional Bird Breeding Habitat	**Brown Thrasher + Clay-coloured Sparrow (indicators),** Field Sparrow, Black-billed Cuckoo, E. Towhee, Willow Flycatcher, Yellow-breasted Chat, Golden-winged Warbler	CUT1, CUT2, CUS1, CUS2, CUW1, CUW2	Large field areas succeeding to shrub and thicket habitats > 10 ha. Areas not actively used for farming in the last 5 years.	N	Suitable habitat not available.
Terrestrial Crayfish	Chimney or Digger Crayfish; Devil Crayfish or Meadow Crayfish	MAM1 to MAM6, MAS1 to MAS3, SWD, SWT, SWM. CUM1 sites with inclusions of the aforementioned.	Wet meadow and edges of shallow marshes (no minimum size) should be surveyed for terrestrial crayfish (typc. protected by wetland setbacks).	N	Suitable habitat not available.

SWH Type	Associated Species	Associated ELC Ecosites	Habitat Criteria	Presence (Y/N)	Additional Notes and Species Observations
Special Concern and Rare Wildlife Species	Any species of concern or rare wildlife species	Any ELC code.	Presence of species of concern or rare wildlife species.	Y (confirmed)	As detailed within the EIS, the following Special Concern species were identified: Eastern wood-pewee and Snapping Turtle. As detailed within the EIS Addendum, the 2021 breeding bird survey further identified the species of special concern Wood Thrush within the FOMM5-2 forest community.
Animal Movement Corridors					
Amphibians	Amphibians	all ecosites assoc. w/ water	When Breeding Habitat - wetland confirmed	Y	Throughout PSW
Deer Movement	White-tailed Deer	all forested ecosites	When Deer Wintering Habitat confirmed	N	Suitable habitat not available.
Exceptions for Ecoregion 6E					
Mast Producing: 6E-14	Black Bear	Forested Ecosites	>30 ha w/ mast producing species: Cherry (berries), Oak, Beech (nuts).	N	Suitable habitat not available.
Leks: 6E-17	Sharp-tailed Grouse	CUM, CUS, CUT	Grassland/meadow >15 ha adjacent to shrublands, >30 ha adjacent to woodlands. Low agricultural intensity.	N	Suitable habitat not available.