Appendix C-1

Species at Risk Considerations

MEMO

TO: Phil Bartnik, P. Eng., Director Public Works & Environmental Services, Town of Tecumseh

FROM: Brad McLeod, Biologist, Dillon Consulting Limited

DATE: February 8, 2019

SUBJECT: Tecumseh Storm Drainage Master Plan
Species at Risk Considerations

OUR FILE: 16-4880

Introduction

This memo documents the natural environment existing conditions review completed as part of the Tecumseh Storm Drainage Master Plan Class Environmental Assessment. The undertaking involves proposed upgrades to existing pumping stations at multiple locations in the Town of Tecumseh (the 'Town'). Existing conditions reviews were completed at seven locations within the Town:

- Lesperance Road Pump Station (12280 Riverside Drive East);
- West St. Louis Pump Station (12920 Riverside Drive East);
- East St. Louis Pump Station (13079 and 13102 Riverside Drive East);
- Scully Pump Station (13698 Riverside Drive East);
- St. Mark's Pump Station (13770 Riverside Drive East);
- PJ Cecile Pump Station (14080 Riverside Drive East); and
- Brighton Road Pump Station (262 and 270 Brighton Road)[1].

This memo will be used to identify Species at Risk (SAR) that have the potential to occur within and adjacent to the pump station and pump station outfall locations and to also evaluate the likelihood and possible presence of Significant Wildlife Habitat.

Natural Environment Background Information Review

Background information was collected from the Ontario Ministry of Natural Resources and Forestry (MNRF), Natural Heritage Information Centre (NHIC), local Official Plans, Environment Canada's Species at Risk database, MNRF's NHIC Biodiversity Explorer database, Fisheries and Oceans Canada (DFO) Aquatic Species at Risk mapping, and various wildlife atlases. Land uses for the areas immediately surrounding the pump stations are varied and include Residential, General Commercial, and Parks and Open Space.

Significant Wildlife Habitat

In accordance with the Ecoregion 7E Criteria Schedules (MNRF 2015), a review of background data and information from the MNRF shows limited to no potential for significant wildlife habitat to exist within

[1] No improvements are identified for Brighton Road Pump Station as part of the Master Plan.

and adjacent to all pump station and pump station outfall locations due to the lack of natural vegetation communities (or lack of sufficient size) and existing disturbances. However, east of the Brighton Road location, a Provincially Significant Wetland (Russell Woods Swamp) exists and Candidate Turtle Wintering Areas may also be present at this location. At this time, the Brighton Road pump station is not proposed for any upgrades. If upgrades are proposed in the future, appropriate design and mitigation to isolate the work areas from adjacent aquatic habitat is required and the proposed works should not negatively impact any significant wildlife habitat.

Species at Risk

Based on the secondary source background search, eight species listed as *Endangered* or *Threatened* under Endangered Species Act (ESA; 2007) were identified as having the potential to occur within and/or adjacent to the pump station locations. These species include: Chimney Swift (*Chaetura pelagica*), Barn Swallow (*Hirundo rustica*), Spiny Softshell (*Apalone spinifera*), Blanding's Turtle (*Emydoidea blandingii*), Eastern Foxsnake (*Pantherophis gloydi*), Willowleaf Aster (*Symphyotrichum praealtum*), Eastern Sand Darter (*Ammocrypta pellucida*), and Northern Madtom (*Noturus stigmosus*).

In addition, to supplement the SAR Screening, a SAR Information Request was submitted to the MNRF Aylmer District on December 7, 2018 and a response was received on January 30, 2018 (**Attachment 1**). The response indicated that there are known occurrences of the following SAR in the general project areas: Eastern Sand Darter, Northern Madtom, Silver Chub (*Macrhybopsis storeriana*), Butler's Gartersnake (*Thamnophis butleri*), Blanding's Turtle, and Barn Swallow.

After the field investigations, it was determined that only one species was identified as having a low potential to occur due to their habitat requirements and/or the current known range distribution of the species, and should also be included in the SAR information sheets (**Attachment 2**; information updated after the field investigations).

Field Investigations and Findings

Field investigations for potential SAR and verification of terrestrial natural resources were completed on October 9, and 11, 2018 and included the following:

- High-level Ecological Land Classification (ELC) of vegetation communities;
- A SAR habitat investigation to determine potential for the following species to occur based on habitat requirements (refer to **Attachment 2**):
  - Chimney Swift
  - Barn Swallow
  - Spiny Softshell
  - Blanding's Turtle
  - Eastern Foxsnake
  - Butler's Gartersnake
  - Willowleaf Aster
  - Eastern Sand Darter
  - Northern Madtom
  - Silver Chub

- Incidental wildlife observations.

Refer to **Attachment 3** for representative site photos.

Ecological Land Classification

During the field investigations, vegetation was characterized based on the methods outlined under ELC for Southern Ontario – First Approximation and its Application (Lee *et al.* 1998). Vegetation communities for the pump station locations were designated down to the vegetation type, where possible. Since the release of the first approximation document, a draft second version was released in 2008 by the former Ministry of Natural Resources, which provided further characterization of vegetation communities, in particular cultural/anthropogenic influenced communities. For the purposes of the ELC for the pump station locations, communities were characterized to second approximation.

The following communities were identified within and adjacent to the pump stations (**Attachment 4, Figures 1 – 7**):

- Green Lands (CGL) and Open Aquatic (OAO)
  - Lesperance Road Pump Station
  - West St. Louis Pump Station
  - East St. Louis Pump Station
  - Scully Pump Station
  - St. Mark's Pump Station
  - Peter Cecile Pump Station
- Residential (CVR) and Open Aquatic (OAO)
  - Brighton Road Pump Station

During the field investigations, vegetation was also surveyed. The list of vegetation species observed is provided in **Table 1**.

Table 1: Vegetation Survey Results

Scientific Name	Common Name	SARA[1]	ESA[2]	S-Rank[3]	Observation
PLANTS					
Acer negundo	Manitoba Maple	---	---	S5	Common tree within pump station lands.
Acer saccharinum	Silver Maple	---	---	S5	Common tree within pump station lands.
Acer saccharum	Sugar Maple	---	---	S5	Common tree within pump station lands.
Acer x freemanii	Freeman's Maple	---	---	SNA	Common tree within pump station lands.
Gleditsia triacanthos var. inermis	Sunburst Honey Locust	N/A	N/A	N/A	Common tree within pump station lands.

Juglans nigra	Black Walnut	---	---	S4	Common tree within pump station lands.
Morus alba	White Mulberry	---	---	SNA	Common tree within pump station lands.
Pinus sylvestris	Scotch Pine	---	---	SNA	Common tree within pump station lands.
Poa compressa	Canada Bluegrass	---	---	SNA	Manicured lawn.
Populus deltoides ssp. *deltoides*	Eastern Cottonwood	---	---	S5	Common tree within pump station lands.
Prunus x yedoensis	Yoshino Cherry	N/A	N/A	N/A	Common tree within pump station lands.
Robinia pseudoacacia	Black Locust	---	---	SNA	Common tree within pump station lands.
Salix fragilis	Crack Willow	---	---	S4?	Common tree within pump station lands.
Symphyotrichum lanceolatum ssp. *lanceolatum*	Panicled Aster	---	---	S5	Found mostly along the margins of some pump station locations.
Symphyotrichum novae-angliae	New England Aster	---	---	S5	Found mostly along the margins of some pump station locations.

[1]Federal *Species at Risk Act* (SARA) Registry Status; [2]Ontario *Endangered Species Act* (ESA) List Status; [3]Provincial Conservation Rank (SRank).

Chimney Swift Habitat Investigation

Where access was possible, based on landowner permission, existing buildings within and adjacent to the pump station locations were reviewed. No suitable nesting habitat was observed, as no chimneys are present within the lands.

Barn Swallow Habitat Investigation

Where access was possible, based on landowner permission, existing buildings within and adjacent to the pump station locations were reviewed. Although no Barn Swallow nests were observed, the buildings at all locations except Brighton Road (due to its dense residential nature), have the potential to provide suitable nesting structures. Certain pump station locations will involve the replacement of existing buildings. Prior to construction, Dillon recommends the following:

- If possible, building construction should be completed outside the breeding bird period (April 1 to August 31);
- If construction is to occur during the breeding bird period, a qualified Avian Biologist should conduct a nest search of the area (within 48 hours of construction) to determine if active nests are present within the work area;
- If any Barn Swallow and/or nests are encountered, a Notice of Activity will be submitted to the MNRF through the online Registry.

Spiny Softshell and Blanding's Turtle Habitat Investigation

Where access was possible, based on landowner permission, locations and adjacent lands were reviewed. Suitable habitat was not observed for either turtle species, as the aquatic habitat adjacent to the locations does not provide suitable habitat features (i.e. lack of sandy substrates, floating vegetation, basking sites, and marshland). If pump station improvements are required at certain locations, in-water works will be limited to the existing structural outfalls at the outlet location. As such, these species and their habitat should not be negatively impacted.

Eastern Foxsnake and Butler's Gartersnake Habitat Investigation

Where access was possible, based on landowner permission, locations and adjacent lands were reviewed. Due to the lack of suitable habitat (i.e. no marshland, no natural/semi-natural habitat) suitable habitat was not observed. Furthermore, potential snake hibernacula and egg laying, shedding, basking, and thermoregulation sites were not observed. It is not anticipated that Eastern Foxsnake nor Butler's Gartersnake will be negatively impacted, as no natural features currently exist and limited land disturbance is proposed to facilitate the work.

Willowleaf Aster Habitat Investigation

Where access was possible, based on landowner permission, locations and adjacent lands were reviewed. During the field investigations, several locations of New England Aster (*Symphyotrichum novae-angliae*) and Panicled Aster (*Symphyotrichum lanceolatum* ssp. *lanceolatum*) were present, but Willowleaf Aster was not observed. As the majority of the locations are regularly maintained (i.e. mowed lawn), natural vegetation was restricted to the margins of the properties. Therefore, the proposed pump station work would occur away from naturally-vegetated areas.

Eastern Sand Darter, Northern Madtom, and Silver Chub Habitat Investigation

Where access was possible, aquatic habitat conditions were observed at the pump station outlet locations. Based on observations, combined with information provided by MNRF, suitable habitat for these three species may be present at pump station outlet locations. If pump station improvements are required at certain locations, significant in-water works are not expected, as works will be limited to the existing structural outfalls at the outlets. As such, these species and their habitat should not be negatively impacted with appropriate design and mitigation to isolate the work areas from adjacent aquatic habitat. All the pump station locations with the exception of the Brighton Road location, discharges to Lake St. Clair. The Brighton Road location discharges to Pike Creek, which itself, ultimately discharges to Lake St. Clair.

Incidental Wildlife Observations

A general wildlife assessment was completed through incidental observations (**Table 2**). Incidental observations of wildlife were noted as well as other wildlife evidence such as dens, tracks, and scat. These observations also helped to determine potential ecological functions, linkages, etc. within and adjacent to the pump station locations.

Each of the observed species is considered common and apparently secure (S4), widespread and secure (S5), or not applicable as the species is not a suitable target for conservation activities (SE or SNA) in Ontario.

Table 2: Incidental Wildlife Species

Scientific Name	Common Name	SARA[1]	ESA[2]	S-Rank[3]	Observation
BIRDS					
Accipiter cooperii	Cooper's Hawk	---	---	S4	Flying through the area.
Anas platyrhynchos	Mallard	---	---	S5	Open aquatic (OAO).
Ardea herodias	Great Blue Heron	---	---	S4	Open aquatic (OAO).
Poecile atricapillus	Black-capped Chickadee	---	---	S5	Heard at several locations.

[1]Federal *Species at Risk Act* (SARA) Registry Status; [2]Ontario *Endangered Species Act* (ESA) List Status; [3]Provincial Conservation Rank (SRank).

Summary

Field investigations were completed October 9 and 11, 2018 and included ELC surveys and SAR habitat assessments for species identified in the background review that had potential to be present within and adjacent to the pump station locations.

Based on the ELC survey results, the lands within and adjacent to the pump station locations did not contain rare vegetation communities or significant wildlife habitat. No SAR species or evidence of SAR (i.e. Barn Swallow nests) were observed within and/or immediately adjacent to the pump station locations.

It was determined that one bird SAR (Barn Swallow) has a low potential to occur within the pump station locations and should also be included in the SAR information sheets. All the locations except Brighton Road were identified as having potential habitat for Barn Swallow. Considering the scope of the proposed works, the above species should not be negatively impacted; however it is recommended to provide SAR information sheets to the contractor (**Attachment 5**). It is also not anticipated that fish SAR will be impacted with appropriate design and mitigation to isolate outlet work areas from adjacent aquatic habitat.

References

Endangered Species Act, 2007. (S.O. 2007, C-6). https://www.ontario.ca/laws/statute/07e06. Accessed October 2018.

Fisheries and Oceans Canada. Aquatic Species at Risk Map. http://www.dfo-mpo.gc.ca/species-especes/sara-lep/map-carte/index-eng.html. Accessed October 2018.

Lee, H.T., W.D. Bakowsky, J. Riley, J. Bowles, M. Puddister, P. Uhlig, and S. McMurray. 1998. Ecological Land Classification for Southern Ontario: First Approximation and Its Application. Ontario Ministry of Natural Resources, Southcentral Science Section, Science Development and Transfer Branch. SCSS Field Guide FG-02.

Ontario Ministry of Natural Resources and Forestry. 2015. Significant Wildlife Habitat Habitat Criteria Schedules for Ecoregion 7E. 41pp.

Ontario Ministry of Natural Resources and Forestry. 2018a. Natural Heritage Information Centre. http://www.gisapplication.lrc.gov.on.ca/mamnh/Index.html?site=MNR_NHLUPS_NaturalHeritage&viewer=NaturalHeritage&locale=en-US.

Ontario Ministry of Natural Resources and Forestry. 2018b. Make a Map: Natural Heritage Areas. http://www.gisapplication.lrc.gov.on.ca/mamnh/Index.html?site=MNR_NHLUPS_NaturalHeritage&viewer=NaturalHeritage&locale=en-US.

Ontario Ministry of Natural Resources and Forestry. The Species at Risk in Ontario (SARO) List. https://www.ontario.ca/page/species-risk-ontario. Accessed October 2018.

Town of Tecumseh. 2014. Official Plan.

ATTACHMENT 1

MNRF Response

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DILLON CONSULTING

McLeod, Brad <bmcleod@dillon.ca>

Information Request - Town of Tecumseh Pump Station Locations

ESA-Aylmer (MNRF) <ESA.Aylmer@ontario.ca> Wed, Jan 30, 2019 at 8:13 AM
To: "McLeod, Brad" <bmcleod@dillon.ca>
Cc: "Hines, Emilee (MNRF)" <Emilee.Hines@ontario.ca>, Flavio Forest <fforest@dillon.ca>, Ryan Langlois <rlanglois@dillon.ca>, Mark Brobbel <mbrobbel@dillon.ca>, 164880 <164880@dillon.ca>

Good morning Brad,

The Ministry of Natural Resources and Forestry (MNRF) understands that Dillon Consulting is requesting natural heritage information for the Town of Tecumseh's pump stations located at 12280 Riverside Drive, 12920 Riverside Drive, 13079 and 13102 Riverside Drive, 13698 Riverside Drive, 13770 Riverside Drive, 14080 Riverside Drive, and 262 and 270 Brighton Road in the Town of Tecumseh, Essex County, as identified in the information provided.

MNRF provides the following natural heritage information in response to your request.

Species at Risk (SAR)

The Species at Risk in Ontario (SARO) List (https://www.ontario.ca/laws/regulation/080230) is Ontario Regulation 230/08 issued under the *Endangered Species Act, 2007* (ESA). The ESA came into force on June 30, 2008, and provides both species protection (under section 9) and habitat protection (under section 10) to species listed as endangered or threatened on the SARO List.

An initial SAR (Endangered and Threatened species) screening has been completed for the above-noted properties.

There are no known occurrences of SAR on the properties; however, there are known occurrences of SAR in the general project area (of all site locations), including:

- Eastern Sand Darter (endangered) – receives species and regulated habitat
- Northern Madtom (endangered) – receives species and general habitat
- Silver Chub (threatened) – receives species and general habitat
- Butler's Gartersnake (endangered) – receives species and general habitat protection
- Blanding's Turtle (threatened) – receives species and general habitat protection
- Barn Swallow (threatened) – receives species and general habitat protection

We recommend consulting Fisheries and Oceans Canada (DFO) for additional information on aquatic species. Please visit DFO mapping at http://www.dfo-mpo.gc.ca/species-especes/fpp-ppp/index-eng.htm.

Please note that this is an initial screening for SAR and the absence of an element occurrence does not indicate the absence of species. The province has not been surveyed comprehensively for the presence or absence of SAR and MNRF data relies on observers to report sightings of SAR. Field assessments by a qualified professional may be necessary if there is a high likelihood for SAR species and/or habitat to occur within the project footprint and potentially be impacted.

Please note that this is an initial screening for SAR and the absence of an element occurrence does not indicate the absence of species. The province has not been surveyed comprehensively for the presence or absence of SAR, and MNRF data relies on observers to report sightings of SAR. If the project has the potential to contravene the ESA, an Information Gathering Form (IGF) should be submitted to ESA.Aylmer@Ontario.ca and no on-site activity (i.e. site alteration, vegetation/debris removal, etc.) should occur until notice is given. The IGF template and guidance document are available online at: http://www.forms.ssb.gov.on.ca/mbs/ssb/forms/ssbforms.nsf/MinistryResults?Openform&SRT=T&MAX=5&ENV=WWE&STR=1&TAB=PROFILE&MIN=018&BRN=21&PRG=31.

It is important to note the following:

- The Committee on the Status of Species at Risk in Ontario (COSSARO) meets regularly to evaluate new species for listing and/or re-evaluate species already on the SARO List.
- As a result, species designations may change and changes may occur in both species and habitat protection which could affect the level of protection they receive under the ESA 2007 and whether proposed projects may have adverse effects on SAR.
- Habitat protection provisions for a species may change if a species-specific habitat regulation comes into effect.

If an activity or project will result in adverse effects to endangered or threatened species and/or their habitat, additional action would need to be taken in order to remain in compliance with the ESA. Additional action could be applying for an authorization under section 17(2)(c) of the ESA, or completing an online registry for an ESA regulation and following the rules in regulation if the project is eligible (http://www.ontario.ca/environment-and-energy/natural-resources-approvals). Questions about the registry process should be directed to MNRF's Registry and Approval Services Centre at 1-855-613-4256 or at mnr.rasc@ontario.ca. Please be advised that applying for an authorization does not guarantee approval and the process can take several months.

Significant Wildlife Habitat (SWH)

Significant wildlife habitat (SWH) may be present on or adjacent to the above-noted subject lands (within 120 m). Please consult the Significant Wildlife Habitat Technical Guide (SWHTG, OMNR 2000), the Natural Heritage Reference Manual (NHRM) and the Ecoregion Criteria Schedules for criteria on identifying and determining significance of wildlife habitat. SWH is identified by planning authorities using the criteria and processes recommended in the SWHTG and Ecoregion Criteria Schedules.

Link to the SWHTG: https://www.ontario.ca/environment-and-energy/guide-significant-wildlife-habitat

Link to Ecoregion 7E criteria schedule: https://www.ontario.ca/document/significant-wildlife-habitat-ecoregional-criteria-schedules-ecoregion-7e

Habitat of species of special concern (not legally protected under the ESA) and those ranked S 1 to 3 receives consideration for SWH of Special Concern and Rare Wildlife Species. The following species are known to occur in the area for your information:

- Spotted Sucker (special concern)
- Channel Darter (special concern)
- Rainbow Mussel (special concern)
- Northern Map Turtle (special concern)
- Snapping Turtle (special concern)
- Climbing Prairie Rose (special concern)
- Swamp Rose-mallow (special concern)
- Bald Eagle (special concern)
- Monarch (special concern)
- Ghost Shiner (S2)

- Brindled Madtom (S2)
- Deertoe (S3)
- Shellbark Hickory (S3)
- Winged Loosestrife (S3)
- Elusive Clubtail (S2)
- Pawpaw (S3)
- Wood Thrush (special concern)

Areas of Natural and Scientific Interest (ANSIs)

There are no Provincially or Regionally Significant Earth or Life Science ANSI's within or adjacent to the proposed subject lands.

Significant Woodlands

There appears to be no woodland within or adjacent to the proposed subject lands.

Significant Wetlands

There is Provincially Significant Wetland (PSW) present east of 262 and 270 Brighton Road – Russell Woods Swamp (ER 25). Wetland shapefiles can be downloaded from Land Information Ontario (LIO) or viewed on our Make a Natural Heritage Map tool (https://www.ontario.ca/page/make-natural-heritage-area-map).

Significant Valleylands

MNRF does not possess significant valleylands mapping. The NHRM provides guidance and evaluation criteria for determining significant valleylands. Conservation authorities should be contacted to inquire about information pertaining to significant valleylands if they have not been identified in the applicable Official Plan.

Fish and Fish Habitat

There is no Aquatic Resource Area (ARA) data available within any of the pump station locations. However, ARA data is available for the East Townline Drain along Manning Rd (east of 13102 Riverside Drive):

- Thermal Regime: Warm - based on species present
- Species Summary: Banded Killifish,Bluntnose Minnow,Brook Stickleback,Green Sunfish,Largemouth Bass,Rock Bass,Spotfin Shiner,Yellow Perch

Please be advised that it is your responsibility to be aware of and comply with all relevant federal or provincial legislation, municipal by-laws or other agency approvals.

Please note, the MNRF process for responding to information requests on natural features is changing. In order to provide the most efficient service possible, the attached *Natural Heritage Information Request Guide* has been developed to assist you with accessing natural heritage data and values from convenient online sources.

It remains the proponent's responsibility to complete a preliminary screening for each project, to obtain available information from multiple sources, to conduct any necessary field studies, and to consider any potential environmental impacts that may result from an activity. We wish to emphasize the need for the proponents of development activities to complete screenings prior to contacting the Ministry or other agencies for more detailed technical information and advice.

The Ministry continues to work on updating data housed by Lands Information Ontario and the Natural Heritage Information Centre, and ensuring this information is accessible through online resources. Species at risk data is regularly being updated. In order to ensure access to reliable and up to date information, MNRF will provide a summary of species at risk that have been observed, or may potentially be present, at a geographic township / municipal level.

This information will assist in scoping the necessary field assessments for an area if development or site alteration is proposed. This information is not meant to circumvent the responsibility of the proponent to undertake species and / or habitat surveys. Surveys or additional site level assessment are often required to confirm presence or absence of natural heritage features and values. Environmental consulting firms have the professional and technical expertise to assess sites for natural heritage features and can gauge the potential for such features to exist.

Absence or lack of information for a given geographic area does not necessarily mean the absence of natural heritage features. Many areas in Ontario have never been surveyed and new plant and animal species records are still being discovered for many localities. In addition, new species may be listed and new natural heritage features may be defined over time. For these reasons, the Ministry cannot provide a definitive statement on the presence, absence or condition of natural heritage features in all parts of Ontario.

If you have any questions or require additional information, please feel free to contact me.

Regards,

Kathleen Buck

Management Biologist

MNRF Aylmer District

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As part of providing accessible customer service, please let me know if you have any accommodation needs or require communication supports or alternate formats.

From: McLeod, Brad <bmcleod@dillon.ca>
Sent: December-07-18 11:16 AM
To: ESA-Aylmer (MNRF) <ESA.Aylmer@ontario.ca>
Cc: Flavio Forest <fforest@dillon.ca>; Ryan Langlois <rlanglois@dillon.ca>; Mark Brobbel <mbrobbel@dillon.ca>; 164880 <164880@dillon.ca>
Subject: Information Request - Town of Tecumseh Pump Station Locations

Morning,

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ATTACHMENT 2

SAR Table

Attachment 2: Recommended Mitigation Measures for Species at Risk with the Potential to Occur within the Pump Station Locations

Scientific Name	Common Name	SARA Status[1]	ESA Status[2]	SRank[3]	Information Source[4]	Habitat Requirements[2,5]	Habitat Assessment and Potential Impacts to Species and/or Habitat	Recommendations
BIRDS								
Chaetura pelagica	Chimney Swift	THR	THR	S4B,S4N	MNRF SAR in Area, OBBA	Nests and roosts on cave walls, hollow trees/tree cavities, chimneys, and other manmade structures.	Low potential. During the field investigations, suitable habitat was not observed, as no chimneys are present within the lands.	N/A
Hirundo rustica	Barn Swallow	THR	THR	S4B	MNRF SAR in Area, OBBA, MNRF Consult.	Nests on human-made structures such as open barns, under bridges, and in culverts.	Low potential. During the field investigations, no nests were observed. As no buildings are proposed to be altered, this species and its habitat should not be negatively impacted.	SAR info sheet should be provided to contractor.
HERPTILES								
Apalone spinifera	Spiny Softshell	THR	END	S3	MNRF SAR in Area	Highly aquatic and rarely travel far from water. Rivers and lakes, but also creeks, ditches, and ponds near rivers. Key habitat requirements are open sand or gravel nesting areas, shallow muddy or sandy areas to bury in, deep pools for hibernation, areas for basking, and suitable habitat for crayfish and other food items.	Low potential. During the field investigations, suitable habitat was not observed, as the aquatic habitat adjacent to the locations does not provide suitable habitat features (i.e. lack of sandy substrates, floating vegetation, basking sites, and marshland). Furthermore, no in-water works are proposed, therefore, this species and their habitat should not be negatively impacted.	N/A
Emydoidea blandingii	Blanding's Turtle	THR	THR	S3	MNRF SAR in Area, OHA, MNRF Consult.	Shallow water, usually in large wetlands and shallow lakes with lots of water plants.	Low potential. During the field investigations, suitable habitat was not observed, as the aquatic habitat adjacent to the locations does not provide suitable habitat features (i.e. lack of sandy substrates, floating vegetation, basking sites, and marshland). Furthermore, no in-water works are proposed, therefore, this species and their habitat should not be negatively impacted.	N/A
Pantherophis gloydi pop. 2	Eastern Foxsnake (Carolinian population)	END	END	S2	MNRF Reg. Habitat, OHA	Old fields, marshes, along hedgerows, drainage canals, and shorelines. Eggs are laid in rotting logs, manure or compost piles. Hibernate in cracks in the bedrock and man-made structures.	Low potential. During the field investigations, due to the lack of suitable habitat (i.e. no marshland, no natural/semi-natural habitat) suitable habitat was not observed. Furthermore, potential snake hibernacula and egg laying, shedding, basking, and thermoregulation sites were not observed.	N/A
Thamnophis butleri	Butler's Gartersnake	END	END	S2	MNRF Consult.	Open, moist habitats, such as dense grasslands and old fields, with small wetlands.	Low potential. During the field investigations, due to the lack of suitable habitat (i.e. no old fields, grassland habitat, and no wetlands) suitable habitat was not observed. Furthermore, potential snake hibernacula and egg laying, shedding, basking, and thermoregulation sites were not observed.	N/A
PLANTS								
Symphyotrichum praealtum	Willowleaf Aster	THR	THR	S2	MNRF SAR in Area	Openings of oak savannahs, along railways, roadsides, and in abandoned farm fields.	Low potential. This species was not observed at any location. As the majority of the locations are regularly maintained (i.e. mowed lawn), natural vegetation was restricted to the margins of the lands. Therefore, the proposed pump station work would occur away from the naturally-vegetated areas.	N/A
FISHES								
Ammocrypta pellucida	Eastern Sand Darter (Ontario populations)	THR	END	S2	MNRF Reg. Habitat, DFO, MNRF Consult.	Shallow habitats in lakes, streams, and rivers with clean, sandy bottoms.	Low potential. As no in-water works are proposed, this species should not be negatively impacted.	N/A
Noturus stigmosus	Northern Madtom	END	END	S1	DFO, MNRF Consult.	Large creeks and rivers with a moderate to swift current, and a sand, gravel, or mud bottom.	Low potential. As no in-water works are proposed, this species should not be negatively impacted.	N/A
Macrhybopsis storeriana	Silver Chub	SC	THR	S2	MNRF Consult.	Medium to large rivers with substantial current and silt, sand or gravel bottoms, but in Ontario, it is only found in the Great Lakes. It is usually found in depths between seven and 12 meters.	Low potential. As no in-water works are proposed, this species should not be negatively impacted.	N/A

1 – Status identified by the Committee on the Status of Endangered Wildlife in Canada under the federal SARA, 2002; 2 – SAR in Ontario List under the provincial ESA, 2007; 3 – Ontario SRank; S5 = secure; S4= apparently secure; S3 = vulnerable; S2 = imperilled; SX = Extirpated; SH = Possibly Extirpated; SNA = non-native or exotic species to Ontario; 4 – MNRF SAR in Area = MNRF Species at Risk in Ontario List by area of the province; MNRF Reg. Habitat = MNRF Regulated Habitat (O. Reg. 242/08); MNRF Consult. = MNR Consultation; OBBA = Ontario Breeding Bird Atlas; OHA = Ontario Herpetofaunal Atlas; DFO = Fisheries and Oceans Canada (Aquatic Species at Risk map); 5 – MNRF Significant Wildlife Technical Guide - Appendix G (2000).

ATTACHMENT 3

Site Photos

Attachment 3: Site Photos

Photo Comments	Photo
Photo 1 **October 9, 2018** Lesperance Road Pump Station at outlet looking north.	
Photo 2 **October 9, 2018** Lesperance Road Pump Station at outlet looking south.	

Photo 3
October 9, 2018

Lesperance Road Pump Station looking south.

Note: Area with planted trees (mostly non-native species).

Photo 4
October 9, 2018

Lesperance Road Pump Station, across the road (Riverside Drive) at Poisson Park.

Note: Area with planted trees (mostly non-native species).

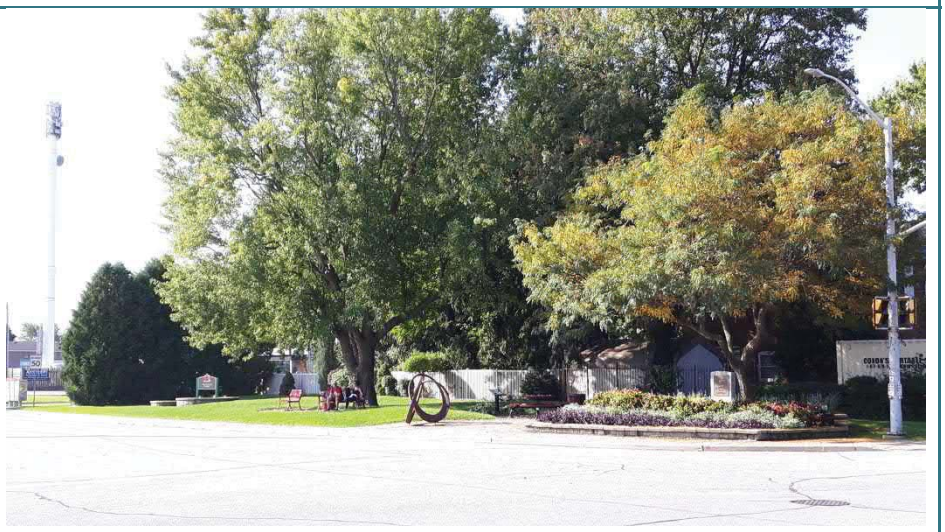


Photo 5
October 9, 2018

West St. Louis Pump Station looking north.

Photo 6
October 9, 2018

West St. Louis Pump Station at outlet.

Photo 7
October 9, 2018

East St. Louis Pump Station (south of Riverside Drive) looking south.

Photo 8
October 9, 2018

East St. Louis Pump Station (north of Riverside Drive) looking north.

Photo 9
October 9, 2018

East St. Louis Pump Station at outlet.

Photo 10
October 9, 2018

Scully Pump Station looking south.

Photo 11
October 9, 2018

Scully Pump Station looking north.

Photo 12
October 9, 2018

Scully Pump Station at outlet.

Photo 13
October 9, 2018

St. Mark's Pump Station looking north.

Photo 14
October 9, 2018

St. Mark's Pump Station looking north.

Photo 15
October 9, 2018

Peter Cecile Pump Station looking north.

Photo 16
October 9, 2018

Peter Cecile Pump Station looking south.

Photo 17
October 9, 2018

Peter Cecile Beach within pump station lot looking north.

Photo 18
October 11, 2018

Peter Cecile Pump Station at outlet into Marina looking north.

Photo 19
October 11, 2018

Peter Cecile Pump Station at outlet into Marina.

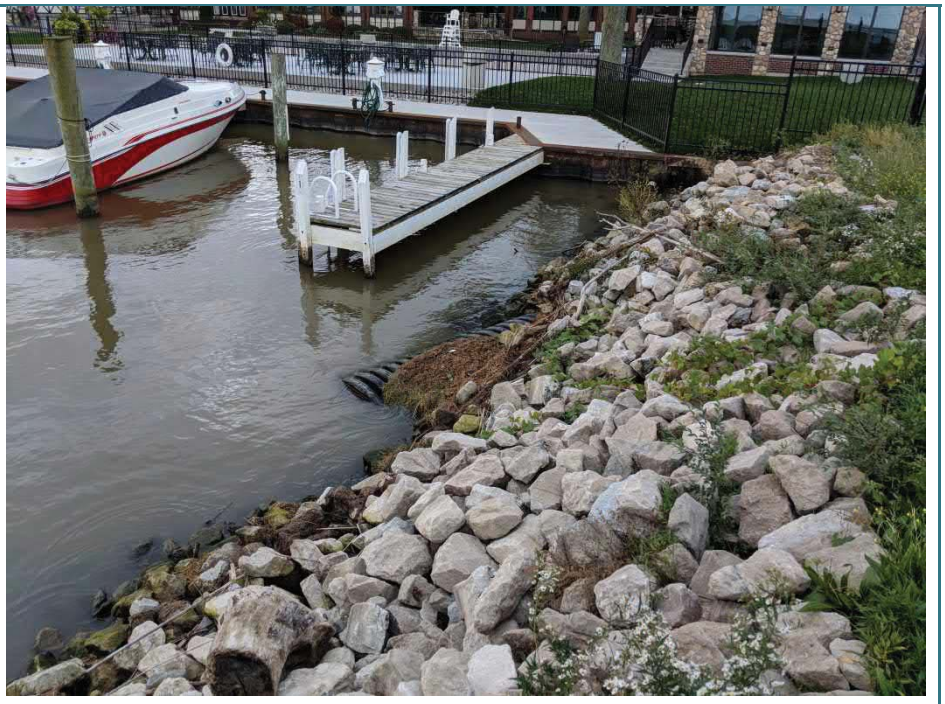


Photo 20
October 11, 2018

Existing Marina jetty at proposed new PJ Cecile outlet looking north.

Photo 21
October 11, 2018

Existing Marina jetty at proposed new PJ Cecile outlet looking south towards pump station.

Photo 22
October 9, 2018

Brighton Road Pump Station looking east toward Pike Creek outlet.

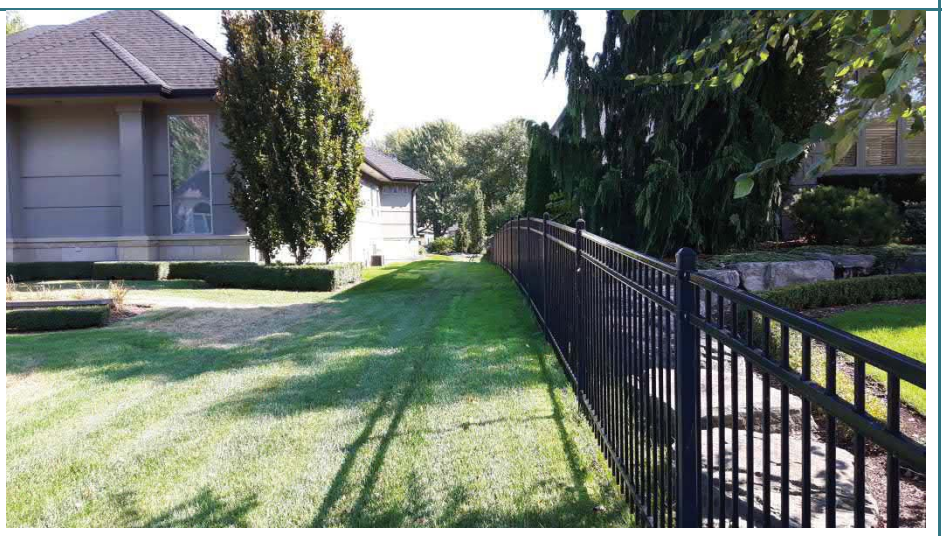


Photo 23
October 9, 2018

Brighton Road Pump Station looking east toward Pike Creek outlet.

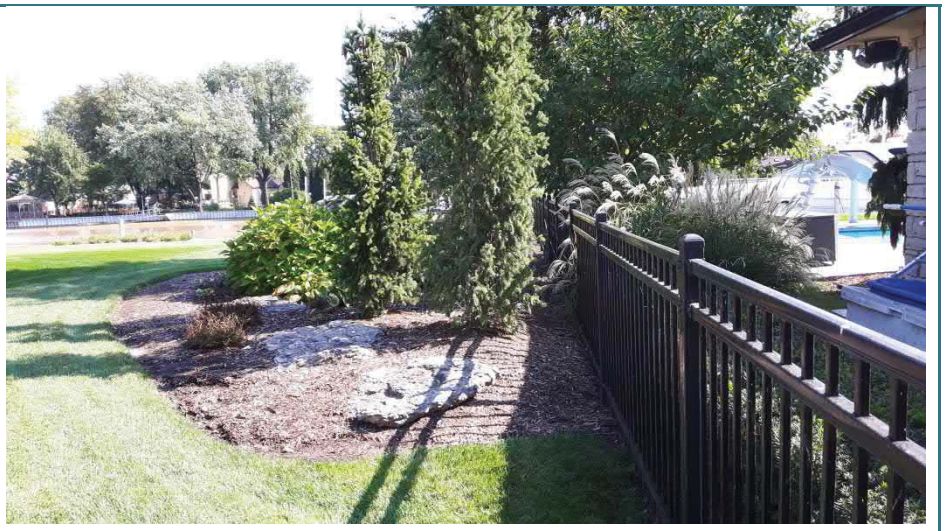
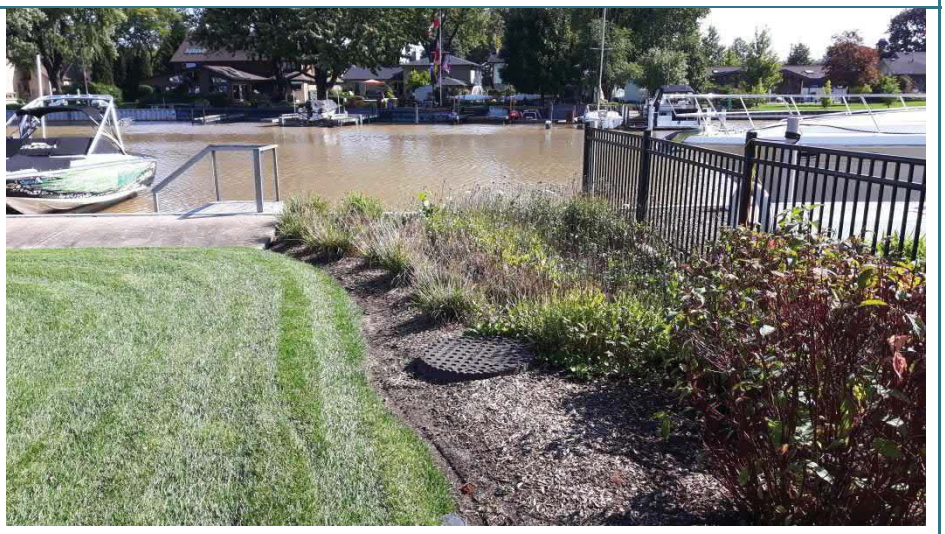


Photo 24
October 9, 2018

Brighton Road Pump Station looking east toward Pike Creek outlet.



ATTACHMENT 4

Figures

Town of Tecumseh
Tecumseh Master Drainage Study

12280 Riverside Dr (Lesperance Road Pump Station)
FIGURE 1

ELC

- CGL - Green Lands
- OAO - Open Aquatic

DILLON CONSULTING

MAP DRAWING INFORMATION:
DATA PROVIDED BY MNR

MAP CREATED BY: PFM
MAP CHECKED BY: PK
MAP PROJECTION: NAD 1983 UTM Zone 17N

FILE LOCATION: \\DILLON.CA\DILLON_DFS\LONDON\LONDON CAD\GIS\VISUAL COMMUNICATIONS D\MXD TEMPLATES\GREY - 8.5X11 LANDSCAPE - LEGEND BOTTOM.MXD

0 5 10 20 Meters

PROJECT: 11-1234 STATUS: DRAFT DATE: 08/24/11

Town of Tecumseh
Tecumseh Master Drainage Study

12920 Riverside Dr (West St. Louis Pump Station)
FIGURE 2

ELC

- CGL - Green Lands
- OAO - Open Aquatic

DILLON CONSULTING

MAP DRAWING INFORMATION:
DATA PROVIDED BY MNR

MAP CREATED BY: PFM
MAP CHECKED BY: PK
MAP PROJECTION: NAD 1983 UTM Zone 17N

FILE LOCATION: \\DILLON.CA\DILLON_DFS\LONDON\LONDON CAD\GIS\VISUAL COMMUNICATIONS D\MXD TEMPLATES\GREY - 8.5X11 LANDSCAPE - LEGEND BOTTOM.MXD

0 5 10 20 Meters

N W E S

PROJECT: 11-1234 STATUS: DRAFT DATE: 08/24/11

Town of Tecumseh
Tecumseh Master Drainage Study

13079, 13102 Riverside Dr
(East St. Louis Pump Station)

FIGURE 3

ELC

- CGL - Green Lands
- OAO - Open Aquatic

DILLON CONSULTING

MAP DRAWING INFORMATION:
DATA PROVIDED BY MNR

MAP CREATED BY: PFM
MAP CHECKED BY: PK
MAP PROJECTION: NAD 1983 UTM Zone 17N

FILE LOCATION: \\DILLON.CA\DILLON_DFS\LONDON\LONDON CAD\GIS\VISUAL COMMUNICATIONS D\MXD TEMPLATES\GREY - 8.5X11 LANDSCAPE - LEGEND BOTTOM.MXD

0 5 10 20 Meters

N W E S

PROJECT: 11-1234 STATUS: DRAFT DATE: 08/24/11

Town of Tecumseh
Tecumseh Master Drainage Study

13698 Riverside Dr (Skully Pump Station)
FIGURE 4

ELC

- CGL - Green Lands
- OAO - Open Aquatic

DILLON CONSULTING

MAP DRAWING INFORMATION:
DATA PROVIDED BY MNR

MAP CREATED BY: PFM
MAP CHECKED BY: PK
MAP PROJECTION: NAD 1983 UTM Zone 17N

FILE LOCATION: \\DILLON.CA\DILLON_DFS\LONDON\LONDON CAD\GIS\VISUAL COMMUNICATIONS D\MXD TEMPLATES\GREY - 8.5X11 LANDSCAPE - LEGEND BOTTOM.MXD

0 5 10 20 Meters

N W E S

PROJECT: 11-1234 STATUS: DRAFT DATE: 08/24/11

Town of Tecumseh
Tecumseh Master Drainage Study

13770 Riverside Dr (St. Mark's Pump Station)
FIGURE 5

ELC

- CGL - Green Lands
- OAO - Open Aquatic

DILLON CONSULTING

MAP DRAWING INFORMATION:
DATA PROVIDED BY MNR

MAP CREATED BY: PFM
MAP CHECKED BY: PK
MAP PROJECTION: NAD 1983 UTM Zone 17N

FILE LOCATION: \\DILLON.CA\DILLON_DFS\LONDON\LONDON CAD\GIS\VISUAL COMMUNICATIONS D\MXD TEMPLATES\GREY - 8.5X11 LANDSCAPE - LEGEND BOTTOM.MXD

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PROJECT: 11-1234 STATUS: DRAFT DATE: 08/24/11

Town of Tecumseh
Tecumseh Master Drainage Study

14080 Riverside Dr (Peter Cecile Pump Station)
FIGURE 6

ELC

- CGL - Green Lands
- OAO - Open Aquatic

DILLON CONSULTING

MAP DRAWING INFORMATION:
DATA PROVIDED BY MNR

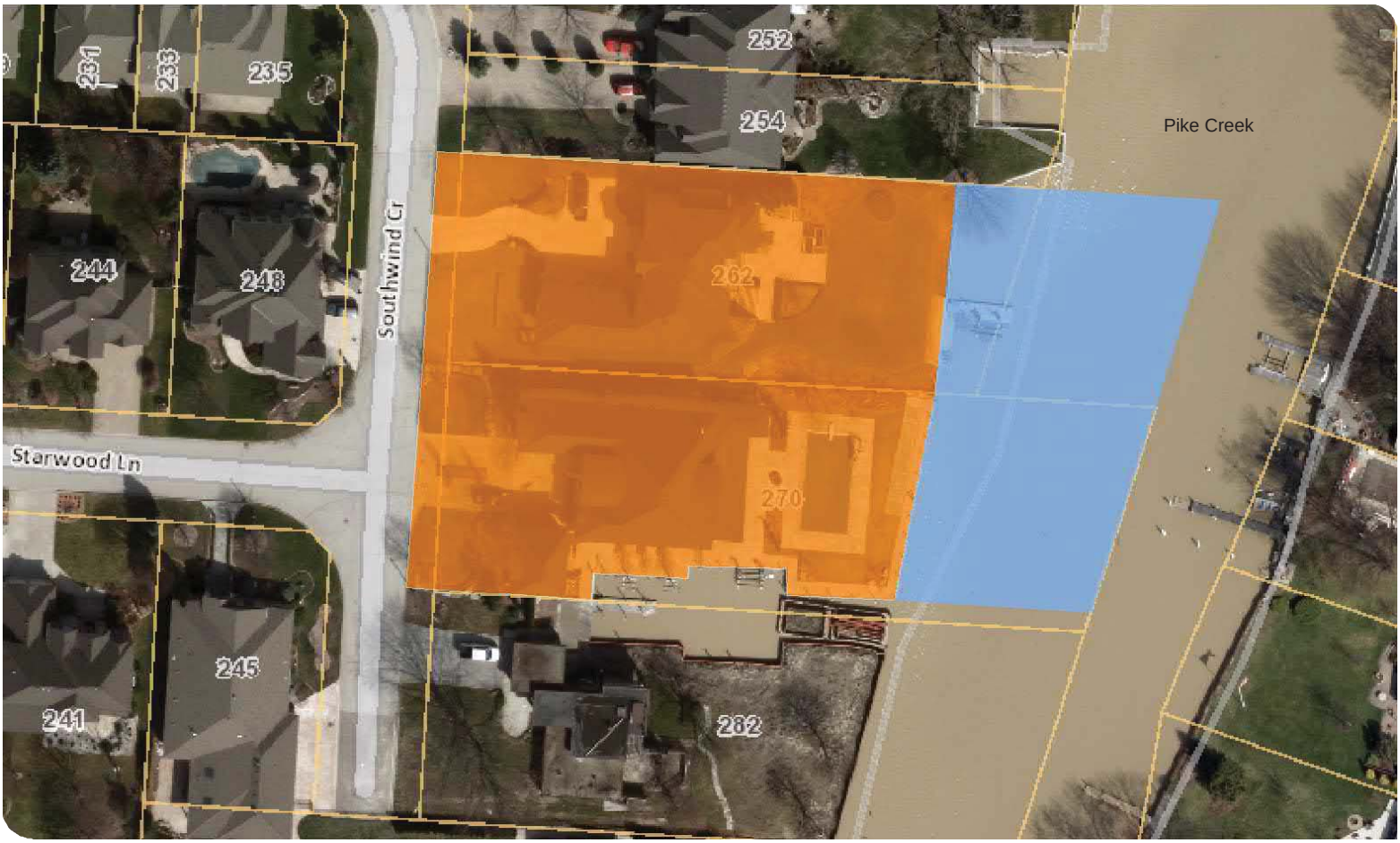
MAP CREATED BY: PFM
MAP CHECKED BY: PK
MAP PROJECTION: NAD 1983 UTM Zone 17N

FILE LOCATION: \\DILLON.CA\DILLON_DFS\LONDON\LONDON CAD\GIS\VISUAL COMMUNICATIONS D\MXD TEMPLATES\GREY - 8.5X11 LANDSCAPE - LEGEND BOTTOM.MXD

0 5 10 20 Meters

N W E S

PROJECT: 11-1234 STATUS: DRAFT DATE: 08/24/11



Town of Tecumseh
Tecumseh Master Drainage Study

262, 270 Brighton Rd (Brighton Road Pump Station)
FIGURE 7

ELC

- CVR - Residential
- OAO - Open Aquatic

DILLON CONSULTING

MAP DRAWING INFORMATION:
DATA PROVIDED BY MNR

MAP CREATED BY: PFM
MAP CHECKED BY: PK
MAP PROJECTION: NAD 1983 UTM Zone 17N

FILE LOCATION: \\DILLON.CA\DILLON_DFS\LONDON\LONDON CAD\GIS\VISUAL COMMUNICATIONS D\MXD TEMPLATES\GREY - 8.5X11 LANDSCAPE - LEGEND BOTTOM.MXD

0 5 10 20 Meters

N W E S

PROJECT: 11-1234 STATUS: DRAFT DATE: 08/24/11

ATTACHMENT 5

SAR Information Sheet

DILLON CONSULTING LIMITED
3200 Deziel Drive, Suite 608, Windsor, Ontario, N8W 5K8 ♦ Telephone: (519) 948-5000 ♦ Fax: (519) 948-5054
www.dillon.ca

Barn Swallow

Hirundo rustica

Provincial Status: **Threatened**
Federal Status: **Threatened**

Colour	• Glossy, steel-blue back and upper wings • Rusty–red forehead and throat • Beige coloured belly • Juveniles are more dusky blue-gray and have a pale yellow bill
Distinctive Features	• Pointed wings • Deeply-forked tail
Typical Size	Typically 15 to 18 cm long (6" to 7")
Other	Diet consists of flying insects

Barn Swallow

Barn Swallow at Nest

Barn Swallow Perching

Adult Tree Swallow – note the lack of a forked tail and bright white throat, chest, and belly

Habitat

- Prefers open habitats such as meadows, pastures and farmland during the breeding season
- Often uses man-made structures (e.g. bridges, culverts, barns) for nesting
- Nests are typically made of mud and grass and attached to the side of a structure or on a flat edge.
- Nests are cup-shaped.

Similar Species

- Cliff Swallow (*Petrochelidon pyrrhonota*) has similar colouration but lacks the forked tail and has a distinctive pale rump patch, collar and forehead patch. Also builds mud nests in similar areas but nests are almost enclosed with a small entry/exit hole.
- Tree Swallow (*Tachycineta bicolor*) are bright white from below with glossy blue-green upperparts and only a slightly forked tail.

What to do if found

If a Barn Swallow is found within the construction area, the following procedure must be followed:

- If possible take a photo.
- Ensure species is protected from construction activities.
- Report all sightings to your supervisor

Photo Credits: Ontario Ministry of Natural Resources and Forestry, Mike Wolosinecky
Date Fact Sheet Was Created/Revised: August 7, 2013 Rev. April 12, 2018
References: Ontario Ministry of Natural Resources and Forestry, Species At Risk Public Registry

DILLON CONSULTING