

October 7, 2020

City of Mississauga
300 City Centre Drive
Mississauga, ON
L5B 3C1

Attention: Michael Hynes, Ashley Visneski, Ashlee Rivet-Boyle, Paul Tripodo and Jim Greenfield

Dear Mr. Hynes:

**RE: Barn Swallow Replacement Habitat Structure
5150 Ninth Line, City of Mississauga**

Two intact Barn Swallow (*Hirundo rustica*) nests (in use) and seven remnant nests were identified within the barn structure located along the northwestern boundary of the property located at 5150 Ninth Line in the City of Mississauga (herein referred to as the Subject Lands). Habitat removal is required to facilitate development of the Phase 1 lands.

As per the amended O. Reg. 242/08, impacts to Barn Swallow (listed as Threatened in Ontario and Canada) habitat must be registered using the Ministry of Environment, Conservation and Parks (MECP) online Barn Swallow Notice of Activity Form (NAF) under the *Endangered Species Act* (ESA; 2007) before any work commences that will damage, destroy or modify a structure used for nesting by Barn Swallows. A NAF was prepared and submitted to the MECP to register the proposed removal of the barn structure on January 14, 2020. A temporary Replacement Habitat Structure (RHS) was erected on the Phase 2 lands in March 2020. Pending the final alignment of the Ministry of Transportation transitway, the existing replacement habitat location may not be viable given the limited space for the structure within the landscape and the proposed adjacent urban development. Therefore, it is proposed that the RHS be relocated to a final permanent location on the adjacent lands to the northwest owned by the City of Mississauga.

At the request of the City of Mississauga (September 14, 2020), the following technical letter has been prepared outlining the siting criteria and long-term maintenance requirements for the Barn Swallow RHS proposed on the City lands.

1. REPLACEMENT HABITAT STRUCTURE

Where the removal of nesting habitat for Barn Swallows is proposed, replacement habitat must be provided, through either enhancement to existing structures, or provision of a RHS. The replacement habitat must be provided within 1 km of the original structure and within 200 m of suitable foraging habitat before the beginning of the breeding season (i.e., May 1) following removal of the original nesting habitat to satisfy conditions within O. Reg 242/08, Section 23.5. Additional conditions include guidelines

regarding the construction design, the extent of habitat to be replaced, and maintenance and monitoring for three years following construction.

1.1 Design Specifications

The RHS will be prefabricated off-site by a contractor retained by Mattamy (5150 Ninth Line) Limited (Mattamy), based on a conceptual Ministry of Natural Resources and Forestry (MNRF) drawing provided in **Attachment 1**. The RHS will measure approximately 2 m x 2 m and will be 3.5 m in height. Wooden nest cups will be installed approximately 3 m from the ground. A minimum of two nest cups will be installed to provide 1:1 habitat compensation for the removal of the existing nesting structure. Additional nesting surfaces will also be available within the RHS to allow for natural nest creation. As per the MNRF best practices for creating nesting habitat for Barn Swallows (MNRF 2016), in order to provide suitable nesting conditions, the artificial nesting structure will include:

- Horizontal ledges or rough vertical surfaces with a sheltered overhang;
- Nest attachment sites, away from predators and disturbances;
- Entry and exit points that allow the bird(s) to fly freely;
- Appropriate spacing between nests; and
- Be structurally sound and capable of providing long-term habitat.

The following predator-resistant measures, or guards, have also been incorporated into the design to help protect the adult birds, nests and young:

1. The RHS should be installed in an area greater than 3 m from a woodland edge in an area that is absent of tall woody vegetation to ensure that squirrels and other predators cannot jump from a tree onto the structure; and
2. Each of the four posts that support the RHS should be wrapped in tin (120 cm from the bottom of the barn board) to prevent predators from climbing into the nesting area.

1.2 Installation

The contractor will access the property via the adjacent City-owned lands southeast of Park 459 as to avoid disruption to the Phase 1 construction of the park. Access to the site must be granted by both the City of Mississauga and the City's contractor (i.e., Aquicon) prior to installation.

The existing temporary construction fence will be removed to permit access to the property and reinstalled by the contractor following the installation of the RHS. The area disturbed by RHS construction (approximately 37 m²) will be graded, as required. Topsoil would be prepared for the application of sod or for seeding with a cover crop and native species seed mix suited to the local climate, soil types and soil moisture (Seed Zone 33).

In accordance with the contractual agreement prepared by Mattamy, Mattamy agrees to hold harmless the City of Mississauga and its contractors from any liability or damages in relation to the construction and installation of the nesting structure. Mattamy further agrees not to seek or apply for any compensation or consideration under Section 47 of the *Planning Act*.

2. SITE SELECTION

In southern Ontario, Barn Swallow populations persist where a combination of rural, open areas and nearby aquatic systems support a source of food and nest materials. Suitable foraging habitat consists of open spaces that provide sources of flying insects such as waterbodies, wetlands, pastures, old fields and woodland edges. Preferred nesting habitat is generally associated with artificial structures that supply a generally dark (i.e., artificial lighting absent) and infrequently disturbed environment.

The Subject Lands were reviewed to identify potential building sites for the proposed RHS. Suitable foraging habitat and an unevaluated wetland occur within 200 m of the property boundary, southwest of Highway 407 and the future transitway. Existing pond habitat identified on the Subject Lands will also be retained, to the maximum extent possible, within the proposed woodland buffer zone. Collectively, it is expected that these features would support sufficient food and nest materials to sustain the resident population post-development. However, the proximity of adjacent urban development (i.e., townhouses, roadways and street lighting) would not meet preferred nesting habitat criteria (i.e., dark, undisturbed, rural) where alternative locations are available. Furthermore, pending the final alignment of the transitway, the RHS location on the Subject Lands may not be viable given the limited space for the structure within the landscape.

An alternative building site for the RHS has been proposed by the City of Mississauga southwest of the City-owned woodland adjacent to the Subject Lands (**Attachment 2**). The selected location is within 1 km of the original nest structure and is within 200 m of suitable foraging habitat (i.e., open habitats such as wetlands, farmlands, parks, etc.) as required under Section 23.5 of O. Reg. 242/08. Residential land uses are not proposed immediately adjacent to the structure, and in the context of the urban landscape of the City of Mississauga, the adjacent parklands are expected to support suitable nesting and foraging habitat for this species. Passive recreational land uses (e.g., walking trails) are compatible in areas within 5 m of the RHS (Category 2 and Category 3 habitat), therefore the RHS is not expected to restrict Phase 2 development of the parklands, as discussed in section 5.0. Adjacent ponds and wetlands located northwest of the proposed RHS will offer improved opportunities for foraging and the collection of nest materials (i.e., mud). The adjacent woodland would be expected to function as a buffer to urban development impacts (i.e., light, noise, human disturbance), therefore, it is recommended that the RHS be located as far west along the woodland boundary as feasible.

3. MONITORING

Monitoring of Barn Swallow RHS will be completed as per requirements under section 23.5 of O. Reg. 242/08. The RHS must be monitored for three consecutive years following habitat removal. Based on a proposed construction date of spring 2021, monitoring would begin in June 2021 and the final round of monitoring would be completed in 2023. An additional year of monitoring was completed in summer 2020 at the temporary RHS location on the Subject Lands.

Section 23.5 of O. Reg. 242/08, requires that the RHS be surveyed a minimum of once per year during the Barn Swallow breeding season to record: (1) the number, description and location of new nests (i.e., natural mud nests) created by Barn Swallow in the RHS; and (2) an estimate of the number of Barn Swallows using artificial nest cups in the RHS. During the monitoring survey, the RHS is also inspected for evidence of predation, vandalism, or use of the structure by other bird species.

Any Barn Swallow observations must be reported to the MECP within three months of the survey (through submission of the Natural Heritage Information Centre rare species online form). In addition, the proponent must maintain a Barn Swallow Mitigation and Restoration Record (the “Record”) that documents the following: contact information of the proponent; original nesting habitat; proposed development activity, including start and end dates; efforts taken to minimize the effects of the development activity on Barn Swallow, as well as the foraging and nesting habitats of this species; and a summary of the RHS monitoring efforts and results. This record is updated annually after each monitoring year.

4. MAINTENANCE

The RHS must be maintained through the length of the three-year monitoring period. From a policy perspective, there is no longer an obligation to maintain the structure once the three-year monitoring period has lapsed. This species typically nests in barns and under bridges that are allowed to age, therefore minimal maintenance is generally preferred. Maintenance may be required to maintain park aesthetics, address any vandalism of the structure, or replace damaged predator guards and nest cups.

As per the request from the City of Mississauga, Mattamy has prepared a contractual agreement for the installation of the RHS on the City-owned lands. We understand that as per this agreement, Mattamy will be fully responsible for the design, approval, construction, installation and monitoring of the nesting structure. Mattamy will also be responsible for any fees, costs of temporary access easements and insurance as related to the approval. Furthermore, Mattamy has agreed to include a Maintenance Fee for the long-term management of the structure. The annual Maintenance Fee will be provided for the duration of the three-year monitoring period, however, Mattamy has consented to extend the Maintenance Fee period to five years as a precautionary measure. The annual Maintenance Fee amount (i.e., \$500.00) has been estimated based on the limited maintenance required by these structures.

5. GENERAL HABITAT PROTECTION

The ESA (2007) provides general habitat descriptions that define the area of habitat protected for a species. The general habitat description is applicable only to occupied habitat and does not include areas where the species formerly occurred or has the potential to be reintroduced (unless the species depends on these areas to carry out life processes; MNR 2019).

The general habitat description for Barn Swallow defines three habitat categories:

- Category 1: Nest;
- Category 2: Areas within 5 m of the nest; and
- Category 3: Areas between 5 m and 200 m from the nest.

Category 1 habitat supports reproductive life processes and is considered to have the lowest level of tolerance to alteration. Nests are often reused annually and can support multiple broods within the same year. Category 2 habitat represents areas defended by male Barn Swallows during the breeding season and has moderate tolerance to alteration. Category 3 habitat generally includes foraging habitat and has

a high tolerance to disturbance. Foraging habitats consist of open areas that provide good sources of flying insects, such as waterbodies, woodland edges, meadows and parklands (MNRF 2019).

As per O. Reg. 242/08, no setbacks are required from the RHS. Activities in general habitat may continue (e.g., passive recreation) as long as the functions of these areas are maintained for the species and individuals of the species are not killed, harmed, or harassed. Generally incompatible uses include significant modifications to structures that support Barn Swallow nesting and development activities that result in the fragmentation of large areas of suitable habitat. In the context of the City-owned parklands, land uses would be generally compatible with Category 2 and Category 3 habitat. These areas are considered tolerant of disturbance and would not be expected to impede future development of the parklands provided that foraging habitat is still available on the landscape (within 200 m). Proposed land uses may encroach into Category 1 habitat as no minimum setbacks are required under O. Reg. 242/08, however, this habitat is more sensitive to disturbance therefore locating activities outside of Category 1 habitat is preferred.

Future activities that may result in the damage, destruction or removal of the RHS (i.e., Category 1 habitat) must be evaluated in accordance with O. Reg 242/08, Section 23.5.

Should removal or relocation of the RHS be proposed within the three-year monitoring period following construction, a modification to the original NAF submitted to MECP would be required to ensure that the registration reflects the new location of the RHS. Movement of the RHS would restart the three-year monitoring period.

After the three-year monitoring period, if the RHS is used by Barn Swallows, the RHS would be considered occupied habitat under the Endangered Species Act, and a registration under O. Reg. 242/08, Section 23.5 would be required to relocate the RHS. However, given the artificial nature of the RHS, it is expected that minor relocation of the structure (e.g., less than 100 m within line of sight of the previous location) outside of the active breeding season may be permitted without restarting the registration period. Where it is determined that the RHS is unoccupied by Barn Swallow after the three-year monitoring period, no habitat protections apply under O. Reg. 242/08 and the habitat may be removed and/or relocated without prior written approval.

During the initial three-year monitoring period, any relocation site would need to be located within 1 km of the original structure (i.e., the barn), and within 200 m of suitable foraging habitat. Following the three-year monitoring period, any relocation site would need to be located within 1 km of the initial RHS location, and within 200 m of suitable foraging habitat. In both cases, the RHS would need to be relocated outside of the breeding season (i.e., between September of one year, and May of the following year).

Yours truly,
SAVANTA INC.
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Attachments (2)

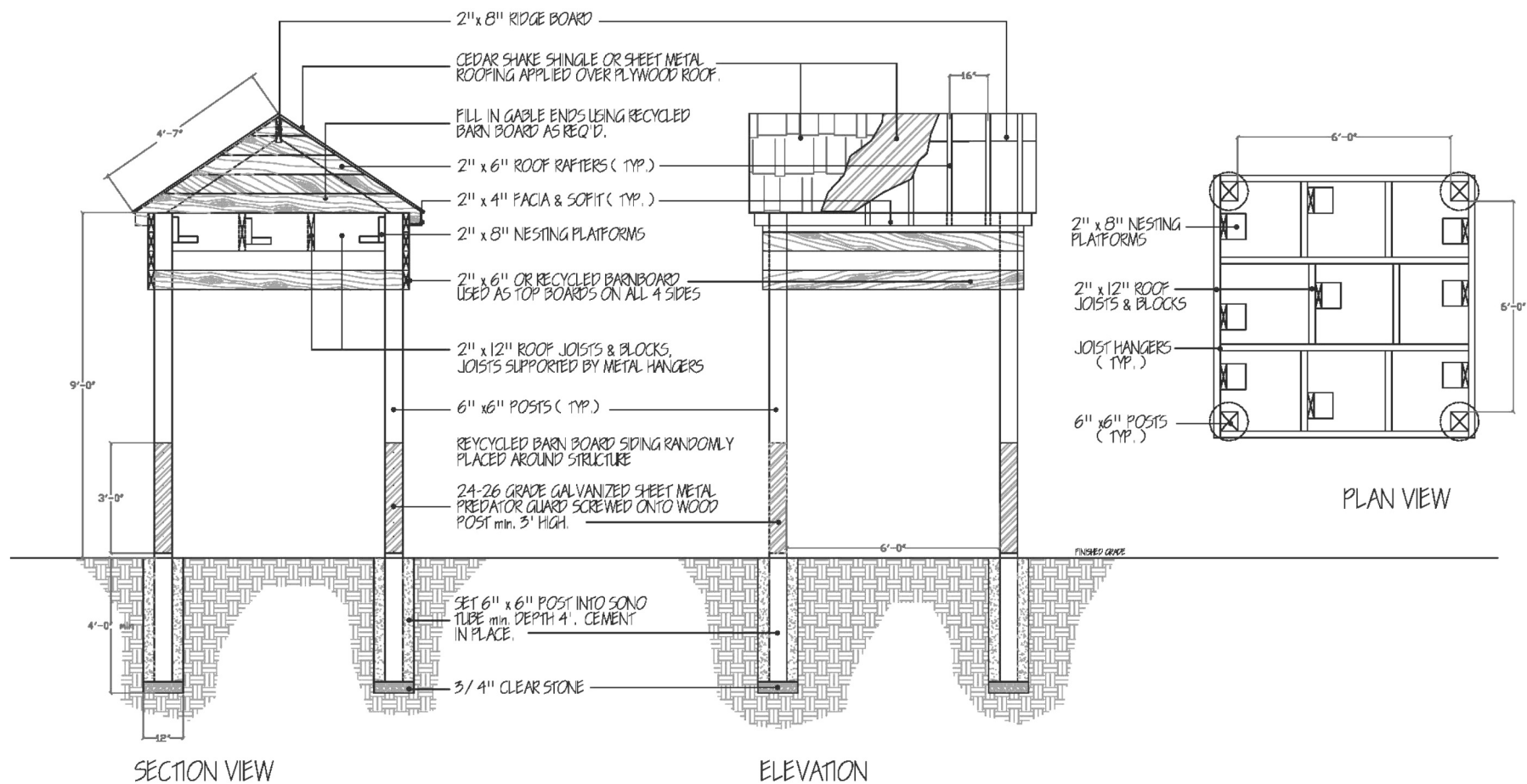
- Replacement Barn Swallow Structure Designs
- Barn Swallow Replacement Habitat Structure

REFERENCES

Ontario Ministry of Natural Resources and Forestry (MNRF) 2016. Creating Nesting Habitat for Barn Swallows, Best Practices Technical Note Version 1.0. Species Conservation Policy Branch. Peterborough, Ontario. 14pp.

Ontario Ministry of Natural Resources and Forestry (MNRF) 2019. Barn Swallow General Habitat Description. Available online at: <https://www.ontario.ca/page/barn-swallow-general-habitat-description>

Attachment 1 – Replacement Barn Swallow Structure Designs



Provided by Ministry of Natural Resources and Forestry, September 2013.

Appendix A Replacement Barn Swallow Structure Drawings

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Attachment 2 – Barn Swallow Replacement Habitat Structure



Southern Parcel, Mattamy: Ninth Line, Mississauga ON

Barn Swallow Replacement Habitat Structure

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0 100 Meters

- Subject Lands
- * Breeding Barn Swallow Habitat
- Breeding Barn Swallow Habitat 1 km Radius
- Proposed Replacement Habitat Structure Location